TM 11-6625-1549-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

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

TEST SET, RADIO FREQUENCY POWER AN/USM-260 (NSN 6625-00-917-3099)

This copy is a reprint which includes current pages from Change 1. The title was changed to read as shown above.

HEADQUARTERS, DEPARTMENT OF THE ARMY

APRIL 1967

TECHNICAL MANUAL No. 11-6625-1549-15

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, 25 April 1967

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

TEST SET, RADIO FREQUENCY POWER AN/USM-260 (NSN 6625-00-917-3099)

			Page
SECTION I.	GENERAL INFORMATION		
	l-A.1	Scope	
	1-A.2	Indexes of publications	
	1-A.3	Forms and records	
	1-A.4	Reporting equipment improvement recommendations (EIR)	
	1-A.5	Administrative storage	
	1-A.6	Destruction of Army electronics materiel	
	1-1.	Description	1-1
II.		ATION N	2-1
	2-1.	Initial Inspection	2-1
	2-3.	Rack Mounting	2-1
	2-7.	Primary Power Requirements	2-2
	2-9.	Three-Connector Power Cable	2-3
III.	OPERAT	TION	3-1
	3-1.	Introduction	3-1
	3-9.	Controls, Connectors, and Indicators	3-1
	3-11.	Battery Operation	3-1
	3-16.	Operation Instructions	3-2
	3-18.	Major Sources of Error in Microwave Power Measurement	3-2
	3-31.	Calibration Factor and Effective Efficiency	
	3-44	High Accuracy of Power Measurement Using DC Substitution	3-5
	3-53.	Additional Applications	
IV.	PRINCIPLES OF OPERATION4-1		
	4-1.	Overall Description	. 4-1
	4-6.	Circuit Description	4-1
	4-11.	Compensation and Metering Bridge Circuit	4-2
	4-16.	Synchronous Detector	4-3
	4-20.	Feedback Differential Amplifier	4-4
	4-22	Feedback Current Generator	4-5
	4-24	Meter Circuit	4-5
	4-26.	Metering Circuit Differential Amplifier	4-6
	4-31.	DC Substitution	4-7
	4-33.	Regulated Power Supply	4-7
	4-36.	Power Switch	. 4-8
V .	MAINTENANCE 5-1		
	5-1.	Introduction	. 5-1

SECTION V.	MAINTENANCE (Cont'd)			
	5-5.	PerformanceTests		
	5-7.	Adjustments		
	5-11.	Cover Removal and Replacement 5 - 2		
	5-17.	Power Supply Adjustment 5 - 4		
	5-18.	Full Scale Accuracy Adjustments 5 - 4		
	5-19.	Zero and Vernier Control Adjustment		
	5-20.	Coarse Null Adjustment 5 - 5		
	5-21.	Oscillator Tank CircuitTuning		
	5-22	Oscillator Frequency Adjustment		
	5-23.	Troubleshooting 5 - 6		
VI.		CEABLE PARTS (Deleted)		
VII.	SCHE	MATIC DIAGRAMS7 - 1		
	7-1.	Introduction		
VIII.	AUXILIARY EQUIPMENT			
	8-1.	General		
	8-3.	Option 01		
	8-6.	Thermistor Mount Model478A		
	8-7.	General Information		
	8-14.	Operation 8 - 3		
	8-45.	Operating Principles		
	8-51.	Maintenance 8 - 7		
APPENDIX A.	MAINTENANCE ALLOCATION			

This technical manual is an authentication of the manufacturer's commercial literature and does not conform with the format and content specified in AR 310-3, Military Publication. This technical manual does, however, contain available information that is essential to the operation and maintenance of the equipment.

Section I Figure 1-1

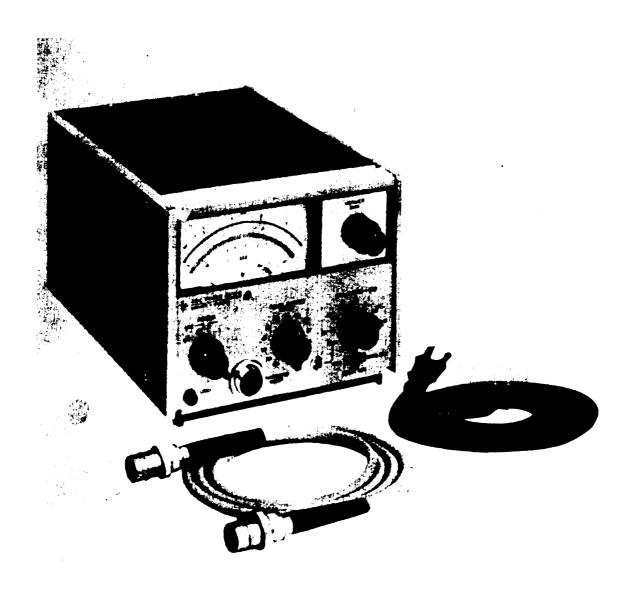


Figure 1-1. Model 43lC Power Meter

1-0 02316-1 This manual contains material copyrighted by Hewlett-Packard Company.

SECTION I GENERAL INFORMATION

1-A.1. Scope

This manual includes installation and operation instructions and covers operator's, organizational, direct support (DS), general support (GS), and depot maintenance. It describes Test Set, Radio Frequency Power AN/USM-260, also referred to in this manual as Power Meter 431C, members prefixed 548. A basic issue items list for this equipment is not included as part of this manual.

1-A.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 this equipment.

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

1-A.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/AFR 71-13/MCO P4030.29A, 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 55-3WNAVSUPINST 4610-33A/AFR 75-18/MCO P4610.19B and DSAR 4500.15.

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

EIR's will be prepared using DA Form 2407, Maintenance Request. Instructions for preparing EIR's are provided in TM 38-750, The Army Maintenance Management System. EIR's should be mailed direct to Commander, US Army Electronics Command, ATTN: DRSEL-MA-Q, Fort Monmouth, NJ 07703. A reply will be furnished direct to you.

1-A.5. Administrative Storage

Administrative storage of equipment issued to and used by Army activities shall be in accordance with TM 740-90-1.

1-A.6. Destruction of Army Electronics Materiel

Destruction of Army electronics materiel to prevent enemy use shall be in accordance with TM 750-2442