

## R8- VSWR / Return Loss Bridge, 5-3000 MHz

- Coverage: 5-3000 MHz
- Excellent directivity:
  - >40 dB 50-2600 MHz;
  - 35 dB 2600-3000 MHz
- Internal 50ohm reference RF
- Reflected port
- Five watt power rating
- Rugged case and connectors
- Five watt power rating



### Applications

Return loss bridges are useful in measuring VSWR, or return loss of filters, mixers, antennas and amplifiers. With directivity ratings of better than 40 dB, the R8-VSWR bridge yields excellent results. It may also be used for coupling two generators for inter-modulation testing, or power splitting for leveling systems.

The R8-VSWR has a true RF output and can be connected directly to the R8000 or R8100. With the high degree of accuracy found in the R8-VSWR bridges error correction is not absolutely necessary.

### Description

The bridge has been designed for lasting service in either laboratory or field service applications. It yields laboratory performance in directivity and open/short ratio over a frequency range of 5 to 3000 MHz.

Each bridge is constructed in a machined aluminum case. Connectors are heavy duty with field replaceable center pins. Power rating is a maximum of five watts up to one minute or 1.5 watt continuous.

The R8-VSWR has three ports: SOURCE, DUT (device under test) and REFLECTED. The REFLECTED port is an RF port. The bridge may be connected directly to the communication system analyzer. There is no REFERENCE port as the bridge contains an internal 50 ohm reference.

### Quality

To insure that high quality is maintained each unit is thoroughly inspected both mechanically and electrically. After pretest the bridges are aged at 100 C and then retested. Critical components are 100% inspected and tested before assembly into the units. All units are aged and then retested to insure superior stability over the lifetime of the instruments.

### Availability

Bridge Kits are typically stocked items available for 1 to 2 week delivery.

### Specifications

Refer to the following page for detailed specifications.

## SPECIFICATIONS

### Electrical

Freq Range: 5-3000 MHz  
 Power Rating:  
 Continuous 1.5W  
 Intermittent <1 min on 5 off 5.0W

### CAUTION: Do NOT Apply DC to any port

Insertion Loss:  
 SOURCE to LOAD <7.0 dB  
 LOAD to REFLECTED <7.5 dB  
 Port Match:  
 Source: >20 dB RL  
 DUT: >25 dB RL  
 Reflected: >10 dB RL  
 Directivity  
 5 to 50 MHz >25 dB RL  
 50 to 2600 MHz >40 dB RL  
 2.6 to 3.0 GHz >35 dB RL  
 Open/Short Ratio  
 .005 to 2.6 GHz <+1.5 dB/-2.0  
 2.6 to 3.0 GHz <+1.5 dB/-3.0

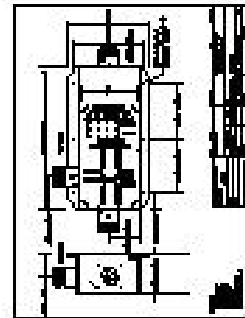
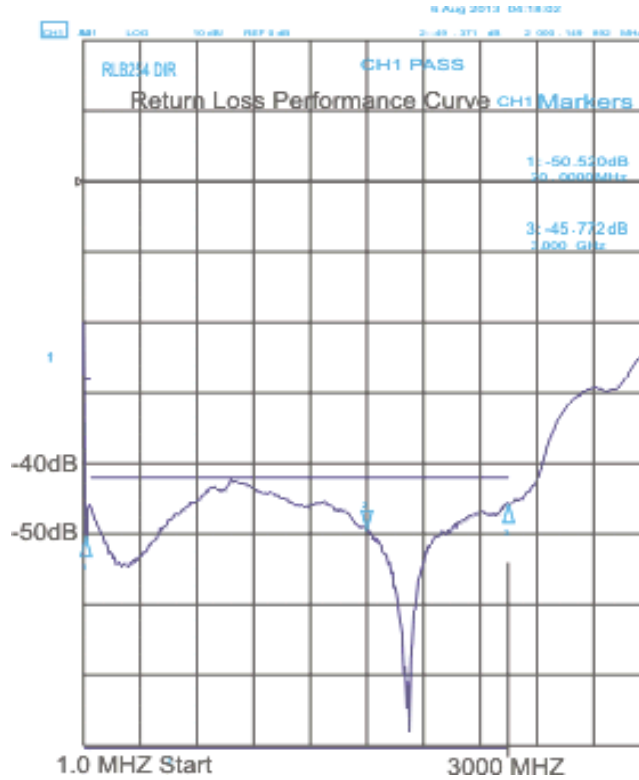
### Environmental

Temperature:  
 Operating +10 to +40  
 Reduced Spec. -10 to +85  
 Storage: -55 to +125  
 Humidity (non-cond): 10-80% RH  
 Shock: Drop from 1"  
 Vibration: 100 G any Axis  
 Waterproof No

### Mechanical

Case size:  
 1.5"W x 7.0"L x 1.05"H  
 Weight: <12.0 Oz.

## Test Data Plot



**FREEDOM**  
 Communication Technologies

Freedom Communication Technologies  
 2002 Synergy Blvd., Suite 200  
 Kilgore, TX 75662  
 (903) 985-8999