

RADIO CONTROL EQUIPMENT REVUE



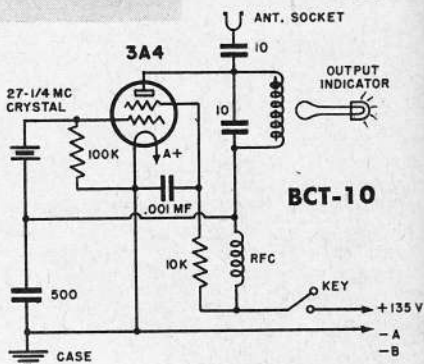
Babcock Says R/C's Just Like "Magic"

■ For several years Babcock Models Inc. (Costa Mesa Calif.) produced only relatively high-priced audio tone equipment and this only in ready-to-use form. Concern now enters the 27.255 megacycle low-cost field with a compact CW transmitter and receiver, both come ready-made or in kit form (the latter at quite a saving).

The Magic Wand transmitter, small and hand-held, utilizes a single tube in a crystal oscillator circuit quite like those in other Babcock 27 1/4 mc transmitters. All working parts except B batteries and switches mount on a phenolic chassis along with clips for the A cell. Antenna slides through a close-fitting rubber grommet on the case top. To cut shipping costs, antenna is not supplied—3/32" dia. music wire from the hobby shop does the job.

Babcock terms their construction method "quick lace"; all leads to be soldered are laced through eyelets on chassis plates which are already in place. Transmitter tube socket, A cell clips and antenna base clip are also eyeletted to chassis. All you need to assemble transmitter or receiver are screwdriver, pliers and a small soldering iron.

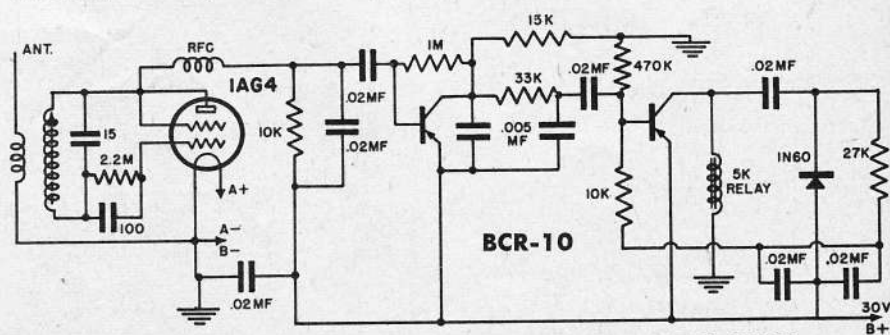
An output indicator lamp on the transmitter functions whether antenna is in place or not. For testing in the shop antenna is removed (slight retuning is needed) and bulb then furnishes sufficient load to prevent damage to any parts. Without antenna, transmitter puts out a weak signal ideal for close range sensitivity checking of receiver.



While the transmitter is similar in many respects to previous Babcock transmitters, the Magic Carpet receiver is unique. It is a "noise-operated" unit using a single tube as a super-regenerative detector; the hiss produced by this tube is amplified by the first transistor and fed to the second. Here it is amplified further and sent along to a diode that rectifies it and puts a positive "bias" on the base of the transistor. Collector current of the second transistor is thus held to a low value with no signal; an incoming signal stops the hiss and current through the sensitive relay rises to a much higher value.

The makers recommend that tuning and operation tests be made with a voltmeter or a pair of headphones connected across the relay coil . . . so the usual closed circuit jack is not needed in your model. As a double-check, especially after installation is complete, a milliamp meter may be hooked in series with the red B-plus lead from the receiver. Current and voltage test data are given on the instruction sheet.

Since transistor circuits are more affected by changes in temperature than those using only tubes, the BCR-10 has compensating circuits that give satisfactory operation from 32 to 115 degrees,



NOTE: MAKER SUGGESTS USE OF AMPEREX 6007 TUBE IN PLACE OF IAG4; NO OTHER CHANGES NEEDED. 13 MA. FILAMENT DRAIN IS MAIN ADVANTAGE

and most will exceed this range. Battery voltage drops with the temperature especially the B supply, so it is suggested that in cold weather two B batteries be connected in parallel.

Instructions come on a large sheet profusely illustrated. It includes photos of the finished transmitter and receiver, as well R/C boats and planes for which Babcock makes kits. Assembly instructions are in clear step-by-step form. Boat and plane installation circuits are provided.

Specifications: Babcock Model BCR-10 "Magic Carpet" receiver for 27¼ mc. Overall size 2-1/16 x 3¼ x 1⅝" high. One adjustment for tuning (receiver contacts adjusted by screws). One 1AG4 tube, two 2N217 transistors. Relay BR-3. Total weight 3 oz. includes 22" flexible battery and relay leads. Antenna length about 18"—non-critical.

Battery requirements: "A" is 1½ volts at 45 ma; "B" is 30 volts; total current drain with no signal 2.5 ma, 6.5 ma with signal. Relay current change 0.9 to 4.5 ma. Replace batteries when they drop to 1.2 and 24 volts with receiver on.

Transmitter: Babcock BCT-10 Magic Wand for 27¼ mc. Single 3A4 tube. Single adjustment for tuning. Antenna length 3 feet. Case: 2⅞ x 2⅞ x 7" high; front panel has hole for tuning, output indicator bulb, on-off switch and keying button; steel with gray hammer-tone finish. Weight with batteries and antenna 2½ lb.

Battery requirements: "A" 1½ volts at 200 ma (clips hold single size D flashlight cell); "B" is 135 volts (two Eveready 467 batteries or equiv.). Maximum B current with key depressed, antenna in place, about 17½ ma. No B current drain with button up. Replace batteries when they drop under load to 1.2 and 110 volts.