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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]

[4931-436-4883]

THERMISTOR MOUNT

[HEWLETT-PACKARD MODEL 478A]

[6625-866-1955]

HEADQUARTERS, DEPARTMENT OF THE ARMY

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF ILLUSTRATIONS

THERMISTOR MOUNT 478A

TABLE OF CONTENTS

LIST OF TALBLES

List of ILLUSTRATIONS

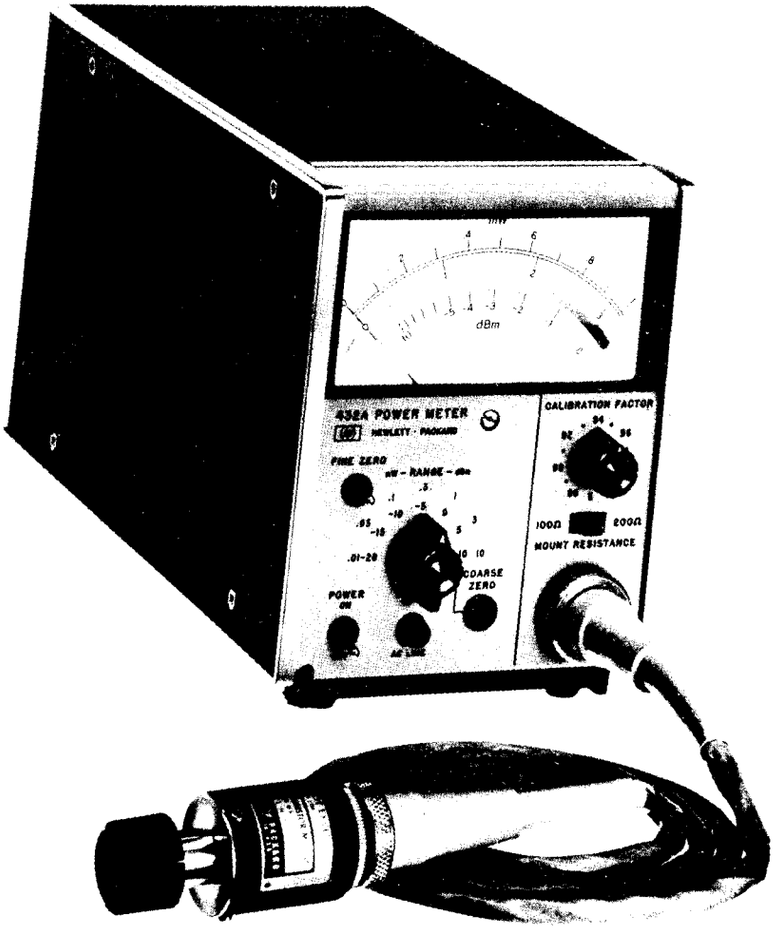

Figure 1-1. HP Model 432A POWER METER

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. Ther - mister 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 pref ix 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 b a c k of the Manual).

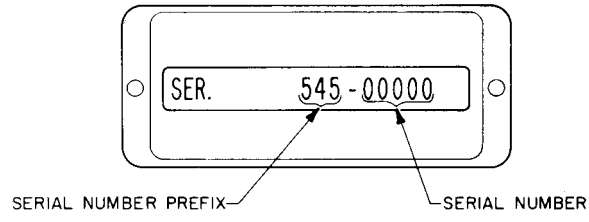

Figure 1-2. Instrument Identification

Table 1-1. Specifications

Instrument Type: Automatic, self -balancing power meterforuse with temperature -compensated ther - mister mount.

Power Range: 7 ranges with full-scale readings of 10, 30, 100, and 300 µW, 1, 3 and 10 mW; also calibrated in dBm from -20 dBm to +10 dBm full scale in 5-dB steps.

Accuracy: ±1% of full scale on all ranges (+O°C, to +55°C).

Calibration Factor Control: 13-position switch nor- realizes meter reading to account for thermistor mount Calibration Factor.
Range: 100% to 88% in l% steps.

Thermistor Mount: External temperature -compen - sated thermistor mounts required for operation (see Table 1-2).

Meter: Taut -band suspension, individually computer-calibrated, mirror-backed scales. Mini - watt scale more than 4-1 4 inches (108 mm) long.

Zero Carryover: Less than +0.5% of f u 11 scale when zeroed on most sensitive range.

Fine Zero: Automatic, operated by toggle switch.

Recorder Output: 1.000 volt into open circuit cor - responds to full-scale meter deflection (1. O on O,- 1 scale) +0.5%; 1000-ohm output impedance, BNC connector.

RFI: Meets all conditions specified in MIL-I-6181D.

Power: 115 or 230 Vac ±10%, 50 to 400 Hz, 2-1/2 watts. Optional rechargeable battery provides up to 20 hours continuous operation. Automatic battery recharge.

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).