

TM 9-6625-1754-14

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL,
DIRECT SUPPORT AND GENERAL SUPPORT
MAINTENANCE MANUAL

MULTIMETER

AN/USM-303

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

HEADQUARTERS, DEPARTMENT OF THE ARMY
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HEADQUARTERS
 DEPARTMENT OF THE ARMY
 WASHINGTON, D. C., 5 October 1967

OPERATOR'S ORGANIZATIONAL, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL

MULTIMETERS AN/ USM-303 AND AN/ USM-303A

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SECTION I. GENERAL

1. Scope

This manual contains information and instructions for operators, organizational, and general support maintenance personnel responsible for the operation and maintenance of Multimeter AN/ USM-303 and AN/ USM-303A.

2. Indexes 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 the equipment.

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

3. Forms and Records

a. *Reports of Maintenance and Unsatisfactory Equipment*. Use equipment forms and 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 provided 'in AR 700-58 (Army)/ NAVSUP PUB 378 (Navy) / AFR 71-4 (Air Force) / and MCO P40302.29 (Marine Corps.)

c. *Discrepancy in Shipment Report (DISREP)* (SF361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF361) as prescribed in AR 55-38 (Army)/ NAVSUP PUB 459 (Navy) / AFM 75-34 (Air Force) / and MCO P4610.19 (Marine Corps).

4. Reporting of Equipment Publication Improvements

The 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 direct to Commanding General, U. S. Army Electronics Command, ATTN: AMSEL-ME-NMP-EM, Fort Monmouth, N.J. 07703.

SECTION II DESCRIPTION AND DATA MULTIMETER AN/USM-303 AND AN/USM-303A

5. Purpose and Use

a. Purpose. Multimeters AN/ USM-303 and AN/ USM-303A (multimeter) (fig. 1) (fig. 1.1) measure direct current (dc) and alternating current (ac) voltages, direct current, and resistance in electrical and electronic equipment.

b. Use. Multimeters AN/ USM-303 and AN/ USM-303A can be used in two modes of operation. The digital mode of operation provides direct-reading, three significant figure presentation, including decimal point and

electrical function. The search mode of operation uses conventional analog scale interpretation with decade ranges.

5.1. Items Comprising Multimeter AN/ USM-303 or AN/ USM-303A (fig. 1 and 1.1)

The items in the chart below make up an operable Multimeter AN / USM-303. One copy of TM 9-6625-175-14 with change 1 and 2 is packed with the equipment.

FSN	Nomenclature	Qty (ea)	Dimension (in.)			
			Height	Depth	Width	Weight (lb)
6625-933-2406	Multimeter AN/USM -303	1	4-3/4	7-1 / 2	10	6-3 / 4
6625-123-0478	Multimeter ME-258/U	1	4-3/4	7-1 / 2	10	6-3/4
6135-125-5265	Battery, Dry BA-1030/U	1	.....	.....	.....	.....
6135-135-0194	Battery, Dry BA-1400/U	1	.....	.....	.....	.....
	Cover, multimeter	1	.....	.....	.....	.....
5940-195-9699	Clip, electrical	2	.....	.....	.....	.....
5975-284-6588	Insulator, sleeve	1	.....	.....	.....	.....
5975-296-1875	Insulator, sleeve	1	.....	.....	.....	.....
6625-168-0355	Prod, test	2	.....	.....	.....	.....
6625-168-0585	Multimeter AN/ USM-303A	1	4-3/4	7-1/2	10	6-3 / 4
6625-408-5079	Multimeter ME-258A/U	1	4-3/4	7-1 / 2	10	6-3 / 4
6135-125-5265	Battery, Dry BA-1030U	1	.....	.....	.....	.....
6135-135-0194	Battery, Dry BA-1400/U	1	.....	.....	.....	.....
	Cover, multimeter	1	.....	.....	.....	.....
6625-168-0355	Prod, tat	2	.....	.....	.....	.....
6625-123-0478	Adapter set, test lead	1	.....	.....	.....	.....

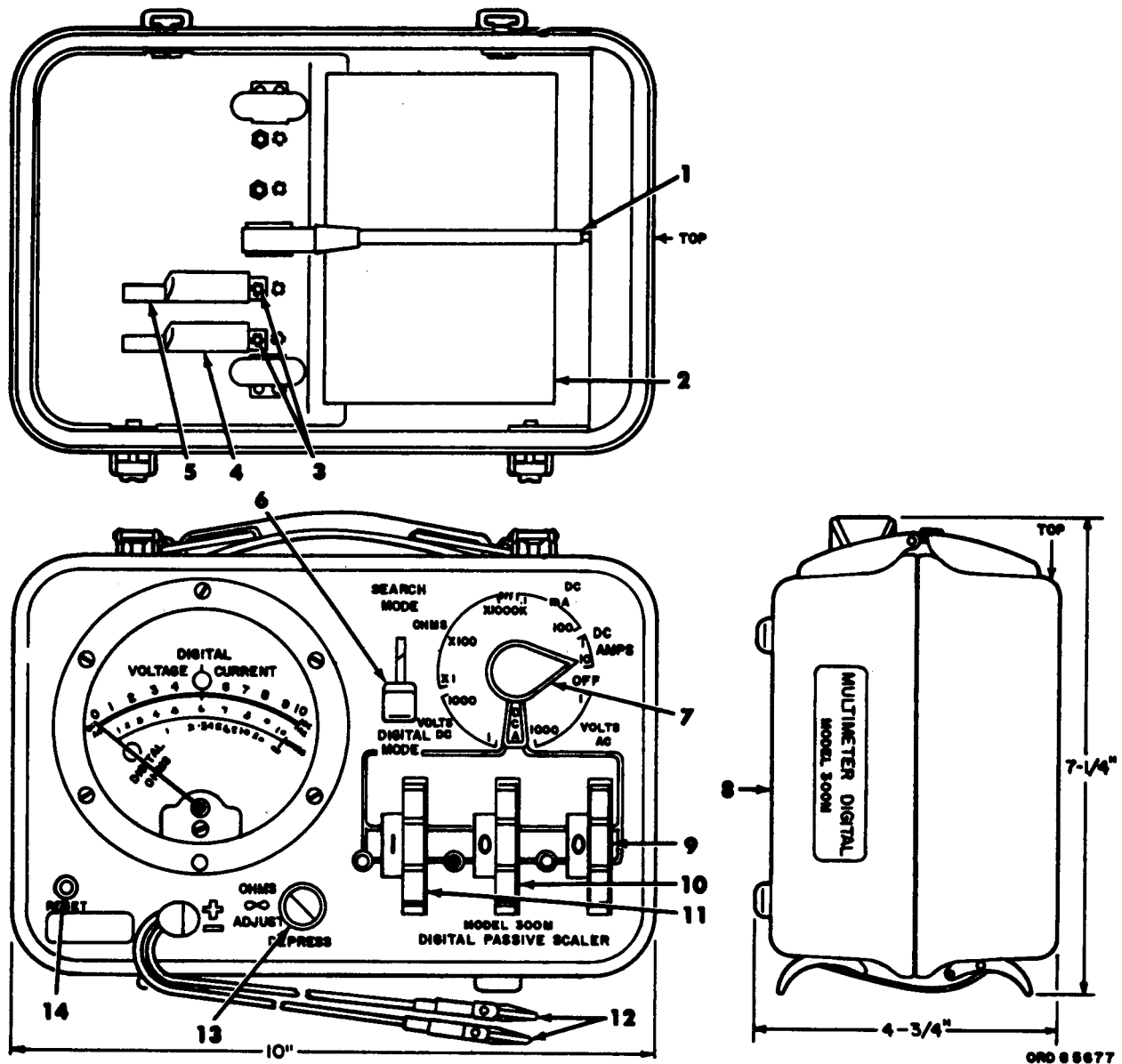


Figure 1. Model 300M multimeter.

Test probe
Condensed operating instructions
Alligator clip-2 required

Black alligator clip insulator
Mode switch knob
Function/Range switch knob

8 Instrument case
Thumbwheel knob (ref. 0-10)
10 Thumbwheel knob (ref. 0-9)
11 Thumbwheel knob (ref. 1-9)
12 Test lead assembly
13 OHMS ∞ ADJUST knob
14 RESET switch button

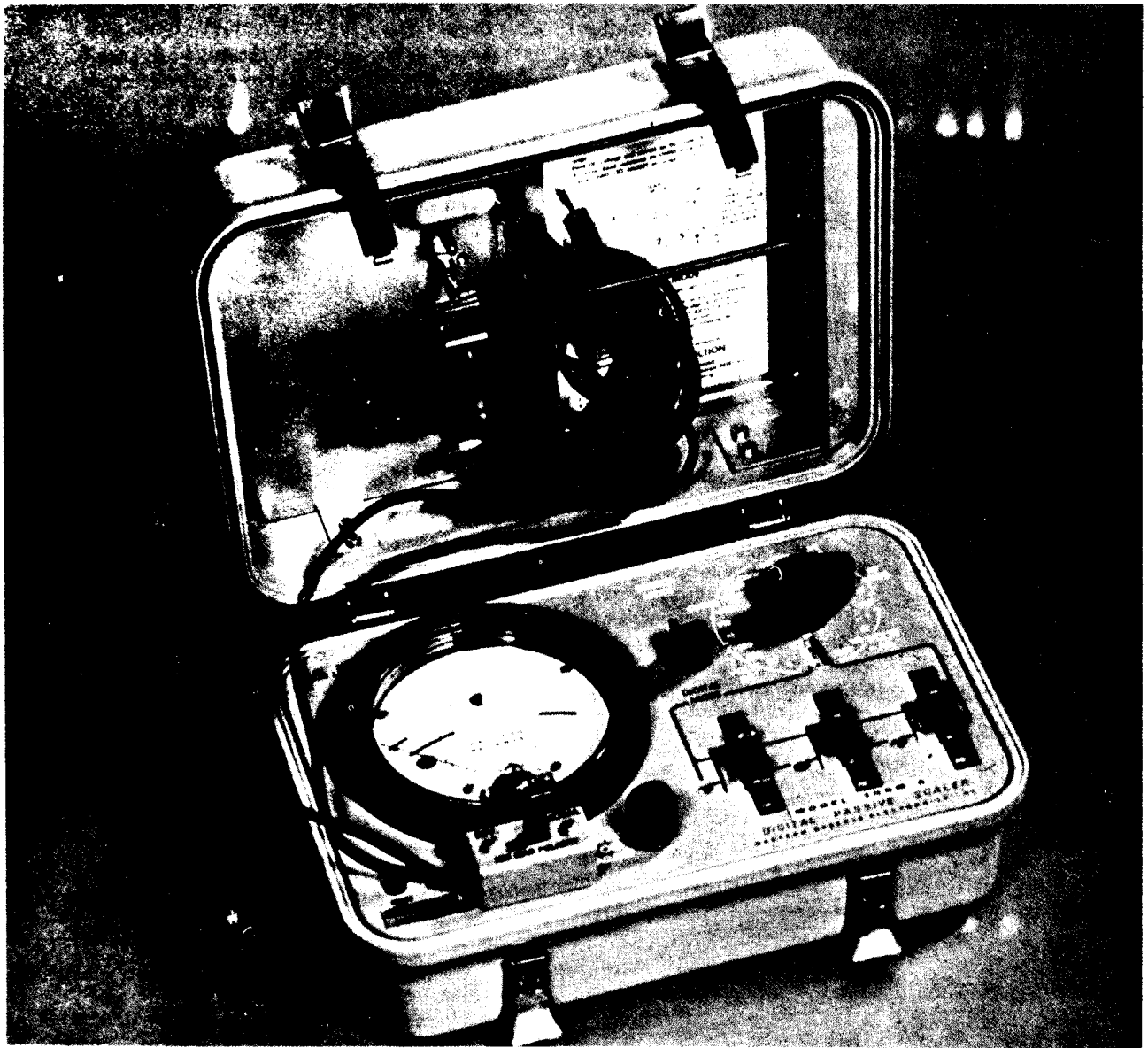


Figure 1.1 Multimeter AN/USM-303A

6. Technical Characteristic

a. Power Sources.

Two batteries:

BA-1030/U..... 1.5 volts dc

BA-1400/U..... 6.7 volts dc

b. Dc Voltage.

Range..... 0.1 to 1,000 volts dc in 4-decade ranges.

Accuracy:

Digital mode ± 1 percent of indicated

Search mode. . . ± 2 percent of full scale
Circuit loading 10 to 100 microampere (μ a)

c. Ac Voltage.

Range . . . 0.1 to 1,000 volts ac in 4-decade ranges.

Accuracy:

Digital mode. . . ± 1 percent of indicated

Search mode. . . ± 3 percent of indicated

Frequency response

(sine wave):