

TB 9-6625-2361-35

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR DIGITAL MULTIMETER FLUKE, MODEL 8502A WITH OPTIONS 02 AND 09A

Headquarters, Department of the Army, Washington, DC
13 April 2005

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SECTION I IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This procedure provides instructions for the calibration of Digital Multimeter, Fluke, Model 8502A with Options 02 and 09A. 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 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 volts	Range: 0 to 1000 V Accuracy: $\pm$ (% of input + No. digits)		
	Range	Normal resolution	High resolution
	100 mV	0.005 + 8	- - -
	1 V	0.004 + 1	0.004 + 9
	10 V	0.002 + 1	0.002 + 9
	100 V	0.004 + 1	0.004 + 9
	1000 V	0.004 + 1	0.004 + 9
Dc ratio	Range (external reference voltage): 0 to 40 V Accuracy:		
	External reference voltage	Accuracy	
	± 20 to ± 40 V $\pm V$ min to ± 20 V	$\pm(A+B+10PPM)$ $\pm(A+B+200PPM)$ V_{xref}	
	A = 10 V range accuracy B = Input signal function and range accuracy V min = Minimum allowable external reference voltage determined as follows: $\pm 100 \mu V$ or a value found with the following formula (whichever is greater): $V \text{ min} = \frac{\pm V_{in}}{10^9}$ $V_x \text{ ref}$ = Absolute value of external reference voltage		