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DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT,

GENERAL SUPPORT AND DEPOT MAINTENANCE

MANUAL [INCLUDING REPAIR PARTS]

POWER METER [HEWLETT-PACKARD MODEL 432A]

[4 9 3 1 - 4 3 6 - 4 8 8 3]

THERMISTOR MOUNT

[HEWLETT-PACKARD MODEL 478A]

[6625-866-1955]



HEADQUARTERS, DEPARTMENT OF THE ARMY

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TABLE OF CONTENTS

Section	Page	Section	Page
I GENERAL INFORMATION	1-1	V MAINTENANCE (Cont.)	
1-1. Description	1-1	5-15. Initial Setup	5-1
1-5. Instrument Identification	1-1	5-16. Meter Accuracy Test	5-1
II INSTALLATION	2-1	5-17. Calibration Factor Test	5-2
2-1. Initial Inspection	2-1	5-18. Meter Linearity Check	5-2
2-2. Mechanical Check	2-1	5-19. Zero Carryover Test	5-2
2-4. Performance Checks	2-1	5-20. Fine Zero Range Check	5-3
2-6. Damage Claims	2-1	5-21. 432 Calibration without	
2-9. Three-Conductor Power Cable	2-1	8477A Calibrator	5-3
2-12. Primary Power Requirements	2-1	5-24. Calibration Procedure 1	5-3
2-14. Internal Battery Operation	2-1	5-26. Calibration Procedure 2	5-8
2-16. Battery Installation.	2-1	5-27. Cover Removal and Replacement	5-8
2-17. Battery Storage	2-1	5-29. Top Cover Removal	5-8
2-19. Rack Mounting	2-1	5-30. Top Cover Replacement	5-8
2-21. Combining Case	2-1	5-31. Bottom Cover Removal	5-8
2-23. Adapter Frames	2-2	5-32. Bottom Cover Replacement	5-8
2-25. Repacking for Shipment	2-2	5-33. Adjustment Procedures	5-8
III OPERATING INFORMATION.	3-1	5-34. Initial Setup	5-8
3-1. Introduction	3-1	5-35. Mechanical Meter Adjustment	5-8
3-4. Controls, Connectors, and		5-36. Bridge Amplifier Tests	5-9
Indicators	3-1	5-37. Meter and Recorder	
3-12. Battery Operation	3-1	Output Calibration	5-9
3-17. Microwave Power Measurement		5-38. Battery Charger Adjustment	
Accuracy	3-2	(Option 01 Only)	5-9
3-23. Calibrator Factor and Effective		5-39. Battery Removal	5-10
Efficiency	3-2	5-40. Isolating Trouble in Transistor	
3-27. Precision Power Measurement	3-2	Circuits	5-10
3-28. General	3-2	5-46. Out-of-Circuit Testing	5-10
3-30. Measurement Procedure	3-2	5-48. Component Replacement in	
IV PRINCIPLES OF OPERATION	4-1	Etched Circuits	5-13
4-1. Simplified Description	4-1	5-50. Axial-Lead Components	5-13
4-5. Functional Block Diagram	4-1	5-52. Other Components	5-13
V MAINTENANCE	5-1	VI REPLACEABLE PARTS	6-1
5-1. Introduction	5-1	6-1. Introduction	6-1
5-3. Content	5-1	6-3. Ordering Information	6-1
5-4. Performance Tests	5-1	VII TROUBLESHOOTING. SCHEMATICS.	
5-6. Adjustments	5-1	AND COMPONENT tICATIONS	7-1
5-10. Test Equipment	5-1	7-1. Introduction	7-1
5-12. Service Information	5-1	7-5. Troubleshooting	7-1
5-14. 432 A Performance Tests		7-8. Schematics	7-1
with 8477A Calibrator.	5-1	7-12. AIAI Auto Zero Assembly	7-1
		7-14. Test Conditions	7-1

LIST OF TABLES

Number	Title	Page	Number	Title	Page
1-1. Specifications,		1-1	7-1. Schematic Notes		7-2
1-2. Thermistor Mounts forthe 432A		1-2	7-2. Overall Troubleshooting		7-5
5-1. Recommended Test Equipment		5-0	7-3. RF Bridge Troubleshooting		7-6
5-2. Meter Accuracy Test		5-2	7-4. Compensation Bridge Troubleshooting..		7-6
5-3. Calibration Factor Test.....		5-2	7-5. Auto-Zero Troubleshooting.		7-7
5-4. Performance Test Card...		5-5	7-6. Chopping andSumm ing Circuit		
5-5. Out-of-Circuit Transistor Resistance			Troubleshooting		7-7
Measurements		5-11	7-7. 5 kHz Multivibrator Troubleshooting		7-7
5-6. Etched Circuit Soldering'Equipment		5-13	7-8. Range Amplifier Troubleshooting		7-7
5-7. Safe Ohmmeter Range for Transistor			7-9. Calibration Factor Amplifier		
Resistance Measurements		5-13	Troubleshooting		7-7
6-1. Reference Designation Index		6-2	7-10. Pulse Width Modulator and Meter		
6-2. Replaceable Parts		6-12	Troubleshooting		7-7
6-3. Code List of Manufacturers		6-15	7-11. Power Supply Troubleshooting		7-9

LIST OF ILLUSTRATIONS

Number	Page	Number	Page
1-1. HP Model 432A Power Meter	1-0	7-1. Servicing Block Diagram	7-3
1-2. Instrument Identification	1-1	7-2. Model 432A Top Internal View	7-4
2-1. Sub- module Installation in Rack Adapter Frame	2-2	7-3. Model 432A Waveforms	7-4
2-2. HP Model 1051A Combining Case Instrument Installation	2-2	7-4. Model 432A Test Point Locations	7-5
3-1. Precision Power Measurements	3-3	7-5. Model 432A Bottom View, Component Locations	7-6
3-2. Front Panel Controls, Connectors and Indicators	3-4	7-6. Model 432A Front Panel Interior	7-6
3-3. Rear Panel Controls and Connectors	3-6	7-7. A1 Bridge Assembly, Component Locations	7-10
3-4. Turn On and Zeroing Procedure	3-8	7-8. Model 432A Rear Panel Interior	7-10
4-1. Model 432A Simplified Block Diagram.	4-0	7-9. RF and Compensation Bridge Schematic Diagram	7-11
4-2. Model 432A Block Diagram.	4-3	7-10. Model 432A Switches	7-12
4-3. Model 432A RF Bridge Talking Schematic.	4-4	7-11. A2 Meter Logic Assembly, Component Locations	7-13
4-4. Model 432A Meter Logic Talking Schematic	4-6	7-12. Meter Logic Schematic Diagram	7-13
4-5. Model 432A Power Supply Talking Schematic	4-8	7-13. A2 Meter Logic Assembly, Power Supply Component Locations	7-15
5-1. Check and Adjustment Test Setup	5-1	7-14. A7 Battery Charging Circuit (Option 01) Component Locations	7-15
5-2. Zero Carryover Test Setup	5-3	7-15. Power Supply, Schematic Diagram	7-15
5-3. Bridge Amplifier Test,	5-10	7-16. Thermistor Cable Wiring Diagram	7-16
5-4. Transistor Biasing and Operating Characteristics	5-12	A1-1. A2 Meter Logic, Component Locations	A1-2
		A1-2. A2 Meter Logic Assembly, Power Supply, Component Locations	A1-2
		A1-3. Meter Logic Schematic Diagram	A1-3
APPENDIX A. MANUAL CHANGES -----		A1-1	
B. BASIC ISSUE ITEMS LIST -----		B1-1	
C. MAINTENANCE ALLOCATION CHART -----		C1-1	
D. REPAIR PARTS LIST -----		D1-1	

THERMISTOR MOUNT 478A

TABLE OF CONTENTS

	Page			
GENERAL INFORMATION -----	8-1		LIST OF TALBLES	
1. Introdution -----	8-1	Number	Title	Page
4. Incoming Inspection -----	8-2	1	Specifications -- - -----	8-2
		2	Methods of Switching Off	
OPERATION -----	8-2		RF Output of Various HP	
7. Precautions -----	8-2		Signal Generators -----	8-4
8. Mechanical Shock -----	8-2	3	Parts Furnished in	
10. Biasing Thermistors -----	8-2		Thermistor Assembly	
11. Minimum Input -----	8-2		Replacement Kit, HP	
13. Average Power -----	8-2		00478-600-----	8-8
14. Pulse Energy and Peale				
Power 478A/432 -----	8-2		List of ILLUSTRATIONS	
15. Pulse Energy and Peak		Number		Page
Power 478A/431 -----	8-3	1	Maximum Power Meter Read-	
19. Drift Precaution -----	8-3		ing vs PRF for Pulses	
21. Zero-Set - -----	8-3		Shorter than 250 u s ----	8-3
23. RF Power Turned Off For		2	Maximum Power Meter Read-	
Zero-Set -----	8-3		ings vs Duty Cycle for	
25. Thermistor Mount Dis-			Pulses Longer than	
connected For Zero-			250 u s -----	8-3
Set -----	8-4	3	3 Maximum Power Meter Read-	
26. 478A/431 - - - - -	8-4		ing vs Square and Sine	
30. 478A/432 -----	8-4		Wave Frequency -----	8-3
31. Mount Calibration Data --	8-5	4	Source Impedance Shunting	
33. -Calibration Factor -----	8-5		One RF Thermistor	
35. Effective Efficiency ----	8-5		Mount -----	8-4
37. Calibration Data		5	Schematic Diagram of a	
Application - - - - -	8-5		Model 478A Thermistor	
39. Thermoelectric Effect ---	8-5		Mount when Connected to	
43. Thermoelectric Effect			a 431 Power Meter -----	8-5
Error Correction		6	Schematic Diagram of a	
478A/431 -----	8-6		Model 478A Thermistor	
45. Thermoelectric Error			Mount when Connected to	
478A/432 -----	8-5		a 4,82 Power Meter ----	8-7
		7	Check on Model 478A	
OPERATING PRINCIPLES -----	8-5		Thermistor Resistance	
47. Circuit Description -----	8-5		Match -----	8-7
52. 431-Power Meter		8	Thermistor Compensation ---	8-8
Detection	8-6	9	Model 478A Thermistor	
54. 432 Power Detection -----	8-6		Mount Assembly -----	8-9
		10	HP Model 478A Printed	
MAINTENANCE -----	8-6		Circuit Assy Wiring -----	8-10
56. Mechanical Shock -----	8-6			
58. Check On Thermistor				
Match -----	8-6			
60. Repair -----	8-7			
71. Thermistor Assembly Re-				
placement Procedure ---	8-8			
75. Removal Procedure -----	8-9			
76. Installation Procedure --	8-9			

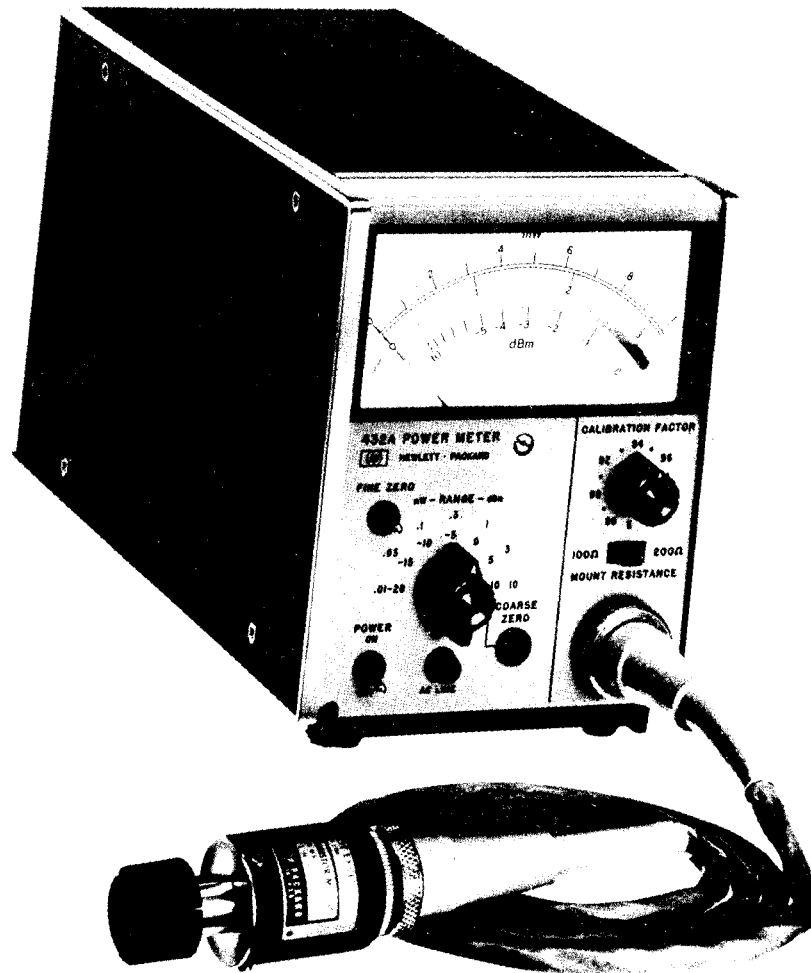


Figure 1-1. HP Model 432A POWER METER

SECTION I

GENERAL INFORMATION

1-1. DESCRIPTION.

1-2. The Hewlett-Packard Model 432A Power Meter, with HPtemperature -compensated thermistor mounts, measures RF power from 10 microwatt (-20 dBm) to 10 milliwatts (+10dBm) full scale with 1% of full scale accuracy from 10 MHz to 40 GHz. With a selector switch, the instrument normalizes the power meter reading to compensate for the Calibration Factor of a thermistor mount used for a given measurement. For portable operation, Option 01 instruments have a rechargeable nickel-cadmium battery. See Table 1-1 for complete specifications.

1-3. The Model 432A has provision for dc substitution measurements and for power meter calibration. An output is provided for recorders or digital voltmeter readout.

1-4. Accessories, Two accessories are supplied with the Model 432A Power Meter: a 7.5-foot (2290 mm) detachable power cable and a 5-foot (1520 mm) cable that connects the thermistor mount to the meter. Thermistor mounts are available but not supplied with the power meter (refer to Table 1-2). Table 1-1 lists those accessories supplied and also those available.

1-5. INSTRUMENT IDENTIFICATION.

1-6. Hewlett-Packard instruments are identified by an 8-digit serial number. The first three digits are the Serial Prefix. To properly match a manual with the instrument to which it applies, the prefix on the instrument must be the same as the prefix at the front of the manual. If the numbers are different, information is supplied either on yellow Manual Change Supplements, or in an Appendix in the Manual. If the change information is missing, contact your HP Sales Office (Sales Offices are listed at the back of the Manual).

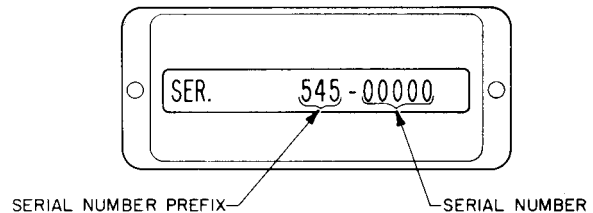


Figure 1-2. Instrument Identification

Table 1-1. Specifications

Instrument Type: Automatic, self -balancing power meterforuse with temperature -compensated thermistor mount.	Zero Carryover: Less than +0.5% of full scale when zeroed on most sensitive range.
Power Range: 7 ranges with full-scale readings of 10, 30, 100, and 300 μ W, 1, 3 and 10 mW; also calibrated in dBm from -20 dBm to +10 dBm full scale in 5-dB steps.	Fine Zero: Automatic, operated by toggle switch.
Accuracy: $\pm 1\%$ of full scale on all ranges (+0°C, to +55°C).	Recorder Output: 1.000 volt into open circuit corresponds to full-scale meter deflection (1.0 on O, -1 scale) +0.5%; 1000-ohm output impedance, BNC connector.
Calibration Factor Control: 13-position switch normalizes meter reading to account for thermistor mount Calibration Factor. Range: 100% to 88% in 1% steps.	RFI: Meets all conditions specified in MIL-I-6181D.
Thermistor Mount: External temperature -compensated thermistor mounts required for operation (see Table 1-2).	Power: 115 or 230 Vac $\pm 10\%$, 50 to 400 Hz, 2-1/2 watts. Optional rechargeable battery provides up to 20 hours continuous operation. Automatic battery recharge.
Meter: Taut -band suspension, individually computer-calibrated, mirror-backed scales. Mini -watt scale more than 4-1/4 inches (108 mm) long.	Weight: Net 6-1/2lb(3kg), shipping 9-1/4lb(4.2kg).
	Weight with Optional Battery Pack: Net 9-1/4 lb (4.2 kg), shipping 12 lb (5.5 kg).