

we look at the

EK-logictrol SUPER PRO

An exciting seven-function outfit from Crescent Products

OUR FIRST impression, when handling this equipment, was that it was "crisp" in response, and this was confirmed on closer inspection. This seven-function digital system combines fast, accurate resolution with a small "installation cube". Being of American origin, it is designed for 110v. charging but an additional transformer is included with outfits required for use with 240v. mains. Again due to its origin, the system has fixed crystals, but

is available on any of the six standard spot frequencies. A "Buddy-box" training facility is built in, as standard.

The servos are the miniature three-wire Super-Mini rotary type, all having the same relative direction of rotation. The system is particularly resistant to swamping and has Zener voltage regulation, power being supplied by 9v. G.E.C. ni-cads, housed in two separate packs. The outfit was supplied to us

with a four-servo tray, which is designed also to accommodate the receiver, switch and charging socket.

TRANSMITTER

The case is of traditional construction, in folded red vinyl-clad aluminium. The stick units are of nylon construction with ground steel mono-ball stick bearings. Centring is via cams, being adjustable for return force, and is most positive in action, it being almost impossible to detect any control float at neutral. The trims are electro-mechanical and are located at the inner and lower edges of the stick units.

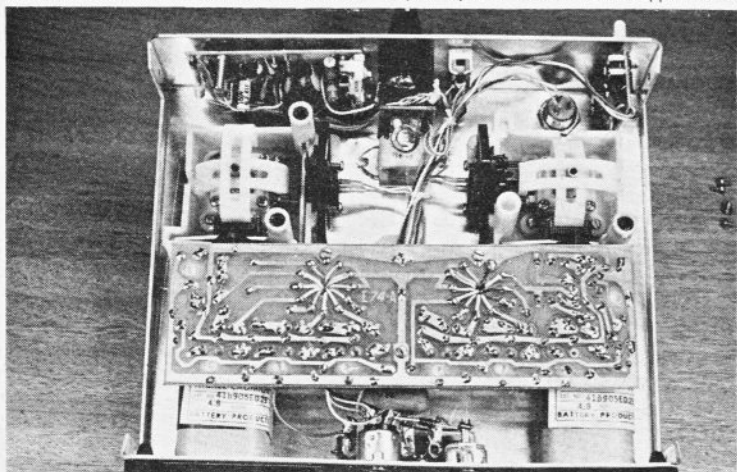
The two main auxiliary controls are non-centring levers, at the lower centre of the case, the seventh control being a retract switch (i.e. for use with retracting u/c gear), on the left top of the case. This is intended for use with 180° servos and has an adjustable throw facility. The bottom of the case has a two-pin connection for charging input, and a 6-pin Din connector for receiver battery charging or Buddy-box lead. Charging is monitored by LED (light emitting diode)—transmitter and receiver must be charged together—dropper resistors being used.

The R.F. section of the electronics is on a small sub-board, mounted near the aerial, and the encoder logic occupies a narrow board fitted near the bottom of the case. The retract switch carries its own small circuit board with trim pre-sets. A feature of the battery-state meter, on the front of the case, is a small ancillary circuit to provide "expanded range" facility. (Unlike a normal voltmeter, this measures a very small voltage difference above a certain fixed minimum level, thus giving a broader indication of the batteries' safe operating bracket). The comprehensive instruction sheets give useful data for calculating duration capability.

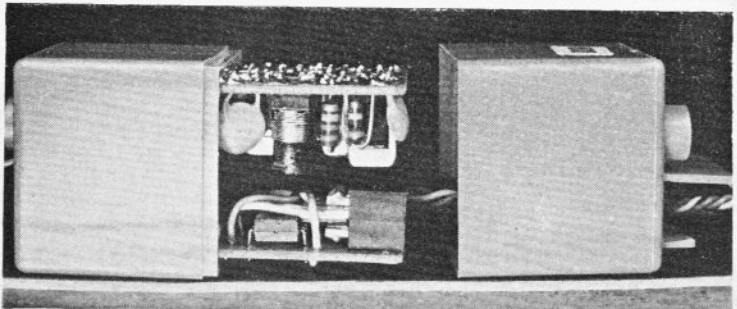
Size 7 x 5½ x 1½ in. Sticks project 1½ in.
Aerial: 57 in., retracts to 13½ in. (removable).
Stick effort: (adjustable) 2½-5oz.
Weight: 1lb. 15oz.

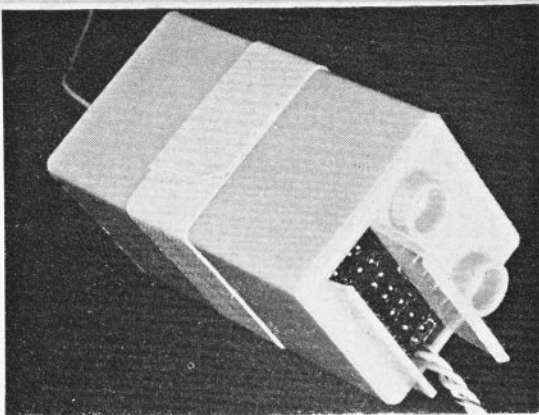
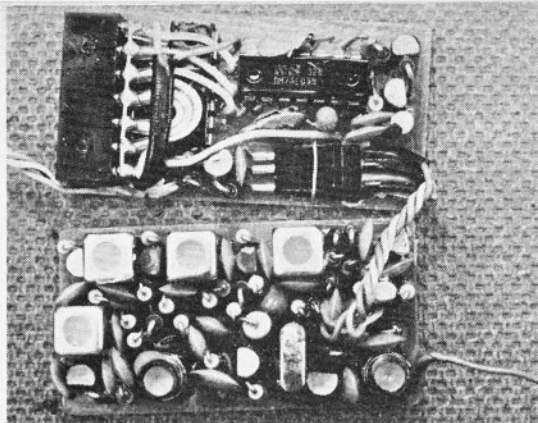
RECEIVER

The receiver is built on two slim boards, housed in grooves, in a two-piece moulded plastic case. The circuit has a double tuned front end and four I.F.'s. A three-pin connector feeds the decoder section, which has two i.c.'s and a built-in block connector for power



Transmitter arrangements—note RF section on small sub-board near aerial. Below, the receiver case has been slid apart to reveal two-deck set-up.





input, plus six servo outputs. A separate aileron servo exits at one end.

The case carries mounting cups for the rubber grommets which fit mountings on the servo tray, but the receiver may alternatively be mounted in foam rubber, to save space. It is available in either single or dual conversion circuitry, the latter having 10.7MHz and 455Hz mixers and filter block for maximum rejection of spurious signals.

Size: 2 1/2 in. (plus lugs) x 1 3/16 in. x 1 3/16 in.
Weight: 2oz.

SERVO S

Some of the smallest we have handled, the E.K. Super-Mini servos have 11ohm, 16mm. motors and four-stage filled nylon gear trains with endstops. Output is rotary via disc, with eight holes, or via double-arm cranks, the latter giving alternative throws. The electronics feature transverse mounted single i.c.'s and discrete driver stages. The amplifiers which require positive-going pulses, are rigidly mounted, with machine screws, on moulded pillars. Eight further screws retain the top and bottom parts of the nylon case.

There is little mechanical float, and resolution is fast and accurate, while power is more than adequate. Mounting is by grommets and the trays and brackets supplied are equipped with triangular clamping plates and pegs, so that only two screws are required to retain each servo.

Size: 1 7/16 in. plus 7/32 in. lugs x 1 3/8 in. plus 7/32 in. over disc x 1 1/16 in. wide.

Cable: 6in. long.

Weight: 1.21oz.

Throw: (1/2 in. disc) inner arm 5/16 in., outer arm 5/8 in. Trim approx. 20 per cent.

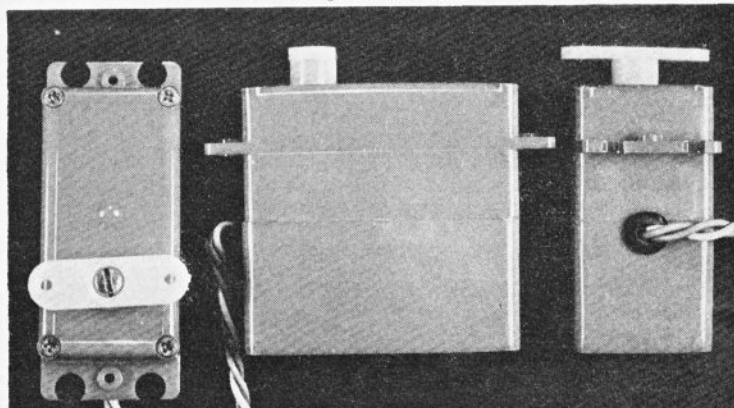
Transit time: typically 0.6 sec., limit to limit.

Power: typically 3lb. (disc), 3.7lb. inner arm and 2.3lb. outer arm.

BATTERY

A four cell, 550mA, 4.8v. tubular type ni-cad pack provides the power for the airborne

Left: two receiver boards carry RF section and i.c. decoder, while the cased receiver (above) features block connector. Below: the E-K Super-Mini servos are shown here in our "3-view" shot, with gear-train below.



system. The cells are epoxy bonded together and a p.c. board carries the connections.

Size: 2 3/8 x 1 7/8 x 1 1/16 in.

Cable: 6in. plus 6in. from switch.

Weight: 5oz.

HARNES and TRAYS

All servos and power connections are via sub-miniature polarised tubular-pin connectors. (Special moulded nylon keepers are provided for positive retention of the aileron and power connectors—a thoughtful detail). The Noble switch is wired to battery supply, output and charge sockets. The latter is a flange-mounted socket, with two sections live when the receiver switch is at "off", and the supply cable has a live plug for connecting into the receiver block connector.

There are several mounting trays to suit various installations, so that, apart from the ni-cad, the whole of the fuselage installation may be transferred from model to model by unscrewing just four screws.

AIRBORNE WEIGHT

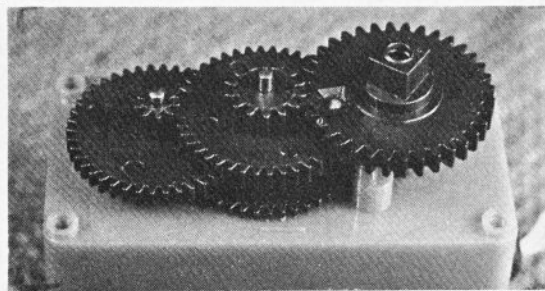
12.6oz. with four servos and including mounting trays.

MANUFACTURER

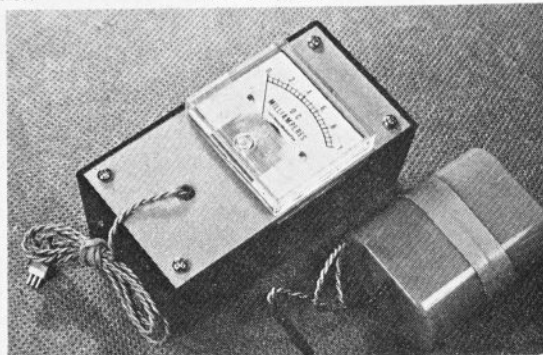
E.K. Products Inc., Texas, U.S.A.

U.K. DISTRIBUTION AND SERVICE

Crescent Products, Crescent House, Springfield Industrial Estate, Maldon Road, Burnham-on-Crouch, Essex.



Above: servo gear-train. Right: battery and expanded scale voltmeter. (This is an optional extra, for checking airborne battery state). Below: servo trays and accessories.



Underside of transmitter, with charging sockets and LED (light emitting diode) charge indicator.

