

TEKTRONIX

TLA623

The Tektronix TLA623 is a legacy 102-channel portable color logic analyzer belonging to the TLA600 Series. Optimized for synchronous digital circuit design and debugging, the TLA623 integrates Tektronix's proprietary MagniVu™ acquisition technology, which delivers a 2 GHz (500 ps) timing resolution simultaneously with state acquisition up to 200 MHz. The instrument features a 10.4-inch color display and integrates deep timing analysis up to 500 MHz, comprehensive glitch and setup/hold triggering, transitional storage to optimize memory usage, and Integrated View (iView™) for cross-domain oscilloscope integration.

SPECIFICATIONS

General

Interfaces	10Base-T Ethernet (RJ-45), RS-232-C Serial (DB-9), Centronics Parallel (DB-25), External SVGA (15-pin D-sub), PS/2 Keyboard, PS/2 Mouse
Display	10.4-inch active-matrix color TFT LCD, 800 x 600 pixels

Physical

Power Supply	90 to 250 VAC, 45 to 66 Hz (360 W maximum)
Operating Temperature	+5 °C to +50 °C °C
Dimensions (W×H×D)	429 mm × 343 mm × 381 mm (with handle and feet) mm
Weight	14.1 kg kg

Acquisition System

Total Number of Channels	102 channels (96 data, 6 clock/qualifier)
MagniVu™ Timing Resolution	500 ps (2 GHz) timing resolution on all channels
MagniVu™ Memory Depth	2 Kb per channel
State Acquisition Speed	100 MHz
Deep Timing Analysis Speed	Up to 400 MHz
Deep Timing Memory Depth	512 Kb per channel (1 Mb in half-channel mode)
Simultaneous State and Timing	Yes, through the same probe
Transitional Storage	Yes, extends digital capture times
Minimum Clock Pulse Width	2.0 ns
Setup/Hold Window	2.5 ns
Minimum Input Voltage Swing	500 mV p-p
Threshold Accuracy	±(50 mV + 3% of setting)
Threshold Resolution	10 mV

Signal Analysis & Connectivity

Integrated View (iView™)	Yes, supports cross-domain oscilloscope integration
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Trigger System

Glitch Triggering	Yes, find and trigger on pulses down to 5 ns
Trigger State Machine	16 states
Word Recognizers	16
Range Recognizers	4
Counter/Timers	2 timers, 2 counters
Transition Recognizers	2
Trigger Sequencer States	16
Trigger Position	0% to 100% of record length (sample resolution)
Trigger Actions	Trigger, Trigger Out, Store, Don't Store, Start/Stop/Reset Timer, Increment/Decrement/Reset Counter, Signal

Signal Probing

Input Threshold Range	-2.0 V to +4.5 V in 10 mV steps
Input Impedance	20 k Ω in parallel with 2 pF (P6434 probe)
Maximum Non-Destructive Probe Input Voltage	± 15 V
Supported Probe Models	P6417, P6418, P6434

Controller System

Internal Operating System	Windows 98 / Windows 2000 (configuration dependent)
Processor Class	Intel Pentium II / III
System RAM	128 MB typical
Internal Storage	Hard Disk Drive, 6.4 GB or greater

Physical & Environmental

Storage Temperature Range	-20 °C to +60 °C
Operating Altitude Limit	3,000 m (10,000 ft)
Operating Humidity Range	20% to 80% relative humidity, non-condensing

Standards & Compliance

Safety Standards	UL3111-1, CSA1010.1, EN61010-1
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External Inputs & Outputs

External Trigger Input	BNC, TTL compatible, 1.5 V threshold, 1.5 k Ω impedance
External Trigger Output	BNC, TTL compatible, $V_{OH} \geq 2.0$ V into 50 Ω , $V_{OL} \leq 0.4$ V into 50 Ω , 50 Ω source impedance

I/O Ports

Parallel Port	1x Centronics DB-25
Serial Port	1x RS-232-C DB-9
LAN Port	1x 10Base-T RJ-45
Video Output	1x 15-pin D-sub SVGA
Keyboard Port	1x PS/2
Mouse Port	1x PS/2

Storage & Peripherals

Floppy Drive	3.5" 1.44 MB
Optical Drive	Internal CD-ROM

Display

Display Size	10.4 in.
Display Resolution	800 × 600 pixels
Display Technology	Active-matrix color TFT LCD

Power Supply

Line Voltage Range	90 to 250 V AC
Line Frequency Range	45 to 66 Hz (and 360 to 440 Hz at 115 V AC)
Maximum Power Consumption	360 W

Environmental

Non-Operating Temperature Range	-20 °C to +60 °C
Non-Operating Altitude	12,190 m (40,000 ft)
Non-Operating Humidity Range	10% to 95% RH (non-condensing)
Operating Vibration	0.31 g RMS, 5 to 500 Hz
Non-Operating Vibration	2.46 g RMS, 5 to 500 Hz
Operating Shock	294 m/s ² (30 g), 11 ms half-sine
Non-Operating Shock	294 m/s ² (30 g), 11 ms half-sine

Measurement & Triggering

Counter/Timer Bit-Width	51-bit
Counter/Timer Maximum Frequency	150 MHz
Number of Clock Inputs	4

Probe Characteristics

Probe Input Capacitance	1.4 pF
Probe Input Resistance	20 kΩ

TECHNOLOGY

Logic Analyzer

APPLICATIONS

Digital hardware validation, microprocessor debug, synchronous state analysis, and timing analysis

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