

# **\*TB 9-6625-2232-35**

**DEPARTMENT OF THE ARMY TECHNICAL BULLETIN**

## **CALIBRATION PROCEDURE FOR DIGITAL VOLTMETER HEWLETT-PACKARD, MODEL 3456A**

Headquarters, Department of the Army, Washington, DC

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### **REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS**

You can improve this manual. If you find any mistakes or if you know of a way to improve these procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Commander, U.S. Army Aviation and Missile Command, ATTN: AMSAM-MMC-MA-NP, Redstone Arsenal, AL 35898-5000. A reply will be furnished to you. You may also provide DA Form 2028 information to AMCOM via e-mail, fax, or the World Wide Web. Our FAX number is: DSN 788-6546 or Commercial 256-842-6546. Our e-mail address is: [2028@redstone.army.mil](mailto:2028@redstone.army.mil). Instructions for sending an electronic 2028 may be found at the back of this manual. For the World Wide Web, use: <https://amcom2028.redstone.army.mil>.

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## SECTION I IDENTIFICATION AND DESCRIPTION

**1. Test Instrument Identification.** This bulletin provides instructions for the calibration of Digital Voltmeter, Hewlett-Packard, Model 3456A. 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.** Adjustments to be reported are designated (R) at the end of the sentence in which they appear. When adjustments are in tables, the (R) follows the designated adjustment. Report only those adjustments made and designated with (R).

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

Table 1. Calibration Description

| Test instrument parameters | Performance specifications                                     |        |   |    |
|----------------------------|----------------------------------------------------------------|--------|---|----|
| Dc voltage                 | Range: 0 to 1000 V (in 5 ranges)                               |        |   |    |
|                            | Accuracy: $\pm$ (% of reading + number of counts) <sup>1</sup> |        |   |    |
|                            | Range                                                          |        |   |    |
|                            | 0.1                                                            | 0.0112 | + | 24 |
|                            | 1.0                                                            | 0.0102 | + | 4  |
|                            | 10.0                                                           | 0.0101 | + | 2  |
|                            | 100.0                                                          | 0.0104 | + | 3  |
|                            | 1000.0                                                         | 0.0222 | + | 2  |
| Resistance                 | Range: 0 $\Omega$ to 1 G $\Omega$ (in 8 ranges)                |        |   |    |
|                            | Accuracy: $\pm$ (% of reading + number of counts) <sup>2</sup> |        |   |    |
|                            | Range                                                          |        |   |    |
|                            | 100 $\Omega$                                                   | 0.0092 | + | 24 |
|                            | 1 k $\Omega$                                                   | 0.0082 | + | 4  |
|                            | 10 k $\Omega$                                                  | 0.0082 | + | 4  |
|                            | 100 k $\Omega$                                                 | 0.0082 | + | 2  |
|                            | 1 M $\Omega$                                                   | 0.0122 | + | 2  |
|                            | 10 M $\Omega$                                                  | 0.0472 | + | 2  |
|                            | 100 M $\Omega$                                                 | 1.8052 | + | 1  |
| 1 G $\Omega$               | 16.0052                                                        | +      | 1 |    |

See footnotes at end of table.