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DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR STANDING WAVE RATIO METER AN/USM 261 and ME-339/U HEWLETT-PACKARD MODELS 415E and Y10-415E AND PRD MODEL 277D

Headquarters, Department of the Army, Washington, DC
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REPORTING OF ERRORS

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.

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CHANGE 1

*This bulletin supersedes TB 9-4931-321-35, 16 October, 1973, including all changes.

SECTION I IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This bulletin provides instructions for the calibration of Standing Wave Ratio Meter, AN/USM-261 and ME-339/U, Hewlett-Packard Models 415E and Y10-415E, and PRD Model 277D. The manufacturer's manuals were used as 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. AN/USM-261 and ME-339/U are military designations for Hewlett-Packard Model 415E. Hewlett-Packard Models 415E and Y10-415E are electrically and mechanically identical. PRD Model 277D differs from other models in this bulletin by front panel nomenclature and component designation. Where these differences occur, the PRD Model 277D information is shown in parenthesis. Other variations among models are described in text.

b. Time and Technique. The time required for this calibration is approximately 2 hours, using the dc (direct current) and low frequency technique.

2. Calibration Data Card, DA Form 2416

a. Forms, records, and reports required for calibration personnel at all levels are prescribed by TM 38-750. DA Form 2416 must be annotated in accordance with TM 38-750 for each calibration performed.

b. Adjustments to be reported on DA Form 2416 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
Power input	Satisfactory performance w/line voltage between 105 and 125 V ac
Noise level	7.5 dB below FS at rated sensitivity with input terminated in optimum source impedance.
Bolometer current: Range Accuracy	8.7 or 4.5 mA ±3% into 200 Ω
Attenuator: Range Accuracy	0 to 70 dB in 10 dB steps 0 to 8 dB in 2 dB steps ±0.05 dB per 10 dB step ±0.02 dB per 2 dB step ±0.02 dB on expanded scale