

# LOGIC ANALYZERS

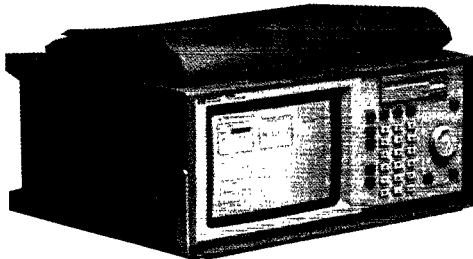
## Portable Logic Analyzers

HP 1650B, 1651B, 1654B

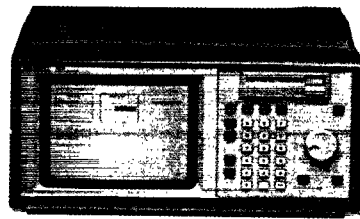
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- HP 1650B: 80 channels of 35 MHz state/100 MHz timing
- HP 1651B: 32 channels of 35 MHz state/100 MHz timing
- HP 1654B: 64 channels of 35 MHz state/100 MHz timing

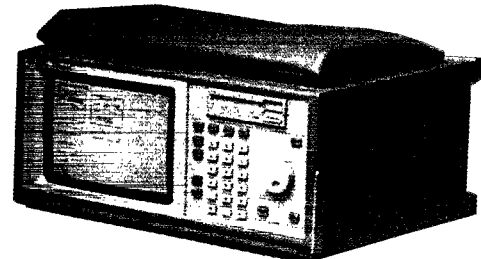
- Broad support for microprocessors, buses and interfaces
- Simultaneous state/state or state/timing measurements



HP 1650B



HP 1651B



HP 1654B



### HP 1650B, HP 1651B, HP 1654B: Best Value in General-Purpose Logic Analyzers

For microprocessor analysis or general-purpose state and timing-debug, the HP 1650B, HP 1651B, and HP 1654B logic analyzers offer the best value. Each analyzer can be configured as a one- or two-state analyzer, a state analyzer/timing analyzer, or a timing analyzer. Data captured by each analyzer can be displayed with full time correlation. Lightweight, flexible, passive probing is included.

### Support for Most Microprocessors, Buses, and Interfaces

The HP 1650B, 1651B and 1654B support a broad range of microprocessors, buses, and interfaces. Each support package turns your analyzer into a powerful debugging tool dedicated to the task at hand. Most support packages include a 3/4-inch disk that configures the analyzer and translates captured data into mnemonics. See pages 324-326 for details on support for your system.

### Powerful State Analysis Helps You Focus on Needed Information

The HP 1650B's powerful state triggering filters out unnecessary data and provides a listing of the crucial data:

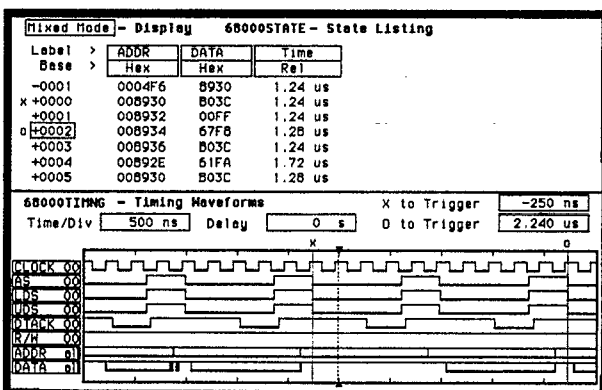
- Clocks and clock qualifiers allow your system to determine when the analyzer takes a sample.
- Storage qualification allows you to specify which states are stored in memory.
- Eight sequence levels determine the sequence of states required for trigger and help you to focus on a specific area of code execution.
- Eight pattern recognizers, one range recognizer, or logical combinations of these are used to identify stored states.
- Tagging keeps track of the amount of time or the number of states between stored states.
- Enable/disable can be used to restrict storage to the activity of a specific routine.

### Transitional Timing on All Channels Extends the Measurement Range

Each analyzer provides 10 ns timing resolution on every channel. The analyzer stores data only when there is a transition, thus avoiding redundant data storage. 100 MHz transitional timing on all channels effectively extends the memory by lengthening the time covered by the acquisition. Because timing analyzer samples at full speed, events that are seconds or minutes apart are captured with 10 ns resolution. You can use pattern, edge, or duration triggering across all 80, 64, or 32 channels when you need to see what is happening around a hardware interrupt or handshake.

### Glitch Capture on All Channels

With glitch capture on all channels, you no longer need to move probes around your system to detect intermittent problems. You can trigger on and capture 5 ns glitches on all channels of your HP 1650B, 1651B, and 1654B analyzers. Glitches are displayed as vertical dashed lines, so you can easily distinguish legitimate system activity from glitches.



Time Correlated State and Timing Displayed on the Same Screen