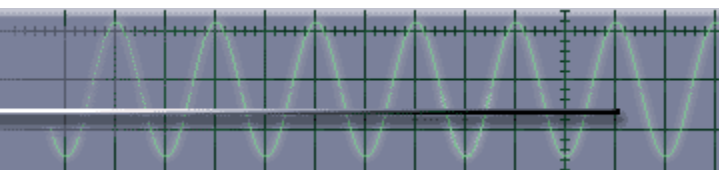




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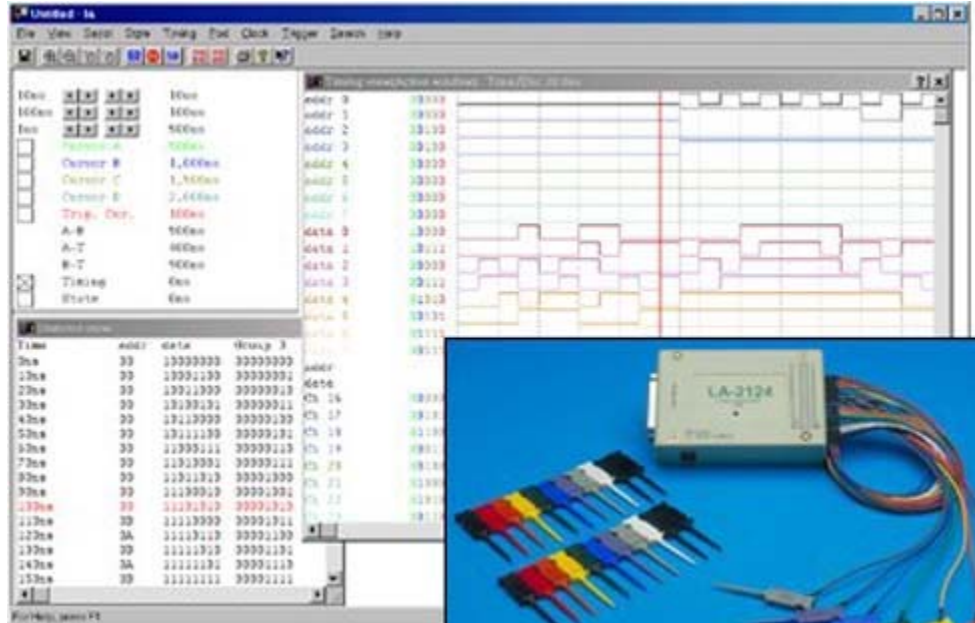
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LA-2124

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PRICE

LA-2124
[\\$800](#)

The low cost, ultra compact LA-2124 Logic Analyzer offers all of the features and performance you have come to expect: high speed clock rates, deep data buffers, easy data management and large color displays.

The Logic Analyzer connects to your PC's parallel port and makes use of your computers resources: large color screen, disk drives, data sharing, printers, networking etc... The LA-2124 is very small and easy to take with you into the field.

The PC-based instrument is controlled with easy to use Windows software. This allows for more organized data display (with color coded data and increased screen size), intuitive user interface, and data management (file saving, loading, sharing and exporting to other software and reports).

Features

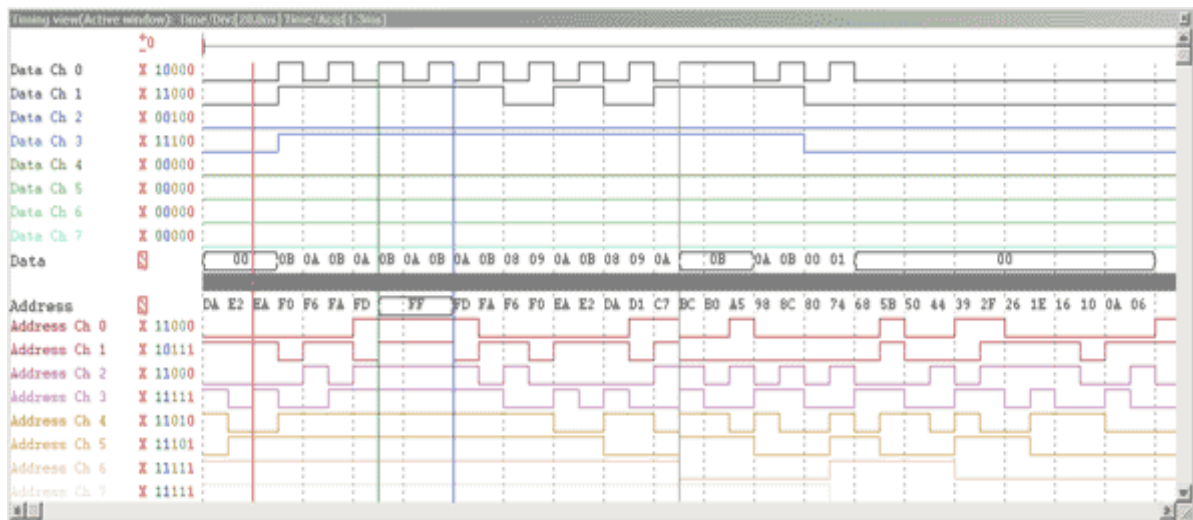
- **Logic Analyzer FrontPanel™ Software**
For Windows XP/2000/NT/98/ME/95.
- **High Speed Operation**
Up to 100MHz
- **Deep Data Buffers**
Up to 128K samples per channel
- **24 Channel Triggering**
- **Continuously Variable Pre/Post Trigger Position**
Combined with the large data buffer, provides the power of storing up to 128K events surrounding the trigger point
- **Printer Support**
Print data on a Windows compatible printer
- **External Clock Input**
- **Data File Save/Export**
Save & export to Excel, Word, Mathcad, etc...
- **High Impedance Probes**
Minimize interference with test circuit (100KΩ)
- **Variable Threshold Voltage**
Variable between -1.0V and +3.0V; threshold types including TTL, ECL, 3V logic, CMOS, and RS-232
- **External Trigger Output**
To trigger other instruments (e.g. scope)
- **I²C Monitor Software (optional)**
Decodes I²C serial bus commands
- **Captures State & Timing Simultaneously**
- **Standard Accessories**
Clips, wires

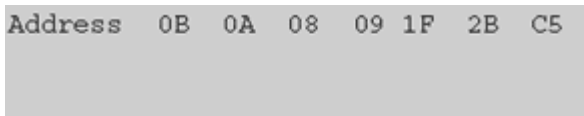
Logic Analyzer FrontPanel™ Software

The software combines the live feel of a stand-alone logic analyzer and the familiar operation of a Windows program. Parameters can be changed on the fly while acquisitions are repeating and the results seen on the updated display. All functions are accessed through pull down menus and dialog boxes. Toolbar icons offer quick access to more frequently used operations.

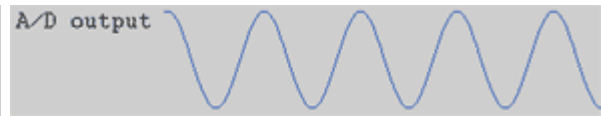
Timing Window

The data is displayed as a timing waveform. Each channel is displayed with a user-specified color and label. Channels can also be displayed in any sequence and can also be grouped into busses and viewed in ASCII, HEX, decimal, binary, or user defined mnemonics. The display can be zoomed in/out and scrolled to show just a few samples or the entire buffer. This window also has 4 data cursors that can be used to measure time between events or as markers for places of particular interest.





Group of Channels Displayed in HEX



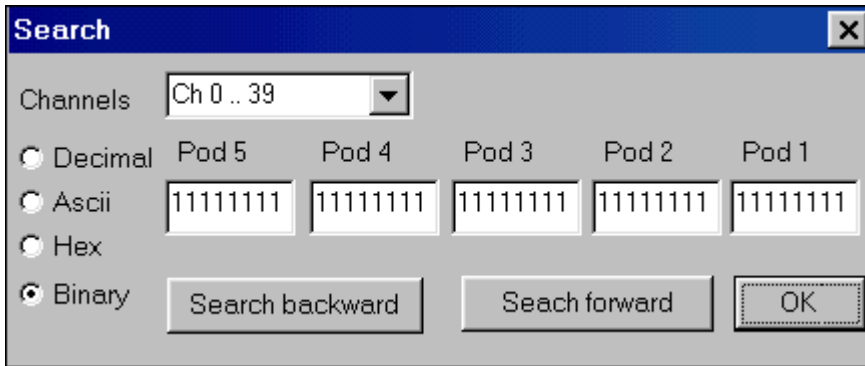
Group of Channels Displayed as a Waveform

Statelist Window

| Statelist view: | | | | |
|-----------------|------|----------|---------|----------|
| Time | Data | Address | Group 3 | Group 4 |
| 90ns | 00 | 11100010 | 01 | 00001001 |
| 100ns | 00 | 11101010 | 10 | 00001010 |
| 110ns | 0B | 11110000 | 11 | 00001011 |
| 120ns | 0A | 11110110 | 00 | 00001100 |
| 130ns | 0B | 11111010 | 01 | 00001101 |
| 140ns | 0A | 11111101 | 10 | 00001110 |
| 150ns | 0B | 11111111 | 11 | 00001111 |
| 160ns | 0A | 11111111 | 00 | 00010000 |
| 170ns | 0B | 11111111 | 01 | 00010001 |
| 180ns | 0A | 11111101 | 10 | 00010010 |
| 190ns | 0B | 11111010 | 11 | 00010011 |
| 200ns | 08 | 11110110 | 00 | 00010100 |

Data in the Statelist window is organized into groups and displayed in a numeric format (ASCII, binary, HEX, decimal or user defined mnemonics). These groups are user defined and can have from 1 to 32 channels in them. This window has 4 data cursors that can be used to measure time between events or as markers for places of particular interest. These are the same cursors as the ones in the Timing window and can be used as a reference point when viewing data in both windows.

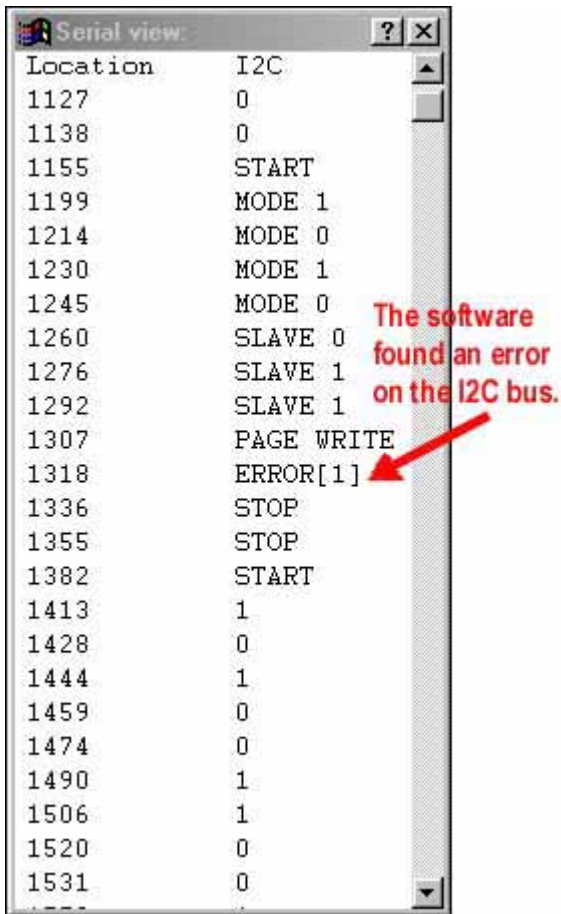
Search Function



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

I²C Monitor Software (optional)

- View I²C codes from a separate window within our Windows based control software.
- Displays I²C commands. Start, Stop, Read, Write, Slave address, Address, Data, ACK and NACK.
- Displays Timing of all activity on the Clock and Data lines showing you everything that happened, including valid I²C codes, glitches, timing errors and other non-I²C data.
- Since this is a logic analyzer, you have plenty of other channels to monitor the rest of your circuit while still viewing the I²C bus.

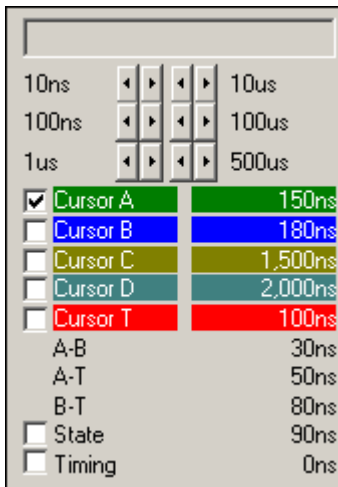


The software found an error on the I2C bus.

| Location | I2C |
|----------|------------|
| 1127 | 0 |
| 1138 | 0 |
| 1155 | START |
| 1199 | MODE 1 |
| 1214 | MODE 0 |
| 1230 | MODE 1 |
| 1245 | MODE 0 |
| 1260 | SLAVE 0 |
| 1276 | SLAVE 1 |
| 1292 | SLAVE 1 |
| 1307 | PAGE WRITE |
| 1318 | ERROR[1] |
| 1336 | STOP |
| 1355 | STOP |
| 1382 | START |
| 1413 | 1 |
| 1428 | 0 |
| 1444 | 1 |
| 1459 | 0 |
| 1474 | 0 |
| 1490 | 1 |
| 1506 | 1 |
| 1520 | 0 |
| 1531 | 0 |

- Compare I²C codes with actual circuit behavior. Are your commands actually doing what you expected? You have all of the logic analyzer's resources to verify and debug your circuit response.
- What makes this product so superior to other I²C Monitors is that you are also be able to see all activity on the Clock and Data lines in Timing and Statelist display.

Cursor Controls & Settings



| | | |
|--|---------|---------|
| 10ns | ◀ ▶ ◀ ▶ | 10us |
| 100ns | ◀ ▶ ◀ ▶ | 100us |
| 1us | ◀ ▶ ◀ ▶ | 500us |
| <input checked="" type="checkbox"/> Cursor A | | 150ns |
| <input type="checkbox"/> Cursor B | | 180ns |
| <input type="checkbox"/> Cursor C | | 1,500ns |
| <input type="checkbox"/> Cursor D | | 2,000ns |
| <input type="checkbox"/> Cursor T | | 100ns |
| A-B | | 30ns |
| A-T | | 50ns |
| B-T | | 80ns |
| <input type="checkbox"/> State | | 90ns |
| <input type="checkbox"/> Timing | | 0ns |

The current position and time between the cursors is shown here. Cursor position can be changed from this window or in the Timing window by clicking and dragging them.

Software Compatibility

| OS's supported: | |
|--------------------|---|
| Windows XP/2K | ✓ |
| Windows NT | ✓ |
| Windows 98/98SE/ME | ✓ |
| Windows 95 | ✓ |

The LA-2124 logic analyzers have software for Win XP, Win 2K, Win NT, Win 95, and Win 98. The logic analyzers are PC-based and we regularly upgrade the software with more features and support for new operating systems. [Software updates](#) are free and available on the website.

Printer Support

Statelist and Timing waveforms can be printed on any Windows compatible printer.

File Save/Export

The logic analyzer data can be stored on your PC in a number of ways:

- Files can be saved to disk for future viewing.
- Data can be exported in "CSV" format to programs like Mathcad, Excel, Word, etc...
- You can paste screen images into your reports using programs like Word, Excel, image editors, etc...
- Data can even be shared with other computers. You don't need to have our logic analyzer connected to a computer to view the data files. You can capture data in the lab and view it in your office or you can email it to other engineers at remote locations for analysis.

High Speed Operation (up to 100MHz)

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 100MHz (100MSa/s) clock rates for accurate and detailed data capture.



Deep Data Buffers (up to 128K samples per channel)

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 analyzers may cut off. Also, you can maintain higher sampling rates to get more detail without running out of buffer space.

Continuously Variable Pre/Post Trigger Position

- The continuously variable pre/post trigger positioning enables the user to control the amount of data recorded before and after the trigger event.
- The trigger cursor can be positioned anywhere in the buffer (up to 128K) so that can see a long train of events that led up to the trigger condition, a long series that followed the trigger or many events surrounding it.

24 Channel Triggering

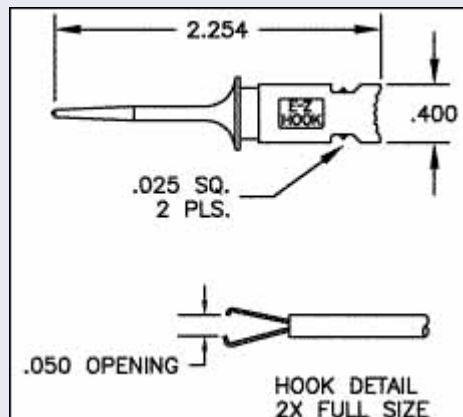
The Logic Analyzer is triggered based on a 24 bit wide word. Each bit represents one input channel. Each bit can be set to '0', '1' or Don't Care.

| | |
|---------------------------|---|
| Trigger Conditions | 0,1 and DON'T CARE for all channels |
| Trigger Edge | Trigger on the condition becoming true or becoming false |
| Trigger Position | Trigger position can be set anywhere in the capture buffer |
| Trigger Modes | <p>Single: If trigger conditions are met, acquire a buffer worth of data</p> <p>Normal: If trigger conditions are met, acquire a buffer worth of data, then restart</p> <p>Auto: If trigger conditions are not met within a set time, acquire a buffer worth of data, then restart</p> |
| Trigger Out | Trigger out pin |

Standard Accessories

The standard logic analyzer kit includes all the accessories needed to take advantage of many of its features.

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 0.025" square pins permit connection to 0.025" square or .030" round push-on adapters or jumpers.

Other options include:

Connecting the wires directly to 0.025" posts on your board and connecting your wires/cables to the posts on the logic pod.

Wires

Wires are used to connect the logic analyzer to either the clips, or directly to the circuit under test. The wires are 10 inches long and have female connectors at each end. These plug onto standard 0.025" posts on your circuit or to the pins on the clips. The other end plugs onto the pins of the data pod.

Specifications

| | |
|----------------|----|
| General | |
| Channels | 24 |

| | |
|------------------------|--|
| Buffer Size | 128KB and 2KB (software selectable) |
| Threshold Voltage | Variable (-1V to 3V) |
| External Clocks | 1 (25MHz maximum) |
| Bandwidth | 30MHz |
| Setup/Hold Time | 0ns/20ns |
| Impedance | 100K Ω |
| Maximum Input Voltage | Data inputs are clamped through a 470K Ω resistor. -5V to 50V continuous external clock input is rated between 0V and 5V |
| Sampling Clock | 100MSa, 50MSa, 20MSa, 10MSa, 5MSa, 2MSa, 1MSa, 500KSa, 200KSa, 100KSa, 50KSa, 20KSa, 10Ksa and 5Ksa |
| Data Skew | Channel to channel, < 2ns typical |
| Power Requirements | 7.5V <i>standard kit ships with 110V external US power supply. International power supply is available</i> |
| Software Compatibility | Win XP, Win 2K, Win NT, Win 98, Win ME, Win 95 |
| Dimensions | 4.5" x 2.8" x 1.0" |
| Trigger | |
| Trigger | Single level. 24 bit wide trigger word with each bit setable to 0, 1, or X (don't care) |
| Trigger Edge | Trigger on the condition becoming true or becoming false |
| Trigger Position | Trigger position can be set anywhere in the capture buffer |
| Trigger Modes | Single: If trigger conditions are met, acquire a buffer worth of data Normal: If trigger conditions are met, acquire a buffer worth of data, then restart Auto: If trigger conditions are not met within a set time, acquire a buffer worth of data, then restart |
| Trigger In | Any/all of the logic analyzer channels can be used as trigger in |
| Trigger Out | Trigger out pin |

Pricing

| | |
|-----------------------------|---|
| LA-2124 Kit | |
| LA-2124 | \$800 Logic Analyzer, 30 clips, 30 wires, communication cable, US power supply and software. |
| Optional Accessories | |
| Extra clips and wires | \$165 50 clips and wires, part # LA-CLIPS-50 \$40 10 clips and wires, part # LA-CLIPS-10 |