

***TB 9-6625-2114-35**

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR MULTIMETER, ME-26()/U AND HEWLETT-PACKARD MODELS 410B AND 410C

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 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 email, 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>.

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SECTION I IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This bulletin provides instructions for the calibration of Multimeter, ME-26()/U and Hewlett-Packard, Models 410B and 410C. The manufacturers' manuals and TM 11-6625-200-15 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 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 a 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
Multimeter ME-26C/U and Hewlett-Packard, Model 410B	
Dc voltage	Range: 0 to +1000 V ¹ Accuracy: $\pm 3\%$ FS
Ac voltage	Range: 0 to 300 V ² Accuracy: $\pm 3\%$ FS at 400 Hz
Frequency response	Referenced to 400 Hz: ± 1 dB: 20 Hz to 300 MHz ± 3 dB: 300 to 700 MHz
Resistance	Range: 0 to 500 M Ω Accuracy at midscale: $\pm 1\Omega$ on RX1 range $\pm 5\%$ on all other ranges
Hewlett-Packard, Model 410C	
Dc voltage	Range: 0 to +1500 V ³ Accuracy: $\pm 2\%$ FS
Ac voltage	Range: 0 to 300 V Accuracy: $\pm 3\%$ FS at 400 Hz
Frequency response	Referenced to 400 Hz: $\pm 10\%$: 20 to 100 Hz $\pm 2\%$: 100 Hz to 50 MHz $\pm 4\%$: 50 to 100 MHz ± 1.5 dB: 100 to 700 MHz
Resistance	Range: 0 to 500 M Ω Accuracy: 0 to midscale: $\pm 5\%$ of reading or: $\pm 2\%$ of midscale, whichever is greater. $\pm 7\%$ from midscale to scale value of 2. $\pm 8\%$ from scale value of 2 to 3 $\pm 9\%$ from scale value of 3 to 5 $\pm 10\%$ from scale value of 5 to 10
Dc current	Range: 0 to +150 mA Accuracy: $\pm 3\%$ FS

¹Range extended to 30 kV with use of dc divider supplied with TI. Accuracy of dc divider is $\pm 5\%$.

²Range extended to 900 V with use of capacitive divider supplied with TI. Accuracy of capacitive divider is $\pm 1\%$.

³Not verified above 1000 V dc.

SECTION II

EQUIPMENT REQUIREMENTS

4. Equipment Required. Table 2 identifies the specific equipment to be used in this calibration procedure. This equipment is issued with Secondary Transfer Calibration Standards Set, AN/GSM-286. Alternate items may be used by the calibrating activity. The items selected must be verified to perform satisfactorily prior to use and must bear evidence of current calibration. The equipment must meet or exceed the minimum use specifications listed in table 2. The accuracies listed in table 2 provide a four-to-one ratio between the standard and TI.