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**DEPARTMENT OF THE ARMY TECHNICAL MANUAL**

**Operator and Organizational Maintenance Manual  
FLUTTER AND WOW METER ME-254/U**

**Headquarters, Department of the Army, Washington, D.C.  
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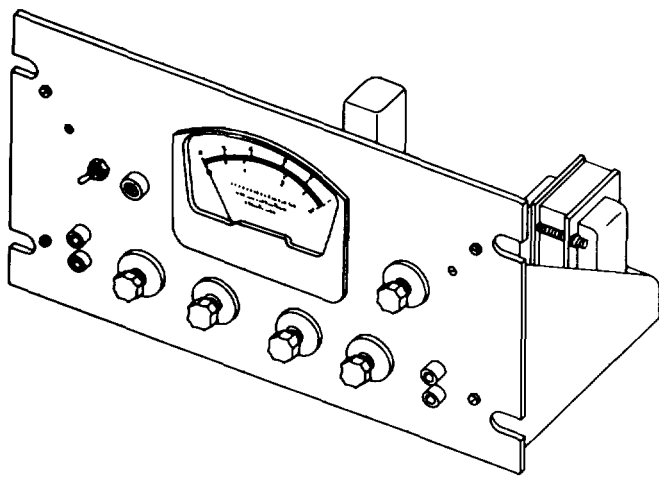
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## CHAPTER 1 INTRODUCTION

### Section I. GENERAL

#### 1-1. Scope

This manual provides operating and organizational maintenance for Meter, Flutter and Wow ME-254/U (fig. 1-1). It covers installation, operation, and operators maintenance. Cleaning and inspection of the equipment are included in the manual.



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Figure 1-1. Meter, flutter and wow ME-254/U.

#### 1-2. Indexes of Publications

Refer to the current issue of DA Pam 310-4 and DA Pam 310-7 to determine latest editions, changes, or additional publications pertaining to the equipment.

#### 1-3. Forms and Records

*a. Reports of Maintenance and Unsatisfactory Equipment.* Use equipment records in accordance with instructions given in TM 38-750.

*b. Report of Packaging and Handling Deficiencies.* Fill out and forward DD Form 6 (Report of Packaging and Handling Deficiencies) as prescribed in AR 700-58 (Army)/NAVSUP Publication 378 (Navy)/AFR 71-4 (Air Force)/ and MCO P4610 (Marine Corps).

*c. Discrepancy in Shipment Report (DISREP) (SF 361).* Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38 (Army)/NAVSUP Pub 459 (Navy)/AFM 75-34 (Air Force)/ and MCO P4610.19 (Marine Corps).

*d. Reporting of Equipment Manual Improvements.* Reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded to Commanding General, U.S. Army Electronics Command, ATTN: AMSEL-ME-NMP-EM, Fort Monmouth, N.J. 07703.

### Section II. DESCRIPTION AND DATA

#### 1-4. Purpose and Use

The Meter, Flutter and Wow ME-254/U (hereafter called meter) is an extremely sensitive electronic measuring device, designed for measuring flutter and wow, which is defined as the ratio of the root mean square deviation in frequency of a standard recorded signal (3,000 Hz) to the average frequency, expressed as a percentage. It provides a rapid and accurate direct visual indication of flutter and wow content of all types of tape recorders and playback equipment including 33 1/3, 45, and 78 rpm discs and 8-, 16- and 35-mm soundfilm mechanisms. For research and development work, two output terminals are provided for analyzing the

characteristics of the flutter. The output terminals on the front panel are provided for oscilloscope display, and a test point mounted on the rear chassis apron provides dc response so that drift as well as wow and flutter may be recorded on a direct recorder with suitable amplifiers.

#### 1-5. Circuit Operation

*a.* The circuit uses the basic principles involved in the detection of fm signals. This includes the use of a limiter amplifier to prevent the am components from producing an indication in the output circuits. Such am, for example, may be introduced by drop-