

THE ANTENNA SCOPE

(or modified SWR Bridge)

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The Antennascope is a modified SWR Bridge in which one leg of the Bridge is composed of a non-inductive resistor (R3 in diagram). This resistor is calibrated in ohms, and when its setting is equal to the Radiation Resistance of the ¼ Wave under test, the Bridge is in a balanced state.

If a sensitive voltmeter is connected across the Bridge (M1) it will indicate a voltage 'null' at bridge balance. The Radiation Resistance of the ¼ Wave may be read directly from the instrument. When the ¼ Wave under test is non-resonant or in a reactive state, the 'null' indication on the Antennascope will be incomplete. The frequency of the exciting signal must then be moved to the resonant frequency of the ¼ Wave to obtain accurate readings of the Radiation Resistance from the dial of the Antennascope.

The Antennascope can be built into a plastic box.

The input and output co-axial fittings (SO239) are mounted at each side of the box and a *non-inductive* 50 ohm resistor is soldered between the two SO239 'out' and 'in' sockets.

The calibration potentiometer is below the meter.

Placement of other components should be direct and short.

Make sure the 'earth' points at A, B and C are formed together.

Special Note: Mount Diode (1N34) at right angles to the 50 ohm resistor to reduce capacity coupling between the two components.

Terminating the 'out' socket with various non-inductive resistors and putting in a signal at the 'in' socket will allow you to mark the dial, by adjusting (R3) each time and noting the position. Start at 10 ohm through to, say, 150 ohm.

ZS

USED AMATEUR GEAR

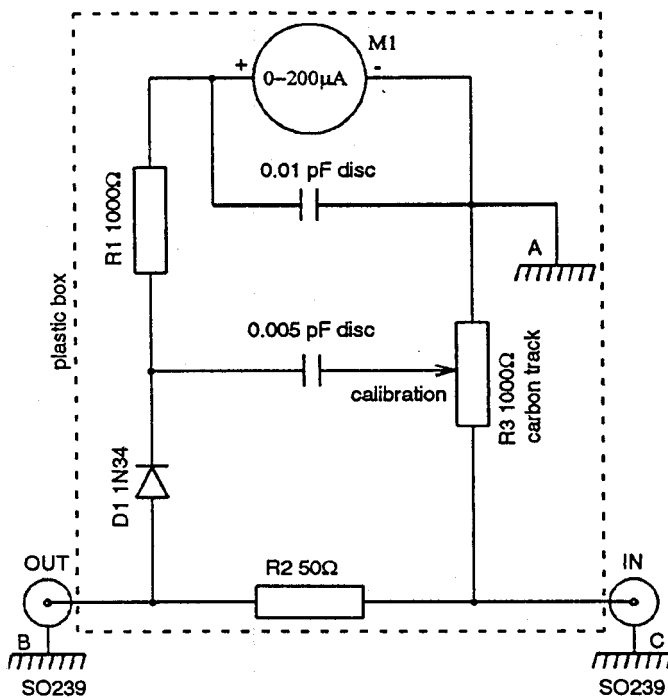
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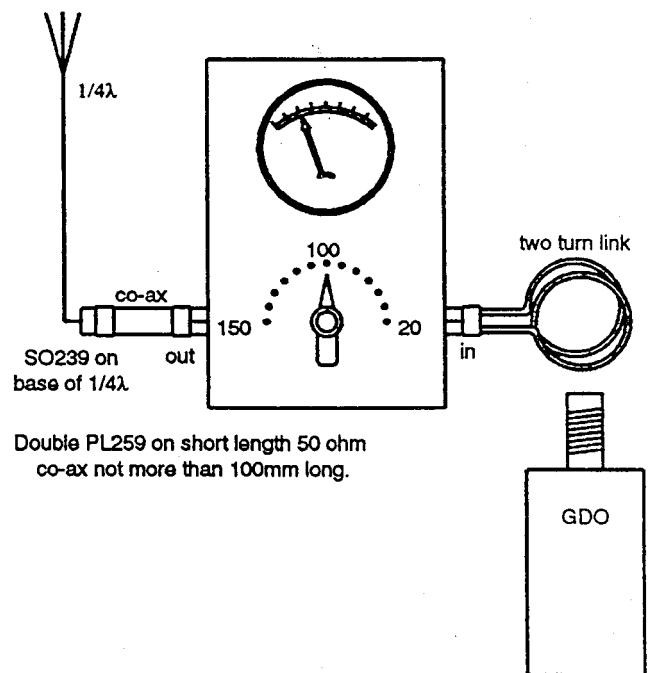
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Circuit diagram of the Antennascope.



Antennascope to Grid Dip Oscillator measurement set-up.