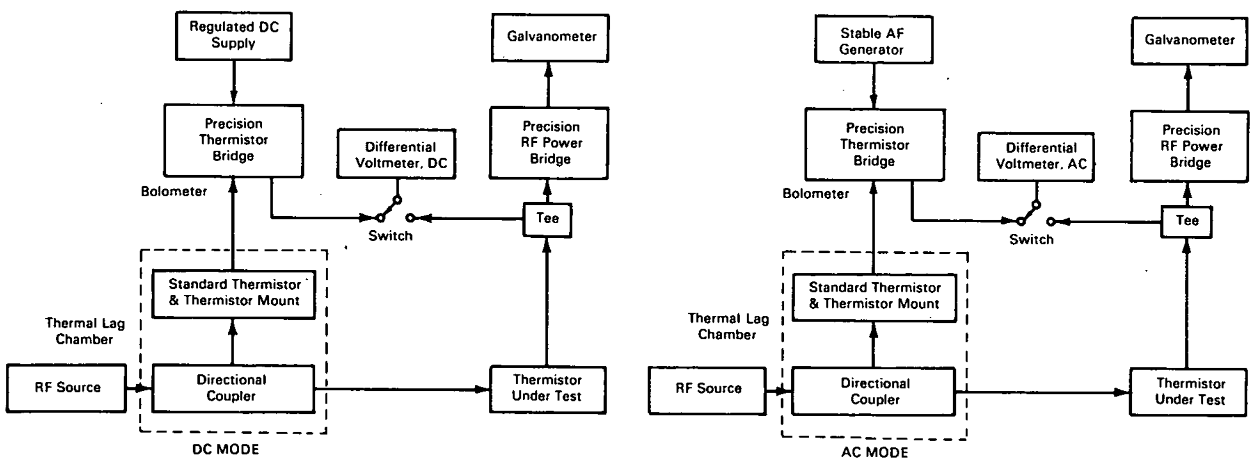
NASA TECH BRIEF

Precision Bolometer Bridge



An economical, precision bolometer calibration bridge has been designed and constructed in prototype to offer several advantages over commercially available devices which are much more expensive. The bridge is a manually balanced type for dc bias and balance indication with either dc or ac power input. In each application (dc or ac) an external galvanometer is used with the bridge for null indication. Total dc through the bridge may be measured using an external milliammeter of high accuracy or by measuring the voltage across the bolometer with the milliammeter terminals shorted. This latter measurement requires a digital type voltmeter with an accuracy of better than $\pm 0.02\%$ + one digit, and having high input impedance.

On the ac side, the bridge is capable of measuring thin film bolometers by means of an audio frequency input from 10 KHz of 15 volts amplitude.

Notes:

1. This circuitry can monitor both voltage and current simultaneously without adapters in testing both 100 ohm and 200 ohm thin film bolometers.
2. Inquiries concerning this innovation may be directed to:

   Technology Utilization Officer
   Manned Spacecraft Center
   Houston, Texas 77058
   Reference: B68-10156

Patent status:

No patent action is contemplated by NASA.

Source: D. R. White
of North American Aviation, Inc.
under contract to
Manned Spacecraft Center
(MSC-11473)

Category 01