such a case, it may be advisable to use a multi-range voltmeter upon the range which gives the highest resistance coupled with reasonable pointer indication. In general, if this procedure is followed, together with the use of the divide-by-two button, sufficiently accurate readings can be taken for most practical purposes.

When it is essential to obtain an accurate indication of the voltage developed across a high resistance, it is sometimes preferable to insert the meter in series with it and to measure, in amperes, the current flowing. The reading given upon the meter, multiplied by the value of the resistance, in ohms, will give the developed voltage.

RESISTANCE MEASUREMENT

There are three self-contained ranges covering from 0·1 ohm to 100,000 ohms, whilst one higher range is available employing an external voltage source. Generally speaking, the highest accuracy on an ohms range is obtainable about the middle of its scale. Between 20% and 80% of the arc length, the accuracy on the ohms scale will be within ±5% of the indication. Where the value of the unknown resistance to be measured allows a choice of range, that range which gives the most central reading should be employed. Resistance tests should never be carried out on components which are already carrying current. Upon those resistance ranges utilising an internal source of voltage it should be remembered that positive potential appears at the negative terminal of the instrument. This fact may be important because the resistance of some components varies according to the direction of the current through them, and readings therefore depend upon the direction in which the test voltage is applied, quite apart from its magnitude. Such cases include electrolytic capacitors and rectifiers.

When measuring the leakage resistance of an electrolytic capacitor, the negative lead from the meter should be connected to the positive terminal of the capacitor, and the 100,000 ohms range employed.

The 1,000 ohms and 10,000 ohms Range

These two lower ranges employ a 1½V. cell (dimensions $1\frac{1}{4}'' \times 1\frac{1}{4}'' \times 3\frac{5}{8}''$), such as Ever-Ready type R1662. Adjustments for the condition of this cell are made by the potentiometer 'P' and the resistance 'R'. The former compensates for variations in cell voltage, whilst the latter provides adjustment for changes in the internal resistance of the cell. This "R" adjustment, exclusive to the Avometer, enables measurements to be obtained to a greater degree of accuracy than would have been possible without its inclusion. It is of particular value upon the