

TB 9-6625-2335-35

CALIBRATION PROCEDURE FOR MULTIMETER, HEWLETT-PACKARD MODEL 3457A

Headquarters, Department of the Army, Washington, DC
14 May 2003

Approved for public release; distribution is unlimited

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. 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>.

SECTION		Paragraph	Page
I.	GENERAL		
	Test instrument identification	1	2
	Forms, records, and reports	2	2
	Calibration description	3	2
II.	EQUIPMENT REQUIREMENTS		
	Equipment required	4	4
	Accessories required.....	5	4
III.	CALIBRATION PROCESS		
	Preliminary instructions.....	6	5
	Equipment setup	7	5
	Dc voltage	8	6
	Ac voltage.....	9	7
	Ohms 2-wire.....	10	9
	Ohms 4-wire.....	11	10
	Dc current.....	12	11
	Ac current.....	13	12
	Frequency counter	14	13
	Final procedure	15	18

SECTION I IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This procedure provides instructions for the calibration of Multimeter, Hewlett-Packard, Model 3457A. 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 procedure.

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. All software adjustments made are reportable. Report software adjustments made using parameter and range failing performance check; i.e., 3 V dc, 300 V ac.

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

Table 1. Calibration Description

Test instrument parameters	Performance specifications	
	Range	Accuracy: $\pm$ (% of reading + No. of counts) ¹
Dc volts	30 mV	0.0045 + 385
	300 mV	0.0035 + 40
	3 V	0.0025 + 7
	30 V	0.0040 + 20
	300 V	0.0055 + 7
Dc current	Range	Accuracy: $\pm$ (% of reading + No. of counts) ¹
	300 μ A	0.04 + 104
	3 mA	0.04 + 104
	30 mA	0.04 + 104
	300 mA	0.08 + 204
	1 A	0.08 + 604