

TM 11-6625-444-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT,
GENERAL SUPPORT, AND DEPOT MAINTENANCE MANUAL
DIGITAL VOLTMETER AN/GSM-64

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HEADQUARTERS
DEPARTMENT OF THE ARMY
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**Operator's Organizational, Direct Support, General Support
and Depot Maintenance Manual
DIGITAL VOLTMETER AN/GSM-64**

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*This manual supersedes TM 11-6625-444-15, 27 February 1962, including all changes.

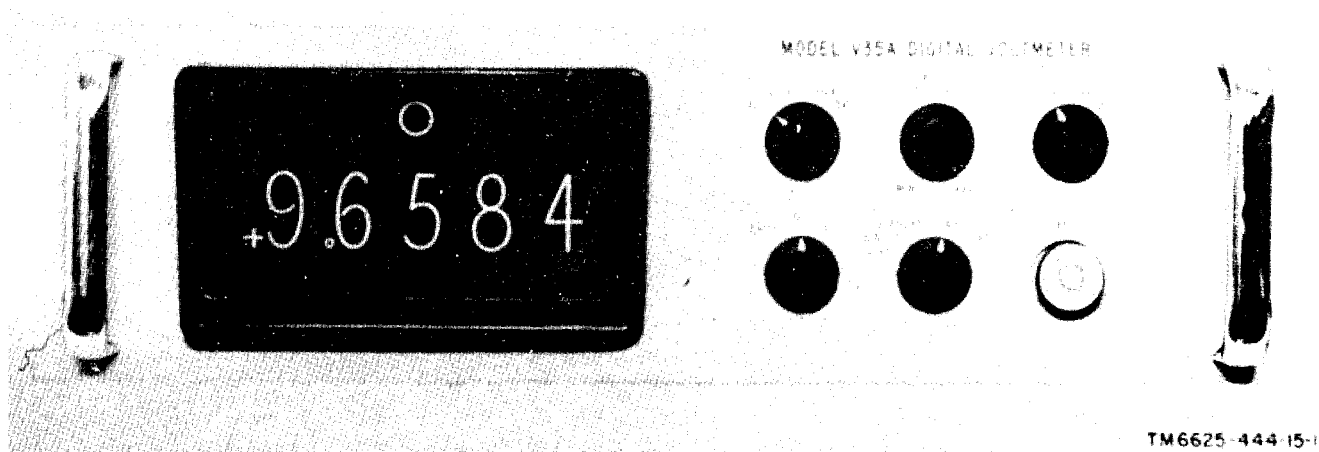


Figure 1-1. Digital Voltmeter AN/GSM-64.

CHAPTER 1 INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This manual contains instructions covering operation, organizational, direct support, general support, and depot maintenance of Digital Voltmeter AN/GSM-64 (fig. 1-1). It includes instructions for troubleshooting, testing, aligning, and repairing the equipment. Also included is the functioning of the AN/GSM-64.

b. Appendix C is current as of 1 August 1968.

1-2. 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's) pertaining to the 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 (report of Packaging and Handling Deficiencies) as prescribed in AR 700-58 (Army)/NAVSUP Pub 378 (Navy)/AFR 71-4 (Air Force)/MCO P4030.29 (Marine Corps), and DSAR 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 (Army)/NAVSUPINST 4610.33/AFM 75-18/MCO P4610.19A (Marine Corps), and DSAR 4500.15.

1-3.1. Reporting of Errors

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 Commander, US Army Electronics Command, ATTN: AMSEL-MA-C Fort. Monmouth, NJ 07703.

Section II. DESCRIPTION AND DATA

1-4. Purpose and Use

a. Digital Voltmeter AN/GSM-64 (digital voltmeter) is used for rapid and accurate measurements of direct current (dc) voltages and dc voltage ratios. The range of dc measurement is from 100 microvolts to 1,000 volts, and the range of dc ratio measurements is up to 100:1.

b. In addition to the front panel readout, a print output is provided through a rear panel connector.

1-5. Technical Characteristics

Absolute dc measurements:

Ranges ± 0.0001 to $+999.99$ volts
in three ranges of
9.9999, 99.999, and 999.99.

Accuracy $\pm 0.01\%$ of reading, or
 ± 1 digit.

Resolution $\pm$ digit.

Input impedance at
balance 10 megohms.

DC voltage ratio measurements:

Range $\pm 0.0001\%$ to $\pm 99.999\%$.

Accuracy (overall) $\pm 0.005\%$, or ± 1 digit.

Input impedance at

balance for signal

input 1,000 megohms.

External reference

voltage range Up to ± 100 volts dc.

Input impedance

(reference) $50\text{ K } \Omega$.

Balancing time 2.3 seconds, maximum

Line-voltage input 115 volts $\pm 10\%$, 60 Hz.

Power consumption:

Standby 20 watts.

Balancing 50 watts.

Signal ground connection Isolated from frame of
instrument.

Weight:

Net 45 lb.

Shipping 65 lb.

Front panel paint Light gray (MIL-E-
15090B, type 3, Class 1).

1-5.1. Items Comprising an Operable Equipment

FSN	QTY	Nomenclature	Fig. No.
6625-870-2264		Voltmeter, Digital AN/GSM-64	1-1
6625-823-2495	1	consisting of	
6625-823-2494	1	Cable Assembly, Special Purpose Electrical CX-7494/GSM-64	1-3
5935-823-0742	1	Cable Assembly, Special Purpose Electrical CX-7495/GSM-64	1-3
5935-823-0738	1	Connector, Plug Electrical U-231/GSM-64	
6625-870-2263	1	Connector, Plug Electrical U-232/GSM-64	
		Voltmeter, Digital ME-218/GSM-64	1-1

1-6. Components of Digital Voltmeter AN/GSM-64

Qty	Item	Dimensions(in.)			Unit	Fig. No.
		Height	Depth	Width		
1	Digital Voltmeter AN/GSM-64	5.218	17	19	45 (lb)	1-1
1	Signal Input Cable Assembly CX-7495/GSM-64.					1-3
1	External Reference Supply Cable Assembly CX-7494/GSM-64.					1-3
1	Connector Plug, Electrical V-231/GSM-64.					
1	Connector, Plug, Electrical V-232/GSM-4.					
2	Technical manual					1-1
1	Voltmeter, Digital ME-218/GSM-64.					

1-7. Description of Digital Voltmeter AN/GSM-64

a. The AN/GSM-64 is a solid-state, stepping switch digital voltmeter which measures dc voltages and de voltage ratios. The change from dc function to dc voltage ratio function is accomplished by a front panel switch. No internal connections or disconnections are required where the AN/GSM-64 changes from one function to the other. The signal input

connector and all operating controls are located on the front panel (fig. 1-1). Except for ratio measurements, all functions normally controlled from the front panel may also be remotely controlled through a rear panel connector. The instrument provides contact closures between terminals of a rear panel connector to operate a printing device. The signal input is completely isolated from chassis ground, permitting operation with both input leads either above or below chassis ground.

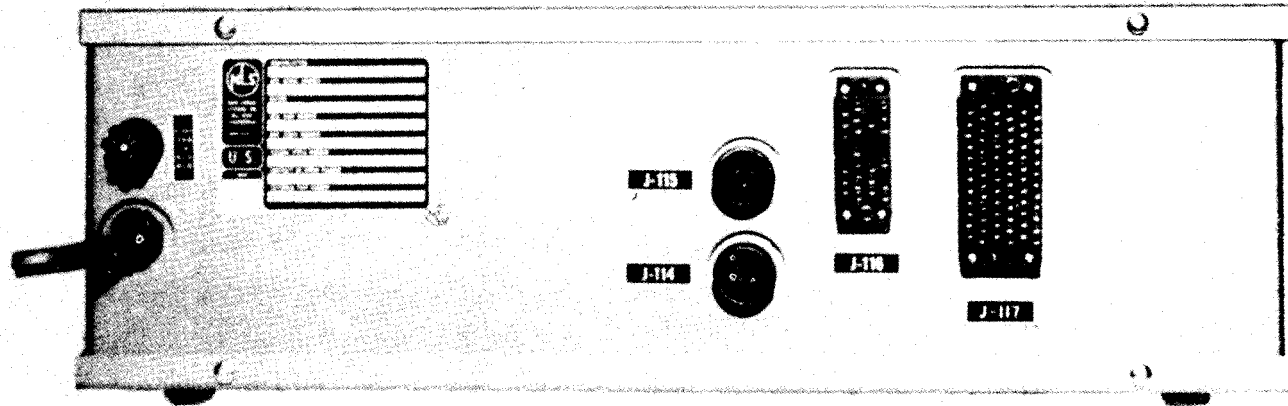
b. The external reference supply connector, and the remote connector, and the print output connector are located at the rear panel (fig. 1-2).

1-8. Description of Minor Assemblies

a. The CX-7495/GSM-64 (fig. 1-3) connects dc input voltages to the equipment. The CX-7495/GSM-64 plugs into either the front panel signal input connector (fig. 1-1) or rear panel signal input connector J-115 (fig. 1-2).

b. The CX-7494/GSM-64 (fig. 1-3) connects external dc reference voltages to the instrument for measuring dc ratios. The CX-7494/GSM-64 plugs into rear panel external reference supply connector J-114 (fig. 1-2).

c. No additional equipment is required.



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Figure 1-2. Digital Voltmeter AN/GSM-64, rear panel.

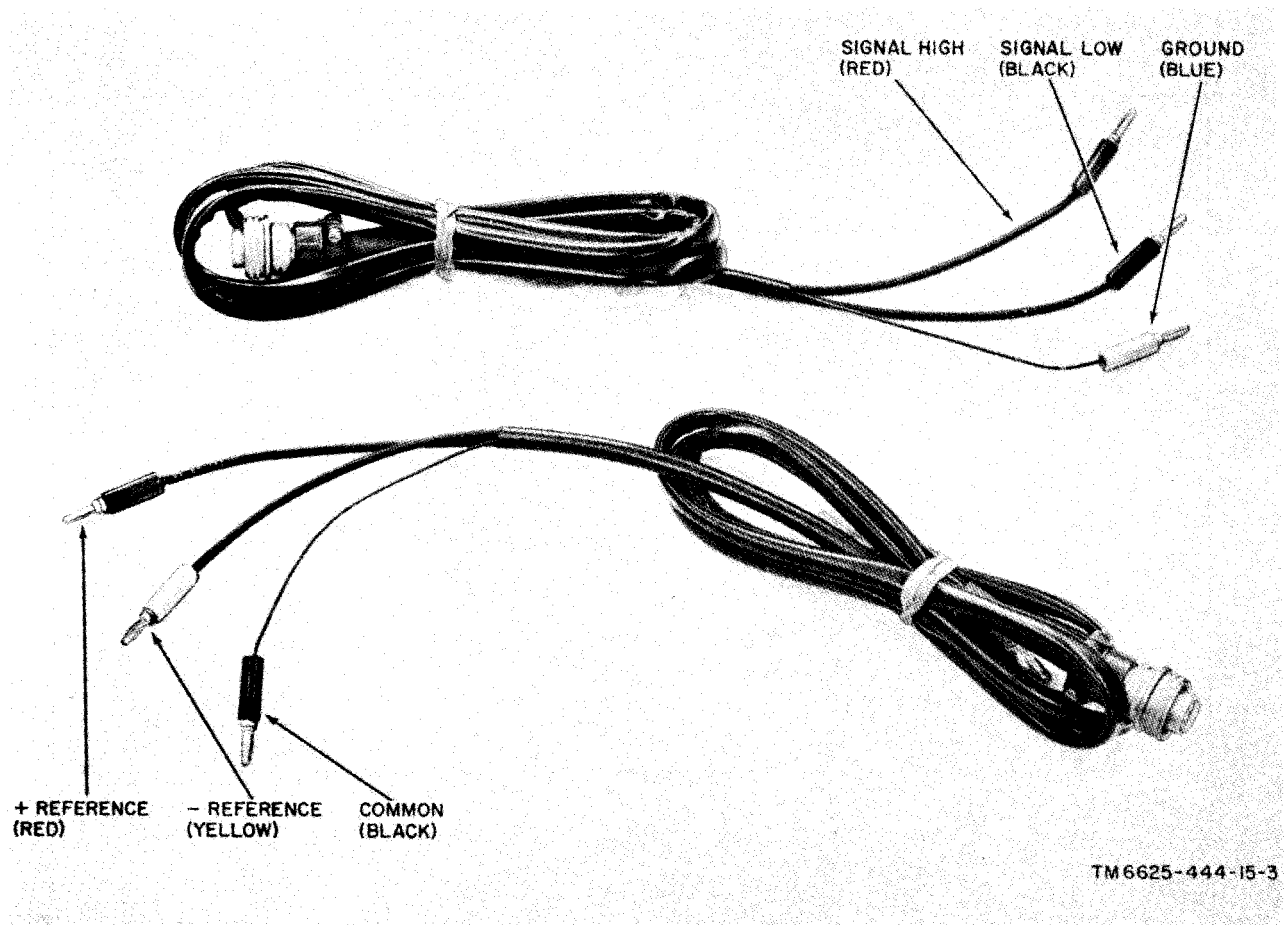


Figure 1-3. Signal input cable assembly CX-7495/GSM-64 (top), and External reference supply cable CX-7494/GSM-64 (bottom).