

INSTRUCTIONS FOR THE
CG Model T-8 Eight Channel Tone Transmitter
Manufactured by

F & M ELECTRONICS
537 Grove Street, N.E.
Albuquerque, New Mexico

INTRODUCTION

The CG Model T-8 Transmitter is an eight channel tone modulated transmitter of high channel stability. The channel tones are generated by two separate oscillators feeding a common modulator, making it possible to transmit two tones at one time. By doing this, two control surfaces can be moved simultaneously. It is intended for use with the CG Model RT-8 Receiver, and will operate with any receiver that has audio channels within the frequency range of the T-8.

The CG T-8 Transmitter operates on a carrier frequency of 27.255 Mcs. and is crystal controlled to comply with FCC requirements.

Contact your nearest FCC field office and obtain the necessary permit before using this equipment.

The T-8 Transmitter operates with a power input of one watt, and the antenna is tuned giving more than enough range for model control.

The audio oscillators are of advanced design, and should remain in tune over very long periods. Aging batteries or temperature will not affect the tuning of the audio channels. The adjustments were incorporated to make it possible to use the T-8 with other receivers.

Do not operate if the lamp on the front panel is not lit. This lamp is used as part of the circuit, and also indicates when the transmitter is turned on. When the plate batteries drop below safe operating limits, this lamp will no longer light, which indicates the necessity for replacing the plate batteries. The plate batteries will be at 100 volts when this happens.

The T-8 Transmitter is tuned at the factory, and will require no tuning of the RF section.

ASSEMBLY

Remove the six screws holding the back in place and slide back cover free. Make certain that the tube and the crystal are seated firmly in their respective sockets. Insert the antenna through the grommet in the top of the cabinet, and thread the antenna on the screw mounted on the chassis base. Tighten antenna by turning it clockwise.

Install one 1-1/2 volt Burgess 4 FH, or equivalent, and two 67-1/2 volt Burgess XX-45, or equivalent, batteries as shown in sketch. Replace the cover and install the screws to hold it secure.

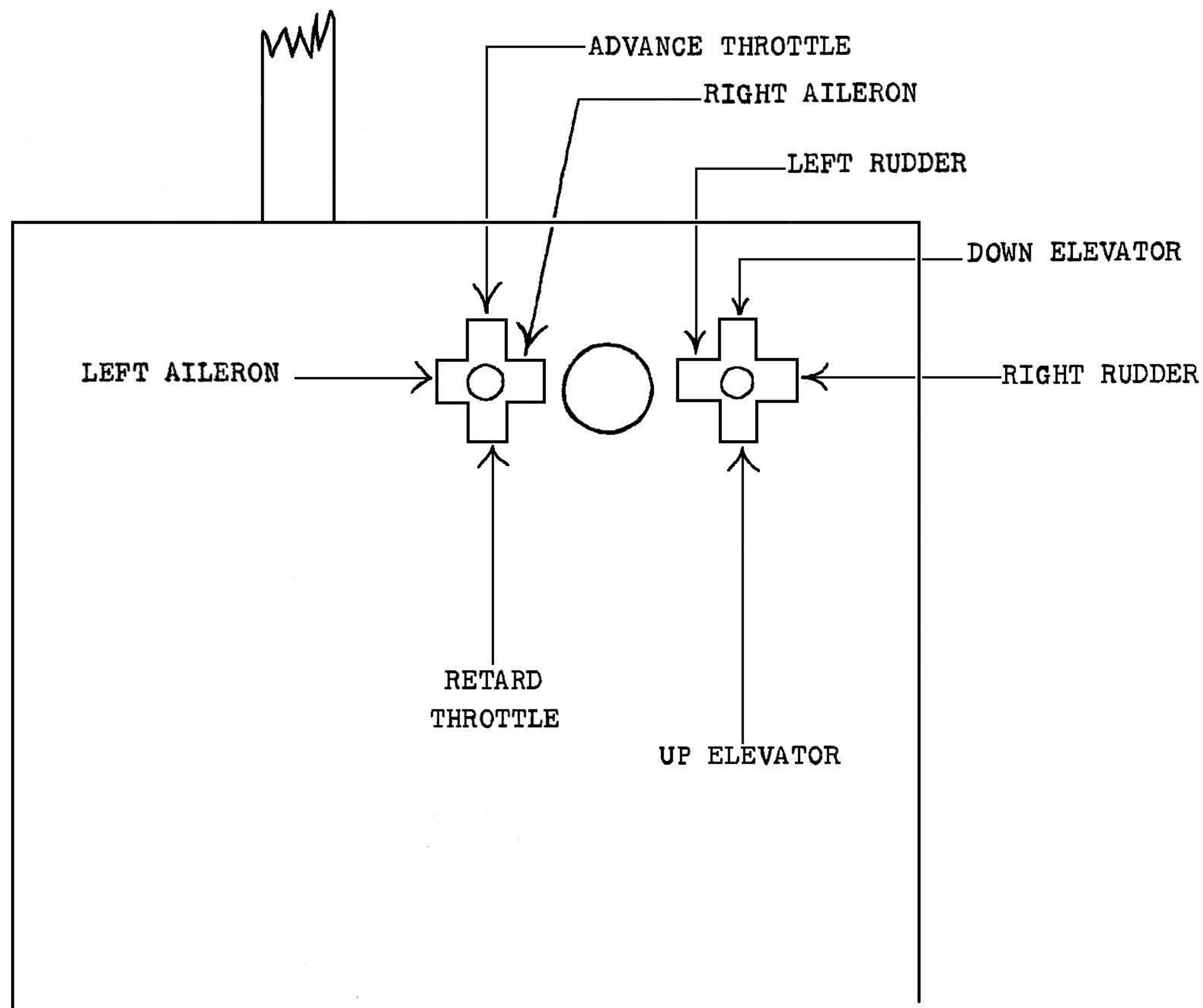
Replace the 1-1/2 volt battery when the voltage drops below 1.1 volts, and the 135 volt batteries when the voltage drops below 100 volts.

TUNING AND ADJUSTMENTS

The adjustments of the modulator will consist of tuning the eight audio channels. The channel adjustments are accessible to a small screwdriver through the openings in the back cover of the transmitter. The audio frequency increases as the adjustment screw is turned clockwise. The adjustment screws are located in direct relation to the stick position. As an example, when the right hand stick is moved toward the top of the cabinet, the adjustment would be the screw directly behind this stick and toward the cabinet top. Each stick controls a separate audio oscillator, and simultaneous operation is accomplished by operating both sticks at once.

Turn all eight adjustments full clockwise before tuning the audio channels. Collapse the transmitter antenna to its' shortest length and move the transmitter approximately 25 feet from the receiver. With the receiver and transmitter turned on, depress one of the channel sticks and slowly turn the adjustment screw counter-clockwise until the desired control surface moves. Proceed in the same manner with the remaining channels. Always adjust the tones counter-clockwise to the point where the control surface operates and no farther. Re-check the adjustment by keying the stick a few times observing the response of the control surface, and retrim the adjustment if necessary. When tuning the low frequency channels, you will note that some control surfaces will operate as you tune through their respective frequencies. This is a normal reaction. If the control surface does not respond, listen for the vibration of the reeds as you tune through the channels. Dirt in the reed unit or relays on the receiver could cause the control surfaces to be in-operative when the reeds vibrate with no control response. (See receiver instructions to correct this condition). Check all channels for response at the beginning of each flying session and after approximately every fifth flight. To accomplish this, allow the model to remain on the ground with the receiver turned on while you carry the transmitter approximately 25 feet from the model. Key each channel and observe the control surface response. You will find it unnecessary to re-tune most of the time, but this is intended as a safety precaution. Allow the transmitter at least 30 seconds to warm up before using.

When tuning for simultaneous operation, adjust the channels as described, and then depress one channel on the left stick and hold it while re-trimming the channels on the right stick until good operation is obtained. Now reverse the situation, and hold a right channel while re-trimming all the left channels. Bear in mind that two channels next to each other will not function very well, because of closeness of these two frequencies. It is suggested that at least one reed channel should be in between any two channels operated simultaneously. In other words, two reeds that are located side by side should not be expected to operate solidly in simultaneous control. Check all channels, and retrim where necessary.

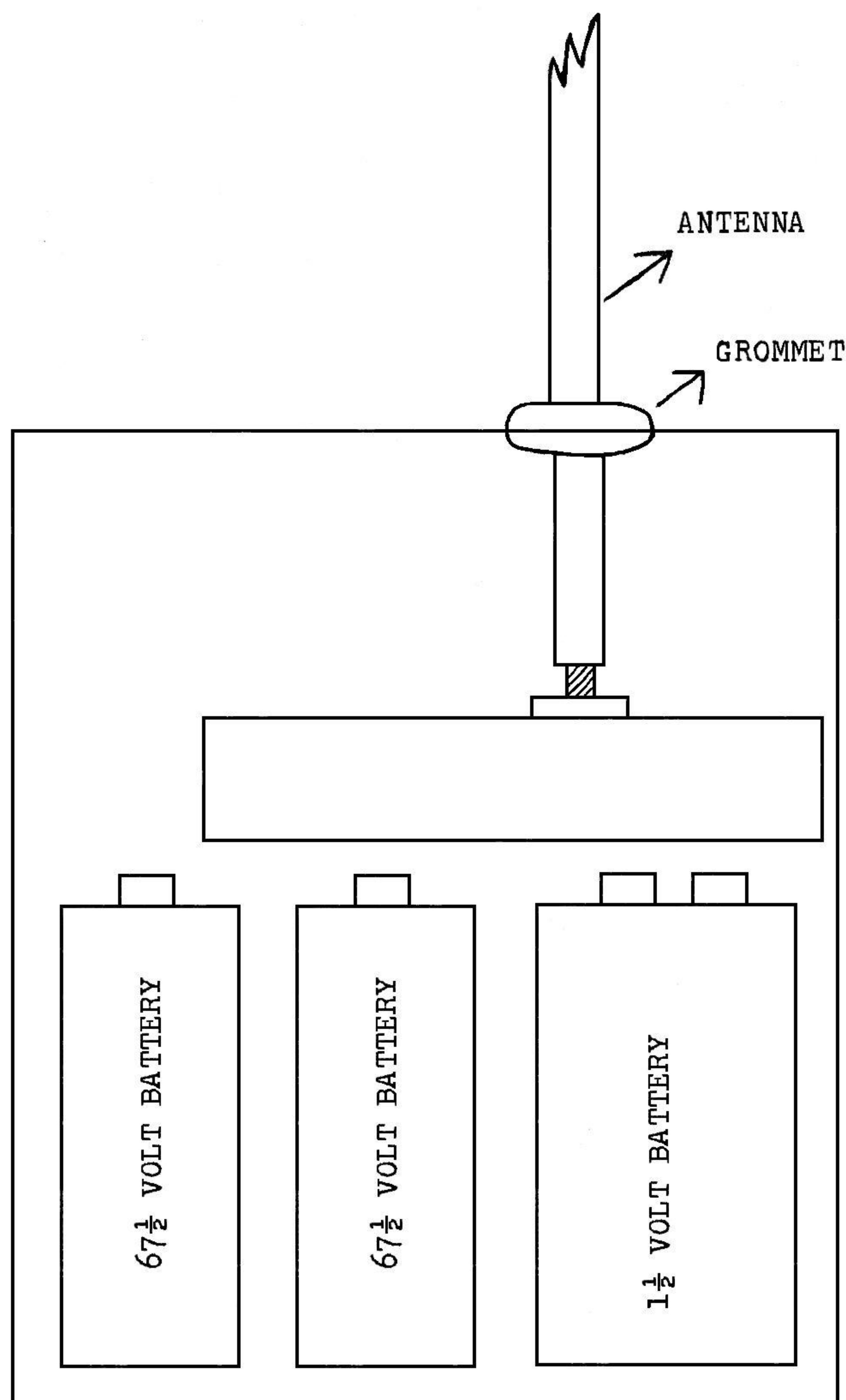


SUGGESTED CHANNEL TUNING

AUDIO FREQUENCY RANGE - 250 CPS to 450 CPS
 LOW FREQUENCIES ON LEFT STICK

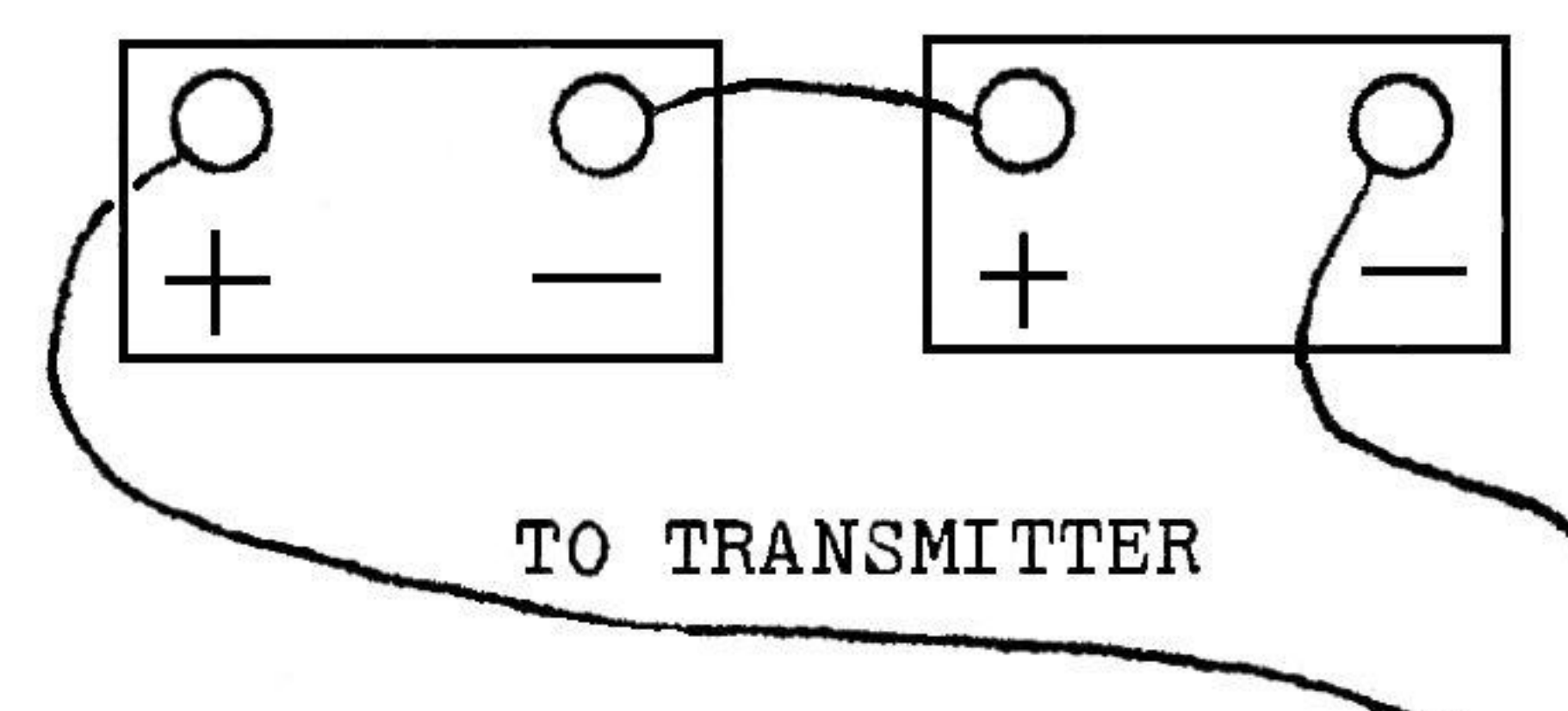
WARRANTY

The CG Model T-8 Transmitter is guaranteed against defective parts and workmanship for a period of 30 days from the date of purchase. If for any reason the transmitter fails to operate send it directly to the manufacturer for inspection and repair. If the transmitter has been tampered with or shows evidence of abuse the warranty is void. The tube is not guaranteed against burn-outs or breakage.



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