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TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, DIRECT AND GENERAL SUPPORT MAINTENANCE MANUAL

(NSN 6625-00-420-9354)

VOLTMETER, ELECTRONIC ME-30F/U

AND

VOLTMETER, ELECTRONIC AN/USM-265A

This copy is a reprint which includes current pages from Changes 1 and 2.

HEADQUARTERS, DEPARTMENT OF THE ARMY
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TECHNICAL MANUAL
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OPERATOR, ORGANIZATIONAL, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL
VOLTMETER, ELECTRONIC ME-30F/U
(NSN 6625-00-420-9345)
AND
VOLTMETER, ELECTRONIC AN/USM-265A

REPORTING OF ERRORS

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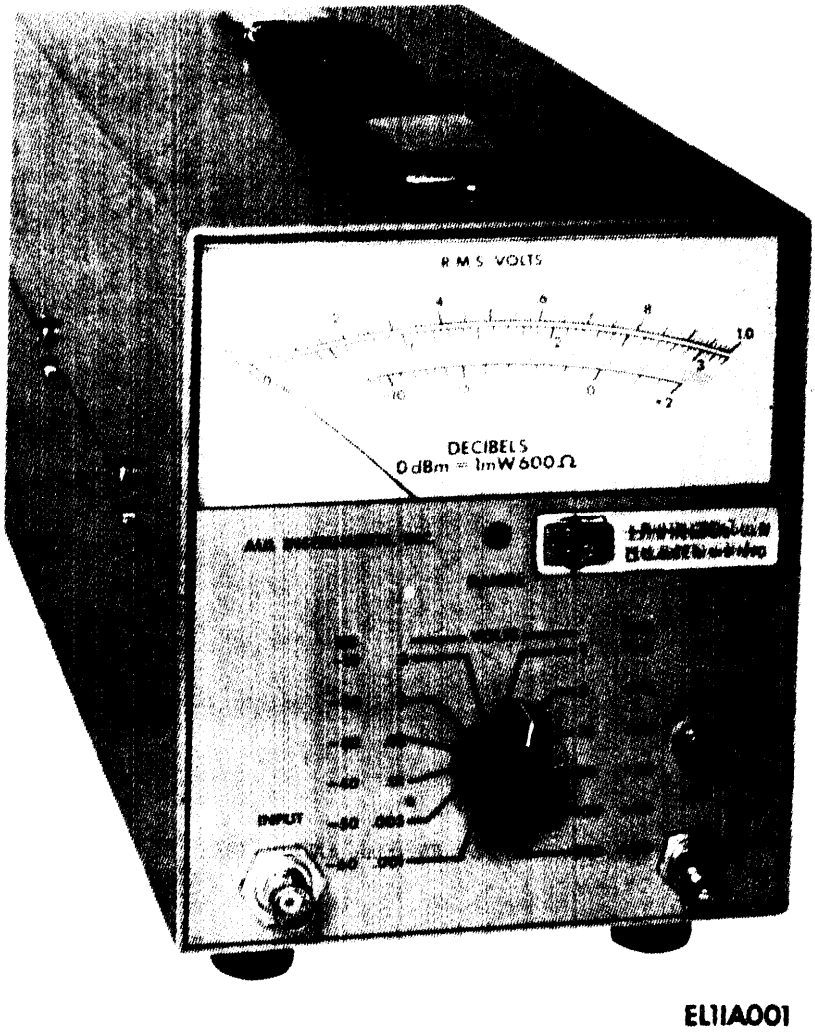

Figure 1-1. Voltmeter, Electronic ME-30F/U.

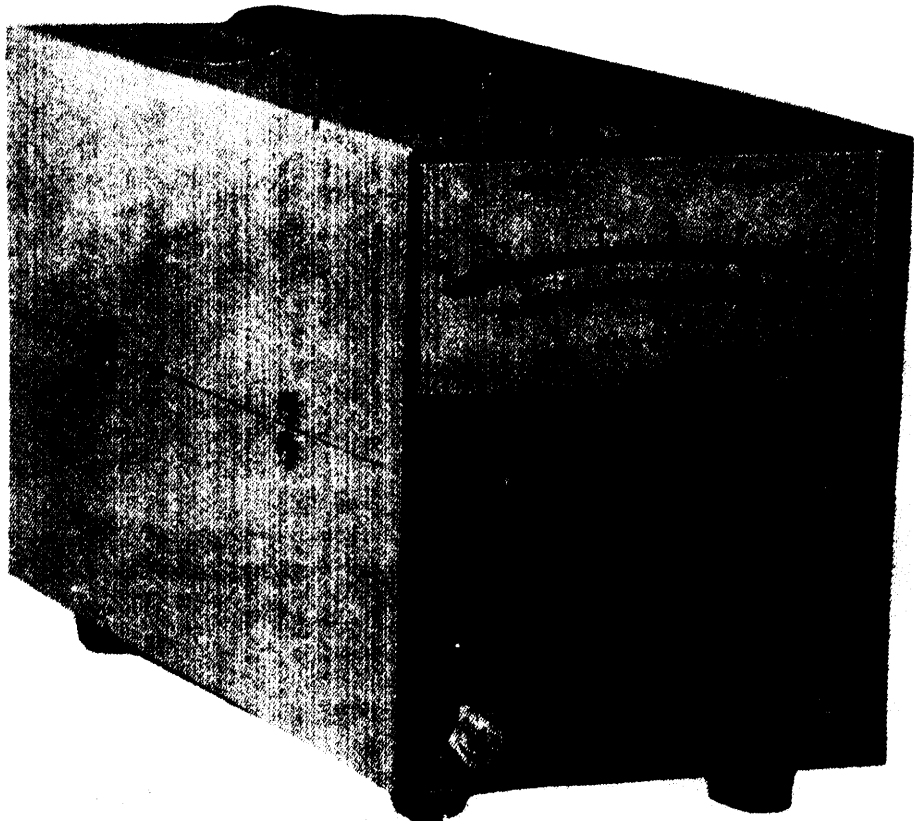

Figure 1-2. Voltmeter, Electronic AN/USM-265A .

CHAPTER 1
INTRODUCTION

Section I. GENERAL

1-1. Scope

This manual describes Voltmeters, Electronic, ME-30F/U and AN/USM-265A (herein after referred to as voltmeter) and covers their installation, operation, and operator, organizational, and general support maintenance. No direct support maintenance is authorized.

NOTE

All references in this manual to ME-30F/U also apply to the AN/USM-265A unless otherwise indicated.

1-2. Index of Publications

a. *DA Pam 310-4.* Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to this equipment.

b. DA Pam 310-7. Refer to DA Pam 310-7 to determine whether there are modification work orders (MWOs) pertaining to this equipment.

1-3. Forms and Records

a. Reports of Maintenance and Unsatisfactory Equipment Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed in and prescribed by TM 38-750.

b. Report of Packaging and Handling Deficiencies. Fill out and forward DD Form 6 (Packaging Improvement Report) as prescribed in AR 700-58/NAVSUPINST 4030.29/ARF 71-13/MCO P4030.29A, and DLAR 4145.8.

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 /NAVSUPINST 46 10.33 B/AFR 75-18/MCO P4610.19C and DLAR 4500.15.

1-4. Administrative Storage

For procedures, forms, and records, and inspections required during administrative storage of this equipment, refer to TM 740-90-1.

1-5. Destruction of Army Material

Demolition and destruction of electronic equipment will be under the direction of the commander and in accordance with TM 750-244-2.

Section II. DESCRIPTION AND DATA

1-6. Purpose and Use

The voltmeter is used for measuring a.c. voltage, gain, audio frequency (a, f.) and radio frequency (r. f.) levels and hum and noise levels. The scales of the meter permit measurements to be expressed either in decibels per milliwatt (dBm) or in decibels (dB). The voltmeter may also be used as a high gain, broadband amplifier to provide greater sensitivity to other equipment such as oscilloscopes and bridges.

1-7. Description

The voltmeter is a solid state type. The voltage scale is calibrated in terms of root-mean-square (rpms) voltage of a sine wave. Each is capable of measuring alternating current (at) voltages from .001 volts full scale to 300 volts full scale through a frequency range of 10 hertz to 10 megahertz.

1-8. Differences between Models

The ME-30F/U and the AN/USM-265A are identical with the following exceptions. The AN/USM-265A panel meter scale is linear in decibels, contains a special meter board, and incorporates an adjustable REL REF control on the front panel. The ME-30F/U is complete with line cord whereas the AN/USM-265A consists of a Voltmeter, Electronic ME-340A/U and a detached line cord, AUL Instruments part no. 344250.

Table 1-1. Technical Characteristics

Voltage Range	1 mv to 300 *v* full scale in 12 ranges; dB scale -10 to +2 dB; 10 dB between ranges.
Accuracy and Frequency Response	*a.* 1 mini-volt Range 10 Hz to 40 Hz: ± 5% 40 Hz to 500 kHz: ± 1% 500 kHz to 4 MHz: ± 5% *b.* .003 through 300 Volt Range 10 Hz to 40 Hz: ± 5% 40 Hz to 2 MHz: ± 1% 2 MHz to 4 MHz ± 3% 4 MHz to 10 MHz ± 5%
Input Impedance	10 megohms shunted by 25 pf maximum
Amplifier Output	150 millivolt minimum for full scale indicator on .003 -300 volt ranges. 100 millivolts minimum on .001 volt range,