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DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR MULTIMETER HEWLETT-PACKARD, MODEL 34401A

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REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

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*This bulletin supersedes TB 9-6625-2315-35 dated 7 April 1997.

SECTION I
IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This bulletin provides instructions for the calibration of Multimeter, Hewlett-Packard, Model 34401A. The manufacturer's manual was used as the prime data source in compiling these instructions. The equipment being calibrated will be referred to as the TI (test instrument) throughout this bulletin.

a. **Model Variations**. None.

b. **Time and Technique**. The time required for this calibration is approximately 2 hours, using the dc and low frequency technique.

2. Forms, Records, and Reports.

a. Forms, records and reports required for calibration personnel at all levels are prescribed by TB 750-25.

b. TI uses closed-box electronic adjustments; no hardware adjustments are used. Report adjustments performed in Section IV using range and parameter failing performance test; i.e. 10 V dc, 100 ohms, etc.

3. Calibration Description. TI parameters and performance applications which pertain to this calibration are in table 1.

Table 1. Calibration Description

Test instrument parameters	Performance specifications
Dc voltage	Range: 100 mV to 1000 V Accuracy: ±(% of reading + % of range) 6½ digits, 1 hour warm-up Range — Accuracy 100.0000 mV — 0.0050 + 0.0035 1.000000 V — 0.0040 + 0.0007 10.00000 V — 0.0035 + 0.0005 100.0000 V — 0.0045 + 0.0006 1000.000 V — 0.0045 + 0.0010
Resistance	Range: 100 Ω to 100 MΩ Accuracy: ±(% of reading + % of range) 6½ digits, 1 hour warm-up Range — Accuracy[1] 100.0000 Ω — 0.010 + 0.004 1.000000 kΩ — 0.010 + 0.001 10.00000 kΩ — 0.010 + 0.001 100.0000 kΩ — 0.010 + 0.001 1.000000 MΩ — 0.010 + 0.001 10.00000 MΩ — 0.040 + 0.001 100.0000 MΩ — 0.800 + 0.010

See footnotes at end of table.