

R/C Equipment Revue

We Test Badaco's 27.255 Tone Rigs

For several years Badaco Mfg. Co. has been producing a compact audio tone receiver and matching hand-held transmitter, sold mainly via mail order. This Shreveport (La.) concern has revised its marketing setup and will now sell primarily through hobby distributors and hobby shops. Their transmitter and receiver have been slightly changed, mainly in the receiver case and the fact that both units are now made on printed circuit bases.

Receiver is mounted in small aluminum box from which protrudes one adjustment screw, power cable and antenna lead. Both relay contacts are brought out so any type of control system may be utilized, and both protected by built-in arc suppression. Case is ideal shape for cementing direct to foam rubber, for shock-absorbing purposes. When so mounted you can still take it off easily by removing two self-tapping screws that hold it together.

Circuit is a bit unusual in that only two tubes are used, but this is effectively a 4-tube circuit, since both are dual-section types. One half of 3A5 is used as super-regenerative detector, output of which goes through quench filter, then to grid of triode portion of second tube. Output of this is rectified by diode in same tube. Resulting DC is fed

back to remaining section of 3A5, which operates relay.

Actually circuit is quite straightforward, but receiver is surprisingly compact considering miniature rather than sub-min tubes are employed. It requires a modulated signal for operation, frequency range being 100-600 cycles, and will work with many tone transmitters now sold. For guaranteed results, of course, matching Badaco transmitter should be utilized. Installation kit is available, which includes all plugs, wire, switches, etc., needed for setting up receiver in model.

Transmitter is contained in sturdy aluminum case, which also holds necessary batteries. It utilizes single R.F. oscillator tube and double-section modulator tube. Normally no signal is sent out unless keying button is depressed, upon which modulated signal is radiated. Same transmitter may be used with many CW receivers by simply removing 3A5 modulator tube. This greatly reduces A battery drain, but slightly increases the B.

Indicator lamp connected to antenna circuit shows when signal is going out. If transmitter is working correctly, lamp will glow; the dimmer this glow the lower the output.

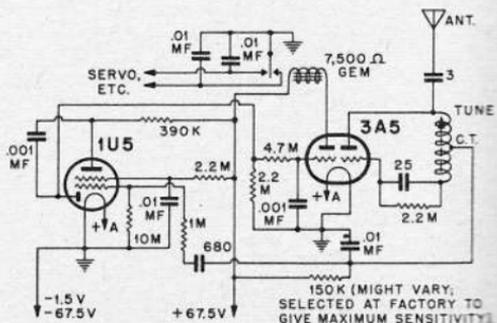
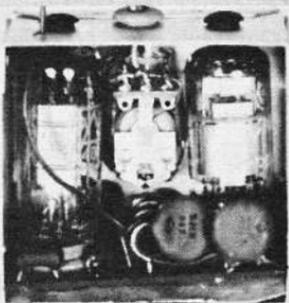
Dim glow could show weak batteries, mistuning, defective tubes or crystal, while no glow at all is a sign maintenance is required immediately.

Loading coil in antenna circuit assures good radiation efficiency with short whip antenna that comes with transmitter.

As with receiver, this tone transmitter may be used with other makes of audio receivers, provided its AF output and modulation percentage match receiver requirements.

SPECIFICATIONS

Badaco Model 180 MR receiver for 27¼ mc single-channel AF operation. Tubes—one each 3A5 and 1U5—7-pin



miniature types. Aluminum case $2\frac{1}{4}$ x $2\frac{3}{8}$ x $1\text{-}5/16$ " completely encloses receiver. Single tuning adjustment projects from front panel. Antenna length not critical: $1\frac{1}{2}$ to 2' long. Gem relay used. Weight: 3.3 oz.

Battery requirements: A is 300 ma at $1\frac{1}{2}$ V; B is $67\frac{1}{2}$ V. No signal current is 3.2 ma; signal on is .4 ma. Minimum safe operating voltages: 1.1 V for A, 57 V for B (set will work down to 53 V with addition of electrolytic condenser as suggested in Instructions).

Badaco Transmitter Model 180 MT. Usable for both tone and CW operation. Uses one each 3A5 and 3A4 tubes. Front panel has On-Off toggle switch, Key button, indicator lamp, single tuning control. Gray hammertone case is 7 x $4\frac{1}{2}$

x 3". Plug-in antenna is single rod 36" long. Weight with antenna and all batteries, 4 lb.

Battery requirements: A is $1\frac{1}{2}$ V at 440 ma (Eveready No. 742 or equiv.); B is 135 V at 16 ma (two Eveready No. 467 or equiv.). CW current drains: 220 ma for A and 20 ma for B (3A5 tube pulled from socket).

MIRROR WINNERS

Crack of Dawn Dept. Big Mirror Model Flying Fair at Floyd Bennett Field in Brooklyn, N. Y., suffered fog early in the day, and wind early in afternoon, yet weather this year was good by previous standards. Events start at 7 am, stop at 2:30 for full-scale flying show, so those