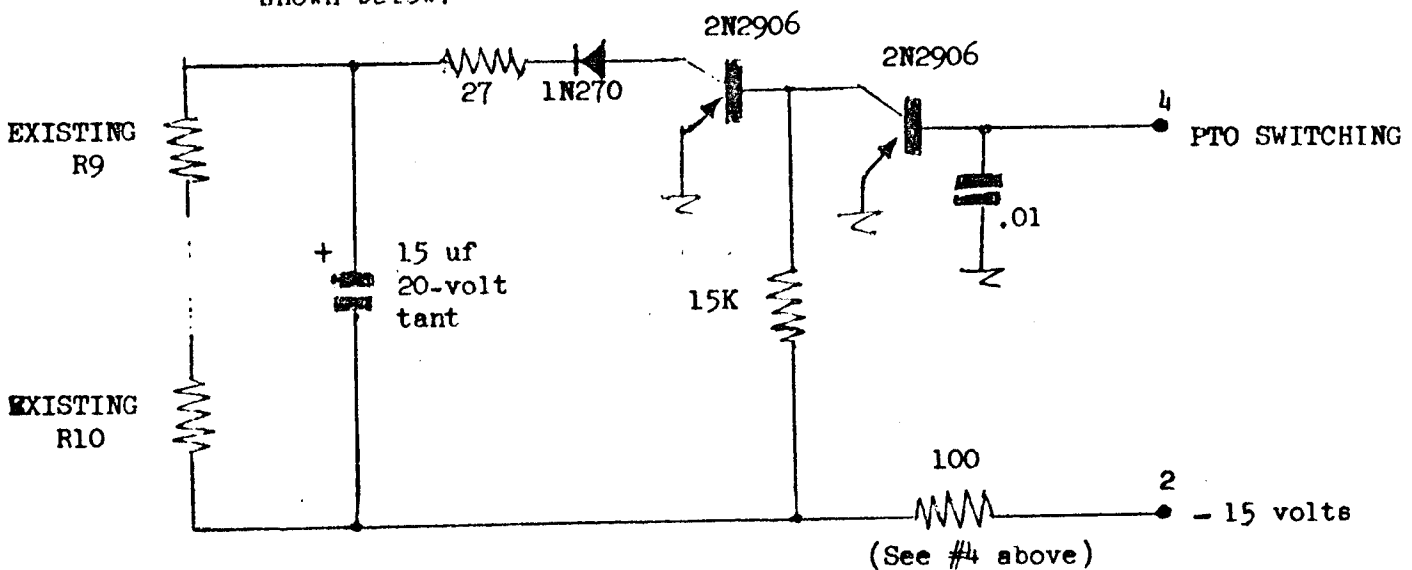


I apologize for the relatively short newsletters of last month and this month but I am running out of information! Please take a moment to drop me a line concerning your S/1 problems or whatever. Without your input this newsletter cannot survive. Thanks!

Here is some information concerning modifications to the PTO's (by K6BE/5). The changes reflect CX7B updates and modifications to reduce spurious emissions (especially on 80 meters)

1. R7 should be selected to provide 0.12 volt as measured with an RF probe.
2. Check for the proper type CR1 (especially on low serial number units). It should be a Hewlett-Packard HPA 5082-2800.
3. Change R2 to 150-ohms to reduce zener diode drain. This change was made in the CX7B's.
4. Add a 100-ohm resistor in the -15-volt line. This change was made in the CX7B's.
5. Filter the +15 and -15 volt lines to minimize spurious emissions at 100 KHz on 80-meters. Use a 2.2uf/35-volt and .1uf disc ceramic on each line. Observe polarity.
6. Install break timing circuit (A CX7B modification) and switching isolation circuit (a K6BE modification) inside the PTO's as shown below:



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from W8CXS

PA Plate Current Overshoot on CX-7 with LED Counter Board. The PA plate current jumps to 200 Ma. when the TUNE button is first pressed and gradually decreases to the normal 100 Ma. value. A77 linear grid relay trips at times and a high spike of RF goes out on SSB operation.

Removal of the NIXIE tube load of about 18 Ma. from the +300 volt supply ruins the power supply regulation and completely stops any chance of the Screen ALC circuit ever operating due to the reduction of current through R6 on the power board. Using standard resistor values, a load of 20.5 Ma. can be added with a 15K, 10 watt resistor mounted outside the rear of the counter cage with one lead to the +300 volt feed-thru capacitor terminal and the other lead to a ground lug. Make sure a piece of Teflon sleeving covers the hot lead of the new resistor to avoid surprises at a later date. Resistor R4 on the power board must be re-installed to correct the screen current meter reading to zero. The value of R4 will depend on the accuracy of the new resistor, the +300 volt, and +15 volt true values. A 36.K resistor corrected best on this one.

A word about the Screen ALC circuit. On the RF driver board, CR2, a 3.9 volt Zener must conduct and the forward drop of CR7, a 1N270 diode must be overcome before the ALC action starts. Typical 3.9 v. Zeners start to conduct at about 2.5 volts and conduct good at 3.3 v. The voltage drop across R6 on the power board is where the ALC voltage is developed and with the 100 Ohm value, probably 3.0 volts (30 Ma.) must pass before ALC starts. A fixed load of 18 to 20 Ma. and the recommended screen current of 12 Ma. should allow ALC operation. Since the 12 Ma. screen current is not usually drawn, the ALC doesn't operate normally, but possibly increasing the fixed +300 volt load might allow the Screen ALC to get a bigger piece of the action?

On early Florida boxes up to at least serial #00300, the rectangular hole in the rear of the cabinet which passes the BeO thermal link from the tube clamp block to the rear heat sink is too small. The hole should measure at least 1" high to properly clear the BeO block and allow it to make full contact with the tube clamp block. In these early boxes, the BeO block was forced upward and the heat transfer capability reduced by about 25%. The hole may be enlarged toward the bottom of the cabinet with a file. Although the hole in later serial numbers is even larger, 1" is just about all that can be easily attained with a neat job on the old boxes.

The Dow-Corning #340 silicone grease on the tube and heat sink of CX-7's dries out to a powder after a year or two of operation and should be replaced. The reduced heat transfer accelerates the deterioration of the grease and can result in pitting of the tube clamp block surfaces if you wait too long.

CAUTION: Beryllium Oxide (BeO), that white ceramic like block used as a thermal link in the CX-7, is reported to be a deadly poison in dust or small chip form although safe in solid blocks. While cleaning, do not scrape or chip the block. Dispose of any chips and the wiping material used to remove the silicone grease carefully.

When replacing the 8072 tube in CX-7's, it was found that new RCA tubes have a larger diameter than the original ones. Several old tubes with the pink ceramic measured 0.804" and several new tubes with the white ceramic measured 0.808". This was enough so that the tube clamp block could not be spread easily with a big screwdriver. It is recommended that a new tube be checked for fit before assembling the mountings after you have taken the assembly apart for greasing. A wedge can be driven in without the danger of breaking the BeO thermal link if an oversize tube is used.

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Also from W8CXS: On early boxes the ground foil on the LED counter board is not connected to all corners of the board. The mounting screws are all that connects the grounds. A lot of strange and intermittent counter/keyer troubles disappear after all corners of the board, both top and bottom, are wired together.

FOR SALE. CX7 updated to "A" with California modifications. Serial Number 272. Excellent condition and includes CW filter. \$1000. Bill Leonard, W2SKE/3. (202) 457 4500 or (202) 332 0217. 2411 California Street N.W., Washington D.C., 20008.

W9XX (ex WA9UHV) has a few PA237's that he will send FREE to anyone needing them - ONE to a customer! He no longer needs them since converting to a LM380.