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DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR FREQUENCY DIFFERENCE METER, TRACOR MODELS 527A AND 527E AND HICKOK MODEL FDM 2100

Headquarters, Department of the Army, Washington, DC
25 September 2000

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*This bulletin supersedes TB 9-4931-427-50, dated 25 May 1979, including all changes.

SECTION I IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This bulletin provides instructions for the calibration of Frequency Difference Meter, Tracor Models 527A and 527E and Hickok Model FDM 2100. 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. The Tracor Model 527E Frequency Difference Meter has a front panel phase meter instead of the cathode ray tube used on the Tracor Model 527A and Hickok Model FDM 2100. Information shown in parenthesis is for Hickok Model FDM 2100. 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 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) will follow the designated adjustment. Report only those adjustments made and designated with (R).

3. Calibration Description. TI parameters and performance specifications which pertain to these calibrations are listed in table 1.

Table 1. Calibration Description

Test instrument parameters	Performance specifications
Input	Frequency: 100 kHz to 5 MHz Voltage: 0.5 to 10 V rms
Frequency Difference Meter	Range: -10 to +10 parts in 10^7 , 10^8 , 10^9 , 10^{10} , or 10^{11} Accuracy: $\pm 5\%$ of full scale