

INSTRUCTIONS FOR OPERATION AND MAINTENANCE  
OF  
THE ESSCO R/C RECEIVER MODEL DHT

GENERAL

The many unique and original ESSCO designed features incorporated into this unit makes it one of the most reliable and versatile receivers available. These features allow for reliable trouble-proof operation for long periods of time. The extreme high sensitivity and reliable relay operation guarantees control over long distances where other receivers fail due to their requiring critical adjustments. With ordinary care your receiver should give you many satisfactory flights.

MOUNTING

Receiver can be mounted flat or on edge by means of rubber bands to wire hooks fastened at each corner of top and bottom base board (8 in all). An alternate method of mounting is by fastening bottom base board to a slab of foam rubber, which can be fastened to either the cabin deck or bulkhead of model. All adjustable controls are accessible from top of base board. Some models of this receiver have the relay mounted on the top base board. It is permissible to remove the relay and mount it elsewhere in the model. Simply attach leads to the relay coil connection long enough to reach the new location. The antenna connection is made to the antenna lug or clip. The antenna length should be approximately 20 - 24 in. long measured from the antenna clip.

BATTERY REQUIREMENTS

$1\frac{1}{2}$  volt pencil #915.

2-22 $\frac{1}{2}$  volt #412. IMPORTANT: This receiver requires that the 2-22 $\frac{1}{2}$  volt shall not be hooked up in series as required by most other sets. Instead, the batteries connect to four different leads as indicated.

|                     |                                    |                      |                          |
|---------------------|------------------------------------|----------------------|--------------------------|
| B <sup>1</sup> plus | white wire with 0-1 ma. meter jack | B <sup>2</sup> plus* | yellow wire <sup>#</sup> |
| B <sup>1</sup> neg  | green wire                         | A-                   | black wire               |
| B <sup>2</sup> plus | blue wire with 0-5 ma. meter jack  | A+                   | brown wire               |

<sup>#</sup>Important: This lead should go direct to B+ term. of bat. If it is connected to blue wire 0-5 ma. meter will read higher and will not drop to 0.

The current drain on the A battery is only 40 ma. per tube, 80 total. (60 ma. when using CK-526 in 1st stage)

Model DHT comes to you checked out and tuned to the 27.255 mc. license free channel. In most cases the set will operate correctly when first installed in your model. It is advisable though to bench test the receiver to become accustomed to the various controls. It will soon be discovered that a minimum amount of readjustments are required. In normal use the set will rarely have to have any adjustments changed for proper operation during flights. 2 meters are desirable for initial checking. A 0-1 or 0-2 ma. is desirable in test jack A; a 0-5 ma. meter in test jack B. A precision 0-3 or 0-5 ma. can be used for both readings.

With all battery wiring correctly made and with the antenna lead in place, no meter readings should be obtained with the filament switch in the off position. If you obtain a reading at this point, go back and recheck your B battery connections carefully. When the filament switch is thrown to the on position, you should obtain a reading of .5 to .8 ma. on test jack A. No reading should be obtained at test jack B at this time. A reading of 2.5 ma. here indicates that the antenna is disconnected. This will also show a reading of approximately .5 ma. on the other meter. Rotation of the 25K pot will cause the A meter to change between 0.5 ma. and 0.8 ma. At just above \*.8 ma. the B meter will start to read, retard the pot to the position where B will idle at zero and still obtain the highest reading on meter A. This will be approximately \*\*.7 to .8 ma. Control should be left at this point.

\* .6 ma. on sets using CK-526 in 1st stage.

\*\* .6 to .7 ma. on sets using CK-526 in 1st stage.

Now key transmitter. A should drop to \*.3 or .4 ma., which will trigger B from zero to 2.5 - 3 ma., provided a 5,000 ohm relay is used. A higher resistance relay coil will require a 30 volt B<sup>2</sup> battery if this current change is desired. With 22½ volt and a 10,000 ohm relay, the current rise will be 1.8 to 2 ma , which is satisfactory for most sensitive relays.

#### OPERATING CURRENT READINGS

|                | Tube Type     | Sig. off    | Sig. on      |
|----------------|---------------|-------------|--------------|
| Input tube (A) | MPC-1 or 1AG4 | .7 - .8 ma. | .3 - .4 ma.  |
| Input tube (A) | CK-526 AX     | .6 - .7 ma. | .25 - .3 ma. |
| 2nd stage (B)  | MPC-1 or 1AG4 | 0 ma.       | 2.5 - 3 ma.  |

You will soon discover that the receiver operation is extraordinarily smooth, reliable and has more than enough sensitivity. An insulated screw driver should be used to adjust the sensitivity control. Under normal use this setting rarely requires changing. Tube replacement will sometimes require resetting of this control. This is done as follows: Plug the 0-5 ma. meter in test jack A.D Disconnect the negative lead from the 22½ volt battery B<sup>1</sup>. In its place temporarily connect the negative lead from battery B<sup>2</sup>. The meter will read about #1.4 ma. Turning sensitivity control C. W. slowly will cause this reading to drop sharply. Turn control slowly C.C.W. ¼ turn. At this point the current should again jump back to #1.4 ma. Turn the control another ¼ turn and leave at this point. This sensitive position should give you satisfactory range.

Tuning of receiver to correct frequency is done by slug tuned coil. The insulated screw driver should be used here also.

- \* .25 to .3 ma. on sets using CK-526 in 1st stage.
- # about .8 ma. on sets using CK-526 in 1st stage.

