



LA-5000 Series

LA-5000 Series PC-Based Logic Analyzers

200/500 MHz
40/80/160 channels
with Pattern Generator

Parallel Port, USB1.1 / 2.0 Port Available



Extraordinary Features at a low price

The [LA-52xx & LA-55xx](#) Series, our latest Logic Analyzers, offer all of the features and performance you have come to expect from much more expensive units: high speed clock rates, deep data buffers, sophisticated triggering, solid reliability and more. Our considerable cost advantage over the competition derives from the fact that any desktop PC already incorporates 50% of what constitutes a stand-alone logic analyzer. You save money by using the components you already own, like your high resolution color monitor, advanced CPU, keyboard, and disk drives.

State-of-the-Art Features

- > High speed operation (up to 500 MHz).
- > Deep data buffers (up to 512K samples per channel). Simply put, the deeper the buffer the better.
- > Continuously variable pre/post trigger position. Store up to 512K events surrounding the trigger point.
- > Up to 160 data input channels.
- > High Impedance probes minimize interference with the circuit under test (200kohm//3pf).
- > Variable threshold voltage between - 6.4 to + 6.4 volts.
- > Work with up to 8 different logic thresholds including TTL, ECL, 3V logic, CMOS, or RS-232 at the same time with multiple threshold voltage selections.
- > External trigger output. Use this to trigger other instruments, like your scope.
- > High data bandwidth of 100 MHz.
- > 8 External high speed clock inputs with user definable combinations for flexible clock qualifying.
- > Captures both state and timing simultaneously with one probe.
- > Optional very high speed pattern generator with rates up to 100 Mbit/s from 8 to 160 channels.
- > Connects to Lap-top, Desktop PC or Notebook via Parallel Port or USB Port (Ver 1.1/2.0 port).

Sophisticated Trigger Captures the Data you want

The [LA-52xx & LA-55xx](#) captures the data that is important for your logic analysis. Sophisticated 16 level triggering allows fine tuning of the exact point to start data captures. The continuously variable pre/post trigger allows the trigger to be placed anywhere within the data buffer. Up to 512K events, before or after the trigger, can be recorded. These powerful capabilities, come in handy for finding the cause of an error condition, and the large buffer to record the sequence of events leading up to it.

High Speed Clock Rates with the Power to Oversample

Theoretically a logic analyzer need only operate at a rate twice that of the data rate. In reality, four times the signal data rate is required for accurate measurements. The [LA-52xx's and LA-55xx's](#) provide up to 500 MHz clock rates for informative and detailed data captures today's high speed circuits.

Deep Data Buffers Capture Everything that You Need

The [LA-52xx's and LA-55xx's](#) deep data buffer offers flexibility of storing a great number of events surrounding the trigger. In some situations where it is difficult to pinpoint an exact event for triggering, the breadth of a 512K data buffer can still capture the desired data. Other logic analyzers, with typical 1K to 8K buffers, can easily miss capturing the desired data in this situation.

Not Only a Logic Analyzer; It's a Powerful Pattern Generator

A 100 Mbit/s Pattern Generator option is available for the [LA-52xx and LA-55xx](#) Logic Analyzers. As few as 8 channels or as many as 160 channels can be dedicated to Pattern Generator output while leave the remaining channels for simultaneous use as a Logic Analyzer. Data for the Pattern Generator can loaded from a file, edited by the user, or captured by the Logic Analyzer. .

Your PC is a Powerful Tool - Take Advantage of it

Using the PC-Based [LA-52xx and LA-55xx](#) Logic Analyzers is an exercise in PC-familiarity. The PC's keyboard is used for "front panel" control and data input. There's no need to spin dials and stumble through arcane multiple menus. Typical logic analyzer offer a 9" monochrome screen. The [LA-52xx & LA-55xx](#) uses the 14" - 20" color monitor that came with your PC. 24 channels can be displayed simultaneously in different colors while still leaving enough room for system parameters. Logic Analyzer software updates are free, and available via web sites. With the Logic Analyzer already in the PC, there's is no need to fuss with cables and communications programs in order to transfer the data to a PC for analysis. It's already there.

with today's speedy Pentium processors, the [LA-52xx & LA-55xx](#) provides real-time responsiveness, color compatibles, and overall flexibility not found in any other Logic Analyzer at any price.

Pattern Generator option for the LA- 5000 Series Logic Analyzers:

General Overview

The Pattern generator option is a Voltage adjustable level digital word generator. suitable for 1.5V to 4.5V logic family (Type II), This option can be purchased together with the Logic Analyzer, or added later. Channel widths are available up to the maximum number of channels of the Logic Analyzer. For the [LA-52xx series & LA-55xx series](#), channels are added in sets of 16, 16, and then 8 channels for each group of 40 channels. This repeats for the second, third and fourth sets of 40 channels. Memory depth and data output rates depend upon the model of the host Logic Analyzer.

	Memory Depth	Max. Data Rate
LA-5240-32K LA-5280-32K	32K points per channel	100M points per second
LA-5540-128K LA-5580-128K LA-55160-128K	128K points per channel	100M points per second

Note : that for clock generation purposes, the maximum clock rate is half that of the maximum data output rate.

The Hardware

The Pattern Generation is completely integrated with the Logic Analyzer. The two operate from the same clock source, whether the internal clock or the external clock. Patterns can loop continuously, loop until the Logic Analyzer triggers, or once on the user's command. Allocation of channels between the Logic Analyzer and the Pattern Generation is in groups of sixteen channels. Channels can be all logic analysis, all pattern generation, or any multiple of sixteen for pattern generation with the remaining channels as logic analysis. To select the configuration, simply change the mode in the software, and connect the appropriate pods. the Pattern Generator Option consists of several components. First is additional circuitry that is added internally to the Logic Analyzer. Once added, pattern generation up to the maximum number of channels of the Logic Analyzer is supported, limited only by the number of pods. The second are the pattern generator output pods, each supporting eight outputs. These are purchased in multiples of two pods (16 channels) at a time. Physically, they are similar to the logic analyzer pods, a small box with active circuitry. A ribbon cable on one end connects to the analyzer box. A row of standard square header pins (0.20 inch spacing) at the other end provides connection points to the circuit under test. The last parts are the modular clips and wires, the same as those included with the logic analyzer. The clips are the spring loaded, double opposing hook type. The 10 inch wires have female connectors at each end that fit over the pins of the pattern pod, the receptacle pin of the clip or any 0.025" post. For the [LA-52xx & LA-55xx series](#), no internal circuitry needs to be added, and the unit does not need to be returned to "Clock". Just order the pods as needed, in multiples of two pods (16 channels) at a time or as a single pod for the last 8 of 40 channels on the [LA-52xx & LA-55xx series](#). Pods and wires/clips are the same as above.

The Software

The pattern generator option is integrated into the same software control program as the Logic Analyzer. The software is a menu based, easy to use DOS application. An on screen dialog box setups both the allocation of channels (for logic analysis verses pattern generation) and selection of the pattern output mode. The data for the pattern generator can be input in three ways. The behavior of a live circuit can be captured by the Logic Analyzer, saved to a file, and then used as the output pattern. Data can also be input directly into the program, in either binary or hex, by using the on-screen editor. Lastly, data can be input directly into a file by some other software, and then loaded in as an output pattern. Any combination of the three methods is also possible. All patterns can be saved to disk for future use.

Technical specifications subject to change without notice. Software updates free via our Website.

Characteristic of LA-5000 Series

LA-55xx Series:

Model	LA-55160	LA-5580	LA-5540	Remark
External Clock	8 Channels 0 - 80 MHz			From Channel D32~39
Frequency	500 MHz 96Ch 1Hz~250MHz160Ch	500 MHz 48Ch 1 Hz~250MHz 80Ch	500 MHz 24Ch 1 Hz~250MHz 40Ch	160Ch / 80Ch /40Ch
Memory	512 K/96 Ch 256 K/160 Ch	512 K/48 Ch 256 K/80 Ch	512 K/24 Ch 256 K/40 Ch	160Ch / 80Ch /40Ch
Channel	160 Channels	80 Channels	40 Channels	Logic Pod
Trigger Level	16 Levels 160 Ch Complex	16 Levels 80 Ch Complex	16 Levels 40 Ch Complex	
Trigger Qualify	8 Channels			
Pattern Generator	0 ~ 50 MHz (0 ~ 100 MHz Rate)			Optional to order
Threshold Voltage	12 Sets -6.4v ~ +6.4v	6 Sets -6.4v ~ +6.4v	3 Sets -6.4v ~ +6.4v	
Input Bandwidth	100 MHz			
Input Impedance	200 Kohm \leq 5pF			

Max. Input Voltage	± 150 V			
Power Supply	DC Adapter 5V/10A	DC Adapter 5V/5A	DC Adapter 5V/2.5A	Universal Input
PC Interface	Parallel port / USB 1.1 / 2.0			EPP / BPP
Net Weight	4.0 Kgs	2.5 Kgs	1.8 Kgs	
Size	210mmx250mmx95mm	210mmx250mmx70mm	210mmx250mmx70mm	Aluminum Case
Accessories	Logic pod, USB 2.0 Adapter, Parallel cable (IEEE1284) Color wires + clips, DC Adapter, User's Manual, CD driver			

LA-52xx Series: (LA-5240 / LA-5280 discontinued from October 1st 2006)

Model	LA-5280	LA-5240	Remark
External Clock	8 Channels 0 - 80 MHz		From Channel D32~39
Frequency	200MHz+100MHz/32Ch+16Ch 100MHz/80Ch	200MHz+100MHz/32Ch+16Ch 100MHz/80Ch	80Ch / 40Ch
Memory	64 K / 32 Ch+ 16 Ch 32 K / 80 Ch	64 K / 16 Ch+ 8 Ch 32 K / 40 Ch	80Ch / 40Ch
Channel	80 Channels	40 Channels	Logic Pod
Trigger Level	16 Levels 80 Channels Complex	16 Levels 40 Channels Complex	
Trigger Qualify	8 Channels		
Pattern Generator	0 ~ 50 MHz (0 ~ 100 MHz Rate)		Optional to order
Threshold Voltage	6 Sets -6.4v ~ +6.4v	3 Sets -6.4v ~ +6.4v	
Input Bandwidth	100 MHz		
Input Impedance	200 Kohm ≤ 5pF		
Max. Input Voltage	± 150 V		
Power Supply	DC Adapter 5 V/5A	DC Adapter 5 V/2.5A	Universal Input
PC Interface	Parallel port / USB 1.1 / 2.0		EPP / BPP
Net Weight	2.5 Kgs	1.8 Kgs	
Size	210mmx250mmx70mm		Aluminum Case
Accessories	Logic pod, USB 2.0 Adapter, Parallel cable (IEEE1284) Color wires + clips, DC Adapter, User's Manual, CD driver		