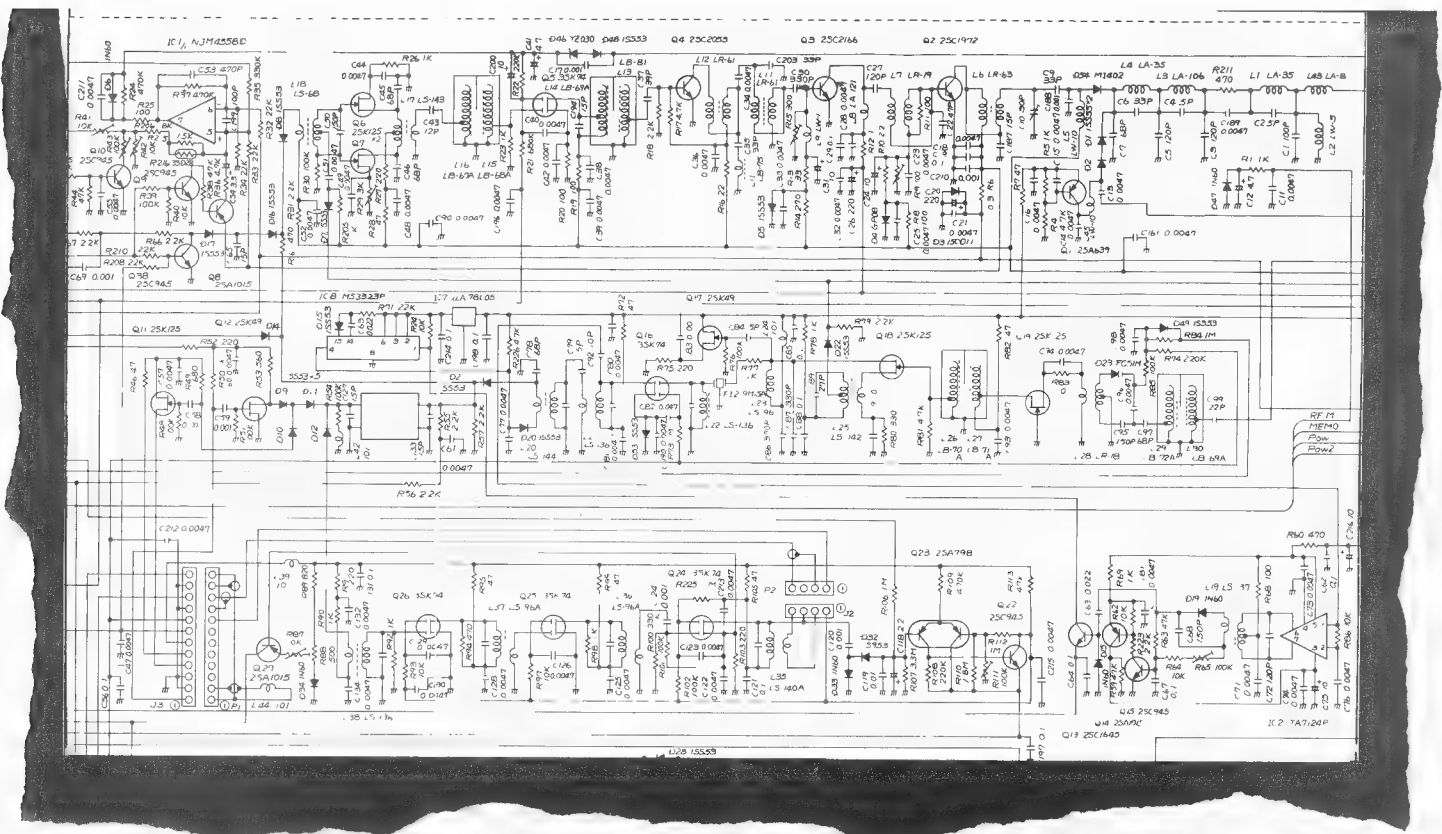


HOW TO MAKE THE ICOM IC-551 NOISE BLANKER WORK ON LOW LEVEL IMPULSE NOISE

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The IC551 noise blanker suffers from having a very high blanking threshold and, consequently, only works on impulse noise that is generated next door. However, much of the impulse noise that is received on 6 metres is of a lower level where the IC551 noise blanker has no effect.



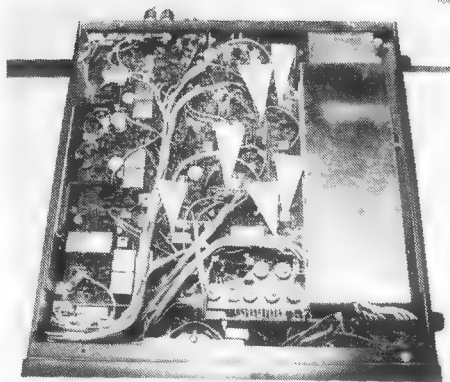
One way to make the IC551 blanker work more effectively is to use a receiver preamp with about 20dB of gain but this leads to a poorer receiver cross-mod performance. So, as I did not like the preamp idea, I began to wonder what other means could be used to improve the noise blanker performance.

While perusing the IC551 circuit it became apparent to me that when the pass-band-tuning unit is installed, the receiver IF strip of the main PC board is disconnected. My next thought was "why not use this redundant IF strip to obtain the necessary gain to make the noise blanker work at lower thresholds?"

This modification basically involves inserting the disused IF strip on the main PC board between the IF sampling point and the noise blanker amplifier. To complete this mod you must have installed the pass-band-tuning unit.

Carry out the mod as follows (reference to the IC551 schematic and board layout diagrams will help):

- 1 Remove the top cover.
- 2 Locate the IF strip which is up against the large tin box.
- 3 Cut R89. This disconnects the AGC drive to the "S meter" but note that the signal level is provided from the pass-band-tuning unit and we do not want the "S meter" being driven from two different sources. (The components to be cut form



Key to photo — A-R89, B-D12, C-C92, D-L38, E-J2, F-J3.

an inverted "U" so when cutting just snip the bottom of the "U" leaving at least 2 mm of lead on the component and don't pull the component out.)

- 4 Cut D12. This is the input switching diode for the IF strip.
- 5 Cut C92 on the end towards the rear of the IC551 and lift C92 up to the vertical position. Be careful to leave enough lead on the PC board and C92 so that the input and output leads can be attached.
- 6 Install a shielded wire between the now free end of C92 and the now free end of D12. C92 is necessary for IF coupling and DC blocking. This now connects the input

to the IF amplifier. (Use the can of L38 for a ground.)

- 7 Install a 1/8 watt 100 k resistor between the junction of D12 with the input lead from C92 and ground. This allows D12 to be biased on.

- 8 Install a shielded wire between J2 pin 2 and the lead end of C92 that was left on the PC board. This connects the output of the IF amplifier back to the noise blanker input. The can of L35 can be used for a ground. Note that only one connection to J2 is required for the output.

- 9 Remove P1 (P1 goes to the pass-band-tuning unit) from J3 which is located about 25 mm towards the rear from the crystal filter.

- 10 Install a small wire link between pins 6 and 7 of J3 (on the PC board counting from the side nearest the IF strip). This applies the correct +9V supply to the IF strip.

11. Replace P1.

The modification is now complete. Now find some suitable impulse noise (preferably low level) and adjust R65 (threshold adjustment) to obtain optimum blanking. L19 may also require a small amount of adjustment. The AGC on the IF strip is still connected and serves to optimise the blanker input level.

This modification has successfully been applied to several IC551's in the Melbourne area and I hope you meet with equal success. Good luck and better DX.