

**Ham Radio 101
The Anatomy of a Restoration
Part 3**

**By Hal Silverman WB6WXO
Past Education Director**

**John White VA7JW
North Shore Amateur Radio Club**

For this article, I continued to concentrate on an HW22A Heathkit single band transceiver. It covers the 40M band from 7.2MHz to 7.3MHz. This was the phone band when it was originally designed.



Figure 1
Front of the HW22A

In the last article, I spent time detailing the changes I made to a HW22A. I thought I had everything fixed. I was wrong. The receiver was loud and crisp and then went dead.

When the rig is turned on, the S meter usually pegs, and then settles down after all of the tubes warm up. In this case, there was no indication on the S meter. I found a broken wire in a feed-thru. The wire was re-soldered and then tested. See figure 2 for a simplified schematic. That fixed that problem.

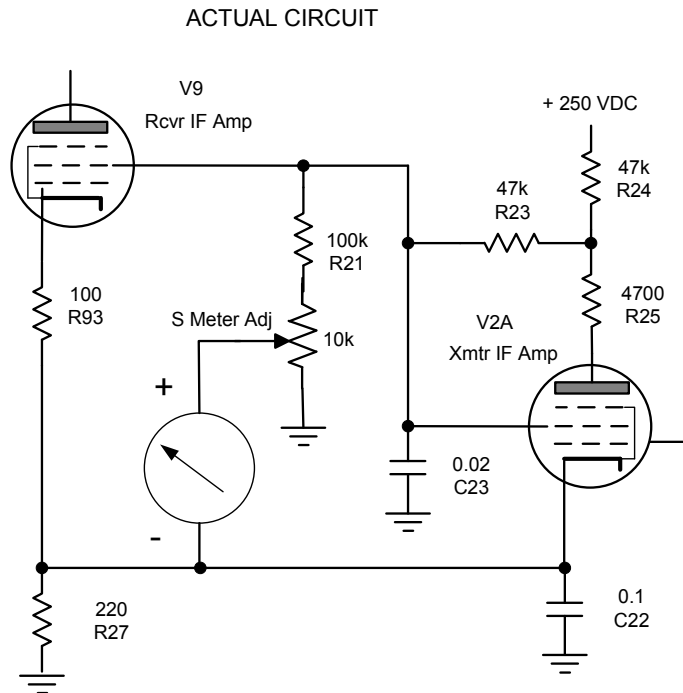


Figure 2
Simplified S Meter Circuit

However, during the checkout, the radio went dead again. I thought I was back to square one. There seems to be an intermittent problem in the heterodyne oscillator circuit which was corrected. It was corrected by re-soldering around the tube socket.

I also found an error in the microphone circuit. There is a resistor in series between the microphone and the grid of the microphone amplifier tube. See Figure 3.

In the schematic, it is listed as a 100K ohm resistor. In the assembly diagram, it is listed as a 10K resistor. I have seen both values assembled on different units. I chose to change the 100K resistor to a 10K resistor.

I want to at knowledge John White VA7JW for the help provided in sorting the S Meter circuit. It appears that there are errors in the Heathkit schematic.

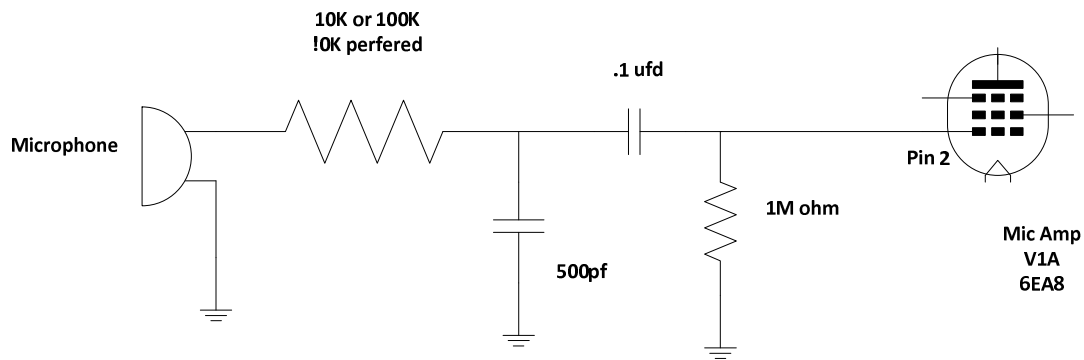


Figure 3
Microphone Amplifier Circuit

The final adjustment was to re-solder the tube socket around V14. That seemed to put to rest any more intermittent problems.

My plans are to operate the radio and make some contacts with it.

Editor's note: The picture in figure 1 is not the rig being restored. It is used only for a sample of an HW22A.

If there are any questions or comments, please contact me at WB6WXO@SOARA.org.