

ICOM R71A



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Poor AM Audio

The problem appears to be the switching diode D75. The Emitter follower Q26 is enabled for AM reception, the 3 volts or so being used to forward bias D75, thereby passing the audio to IC6a.

The current through the diode being only a few hundred micro amps is insufficient to turn it on fully, causing the forward dynamic resistance to be modulated with the audio, causing distortion.

Modification

1. On the main board, replace R202, (100k) to 15k, and replace R128 (1K) with a jumper. This increases the current to a more satisfactory .3 mA or so. The results are great, AM audio now not fuzzy and muffled.
2. Replace L28 with a germanium diode, anode to ground. This will convert the AM detector to a voltage doubler, gaining a few dB better weak signal performance.
3. The complete removal of C122 (.0047) and C127 (.1) will also further help with the muffled audio.

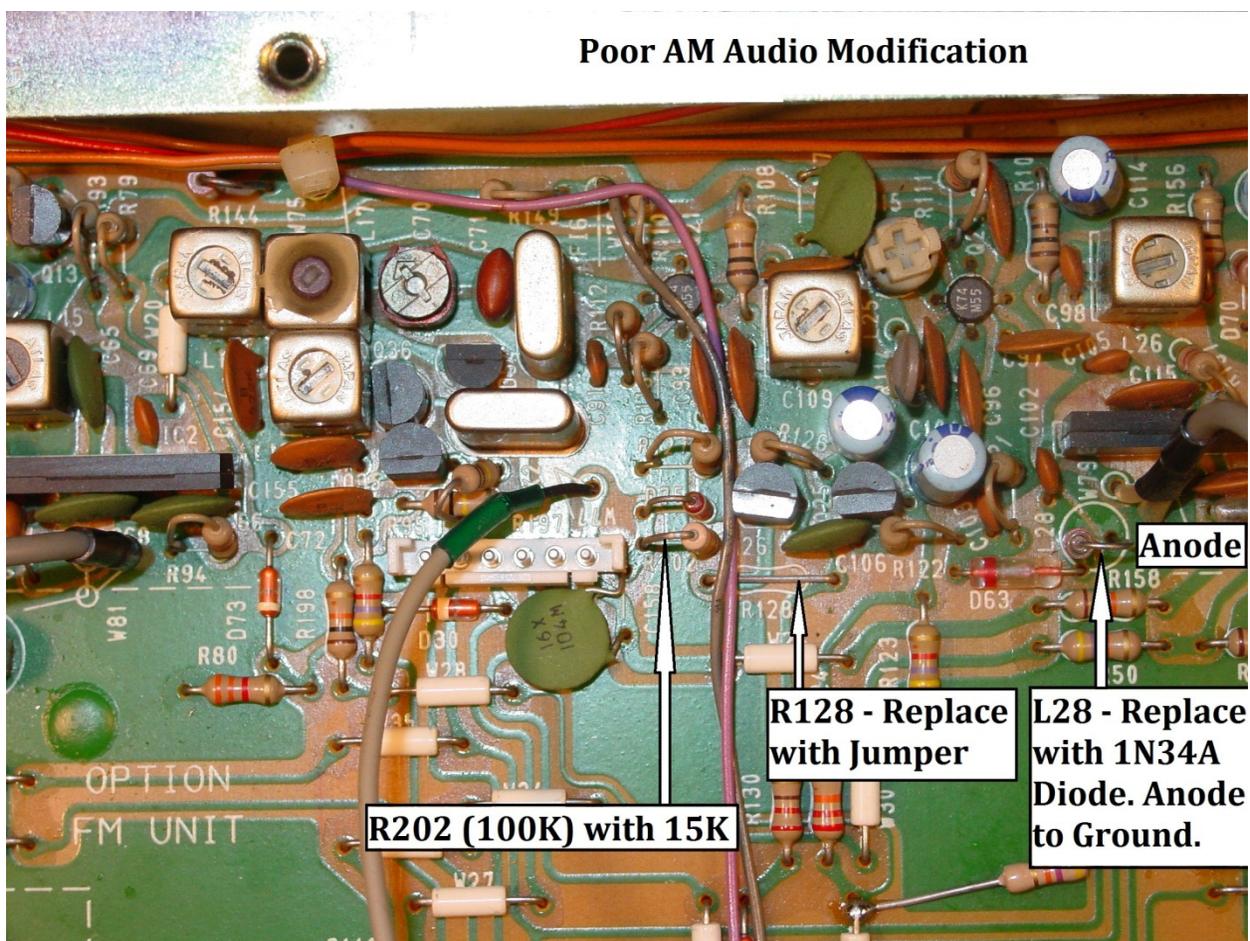


Figure 1
Main Board
Upper Right Corner.
The front of the radio is facing the camera.

AM Broadcast band (MF) Attenuator removal.

R11, R12, R13 form an AM Band attenuator. These are on the RF PC Board on the right side of the radio.

Modification

Cut the exposed lead of R13 (33 Ohms) and short R11 to R12 (top of R12 to far end or R11). This mod will give you increased sensitivity in the BCB. If you have a local flame thrower in the area, you may experience overload and need to use the front panel Attenuator on occasion.

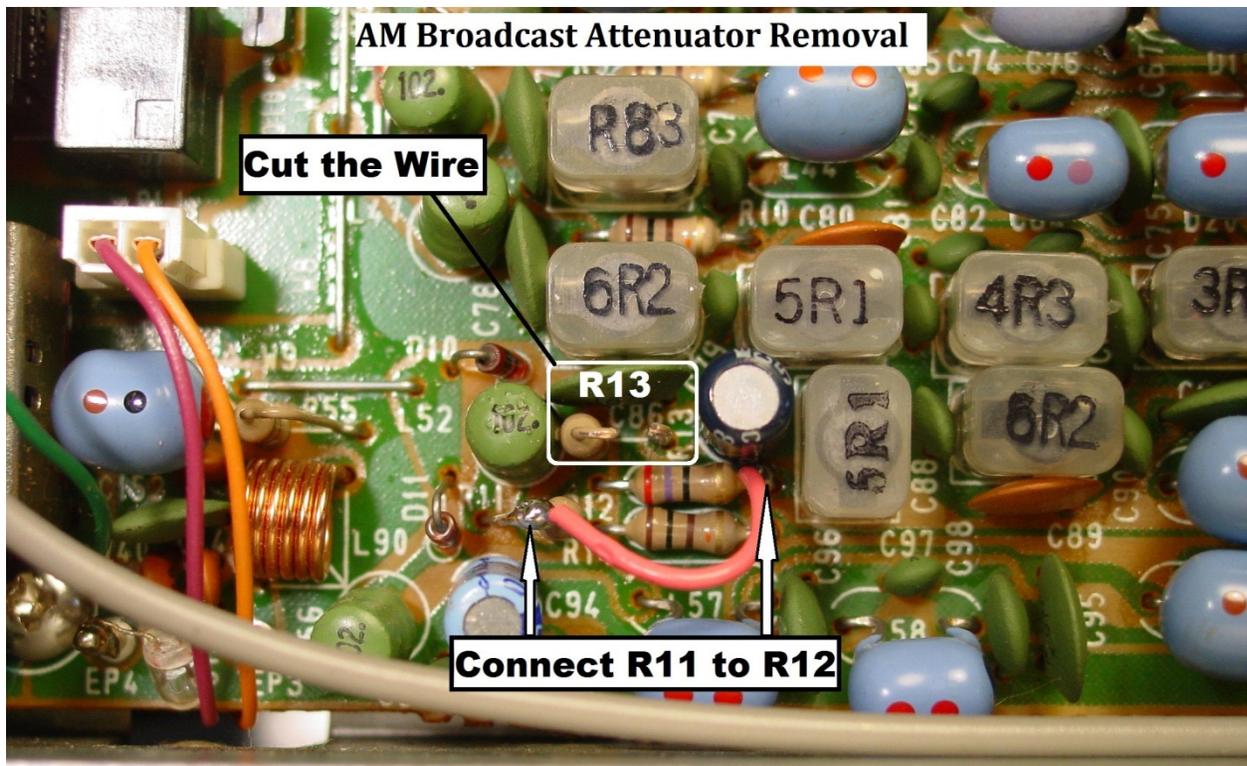


Figure 2

RF Board

Bottom Left Side.

The Radio is Right Side Up.

MW Sensitivity Improvements

MW Sensitivity can be improved by allowing the preamp to function below 1600 kHz. Sensitivity is improved by 15 - 20 db.

Modification

On the RF board, locate diode D23 and D24 and clip the leads. This prevents the preamp inhibit voltage from reaching the preamp, allowing it to function from 1600 kHz down to 540 kHz.

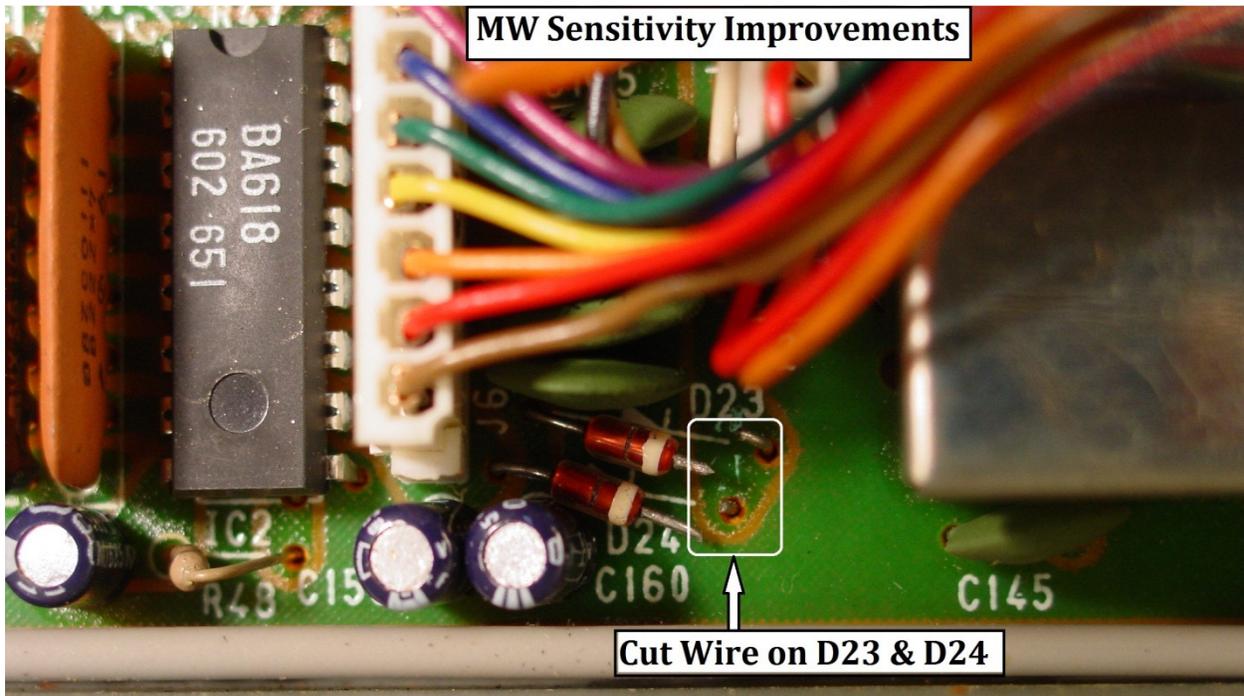


Figure 3

RF Board

The Radio is Upside Down in this picture.

D3 and D24 are located at the bottom/middle of the board.

Notch Circuit Modification

The notch filter can easily be modified to function in the AM mode. Granted, the notch will not cover the entire pass band but it will cover most important part of it.

Modification

Locate the junction of W29 (jumper) and R124 on the main board (located in the open space where the FM option installs). This is a +8 volt buss. I installed a 57K resistor (value is not critical) between the +8 buss and R103 (closest end to W29).

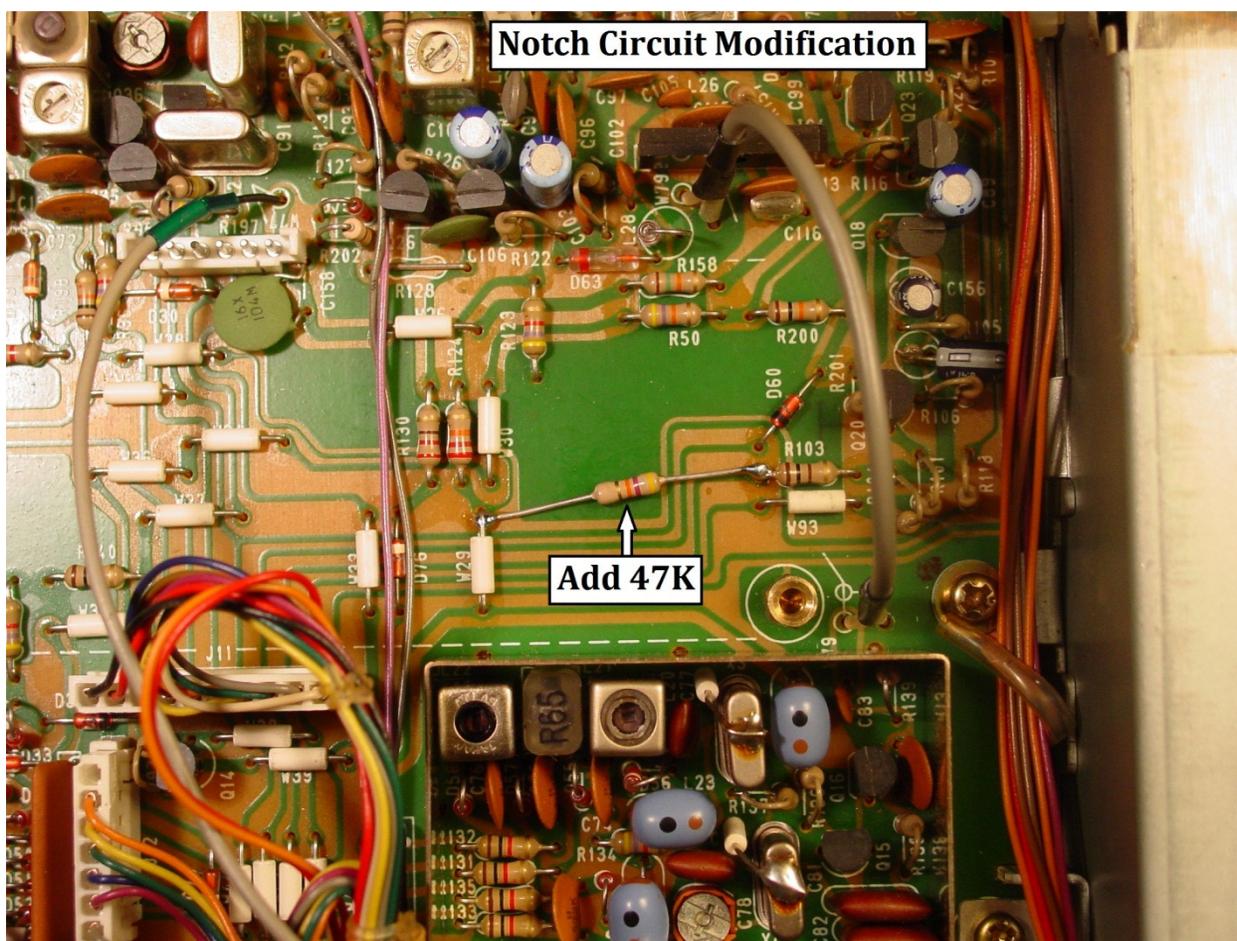


Figure 4

Main Board

Top Right Hand Side

The front of the radio is facing the camera.

Acknowledgments

None of the above modifications were designed by me. The only thing I did was to gather from the internet work performed by others and grouped them into a document along with photographs of the modifications.

I wish to thank all those who did the research and posted their work on the internet for all to enjoy.

Denis Renaud
Wisconsin, USA