ICOM IC-R70 COMMUNICATIONS RECEIVER - THIS & THAT

Some time ago ICOM Australia kindly loaned an IC-R70 to DXA for a few weeks for review purposes. It had been hoped to do a comprehensive review for DXc at the end of the period of use. However after surveying existing reviews in other bulletins, it was felt that there was little more to be said. The R70 is a fine receiver as supplied standard. Sensitivity, selectivity & spurious rejection are all superb & stability unequalled in this class. For any hobbyist prepared to spend about A$700 on a communications receiver, the R70 will provide best performance for the money. I must admit I like the inbuilt memory features of the Kenwood R2000, but the presence of spurs on that set is rather off-putting. Only the dyed-in-the-wool SWL will be happier with the R2000 than the ICOM. Getting back to the point of this article, Don Moman of the Canadian International DXers Club has discovered 2 very useful mods to the R70 which make it even better in the hands of the DXer. The following descriptions are largely based on Don's advice in a recent edition of their excellent "Messenger" bulletin. I can vouch for the worth & ease of both mods, having performed surgery on the ICOMs of both Mark Warner & 'Dick' Whittington. A note of caution though, wait for your warranty to run out first!

MOD #1 : Allows preamp to function below 1600kHz. Very simple, just remove the 12 Phillips head screws holding on the top cover & lift off. Then snip the red wire on the right hand side of the set (looking from the front - the RF bandpass filter section) that goes from R59 (10K) to L15. Then cover both ends with pieces of insulating tape. This wire provides "BAND 0" data to the preamp control to turn it off. Without the wire, the preamp may be turned on/off via the normal front panel control. In many cases the preamp will not improve the signal - and may actually contribute more intermodulation distortion etc, however at least now you have the option of using it if you need it. The preamp runs out of gain below about 300kHz & definitely should not be used down there. If only all receiver mods were this simple!

MOD #2 : Switchable selectivity in AM mode. This mod will allow the SSB PBT filter (approx 2.7kHz bandwidth) to be used in place of the present 6kHz AM PBT filter. With the PBT "OFF" the AM BW will be 2.7kHz. With PBT "ON" the BW may be varied considerably, down to about 1.5kHz. In practice this is most effective (ALMOST ESSENTIAL) & well worth the trouble of modifying the set. Firstly, pull off the 6 press fit knobs on the front panel (monitor, AGC TC, AF gain, squelch, RIT tune & PBT). Then use an Allen key to remove the 4 remaining knobs (RF gain, tone, notch tune & main tune). Remove the 5 screws holding the front panel to the chassis (2 either side, 1 behind the main tune knob). Then carefully remove the front panel. Remove 12 screws on top panel & remove panel itself. Now refer to your large foldout component layout diagram & relate to the actual physical layout of the main board. Locate R72 & R79 near the PBT filters (all component numbers are clearly marked on the PCB itself). Note the green & blue wires which run from these to R75 & R81 respectively. Fortunately these wires are not PCB traces as will be seen shortly!

The best means of switching AM selectivity is to make use of the noise blanker wide/narrow switch (virtuallyworthless anyway) & make it function also as the selectivity switch. The steps are as follows : Remove the screw to the left of the wide/narrow switch, then remove the switch itself, then desolder existing connections to the switch & wire back in using only the lower bank of contacts - upper level is for "new" selectivity switch. Install small piece of matrix board to support 2x 1N914 switching diodes by mounting on screwed post in the FM option area. Snip previously mentioned green & blue wires roughly in half. Install diodes & wiring as per the schematic & pictorial diagrams below :