

# Assembly Instructions For The CG 3-Channel Transistorized RC Tone Receiver

Designed and Produced by

## CG Electronics Corporation

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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 RT-3 three channel transistorized receiver. The circuit is identical to the production model and with reasonable care the performance of the RT-3 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**. All the components are of first quality and 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 tube is not guaranteed against burn outs or breakage.

Unpack all the components and check them against the parts list to make certain they are all there. At the same time study all the parts and get familiar with the layout of the receiver.

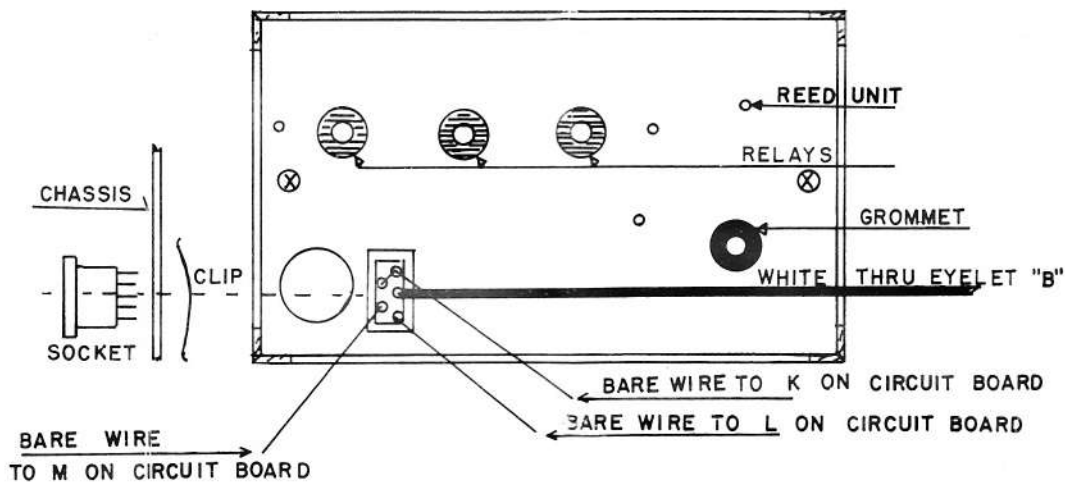


FIG. 1

Refer to figure 1 and install the tube socket noting that it can be installed facing the wrong direction. Figure 3 will show which is the top and bottom of the chassis. Now install the relays and the reed unit using the 3-48 screws provided for this use. Note that the relays are mounted on insulation board to prevent shorting of the two relay armatures. Next install the three bare wires to the tube socket and let them remain their full length. Solder the wires in place noting that the two socket pins nearest the center of the chassis are connected together. Now solder the White wire, which is 9 inches long, to the remaining pin on the tube socket. When soldering the tube socket be very careful not to get solder between the pins which would result in a short circuit.

Refer to figure 2 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

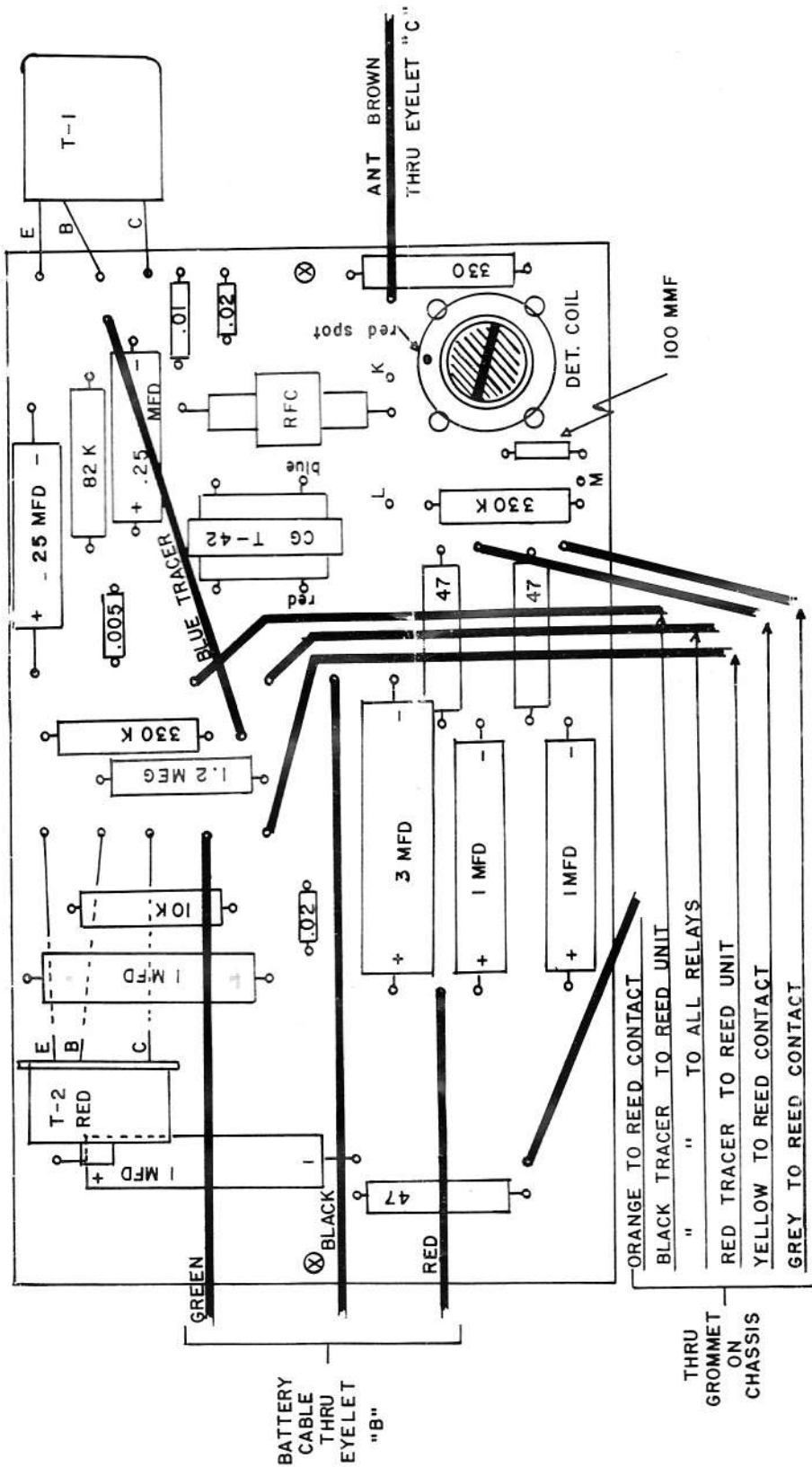


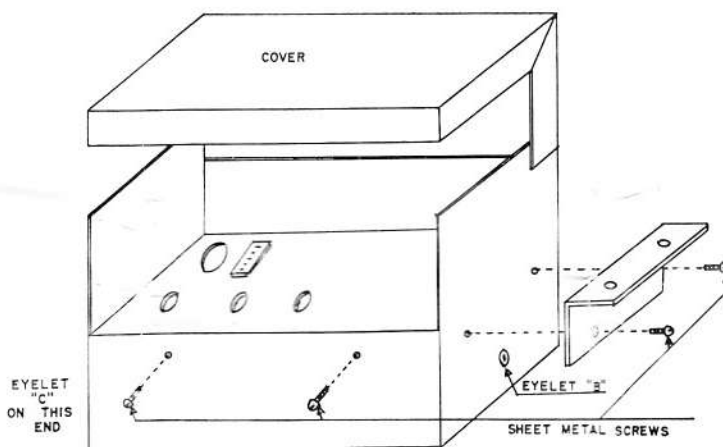
FIG. 2

by installing the components one at a time and soldering each in place. Observe polarity of all electrolytic capacitors and coding on the detector coil. When installing the transformer handle the leads with care as they are very easily broken. To tin the transformer leads apply the soldering iron and solder to the insulated leads. The insulation will melt away and it will not be necessary to scrape the leads. Make certain that the solder is in contact with the wire and no insulation is present. Use resin 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. Do not install the transistors until all the other components have been installed. The transistors have been selected and marked with identifying colors. Observe the lead arrangement and install as shown in figure 2. Allow approximately 1/4 inch between the circuit board and the bottom side of the transistor. Do not mount the transistors flush with the circuit board. When soldering them in place be very careful not to get the leads too hot because the transistor can be damaged permanently by excessive heat. Next install the wires into the circuit board as indicated.

### RESISTOR COLOR CODE

330 ohms	Orange	Orange	Brown
330K	Orange	Orange	Yellow
82K	Grey	Red	Orange
47 ohms	Yellow	Lavender	Black
1.2 Meg	Brown	Red	Green
10K	Brown	Black	Orange

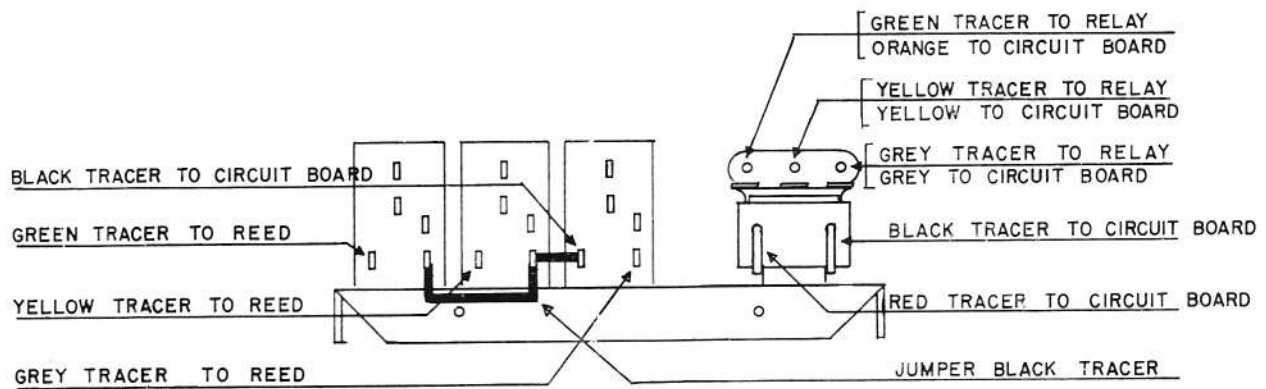
**ELECTROLYTIC CAPACITORS + END IS RED**



**FIG. 3**

### WIRES

White	Tube socket to battery plug	9 inches long
Brown	Circuit board to antenna	9 inches long
Green	Circuit board to battery plug	9 inches long
Black	Circuit board to battery plug	9 inches long
Red	Circuit board to battery plug	9 inches long
Red tracer	Circuit board to reed unit	3 1/2 inches long
Black tracer	Circuit board to reed unit	3 1/2 inches long
Black tracer	Circuit board to relays	3 1/2 inches long
Orange	Circuit board to reed contact	2 3/4 inches long
Yellow	Circuit board to reed contact	2 3/4 inches long
Grey	Circuit board to reed contact	2 3/4 inches long
Blue tracer	Circuit board jumper	2 inches long
Green tracer	Reed contact to relay	1 3/4 inches long
Yellow tracer	Reed contact to relay	2 3/4 inches long
Grey tracer	Reed contact to relay	3 3/4 inches long



**FIG. 4**

Take the bare wires that are connected to the tube socket and guide them thru the circuit board holes indicated being careful not to let them touch each other or other bare components. Pull the group of wires indicated thru the Grommet on the chassis. Install the long screws thru the chassis and the circuit board in the holes marked with an X. Put a spacer, which is provided, between the chassis and the circuit board and secure with a lockwasher and nut. Next connect all the wires as indicated in figure 4. The yellow, orange and grey wires are installed at this point connecting the reed contacts to the relays. Now pull the groups of wires thru the indicated eyelets. Cut the battery cable wires all the same length and solder the 5 pin plug in place — the Black wire to Pin No. 1; Green wire to Pin No. 2; Red wire to Pin No. 3 and the White wire to Pin No. 4. Turn the receiver over and solder the wires that come from the tube socket to the circuit board. It is advisable to wash the rosin from the circuit board using carbon-tet and a tooth brush. Install the tube with the red spot toward the relays and secure it with the clamp supplied. Refer to figure 3 for assembly of Cabinet. The receiver is now finished and ready for checking. Inspect the receiver and be certain that everything is as it should be then refer to the instruction sheet for testing.

## PARTS LIST FOR RT-3 RECEIVER

3-12-58  
48

1 - Tube, type 1AG4	✓
1 - Output transistor	✓
1 - Input transistor	✓
1 - Detector tube socket	✓
1 - Detector coil	✓
1 - Transformer, T-42	✓
1 - RF Choke	✓
1 - Capacitor, Glenco .01 mfd	✓
2 - Capacitors, Glenco .02 mfd	✓
1 - Capacitor, Glenco .005 mfd	✓
1 - Capacitor, Glenco 100 mmf	✓
1 - Resistor - 330 ohms	✓
2 - Resistors - 330 K	✓
1 - Resistor - 82K	✓
1 - Resistor - 10K	✓
1 - Resistor - 1.2 meg	✓
3 - Resistors - 47 ohm	✓
1 - Capacitor, electrolytic 3MFD	✓
2 - Capacitors, electrolytic .25MFD	✓
4 - Capacitors, electrolytic 1MFD	✓
1 - Socket, 5 pin miniature	✓
1 - Plug, 5 pin miniature	✓
1 - Chassis	✓
1 - Printed circuit board	✓
1 - Base, can & cover set	✓
1 - Set instructions	✓
1 - Set assembly instructions	✓
2 - Decals	✓
2 - <del>Mounting brackets</del>	✓
9 - #2 Sheet metal screws	✓
3 - 3-48 X 3/8" Machine screws	✓
3 - Extruded fiber washers	✓
3 - #3 Lockwashers	✓
2 - #2 Lockwashers	✓
2 - 5/8" Spacers	✓
2 - 2-56 X 7/8" Machine screws	✓
2 - #2 Hex nuts	✓
1 - Catalog	✓



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This order blank is made available because of popular request by those who take pride in assembling their own equipment and yet take advantage of proven commercial design, engineering and our ability to purchase tested, quality, components at the lowest possible price.

Our parts packages come complete with all the necessary components such as wound coil, anodized can, etc., and hardware to assemble a unit identical to the item we make commercially available that you see on your dealer's shelves. Simple, easy to follow, step by step assembly instructions accompany each package. All you furnish is your labor and simple tools.

For those who do not have the necessary test tools, **CG** will test out the unit you build for a minimum fee.

QUANTITY	ITEM AND MODEL NUMBER	PRICE	TOTAL
	Transmitter T-12 Parts Package	24.95	
	Receiver 4-A Parts Package	8.95	
	Receiver Transistorized Single Channel Tone—Model RT-1 (Complete with relay)	29.95	
	Receiver Transistorized 2 Channel RT-2 (Less Reed Relay and Relays) Parts Package	29.95	
	Receiver Transistorized 3 Channel RT-3 (Less Reed Relay and Relays) Parts Package	34.95	
	Receiver Transistorized 5 Channel RT-5 (Less Reed Relay and Relays) Parts Package	37.95	
	Receiver Transistorized 8 Channel RT-8 (Less Reed Relay and Relays) Parts Package	57.95	
		<b>TOTAL</b>	

Enclosed find  Check  Money Order for \$\_\_\_\_\_.

NOTE: Transistorized receivers in Parts Package Form Utilize 1AG4 Tube in the Detector Circuit.

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QUANTITY	ITEM AND MODEL NUMBER	PRICE	TOTAL
	Transmitter, Single Channel Tone—Model T-12	33.95	
	Transmitter, Three Channel—Model T-3	59.95	
	Transmitter, Five Channel—Model T-5	89.95	
	Transmitter, Eight Channel—Model T-8	99.50	
	Receiver, Transistorized Single Channel Tone—Model RT-1 3V	39.95	
	Receiver, Transistorized Single Channel Package Unit — Model RX-1	34.95	
	Receiver, Two Channel Tone—Model RT-2	69.95	
	Receiver, Three Channel—Model RT-3	79.95	
	Receiver, Five Channel—Model RT-5	119.50	
	Receiver, Eight Channel—Model RT-8	139.50	
	Modulator to convert T-15		
	Transmitter to Three Channel Tone—Model M-3	29.95	
<b>REED RELAYS</b>			
	Reed Relay Two Channel—Model AR-2	11.95	
	Reed Relay Three Channel—Model AR-3	12.95	
	Reed Relay Five Channel—Model AR-5	19.95	
	Reed Relay Eight Channel—Model AR-8	22.50	
<b>MISCELLANEOUS</b>			
	Installation Kit for Multi-Channel Receivers, K-1	2.95	
	Crystal for 27.255 Mcs	3.95	
	Relay, Sensitive—Model V-11	4.95	
	Battery, VO-800 1.2 volts	4.95	
	Battery, VO-500 1.2 volts	1.95	
	Battery, VO-250 1.2 volts	1.75	
	Battery, VO-100 1.2 volts	1.65	
	Battery, 2 VO-250 2.4 volts	4.65	
	Battery, 2 VO-500 2.4 volts	4.95	
<b>TOTAL</b>			

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