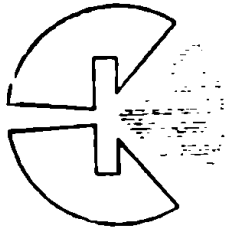
S-DeC projects



S. D. C. PRODUCTS *(ELECTRONICS)* LTD.

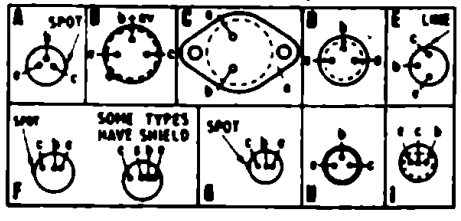
COLOUR CODING OF RESISTORS

In these circuits the multiplier K (i.e. $\times 10^3$) also indicates the position of the decimal point, e.g. 4K7 is the same as 4·7K and is 4700Ω.

Colour	A 1st Digit Resistance in Ohms	B 2nd Digit Resistance in Ohms	C Multiplier of Resistance	D Tolerance
Black	0	0	1	-
Brown	1	1	10	-
Red	2	2	100	-
Orange	3	3	1000	-
Yellow	4	4	10000	-
Green	5	5	100000	-
Blue	6	6	1000000	-
Violet	7	7	10000000	-
Grey	8	8	-	-
White	9	9	-	-
Gold	-	-	0.1	5%
Silver	-	-	0.01	10%
None	-	-	-	20%

TRANSISTORS

e = emitter, c = collector, b base, s = shield, ev - envelope.

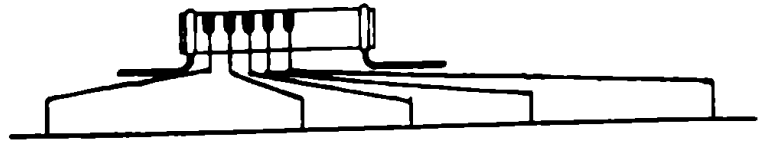


You should be able to identify the leads on the transistors in common use from these diagrams. If in doubt you should consult a reference book on transistors or use the data issued by the manufacturer.

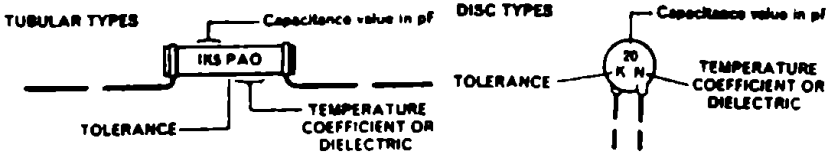
CAPACITORS

Most capacitors have the value written on them, but some are coded. Different manufacturers may use different codes, so when in doubt consult the manufacturer's data. Below are illustrated a few typical coding methods.

In this booklet values have been written in μF (10^{-6}F), nF (10^{-9}F) and pF (10^{-12}F). Thus 100nF is the same as 0·1μF.



Temperature Coefficient	1st Digit Cap. in pF	2nd Digit Cap. In pF	Multiplier of Cap.	Tolerance

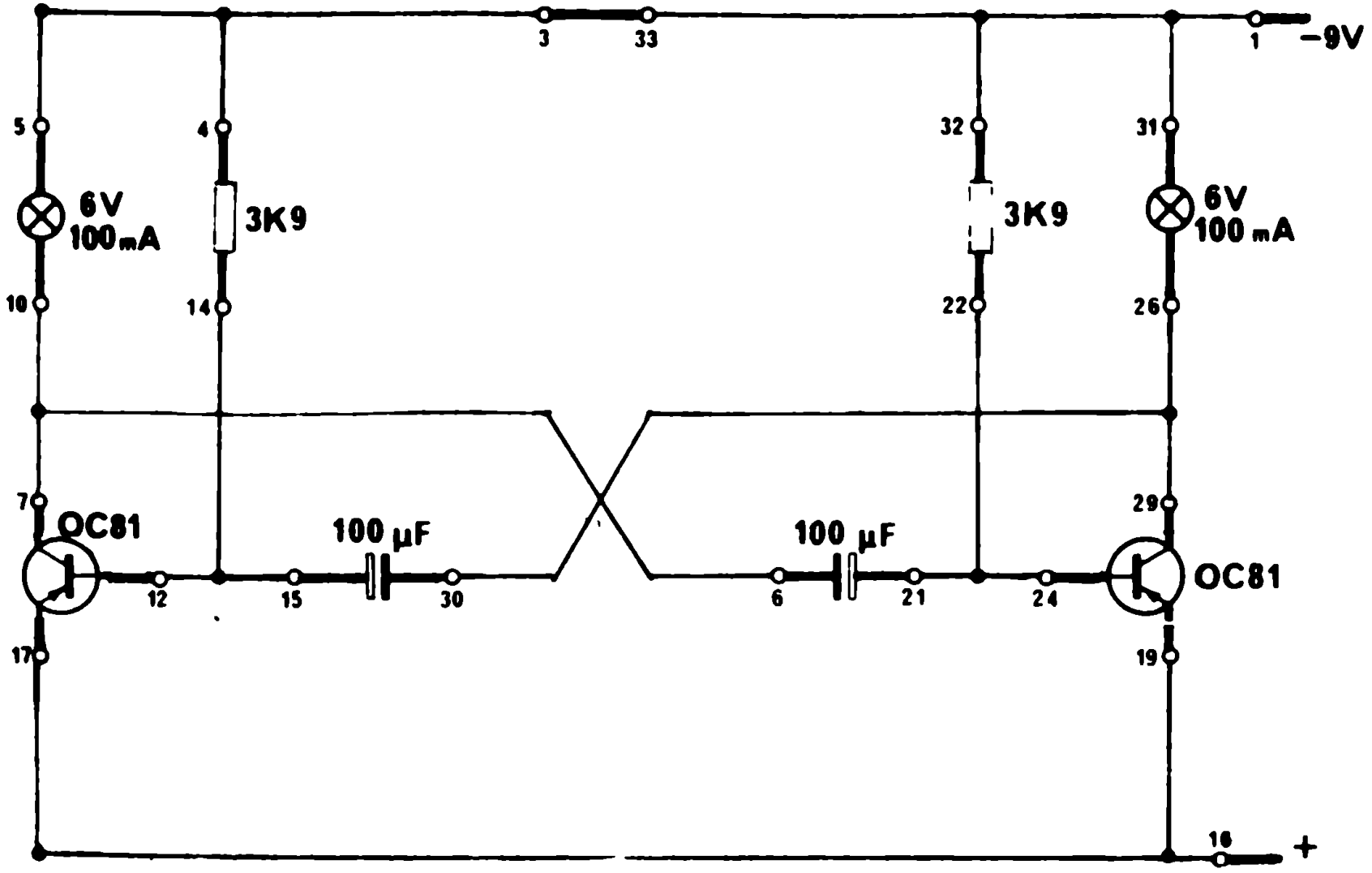


Notes: Values from 1,000 *pF to* 9,900 *pF are shown in pF by use of the multiplier K (i.e.* $\times 10^3$*), which also indicates the position of the decimal point. Values above* 10,000 *pF are shown in* μF.

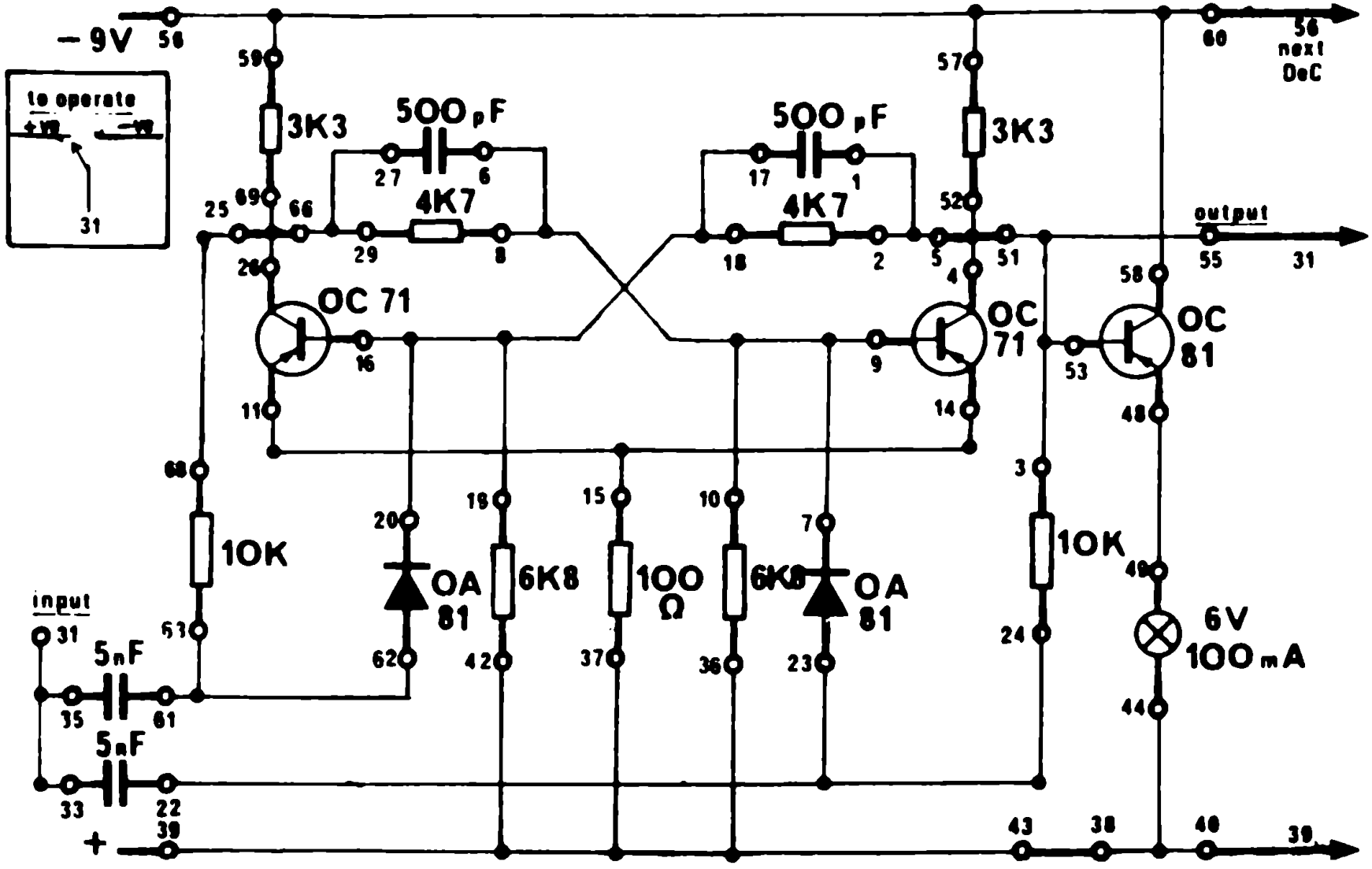
ELECTROLYTIC CAPACITORS

Most electrolytic capacitors have a + to mark the positive end and many have a — sign to indicate the negative end. If there is no + marked, then the positive end is often indicated by a special shape to the case at that end; a red marker (if there is also a black marker at the other end); a black line or marker (if there is no other coloured marker). The negative lead can often be identified because it is usually connected directly to the case whereas the positive lead will be insulated from the case.

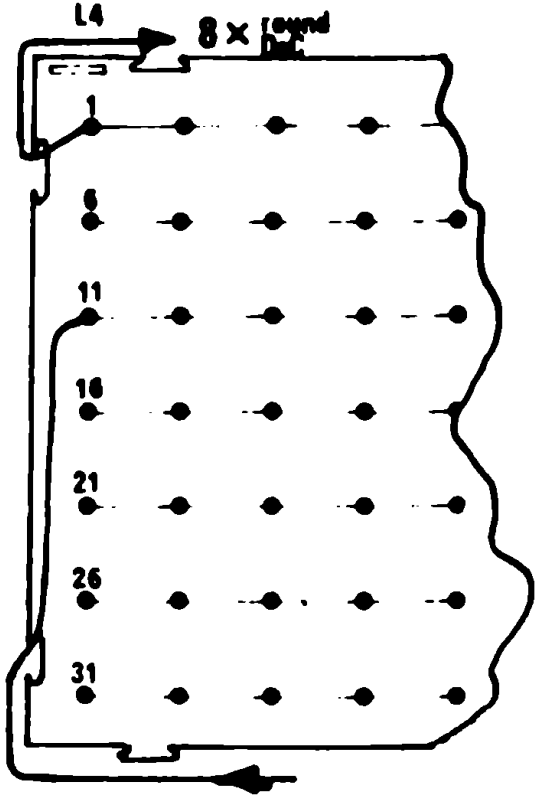
ELECTRONIC FLASHER.

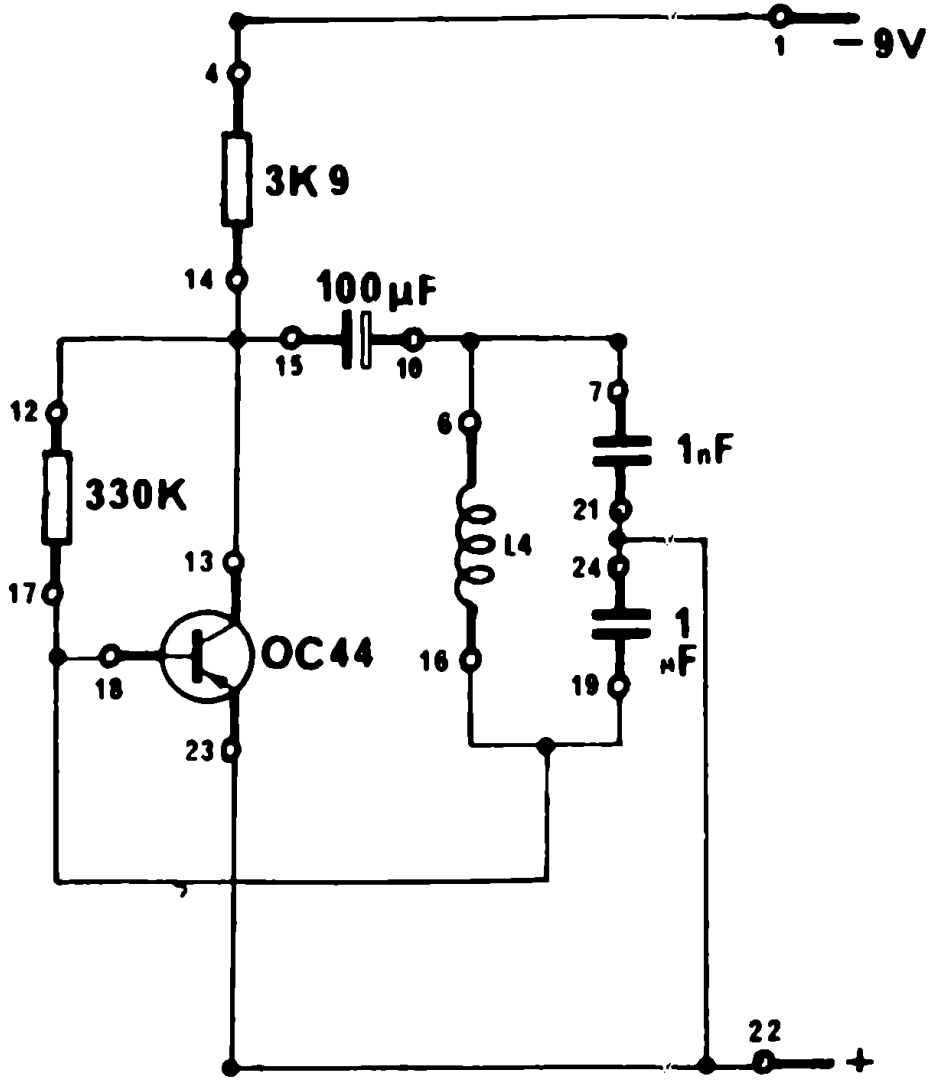


BINARY COUNTER.

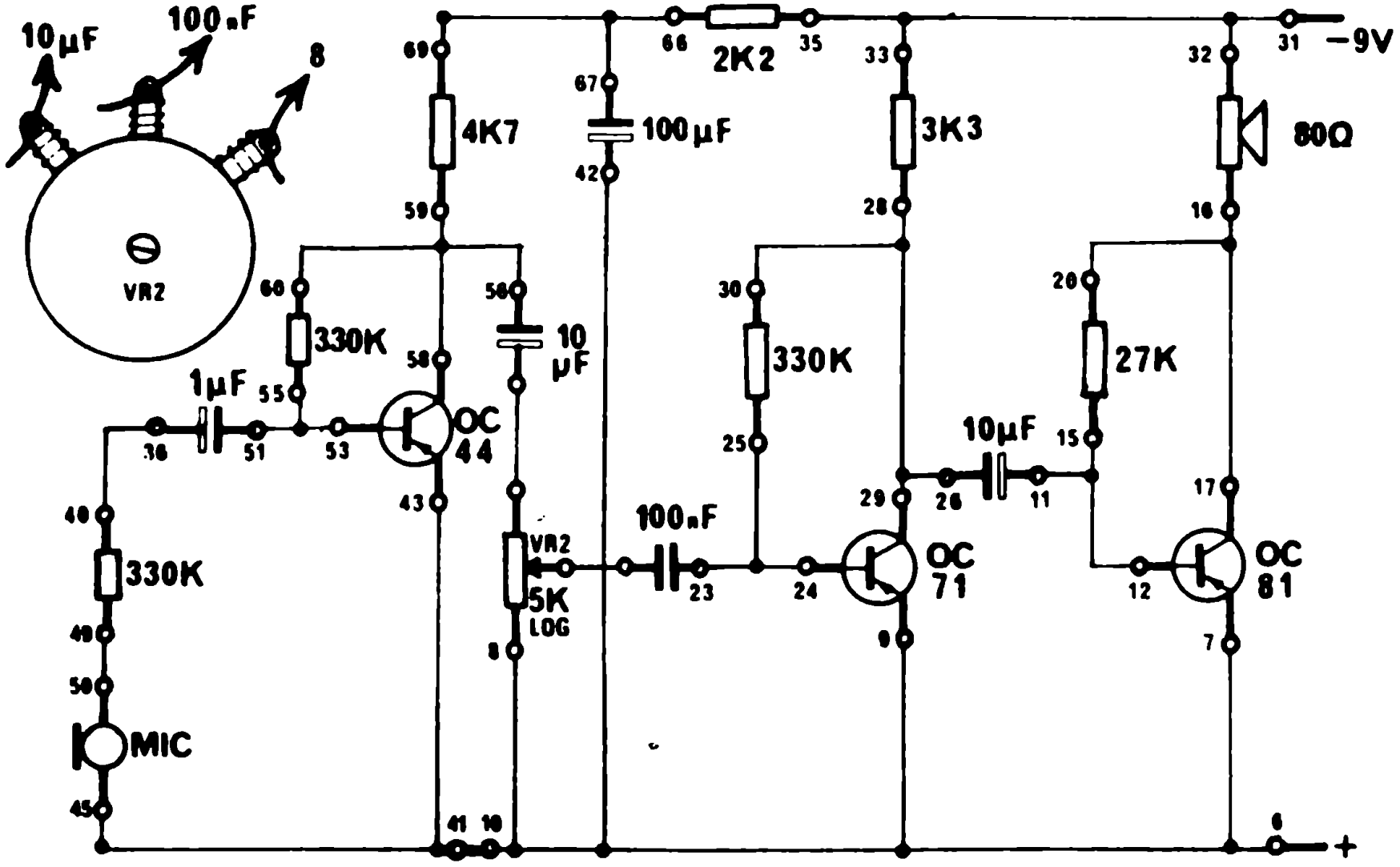


LC OSCILLATOR.

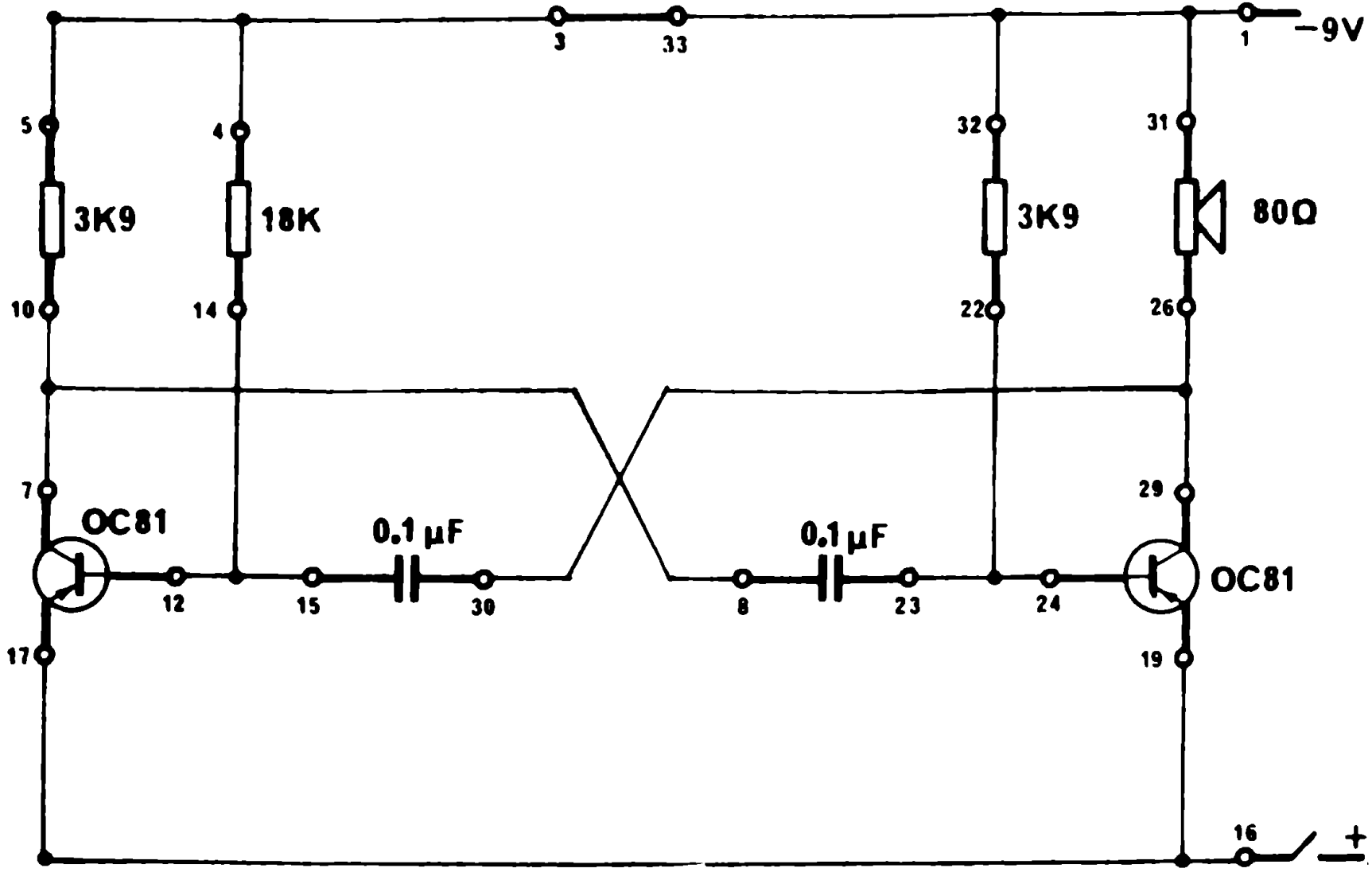




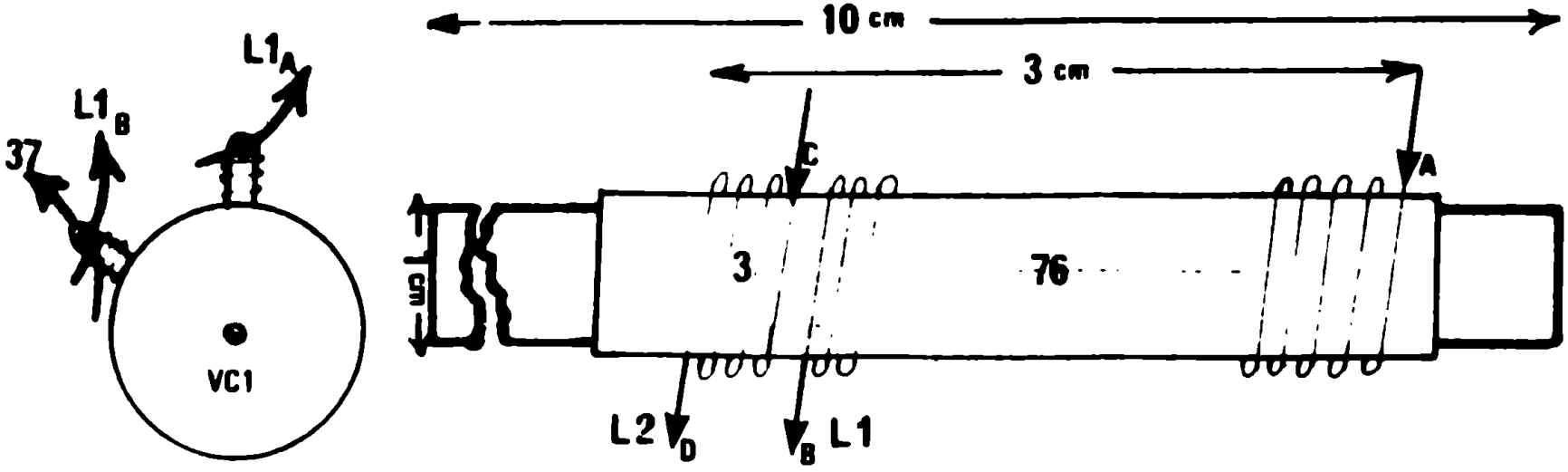
3-STAGE AMPLIFIER.

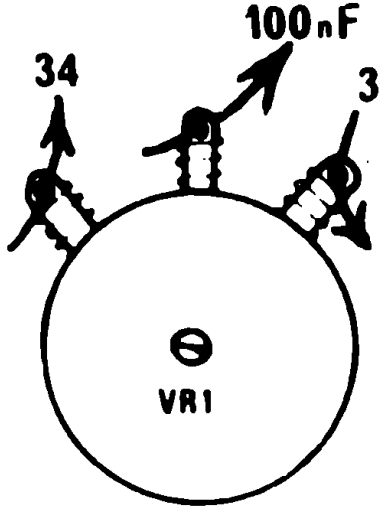


MORSE PRACTICE OSCILLATOR.

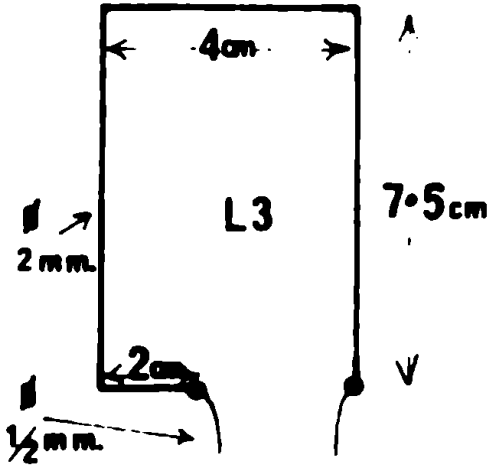


Details of the wiring for the circuits on pages 7 and 8

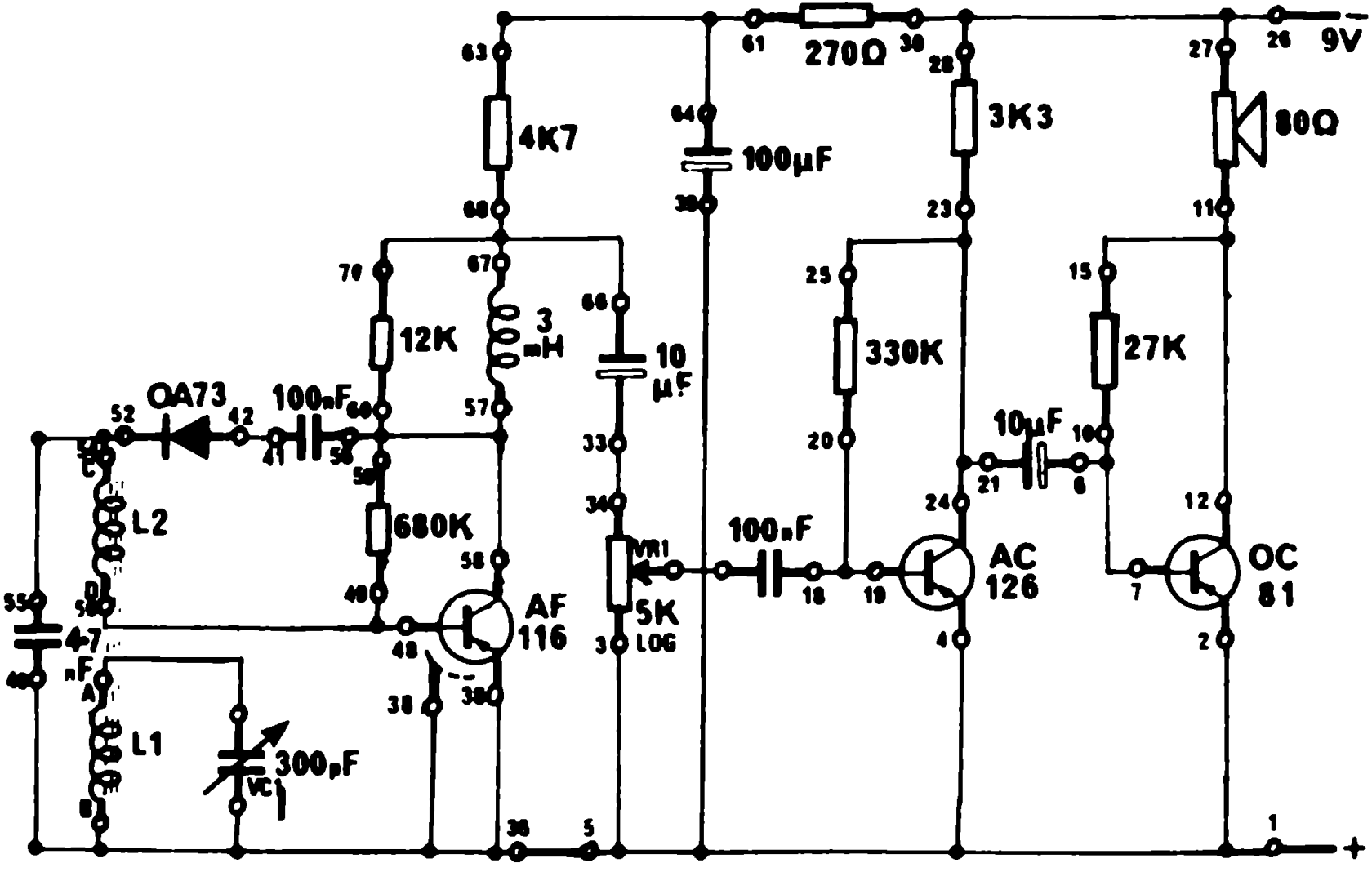




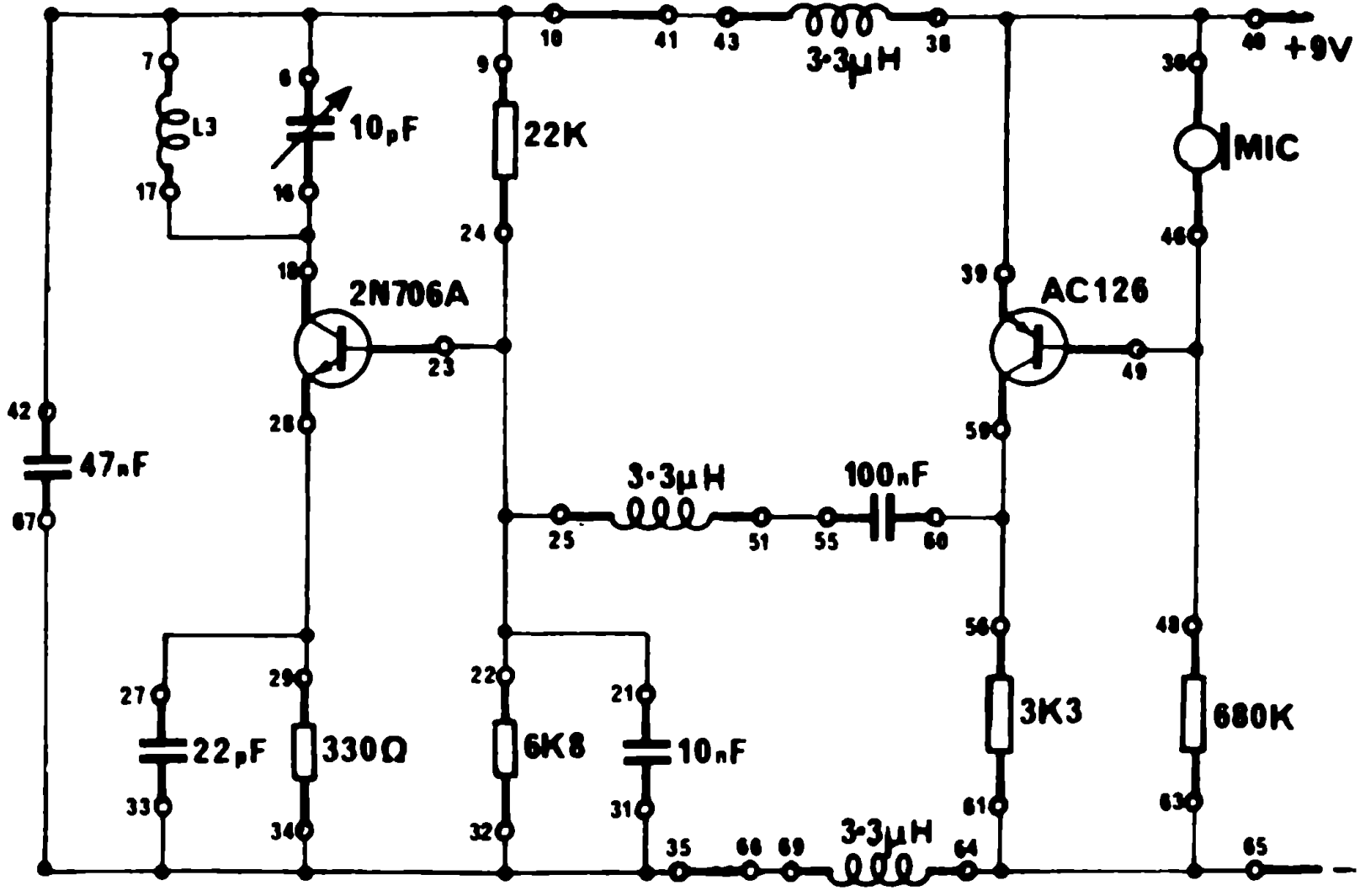
Details of the wiring for the circuits on pages 7 and 8



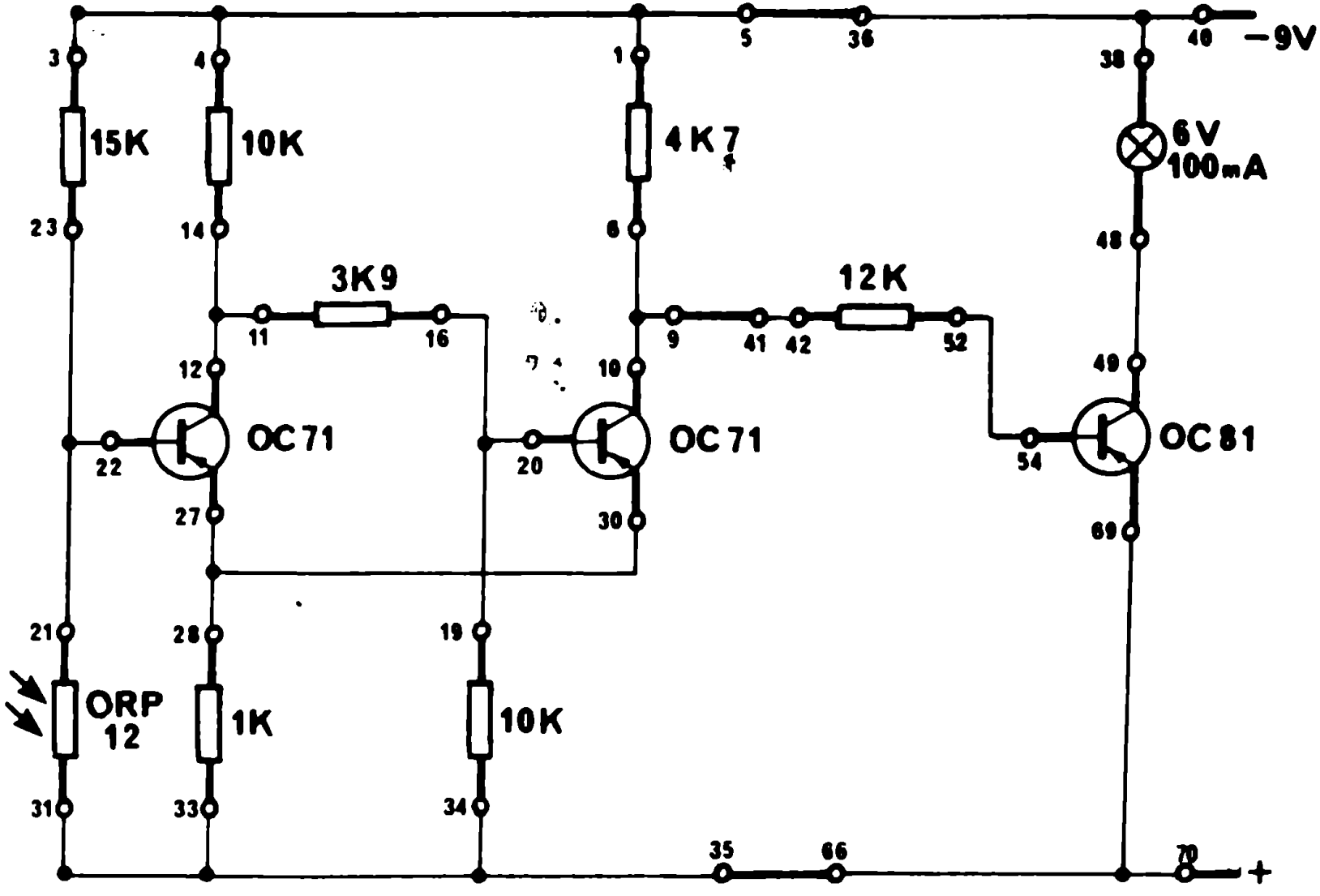
RADIO RECEIVER.



VHF RADIO-MICROPHONE.

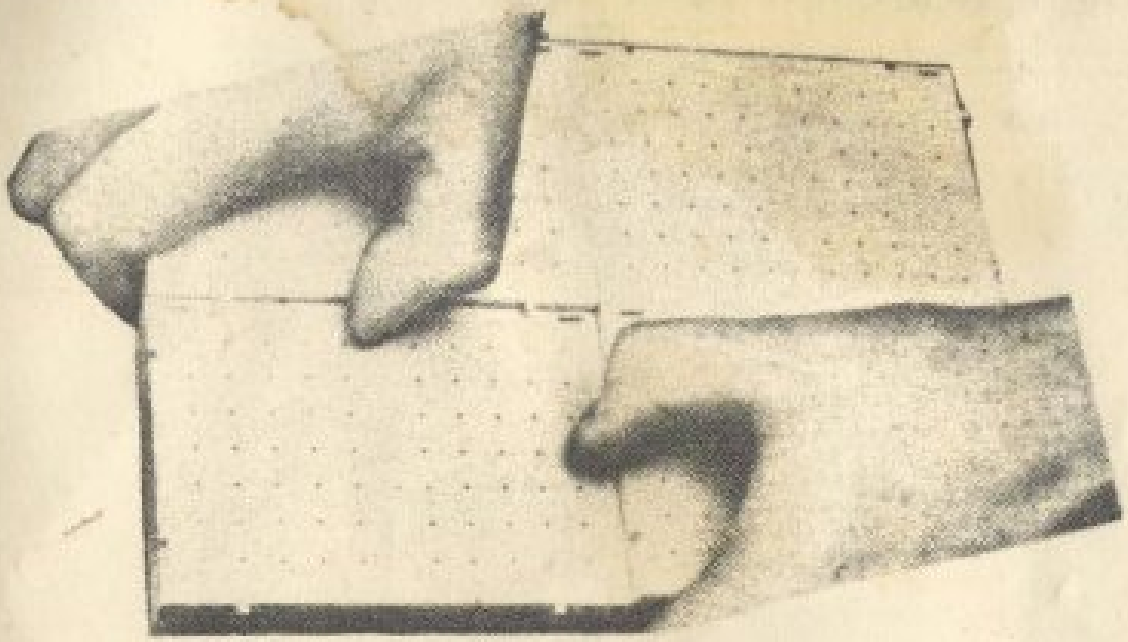


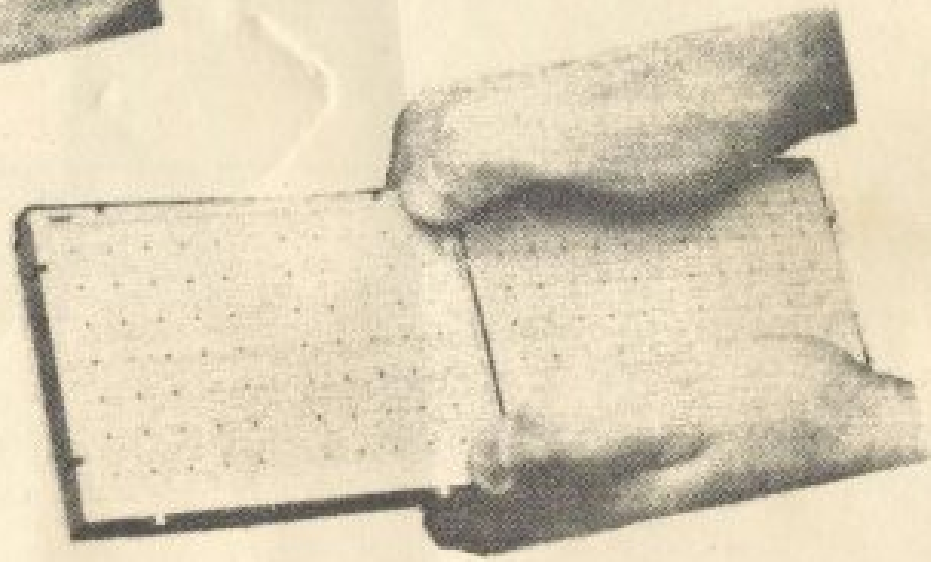
LIGHT-OPERATED SWITCH.



HOW TO

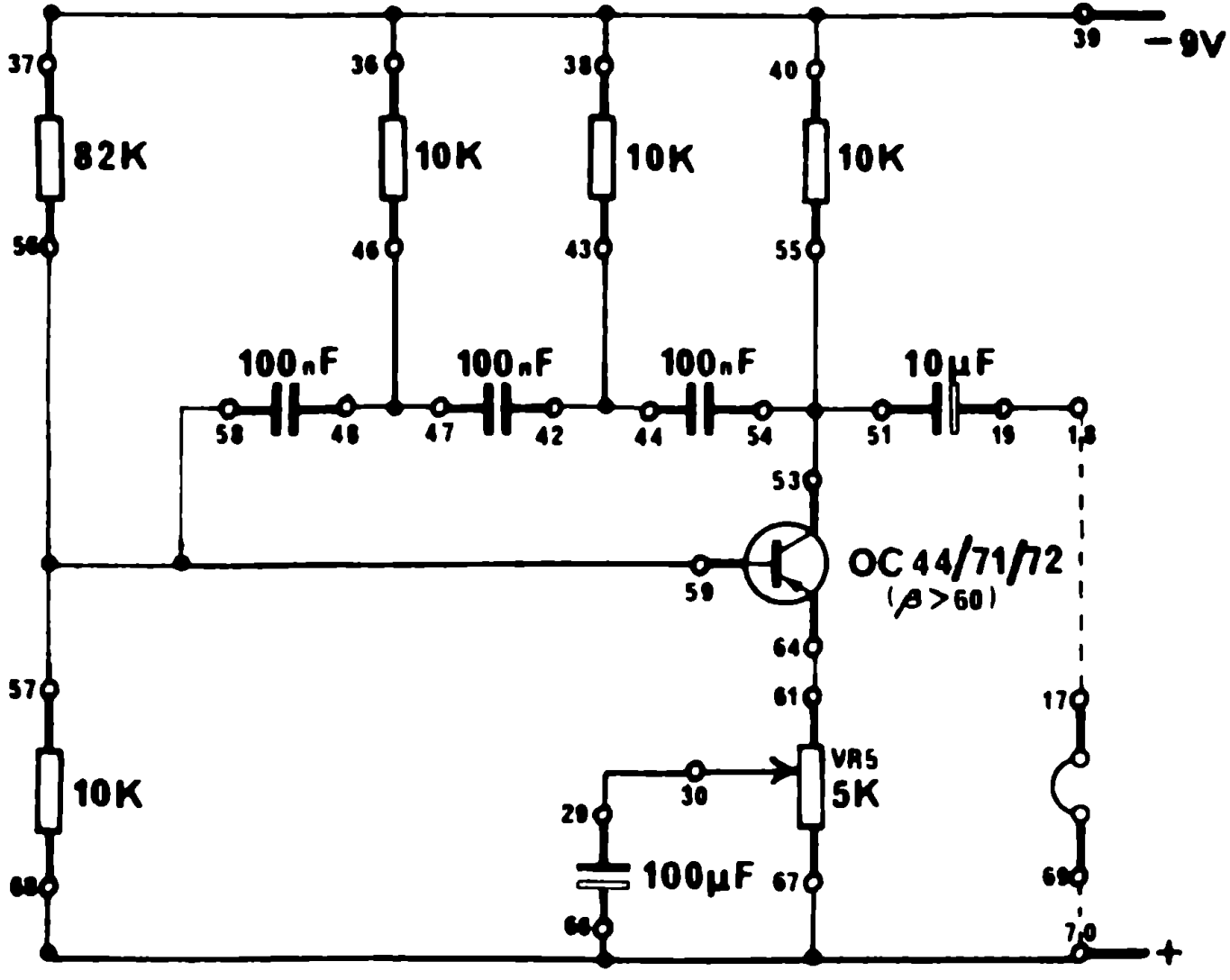
SEPARATE DeCs



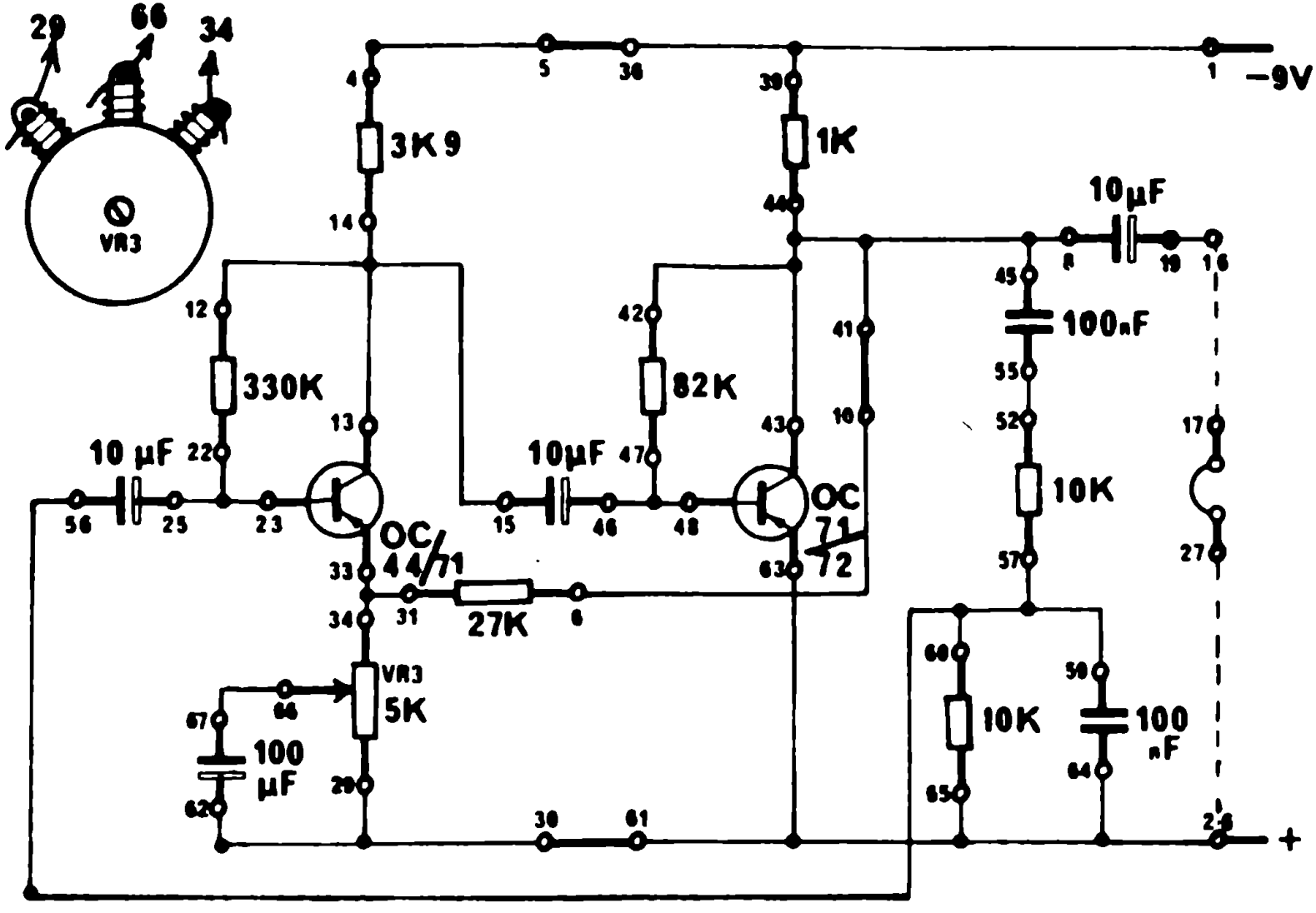


The pictures show the way to separate S-DeCs should they be tight. If the DeCs are very tight, then dry soap put on the keys will lubricate the key-ways.

CR OSCILLATOR.



WIEN NETWORK OSCILLATOR.



USING S-DEC

S-DeC is designed for the rapid interconnection of electrical and electronic components. Normal component wires up to a thickness of .040" can be accommodated.

Contact arrangement

The 70 contacts on a single S-DeC unit are divided into two independent panels. Each panel contains 7 parallel rows of contacts. The contacts in each row are connected, e.g., contacts 1 to 5 inclusive are joined together.

Mounting of Controls

Potentiometers, switches, etc., can be mounted on the control panel provided in the accessory kit. The panel simply slots into the S-DeC base.

Solderless connections can easily be made to such controls using the springs provided in the accessory kit. The springs are pushed over the lugs on components, the wires inserted through the holes in the lugs, and the springs released to trap the wire.

The four clips in the kit can be used for mounting ferrite rod on the control panel. A small clip and a large clip are bolted back to back and mounted on top of the panel.

Circuits requiring the use of more than one S-DeC

S-DeCs can be simply and quickly joined together to form large areas of decking using the interlocking keyways on the sides of the units. Control panels can still be fitted to any of the S-DeCs, providing mounts for pre-set controls, etc. The complete decking can be moved and stored without disrupting the circuits already on the decking. To interlock, slide the keys vertically into the keyways. To unlock, press with the thumbs at points close to the keyways on one of the decks, applying equal pressure at each point. When removing a deck secured by others on two sides, place the thumbs centrally between the keys on the secured sides and apply equal pressure. (See page 10 in construction booklet)

Precautions in use

To avoid damage to S-DeC and to ensure a long contact life we advise the following precautions be taken:—

- do not use badly bent wires, especially with a hook at the end, as they may damage the contact assembly when withdrawn;
- components with lumps of solder on them should not be used;
- wires covered in grease or dirt should not be used in case they should deposit an insulating film on contacts;
- controls should be mounted on the control panel and wires attached before slotting the panel into place.

In order to ensure good contact, the following procedures are advisable:—

- push component wires well in;
- use single rather than stranded wire for linking rows of contacts, joining to batteries, etc.;
- do not put two wires in the same hole, as one of them may not make contact;
- bend component wires so that they enter holes vertically. (The jig provided with each S-DeC will help bend wires correctly.)

Technical Data

Insertion & Withdrawal forces (.040" wire) after 1,000 insertions	2 - 3 oz.wt 60 - 90 gm.wt
Resistance between adjacent contacts (total)	10 mOhm
Insulation resistance between adjacent rows	10^{10} Ohm
Capacitance between adjacent rows	3 pF

Contacts — phosphor-bronze to BSS 407/2 self-finish.