

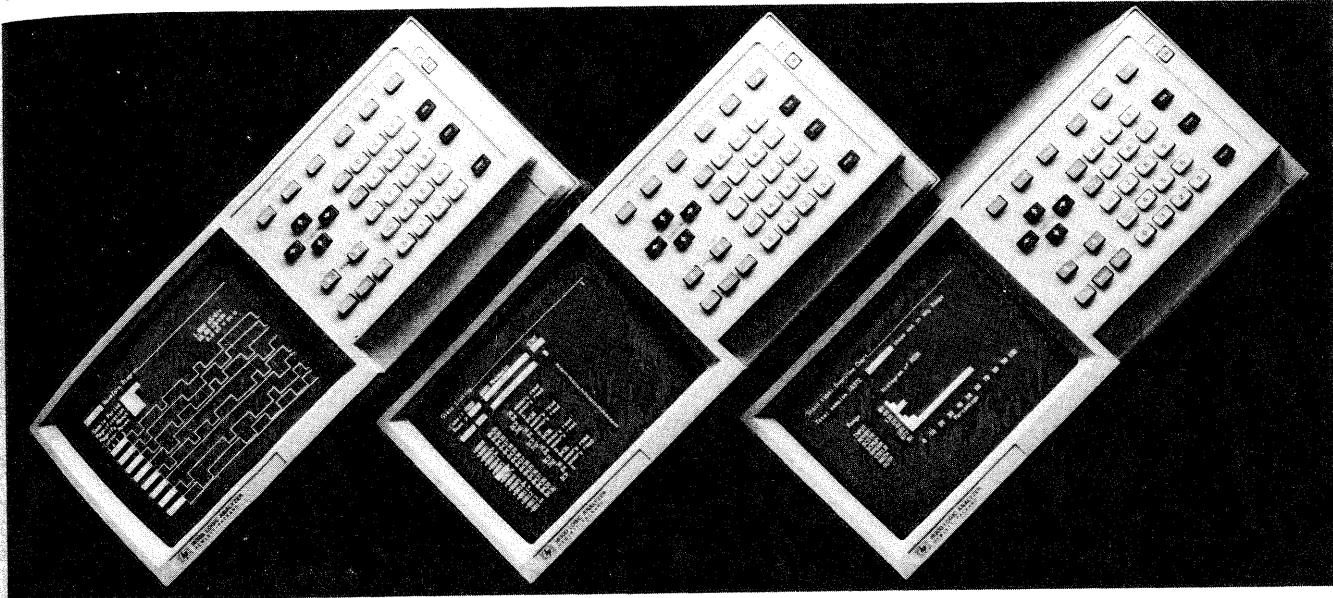
# LOGIC ANALYZERS

General-purpose Family  
Models HP 1630A, 1630D, and 1630G



- Provides state, timing, and system performance analysis in one instrument
- Timing post-processing

- Interactive measurements
- Full compare mode (HP 1630G)



## General-purpose Tool For The Modern Designer

The HP 1630 family of logic analyzers consists of three models designed to meet the needs of digital design and test engineers.

The A and D models differ only in channel width—the HP 1630A has 35 channels, and the HP 1630D has 43 channels. The HP 1630G has 65 channels, and additional system performance features for time tagging, time-positional charting, and module linkage histograms.

### State Analysis

State listings and waveforms provide displays and windowing of address, data, status, and control line activity. Selectable display modes include binary, octal, decimal, hexadecimal, ASCII, relocation, user-defined mnemonics, and microprocessor-specific mnemonics. You can assign labels, and display and/or trigger on code in terms of relocatable or absolute addresses, or user-defined mnemonics.

- 25 MHz speed
- Up to 65 channels (HP 1630G)
- 1k memory
- Three clocks
- Demultiplexing
- Full compare mode (HP 1630G)

### Timing Analysis

Timing waveform diagrams provide simultaneous display of up to 16 channels, with user-definable labels that speed and simplify data evaluation. Wide magnification range, unique glitch display, and direct readout of time between cursors let you quickly adjust parameters to match the application.

- Speeds to 100 MHz
- Up to 16 channels (HP 1630D)
- 1k memory
- Glitch triggering

### Timing Post-processing

Automatic time-interval measurements are provided with X and O cursors, with statistical calculations to enhance accuracy. A search-and-then-stop mode, which is called post-processing, stops timing data acquisition if your system violates a timing or sequence condition.

### System Performance Analysis

Meeting system throughput requirements often requires a global look at overall system activity. Time interval, event, and module linkage histograms let you view system hardware and software activity or specific modules of code for performance evaluation (HP 1630G only).

Out-of-spec conditions or bottlenecks stand out. The display shows measurement data, including the minimum, maximum, average, and total measurement time.

- Time-interval histogram - eight ranges, 1  $\mu$ s resolution
- State label histogram - eight labels, maximum count  $2^{63}-1$
- Time-positional histogram - 1023 time buckets, 1.023  $\mu$ s to 205 ks duration
- Module linkage histogram - eight definable events, eight links

### Interactive Measurements

The HP 1630A/D/G's interactive measurement capability allows you to determine whether your system problems are software errors or hardware malfunctions.

- Trigger on state and view timing data
- Trigger on timing and view state data
- Time tags for real-time measurements between states (HP 1630G)

### Preprocessors

A wide selection of preprocessors tailors the HP 1630 logic analyzers to specific microprocessors. Preprocessor interface modules contain circuitry that properly formats data, and they provide connection via a microprocessor socket. Software supplied with preprocessors performs inverse assembly for state displays in the selected microprocessor's mnemonics. For more details on HP's preprocessors and interface modules, please refer to page 403.

### Inverse Assembly

Program activity displayed in inverse assembly can save many hours in test and debug. No more time-consuming or error-prone conversions from hex because now your measurement listings appear just as you wrote them, making them easy to compare to source-code listings.

### Fast, Reliable Storage of Setups And Data

HP-IB and HP-IL are standard on the HP 1630A/D/G. These interfaces allow the logic analyzer to communicate with a variety of computers, test equipment, and peripherals. A small investment in an HP disc drive allows you to store setups and data. The HP 1630A/D/G can use the HP 9122S/D disc drive as the mass storage device.

### Hardcopy Output Simplifies Documentation

With the HP 2225A ThinkJet printer, you can quickly obtain a copy of any HP 1630A/D/G display. Instead of time-consuming hand documentation or inconvenient photography, simply push the PRINT button. In seconds, you have a complete record for your lab notebook.