

TEKTRONIX

TLA7N4

The Tektronix TLA7N4 is a 136-channel logic analyzer module designed for use with Tektronix TLA700 series mainframes. It features simultaneous high-speed state and timing acquisition through the same probe, leveraging Tektronix's MagniVu technology to deliver up to 2 GHz (500 ps) high-resolution timing on all channels alongside deep timing of up to 500 MHz and state acquisition up to 200 MHz.

SPECIFICATIONS

General

Interfaces	Mainframe backplane interface (TLA700 series)
Display	None (uses mainframe display)

Physical

Power Supply	Powered by mainframe backplane
Operating Temperature	5 °C to +50 °C °C
Dimensions (W×H×D)	35 mm × 262 mm × 373 mm mm
Weight	1.6 kg kg

Acquisition Specifications

Total Input Channels	136
Dedicated Data Channels	132
Clock and Qualifier Channels	4
Input Impedance	20 kΩ parallel with 2 pF (probe dependent)
Minimum Input Voltage Swing	300 mV p-p
Input Threshold Range	-2.0 V to +4.5 V
Threshold Setting Resolution	10 mV

State Analysis (Synchronous)

Maximum State Clock Rate	100 MHz
Maximum State Memory Depth	64 Kb / 256 Kb / 1 Mb / 4 Mb (option dependent)

Timing Analysis (Asynchronous)

Maximum Timing Sample Rate (Full Channel)	250 MHz
High-Resolution Timing Sample Rate (MagniVu)	2 GHz (500 ps) on all channels
High-Resolution Timing Memory Depth (MagniVu)	2 Kb per channel
Maximum Timing Memory Depth	64 Kb / 256 Kb / 1 Mb / 4 Mb (option dependent)
Transitional Storage	Supported

Triggering & Sequencing

Trigger State Sequence Levels	16
Word Recognizers (Pattern)	16
Range Recognizers	4
Counter/Timer Resources	Two 48-bit
Setup/Hold Violation Triggering	Supported
Glitch Triggering	Supported

System Compatibility & Hardware Interface

Compatible Mainframes	Tektronix TLA700 Series
Occupied Slot Width	1 slot
Multi-Module Correlation Support	Supported

Probes & Inputs

Compatible Probes	P6417, P6418, P6419, P6434
Maximum Input Voltage (Probe)	±15 V

Triggering

Glitch Detection Minimum Width	2 ns
Trigger Sequencer Maximum Rate	100 MHz

Environmental

Storage Temperature Range	-20 °C to +60 °C
Operating Humidity Range	20% to 80% RH (non-condensing)
Operating Altitude	Up to 3,000 m
Non-Operating Altitude	Up to 12,190 m

Power Requirements

-2 V Current Requirement	6.0 A max (4.3 A typical)
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Acquisition System

Minimum Clock Pulse Width	2.0 ns
Setup and Hold Window	2.0 ns typical
Setup/Hold Violation Window Range	-15.0 ns to +15.0 ns
Setup/Hold Window Resolution	250 ps
State Clocking Modes	Single clock, Demultiplexed clock

Triggering System

Transition Recognizers	24 (detects rising, falling, or either transition)
Glitch Recognizers	136 (one per channel)
Setup/Hold Violation Recognizers	136 (one per channel)
Trigger Position Settings	Start, Center, End, or User-Defined (0% to 100%)

TECHNOLOGY

MagniVu Acquisition Technology

APPLICATIONS

Digital hardware verification, software execution tracing, and system integration debugging

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