
Logic Analysis with the HP 16505A Prototype Analyzer

Technical Data

Course Overview

Learn to reduce the time between problem discovery and root cause determination (time-to-insight) with the 16505A Training Class (16505A+24C). The course covers the theory of probing, acquisition and visual analysis used by hardware and software engineers to debug today's complex digital designs. Using the latest in logic analysis tools, students will have extensive hands-on time to apply the measurement concepts they will learn.

Upon completion of this course students will understand the difference between State and Timing acquisition. They will be able to select correct probing, acquisition, and analysis tools for an application. Students will learn to quickly debug hardware and software problems by making the best use of complex triggering and visual analysis.

Course Features

- Motorola 68332 EVS board
- HP 16505A Prototype Analyzer
- HP 16500B Logic Analyzer System
- HP 16550A 100 MHz State Analyzer and 500 MHz Timing Analyzer
- HP 16534A 2GSa/sec Oscilloscope

Course Number: 16505A+24C (Scheduled)
16505A+24Y (Dedicated)

- B4620A Software Analyzer Toolset (SWA)
- B4600A System Performance Analyzer Toolset (SPA)

Specifications

Course Length
2 days

Audience
Hardware engineers, software engineers, technicians, or anyone who wants to better understand methods for solving digital design problems using logic analysis tools.

Prerequisites
No previous experience with logic analyzers is required. Attendees must have an understanding of basic digital circuit theory. Some knowledge of software concepts is helpful but not required.

Delivery Method
Classroom or Dedicated

Format
Course content is 30% lecture and 70% lab. Students work in teams (a maximum of two per system) on the lab exercises using the latest HP equipment. The device under test is the HP Discovery Board, which contains the Motorola 68332EVS circuit board.

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 solve problems.

**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.

Regularly Scheduled Classes
Plan training months in advance.

Extensive Hands-on Practice
HP training is characterized by extensive hands-on experience and interactive class discussion. HP 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.

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Detailed Course Agenda

Day 1

- Introduction to Logic Analysis with the HP 16505A Prototype Analyzer
 - State and timing analyzer basics
 - Probing, acquisition and analysis overview.
 - Basic timing, Basic state, and Basic mixed mode measurement.
- Intermediate Logic Analyzer Concepts
 - Timing acquisition modes
 - State analysis clocking considerations
 - Trigger system overview
 - Visual analysis tools
- Introduction to Cross Domain Measurements
 - HP 16532A Oscilloscope
 - HP 16500B intermodule bus
 - Basic cross domain measurement (state, timing and analog)
- HP 16505A Connectivity Lab
 - Configuration Management
 - File Manager
 - Printing
 - Networking

Day 2

- State Sequence Lab
 - Multi-level state triggering
 - Sequence levels and branching
 - Storage qualification
 - Symbols and OMF usage
- Subroutine Duration Measurement Lab
 - Software triggering issues
 - Time measurements with state analysis

- Software performance with SPA
- Cross Domain Analysis Lab
 - Hardware debug of intermittent problem
 - Mixed display measurement (state, timing and analog)
 - HP 16500 Intermodule Bus
- Source Debug Lab
 - Trace to Source correlation with SWA
 - Software triggering issues
 - Function flow
 - Variable monitoring

Ordering Information

To order Logic Analysis with the HP 16505A Prototype Analyzer (16505A+24C) 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 dedicated on-site delivery (16505A+24Y) or customizing a course for your specific needs.

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

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