

Instructions For The
CG MODEL R-1 TONE RECEIVER

Manufactured by
CG ELECTRONICS CORPORATION

305 Dallas, N. E.
Albuquerque, New Mexico

INTRODUCTION

The CG Model R-1 tone receiver was designed for remote control of models where one channel of control is desired. Three tubes form a circuit which is comparable to circuits of most four tube receivers. Antenna length will not affect the receiver performance and adjustments are not critical. The receiver is adjusted at the factory and under normal conditions should not require further tuning or adjusting. An operators license is not required for use of this equipment which operates on 27.255 MCS. Compactness, reliability and economy throughout design give you operational dependability at low cost.

The CG R-1 receiver is designed to accept audio modulation from 300 to 1000 cycles per second. The modulation percentage of the transmitter should be at least 80% for best operation. Receiver is fail safe and relay current is zero with no signal, 5 MA with signal. The R-1 receiver uses the latest manufacturing techniques and should give trouble free performance with long life.

BATTERIES

The recommended voltage for the B batteries is 45 volts. Two 22.5 V hearing aid batteries connected in series is recommended. The B batteries should be replaced when the voltage drops below 40 volts because they are subject to failure at this point. To measure B voltage turn on the receiver and read voltage with a meter while the receiver is operating. Filament batteries are checked in the same manner and should be replaced when they read 1.1 volt or less. If battery voltage is not steady but instead creeps lower when tested under load, replace them. A fresh D size flash light cell for filament supply will usually last for one days flying with a reasonable rest between flights. For the 45 volt plate supply, two Burgess U-15 batteries or equivalent are recommended. A Ray-O-Vac 2LP size flash light cell or equivalent is recommended for the 1.5 volt filament supply. Wire the batteries as shown on sketch figure (1). One Burgess U-10 is recommended for bias. This battery does not deliver any power and should last a very long time.

ANTENNA

The antenna length of the CG Model R-1 receiver is not critical. Length of antenna may vary from 18 to 36 inches including length of wire used to connect receiver to antenna. A vertical antenna made of music wire and allowed to extend above fuselage works nicely. A trailing wire will, also, work satisfactorily if kept clear of fuselage containing wiring and push rods.

INSTALLATION

The CG Model R-1 tone receiver can be mounted in any convenient position within the model. The receiver should be shock mounted by any one of the common methods; rubber-band suspension is recommended but sponge rubber or Lord Mounts should be satisfactory. Mount the receiver in a position that will allow plenty of clearance for the tubes. This is necessary so that a rough landing or impact will not bounce the tubes against anything solid which could result in damage. Connect the wires as shown in figure 1 and allow enough slack in the wires to permit the receiver to move freely within its mounting limits. If this isn't observed, a rough landing could break the wiring free from the receiver. Solder all connections securely and do not depend upon the solder to hold the wire to the terminal; always wind the wire around the terminals first, then solder it in place. Locate the batteries where necessary to balance model. All batteries may be mounted in the same compartment of model. Spark suppression is necessary to prevent the relay from sticking. A .1 mfd capacitor with a 10 ohm resistor in series can be connected across the relay points. Another method that works nicely with escape-ments or motors, is to connect a 100 ohm 1/2 W carbon resistor directly across the motor or actuator leads.

TUNING AND TESTING

Upon completion of the installation of the CG Model R-1 receiver, make certain it is wired correctly and that all connections are secure. Install a pair of headphones in the test jacks and turn on the switch. After approximately 15 seconds, a rushing noise should be heard in the phones. If no noise is heard, make certain that your transmitter is turned off or that no other receiver is operating nearby. If you still do not hear the noise, re-check the wiring and make certain the battery polarity is correct. When a rushing noise is heard, turn on your transmitter. The transmitter should have the antenna collapsed and removed from the receiver by at least 25 feet or if you cannot shorten the antenna, move the transmitter at least 250 feet from the receiver. It is wise to have some assistance when tuning the receiver. Now tune the receiver tank coil, marked "A" in figure 1, while your assistant depresses button on the transmitter, you should hear a clear audio tone each time the transmitter button is depressed. Tune the receiver for maximum signal indicated by the loudest tone. You have to make this adjustment only once. The receiver should remain in tune thereafter. Your R-1 receiver has been adjusted at the factory and in most cases it should not require extreme adjustment.

WARRANTY

The CG Model R-1 receiver is guaranteed against defective parts and workmanship for a period of 30 days from the date of purchase. If for any reason the receiver fails to operate send it directly to the manufacturer for inspection and repair. The guarantee applies only when used with a CG Transmitter or one approved by CG Electronics Corporation. If the receiver has been tampered with or shows evidence of abuse the warranty is void. The tubes are not guaranteed against burn-outs or breakage. Enclose 35¢ for postage and handling with each received returned under our warranty. We are not responsible for equipment damaged in shipment.

REPAIR SERVICE

The factory will repair your receiver and check it for a minimum charge of one dollar and thirty five cents (\$1.35). Send the damaged receiver to: CG Electronics Corporation, 305 Dallas, N. E., Albuquerque, New Mexico. Include one dollar and thirty five cents with the receiver and if for any reason the charge is to be more, you will be advised before the receiver is repaired.

TROUBLE SHOOTING

Due to the extreme sensitivity of the CG R-1 receiver it may be necessary to bond torque and push rods used in the model. This would be indicated by having the receiver hold the control solidly or intermittently when the engine is running with no signal being transmitted. The metal parts rubbing together create static noise similar to that which is heard in a house receiver when an electric shaver is running. This noise can operate the receiver. Any place in the model where the metal parts of the R/C installation can rub together or bounce against each other should be bonded or better still be avoided if possible.

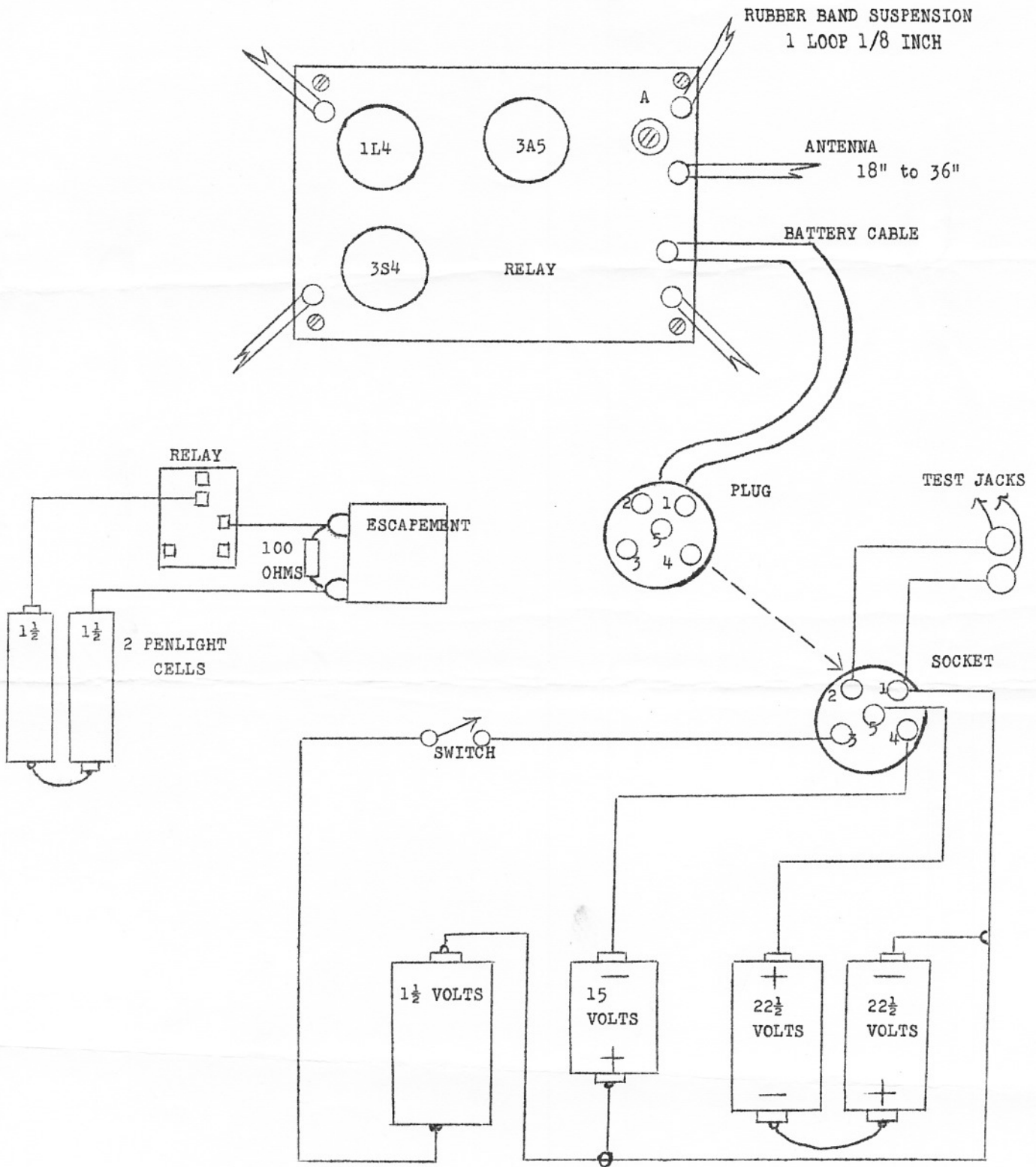


FIGURE 1