

# First British Commercial All Transistor "Guidance System"

## A REALLY SIMPLE OUTFIT FOR SINGLE CHANNEL

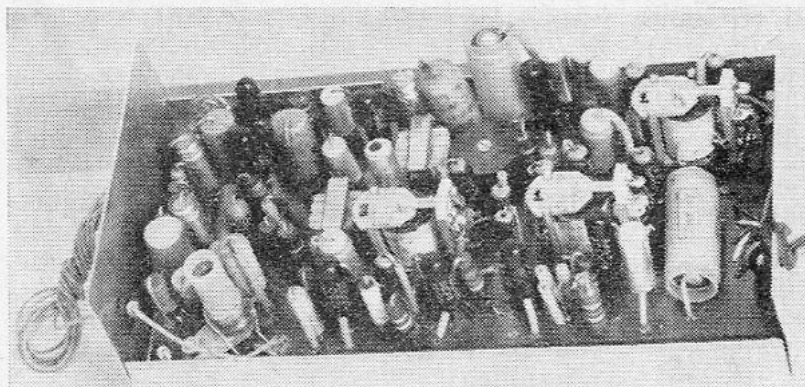
THE British market has up till now been lacking in an all transistor system. We will not go to any great lengths to explain the advantages of this type of system; the British modeller should now be well acquainted with all its good points.

R.C.S. (Radio Control Specialists) already well known for their pulse proportional outfit (first on the British market *complete* set of pulse gear) have scored another "first" with a really compact well balanced all transistorised single channel tone transmitter and a sub-miniature all transistorised super-regen receiver giving a relayless output for use with escapements. The receiver operates from 4.5 volts supplied by pen cells which, of course, also operate the escapement. The complete outfit comes with a battery box and wiring harness which whilst giving an extra set of connectors for a motor control escapement is intended for connection to either a simple 2P 2N escapement provided or with the option of using a compound escapement and transferring the first escapement to function as throttle control. The equipment, whilst intended for aircraft including  $\frac{1}{4}$ A (.020) sizes, should also work effectively in model boats although we have yet to see whether sequential motorised escapement may be used without interference. The receiver is not affected by close proximity to electric motors when wired separately as would be the case with a boat driving



motor. The transmitter will operate on only 9 volts, gives quite adequate range on 12 volts provided by two PP1's but extra range can be obtained with 18 volts. The Tx. will operate perfectly safely on this higher voltage and the slightly smaller and lower capacity PP's will, of course, still fit the case.

As with the other R.C.S. equipment the workmanship is excellent and the novel two piece, slide fitting plastic case to the receiver and the hammertone steel Tx. case with its complete absence of screws and other extraneous fitting devices make a most attractive combination for the beginner or single channel expert.



Heading: Transistor Tx. and Rx., the latter slid partly out of its neat plastic box. Left: All in one Dual Proportional All Transistor Rx. and De-Coding unit. Facing page (left): The new mark/space pulsed Tx. and new R.C.S. pulsed Rx. and servo. (Right): The F.S.M. Monitor and transistor test unit.

Now a brief technical description.

#### Rx.

4 transistor tone 27 Mc/s. super-regen.  
Weight:  $1\frac{1}{2}$  oz.

Size:  $1\frac{3}{4} \times 1\frac{1}{4} \times 1$  in.

Batteries 4.5v. (3 pencils). Battery box provided.

Current: 5-10 mA. idle.

350 mA. on signal with typical escapement.

Tone from: 400-2,000 cps.

#### Tx.

5 transistor Xtal controlled, 27 Mc/s.  
Modulation: 100 per cent, square wave.

Radiated Output: 350 mW. (12v. input).

Weight:  $2\frac{1}{4}$  lb. including batteries.

Size:  $5\frac{1}{2} \times 3\frac{1}{2} \times 2\frac{1}{2}$  in.

Batteries: 1 PP3 9v., or 2 PP6 (12v.), or 2 PP 18v.

Controls: On-Off switch, Tone Key.

Aerial: Tuned centre loaded telescopic (removable).

Complete outfit (Tx., Rx., Battery box, harness, and 2P2N escapement is available. See advertisement inside front cover.

R.C.S. have produced a number of extremely multi purpose test meters which may be used as a field strength meter, monitor and transistor tester for both PNP and NPN transistors. A neat telescopic aerial folds completely down inside and a multi switch may be positioned to operate whichever facility is required. A small loud speaker gives a clear indication of the tones and field strength may be measured as R.F. power. The same unit measures NPN and PNP transistor gain and leakage on

a miniature panel mounting 0-1 milliammeter. The circuit is tunable throughout the 27 Mc/s. bandwidth so some indication of the accuracy of a Tx. may be gauged.

The latest additions to the pulse systems produced by this firm are the new R.C.S. receiver designed by P. Lovegrove which gives a relay output for Galloping Ghost or similar systems. We understand that an "add on" rate discriminator and pulse omission detector is produced for gallop free operation of the elevators, and if additional gearing is used—aileron. This system has been flying successfully for some time with and without coupled rudder.

For the simpler rudder only enthusiast (ideal for boats too) the latest version of their pulsed transmitter offers variable mark/space with full and no signal buttons and with this latest version a geared potentiometer driven from the control stick. The centring spring has been omitted as this was found to be better for "Flight neutral" and a wider range of M/S pulsing is now available (80:20). The dual proportional system is available to special order, the same facility is offered for purchasers of their recently introduced "All In One" dual-proportional-plus-throttle receiver giving three simultaneous relay outputs from the mark/space (rudder and/or ailerons), rate (elevator), and tone change (throttle).

We are looking forward to flying some around for ourselves this year so that we may produce a modellers report and will then set Mr. Brunt loose on it for the technical comments.

