INSTRUCTIONS FOR OPERATING

CITIZEN-SHIP MODEL BT-6 TRANSMITTER

CITIZEN-SHIP RADIO CORPORATION
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INSTRUCTIONS FOR USE OF MODEL BT-6 TRANSMITTER

Your CITIZEN-SHIP Model BT-6 Transmitter uses a high output MOPA circuit which can be modulated with any one of six adjustable audio tones individually. (Do not signal two controls at once or a false audio signal is transmitted.)

This transmitter is crystal controlled and is intended for operation with CITIZEN-SHIP BR-6 Reed Receiver on Citizens Band frequencies.

RF ADJUSTMENTS

All RF adjustments have been completed at the factory using the crystal with which the set is shipped, and should not be changed if you wish to continue using the transmitter on this frequency.

The brass screw on right (rear view) tunes in the oscillator. The brass screw on left (top of chassis) tunes the output tank circuit. Never change any of these adjustments without the aid of a Field Strength Meter. Oscillator adjustment must be set 1/4 turn safe (counter-clockwise) from perfect maximum or oscillator may quit.

ASSEMBLY

Batteries required are two 67-1/2 volt B batteries Burgess type XX45 or Eveready #467, and one 1-1/2 volt Burgess type 4F or Eveready type #742. Filament current is only 320 M.A. and plate current 20 M.A.

Screw the antenna into the stud provided below the hole in the top of the cabinet and extend to full length for flying. Testing can be done with the antenna collapsed.

OPERATION

Since the reeds used in the receiver are very sharply tuned, the audio tone from the transmitter must be extremely stable and not drift off frequency. This circuit used in the BT-6 is being used in a well-known electronic organ and is probably the most stable circuit that can be produced for this application. Once set, it should stay tuned for weeks.

In rear of the transmitter are 6 controls accessible through holes in the back cover which permit the audio tones to be tuned exactly to the reeds in the receiver. They are arranged for maximum convenience if the receiver is connected in accordance with the instructions packed with it and are shown here.

Some modelers may wish to substitute Aileron or Elevator Trim for Rudder or Motor control for a particular airplane. This can prove entirely satisfactory. (It is also possible, of course, to use this equipment in a model boat or a car.)

If some other arrangement of connecting the reeds is used, the following chart identifies the control used with the 6 various audio tones.

NORMAL CONTROLS	ALTERNATE CONTROLS
1. RIGHT RUDDER - Highest Tone	RIGHT AILERON
2. LEFT RUDDER	LEFT AILERON
3. HIGH MOTOR	DOWN ELEVATOR TRIM
4. LOW MOTOR	UP ELEVATOR TRIM
5. DOWN ELEVATOR	
6. UP ELEVATOR - Lowest Tone	

Action of the lever switches gives control as indicated by the printing on the front panel. An adjacent reed may sometimes be tuned in, so be sure the correct reed is vibrating by checking the servo or actuator motion associated with the control.

Tuning of controls to match reeds in the receiver is best and most accurately done beginning with control adjustment completely counter-clockwise. Push desired lever switch and begin to adjust associated control (see rear view drawing) clockwise. Note exact position of control as actuator jumps to control position. This will be a solid actuation (not chattery). Continue turning clockwise until actuator begins to chatter and goes to neutral. Note exact position of control where chattering starts. Set pot in center of the two noted positions.

Check battery voltages periodically with transmitter turned on. The transmitter will work with B voltages as low as 80 volts (down from 135), but range may be decreased. The "A" Battery should be changed when voltage reaches 1.2 volts.

Don't make the following adjustments except as a last resort:

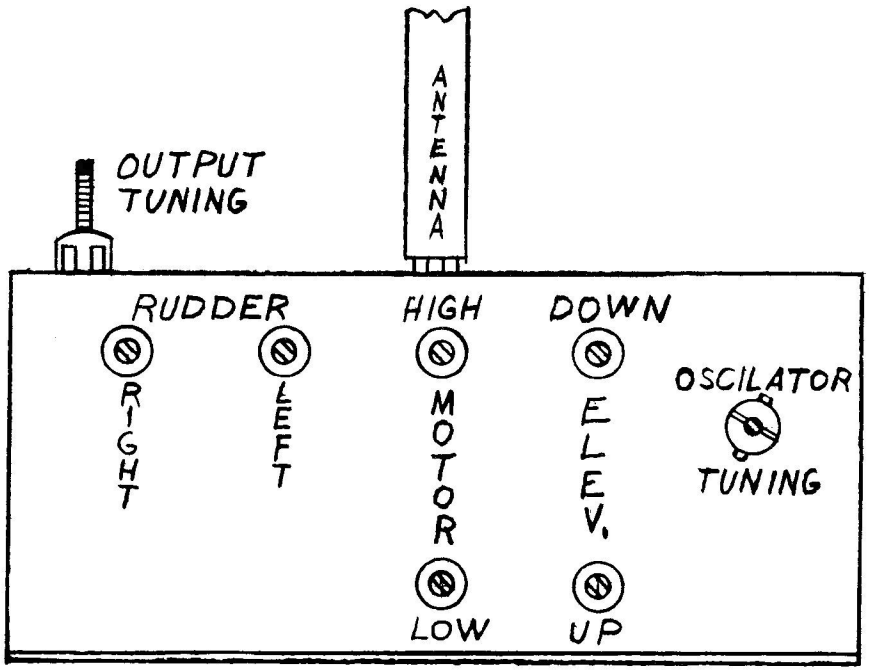
> If a control adjustment fails to reach a reed frequency when in maximum clockwise or counter-clockwise position it is possible to readjust the transformer air gap by means of the screw to bring it in. CAUTION: This will shift all six frequencies. Closing the gap lowers the frequencies, increasing raises. A quarter turn of the screw is generally enough. If you adjust this, mark the screw so you can get back to where you started as it is easy to get confused. This is normally a factory adjustment.

WARRANTY

Your CITIZEN-SHIP BT-6 Transmitter is warranted by the manufacturer to be free from defects in material and workmanship. Any transmitter failing to operate within 30 days after date of purchase will be repaired or replaced free of charge upon being returned to the factory. This warranty does not apply to failure of operation due to exhausted or improper batteries. If your transmitter is damaged in shipment, you should file a claim with the carrier immediately upon noting the damage.

This warranty does not apply if, in our judgement, the transmitter has been tampered with or received abusive treatment beyond that encountered in normal usage.

CONTROL ADJUSTMENTS



REAR VIEW