
Basic Network Measurement Using the HP 8510 Network Analyzer

Technical Data

Course Overview

This course teaches you the capabilities of the HP 8510 series network analyzer and how to use it to solve measurement problems. You receive an introduction to programming the HP 8510C, as well as hands-on practice operating it. Courses taught in the HP Customer Education Center use the HP 8510C network analyzer, but the content is entirely appropriate for HP 8510A and HP 8510B owners.

Course Features

- Gain basic operating skills for the HP 8510 series network analyzer system
- Practice operating the HP 8510C network analyzer
- Learn the principles of network analysis
- Learn the major sources of errors in a microwave measurement and their impact on measurement uncertainty
- Gain experience evaluating measurement accuracy, performing first-level fault location, and verifying system performance

Specifications

Course Length

3 days

Audience

Engineers and technicians who operate HP 8510 series network analyzer systems

Prerequisites

- Knowledge of basic measurement concepts and terminology, such as S-parameters, dB, Rho, and SWR
- Knowledge of the vector representation of a microwave signal
- Familiarity with HP-IB instrument control techniques

For those with no previous microwave experience or those who want to review microwave theory, the following course is recommended:

- Microwave Fundamentals (HP 50740A, HP 50740B, HP 50740C)

Delivery Method

Classroom, Dedicated

Format

Instructor lectures and demonstrations, extensive hands-on lab exercises, and audiovisual presentations

**HP Education Services:
Your Key to Higher
Productivity**

Classroom Training Benefits

Experienced HP Instructors

Learn from an experienced HP instructor who is an expert in using and applying instrument systems to meet your measurement needs.

Available at HP Classrooms or Your Site

Take advantage of HP's learning facilities, equipment, and interactive learning environment by attending class at an HP facility. Or, save travel expenses and time by organizing a dedicated class at your location.

Extensive Hands-on Practice

HP classroom training is characterized by extensive hands-on experience and interactive class discussion. HP classroom training pays off immediately because it is geared to real-world solutions.

Comprehensive Student Materials

Copies of course materials are provided for future reference on the job.

Basic Network Measurements Using the HP 8510 Network Analyzer (8510C+24D)

Course Agenda

Day 1

- Network analysis principles
- Front-panel overview
- Response measurement calibration
- Sources of measurement error

Day 2

- Accuracy enhancement
- One-port measurement calibration
- Full two-port and TRL two-port measurement calibration
- Measuring noninsertable devices
- Modifying calibration kit standard definitions
- Measuring devices with high gain and loss (OPT)
- Introduction to programming (OPT)
- Connection-repeatability lab
- Measuring waveguide devices

Day 3

- Time domain principles
- Measurements in the time band pass and time low pass domains
- Time low pass
- Time domain gating
- Measurement accuracy analysis
- System performance verification

Ordering Information

To order Basic Network Measurements Using the HP 8510 Series Network Analyzer (8510C+24D) in the U.S. call 1-800-HPCLASS (800-472-5277).

HP's Customer Registration Center can provide you with price, scheduling, and enrollment information, as well as provide information about a dedicated class delivery.

Outside the U.S., contact your nearest local HP sales office.

Region Sales Headquarters:

United States:

Hewlett-Packard Company
Test and Measurement Organization
5301 Stevens Creek Blvd.
Bldg. 51L-SC
Santa Clara, CA 95052-8059
(408) 246-4300

Canada:

Hewlett-Packard Ltd.
5150 Spectrum Way
Mississauga, Ontario L4W 5G1
(905) 206-4725

European Headquarters:

Hewlett-Packard S.A.
150, Route du Nant d'Avril
1217 Meyrin 2 - Geneva, Switzerland
(41) 22/780 8111

Japan:

Hewlett-Packard Japan Ltd.
NAF Bldg.
3-8-20 Takaido-higasi
Suginami-ku
Tokyo 168
(03) 3335-8111

Latin America:

Latin America Region Headquarters
Monte Pelvoux No. 111
Lomas de Chapultepec
11000 Mexico, D.F. Mexico
(525) 202 0155

Australia/New Zealand:

Hewlett-Packard Australia Ltd.
31-41 Joseph Street, Blackburn
Victoria 3130, Melbourne, Australia
(03) 895-2895

Far East:

Hewlett-Packard Asia Ltd.
17-21/F Shell Tower, Times Square
1 Matheson Street, Causeway Bay
Hong Kong
(852) 2506-9285

Technical information in this document is subject to change without notice.

Copyright Hewlett-Packard Company 1997. All Rights Reserved. Reproduction, adaptation, or translation without prior written permission is prohibited, except as allowed under copyright laws.

Printed in USA 4/97

Publication Number 5964-3512EUS

Course Number: 8510C+24D (Scheduled)