LeCroy

LogicStudio™
16 Channel Logic Analyzer

Faster, Smarter Debug

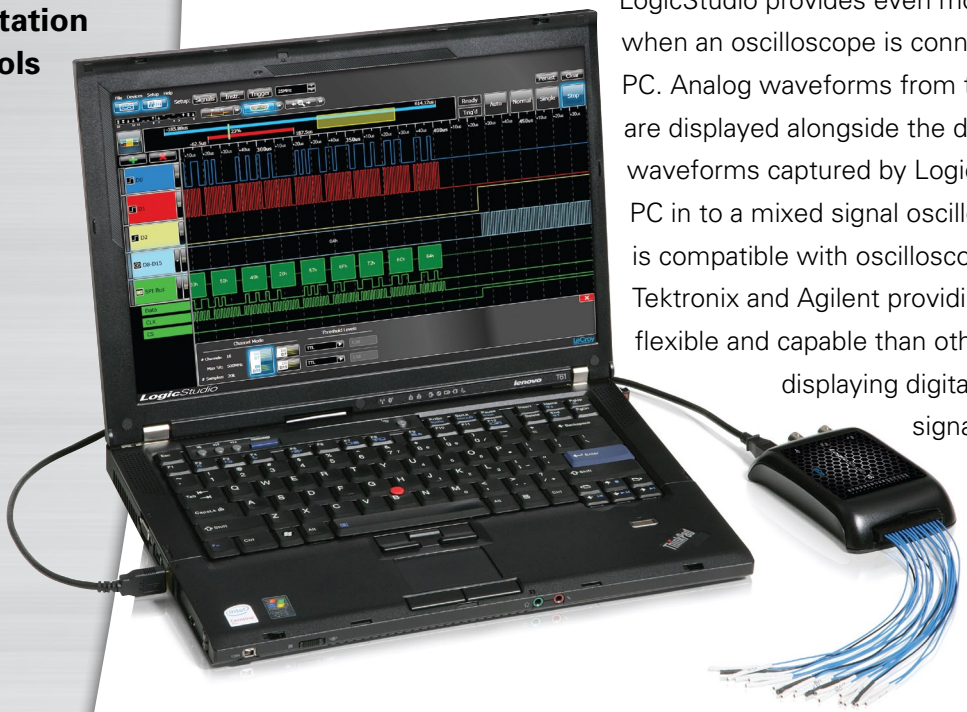
ADVANCED FEATURES, SIMPLE DEBUG

Key Features

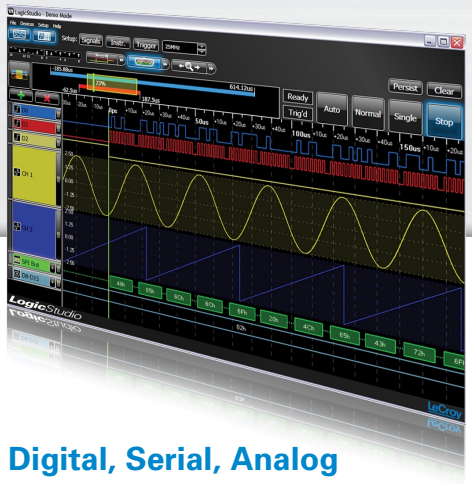
- **100 MHz, 1 GS/s, 16 channels**
- **3.75 ns pulse capture**
- **I²C, SPI, UART protocol analysis**
- **History mode**
- **Display live analog waveforms from oscilloscope**
- **Live transfer of analog waveforms from**
- **Powerful, flexible triggering**
- **Easy documentation and sharing tools**

Logic analyzers are known to be slow, complicated and expensive but LogicStudio™ changes all this by delivering a powerful feature set, high-performance hardware and an intuitive point and click user-interface. With timing cursors, history mode, I²C, SPI and UART decoding, powerful triggering and simple navigation the PC is transformed in to an all-in-one debug machine. Since many systems also include analog waveforms LogicStudio interfaces with a variety of oscilloscopes to display analog waveforms with digital and serial busses simultaneously.

The intuitive user-interface works with basic mouse operations. To pan the waveforms simply click and drag, use the mouse wheel to zoom in or scan the waveforms with the magnification toll to get a great view of the details. With all the debug tools accessible from the main screen, debugging is simple, efficient and just one mouse click away.

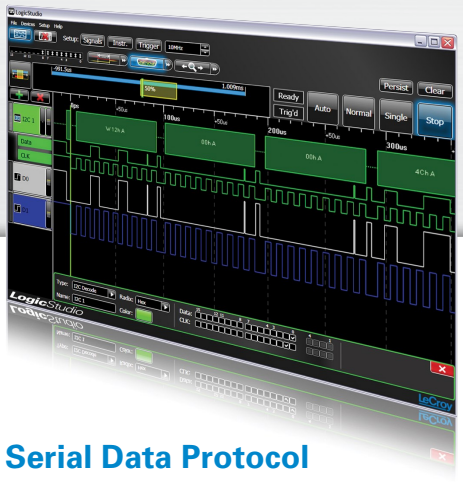


LogicStudio provides even more functionality when an oscilloscope is connected to the PC. Analog waveforms from the oscilloscope are displayed alongside the digital and serial waveforms captured by LogicStudio turning the PC in to a mixed signal oscilloscope. LogicStudio is compatible with oscilloscopes from LeCroy, Tektronix and Agilent providing making it more flexible and capable than other logic analyzers displaying digital, serial and analog signals simultaneously.



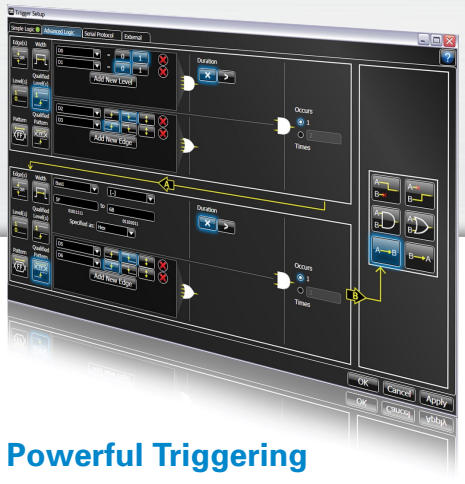
Digital, Serial, Analog

Connect LeCroy, Tektronix or Agilent oscilloscope to the same PC as the LogicStudio 16 and turn the PC into a Mixed Signal Oscilloscope displaying digital, serial and analog signals simultaneously allowing you to get a full picture of your embedded system.



Serial Data Protocol Decode and Trigger

Decode I²C, SPI and UART serial data busses and view the appropriate clock and data signals directly below the protocol message. Isolate specific data patterns or addresses by triggering directly on that data.

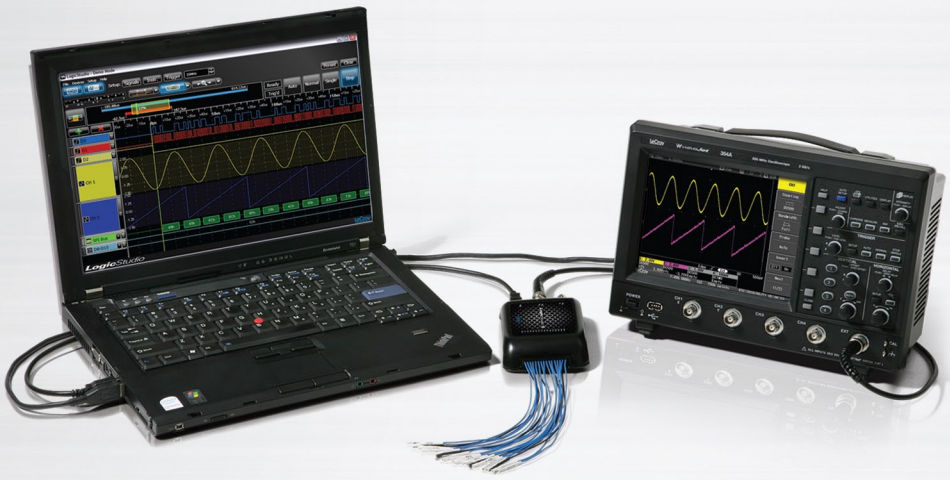


Powerful Triggering

For difficult problems a simple edge or logic level trigger is not enough. LogicStudio advanced triggering provides an environment for creating powerful combinations of edge, logic level, parallel bus and serial bus triggers to isolate difficult problems.

Turn the PC into a MIxed Signal Oscilloscope

LogicStudio is compatible with 10 popular oscilloscopes series from LeCroy, Tektronix and Agilent covering bandwidths from 40 MHz up to 1 GHz. Connecting the instruments is easy with the included USB and BNC cables, make the connections and let the software establish the link and begin displaying waveforms.



POINT, CLICK, DEBUG

LogicStudio is fast! Waveforms update quickly and panning or zooming is extremely responsive. Download the software and experience it yourself. The software interface is modern and intuitive creating a new logic analyzer experience. LogicStudio is intuitive and easy to operate with friendly left-click and right-click controls plus all buttons are on the main screen, no complicated menus to navigate.

1. History

Did something interesting or surprising just flash across the screen, stop the trigger and flip through a history of the previous 100 acquisitions.

2. Persistence

View variations in the signals over time to find problems faster. Use with History mode to see what happened when and isolate the problem.

3. Interleaving for Higher Performance

Use all 16 channels at 500 MS/s or 8 channels at 1 GS/s for more timing resolution.

4. Logic Thresholds

Choose from standard TTL and CMOS levels or create a custom level from 0–7 V.

5. Trigger Modes

Oscilloscope trigger modes of Auto, Normal and Single help ensure what you need to see is always on the display.

6. Save and Recall

Save screenshots to share with others or save waveforms and setups for recalling later.

7. Add/Remove/Hide Waveforms

One click to add a new waveform, one click to remove it, right-click to hide it for later viewing.

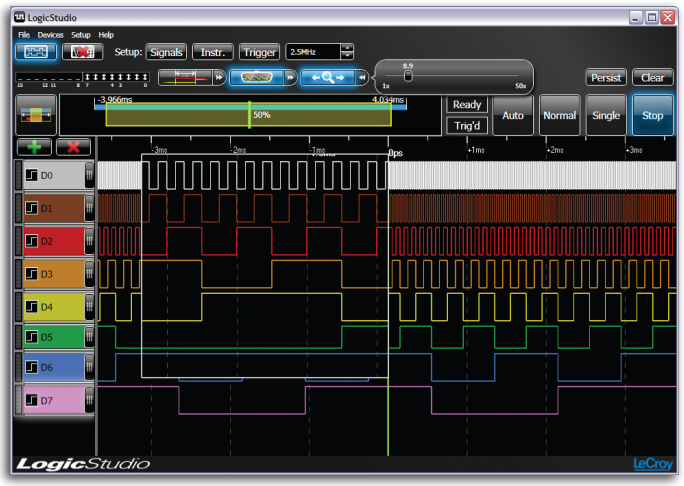
8. Waveform Display and Scaling

View waveforms stacked on top of each other or overlay one waveform on top of another. Change the vertical scale by dragging the bottom edge.

9. Built-in Help and Support

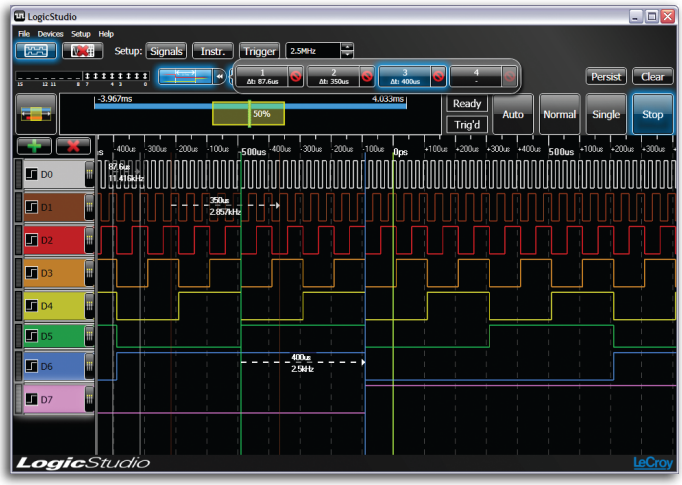
Not sure how to use a certain tool, mouse over for tool tips or access the manual from the Help menu. Have a question or suggestion? Click on Tell LeCroy in the Help menu and send an email directly to LeCroy with the waveforms, screen capture and setup file attached to the message.

EASY TO USE DEBUG TOOLS



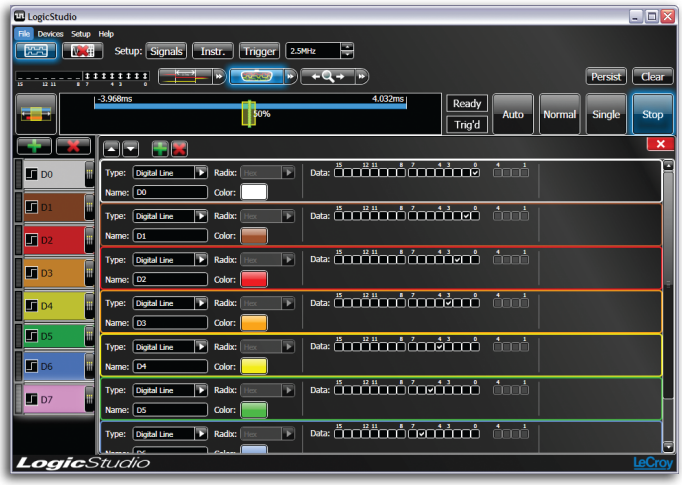
Waveform Magnifier

Get a better view of the waveforms by passing over them with the magnifier, scroll the mouse wheel to zoom in for an even closer look. The magnifier shows waveform details in a long capture without having to change the horizontal scale.



Timing Cursors

Quickly measure the time between transitions on a single line, across digital lines or from a digital line to an analog waveform. Snap the cursors directly to the waveform edge for precise measurements.



Easy Channel Setup

Quickly configure the inputs, signal type, name and the color on the fly for all 16 channels from the signals screen or change a single line on the fly from the main screen. Double-click a channel to create a unique name that applies to your device.

SPECIFICATIONS AND ORDERING INFORMATION

Specifications

Input Channels	16
Sample Rate	1 GS/s on 8 Ch, 500 MS/s on 16 Ch
Minimum Detectable Pulse Width	3.75 ns
Memory	40 kpts on 8 Ch, 20 kpts on 16 Ch
Trigger Types	Edge, pattern, pulse width, pattern width. I^2C, SPI, UART
Threshold Selections	TTL, CMOS (1.8 V, 2.5 V, 3.3 V, 5 V), user defined
User-defined Threshold Range	0–7 V
Maximum Survivable Input Voltage	±40 VDC
Threshold Accuracy	±150 mV + 5% of threshold
Maximum Input Dynamic Range	40 V_{p-p}
Minimum Voltage Swing	500 mV_{p-p}
Input Impedance	150 kΩ parallel 12 pF
Channel-to-Channel Skew	1 ns typical
Trigger Resolution	500 MS/s
Host Port	USB 2.0, bus-powered peripheral
Size	3.2" x 4.9" x 1.1" (81.3 mm x 124.5 mm x 28.0 mm)

Oscilloscope Compatibility

Manufacturer	Oscilloscope
LeCroy	WaveJet 300A
Tektronix	TDS1000B, TDS2000B, TDS2000C, TDS3000C, DPO/MSO2000, DPO/MSO3000, DPO/MSO4000
Agilent	DSO5000A, DSO/MSO6000A, DSO/MSO7000A, DSO/MSO7000B

Ordering Information

Product Description	Product Code
16 Channel, 1 GS/s, 100 MHz USB Logic Analyzer	LogicStudio 16

Included with Standard Configuration
LogicStudio 16
Digital Leadset (16 channels, 4 ground)
Micro Hooks (Set of 20 grippers)
USB Cable
BNC Cable
Welcome Card

Customer Service

LeCroy products are designed, built, and tested to ensure high reliability. In the unlikely event you experience difficulties, LogicStudio is fully warranted for one year.

This warranty includes:

- No charge for return shipping
- Long-term 7-year support
- Upgrade to latest software at no charge

LeCroy

1-800-5-LeCroy
www.lecroy.com

Local sales offices are located throughout the world.
Visit our website to find the most convenient location.

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