

NEW IDEAS

Voltage freezer

HAVE YOU EVER WANTED TO MEASURE the voltage in a tight spot, only to find that before you could read the meter the test probe had slipped and you had to start all over? Having to hold the probe in place and read the meter at the same time is not only inconvenient, but if you slip, you can cause damage.

The circuit described here can solve that problem simply and easily. It reads and stores the voltage, thus freezing the meter reading even after the probes are removed.

ly due to the very low loading of the op-amp's high-impedance input. The meter is reset very simply: Just short the probes together; that discharges the capacitor.

Any type of construction can be used for the circuit, since nothing is critical. The only thing you should bear in mind is to use a tantalum capacitor for C1, since it will hold a charge much longer than a relatively leaky aluminum electrolytic. Since no input protection is provided, keep the DC-voltage input below the

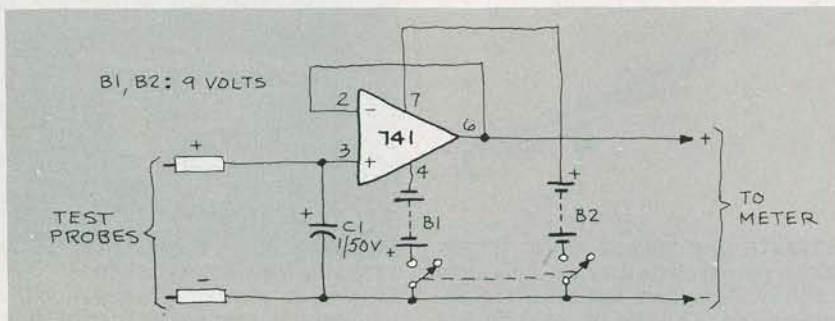


FIG. 1

The major component of the circuit, shown in Fig. 1, is an 8-pin 741C op-amp. The op-amp is configured as a unity-gain voltage follower, with C1 at the input to store the voltage.

The circuit operates as follows: When a voltage is applied across C1, the capacitor charges to that value. When the voltage source is removed, the value is still stored in the capacitor, and can be read on the meter. While the capacitor *does* discharge, the process takes place very slow-

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