

## LA3000 series

Model	LA3068E	LA3136E	LA3068B	LA3136B
Power Source	12V Power adapter			
Static Power Consumption	18W	30W	18W	30W
Max Power Consumption	45W	75W	45W	75W
Hardware Interface	USB 3.0			
Timing Analysis (Asynchronous, Max. Sample Rate)	2.4 GHz			
State Clock Rate (Synchronous, External Clock)	250 MHz			
Storage	Conventional Timing, Transitional Timing			
Channels (Data / Clock)	64 / 4	128 / 8	64/4	128/8
Total Sample Memory	32Gb			
Available channels vs. Memory per channel	Available channels / Memory per channel			
Timing Analysis	32 / 1Gb			
2.4 / 2 GHz	64 / 500Mb			
1 GHz	64 / 500Mb	128 / 250Mb	64 / 500Mb	128 / 250Mb
500 / 250 / 200 MHz	416 ps			
Resolution	64			
Channels	128			
Pre / Post Trigger	Yes			
Pass Count	Yes (1 ~ 1000000 times)			
Event Types	Channel, Pattern, Single / Multi Level, Width, Time-out, External			
Bus Triggers I	I <sup>2</sup> C, SPI, UART, USB PD 3.0			
Bus Triggers II	---	BiSS-C, CAN 2.0, DALI, eMMC 5.0, eSPI, I <sup>2</sup> S, HID over I <sup>2</sup> C, I <sup>3</sup> C, LIN2.2, MDIO, MIPI SPMI 2, Modbus, NAND Flash, PMBus, Profibus, SD 3.0, Serial Flash, SMBus, SVID, UART, USB1.1		
Input (for Stack)	TTL 3.3V			
Output Port (for Stack)	TTL 3.3V			
Ref. Clock Input	10MHz, Vpp=3.3 to 5V			
Range	-0.5V~4.5V			
Resolution	0.1V			
Accuracy	+/- 20mV			
Maximum	+/- 15V			
Sensitivity	~300mV			
Impedance	1M    5pF			
Operating / Storage	5°C~45°C (41°F~113°F)/-10°C~65°C (14°F~149°F)			
Channel to channel skew	< 500 ps			
I	I <sup>2</sup> C, SPI, UART, USB PD 3.0			
Protocol Analyzer/ Protocol Logger / Protocol Monitor	---	BiSS-C, CAN2.0, DALI, eSPI, HID over I <sup>2</sup> C, I <sup>2</sup> S, I <sup>3</sup> C, LIN2.2, MDIO, Modbus, PMBus, Profibus, PWM, RS232, SMBus, SVID, USB1.1		
II				
Zoom In / Out	Yes			
Languages	English / Traditional Chinese / Simplified Chinese			
Waveform Height	Adjustable			
Zoom / Report Window	Yes			
Quick Cursor-positioning	Yes			
Import Label(s)	Yes			
Quick Bus Decode Setup	Yes			
Trigger / Auxiliary cursors	1/25			
Software Features	1-Wire, 3-Wire, 7-Segment, A/D Mux Flash, AccMeter, ADC, APM, BiSS-C, BSD, CAN 2.0, Close Caption, DALI, DMX512, DP Aux, EDID, eMMC 5.1/MMC, eSPI, FlexRay, HDMI CEC, HD Audio, HDLC, HDQ, HID over I <sup>2</sup> C, I <sup>2</sup> C, I <sup>2</sup> C EEPROM, I <sup>2</sup> S, I <sup>3</sup> C, I80, IDE, ITU656, IrDA, JTAG, LCD1602, LED_Ctrl, LIN 2.2, Line Encoding, Line Decoding, Lissajous, LPC, LPT, M-Bus, Math, MDIO, MHL CBUS, Microwire, MII (GMII, RGMII), MIPI DSI, MIPI RFFE, MIPI SPMI 2.0, Modbus, NAND Flash, NEC IR, PECL, PMBus, Profibus, PS/2, PWM, QI, RC-5, RC-6, RGB Interface, SD3.0 (SDIO), Serial Flash, Serial IRQ, SGPIO, Smart Card, SMBus, SMI, S/PDIF, SPI, SPI-NAND, SSI, ST7669, SWD, SWP, SVID, SVID, UART, UNI/O, USB 1.1, USB PD 3.0, Wiegand, ...			
Line Decoding	Biphase Mark, Differential-Manchester, Manchester (Thomas, IEEE802.3), Miller, Modified Miller, NRZI, ...			
Line Encoding	AMI (Standard, B8ZS, HDB3), Biphase Mark, CMI, Differential-Manchester, Manchester (Thomas, IEEE802.4), MLT-3, Miller, Modified Miller, NRZI, Pseudoternary, ...			
Dimension	L x W x H (mm <sup>3</sup> )			
Weight	Device / Accessories			
Lead Cable (LA-Pod / Flying lead cable)	2 / 8	4 / 16	2 / 8	4 / 16
Grippers	80	160	80	160

# Acute

## LA3000 series logic analyzer

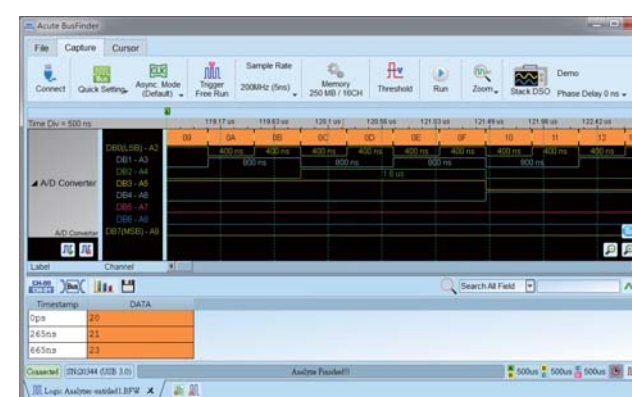


270 x 175 x 55 (mm<sup>3</sup>)

- PC-based
- 68 / 136 channels
- USB 3.0 interface, 12V power adaptor
- 2.4GHz Timing Analysis / 250MHz State Analysis
- 32Gb Memory
- Active Probe
- Logic, State, Protocol triggers
- Stackable with a DSO to form an MSO
- Bus Trigger I : I<sup>2</sup>C, SPI, UART, USB PD 3.0
- Bus Trigger II : eMMC 5.0, eSPI, I<sup>2</sup>S, I<sup>3</sup>C, NAND Flash, SD 3.0, Serial Flash, SVID, ...
- Protocol Analyzer I : I<sup>2</sup>C, SPI, UART, USB PD 3.0
- Protocol Analyzer II : CAN 2.0, BiSS-C, DALI, eSPI, I<sup>2</sup>S, I<sup>3</sup>C, LIN 2.2, PMBus, PWM, SVID, ...
- Bus Decode : CAN 2.0, eMMC 5.1, I<sup>2</sup>C, I<sup>3</sup>C, Profibus, SD 3.0, SPI, SVID, UART, ...(80+)

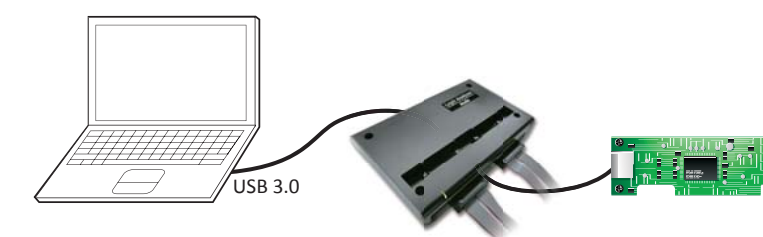
Model	Channel	Bus Trigger	Protocol Analyzer	Cascade for more channels
LA3068E	68	I	I	-
LA3136E	136	I	I	YES
LA3068B	68	I, II	I, II	-
LA3136B	136	I, II	I, II	YES

### Software Window



### System Requirements

- USB 3.0 port
- Win 7, Win 8, Win 10 (64 bit)
- PC RAM 16GB (recommended) or 8GB at least



## Protocol Analyzer:

It is hardware decoding, may log protocol data very long time if without waveforms.  
Application timing: Preliminary protocol debug.

Support multiple protocols with different operating modes

Real-time data search

Stack with a DSO as an MSO in logic analyzer mode

Real-time data statistics

Hide items for easy view

Protocol report

Show waveforms with bus decodes



### Protocol Analyzer

Show real-time protocol data  
Application timing: massive protocol data with some idles in between



### Protocol Logger

Like data logger, save massive data into SSD hard drive  
Application timing: massive protocol data



### Protocol Monitor

Like dash cameras, record protocol data by the device's memory only  
Application timing: trigger event only happens in very long time

## Packing List :



Software and Manual Download links at: <http://www.acute.com.tw>

## Logic Analyzer:

Capture digital waveforms and support bus decodes.  
Able to stack with a DSO to form as an MSO.

### Flow chart bus triggers :

Power trigger for serial bus, 8-states flow chart setting with Counter/Timer

Detail parameters for each states

### Quick View

Right-click and drag on the clock waveform to see the frequency and the number of transitions

Clear setting

Single or repetitive captures

Fast DSO stack setting

Display digital and analog waveforms at the same phase

User mark  
Editable text or graphic in waveform area

Report window

Measurement Type	Label Name A	Label Name B	From	To	Minimum	Maximum	Average
Period Time	BUS_I2C		Begin	End	10ns	57.895us	24.719us
Frequency	BUS_I2C		Begin	End	100MHz	17.273KHz	40.454KHz
Cycle Count	BUS_I2C		Begin	End	---	---	6627
Positive Pulse Count	BUS_I2C		Begin	End	---	---	6628

### Measurement Statistics Tab

Quick measurement and statistics for selected channels.