



## LA-2132 Series

### LA-2132 LVDS / Series

### LA-2164 Expand Series

### PC-Based Logic Analyzer

1 GHz / 4 Mega Memory  
32 / 64 channels / 512  
Trigger Levels

USB (Version 1.1/2.0)  
Interface

No External Power Source  
Require



#### Extraordinary Features at a low price

The [LA-2132 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 1 GHz).
- > Deep data buffers (up to 4Mega samples per channel). Simply put, the deeper the buffer the better.
- > Continuously variable pre/post trigger position. Store up to 4Mega events surrounding the trigger point.
- > Up to 32 data input channels. with 4 channels LVDS.
- > High Impedance probes minimize interference with the circuit under test (250kohm//2pf).

- > Variable threshold voltage between - 3.7 to + 1.9 volts.
- > External trigger output. Use this to trigger other Instruments, like your scope.
- > Very complex trigger, 512 levels, 32channel, parallel, serial, I<sup>2</sup>C.....
- > High data bandwidth of 125 MHz.
- > One set threshold voltage suitable for ECL (-1.3V), LVC1.5V (0.75V), LVC1.8V (0.9V), LVC2.5V (1.2V),
- > LVC3.3V (1.4V), SSTL2|| 2.5V (1.25V), SSTL3|| 3.3V (1.4V).
- > Captures both state and timing simultaneously with one probe.
- > Connects to Lap-top, Desktop PC or Notebook via USB Interface (Version 1.1/2.0).
- > No External Power Source Require.
- > **Use one 20 pin flat cable connect two LA-2132 Series, the LA-2164 Expand to 64 channels is available.**

### **Sophisticated Trigger Captures the Data you want**

The [LA-2132 Series](#) captures the data that is important for your logic analysis. Sophisticated 512 levels 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-2132's](#) provide up to 1 GHz clock rates for informative and detailed data captures today's high speed circuits.

### **Deep Data Buffers Capture Everything that You Need**

The [LA-2132'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.

### **Your PC is a Powerful Tool - Take Advantage of it**

Using the PC-Based [LA-2132 Series](#) 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-2132 Series](#) 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 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-2132 Series](#) provides real-time responsiveness, color compatibles, and overall flexibility not found in any other Logic Analyzer at any price.

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

### **Characteristic of LA-2132 LVDS and LA-2132 Series:**

There are two Models is available for LA-2132 LVDS:

#### **LA-2132 LVDS: (32 channels only, can't expand to 64 Channels).**

- K2 (250MHz, 256K Memory, 2 Trigger Levels, support LVDS, LPECL).
- G512 (1GHz, 4Mega Memory, 512 Trigger Levels, support LVDS, LPECL).

There are nine Models is available for LA-2132 Series:

**LA-2132K Series: (Expand to 64 channels is available, without support LVDS, LPECL).**

- K2 (250MHz, 256K Memory, 2 Trigger Levels).
- K8 (250MHz, 256K Memory, 8 Trigger Levels).
- K512 (250MHz, 256K Memory, 512 Trigger Levels).

**LA-2132M Series: (Expand to 64 channels is available, without support LVDS, LPECL).**

- M2 (500MHz, 1Mega Memory, 2 Trigger Levels).
- M8 (500MHz, 1Mega Memory, 8 Trigger Levels).
- M512 (500MHz, 1Mega Memory, 512 Trigger Levels).

**LA-2132G Series: (Expand to 64 channels is available, without support LVDS, LPECL).**

- G2 (1GHz, 4Mega Memory, 2 Trigger Levels).
- G8 (1GHz, 4Mega Memory, 8 Trigger Levels).
- G512 (1GHz, 4Mega Memory, 512 Trigger Levels).

Model	LA-2132 K Series 250MHz, 256KMemory	LA-2132 M Series 500MHz, 1Mb Memory	LA-2132 G Series 1GHz, 4Mb Memory
Internal Sampling Rate Number of Channels Record Length	32 channels from 1Sa/s to 250MSa/s 256 K memory	32 channels from 1Sa/s to 250MSa/s 512 K memory	32 channels from 1Sa/s to 250MSa/s 1 Mega memory
		16 channels from 1Sa/s to 500MSa/s 1 Mega memory	16 channels from 1Sa/s to 500MSa/s 2 Mega memory
			8 channels from 1Sa/s to 1 GSa/s 4 Mega memory
	2 channels bi-direction LVDS 2 channels input LVDS	2 channels bi-direction LVDS 2 channels input LVDS	2 channels bi-direction LVDS 2 channels input LVDS
External Clock Rate	Up to 125MSa/s		
I/O Bandwidth	CH 0 ~ 31 DC to 125MHz, DC to 200MHz for LVDS		
Input Impedance	250Kohm // 2pf (Tip to ground)		
Input Voltage	Max. -110 V to +110 V for CH 0-31 0 to 5V only for EX0-9 (it will burn out if input voltage is exceed this range)		
Threshold Voltage	-3.7V to 1.9V by 35mV step ECL (-1.3V) LVC1.5V ( 0.75V) LVC1.8V ( 0.9V) LVC2.5V (1.2V) LVC3.3V ( 1.4V) SSTL2    2.5V (1.25V) SSTL3    3.3V (1.4V)		

Channel Skew	Typical < 200ps
Trigger position	Any position for user defined
Max. Trigger Speed	250MHz (4ns)
Trigger Quality	0, 1, x (don't care) settings for all Digital channels 2, 8, 512 Trigger Levels
Power Supply	No External Power Source Require
Net Weight	120 Grams
Size	107mm x 77mm x 16mm

### Trigger levels specifications of LA-2132 Series:

Model	1. LA-2132- K2 (250 MHz, 256 K Memory, 2 levels)	4. LA-2132- M2 (500 MHz, 1 Mega Memory, 2 levels)	7. LA-2132-G2 (1 GHz, 4 Mega Memory, 2 levels)
	2. LA-2132- K8 (250 MHz, 256 K Memory, 8 levels)	5. LA-2132- M8 (500 MHz, 1 Mega Memory, 8 levels)	8. LA-2132-G8 (1 GHz, 4 Mega Memory, 8 levels)
	3. LA-2132- K512 (250 MHz, 256 K Memory, 512 levels)	6. LA-2132- M512 (500 MHz, 1 Mega Memory, 512 levels)	9. LA-2132-G512 (1 GHz, 4 Mega Memory, 512 levels)
2 Trigger Levels	with IF word xx then next level else go to 0 trigger structure . 1048576 event counter/every level 1 to 1048576* (1 sec to 10nsec) delay time /every levels  ----- detect width pulse in narrow stream detect narrow pulse in width stream trigger before delay (YES) serial trigger (RS232...) (NO) I <sup>2</sup> C serial trigger (NO)	with IF word xx then next level else go to 0 trigger structure. 1048576 event counter/every level 1 to 1048576* (1 sec to 10nsec) delay time /every levels  ----- detect width pulse in narrow stream detect narrow pulse in width stream trigger before delay (YES) serial trigger (RS232...) (NO) I <sup>2</sup> C serial trigger (NO)	with IF word xx then next level else go to 0 trigger structure. 1048576 event counter/every level 1 to 1048576*(1 sec to 10nsec) delay time /every levels  ----- detect width pulse in narrow stream detect narrow pulse in width stream trigger before delay (YES) serial trigger (RS232...) (NO) I <sup>2</sup> C serial trigger (NO)

<p>8 Trigger Levels</p>	<p>with IF word xx then next level else go to 0 trigger structure. 1048576 event counter/every level 1048576*(1 sec to 10nsec) delay time /every levels</p> <hr/> <p>----- detect width pulse in narrow stream detect narrow pulse in width stream trigger before delay (YES) serial trigger (RS232.)(difficulty) can work for 3 bit serial stream only I<sup>2</sup>C serial trigger (NO)</p>	<p>with IF word xx then next level else go to 0 trigger structure. 1048576 event counter/every level 1048576*(1 sec to 10nsec) delay time /every levels</p> <hr/> <p>----- detect width pulse in narrow stream detect narrow pulse in width stream trigger before delay (YES) serial trigger (RS232.)(difficulty) can work for 3 bit serial stream only I<sup>2</sup>C serial trigger (NO)</p>	<p>with IF word xx then next level else go to 0 trigger structure. 1048576 event counter/every level 1048576*(1 sec to 10nsec) delay time /every levels</p> <hr/> <p>----- detect width pulse in narrow stream detect narrow pulse in width stream trigger before delay (YES) serial trigger (RS232.)(difficulty) can work for 3 bit serial stream only I<sup>2</sup>C serial trigger (NO)</p>
<p>512 Trigger Levels</p>	<p>with IF word xx then next level else go to 0 trigger structure 1048576 event counter / every level 1048576* (1 sec to 10nsec) delay time / every levels.</p> <hr/> <p>---- detect width pulse in narrow stream detect narrow pulse in width stream trigger before delay (YES) serial trigger (RS232...) (YES) I<sup>2</sup>C serial trigger (YES) all kind of trigger (YES) it is universal trigger structure</p>	<p>with IF word xx then next level else go to 0 trigger structure 1048576 event counter / every level 1048576* (1 sec to 10nsec) delay time / every levels.</p> <hr/> <p>----- detect width pulse in narrow stream detect narrow pulse in width stream trigger before delay (YES) serial trigger (RS232...) (YES) I<sup>2</sup>C serial trigger (YES) all kind of trigger (YES) it is universal trigger structure</p>	<p>with IF word xx then next level else go to 0 trigger structure 1048576 event counter / every level 1048576* (1 sec to 10nsec) delay time / every levels.</p> <hr/> <p>----- detect width pulse in narrow stream detect narrow pulse in width stream trigger before delay (YES) serial trigger (RS232...) (YES) I<sup>2</sup>C serial trigger (YES) all kind of trigger (YES) it is universal trigger structure</p>