# Yaesu FT1000MPV Noise Blanker Mod

### From W8JI webpage, The NB Problem

Signals inside the wide roofing filter BW of the MK V reach the gate of Q2009 through C2043. This point precedes the narrow 8MHz IF filtering, allowing a rather wide swath of unwanted signals to reach the gate of Q2009. Q2009 is left operating even when the noise blanker is turned off, and can have substantial gain depending on bias voltages at TP2001. Bias voltages at TP2001 can be varied by changing menu settings for NB gain, but never fully turn off Q2009.

The accumulated level of all signals reaching the gate of Q2009 produce a large net voltage at the drain of Q2009. This voltage (and resulting net current) causes overload and distortion in the non-linear characteristics of Q2009 and 2010 (my manual has very poor printing, but I believe it says 2010).

New signals created by this distortion and the resulting mixing products are fed back through C2043 to the IF strip. The IM products appear as "phantom splatter" on SSB and " phantom signals" on CW. We can not actually hear the distortion on frequency of strong signals. Instead the IM products appear in the form of artificial interference when we attempt to copy weaker signals within 10kHz of a mixture of signals containing a few moderately strong signals.

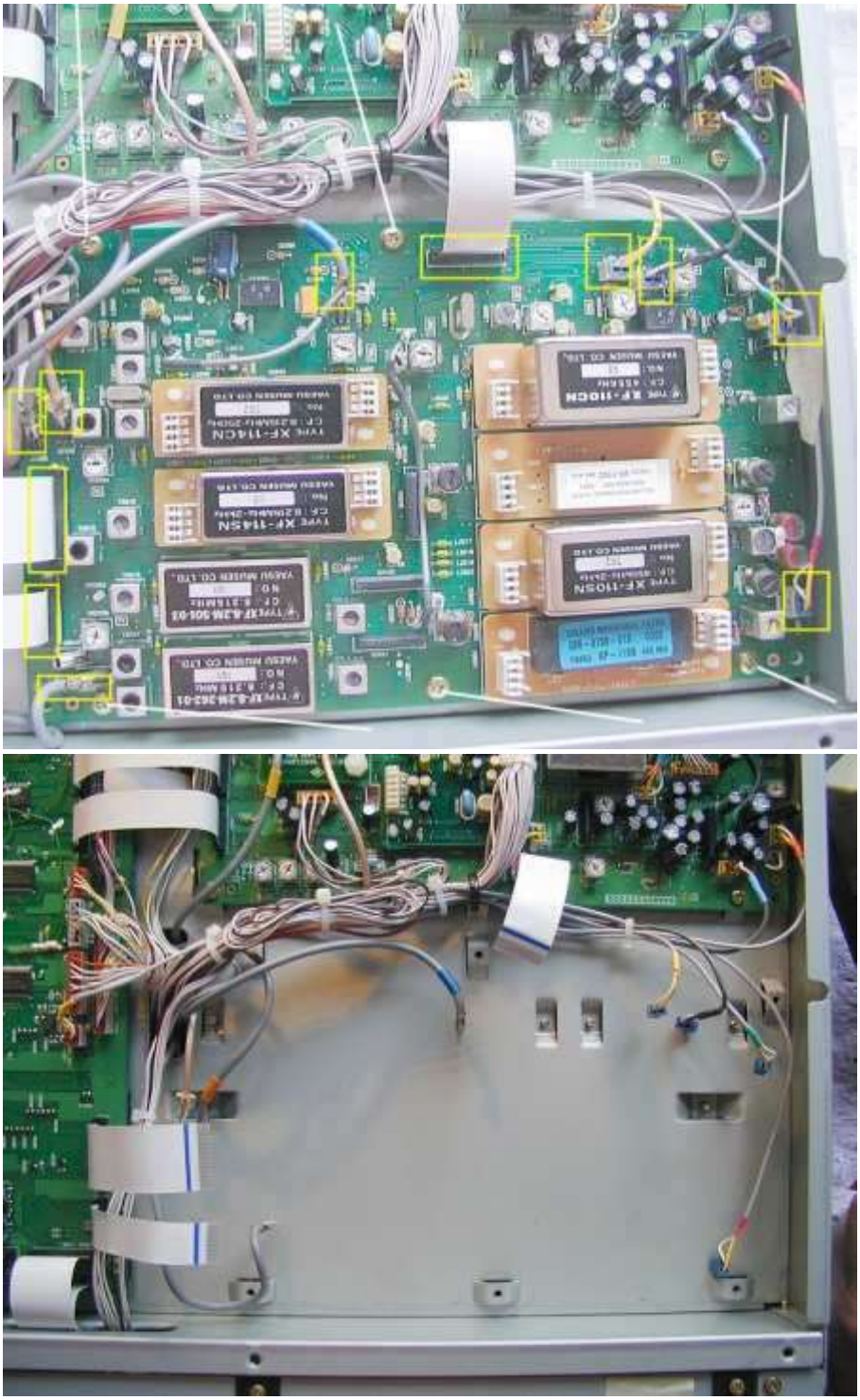
### From W8JI, The W8JI NB Patch

The NB mod is a simple effective mod, and improves close-spaced IM3 dynamic range around 10dB. A simple factory change of moving one foil trace would have made the MK V receiver noticeably better, but fortunately this mod is fairly easy for owners.

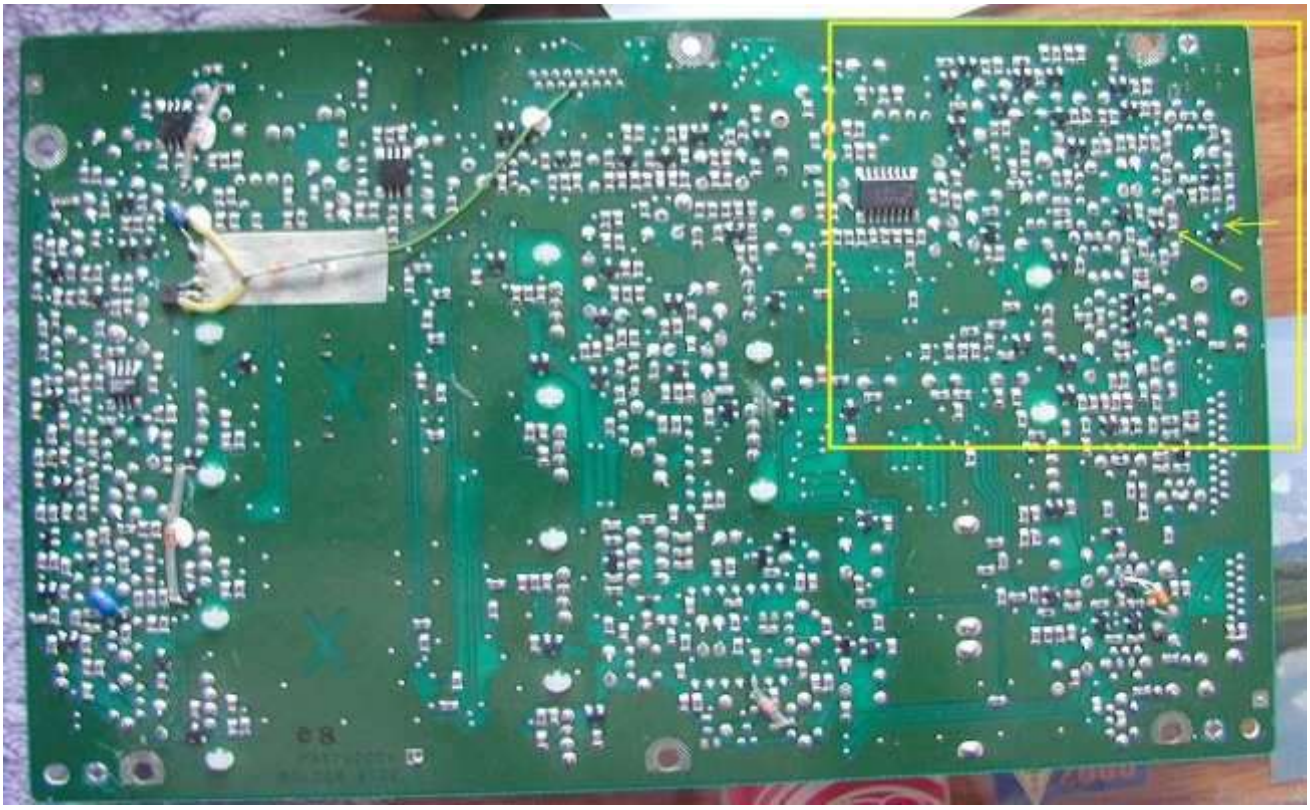
The NB correction removes the surface mounted 220-ohm resistor (R2046) from the source of Q2009, replacing it with a 220 ohm resistor connected between Q2009's source at C2027 and Q2016's (2SC4047) collector and the junction of R2049 (220-ohm also).

Photos of mod being done by KL7J

With the bottom cover removed, the board needs to be unplugged from various connections and six screws removed.

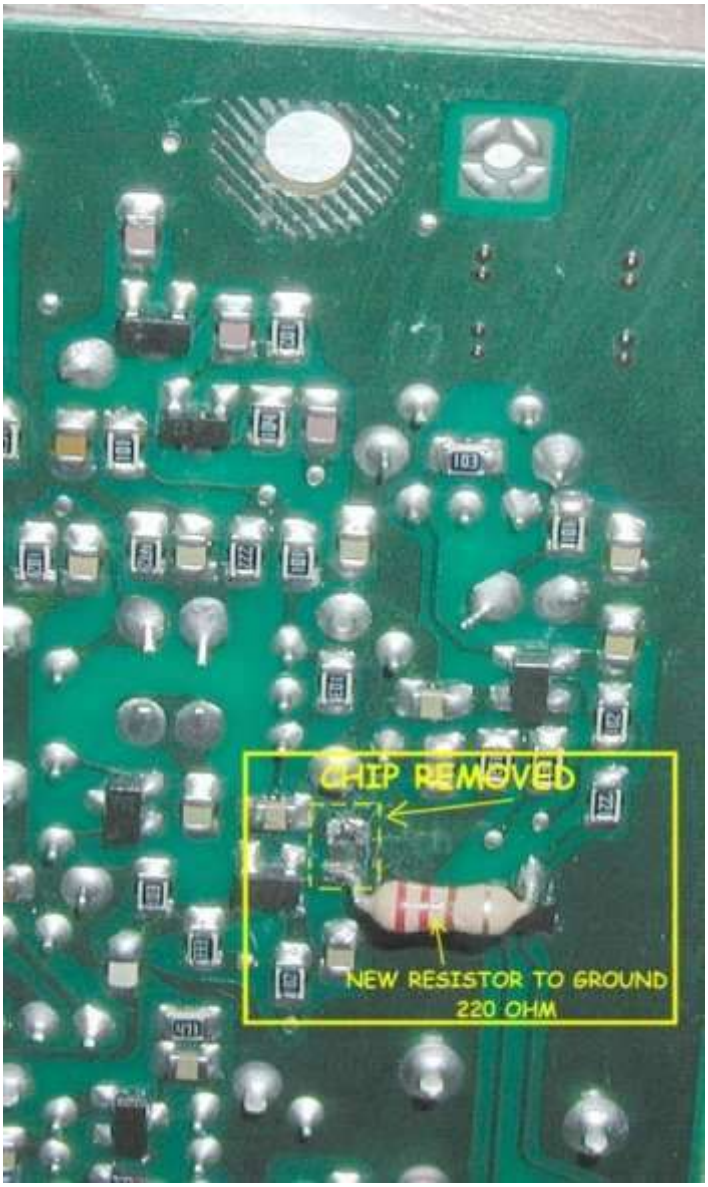


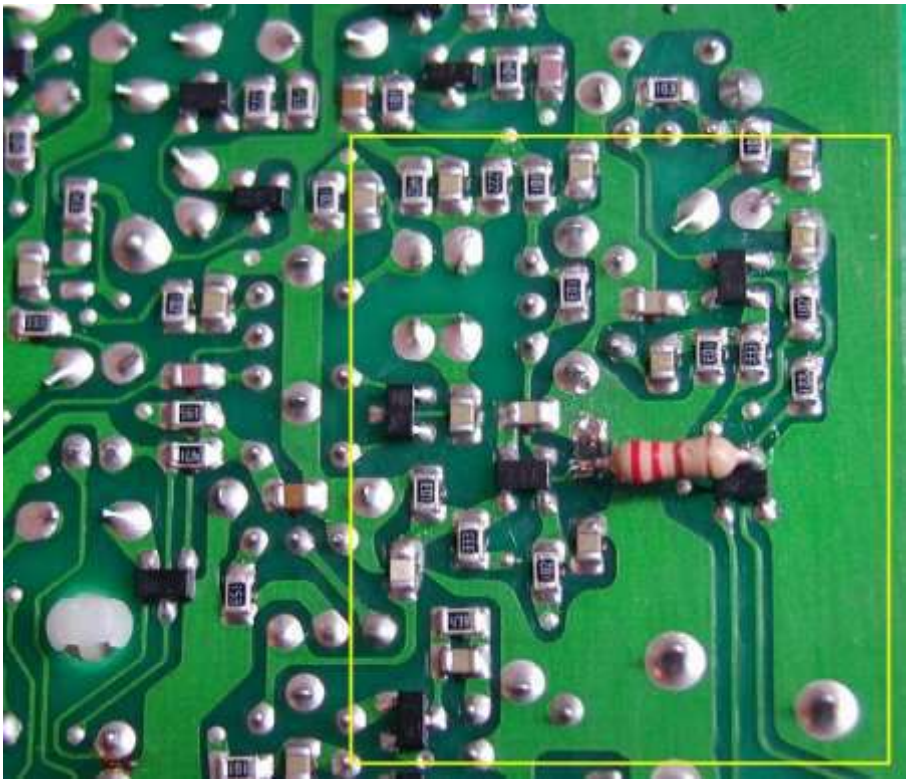
Bottom of the IF board and area of the mod.



The resistor chip to be removed.

The modification with a 220 ohm resistor to switched ground.



Screw down the board, replug in the various leads.