

Parallel Port LA-2124 Logic Analyzer

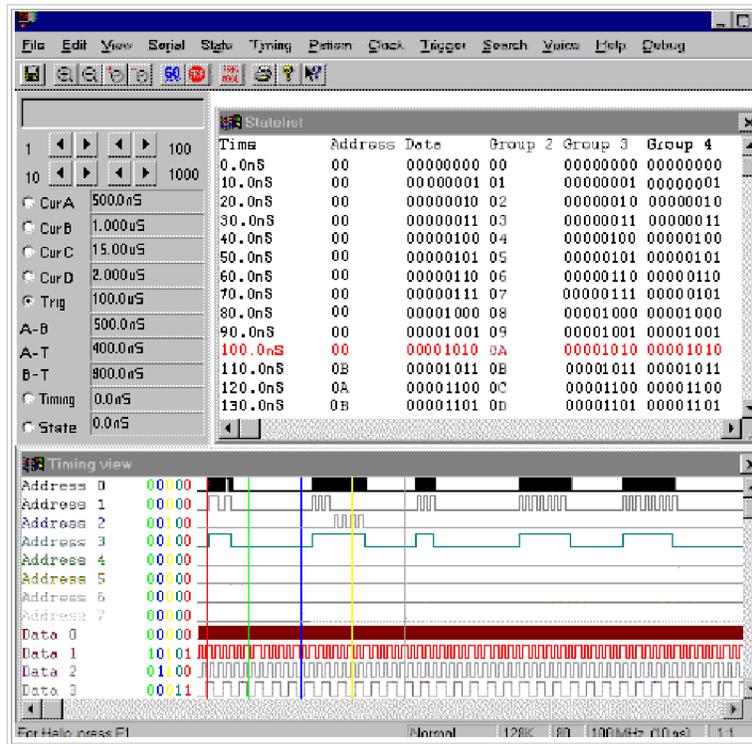
The LA-2124 is a portable Logic Analyzer that connects to the parallel port of your desktop or laptop computer. It features 24 channels, 100MSa/s sampling rates, 128K deep data buffers, advanced software and portability. The software runs on Windows 95/98. Windows NT software is not currently available.

State-of-the-art features

- Logic Analyzer front panel software is available for [Windows 95](#) and [Windows 98](#).
- [High speed operation \(up to 100 MHz\)](#).
- 24 Channels
- Deep data buffers: 128K samples per channel. Simply put, the deeper the buffer the better.
- Continuously variable pre/post trigger position. This combined with the large data buffer gives you the power to store up to 128K events surrounding the trigger point.
- High Impedance probes that minimize interference with the circuit under test (100Kohm).
- Variable threshold voltage.
- [Statelist display](#).
- [Timing display](#).
- Mixed mode display.
- High data bandwidth up to 30 MHz.
- External high speed clock input.
- Captures both state and timing simultaneously with one probe.
- High quality [clips and wires](#) included with Logic Analyzers.



Logic Analyzer screen shot



Deep data buffer helps you capture everything that you need

Our data buffer gives you the flexibility to store a great number of events surrounding the trigger. Sometimes it is difficult to pinpoint the exact event that you want to trigger on. With our system you don't need to know exactly where to trigger since our large buffer will capture so many events. And of course you can capture long events that other analyzer may cut off. Also, you can maintain higher sampling rates to get more detail without running out of buffer space!

Your PC is a powerful tool - Take advantage of it

PC-based instruments provide a familiar interface. Since the instrument is in your PC, so is the data. There is no need to fuss with cables and communications programs to transfer the data to your PC. Another advantage of being PC-based is that there is no expensive and time consuming firmware upgrades. All of our software updates are free and done via floppy disk or modem.

We take full advantage of your large color monitor to display more data. Depending on your display hardware, we can display all 24 channels simultaneously in different colors and still have enough room to display the system parameters.

We use your keyboard for input; no need to spin wheels or stumble through multiple softkey menus. Any change of parameters is followed by an immediate update of the data buffer resulting in a real-time scope style sensation that's quick, easy to use, intuitive, and easy to learn.

High Speed Clock Rates Give You The Power to Oversample

Although theoretically you need your logic analyzer to capture at only twice your data rate, in reality you need much more than that. Our analyzers provide up to 100 MHz clock rates for accurate and detailed data capture.

Low speed sample rate (signal looks good)



High speed sample rate (notice the glitch)

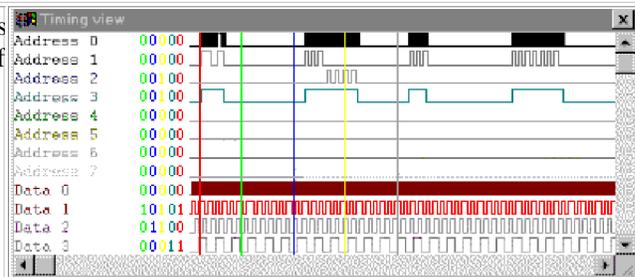


The faster you sample the more likely it is to catch a glitch.

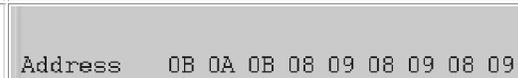
Data and Control from Easy to Use Windows

Timing Window

The data is displayed as a timing wave form. Each channel is displayed in it's own color. Channel names, numeric value of data at each cursor and scrollbars are also in this view. The window can be zoomed in or out to show just a few samples or the entire buffer.



Group of channels displayed in HEX:

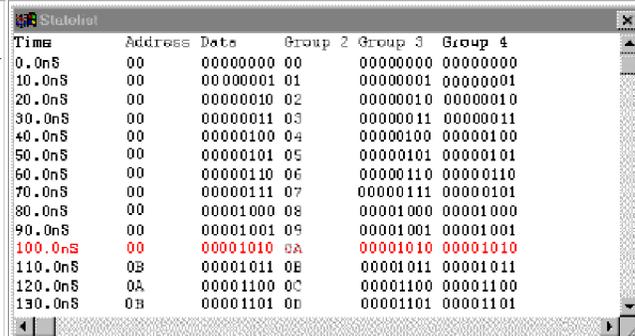


Group of channels displayed as Waveform:



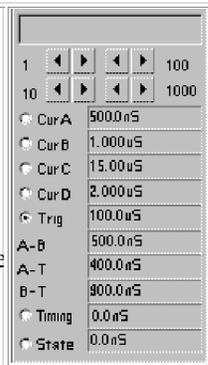
Statelist Window

Data is organized into groups and displayed in a numeric format [ASCII, binary, hexadecimal, decimal, or user defined mnemonics]. The data is organized into user defined groups.



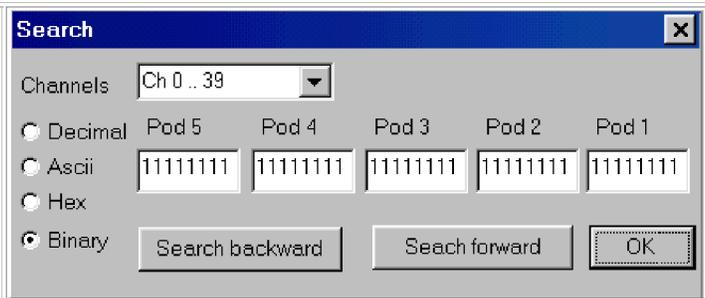
Cursor Controls and Settings

The current position of the cursors is shown here. Selecting a specific cursor or display window and then clicking the arrows allows precise positional changes. The cursors can also be quickly repositioned by clicking on the cursor and dragging it. The position, both absolute and relative to the trigger, can be shown in time units or data sample numbers.



Search

Sorting through all your data is easier with our search feature! You can specify a search pattern, including **Don't Care** bits, in any shown numeric bases. Then just click on the forward or backwards search to find what you are looking for!



File Save/Export

Data files can be saved for future viewing or sharing with other engineers. You can even export the data in "**CSV**" format to programs like mathcad, excel, word....

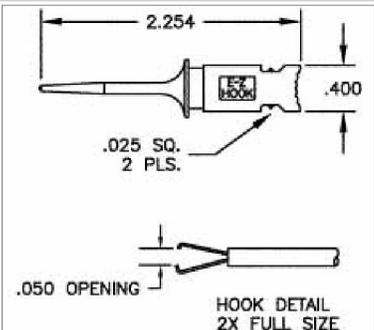
Screen images can be pasted into windows compatible programs like word, excel...

Logic Analyzer: Clips

The Logic Analyzer ships with a full set of color coded clips and wires. The double gripper is designed for hard-to-make test connections of varying sizes and shapes. The narrow configuration allows stacking of the test connectors side-by-side for high-density IC packages and surface-mount components. Two .025" square pins permit connection to .025" square or .030" round push-on adaptors or jumpers.

Other options include:

Connecting the wires directly to .025" posts on your board and connecting your wires/cables to the posts on the Logic Pod.



E-Z-Hook inc.

Logic Analyzer: Wires

Wires are used to connect the logic analyzer to either the clips, or directly to the circuit under test.

One wire is provided for each channel and two for grounding each data pod. The wires are 10 inches long and have female connectors at each end. These plug onto standard 0.25" posts on your circuit or to the pins on the clips. The other end plugs onto the pins of the data pod.

The speed of your PC does not significantly affect the performance of our instruments.

Although we rely on the PC to display the data and for the user interface. We don't rely on it for our high speed data acquisition. If your PC is fast enough and has enough memory to run windows well it will run our products well also.

The LA-2124 has high speed samplers and data buffers. It can acquire data at up to 100MSa/s and stores the data in its own 128K/channel buffers. When these buffers are full the data is transferred to the PC.

The LA-2124 will run just as well on a 80386 as on a Pentium III(800MHz). The Logic Analyzer connects via the parallel port but this is just used as a method of transferring the already captured data from the LA to the PC - we don't rely on it transfer 'live' data. The only improvement you will see with a faster computer is in screen update speed, and even then the differences are slight.

Running the LA-2124 off batteries.

It's possible to run the LA-2124 off of a battery pack.

See [LA-2124 battery packs](#) for more info.

General Specifications	
Channels	24
Buffer size	Windows software: 128K and 8K (software selectable) DOS software: 128K and 4K (software selectable)
Threshold Voltage	Variable (-1v to +3v).
Trigger	Single level. 24 bit wide trigger word with each bit settable to 0, 1, or X(don't care)
Trigger in	Any/all of the Logic Analyzer channels can be used as a trigger in.
External clocks	1 (25MHz maximum)
Bandwidth	50 MHz
Setup/Hold Time	0 ns / 20 ns
Impedance	100KOhm
Maximum Input Voltage	Inputs are clamped through a 470 KOhm resistor. -5V to -50VContinuous
Sampling Clock	100 MSa, 50 MSa, 20 MSa, 10 MSa, 5 MSa, 2 MSa, 1 MSa, 500 KSa, 200 KSa, 100 KHz, 50 KSa, 20 KSa, 10KSa and 5 KSa.
Data Skew	Channel to channel, < 2 ns typical.

Trigger	
Trigger Conditions	0, 1, and DON'T CARE for all channels.
Trigger Edge	Trigger on the condition becoming TRUE or on becoming FALSE
Trigger Position	Trigger position can be set anywhere in the capture buffer.
Trigger modes	Single: when trigger condition is met - Acquire a buffer worth of data. Normal: when trigger condition is met - Acquire a buffer worth of data - then start again. Auto: if trigger condition is not met within a set time- Acquire anyway - then start again.

Display			
Timing	<p>Windows Software Data can be displayed on screen as a timing waveform. Each channel can have a user-specified name and can be displayed in any sequence. Channels can be also be grouped together into busses and viewed in ASCII, hexadecimal, decimal, binary, or in user defined mnemonics. Time between cursor A , cursor B, and Trigger is displayed Zoom scales of 1/4000X to 50X (horizontal). Indicator of current position of buffer shown on screen. The color of each channel can be set independently.</p>		
Statelist	<p>Windows Software Channels can be organized into groups and displayed on screen in ASCII, binary, decimal, hexadecimal, and user defined mnemonics. Channels can be displayed in any sequence. Time between A cursor, B cursor, and Trigger is displayed.</p>		
Data Storage Formats	<p>Windows Software Data and settings can be saved in .CSV (Comma Separated Values) or as a compressed format, with settings, for later display and analysis. Data can be exported in the CSV format to programs such as Excel, Mathcad, etc...</p> <p>DOS Software Data is saved in a raw binary format. Settings are also saved in a binary format. File formats descriptions included.</p>		
Printed Output	<p>Windows software Both Statelist and Timing waveforms can be printed on any windows compatible printer.</p> <p>DOS software Both Statelist and Timing waveforms can be printed. Graphics mode on HP LaserJet compatible or IBM compatible dot matrix printers supported.</p>		
Software Compatibility	<p>Windows software Win95 and Win98. At least the minimum computer configuration to run above operating systems is required.</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 60%;">LA-2124-128K</td> <td>1 meg</td> </tr> </table>	LA-2124-128K	1 meg
LA-2124-128K	1 meg		
Hardware Compatibility	<p>Windows (95/98) software VGA or better display adapter required. Requires parallel port.</p>		

Physical	
Included	Logic Analyzer, clips and wires, communications cable, power supply, and software.
Power Requirements	7.5V [LA ships with 110V external power supply] An optional international power supply is available.
Dimensions	4.5" x 2.8" x 1.0"
Interface	Parallel Port
Price	\$800.00