

**TECHNICAL MANUAL**  
**OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT,**  
**AND GENERAL SUPPORT MAINTENANCE MANUAL**  
**TRANSMISSION/REFLECTION TEST SET**  
**HEWLETT-PACKARD MODEL 8502A**

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**HEADQUARTERS, DEPARTMENT OF THE ARMY**

**3 JUNE 1985**

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HEADQUARTERS  
DEPARTMENT OF THE ARMY  
Washington, DC, 3 June 1985

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

**TRANSMISSION/REFLECTION TEST SET  
HEWLETT-PACKARD MODEL 8502A**

**SERIAL NUMBERS**

This manual applies directly to HP Model 8502A with serial prefix numbers 1603A, 1616A, and 1918A.

For additional information about serial numbers, see INSTRUMENTS COVERED BY MANUAL in Paragraph 7.

**REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

You can help improve this manual. If you find any mistakes or if 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 the back of this manual direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-ME-MP, Fort Monmouth, NJ 07703-5007.

In either case, a reply will be furnished direct to you.

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## SECTION 0 INTRODUCTION

### 0-1. SCOPE

This manual describes Transmission/Reflection Test Set, HP Model 8502A and provides instructions for operation and maintenance.

### 0-2. CONSOLIDATED INDEX OF ARMY PUBLICATIONS AND BLANK FORMS

Refer to the latest issue of DA Pam 310-1 to determine whether there are new editions, changes or additional publications pertaining to the equipment.

### 0-3. MAINTENANCE FORMS, RECORDS, AND REPORTS

a. Reports of Maintenance and Unsatisfactory Equipment. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750, as contained in Maintenance Management Update.

b. Report of Packaging and Handling Deficiencies. Fill out and forward SF 364 (Report of Discrepancy (ROD)) as prescribed in AR 735-11-2/DLAR 4140.55/ NAVMATINST 4355.73A/AFR 400-54/MCO 4430.3F.

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 4610.33C/AFR 75-18/MCO P4610.19D/DLAR 4500.15.

### 0-4. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your equipment needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design. Put it on an SF 368 (Quality Deficiency Report). Mail it to Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-ME-MP', Fort Monmouth, NJ 07703-5007. We'll send you a reply.

### 0-5. ADMINISTRATIVE STORAGE

Administrative storage of equipment issued to and used by Army activities will have preventive maintenance performed in accordance with the PMCS charts for storing. When removing the equipment from administrative storage the PMCS should be performed to assure operational readiness. Disassembly and repacking of equipment for shipment or limited storage is covered in paragraph 24.

### 0-6. DESTRUCTION OF ARMY ELECTRONICS MATERIEL

Destruction of Army electronics materiel to prevent enemy use shall be in accordance with TM 750-244-2.

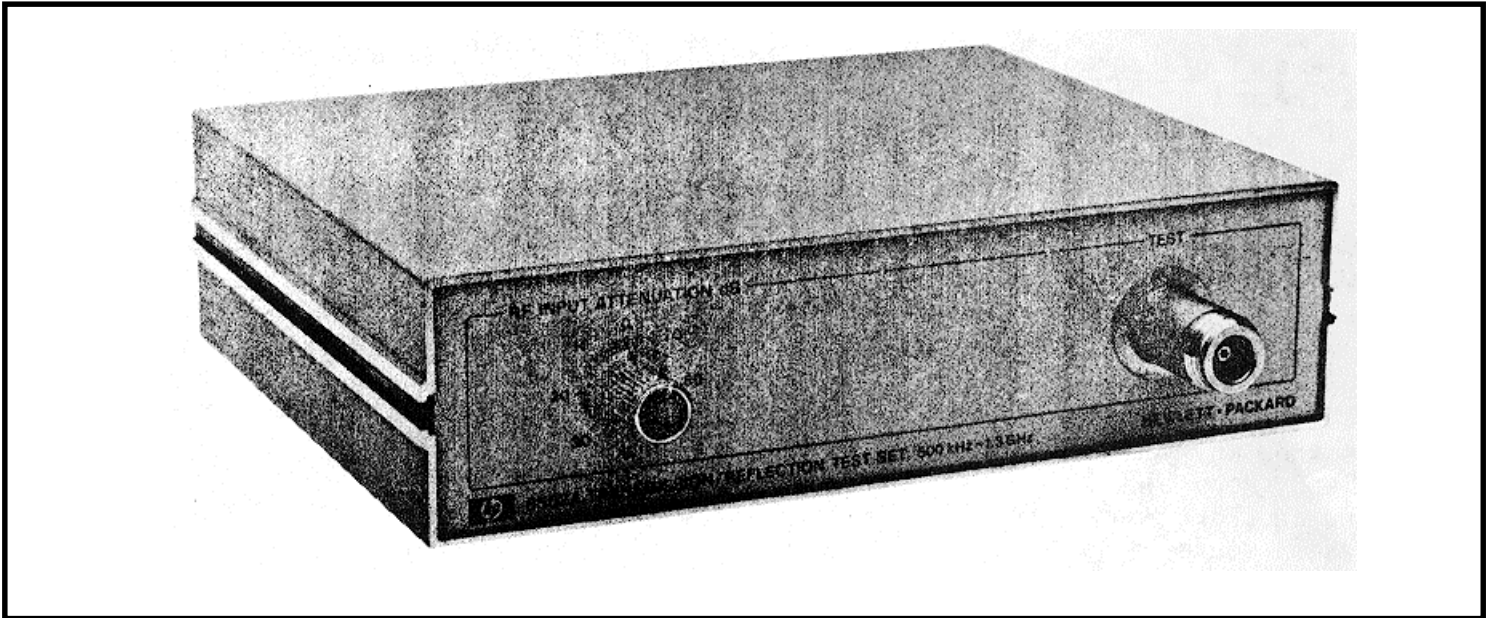


Figure 1. Model 8502A Transmission/Reflection Test Set

1. GENERAL INFORMATION

2. Introduction

3. This Operating and Service manual applies to the Hewlett-Packard Model 8502A Transmission/Reflection Test Set (Figure 1). It contains information necessary to operate, test, and service the HP Model 8502A

4. On the title page of this manual, below the manual part number, is a "Microfiche" part number. This number may be used to order a 4x 6inch microfilm transparency of this manual.

5. Description

6. The Hewlett-Packard Model 8502A Transmission/Reflection Test Set provides all of the RF hardware necessary to make simultaneous transmission and reflection measurements between 500 KHz and 1300 MHz. The test set consists of an RF power splitter to develop a reference or incident signal, a directional bridge to develop a reflected signal, and an attenuator to control the signal incident on the device under test.

7. Instruments Covered by Manual

8. Attached to the instrument is a serial number plate (Figure 2). The serial number is in two parts. The first four digits and the letter are the serial number prefix; the last five digits are the suffix. The prefix is the same for all identical instruments; it changes only when a change is made to the instrument. The suffix, however, is assigned sequentially and is different for each instrument. The contents of this manual apply to instruments with the serial number prefix(es) listed under SERIAL NUMBERS on the title page. If your instrument does not have a serial number prefix that is listed on the title page, refer to the manual changes supplement, or contact your nearest HP office for change information.

9. Input Level Caution



Do not apply signals greater than listed below or damage to the test set circuits

may result. TEST port limits are +26 dBm and 30 Vdc. RF INPUT port limits are +30 dBm (1.0 watt) and 7.0 Vdc. BIAS INPUT port limits are 500 mA and 30 Vdc.

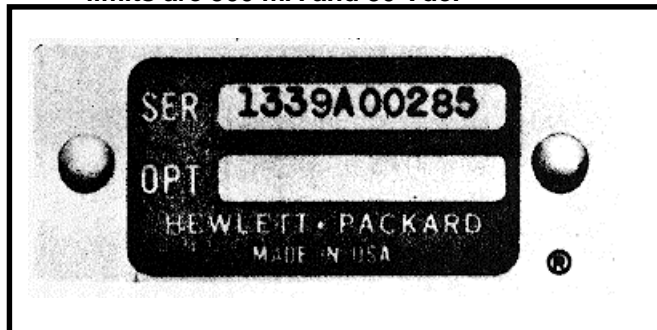


Figure 2. Serial Number Plate

10. Specifications

11. Instrument specifications are listed in Table 1. These specifications are the performance standards or limits against which the instrument may be tested. Table 2 lists supplemental characteristics. These are not specifications but are typical characteristics included as additional information for the user.

12. Equipment Available

13. Hewlett-Packard Cable Accessory Set 11851 A, shown in Figure 3, contains four doubleshielded and phase-matched cables for high accuracy measurements with the HP Model 8505A Network Analyzer and other instruments.

14. Recommended Test Equipment

15. Equipment required for performance testing and troubleshooting of the Hewlett-Packard Model 8502A Transmission/Reflection Test Set is listed in Table 3. Other equipment may be substituted if it meets or exceeds the critical specifications listed in the table.