

Acute LA3000 Plus logic analyzer

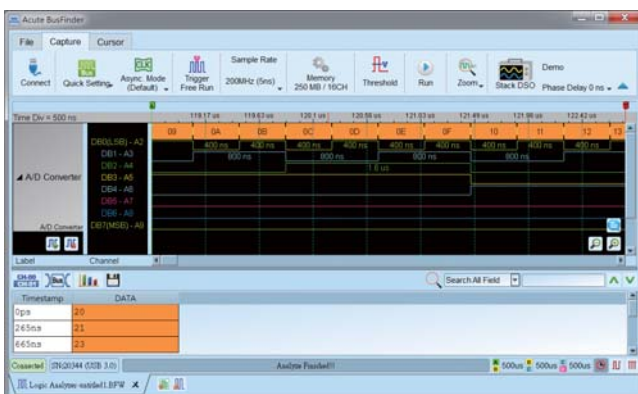
- PC-based
- 68 / 136 channels
- USB 3.0 interface, 12V power adaptor
- 2.4GHz Timing Analysis / 300MHz State Analysis
- 32Gb Memory
- Active Probe
- Logic, State and Protocol triggers
- Stackable with a DSO to form an MSO
- Bus Decode : CAN 2.0B/CAN FD, DP_Aux¹, eMMC 5.1, I²C, MIPI I3C 1.1, Profibus, SD 3.0, SPI, SVID², SWD, UART (RS232), USB1.1, USB PD 3... (100+)
- Bus Trigger I : I²C, MIPI I3C 1.1, SPI, UART (RS232), USB PD 3
- Bus Trigger II : eMMC 5.0, eSPI, I²S, NAND Flash, SD 3.0, Serial Flash, SVID³, ...
- Protocol Analyzer I : I²C, MIPI I3C 1.1, SPI, UART (RS232), USB PD 3
- Protocol Analyzer II : CAN 2.0B/CAN FD, DALI, eSPI, I²S, LIN 2.2, PWM, SVID³, ...



270 x 175 x 55 (mm³)

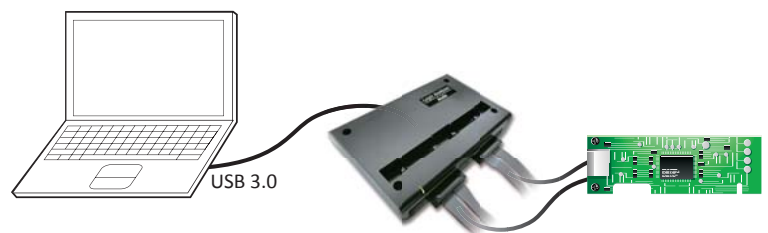
Model	Channel	Bus Trigger	Protocol Analyzer
LA3068E+	68	I	I
LA3136E+	136	I	I
LA3068B+	68	I, II	I, II
LA3136B+	136	I, II	I, II

Software Window



System Requirements

- USB 3.0 port
- Win 7, Win 8, Win 10 (64 bit), Win 11
- PC RAM 16GB (recommended) or 8GB at least



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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

Timestamp	Status	Address	RW	Data	ASCII
0.001.848.160	545.30us	Start	3F	Rd	00*
0.002.393.460	545.30us	Start	3F	Rd	00*
0.002.941.080	547.62us	Start	12	Wr	41* 43* 55* 54* 45*
0.004.493.640	1.55ms	Start	46	Wr	54* 4C* 5F* 33* 30* 30* 30* 5...
0.008.039.840	3.54ms	Start	3F	Rd	00*
0.008.585.140	545.30us	Start	3F	Rd	00*
0.009.130.460	545.32us	Start	3F	Rd	00*
0.009.678.060	547.60us	Start	12	Wr	41* 43* 55* 54* 45*
0.011.230.620	1.55ms	Start	46	Wr	54* 4C* 5F* 33* 30* 30* 30* 5...
0.014.776.820	3.54ms	Start	3F	Rd	00*
0.015.322.120	545.30us	Start	3F	Rd	00*
0.015.867.440	545.32us	Start	3F	Rd	00*
0.016.415.060	547.62us	Start	12	Wr	41* 43* 55* 54* 45*
0.017.967.600	1.55ms	Start	46	Wr	54* 4C* 5F* 33* 30* 30* 30* 5...
0.021.513.800	3.54ms	Start	3F	Rd	00*
0.022.059.120	545.32us	Start	3F	Rd	00*

Real-time data statistics

Hide items for easy view

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 :



Logic Analyzer:

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

Parallel Clause triggers (Logic) :

State 0	Description... IF (Bus_[A7:A0] = 55h AND CH-08)Edge Rising OR (Bus_[A7:A0] = AAh AND CH-08)Edge Rising Start Timer 0 AND Reset Timer 0 Goto Next
State 1	Description... IF CH-08 Edge Falling AND Timer/Counter 0 Condition Matched Set Triggered

16-States parallel IF Clause settings for 128/64 channel value compare combined with AND/OR logic condition and 4 Timer/Counter conditions.

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

The screenshot shows the Logic Analyzer interface with a bus decode window for I2C. A yellow box highlights a section of the clock waveform with a tooltip showing: Decode(SCL) transition=10, interval=133us, Freq.(avg)=35.99KHz. A red box highlights the 'Quick Setting' and 'Stack DSO' buttons in the top toolbar. A red box highlights the 'Run' and 'Repeat' buttons. A red box highlights the 'Stack DSO' button and 'Phase Delay' dropdown. A red box highlights the 'User note' dialog box with the text 'Acute Note' and 'Editable text or graphic in waveform window'. A red box highlights the data table below the waveforms.

Sample	Status	Address	D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	ASCII
1	0ps	Start	Rd 3F	00															
2	547.62us	Start	Wr 12	41	43	55	54	45											ACUTE
3	2.10016ms	Start	Wr 46	54	4C	5F	33	30	30	30	53	65	72	69	65	73			IL_3000Series
4	5.64638ms	Start	Rd 3F	00															

Display digital and analog waveforms at the same phase

Report window

Flow chart bus triggers (Protocol) :

The screenshot shows the 'Clause Trigger' configuration window. A red box highlights the flow chart with states 1, 2, 3, and Counter 1. A red box highlights the 'State 1' configuration panel with fields for Mode (7-Bit Addressing), Value (12h), R/W, ACK, and Data (Any Position, Fix Offset, 0 Byte(s)). A red box highlights the 'Data' section with four rows of XXh fields.

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

Detail parameters for each states

LA3000+ series

Model		LA3068E+	LA3136E+	LA3068B+	LA3136B+
Power	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)		300 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	Timing Analysis	Available channels (Conventional / Transitional Timing) - Memory per channel			
	2.4 / 2 GHz	(32 / 28) - 1Gb			
	1 GHz	(64 / 56) - 500Mb			
500 / 250 / 200 MHz		(64 / 64) - 500Mb	(128 / 128) - 250Mb	(64 / 64) - 500Mb	(128 / 128) - 250Mb
	Resolution	416 ps			
Channels		64	128	64	128
Pre / Post Trigger		Yes			
Pass Count		Yes (1 ~ 1000000 times)			
Event Types		Channel, Pattern, Single / Multi Level, Parallel Clause, Width, Time-out, External			
Bus Triggers I		I ² C, MIPI I3C 1.1, SPI, UART (RS232), USB PD 3			
Trigger	Bus Triggers II	---	BiSS-C, CAN 2.0B/CAN FD, DALI, DP_Aux ¹ , eMMC5.0, eSPI, GMII (RGMII), HID over I ² C, I ² S, LIN2.2, MDIO, MII (RMII), Mini/Micro LED, MIPI RFFE 3, MIPI SPMI 2, Modbus, NAND Flash, PMBus, Profibus, Serial Flash, SMBus, SVI2, SVID ³ , USB1.1		
	Input (for Stack)	TTL 3.3V			
	Output Port (for Stack)	TTL 3.3V			
Ref. Clock Input		10MHz, Vpp=3.3 to 5V			
Threshold	Range	-0.5V~4.5V			
	Resolution	21mV			
	Accuracy	+/- 100mV + 5%* Vth			
Input Voltage	Maximum	+/- 15V			
	Sensitivity	~300mV			
Impedance		1M 5pF			
Temperature Operating / Storage		5°C~45°C (41°F~113°F)/-10°C~65°C (14°F~149°F)			
Channel to channel skew		< 500 ps			
Protocol Analyzer/ Protocol Logger / Protocol Monitor	I	I ² C, MIPI I3C 1.1, SPI, UART (RS232), USB PD 3			
	II	---	BiSS-C, CAN 2.0B/CAN FD, DALI, DP_Aux ¹ , eSPI, HID over I ² C, I ² S, LIN2.2, MDIO, Modbus, PMBus, Profibus, PWM, SMBus, SVID ³ , USB1.1		
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	Bus Decode	1-Wire, 3-Wire, 7-Segment, A/D Mux Flash, AccMeter, ADC, APML, AVSBus, BiSS-C, BSD, BT1120, CAN 2.0B/FD, Close Caption, CODEC_SSI, DALI, DMX512, DP AUX ¹ , EDID, eMMC 5.1/MMC, eSPI, FlexRay, HD Audio, HDLC, HDQ, HID over I ² C, HTSensor, HyperFlash, HyperRAM, I ² C EEPROM, I ² C, I ² S (PCM, TDM), I80, IDE, IrDA, ITU-R BT.656 (CCIR656), JTAG, JVC IR, LCD1602, LED_Ctrl, LIN 2.2, Line Decoding, Line Encoding, Lissajous, LPC, LPT, Math, M-Bus, MDDI, MDIO, MHL CBUS, Microwire, MII, Mini/Micro LED, MIPI CSI LP, MIPI DSI LP, MIPI I3C 1.1, MIPI RFFE 3, MIPI SoundWire 1.2, MIPI SPMI 2, Modbus, NAND Flash, NEC IR, PDM, PECE 3.0, PMBus, Profibus, PS/2, PWM, QEI, QI, QSPI, RC-5, RC-6, RGB Interface, RGMII, RMII, S/PDIF, SD 3.0 (SDIO 2.0), SENT, Serial Flash, Serial IRQ, Serial PSRAM, SGPIO, Smart Card, SMBus (SBS, SPD), SMI, SPI, SPI-NAND, SSI, ST7669, SVI2, SVID ² , SWD, SWIM, SWP, UART (RS232), ULPI, UNI/O, USB 1.1, USB PD 3, 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 ³)		270 x 175 x 55			
Weight Device / Accessories		800g / 1500g			
Lead Cable (LA-Pod / Flying lead cable)		2 / 8	4 / 16	2 / 8	4 / 16
Grippers		80	160	80	160

¹ Optional DP AUX adapter needed.

² Upon request ONLY by users who have signed CNDA with Intel, SVID decode supported by all LA3000+ models.

³ Upon request ONLY by users who have signed CNDA with Intel, SVID trigger & PA supported by LA3068B+/LA3136B+ ONLY.