

Assembly Instructions For The CG Single Channel Tone Transmitter Model T-12

Designed and Produced by

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This set of instructions is a condensed version of the production drawings as used by CG Electronics in the manufacture of the T-12 single channel tone transmitter. The circuit is identical to the production model and with reasonable care the performance of the T-12 can be duplicated. This set of components and instructions is made available to modelers who take pride in doing their own construction work and is not to be considered a KIT. The components are not to be confused with so called bargains now being offered for sale at surplus prices. All the components are guaranteed against defects and will be replaced free of charge if returned to CG Electronics Corporation providing they have not been abused in use. The tubes are not guaranteed against burn outs or breakage.

Unpack the components and at the same time study all the parts and get familiar with the layout of the transmitter.

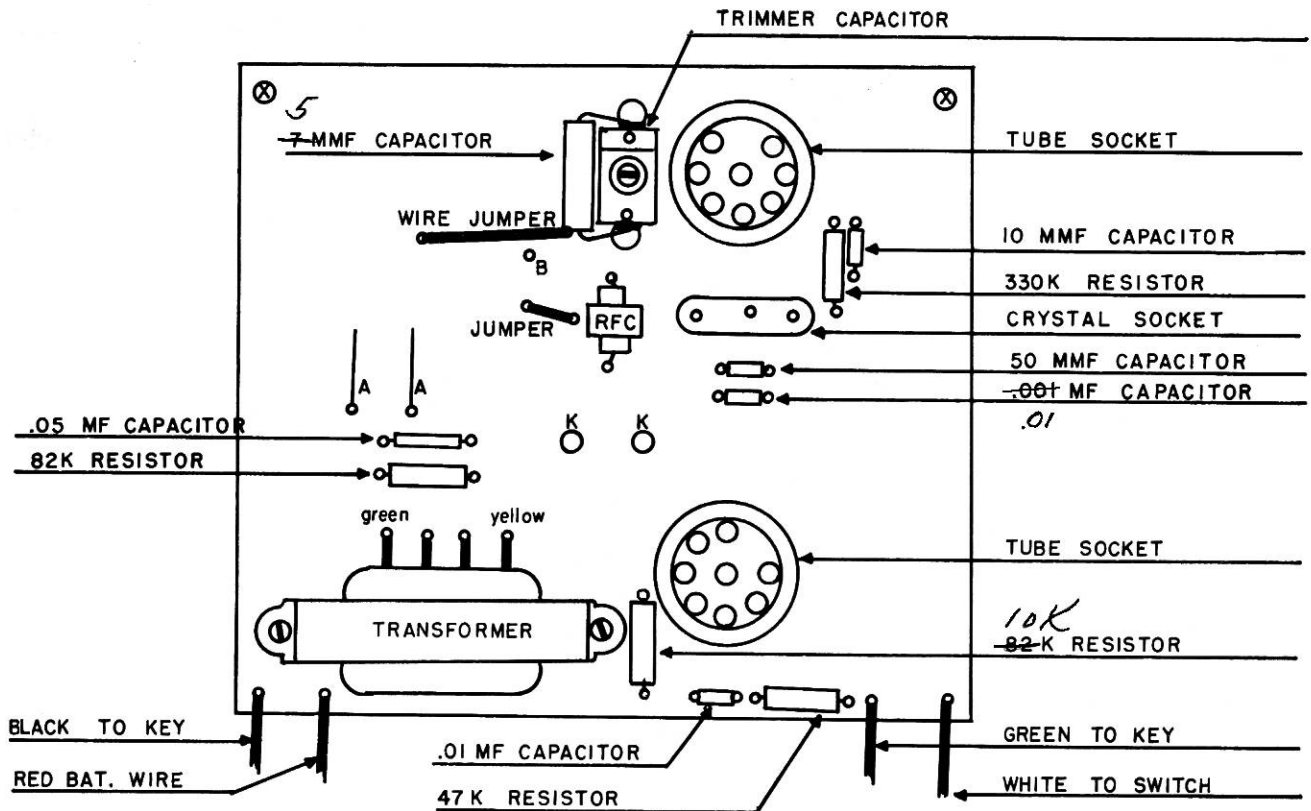
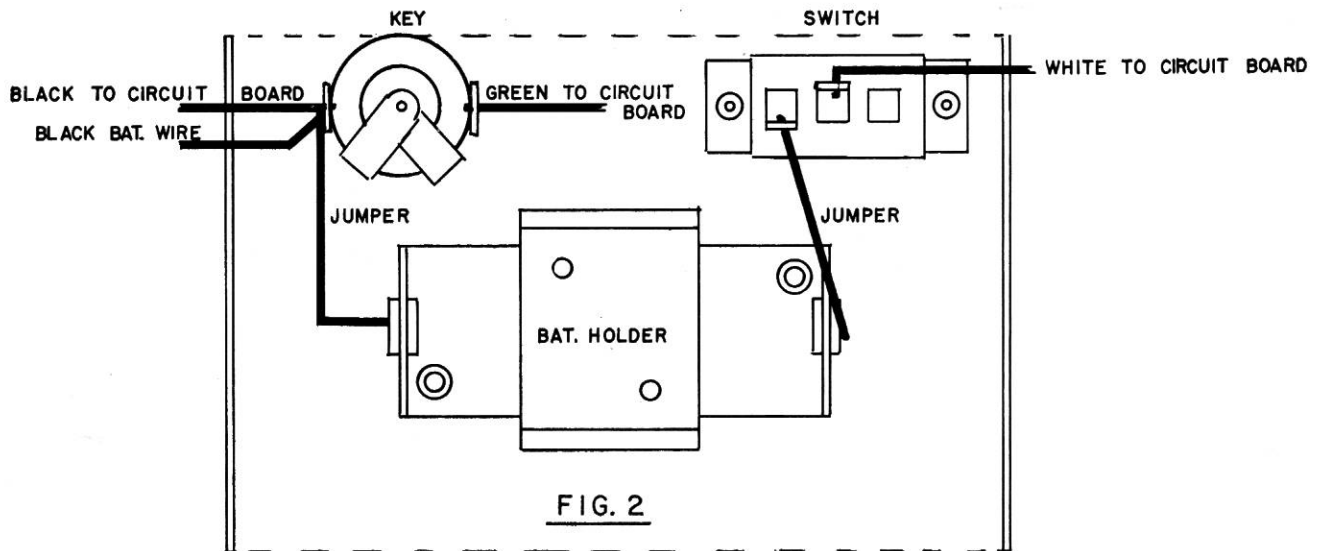


FIG. 1

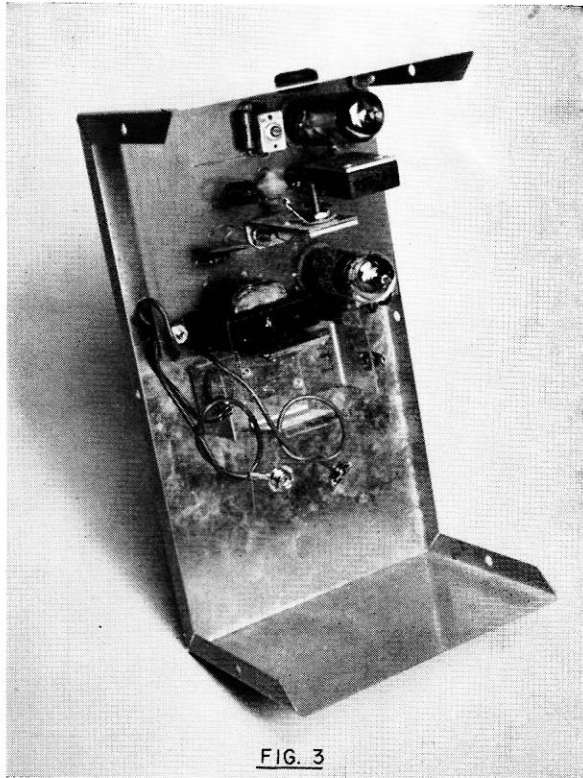
RESISTOR COLOR CODE

Resistance	Color Nearest One End		
330K	Orange	Orange	Yellow
82K	Grey	Red	Orange
47K	Yellow	Violet	Orange

Refer to figure 1 for this operation. First remove the circuit board from the package and place it with the copper wiring down on the table top. Now orient it until it corresponds to the drawing. All components are installed on the side that does not contain copper wiring. Begin by installing the components one at a time and soldering each in place. Be very careful to orient the tube sockets as indicated in figure 1. Make certain the copper wiring lines up with the lug on the bottom of the socket. The socket may require a little effort to push into the chassis board but should snap into place. The sockets are secured by building up solder between the wiring and socket lug. The wires are furnished at random lengths and do not cut any of them except the wires used as jumpers. Use rosin core solder only and do not use any additional flux. Use as little solder as possible on all circuit connections. Probably the best way to solder printed circuits is to apply the heat and solder to the wire lead that extends thru the printed board. Then move the soldering iron down to touch the printed wiring which will complete the job. All leads can be trimmed off flush after they are soldered. Use a small soldering iron and use only enough heat to perform the soldering operation. Excessive heat will cause the copper wiring to release from the circuit board. Install two 1½" pieces of bare wire in the holes marked A and A in figure 1. The 7 mmf capacitor is soldered directly across the trimmer leads. Install the 9 turn antenna coil into hole marked B on the circuit board. Allow approximately ¼-inch between the coil and the board.



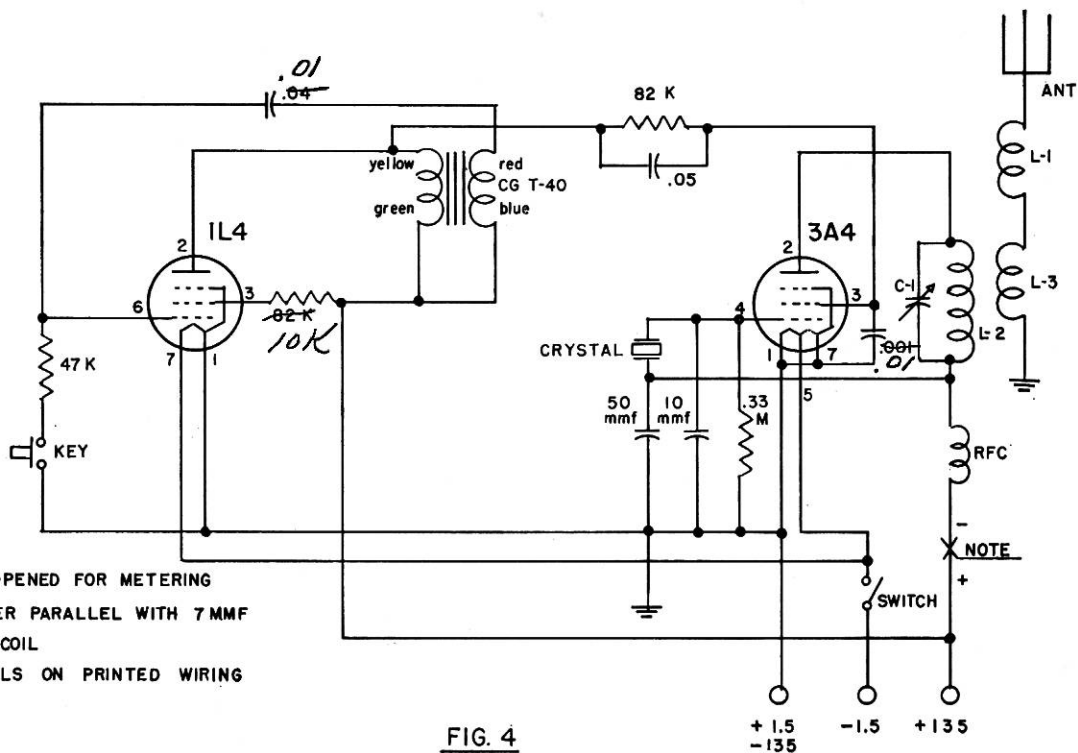
After the circuit board is finished, wire the switches and battery holder as indicated in figure 2. The green, black and white wires are cut to length at this time. Complete the soldering for all connections in figure 2.



To assemble the transmitter, pass two long 6-32 screws through the two holes in the cabinet that align with holes K and K on the circuit board. Place a $\frac{3}{4}$ -inch spacer on each of these two screws and then the circuit board is placed as shown in figure 1 with the printed wiring facing the cabinet front with the two 6-32 screws coming through holes K and K. Next place the antenna bracket over the two 6-32 screws as seen in figure 3 and secure assembly with a lock washer and nut on each of the two screws. Do not tighten these screws until the two corner screws are installed in the same manner through holes X and X. The procedure is the same for the two corner screws except the antenna bracket is omitted. Connect the remaining end of the antenna coil to the lug on the antenna bracket. All four screws can be tightened at this time and the transmitter is ready for tuning and testing.

The two bare wires in holes A and A are intended for tuning the transmitter. Install the batteries as shown in the instruction sheet making certain the switch is turned off. Now connect a milliamperemeter with a range of no less than 10 MA to the two bare wires. The positive lead to the bare wire on your left when facing the transmitter as in figure 3. The negative meter lead is connected to the remaining bare wire. Install the antenna as shown in the instruction sheet extending it to its full length. To tune the transmitter first turn the switch to the "on" position. Observe the meter and it should not exceed 12 MA. If it does exceed 12 MA, turn the switch off and examine the transmitter for possible wiring mistakes. Assuming it is operating properly, tune the trimmer for minimum current which will appear as a broad dip in current as the trimmer is turned through its full range. Find the lowest current point and allow the trimmer to remain in this position. This adjustment has to be made only once and should remain in tune thereafter. Now turn the switch off and disconnect one of the 135 volt leads. (This is to prevent an accidental shock) then disconnect the meter leads. Now twist the two bare wires together very tightly or solder them. Re-connect the 135 volt batteries and the transmitter is ready to operate after installing the cover as explained in the instruction sheet.

If you do not have the necessary equipment, CG Electronics Corporation will tune and test your completed transmitter to factory specifications for a minimum charge of \$2.50. Pack the transmitter very carefully and ship direct to the factory enclosing cash, check or money order in the amount of \$2.50.



NOTE: THIS LINE IS OPENED FOR METERING
 C-1 : 10MMF TRIMMER PARALLEL WITH 7MMF
 L-1 : ANT LOADING COIL
 L-2 L-3 : TANK COILS ON PRINTED WIRING

FIG. 4

+ 1.5
 -135
 -1.5
 + 135