

TM 11-6625-320-12

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

**OPERATORS AND ORGANIZATIONAL
MAINTENANCE MANUAL**

**VOLTMETER, METER ME-30A/U
AND VOLTMETERS, ELECTRONIC
ME-30B/U AND ME-30C/U**

This copy is a reprint which includes current
pages from Changes 1, 4 and 5.

HEADQUARTERS, DEPARTMENT OF THE ARMY
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***This manual supersedes so much of TM 11-5132, 16 October 1957; C1, 8 April 1958; C2, 26 August 1958; C3, 9 January 1959; and C4, 10 December 1959; as is applicable to operation and organizational maintenance of the equipment.**

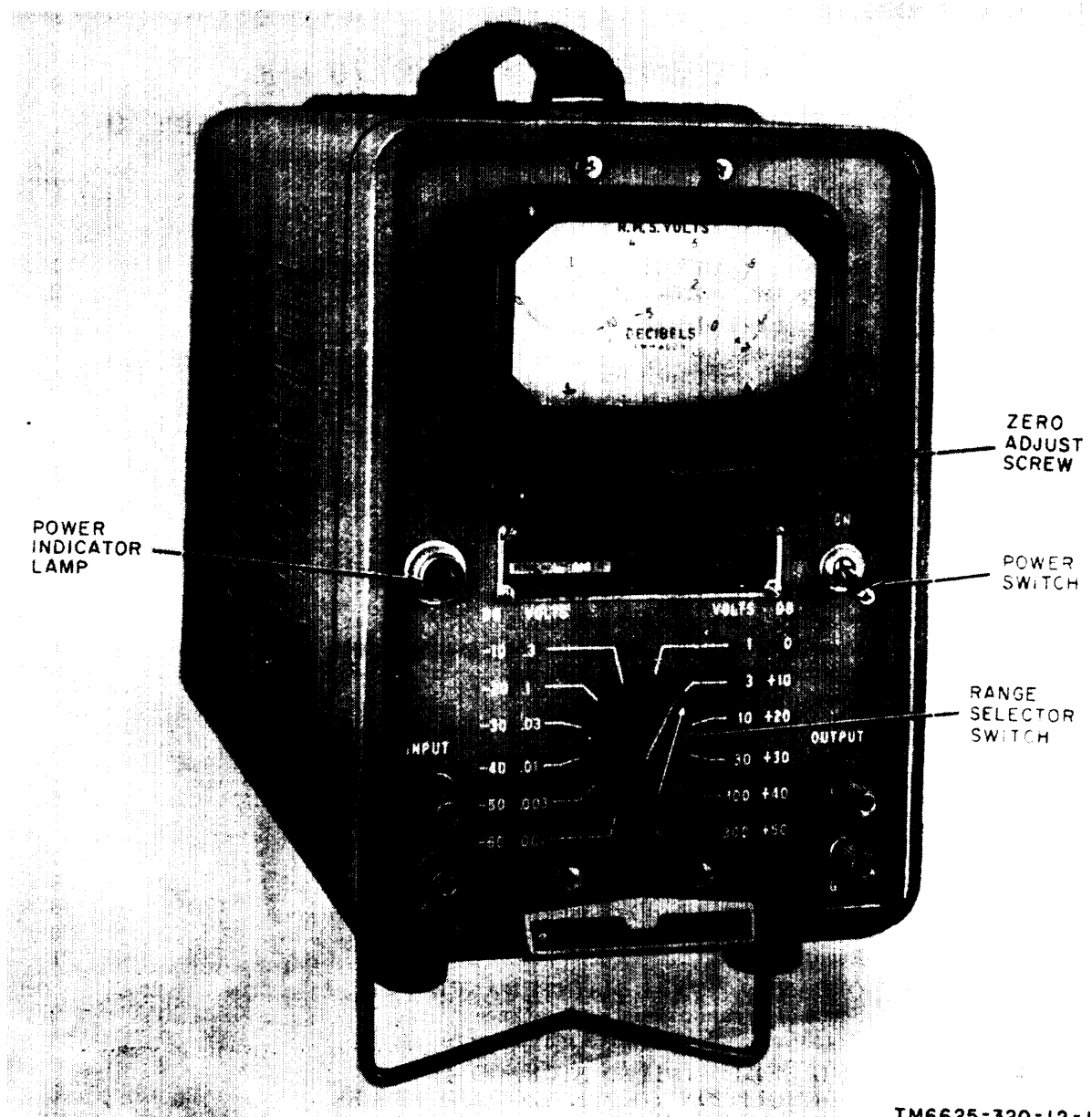


Figure 1. Voltmeter, Meter ME-30A/U, less spares.

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. Scope

a. This manual describes Voltmeter, Meter ME-30A/U and Voltmeters, Electronic ME 30B/U and ME-30C/U and covers their installation, operation, and first and second echelon maintenance. It includes instructions for operation, cleaning, and inspection of the equipment, and replacement of parts available to first and second echelon maintenance personnel. The maintenance allocation chart for this equipment is published in TM 11-6625-320-12P.

b. In this manual, when reference is made to all three models, the word voltmeter will be used. Thus, voltmeter represents Voltmeter, Meter ME-30A/U and Voltmeters, Electronic ME-30B/U and ME-30C/U. Specific models will be referred to as ME-30A/U, ME-30B/U, and ME-30C/U.

2. Forms and Records

a. *Unsatisfactory Equipment Report.* Fill out and forward DA Form 468 (Unsatisfactory Equipment Report), to Commanding Officer, U. S. Army Signal Equipment Support Agency, Fort Monmouth, N. J., as prescribed in AR 70038.

b. *Report of Damaged or Improper Shipment.* Fill out and forward DD Form 6 (Report of Damaged or Improper Shipment) as prescribed in AR 700-58.

c. *Preventive Maintenance Forms.* Prepare DA Form 11-266 (fig. 7, 8, and 11) (Maintenance Check List for Signal Equipment (Test Equipment)), in accordance with instructions on the form.

d. *Comments on Manual.* Forward all other comments on this publication directly to the Commanding Officer, U. S. Army Signal Publications Agency, Fort Monmouth, N. J.

Section II. DESCRIPTION AND DATA

3. Purpose and Use

a. The voltmeters are a vacuum-tube type. The voltage scale of each is calibrated in terms of the root-mean-square (rms) voltage of a sine wave. Each is capable of measuring alternating current (ac) voltages from 0.001 volt full scale to 300 volts full scale through a frequency range of 10 cycles per second (cps) to 4 megacycles per second (mcs).

b. The voltmeters are used for measuring ac voltages, gain, audiofrequency (af) and radiofrequency (rf) levels, and hum and noise levels. The scales of the meters permit measurements to be expressed either in decibels per milliwatt (dbm) or in decibels (db). The voltmeter may also be used as high gain, broadband amplifiers to provide greater sensitivity to other equipment such as oscilloscopes and bridges.

4. Technical Characteristics

Ranges:

volts, full scale 001, .003, .01, .03, .1, .3, 1, 3, 10, 30, 100, 300 volts ac, rms.

Decibels with respect to 0-db point -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50 db.

Meter type Dc milliammeter; calibrated to indicate rms value of sine-wave voltage. Full scale deflection at 1 ma.

Meter scale calibrations:

Voltage scales 0 to 1.0 and 0 to 3.

Decibel scale -12 to +2 dbm: zero level, 1 milliwatt in 600 ohms.

Frequency range 10 cps to 4 mcs.

Accuracy, all ranges:

20 cps to 1 mcs 2 percent of full scale value.

20 cps to 2 mcs 3 percent of full scale value.

10 cps to 4 mcs 5 percent of full scale value.