MERIT

1 S.C. MORSE BUZZER & MORSE SIGNALLING OUTFITS

HOW IT WORKS.

Remove the bakelite cover which is a press-on fit to the base and examine the Buzzer mechanism carefully. The main parts of the mechanism are the electro-magnet and a contact breaker. The electro-magnet is built up in the same way as an Electric Bell (and as described in experiment 5 in the Merit Electrical Instruction Book), by winding many turns of wire over a core of soft iron. When the Buzzer is connected to a battery the iron core becomes magnetised and attracts the contact breaker arm. This movement breaks the circuit and the iron core loses its magnetism and the arm springs back to its original position. Contact is thus made once more, and the whole sequence of operations is repeated resulting in a rapid vibration of the contact breaker arm and its hammer.

Should the Buzzer require adjustment at any time the position of the contact breaker can be altered by adjusting the position of the holding nuts. Do not however adjust unnecessarily as the instrument will work over long periods without any attention.

HOW TO CONNECT.

To use the Buzzer connect up to a 4½ volt battery. Generally the Buzzer is used in conjunction with a Bell Push or Morse Key, or it can even be used with a Switch. The Key and Buzzer (for Key read also either Switch or Bell Push) should be connected up to the 4½ volt battery in series. The circuit is illustrated in the diagram as figure 1.

The items may be placed at a considerable distance apart. By this simple arrangement you have a transmitter (the Key) at one end and a receiver (the Buzzer) at the other.

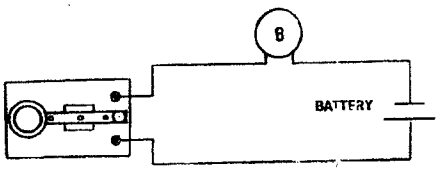
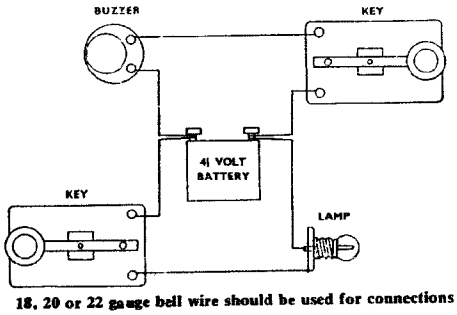


Fig. 1.

TWO WAY TRANSMISSION.

To be able to send and receive a message at each end, however, a more complicated arrangement is required and a most interesting and instructive circuit can be arranged as shown in figure 2 by using Morse Keys and Buzzers. This is a perfect model of the commercial two way transmitters and receivers. An alternative circuit may also be set up using a Bell in place of one Buzzer, and a Bell Push in place of one Key.



18, 20 or 22 gauge bell wire should be used for connections

Fig. 2.

Always examine circuit diagrams carefully before trying them out and work out exactly the course of the current round the circuit on depressing the Key, from the positive terminal of the battery to the negative. Beware particularly of "shorting" your batteries—i.e., take care that on depressing the Key, or making contact with a switch, that the two battery terminals are not directly connected together. If this happens, your circuit cannot be correct, and the battery will soon be ruined.

THE MORSE CODE

A	·—	K	—·—	U	··—	1	·—————
B	—···	L	·—··	V	···—	2	··———
C	—·—·	M	——	W	·——	3	···——
D	—··	N	—·	X	—··—	4	····—
E	·	O	———	Y	—·——	5	·····
F	··—·	P	·——·	Z	——··	6	—····
G	——·	Q	——·—			7	——···
H	····	R	·—·			8	———··
I	··	S	···		SOS	9	————·
J	·———	T	—		···———···	0	—————

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