

TEKTRONIX

TLA612-1S

The Tektronix TLA612-1S is a high-performance 68-channel logic analyzer from the TLA600 series, designed to assist hardware and software engineers in debugging and analyzing complex synchronous digital systems. Featuring MagniVu acquisition technology, the TLA612-1S offers 2 GHz (500 ps) high-speed timing resolution simultaneously on all channels without double probing. This specific '-1S' package variant includes an external 17-inch color monitor, a compact keyboard, and a mouse to enhance user interaction alongside its built-in 10.4-inch active-matrix display. It provides 256 Kb of deep timing memory per channel and supports state acquisition rates up to 100 MHz (upgradeable to 200 MHz).

SPECIFICATIONS

General

Interfaces	LAN (10Base-T RJ-45), GPIB (IEEE-488.2), RS-232 (9-pin), Parallel (Centronics), PS/2 Keyboard, PS/2 Mouse, External VGA, PC Card (PCMCIA)
Display	Built-in 10.4-inch active-matrix color TFT LCD (800 x 600); Includes external 17-inch color monitor, compact keyboard, and wheel mouse (via Option 1S)
Cooling	Forced air

Physical

Power Supply	90 to 250 V AC, 45 to 66 Hz, 300 W maximum
Operating Temperature	+5 °C to +50 °C °C
Dimensions (W×H×D)	411 mm × 222 mm × 367 mm mm
Weight	11.4 kg
Form Factor	Benchtop
Height	222 mm
Width	411 mm
Depth	367 mm

Acquisition Specifications

Number of Channels	68 (64 data channels, 4 clock/qualifier channels)
Maximum State Clock Rate	100 MHz (standard), 200 MHz (with Option 1T)
Maximum Timing Sample Rate (Half Channel)	500 MHz (2 ns)
Maximum Timing Sample Rate (Full Channel)	250 MHz (4 ns)
MagniVu Timing Resolution	500 ps (2 GHz) on all channels
MagniVu Record Length	2 Kb per channel
Record Length / Memory Depth (Per Channel)	256 Kb
Minimum Detectable Pulse Width	2.0 ns
Setup and Hold Window	2.0 ns (adjustable in 125 ps steps)
Channel-to-Channel Skew	<= 1.0 ns (typical)
Transitional Storage	Not supported

Triggering System

Trigger State Sequences	16 states
Trigger Events	If/Then/Else conditional branching
Word Recognizers	16
Transition Recognizers	4 (edge/transition)
Range Recognizers	4
Counter/Timers	Two 36-bit counters/timers
Glitch Triggering	Yes
Setup/Hold Violation Triggering	Yes (setup/hold window selectable from 2 ns to 8 ns)
Trigger Position	User-adjustable from 0% to 100% of record length

Probing & Input Characteristics

Supported Probes	P6417 (17-channel), P6418 (17-channel)
Input Impedance (Resistance)	20 kOhm
Input Impedance (Capacitance)	2 pF
Threshold Range	-2.0 V to +4.5 V
Threshold Resolution	50 mV
Threshold Accuracy	+/- (50 mV + 3% of threshold setting)
Maximum Input Voltage	+/-15 V (non-destructive)
Minimum Input Voltage Swing	500 mV peak-to-peak

System & Processing

Operating System	Windows 98 Second Edition / Windows 2000
Floppy Disk Drive	3.5-inch 1.44 MB
CD-ROM Drive	Internal 24x (minimum)
Hard Disk Drive Capacity	6 GB (or larger)

Display & User Interface

Internal Display Size	10.4 in. (26.4 cm) diagonal
Internal Display Resolution	800 x 600 pixels
Internal Display Type	Active-matrix color TFT LCD

External Connections & Ports

External Trigger Input	BNC connector
External Trigger Output	BNC connector

Software & Analysis

Analog/Digital Correlation	iView (Integrated View) works with Tektronix TDS oscilloscopes
Source Code Support	Universal Source Code Support for high-level language correlation
Supported Protocols	I2C, SPI, PCI, USB, IEEE 1394, DDR, etc. (with optional support packages)
Export Data Formats	ASCII, CSV, binary, TLA format

Environmental & Compliance

Storage Temperature	-20 °C to +60 °C
Humidity Range	20% to 80% RH (non-condensing)
Operating Altitude	3,000 m (10,000 ft)
Safety Certifications	UL3111-1, CSA C22.2 No. 1010.1, EN61010-1
EMC Compliance	EN55011 Class A, EN50082-1, FCC Part 15 Class A

Digitizing Oscilloscope

DSO Channels	2
DSO Bandwidth	500 MHz
DSO Real-Time Sample Rate	2 GS/s (1 channel), 1 GS/s (2 channels)
DSO Record Length	16,384 points per channel
DSO Vertical Resolution	8 bits
DSO Input Impedance	1 M Ω $\pm$ 1% in parallel with 15 pF $\pm$ 2 pF, or 50 Ω $\pm$ 1%
DSO Input Coupling	AC, DC, GND
DSO Sensitivity Range	2 mV/div to 5 V/div (1 M Ω), 2 mV/div to 1 V/div (50 Ω)
DSO DC Gain Accuracy	$\pm$ 2.5% of full scale
DSO Maximum Input Voltage	300 VRMS CAT II (1 M Ω), 5 VRMS (50 Ω)
Standard DSO Probes	P6139A 500 MHz 10X Passive Probes

System Controller

Processor	Intel Celeron
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Inputs & Outputs

External Display Port	Female 15-pin D-sub (VGA)
Parallel Port	Female 25-pin D-sub (IEEE 1284)
Serial Port	Male 9-pin D-sub (RS-232-C)
Keyboard Port	PS/2 mini-DIN
Mouse Port	PS/2 mini-DIN
PCMCIA Slots	Two Type II or one Type III PC Card slot
Logic Analyzer Probe Connectors	None (probe cables are permanently attached)
DSO Input Connectors	BNC

Power

AC Input Voltage	90 to 250 VAC
AC Input Frequency	45 to 66 Hz
Power Consumption	360 W maximum

TECHNOLOGY

Logic Analyzer

APPLICATIONS

Digital circuit debugging, embedded systems development, state and timing analysis, bus decoding

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