

## RF VOLTAGE PROBE

JOHN A SHARE, G3OKA writes: "Recently, I had the need to discover which stage in the transmit chain of a 144MHz multimode transceiver had developed a fault. The logical procedure would be to measure the RF voltages along the path using an RF probe with a standard digital or analogue multimeter. A suitable probe circuit is given in many of the handbooks (Fig 5(a)) together with constructional details using a valve holder and associated screen can.

"However, my construction method (Fig 5(b)) may be of interest. This used a piece of single-sided PCB 7mm by 32mm with the pads cut using a craft knife. By minimising the component lead lengths so that they fitted close to the surface of the board I found that the resulting unit could be enclosed by a length of heat shrink tubing and then formed a small 'lump' on the end of the coax cable. The far end of the cable was fitted with two 4mm plugs which plugged directly into my low-cost digital

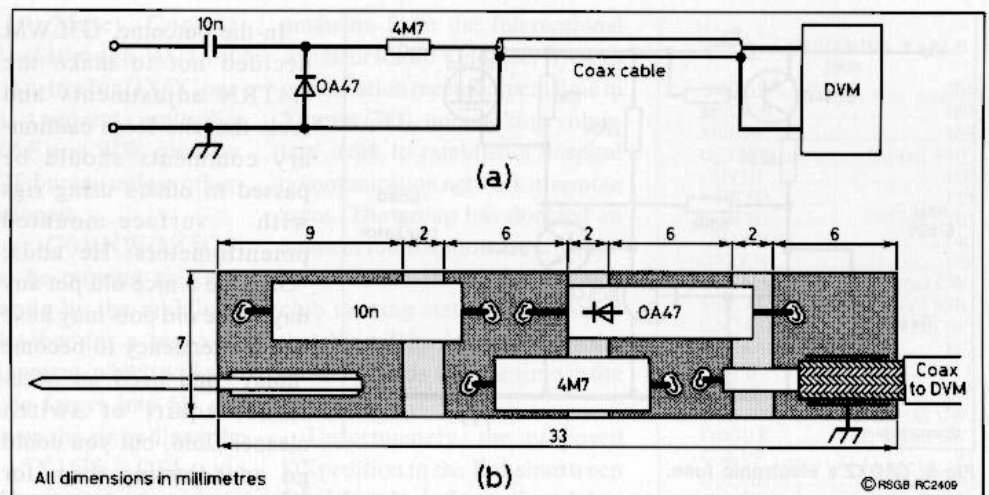


Fig 5: G3OKA's RF voltmeter probe for use up to about 150MHz. It can be enclosed in a length of heat shrink tubing. (a) Circuit diagram. (b) Component layout.

multimeter (DVM).

"I had anticipated that the detector diode would need to be an exotic VHF device, but I found that the unit functioned quite satisfactorily up to 150MHz using a general purpose OA47 detector diode. The little add-on RF probe now resides in the multimeter box."