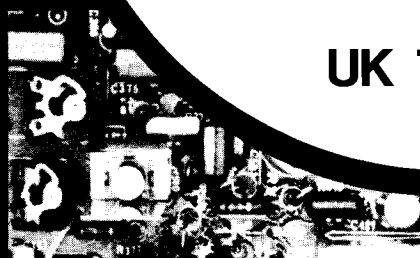
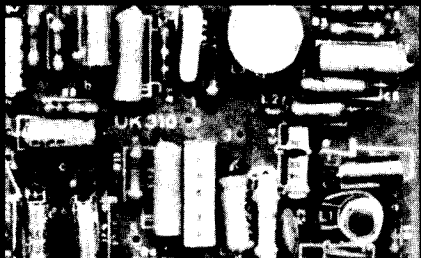
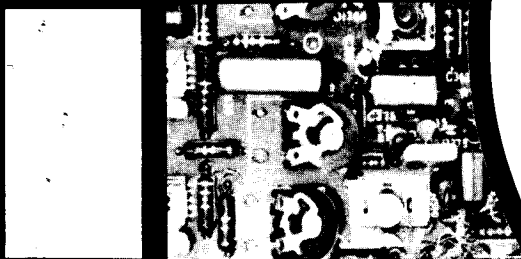
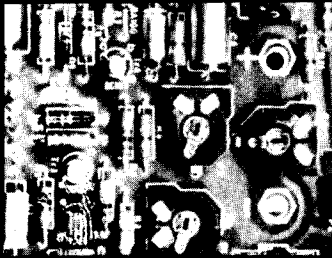
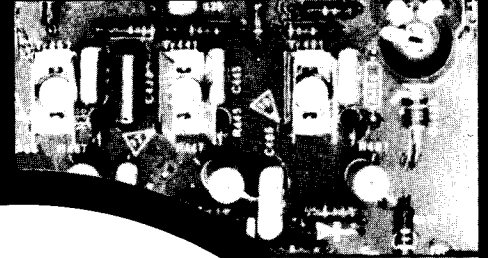
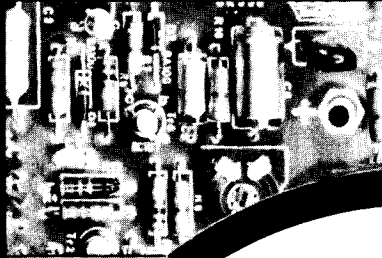
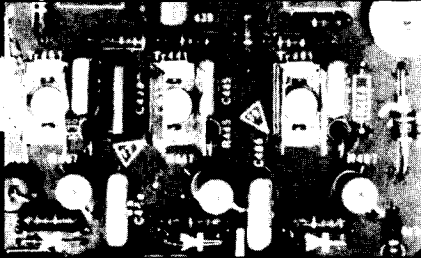
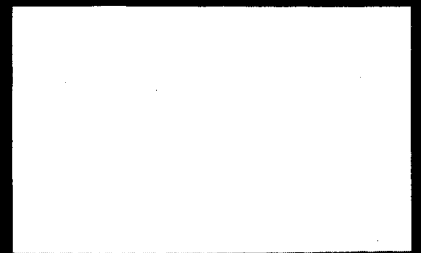
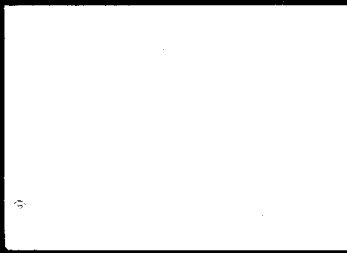
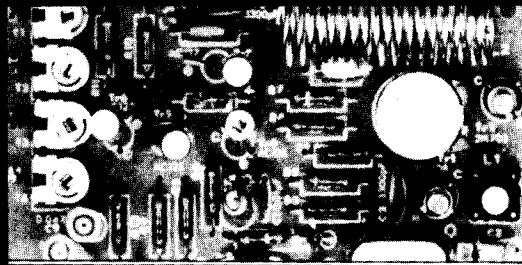




ELECTRONIC CHAFFING



UK 700/C

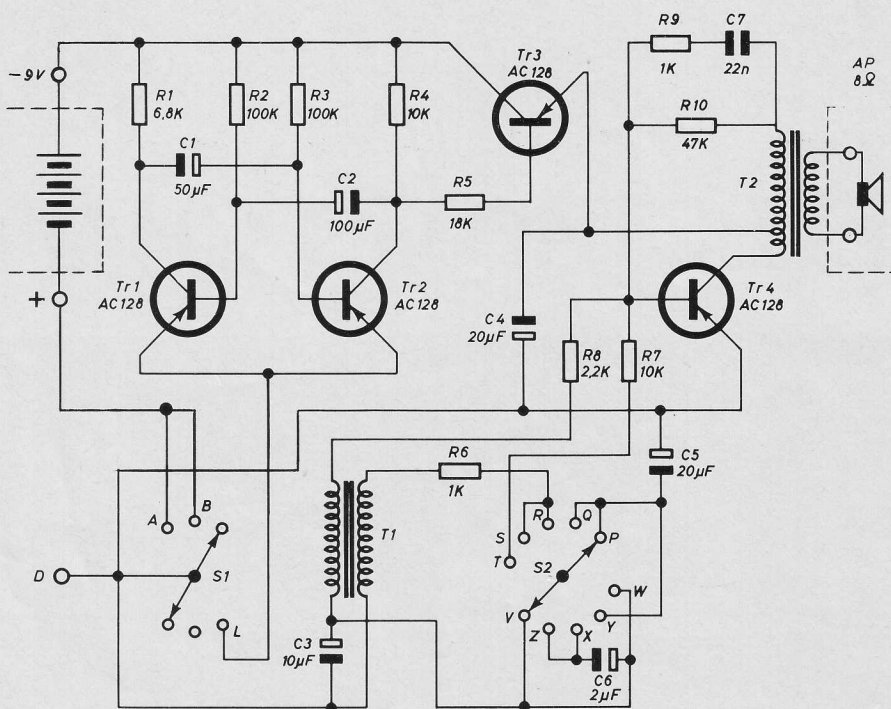


Figure 1 - Circuit schematic.

This kit is an interesting novelty in the electronic small constructions field. The Electronic Finch is an useful gadget, of easy and unexpensive realisation, for bird-watchers and nature lovers at large.

The UK 700/C «Electronic Finch» is a small unit designed to imitate electronically the chirping of the birds.

The imitation is so life-like that nobody can tell a live bird song from that emitted by this unit, whose development entailed not only an electronic problem but also the studies made by

ornithologists on several species of birds.

The unit proved to be capable of bring even flights of birds, enticed by its melody.

CIRCUIT

Figure 1 shows the simple circuit of UK 700/C, developed to obtain the best results from a limited number of com-

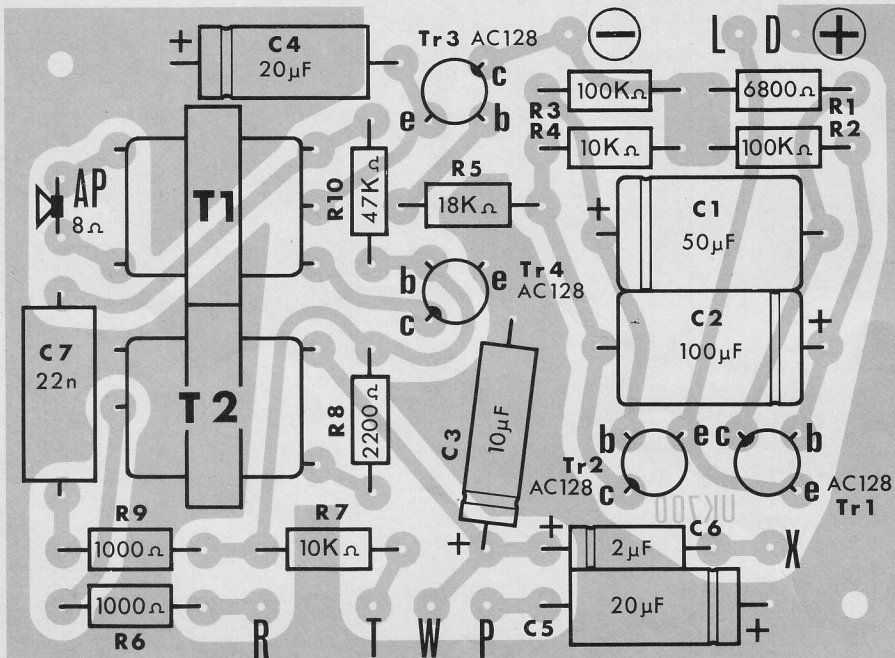


Figure 2 - Components layout on the p.c. board

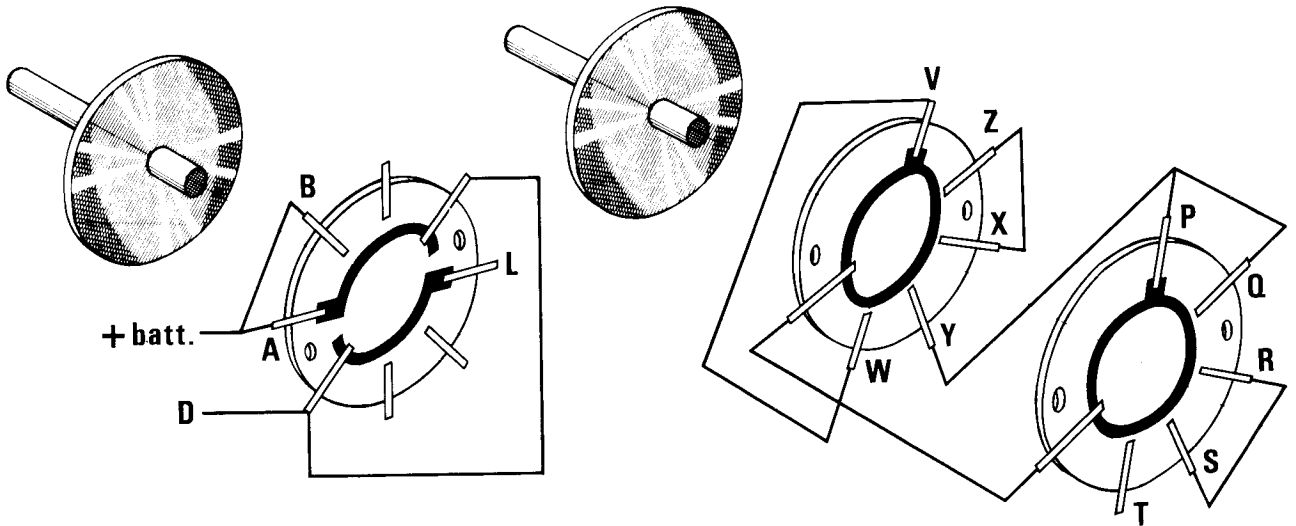


Figure 3 - Wiring switches S1 (left) and S2 (right).

ponents: in all ten resistors, seven capacitors, four transistors, two switches and one speaker.

The circuit is powered by a 9 V battery of the same type employed by small transistors radio.

The two transistors TR1 and TR2 and the minor components form the first stage, an astable multivibrator circuit.

The signal goes from this stage to the next one which includes Transistor TR3, acting as an adapter between the multivibrator and the last stage.

The last stage is a typical oscillator stage and includes TR4 - T1 - T2 and other minor components.

The signal goes directly from the T2 transformer to the 8 Ω impedance speaker mobile coil.

All four AC 128 PNP Germanium transistors are easy to come by. 5% tolerance resistances have been employed to increase the circuit stability.

The S1 and S2 switches control the variations of the chirping sound issuing from the speaker.

S2 varies the oscillating circuit frequency and the sound tone; it controls five different frequencies obtaining the imitation of five different bird calls.

S1, which inserts the astable multivibrator circuit, has 3 positions: ON -

OFF - Intermittent (ON-OFF).

This last position is the most significant because the birds alternate call periods with periods of total silence.

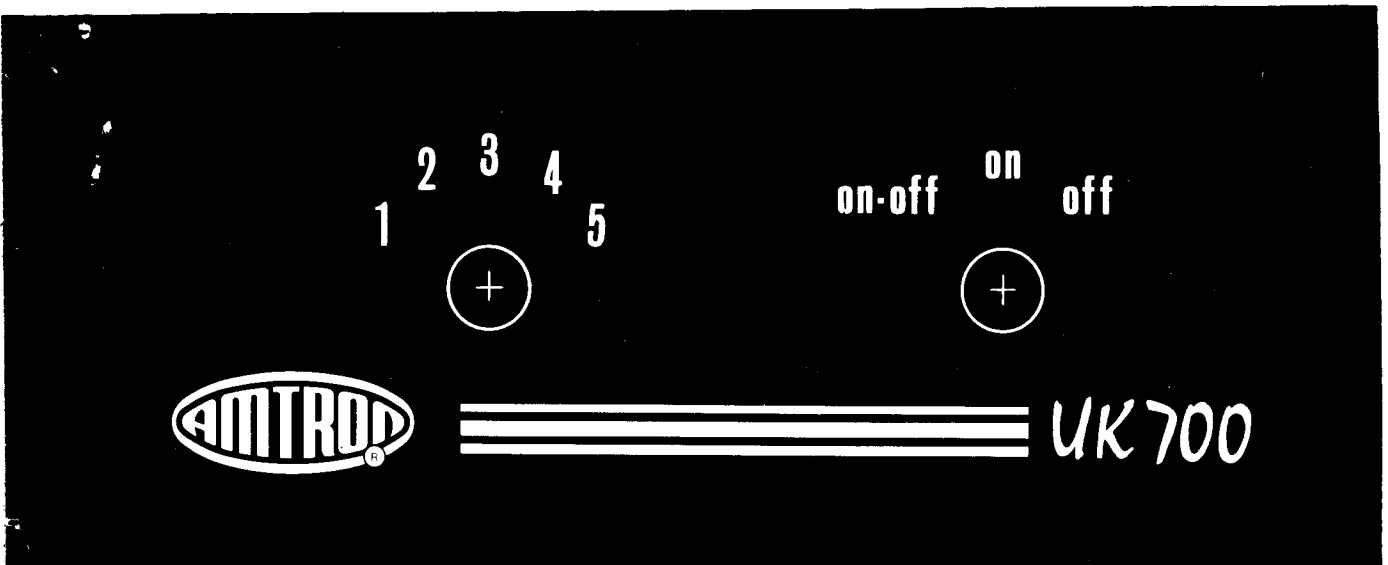
ASSEMBLING

All the components, with the exception of the two switches, the speaker and the battery, are fitted to the p.c. board, as shown in Figure 2.

Reference points on the p.c. board do not permit any wiring mistakes.

Pay careful attention to the electrolytic capacitors and transistors to avoid inverting the polarity of the former and the leads of the latter.

Figure 4 - Front panel - life size view.



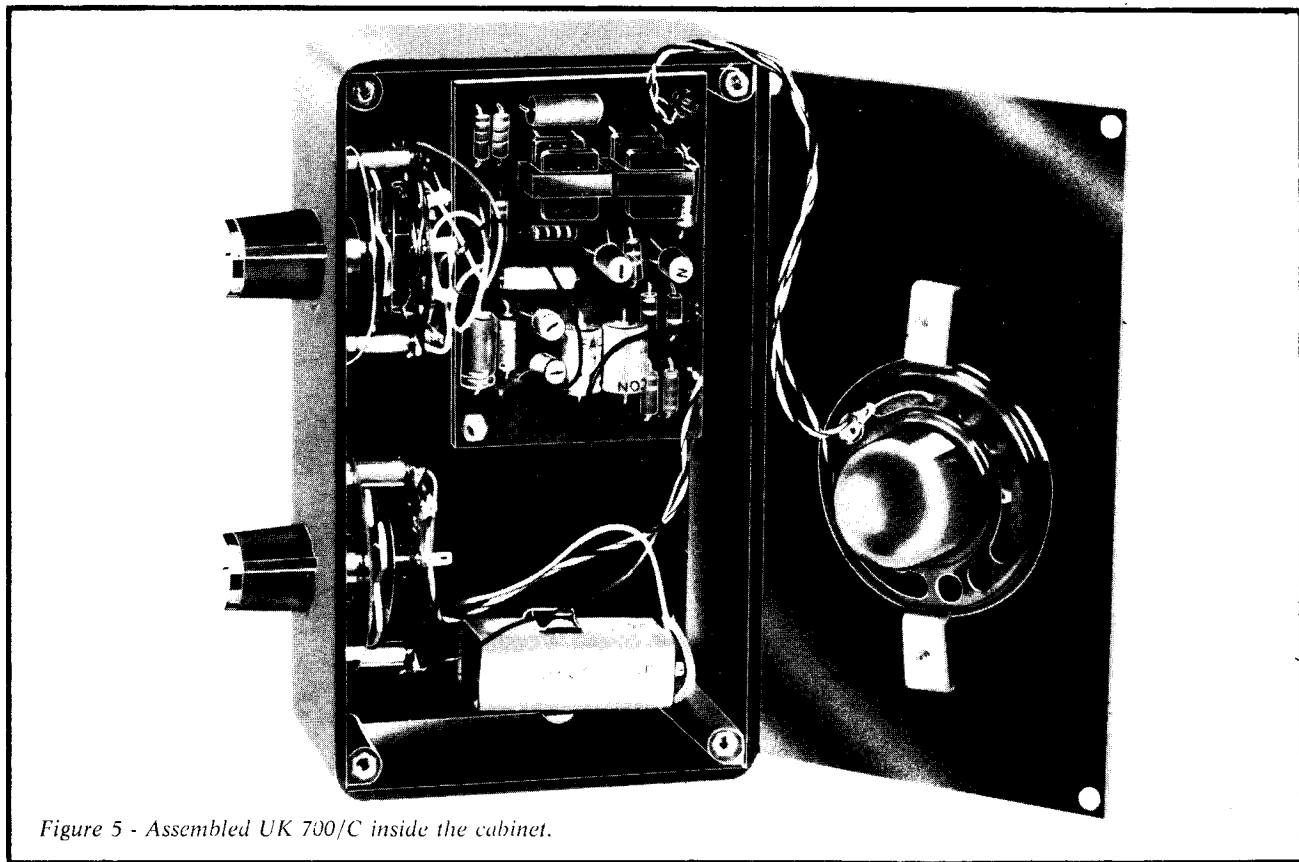


Figure 5 - Assembled UK 700/C inside the cabinet.

Be very careful when soldering particularly the germanium transistors leads which are very sensitive to high temperature. The soldering iron must reach its working temperature before you begin: keep the leads fast with flat pliers during the operation to disperse the greatest quantity of heat.

The S1 and S2 switches connections are slightly more difficult. Refer to Figure 3: you will see that after connecting some of the terminals to each other, all you have to do is to connect the terminals as shown in Figure 3 to the corresponding points indicated with the same letter on the p.c. board, with a plait.

As far as the assembling sequence is concerned, fit the pins first to the p.c. board, then the resistors and capacitors and then the transformer, transistors, switches and speaker.

In the prototype the speaker is secured with two brackets to the cabinet lid, provided with holes corresponding to the speaker's cone, as shown in the picture on front page. The diameter and number of the holes are not binding and even a single large hole of the same diameter of the cone may be used.

Figure 5 shows the assembled UK 700/C and the orderly arrangement of the components inside the cabinet.

APPLICATIONS

The UK 700/C paramount applications is affording naturelovers and bird-watchers the means of studying several

species of birds at close range, for these charming nature's songsters will be attracted by the chirping issuing from the suitably hidden gadget.

People, too, can be deceived, all in good fun, if you take care to put a dummy bird in a cage, concealing the compact UK 700/C under a false bottom. Anybody will wonder what kind of strange bird you have, that can switch at will from the chirpings of the finch

to the full-throated song of the nightingale of the blackcap.

People suffering from sleeplessness can be lulled to sleep by the sweet tunes of a nightingale.

The UK 700/C can be also given as a gift to children of any age and they will appreciate it with real pleasure.

We shall not add any other application to the list as any you may think of can be interesting.

LIST OF THE COMPONENTS

No.	Symbol	Description	No.	Symbol	Description
2	R6-R9	1 kΩ - 1/3 W Resistors	4	TR1-TR2-TR3-TR4	transistors
1	R8	2.2 kΩ - 1/3 W Resistor	2	S1-S2	switches
1	R1	6.8 kΩ - 1/3 W Resistor	10	—	p.c. board pins
2	R4-R7	10 kΩ - 1/3 W Resistors	1	—	p.c. board spring clip
1	R5	18 kΩ - 1/3 W Resistor	1	—	polarized socket
1	R10	47 kΩ - 1/3 W Resistor	2	—	spacers
2	R2-R3	100 kΩ - 1/3 W Resistors	2	—	3M x 16 screws
1	C6	2 μF capacitor	3	—	3M x 10 screws
1	C3	10 μF capacitor	5	—	hexagonal nuts
2	C4-C5	20 μF capacitors	2	—	brackets
1	C1	50 μF capacitor	25 cm	—	white plait
1	C2	100 μF capacitor	25 cm	—	black plait
1	C7	22 nF capacitor	25 cm	—	red plait
2	T1-T2	transformers	25 cm	—	green plait
			1	—	blu plait
			1	—	cabinet
			1	—	speaker
			2	—	knobs