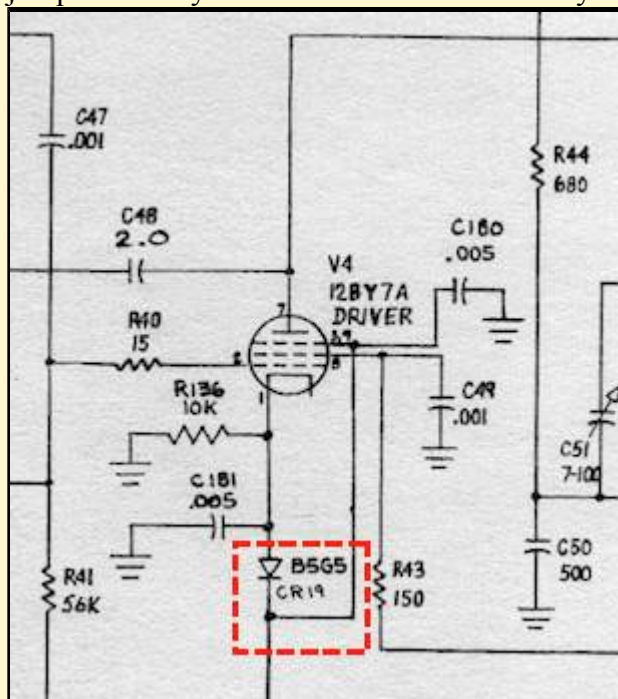


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T4XC Transmitter with Intermittent or Erratic Power Output On All Bands.

By: Ronald Baker / WB4HFN

I was refurbishing a Drake T4XC and as I went through the alignment procedures I noticed the power output was fluctuating slightly on occasion. I did not think much of it at the time, probably needed neutralization. After I went through that process everything seemed okay. While operating a few days later I noticed the same fluctuation, and upon further investigation I discovered the same effect on all bands. At first the power would jump erratically a few watts and sometimes by as much as 50 watts. The warmer it got the worse and more



erratic the power output became, and finally reached a point with no output at all. By the time it takes to put the radio on the bench and take off the bottom cover, and apply power, the transmitter started working perfectly again. After going through this a couple of times I decided enough was enough and got serious. After some troubleshooting I discovered the drive level from the 12BY7 driver tube to the finals was the problem. The cathode voltage appeared to be jumping around as I was probing around the tube socket.

The problem turned out to be diode CR19 in the cathode circuit of the 12BY7 tube. The diode developed a crack and as heat built up the continuity of the diode became erratic. Replacing this diode fixed my problem. The replacement diode I used is a common diode rectifier, a 1N4001.

So if your experiencing erratic or fluctuating power output that seem to get worse with use, and if replacing the tubes in

that area does not good, you may want to consider replacing this diode in the cathode circuit of the 12BY7 driver tube.

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