



INSTRUKTIONSBOG FOR VOLTMETER RV8
INSTRUCTION MANUAL FOR VOLTMETER RV8

TECHNICAL DATA.

Voltage range: 0 - 30 kV DC.

Accuracy: $\pm 1,5 \%$ at 25 kV and 20°C.

Temp. coefficient: $+ 0,15 \%/^{\circ}\text{C}$.

Polarity: + or \div .

Current consumption: 10 μA full scale.

Input resistance: 3000 M Ω $\pm 10 \%$ at 20°C.

Dimensions:
163 mm wide.
210 mm deep.
160 mm high.

Weight: 3 kg (6,5 lbs).

Finish: Silver grey and blue hammertone.

Accessories:
1 instruction manual.
2 probe tips.

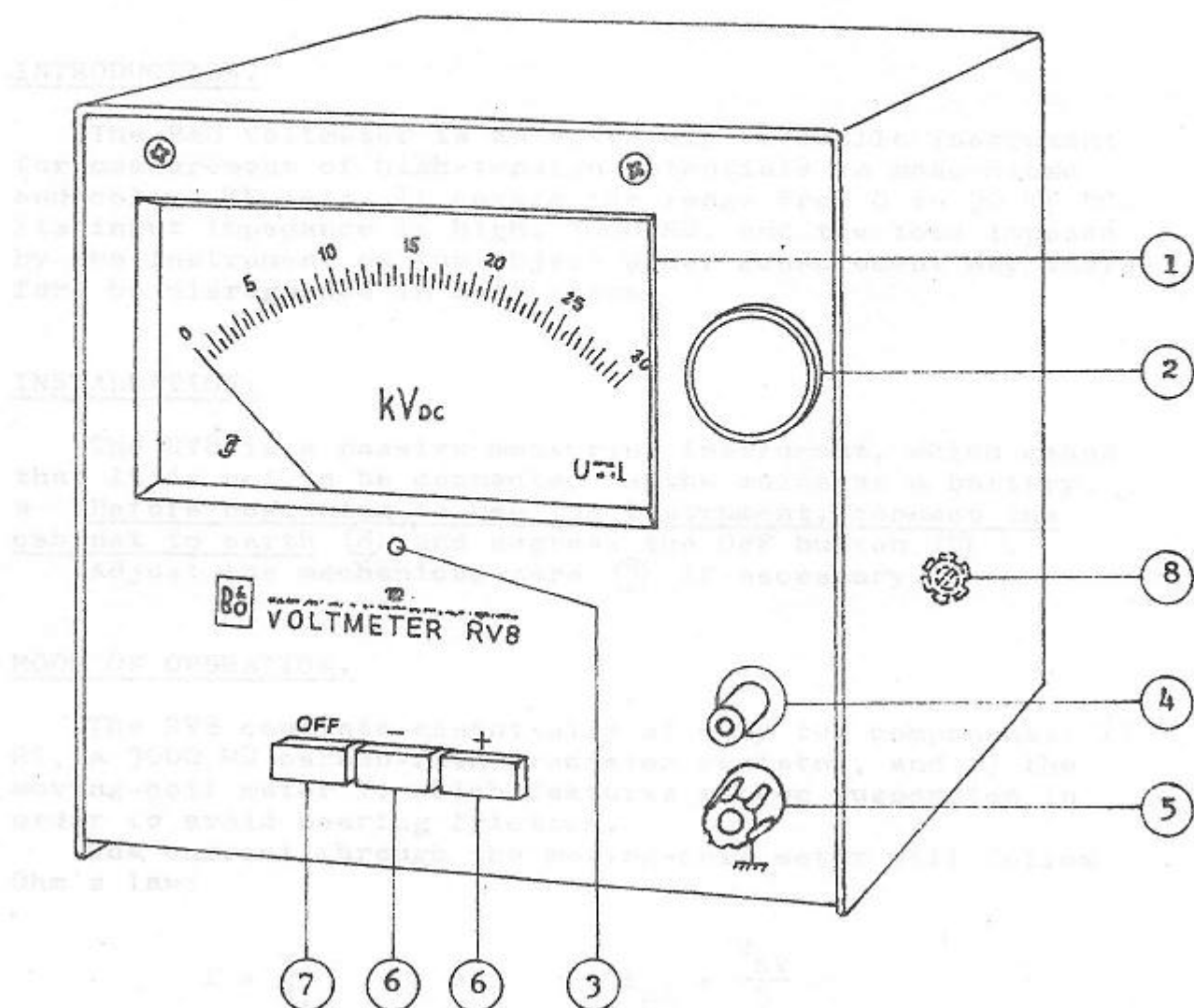


Fig.1. Voltmeter RV8 front view.

- 1 Moving coil meter.
- 2 Probe container.
- 3 Mechanical zero adjustment.
- 4 Probe input.
- 5 Ground terminal.
- 6 Polarity switch.
- 7 Meter protection switch.
- 8 Earth connection.

INTRODUCTION.

The B&O Voltmeter is an extremely versatile instrument for measurement of high-tension potentials in monochrome and colour TV sets. It covers the range from 0 to 30 KV DC. Its input impedance is high, 3000 MΩ, and the load imposed by the instrument on the object under measurement may therefore be disregarded in most cases.

INSTALLATION.

The RV8 is a passive measuring instrument, which means that it is not to be connected to the mains or a battery.

Before beginning to use the instrument, connect the cabinet to earth (8) and depress the OFF button (7).

Adjust the mechanical zero (3) if necessary.

MODE OF OPERATION.

The RV8 consists essentially of only two components: 1) R1, a 3000 MΩ carbon-film precision resistor, and 2) the moving-coil meter I, which features ribbon suspension in order to avoid bearing friction.

The current through the moving-coil meter will follow Ohm's law:

$$I = \frac{V}{R_I} \quad \text{or} \quad I_{\mu A} = \frac{V_{KV}}{3}$$

Example: $I_{30 KV} = 10 \mu A$ $I_{10 KV} = 3,3 \mu A$

Resistor R2 is a bleeder which prevents flashover in the instrument should the connection to the chassis of the object under measurement fail for some reason.

Resistor R4 (27...82 kΩ) and potentiometer P1 provide a means of adjusting the sensitivity of the meter in conjunction with resistor R1 in the probe. The combination of R4 and P1 provides proper damping of the moving-coil movement.

APPLICATION.

Connect the chassis of the object under measurement to the terminal (5). However, first make sure that the chassis does not carry mains voltage. If the object under measurement is powered via an isolating transformer such as a B&O Type RT10 Power Supply it is not necessary to make this check.

Set the switch (6) to "+" or "-" depending on the polarity of the voltage to be measured.

Take the probe out of the instrument case and connect it to the point of measurement. If possible, do not let go of the probe while making the measurement so that you won't run a risk of ruining it, for instance by dropping it on the floor.

In colour television receivers, the high-tension potential should usually be adjusted to 25 kV. For this reason the meter scale has a red mark at this voltage.

ADJUSTMENT.

Each instrument is adjusted very accurately before being dispatched from B&O but in view of the fact that the probe resistor is a rather critical component it is suggested that the Voltmeter be checked and, if required, adjusted about every second year.

Adjustment can only be performed by means of a digital voltmeter of better than 0,1 % accuracy. The procedure is as follows:

1. Remove the blue cover.
2. Check the mechanical zero ③ . Adjust if necessary.
3. Apply exactly 1 kV DC to the probe input.
4. Measure, using the digital voltmeter, the voltage at the point marked "Test Point" (approx. 50-100 mV). Let us assume that a reading of 72,4 mV is obtained.
5. Apply 25 kV DC to the probe instead of 1 kV. 25 kV DC may be obtained from the high-tension generator of a colour TV set.
A check for the accuracy of the 25 kV potential may be made by measuring the voltage at the point marked "Test Point". This voltage was e.g. 72,4 mV at 1 kV and at 25 kV should consequently be $72,4 \times 25 = 1810 \text{ mV} = 1,81 \text{ V}$.
6. Lastly adjust potentiometer P1 so that the meter reads exactly 25 kV.

The adjustment procedure described above should be carried out at an ambient temperature of 20°C.

If the ambient temperature differs materially from 20°C during use of the instrument it will be necessary to correct the scale deflection with regard to the temperature coefficient of the instrument. (See technical data).

GARANTEE OF SERVICE

For this B&O measuring instrument

Garantien dækker alle fejl

Garantien omfatter arbejde

Opstår der en fejl

Er fejlen af en sådan art

GARANTEE AND SERVICE

BANG & OLUFSEN A/S guarantees this P&O measuring instrument for one year from the invoicing date

This guarantee covers all defects in workmanship and materials which develop during normal

Fig. 2. Komponentplacering.
Component location.

This guarantee covers all instrument parts and the labour which is carried out by BANG & OLUFSEN A/S in connection with replacement of defective parts

If the instrument fails to give satisfactory service, it should be sent to BANG & OLUFSEN A/S immediately packed and with full details of the fault

If you prefer to replace one or more parts, the defective parts can be sent in for exchange free of charge. Please refer to the order number in the parts list. Kindly state the P&O instrument.

Instrument type

Rev. No.
Prod. No.

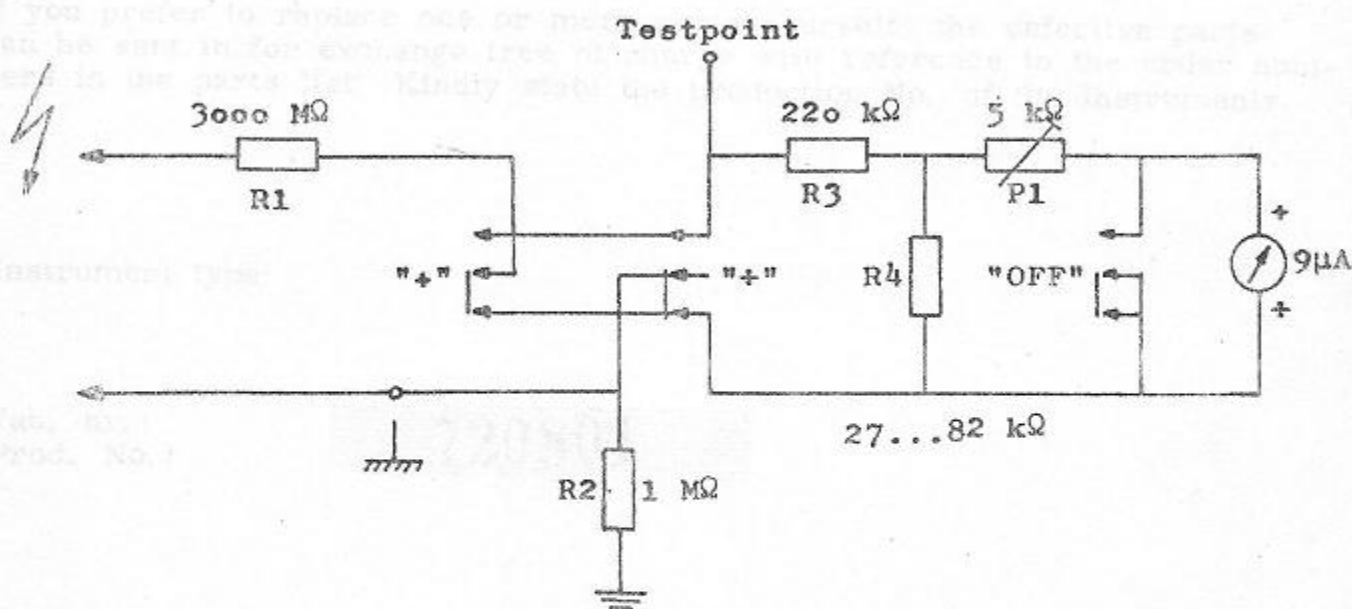


Fig. 3. Diagram.