



1606-B Radio-Frequency Bridge

- 400 kHz to 60 MHz
- direct reading in ohms
- adaptable to coaxial connectors
- accurate, compact, simple operation

The 1606-B accurately and easily measures the resistance and reactance of antennas, transmission lines, networks, and components. It is particularly well suited for measuring low values of impedance of rf devices. Its range can be extended by means of an external parallel capacitor to measure high impedances.

Precision Coaxial Connections In this latest model of the popular 1606 RF Bridge, the Unknown terminals are adaptable to coaxial connectors, in particular the GR900. This is a significant advantage that not only permits the measurement of components having coaxial fittings but also ensures better repeatability and more accurate definition of the measurement plane. This permits the 1606 to be precision calibrated against coaxial standards such as the 1406 Coaxial Capacitance Standards and the vari-

SPECIFICATIONS

Ranges of Measurement	Accuracy
Reactance: $\pm 5000 \Omega$ at 1 MHz. This range varies inversely as the frequency; at other frequencies the dial reading must be divided by the frequency in MHz.	Reactance: At frequencies up to 5 MHz, $\pm 2\% \pm (1 + 0.004 Rf) \Omega$; 5 to 50 MHz, $\pm 2\% \pm (1 + 0.0008 Rf) \Omega$; where R is the measured resistance in ohms and f is the frequency in MHz.
Resistance: 0 to 1000 Ω .	Resistance: At frequencies up to 50 MHz, $\pm \left[1\% + 0.0024f^2 \left(1 + \frac{R}{1000} \right) \right] \% \pm \frac{10-X}{f} \Omega + 0.1 \Omega$ (where X is the measured reactance in ohms). Subject to correction for residual parameters.

Frequency: 400 kHz to 60 MHz.

Satisfactory but somewhat less accurate operation can be obtained at frequencies as low as 100 kHz and somewhat above 60 MHz.

Generator: External only (not supplied), to cover desired frequency range. Recommended, Type 1211-C and Type 1215-C Unit Oscillators, Type 1330-A Bridge Oscillator, Type 1310-A Oscillator, Type 1003 Standard-Signal Generator.

Detector: External only (not supplied). A well shielded radio receiver is recommended.

Supplied: 2 leads of different lengths to connect unknown impedance to bridge terminals; 1/2-in. spacer and 3/4-in. screw to mount component to be measured directly on bridge terminals; 874-R22LA Patch Cord.

ous GR900® precision components: open- and short-circuits, 50-, 100-, and 200-ohm Standard Terminations, and the various lengths of precision air line.

Accessory Adaptor Kit With the 1606-P2 adaptor kit, the 1606-B can be fitted to accept GR900 and GR874® connectors (the adaptors include compensation to match 50-ohm standards and components). The kit will also adapt to a 14-mm flange connector (a GR900 flange is included to convert GR900 connectors), or to other common connectors (N, BNC, TNC, etc) by the use of GR900 adaptors.

Description Measurements are made by a series-substitution method in which the bridge is first balanced with a short circuit across the Unknown terminals. The short is then removed, the unknown impedance connected, and the bridge rebalanced.

The entire mechanical design is such that the instrument can operate under difficult environmental conditions similar to those specified for testing military electronics equipment. The 1606-B bridge is therefore an excellent instrument for field use.

Available: 1606-P2 PRECISION COAXIAL ADAPTOR KIT.

Mechanical: Bench cabinet. DIMENSIONS (wxhxd): 12.5x9.5x10.25 in. (318x242x261 mm). WEIGHT: 23 lb (11 kg) net, 30 lb (14 kg) shipping.

SPECIFICATIONS FOR 1606-P2

Capacitance Added: By adaptor to GR900, 0.38 pF at reference plane (less fringing capacitance); by flange adaptor, 0.18 pF.

Weight: Net, 10 oz (283 g); shipping, 12 oz (340 g).

Description	Catalog Number
1606-B Radio-Frequency Bridge	1606-9702
1606-P2 Precision Coaxial Adaptor Kit	1606-9602

♦ Federal stock numbers are listed before the Index.