

## High-accuracy Impedance Bridge ideal for design and experimentation

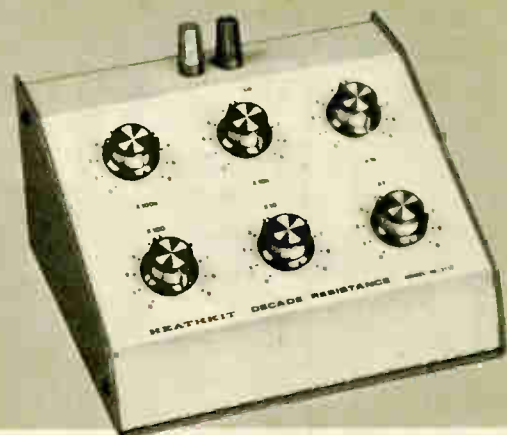
**\$124<sup>95</sup>**

- Accurately measures resistance, capacitance and inductance
- Has sensitive, easy to read meter

Has four separate bridge circuits for accurate measurement of resistance, capacitance, low and high inductance, dissipation factor of capacitors and storage factor of inductors. Has sensitive direct reading 100-0-100 microammeter and easy-access front panel binding posts for quick and convenient test setup. Ideal for the experimenter and designer or any electronics professional. Easy to follow manual makes construction a simple matter. A great value. Requires headphones or scope for alignment.

Kit IB-3128, Shpg. wt. 11 lbs. .... **124.95**

**IB-3128 SPECIFICATIONS:** DC Measurements: Built-in power supply. Binding posts for external supply. Meter: 100-0-100 microampere meter. AC Measurements: Built-in 1000 Hz generator. Terminals on panel for external generator. Detector: Vacuum tube detector and amplifier, using built-in meter. Terminals for external detector. Resistance: 0.1 ohm to 10 megohm. Capacitance: 100 pF to 100  $\mu$ F. Inductance: 0.1 mH to 100 H. Dissipation Factor: (D) 0.002 to 1. Storage Factor: (Q) 0.1 to 1000. Accuracy:  $\frac{1}{2}$  % decade resistors used. Power Supply: Transformer and silicon rectifier. Power Requirements: 105-125 V. or 210-250 V., 60/50 Hz, 10 watts. Dimensions: 8" H x 17" W x 6" D.



## Precision laboratory-type decade resistance box for easy value substitution

**\$39<sup>95</sup>**

- Provides accurate resistance values
- Simple operation
- Easy kit assembly

The Heathkit IN-3117 Decade Resistance Box is an accurate laboratory-type instrument for use whenever precision resistors are required for an electrical measurement or circuit design.

The extensive range of available resistance values makes the IN-3117 invaluable as a variable multiplier or shunt, a variable substitution resistor, or as a leg for AC and DC bridges. Use in conjunction with the IN-3147 below for solving complex resistance and capacitance networks where large ranges of values are necessary. Covers 1 ohm to 999,999 ohms in 1-ohm steps.

Resistors are 1-watt, 0.5% tolerance. Features rugged case and binding posts for easy test set up. Whether you're a designer or experimenter the IN-3117 is a must for your bench.

Kit IN-3117, Shpg. wt. 3 lbs. .... **39.95**

**IN-3117 SPECIFICATIONS:** Range: 1 ohm to 999,999 ohms in 1-ohm steps. Resistors: precision, 0.5% accuracy, rating 1 watt. Minimum DC resistance: 0.025 ohm at terminals with all switches set at zero. Maximum current for each range: X1, 1000 ma. X10, 300 ma. X100, 100 ma. X1K, 30 ma. X10K, 10 ma. X100K, 3 ma. Dimensions: 5" H x 7 $\frac{1}{2}$ " W x 6 $\frac{1}{2}$ " D.



## Capacitor Substitution Box

Helps you determine proper capacitance values without time-consuming calculations. Excellent for design or analysis of simple and complex RC and RCL networks. Provides switch selection of any of 18 EIA standard capacitors from 100 pF to 0.22  $\mu$ F.

The special rotary switch incorporates make-before-break contacts that provide smooth changes in capacitance without "opening" or "shorting" the circuit under test. All capacitors are rated at 600 V except 3 lowest and 2 highest values are 500 & 400 V respectively. Accuracy is  $\pm 5\%$  for values from 0.0001  $\mu$ fd through 0.00047  $\mu$ fd; and  $\pm 10\%$  for 0.01 through 0.22  $\mu$ fd. The IN-3147 makes an excellent addition to the bench of the experimenter and designer. Easy kit construction, and excellent accuracy make it a great value. 3" H x 3" W x 6" D.

Kit IN-3147, Shpg. wt. 2 lbs. .... **11.95**

## Resistor Substitution Box

Gives you a rapid and flexible means of determining resistance values required in new electronic circuit design. Also lets you substitute resistance values directly in existing circuits during operation to determine the resistance value that will provide maximum circuit performance. Provides switch selection of any one of 36 EIA standard 10% 1-watt resistors from 15 ohms to 10 meg.

The "shorting type" switches with make-before-break action permit smooth selection of the resistance values without opening or shorting the circuit.

The IN-3137 is ideal for radio, television, and audio work — anywhere that unknown values of resistance need to be determined. It's an invaluable addition to your service bench and a practical, easy to build kit, too. 5 $\frac{1}{2}$ " H x 3 $\frac{1}{2}$ " W x 3" D.

Kit IN-3137, Shpg. wt. 2 lbs. .... **11.95**