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CHANGE 1

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR DIGITAL MULTIMETER JOHN FLUKE, MODELS 8024A AND 8024B

Headquarters, Department of the Army, Washington, DC

2 February 2005

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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 or 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>.

		Paragraph	Page
SECTION	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 3
		Equipment setup	7 4
		Dc voltage.....	8 4
		Dc current	9 5
		Ac voltage	10 6
		Resistance/conductance.....	11 7
		Final procedure.....	12 7

*This bulletin supersedes TB 9-6625-2253-35, dated 13 December 1994.

SECTION I IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This bulletin provides instructions for the calibration of Digital Multimeter, John Fluke, Models 8024A and 8024B. The manufacturers' manuals were used as the prime data sources in compiling these instructions. The equipment being calibrated will be referred to as the TI (test instrument) throughout this bulletin.

a. Model Variations. Variations among models are described in text.

b. Time and Technique. The time required for this calibration is approximately 1 hour, 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 ±(percent of reading plus digits)
Dc voltage	Range: 0 to 1000 V in 5 ranges Accuracy: $\pm(0.1\% + 1)$
Dc current	Range: 0 to 2000 mA in 4 ranges Accuracy: $\pm(0.75\% + 1)$
Ac voltage	Range: 0 to 750 V in 5 ranges Accuracy: 200 mV, 2, 20, 200 V ranges, 45 Hz to 1 kHz $\pm(0.75\% + 2)$ 1 to 2 kHz (1.5% + 3) 200 mV, 2, 20 V ranges 2 to 5 kHz $\pm(5\% + 5)$ 750 V range 45 Hz to 1 kHz $\pm(1\% + 2)$
Ac current ¹	Range: 0 to 2000 mA in 4 ranges Accuracy: 2 mA range, 45 to 450 Hz $\pm(3\% + 2)$ 20 to 2000 mA ranges 45 Hz to 1 kHz $\pm(1.5\% + 2)$
Resistance	Range: 0 to 20 M Ω in 6 ranges Accuracy: 200 Ω range $\pm(0.2\% + 3)$ 2, 20 200 k Ω $\pm(0.1\% + 1)$ 2000 k Ω $\pm(0.15\% + 1)$ 20 M Ω $\pm(2\% + 1)$
Conductance	Range: 200 nS Accuracy: $\pm(2.0\% + 10)$

¹Ac current verified by dc current check. Because current measurements of ac and dc are made using same shunt resistors, a check of ac current is not made.