polystyrene pad prevents the top battery holder connectors from shorting onto the p.c. board, but no insulation is provided to stop the studs of the lower holder shorting to the rivets in the base of the top holder. *(A modified connector is now used, and entirely covers this point—Eds.)*

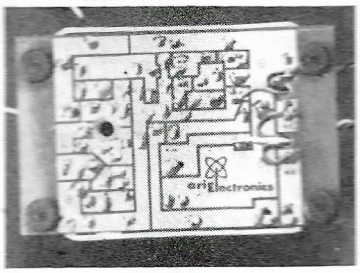
With batteries fitted and aerial extended, the transmitter balances nicely in either hand, with the thumb resting on the keying button. Left handed modellers may find this an attractive point. The keying button, whilst satisfactory, has a fairly strong spring and this, together with its $\frac{3}{32}$in. travel makes fast keying a little tricky; we needed some practice before being able to obtain reliably the "quick-blip" facility from an Elmic Compact escapement.

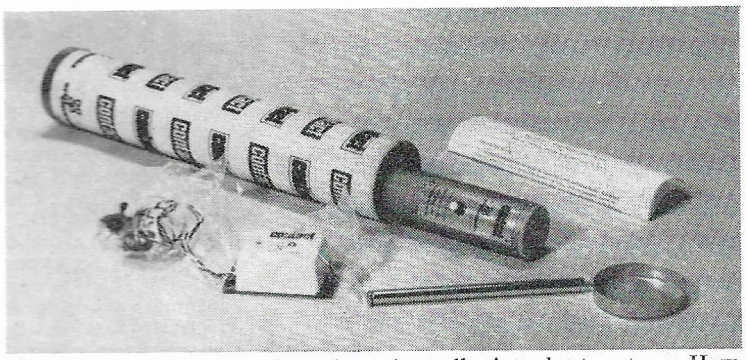
The circuitry appears to be fairly conventional, being the usual crystal oscillator followed by an R.F. power amplifier, the continuous carrier being modulated at 800 c/s when the keying button is operated. The current consumption is low and should give a useful battery life of over 6 hours—full credit is due to the designers for getting a high proportion of the total power input coming out the aerial as signal!

Receiver

The receiver is assembled on a $\frac{1}{16}$in. paxolin p.c. board, the underside of which is exposed except for a coating of clear polyurethane varnish. 12in. leads are provided from the relay contacts and for the supply, the latter being prewired to a slide-switch and a snap-connector for the battery holder. All connections are looped through the p.c. board to relieve any strain from the soldered joint.

A one-piece plastic cover fits over the components and is retained by a single screw, leaving $\frac{3}{8}$in. of p.c. board projecting at each end. Rubber grommets are provided at each corner of the projections, allowing the receiver to be screwed directly to a flat surface in the model. Whilst this method of mounting may be satisfactory in boat applications, we have our reservations about the degree of protection afforded for aircraft use.





The circuit is a super-regenerative detector, followed by three audio amplifiers switching a single pole changeover relay. Sensitivity is high, yet the circuit appears immune to servo motor noise when separate battery supplies are used. The circuit does not appear able accurately to follow pulse rates much faster than can be keyed by hand and so is unsuitable for galloping ghost systems. However, it should be remembered that the receiver is primarily intended for use with its matching transmitter.

The recommended operating voltage is 6v., although operation is still satisfactory, but with reduced range, on $4\frac{1}{2}$v. Below this voltage, the relay begins to pull in with less certainty.

Battery holders

Both the transmitter and receiver use the same type of moulded

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TECHNICAL DATA

TRANSMITTER: (Contact "Major").
Case: orange anodised alloy tube $8\frac{1}{4}$ x $1\frac{1}{8}$in. dia.
Aerial: 10 section telescopic 47in. extended, 6in. closed.
Battery requirements: 8 off, pen cell, nominal 12v.
Test voltage: 13.2v.
Current: constant carrier 18 mA.
Current: modulated signal 20 mA.

RECEIVER: Relay receiver.
Size: $1\frac{7}{8}$ x $1\frac{1}{8}$ x 2 5/16in. (3in over lugs).
Weight: $2\frac{1}{2}$oz.
Aerial: 32in. thin flex.
Test voltage: 6.4v. (4 pen cells).
Current: no signal 3.8 mA.
Current. signal 41 mA.
Relay contact rating: 5 amp. 6v. or $2\frac{1}{2}$ amp. 12v.