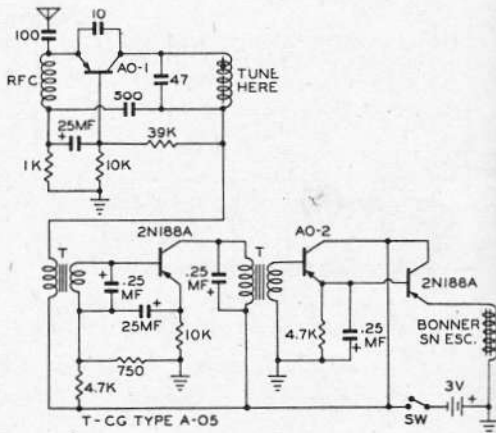
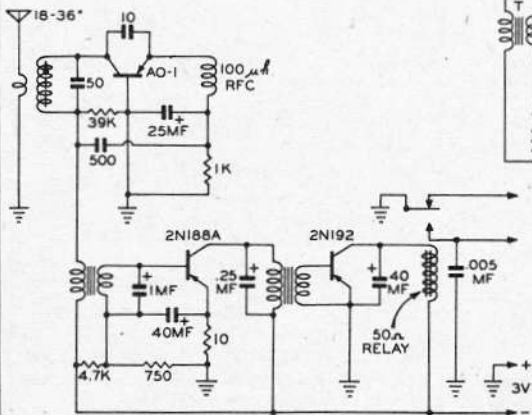


# CG Receivers Need Only Three Volts

■ One of the pioneers in all-transistor receivers, CG Electronics Corp.'s latest development in this field comes in two different forms. One, the RT-1-3V is about the same size and weight as the earlier RT-1 job, and will supercede it. While the RT-1 needed no A battery (in the factory-built form) and used only a 30 volt B supply, the latest version performs as well or better—on just 1/10 as much voltage! It requires only two pencils. You can use the same 3 volts for powering the receiver that you utilize for your escapement power.

Circuitry is about the same as that of the 30 volt job; there is a transistor super-regen detector followed by two

transformer-coupled amplifier stages. Circuit values are altered to allow operation on the lower voltage. Because of the larger currents involved the two amplifier transistors are of a different type than formerly. Another change is use of a low resistance relay—a 50 ohm Jaico Gem. An interesting fact about this new receiver is that very heavy spring tension is used on the relay armature, compared to what is normal for 5000 ohm Gem relays such as were used in the RT-1. Be-



## RADIO CONTROL EQUIPMENT

CG Electronics' RX-1  
(above); RT-1-3V (left).

cause of this heavy tension the new receiver should be practically immune to all but the most violent vibration. The set should still be mounted on foam rubber, of course, if only for protection in crack-ups.

Though the receiver is very sensitive, the makers state that it is not particularly sensitive to "electrical noise" in the model, and bonding of torque and push rods is normally not necessary. As is the case with all CG transistor receivers, this one requires an audio tone for operation; any frequency from 300 to 600 cycles is satisfactory, but modulation percentage should be at least 95%. The CG T-12 transmitter is strongly recommended.

Since it is not included in the receiver, some form of arc suppression should be wired into your model installation. Any of the standard methods is quite satisfactory; a 100 ohm resistor connected right across the escapement or actuator coil, or across motor brushes is probably the simplest.

The receiver should be tuned with a meter in series with the battery leads as there is no provision for headphone tuning. A 100-ma meter is about right for tuning. As with most all-transistor receivers, it is possible to overload the receiver when it is too close to the transmitter. If this occurs the transmitter antenna can be shorted to case with the fingers till the model is outside the overloading range.

Very similar to the RT-1-3V, CG has another new unit which is actually a complete radio control model installation. Called RX-1, the receiver is much like the one already described, aside from variations in the output circuit to allow operation with a normal 8 ohm escape-

ment. Big news about the RX-1 is that it works this escapement right from the output transistor, but the set still uses nothing higher than 3 volts in its operation. There is no relay involved and in fact every element needed for simple steering control of a model is included in one compact unit—receiver, battery holder (for two pencils), Bonner SN escapement and on-off switch. You just install this unit, link torque rod to the escapement, string out the rubber band, uncoil and stretch the attached antenna—and you are in business. The RX-1 has the same sensitivity and other operating characteristics as the RT-1-3V, but since it operates the escapement directly the on-signal current is considerably higher. The printed circuit base plate of the RX-1 is extremely small, due to elimination of the relay; we can foresee lots of use of this receiver in 1/4-A R/C planes!

**SPECIFICATIONS:** CG RT-1-3V receiver for 27 1/4 mc use. Requires AF modulation of at least 95%, 300 to 600 cycles. Compensated to operate satisfactorily in temperatures from 0 to 130 degrees. Three transistors used, with 50 ohm Gem relay. Case measures 2-7/16 x 1 1/2 x 1" thick; weight including 5-prong plug and aluminum case is 2.4 oz. Antenna length not critical—from 18 to 36". Single adjustment for tuning.

CG RX-1 receiver for 27 1/4 mc. Same tuning, transistors, modulation and temperature specs as for RT-1-3V. Uses no relay; Bonner SN escapement attached directly to receiver frame, as is 2-cell battery case and on-off switch. Overall size about 2 1/2 x 3 x 2 1/4" and weight is 4 oz.

**BATTERY REQUIREMENTS:** Both receivers require only 3 volts (two pencils in series) and both draw about 15 ma with receiver turned on but no signal coming in. When transmitter carrier is turned on this current will drop to about 10 ma. With modulation applied at transmitter, RT-1-3V will give total current drain up to about 50 ma, while RX-1 will put about 200 ma through escapement coil. Batteries should be replaced when they drop to about 2 volts.