

# Resistance Decade Box

## Model RD-300

### **Introduction**

The RD-300 Resistance Decade Box is a convenient tool aiding you both in design and testing as well as calibration of your test equipment. When needed to determine the correct resistance value, the RD-300 offers 7 decades of resistance ranges, from 1 to over 11M $\Omega$  (in 1 $\Omega$  steps). Slide switches allow for easy addition and subtraction of resistance values. Switches that are in the ON position are clearly marked by a white dot below it to easily distinguish it from those that are OFF. A rubber boot allows the user to pop up the unit for ease of viewing and changing of values.

### **Specifications**

Resistance ranges 1 to 11,111,110 $\Omega$  in 1 $\Omega$  steps

Internal Resistance 0.3 $\Omega$

Power 1W Resistors

Connection Two (2) binding posts

Accuracy 1%

Operating conditions Temperature: 32 to 122oF (0 to 50oC) / Humidity: < 80%RH

Dimensions/Weight 6" x 3.7" x 1.9"

Weight Approx.: 0.95 lbs.

### **Operation**

#### **Binding Post Connections**

To connect the RD-300, connect the positive lead to the RED post and the negative lead to the BLACK post. To make the connection, a banana plug can be inserted directly into the posts. An alternate method is to thread wire through the posts. In order to do this, unscrew the post, thread your wire, and finally retighten the post as necessary. An alligator clip can be attached to the plugs as well. However, use alligator clips with caution to avoid wearing down the posts.

#### **Range Selection**

The RD-300 contains 28 switches organized in a 4 x 7 grid. Each row offers 7 decade of resistance ranges. When a switch is in the ON position, the value marked above the switch is added to the total resistance. For example, to obtain an output resistance of 40.23K $\Omega$ , the switches for 40K, 200 $\Omega$ , and 30 $\Omega$  will be in the ON position.

#### **Testing**

The RD-300 can be used for calibration of your test equipment due to its 1% accuracy. For calibration, set the RD-300 to the desired value and connect the terminals of your test equipment to the output of RD-300. The readout of the device you are testing should be the selected resistance value (+ 0.3 $\Omega$  internal resistance – approx.). If not, adjust the device you are testing accordingly.

### **Limited One-Year Warranty**