

# North American's Dynatrol Transmitter and Twin-Tube Receiver

■ The Twin Tube receiver differs from most gas tubers in that it employs two such tubes, and utilizes them in such a way that their life is considerably extended over what you can expect from the normal single gas tube receiver. The first tube in the circuit operates as a regular super-regenerative oscillator, but the circuit values are such that it draws only about .5 ma. plate current with no signal, compared to 1.5 ma. in the single gas tubers.

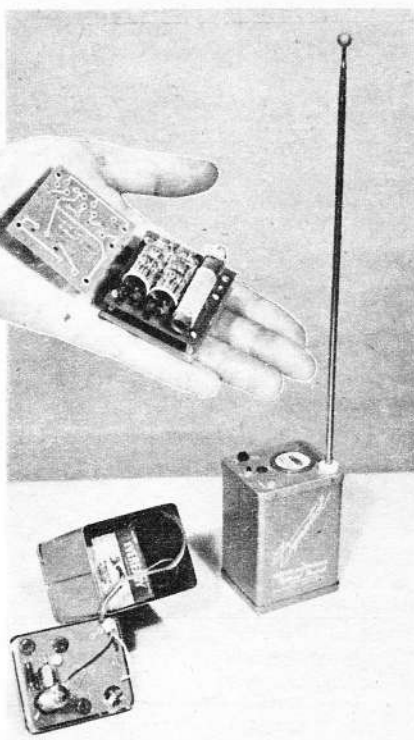
The life of these tubes is dependent directly upon the plate current. The second tube acts solely as a relay tube. It runs at zero plate current except when a signal comes in, so it, too, may be expected to have very good life.

All components of the receiver, aside from the relay and current adjusting rheostat, are mounted on both sides of a printed-circuit plate. Five pins project from the underside, and make contact with five socket eyelets which are attached to a base plate. The latter is fastened into your model permanently; should the receiver need adjustment, you just pull it loose from the base plate—no leads need be unsoldered or broken.

The base plate has a variable resistor for setting the operating point of the oscillator tube, and thus adjusting over-all operation of the receiver.

Tube leads are held in flea clips, with rubber bands to secure the bulbs. Tuning is by means of an iron-core inductance.

Receiver is sold less relay, but the range of current change is such that a wide variety of relays may be used, provided they are of proper resistance (5000-8000 ohms). The makers recommend the 1/2 oz. Neomatic relay, and sell one adjusted properly for the Twin Tube receiver. Shock mounting is not



required for the receiver, though many users cement the base plate to sponge rubber, which in turn is cemented to the plane.

Receiver is also sold in kit form, and is extremely easy to assemble, since all "wiring" is already done for you, on the printed-circuit plate. All you have to do is solder the resistors, condensers, etc., into eyelets.

The kit is beautifully packaged, with all the small parts individually identified, to make things easy for the beginner. All parts, including the printed-circuit plate, may be purchased separately.

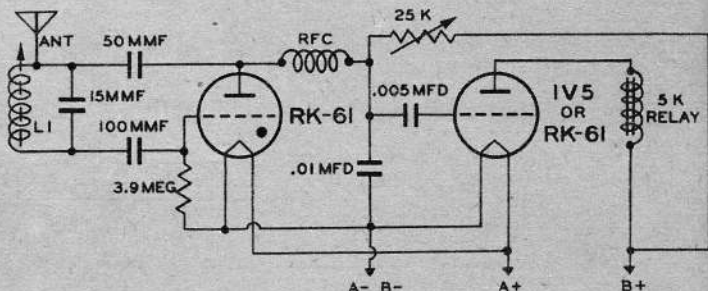
This type of receiver is very sensitive, not particularly fussy to adjust, nor critical as to antenna length.

Dynatrol transmitter also makes use of the printed-circuit principle, and by doing so, can be put into a very small case. The circuit is of the usual regenerative crystal-oscillator type, with a single pentode tube. All parts of the transmitter are attached to the top cover of the case, including meter, antenna insulator and key button. A regular single circuit jack is connected in parallel with the key, so that the user may employ a key on a long cord, if he wishes.

Even the tuning inductance is printed, being in the form of a flat spiral; capacitive coupling to the antenna is employed.



## BLUE RIBBON RADIO EQUIPMENT



Tuning is accomplished by means of a small screwdriver poked through a rubber grommet in the cover of the case; it is not necessary to use an insulated screwdriver.

All battery connections are made by snap fasteners. The transmitter comes with antenna, tube and crystal. If purchased in kit form, you get the printed circuit plate, case with all holes punched, antenna, meter, etc. Here again, wiring is simply a matter of inserting resistor and condenser leads through eyelets, and attaching the battery cable leads.

As with the receiver, parts are identified so that the builder does not have to know the radio color codes, to do the job correctly.

Instructions for both kit and assembled units are very complete, the former including many drawings and photos to show assembly steps and part location.

### Specifications

**Transmitter:** Dynatrol. Case size, less panel projections—4" x 3 5/16" x 5 1/2" high. On-off slide switch for power, push-button to control signal. 3-section antenna, 16" long when collapsed, 40" when open. Uses single 3A4 tube and overtone-type crystal. Single tuning adjustment. B battery current meter on panel. Total weight, 3 lb.

**Battery requirements:** One 1 1/2 V. battery (Eveready #720 or equiv.), A current drain—200 ma. Two 67 1/2 V. batteries (Eveready #457 or equiv.), B drain with antenna installed—22 ma.

**Receiver:** Twin Tube. Overall size, including tubes and mounting plate; 2" x 2" x 1 1/4" high. Requires two RK61's. Adjustments for tuning and for oscillator plate current. Antenna length not critical. Weight including both tubes and the base plate, but less relay—1 1/2 oz.

**Battery requirements:** Minimum sizes recommended; A—two pencils in parallel, 1 1/2 V. at 100 ma. B—two 22 1/2 V. batteries in series (Eveready 412 or equiv.), current drain with no signal—about .5 ma. With signal—2-2 1/2 ma. Higher battery voltage may be used to keep older tubes in use longer.

## NEXT MONTH Air Trails HOBBIES MAC 50 TRANSMITTER

Ham-band version of  
the Mac II Transmitter

