

TECHNICAL MANUAL

**OPERATOR'S, ORGANIZATIONAL,
DIRECT SUPPORT, AND GENERAL SUPPORT
MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)**

FOR

**PLUG-IN, LOW FREQUENCY
(SPECTRUM ANALYZER)
PL-1387/U
(HP-8556A)
(NSN 6625-00-167-5267)**

HEADQUARTERS, DEPARTMENT OF THE ARMY

27 APRIL 1983

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REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can 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 or DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, NJ 07703. In either case a reply will be furnished directly to you.

TABLE OF CONTENTS

SECTION O	INTRODUCTION	Page
O-1	Scope	O-1
O-2	Index of Publications	O-1
O-3	Maintenance Forms, Records, and Reports	O-1
O-4	Reporting Equipment Improvement Recommendations (EIR)	O-1
O-5	Administrative Storage	O-1
O-6	Destruction of Army Electronic Materiel	O-1

TABLE OF CONTENTS

Section	Page	Section	Page
I GENERAL INFORMATION	1-1	V ADJUSTMENTS	5-1
1-1. Introduction	1-1	5-1. Introduction	5-1
1-5. Instruments Covered by Manual	1-1	5-4. Test Equipment Required	5-1
1-7. Description	1-1	5-7. Posidriv Screwdrivers	5-1
1-15. Accessories Supplied	1-2	5-9. Blade Tuning Tools	5-1
1-18. Equipment Required but not Supplied.....	1-2	5-11. HP 11592A Service Kit	5-1
1-20. IF Sections	1-2	5-14. Extender Cable Installation	5-1
1-22. Display Sections	1-2	5-18. Factory Selected Components	5-1
1-24. Compatibility.....	1-2	5-20. Related Adjustments	5-1
1-27. Operating Accessories	1-2	5-23. Voltage Checks	5-2
1-29. Test Equipment Required.....	1-2	5-24. Pre-Attenuator Adjustments:	
1-31. Warranty.....	1-2	COMP and C IN	5-4
II INSTALLATION	2-1	5-25. 50.150 MHz Local Oscillator	
2-1. Initial Inspection.....	2-1	Adjustment: A6T1	5-6
2-2. Mechanical Check.....	2-1	5-26. Mixer Balance Adjustments: C, R and Z.....	5-7
2-4. Electrical Check.....	2-1	5-27. Tracking Generator Adjustments:	
2-6. DELETED	2-1	AMPL ADJ and FLATNESS ADJ.....	5-8
2-9. Preparation for Use	2-1	5-28. Frequency Calibration Adjustment:	
2-10. Shipping Configuration	2-1	OFFSET ADJ, 300 kHz ADJ, and	
2-12. Power Requirements	2-1	ZERO ADJ	5-10
2-15. Power Cable	2-1	5-30. 8552A 47 MHz LO Adjustment	5-13
2-17. Operating Environment.....	2-1	VI REPLACEABLE PARTS.....	6-1
2-19. Interconnections	2-1	6-1. Introduction	6-1
2-22. Storage and Shipment	2-2	6-5. DELETED	6-1
2-23. Original Packaging.....	2-2	VII MANUAL CHANGES	
2-27. Other Packaging Materials	2-2		DELETED
III OPERATION	3-1	VIII SERVICE	8-1
3-1. Introduction	3-1	8-1. Introduction	8-1
3-3. Panel Features	3-1	8-3. Theory of Operation.....	8-1
3-5. Operator's Checks	3-1	8-5. Recommended Test Equipment	8-1
3-7. Operating Considerations	3-1	8-8. Troubleshooting	8-1
3-9. RF Input.....	3-1	8-13. General Service Information	8-1
3-12. Amplitude Ranges	3-1	8-14. Part Location Aids.....	8-1
3-16. First Mixer Balance	3-1	8-16. Factory Selected Components	8-1
3-23. Operating Instructions	3-2	8-18. Diagram Notes	8-1
3-26. Setting the Frequency Scan	3-2	8-20. Servicing Aids on Printed Circuit	
3-31. Adjusting the Amplitude Scale.....	3-2	Boards	8-2
3-37. Using the Tracking Generator.....	3-8	8-22. Circuit Board Extender	8-2
3-52. Variable Persistence and Storage		8-24. General Service Hints	8-2
Functions.....	3-10	8-25. Etched Circuits	8-2
3-57. Photographic Techniques	3-10	8-27. Etched Conductor Repair	8-2
IV PERFORMANCE TESTS		8-29. Component Replacement	8-2
4-1. Introduction	4-1	8-36. Logic Circuits and Symbols	8-5
4-4. Equipment Required	4-1	8-40. Basic AND Gate (Positive Logic).....	8-6
4-6. Operational Adjustments	4-1	8-42. Basic OR Gate (Positive Logic)	8-6
4-8. Front Panel Checks	4-1	8-45. Truth Tables.....	8-6
4-10. Test Sequence	4-1	8-47. Logic Inversion	8-6
4-14. Tracking Generator Amplitude.....	4-3	8-49. Binary Circuits and Symbols	8-6
4-15. Marker Accuracy	4-4	8-51. Reset-Set (RS) Flip-Flop.....	8-6
4-16. Scan Width Accuracy.....	4-6	8-53. The RST Flip-Flop.....	8-8
4-17. Center Frequency Accuracy.....	4-7	8-55. Clocked JK Flip-Flop	8-8
4-18. Frequency Response	4-8	8-57. JK Master/Slave Flip-Flop	8-9
4-19. Average Noise Level	4-10	8-60. Preset and Clear	8-10
4-20. Residual Responses	4-12	8-62. Operational Amplifiers	8-10
4-21. Spurious Responses	4-14	8-63. Circuits and Symbols	8-10
4-22. Residual FM.....	4-17	8-66. Troubleshooting	8-12
4-23. Noise Sidebands	4-19	8-70. Dial Calibration Procedure.....	8-12
4-24. Input Level Control and Gain Compression.....	4-21		
4-25. Tracking Generator Spectral Purity	4-23		

LIST OF ILLUSTRATIONS

Figure	Page	Figure	Page
1-1	Model 8556A Spectrum Analyzer LF Section with 8552B IF Section and 141T Display Section ...	8-17	LF Section Block Diagram
1-2	Instrument Identification	8-18
1-3	Typical Spectrum Analyzer Resolution.....	8-19	} Reserved for Optional Inputs (will not appear in this printing).
1-4	Typical Spectrum Analyzer Distortion Products.....	8-20	
1-5	HP 11592A Service Kit	8-21	Master Board Assembly A11 Component Locations
2-1	LF Section and IF Section Interconnections	8-22	Pre-Attenuator and Preamplifier Assembly A5 Component Locations
3-1	Front Panel Features	8-23	Pre-Attenuator and Preamplifier: A3, A5 and All Schematic.....
3-2	Operational Adjustments	8-24	Input Level Switch Assembly A3 Component Locations
3-3	Typical Frequency Response Measurement (in 50 Ohms)	8-25	Frequency Converter Assembly A6 Component Locations
3-4	Typical Amplifier Frequency Response Meas- urement (in 600 Ohms) using a Frequency Counter.....	8-26	Post-Attenuator and Frequency Converter: A3 and A6 Schematic.....
4-1	Tracking Generator Test Setup	8-27	Tracking Generator Frequency Converter Assembly A9 Component Locations
4-2	Marker Accuracy Test Setup.....	8-28	Tracking Generator Frequency Converter: A9 Schematic.....
4-3	Scan Width Accuracy Display	8-29	Tracking Generator Output Assembly A8 Component Locations
4-4	Frequency Response Test Setup	8-30	3 MHz Oscillator Assembly A8A1 Component Locations
4-5	Average Noise Level Display	8-31	Input Level Switch Assembly A3 Component Locations
4-6	Residual Responses Display.....	8-32	Tracking Generator Output: A3 and A8 Schematic.....
4-7	Spurious Responses Test Setup	8-33	Integrated Circuit Logic Diagrams
4-8	Intermodulation Distortion Products Display.....	8-34	Frequency Control and Marker Generator Assembly A7 Component Locations
4-9	Residual FM Test Setup.....	8-35	20 kHz Marker Circuits: A7 Schematic.....
4-10	Residual FM Display.....	8-36	Scan Width Switch Assembly A2 Component Locations
4-11	Noise Sidebands Test Setup.....	8-37	Frequency Control and Marker Generator Assembly A7 Component Locations
4-12	Noise Sidebands Display	8-38	Frequency Control Circuits: A1, A2 and A7 Schematic
4-13	Input Level Control and Gain Compression Test Setup.....	8-39	Simplified Analogic Diagram
4-14	Tracking Generator Spectral Purity Test Setup	8-40	Bandwidth Switch Assembly A1 Component Locations
5-1	Voltage Checks Test Setup.....	8-41	Scan Width Switch Assembly A2 Component Locations
5-2	Pre-Attenuator Adjustment Test Setup.....	8-42	Analogic Circuits: A1 and A2 Schematic
5-3	50.150 MHz Local Oscillator Adjustment Test Setup	8-43	Bandwidth Switch Assembly A1 Component Locations
5-4	Mixer Balance Adjustments Test Setup	8-44	Input Level Switch Assembly A3 Component Locations
5-5	Tracking Generator Adjustment Test Setup	8-45	IF Section Control Circuits: A1 and A3 Schematic.....
5-6	Frequency Calibration Adjustment Test Setup	8-46	Power Supply Assembly A10 Component Locations
5-7	47 MHz LO Adjustment Display	8-47	Master Board Assembly A11 Component Locations
6-1	Front Panel Parts, Exploded View.....	8-48	Power Supply and Voltage Distribution: A10 and All Schematic.....
8-1	8556A LF Section with Circuit Board Extended		
8-2	Examples of Diode and Transistor Marking Methods		
8-3	Integrated Circuit Packaging		
8-4	Basic AND and OR Gates		
8-5	Basic NAND and NOR Gates		
8-6	Logic Comparison Diagrams		
8-7	RS Flip-Flop.....		
8-8	RST Flip-Flop		
8-9	The Clocked JK Flip-Flop		
8-10	JK Master/Slave Flip-Flop		
8-11	Operational Amplifier Equivalent Circuit.....		
8-12	Dial Restringing Procedure.....		
8-13	Overall Troubleshooting Tree		
8-14	Top and Bottom Internal Views		
8-15	Troubleshooting Block Diagram		
8-16	Simplified Analyzer Block Diagram		

LIST OF TABLES

Table	Page	Table	Page
1-1	Specifications	1-3	
1-2	Supplemental Performance Characteristics	1-6	
1-3	Operating Accessories	1-9	
1-4	Test Equipment	1-9	
1-5	Test Equipment Accessories	1-11	
4-1	Front Panel Checks	4-2	
4-2	Performance Test Record.....	4-25	
5-1	Analogic Display Calibration Check.....	5-12	
5-2	Check and Adjustment Test Record.....	5-15	
6-1		Designators and Abbreviations used in Parts List.....	6-1
6-2		Manufacturers Code List.....	6-2
6-3		Replaceable Parts	6-3
8-1		Factory Selected Components	8-2
8-2		Etched Circuit Soldering Equipment.....	8-4
8-3		Schematic Diagram Notes	8-14
8-4		Assembly and Component Locations	8-19
8-5		Connector P2 Pin Identification	8-21
8-6		Connector P3 Pin Identification	8-21
8-7		Connector XA11 Pin Identification	8-21

APPENDIXES

		Page
APPENDIX	A. REFERENCES	A-1
APPENDIX	B. MAINTENANCE ALLOCATION	
Section	I. Introduction	B-1
	II. Maintenance Allocation Chart	B-3
	III. Tool and Test Equipment Requirements	B-4
APPENDIX	C. COMPONENTS OF END ITEM LIST (Not applicable)	
APPENDIX	D. ADDITIONAL AUTHORIZATION LIST (Not applicable)	
APPENDIX	E. EXPENDABLE SUPPLIES AND MATERIALS (Not applicable)	
APPENDIX	F. PART NUMBER-NATIONAL STOCK NUMBER INDEX	F-1
APPENDIX	G. MANUFACTURER'S ERRATA AND MANUAL CHANGES	G-1

SECTION O

INTRODUCTION

O-1. Scope

This manual provides technical data, and installation, operation, and maintenance instructions for the spectrum analyzer low-frequency plug-in PL1387/U, Hewlett-Packard model 8556A. The PL1387/U is referred to throughout this manual as the 8556A. Appendix A lists pertinent publications. Appendix B contains the Maintenance Allocation Chart (MAC), which defines the levels and scope of maintenance functions for the equipment in the Army system, and a list of the tools and test equipment required. Appendix F provides a cross reference between commercial part numbers and National Stock Numbers (NSN). Appendix G provides a listing of errors in this manual, and changes which are to be made to the manual, depending on the serial number of the 8556A with which the manual is to be used. As indicated, for plug-ins having serial numbers from 1124A00121, to 1124A00130, only change 1 is to be applied to the manual. For plug-ins with serial numbers 1404A2236 and later models, all nine changes to the manual are required. The list of appendices is located on page iv, following LIST OF TABLES in TABLE OF CONTENTS.

O-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.

O-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 TM 38-750, The Army Maintenance Management system.

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 4355.73/AFR 400-54/MCO 4430.3E.

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 P 4610.19C/DLAR 4500.15.

O-4. Reporting Equipment Improvement Recommendations (EIR)

If your plug in 8556A 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; DRSEL-ME-MP, Fort Monmouth, NJ 07703. We'll send you a reply.

O-5. Administrative Storage

The 8556A plug-in can be stored in stockrooms, warehouses, or other protected facilities. The equipment should be protected from excessive humidity, sand, dust, and chemical contaminants. Before putting the 8556A in administrative storage, make the following preparations:

a. Complete the operational adjustments procedure given in figure 3-2 to assure that the plug-in is operable.

b. If the original packing material is not available, at least protect the unit with protective plastic or paper wrapping. Place the unit in a carton or box with makeshift protective packing material around it.

c. Store the equipment indoors, protected from the elements. Maintain the equipment at moderate temperature and humidity.

O-6. Destruction of Army Electronic Materiel

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

MODEL 8556A

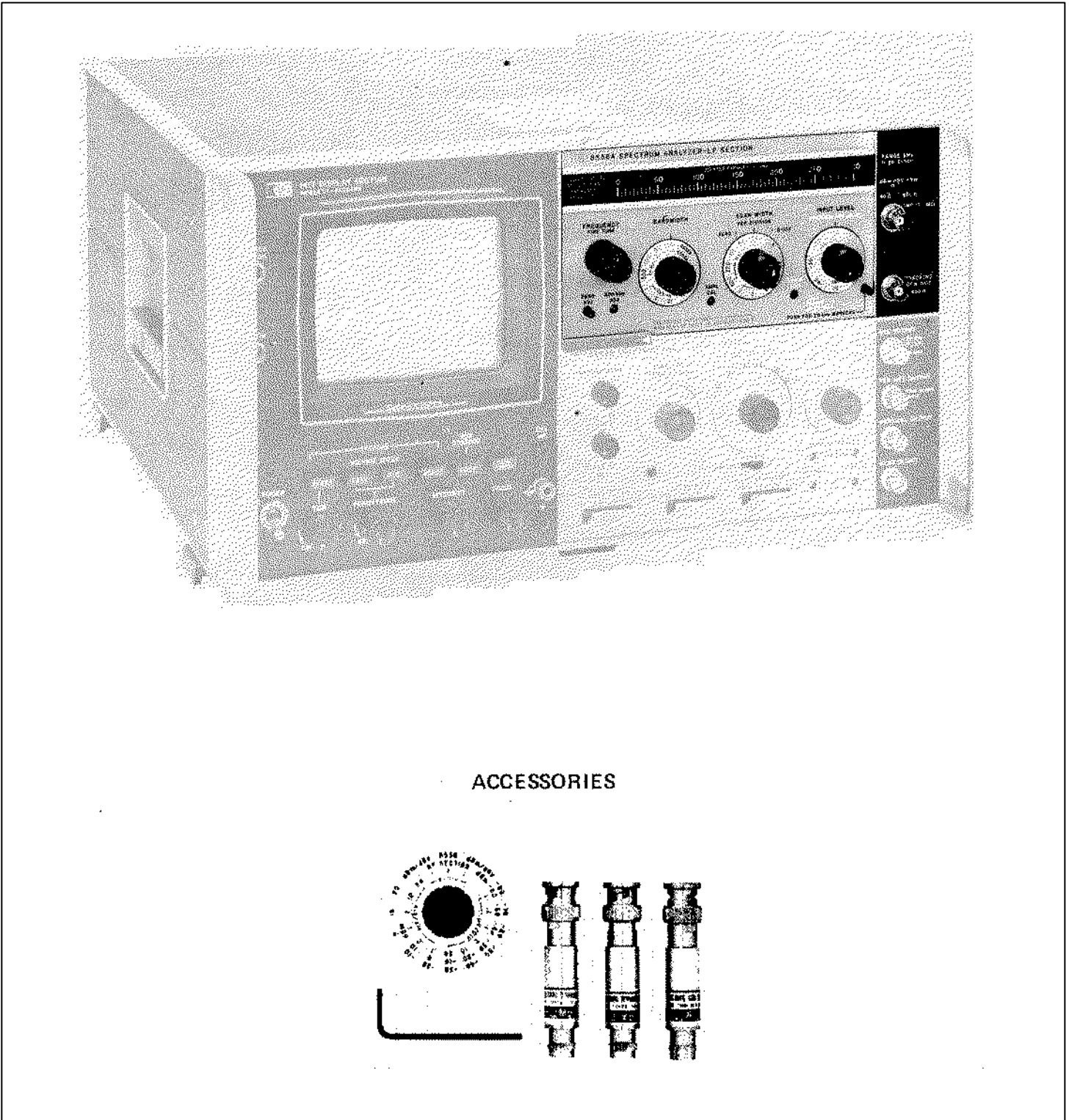


Figure 1-1. Model 8556A Spectrum Analyzer LF Section with 8552B IF Section and 141T Display Section

SECTION I

GENERAL INFORMATION

1-1. INTRODUCTION

1-2. This manual contains all information required to install, operate, test, adjust and service the Hewlett-Packard Model 8556A Spectrum Analyzer LF Section. This section covers instrument identification, description, options, accessories, specifications and other basic information.

1-3. Figure 1-1 shows the Hewlett-Packard Model 8556A Spectrum Analyzer LF Section with the Model 8552B Spectrum Analyzer IF Section and the Model 141T Display Section. Also shown are the accessories supplied with the 8556A (see paragraph 1-15).

1-4. The various sections in this manual provide information as follows:

SECTION II, INSTALLATION, provides information relative to incoming inspection, power requirements, mounting, packing, shipping, etc.

SECTION III, OPERATION, provides information relative to operating the instrument.

SECTION IV, PERFORMANCE TESTS, provides information required to ascertain that the instrument is performing in accordance with published specifications.

SECTION V, ADJUSTMENTS, provides information required to properly adjust and align the instrument after repairs are made.

SECTION VI, REPLACEABLE PARTS, provides ordering information for all replaceable parts and assemblies.

SECTION VII, MANUAL CHANGES, normally will contain no relevant information in the original issue of a manual. This section is reserved to provide back-dating and up-dating information in manual revisions or reprints.

SECTION VIII, SERVICE, includes all information required to repair the instrument.

1-5. INSTRUMENTS COVERED BY MANUAL

1-6. Hewlett-Packard instruments carry a serial number (see Figure 1-2) on the back panel. When the serial

number prefix on the instrument serial number plate of your instrument is the same as one of the prefix numbers on the inside title page of this manual, the manual applies directly to the instrument. When the instrument serial number prefix is not listed on the inside title page of this manual, manual change sheets and manual updating information is provided. Later editions or revisions to the manual will contain the required change information in Section VII.

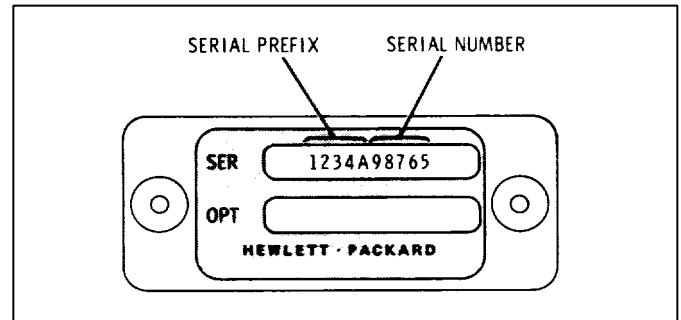


Figure 1-2. Instrument Identification

1-7. DESCRIPTION

1-8. The Hewlett-Packard Model 8556A Spectrum Analyzer LF Section covers the frequency range from 20 Hz to 300 kHz. When it is combined with an IF Section and a Display Section it functions as the tuning section of a low frequency spectrum analyzer.

1-9. The analyzer electronically scans input signals and displays their frequency and amplitude on a CRT. The horizontal, x-axis, is calibrated in units of frequency and the vertical, y-axis, is calibrated in absolute units of voltage (pV, mV, dBV) or power (dBm). Therefore, absolute and relative measurements of both amplitude and frequency can be made.

1-10. The horizontal (frequency) axis can be swept three different ways:

- a. The center of the CRT is set to a frequency determined by the dial and the analyzer is swept symmetrically about that frequency.
- b. The analyzer is not swept but is used as a fixed frequency receiver. Signal amplitude can be read on the CRT and signal modulation can be viewed as with an oscilloscope.