

# 155 Null Detector/Microvoltmeter

- 150nV to 1kV
- 1000-hour battery life
- $10^{12}\Omega$  isolation

## ORDERING INFORMATION

155 Null Detector/Microvoltmeter

This product is available with an **Extended Warranty**. See page 635 for complete ordering information. See page 235 for descriptions of all accessories.

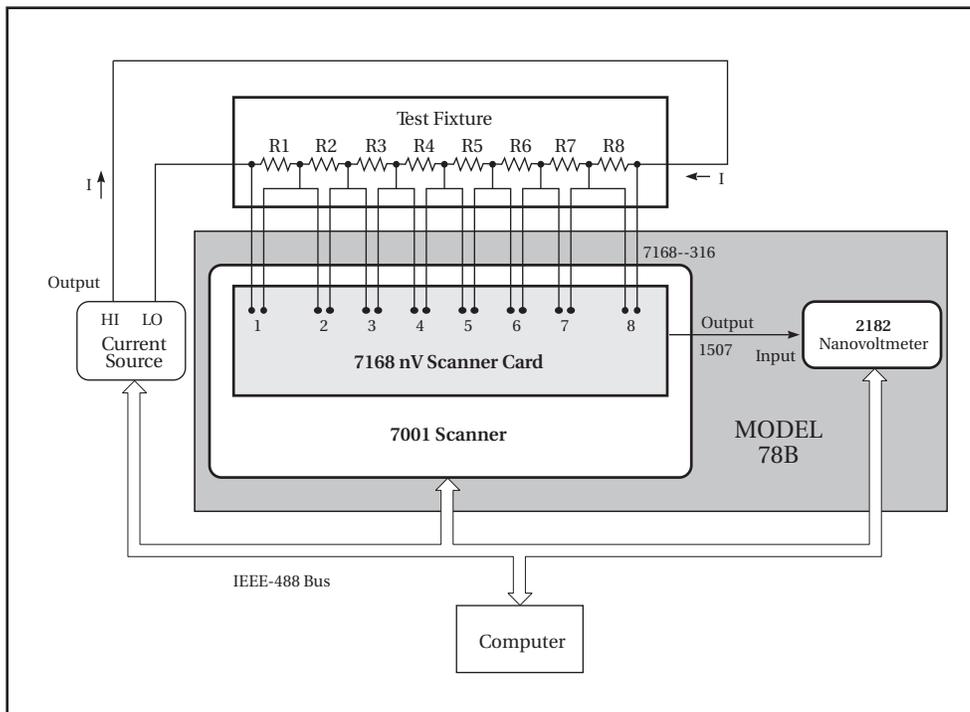


The Model 155 Null Detector/Microvoltmeter is a high-performance, low-cost instrument with better than 150nV resolution and full-scale ranges up to 1kV. Its electrical and physical ruggedness, broad range, and high common- and normal-mode rejection make it one of the most versatile voltmeters available for applications in standards labs, development labs, production testing, and basic research.

**RANGE:**  $\pm 1\mu\text{V}$  full scale to  $\pm 1000\text{V}$  on zero center meter in 19 overlapping 1 $\times$  and 3 $\times$  ranges.  
**ACCURACY:**  $\pm 1\%$  of full scale at recorder output,  $\pm 2\%$  of full scale at meter, exclusive of noise and drift.  
**ZERO DRIFT:**  $< 0.5\mu\text{V}$  per 24 hours typically  $< 0.1\mu\text{V}$  per  $^{\circ}\text{C}$ . Long-term drift is non-cumulative.  
**METER NOISE:**  $< 0.03\mu\text{V}$  rms (0.15 $\mu\text{V}$  peak-to-peak) on most sensitive range with input shorted.  
**INPUT RESISTANCE:** 100M $\Omega$  on 3V to 1kV ranges; 10M $\Omega$  on 300mV to 1V ranges, 1M $\Omega$  on 1 $\mu\text{V}$  to 100mV ranges.

**EMC:** Conforms to European Union Directive 89/336/EEC.  
**SAFETY:** Conforms to European Union Directive 73/23/EEC (meets EN61010-1/IEC 1010).  
**ISOLATION:**  $> 10^{12}\Omega$  shunted by 0.01 $\mu\text{F}$  between chassis ground (case) and input LO at up to 50% relative humidity and 25 $^{\circ}\text{C}$ .  
**RISE TIME (10%–90%):** 1 second on 10 $\mu\text{V}$  range and above, increasing to 5 seconds on 1 $\mu\text{V}$  range.

# 78B Nanovolt Scanner Test System



The Model 78B provides all instrumentation and accessories necessary to scan eight channels of the Model 7168 Nanovolt Scanner Card and make low-level voltage measurements.

The Model 78B includes:

- Model 7168 Nanovolt Scanner Card including all input cabling (page 219)
- Model 7001 Scanner (page 178)
- Model 2182 Nanovoltmeter (page 81)

For applications such as thermocouple testing or low-resistance measurements including bus bar testing, low-resistance shunt measurements, and superconductor measurements, the Model 78B can be configured and programmed easily. The Model 7001 Scanner controls the Model 7168 Nanovolt Scanner Card under supervision of the computer program. The Model 2182 Nanovoltmeter measures the voltage across each sample as it is selected by the scanner. The resulting data are sent over the IEEE-488 bus to the computer for further computation.