

TECHNICAL MANUAL

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

**VOLTMETER, DIGITAL AN/GSM-64C
(NSN6625-01-124-0834)**

HEADQUARTERS, DEPARTMENT OF THE ARMY

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**REPORTING OF ERRORS
AND
RECOMMENDING IMPROVEMENTS**

You can help improve this manual. If you find any mistake or you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in back of this manual direct to: Commander, US Army Communications and Electronics Materiel Readiness Command, ATTN: DRSEL-ME-MQ, Fort Monmouth, NJ 07703. A reply will be furnished to you.

TABLE OF CONTENTS

CHAPTER 1.	INTRODUCTION	Paragraph	Page
Section I.	General		
	Scope	1-1	1-1
	Indexes of publications	1-2	1-1
	Forms and records	1-3	1-1
	Reporting equipment improvement recommendations (EIR)	1-4	1-1
Section II.	Description and data		
	Purpose and use	1-5	1-2
	Description	1-6	1-2
	Tabulated data	1-7	1-2
	Items comprising an operable equipment	1-8	1-4
CHAPTER 2.	INSTALLATION		
Section I.	Service upon receipt		
	Unpacking	2-1	2-1
	Checking unpacked equipment	2-2	2-1
Section II.	installation instructions		
	Portable use	2-3	2-1
	Rack installation	2-4	2-3
CHAPTER 3.	OPERATING INSTRUCTIONS		
Section I.	Controls and instruments		
	General	3-1	3-1
	Damage from improper settings	3-2	3-1
	Guarded measurements	3-3	3-7
Section II.	Operation under normal conditions		
	General	3-4	3-10
	Preliminary starting procedure	3-5	3-10
	Dc voltage measurement	3-6	3-10
	DC/DC ratio measurement	3-7	3-11
	Ac voltage measurement	3-8	3-12
	14c + Dc voltage measurement	3-9	3-13
	Remote programming	3-10	3-15
	BCD output	3-11	3-16
	Stand by operation	3-12	3-16
	Procedures for shutdown	3-13	3-16

TABLE OF CONTENTS (Cont)

CHAPTER 3.	OPERATING INSTRUCTIONS (Cont)	Paragraph	Page
Section III.	Preparation for movement		
	General	3-14	3-17
	Bench/shelf movement	3-15	3-17
	Rack removal (optional rack installation)	3-16	3-17
CHAPTER 4.	OPERATOR AND ORGANIZATIONAL MAINTENANCE		
Section I.	Tools and equipment		
	General	4-1	4-1
	Materials required	4-2	4-1
Section II.	Lubrication		
	Lubrication	4-3	4-1
Section III.	Preventive maintenance checks		
	General	4-4	4-1
	Checks and services	4-5	4-2
Section IV.	Troubleshooting		
	General	4-6	4-5
	Procedure	4-7	4-5
Section V.	Maintenance of voltmeter		
	General	4-8	4-5
	Removal/replacement	4-9	4-5
	Cleaning	4-10	4-6
	Functional testing	4-11	4-6
CHAPTER 5.	FUNCTIONING OF EQUIPMENT		
Section I.	Block diagram analysis		
	Introduction	5-1	5-1
	Dc measurement mode	5-2	5-1
	Ac measurement mode	5-3	5-1
	Dc ratio mode	5-4	5-2
	Analog to digital (A/D) converter	5-5	5-3
	Auto ranging	5-6	5-4
Section II.	Logic circuit description		
	Introduction	5-7	5-5
	Range logic tables	5-8	5-5
	Autorange logic (A1 Assembly)	5-9	5-7

TABLE OF CONTENTS (Cont)

CHAPTER 5.	FUNCTIONING OF EQUIPMENT (Cont)	Paragraph	Page
Section II.	Logic circuit description (cont)		
	Up range detector, minus voltage	5-10	5-8
	Up range detector, plus voltage	5-11	5-8
	Down range detector, minus voltage	5-12	5-8
	Down range detector, plus voltage	5-13	5-8
	Autorange logic (A2 Assembly)	5-14	5-8
	Remote autorange	5-15	5-9
	Ratio autoranging (A1 Assembly)	5-16	5-10
	Ratio up range detector, plus input signal	5-17	5-10
	Ratio up range detector, minus input signal . . .	5-18	5-10
	Ratio down range detector, plus input signal . .	5-19	5-10
	Ratio down range detector, minus input signal .	5-20	5-11
	Function logic tables	5-21	5-11
	Timing waveforms	5-22	5-13
CHAPTER 6.	DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE		
Section I.	General		
	Introduction	6-1	6-1
	Tools and test equipment	6-2	6-1
	Schematic diagrams	6-3	6-1
Section II.	Tools and test equipment		
	Tools and test equipment required	6-4	6-4
Section III.	Troubleshooting		
	General	6-5	6-4
	Fault isolation	6-6	6-4
	Power supply checks	6-7	6-5
Section V.	Maintenance of the voltmeter		
	General	6-8	6-21
	Disassembly	6-9	6-21
	Cleaning instructions	6-10	6-24
	Repair and replacement	6-11	6-24
	Assembly	6-12	6-26
Section V.	Performance assurance tests		
	General	6-13	6-29
	Performance testing	6-14	6-29

TABLE OF CONTENTS (Cont)

CHAPTER 6.	DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE	Paragraph	Page
Section VI.	Minimum specifications of equipment required		
	General	6-15	6-34
	Dc volts accuracy adjustments	6-16	6-36
	Dc ratio accuracy adjustments	6-17	6-39
	Dc volts autoranging adjustments	6-18	6-45
	Dc/dc ratio autoranging adjustments	6-19	6-47
	Ac volts accuracy adjustments	6-20	6-50
	Final procedure	6-21	6-59
APPENDIX A.	REFERENCES		A-1
APPENDIX B.	MAINTENANCE ALLOCATION		
Section I.	Introduction		B-1
Section II.	Maintenance allocation chart for Voltmeter AN/GSM-64C		B-3
Section III.	Tool and test equipment requirements for Digital Voltmeter, AN/GSM-64C		B-5

LIST OF ILLUSTRATIONS

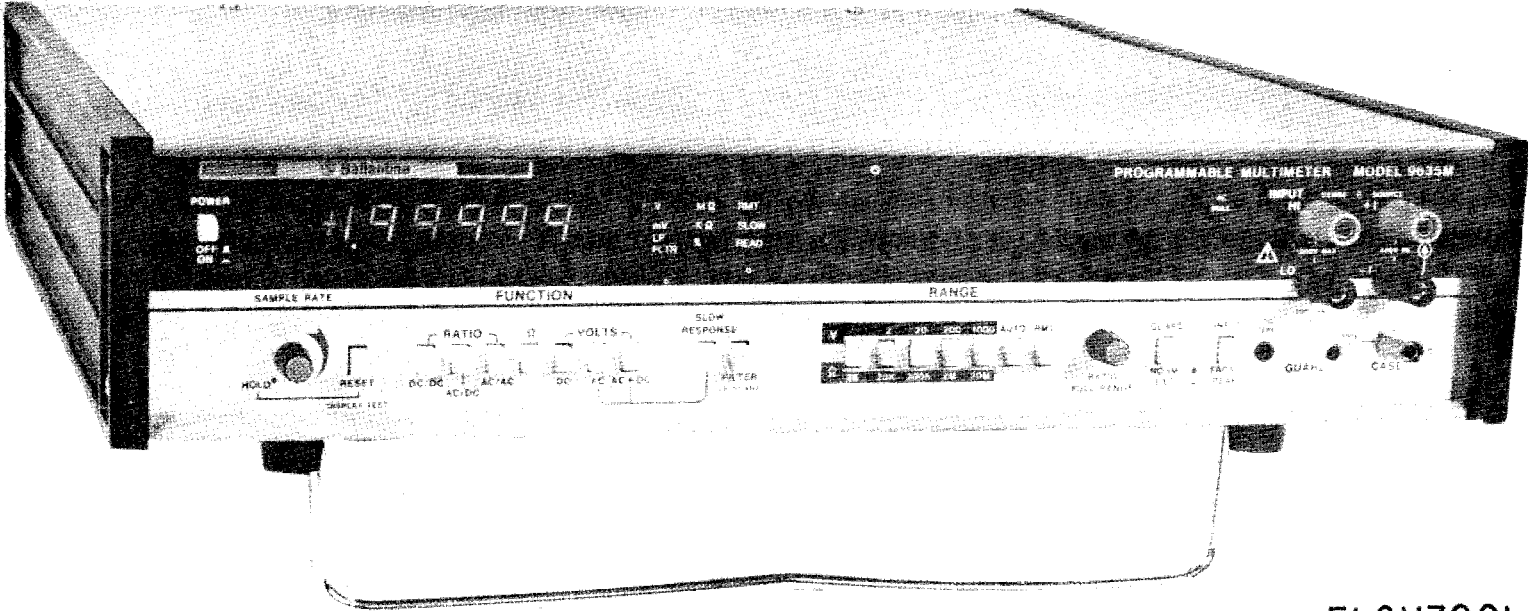
Figure	Title	Page
1-1	Digital Voltmeter AN/GSM-64C	1-0
1-2	Outline Drawing, Portable Configuration	1-5
1-3	Outline Drawing, Rack Mount Configuration	1-6
2-1	An/GSM-64C Packing Diagram	2-2
2-2	Voltage Selection and Fused Receptacle (Rear Panel)	2-3
2-3	Equipment Connections	2-4
2-4	Rack Mount installation	2-5
3-1	Front Panel Controls and Instruments	3-2
3-2	Rear Panel Controls and instruments	3-6
3-3	Common Mode Signal Configuration.	3-8
3-4	Guarded Signal Configuration	3-9
3-5	Average, Rms, and Peak Voltage Relationship of a Sine Wave	3-13
3-6	Effect of Dc Bias on the True Rms Voltage of a Square Wave	3-14
4-1	Knob Removal and Replacement	4-6
5-1	Range Selection Diagram	5-6
5-2	Function Selection Diagram	5-12
5-3	Timing Waveforms	5-14
6-1	Location of Test Points	6-2

LIST OF ILLUSTRATIONS (Cont)

Figure	Title	Page
6-2	Location of Adjustments	6-3
6-3	Location of Connectors	6-3
6-4	Troubleshooting Flow Chart, Dc Voltage	6-6
6-5	Troubleshooting Flow Chart, Ac Voltage	6-11
6-6	Troubleshooting Flow Chart, Dc/Dc Ratio	6-13
6-7	Troubleshooting Flow Chart, Auto Ranging	6-15
6-8	PCB, Digital Circuit Board.... .	6-19
6-9	PCB, Analog Circuit Board.... .	6-20
6-10	Digital Voltmeter AN/GSM-64C, Exploded View.	6-22
6-11	Rms Converter (A7) Signal Input Connections	6-23
6-12	Digital Voltmeter AN/GSM-64C, Front Panel Assembly	6-25
6-13	Digital Voltmeter AN/GSM-64C, Bottom Cover Explosion	6-27
6-14	Digital Voltmeter AN/GSM-64C, Rear Panel Assembly	6-28
6-15	DcVoltage Accuracy Checks	6-29
6-16	Dc/dc Ratio Accuracy Checks	6-31
6-17	AcVoltage Accuracy Checks.	6-33
6-18	Dc Volts Calibration, Equipment Connections	6-36
6-19	Location of Adjustments, Analog and Ratio Boards	6-37
6-20	DC Ratio Calibration, Equipment Connections	6-40
6-21	DC Ratio Calibration, Equipment Connections	6-42
6-22	Location of Test Points	6-43
6-23	DC Ratio Auto Range Detector Calibration	6-44
6-24	Location of Adjustments and Test Points, Autoranging	6-45
6-25	DC Voltage Autoranging, Equipment Connections	6-46
6-26	DC/DC Ratio Autoranging, Equipment Connections	6-49
6-27	Location of Adjustments, True Rms Board	6-50
6-28	RMS Converter Adjustment, Equipment Connections	6-51
6-29	Crest Factor Adjustment, Equipment Connections	6-56
6-30	DC Volts Accuracy, Equipment Connections.	6-58
6-31	AC Volts Accuracy Check, Equipment Connections	6-60
FO-1	Voltmeter Block Diagram	All fold-out illustrations are located in back of manual.
FO-2	Power Supply (A1, A2) Schematic Diagram	
FO-3	Dc Volts Attenuator/Analog Switching (A1) Schematic Diagram	
FO-4	A/D Converter Schematic Diagram	
FO-5	Auto Range Up/Down Detector (A1) Schematic Diagram	
FO-6	Relay Switching Circuits (A1) Schematic Diagram	
FO-7	Function Select Logic (A2) Schematic Diagram	
FO-8	Manual/Auto/Remote Range Circuits (A2) Schematic Diagram	
FO-9	Counters and Display Circuits (A2, A3) Schematic Diagram	
FO-10	Parallel BCD Output (A2) Schematic Diagram	
FO-11	Range Encoder/DP Encoder Circuits (A2) Schematic Diagram	
FO-12	Rms Converter Preamplifier and Scaling (A7) Schematic Diagram	
FO-13	True Rms Converter (A7) Schematic Diagram	
FO-14	Dc Ratio Amplifier (A9) Schematic Diagram	

LIST OF TABLES

Table No.	Title	Page
1-1	Dc Voltage Ranges	1-2
1-2	Ac Voltage Ranges	1-3
1-3	Ac Voltage Accuracy	1-4
3-1	Front Panel Controls and Instruments	3-3
3-2	Rear Panel Controls and Instruments	3-7
3-3	Ratio initialization Voltages	3-12
3-4	Remote Program Connector, A2J16	3-15
3-5	BCD Output Logic	3-16
4-1	Material Required	4-1
4-2	Operator's Preventive Maintenance Checks and Services	4-2
4-3	Organizational Preventive Maintenance Checks and Services	4-3
5-1	Ac Attenuation	5-2
5-2	Ratio Polarity	5-3
5-3	Ratio Ranging	5-4
5-4	Manual Range Selection Logic, A2-U57	5-5
5-5	Range Selection Logic, A2-U67	5-7
5-6	Range Selection Logic, A2-U250.	5-7
5-7	Autorange Logic, A2-U52	5-9
5-8	Function Select Logic, A2-U8	5-11
5-9	Function Select Logic, A2-U251	5-13
6-1	Required Test Equipment	6-4
6-2	Power Supply voltage Measurement	6-5
6-3	Voltmeter Dc Voltage Accuracy Checks	6-30
6-4	Voltmeter Ac Voltage Accuracy Checks	6-31
6-5	Voltmeter Dc/dc Ratio Autoranging Checks	6-32
6-6	Voltmeter Ac Voltage Accuracy Checks	6-33
6-7	Minimum Specifications of Equipment Required	6-34
6-8	Accessories Required	6-35
6-9	Rms Converter Dc Range Checks.	6-58
6-10	Rms Converter Ac Range Checks.	6-59



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

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

This manual describes Voltmeter, Digital AN/GSM-64C (Voltmeter) and provides instructions for operation, organizational, direct support, and general support (GS) maintenance. Instructions are provided for the operator and organizational technician for installation, operation and preventive maintenance. Circuit functioning is included for general support maintenance together with instructions appropriate to these categories of maintenance for troubleshooting, testing, and repairing the equipment and replacing maintenance parts.

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 levels are listed in and prescribed by TM38-750.

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/AFR 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 4610.33B/AFR 75-18 - /MCO P4610.19C and DLAR4500.15.

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

1-4. Reporting Equipment Improvement Recommendations (EIR).

EIR's will be prepared using Standard Form 368, Quality Deficiency Report. Instructions for preparing EIR's are provided in TM 38-750, The Army Communications and Electronics Materiel Readiness Command, ATTN: DRSEL-ME-MQ, Fort Monmouth, NJ 07703. A reply will be furnished direct to you.

Section II. DESCRIPTION AND DATA

1-5. Purpose and Use

a. The voltmeter is a precision 5½ digit instrument capable of accurately measuring dc voltages from ± 0.0001 V to ± 1000.00 V and true rms ac voltages from 0.0001 V to 1000.00 V. It also permits dc voltage ratio measurements from $\pm 0.001\%$ to $\pm 100.000\%$ by comparing the input voltage to an external reference voltage.

b. Special features include a variable sample rate, automatic ranging, switch selectable rear input terminals, remote control capability and parallel BCD output for long term monitoring.

c. Field installable options include provisions for measuring resistance, ac/dc ratio and ac/ac ratio.

1-6. Description

a. The voltmeter is a completely solid state instrument incorporating push button selection (as

well as auto-ranging) of four dc voltage ranges, four ac true rms voltage ranges and four dc voltage ratio ranges. Readings are indicated on a large 5½ digit display easily viewed from distances up to 20 feet. With the exception of parallel rear input connectors and external reference terminals, all of the controls, indicators and connectors are conveniently located on the front panel.

b. The voltmeter is comprised of four major printed circuit assemblies; an analog circuit board, main digital board, rms converter board, and a dc ratio board. It is packaged in a low profile, portable cabinet with a tilt-bail stand and is readily converted to rack mounted configuration by installation of the rack mounting adapter kit.

1-7. Tabulated Data

a. Electrical

(1) Dc Voltage

Table 1-1. Dc Voltage Ranges

RANGE	MAX. RDG.	RESOLUTION	ACCURACY
2 V	± 1.99999 V	± 0.00001 V	$\pm (0.01\% \text{ of Reading} + 1 \text{ LSD})$
20 V	± 19.9999 V	± 0.0001 V	
200 V	± 199.999 V	± 0.001 V	
1000 V	± 1000.00 V	± 0.01 V	

LSD = Least significant digit