

***TB 9-6625-2023-35**

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR DIGITAL VOLTMETER HEWLETT-PACKARD MODEL 3455A

Headquarters, Department of the Army, Washington, DC

20 May 2002

Approved for public release; distribution is unlimited

REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. If you find any mistakes or if you know of a way to improve the procedure, please let us know. Mail your letter or DA Form 2028 to: Commander, U. S. Army Aviation and Missile Command, ATTN: AMSAM-MMC-MA-NP, Redstone Arsenal, AL 35898-5230. A reply will be furnished to you. You may also send in your comments electronically to our e-mail address: 2028@redstone.army.mil or FAX 256-842-6546/DSN 788-6546.

SECTION		Paragraph	Page
	I IDENTIFICATION AND DESCRIPTION		
	Test instrument identification	1	2
	Forms, records, and reports.....	2	2
	Calibration description.....	3	2
	II. EQUIPMENT REQUIREMENTS		
	Equipment required.....	4	3
	Accessories required.....	5	3
	III. CALIBRATION PROCESS		
	Preliminary instructions.....	6	4
	Equipment setup	7	5
	Dc voltage	8	5
	Ohms	9	7
	Ac voltage.....	10	9
	Final procedure	11	12

*This bulletin supersedes TB 9-6625-2023-35, dated 1 June 1981, including all changes.

SECTION I IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This bulletin provides instructions for the calibration of Digital Voltmeter, Hewlett-Packard Model 3455A. 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 (high resolution off): 0.1 V range: $\pm(0.010\%$ of reading + 5 digits) 1 V range: $\pm(0.009\%$ of reading + 1 digit) 10 V range: $\pm(0.008\%$ of reading + 1 digit) 100 and 1000 V range: $\pm(0.010\%$ of reading + 1 digit) Accuracy (high resolution on): 1 V range: $\pm(0.009\%$ of reading + 5 digits) 10 V range: $\pm(0.008\%$ of reading + 3 digits) 100 and 1000 V range: $\pm(0.010\%$ of reading + 3 digits)
Ac voltage	Range: 0 to 1000 V in 4 ranges ¹ Accuracy: $\pm(0.06\%$ of reading + 60 digits) 30 Hz to 20 kHz $\pm(0.6\%$ of reading + 130 digits) 20 to 100 kHz $\pm(2.1\%$ of reading + 300 digits) 100 to 250 kHz $\pm(5.1\%$ of reading + 600 digits) 250 to 500 kHz $\pm(6.3\%$ of reading + 3500 digits) 500 kHz to 1 MHz Inputs above 500 V multiply tolerance by $\frac{1500 + V_{in} }{1000}$

See footnotes at end of table.