

LECROY (TELEDYNE LECROY)

SDA 760Zi

The Teledyne LeCroy SDA 760Zi is a high-performance 6 GHz, 4-channel digital oscilloscope and serial data analyzer from the SDA 7 Zi series. Engineered for advanced serial data compliance testing and jitter analysis, it features the proprietary X-Stream II streaming architecture for exceptionally fast processing. The analyzer includes an integrated high-speed 2.7 Gb/s serial pattern trigger and features a unique Quad Summary View that simultaneously presents an eye diagram, time interval error (TIE), bathtub curve, and jitter histogram on its spacious 15.3-inch touch screen.

SPECIFICATIONS

General

Interfaces	USB Host, USB Device, LAN (LXI compliant), GPIB (optional), External Video (DVI-D & VGA), Audio In/Out
Display	15.3-inch widescreen color touch screen (1280 x 768 WXGA)
Calibration Interval	1 year

Physical

Power Supply	100 - 240 VAC ($\pm 10\%$) at 50/60 Hz ($\pm 5\%$), or 100 - 120 VAC at 400 Hz; Max Power Consumption 650 W (up to 800 W with options)
Operating Temperature	5 °C to 40 °C °C
Dimensions (W×H×D)	467 mm x 355 mm x 312 mm mm
Weight	18.4 kg kg

Key Acquisition Specifications

Analog Bandwidth (-3 dB)	6 GHz
Rise Time (10% to 90%, typical)	75 ps
Rise Time (20% to 80%, typical)	55 ps
Input Channels	4
Max Real-Time Sample Rate (Single-Channel)	40 GS/s (on 2 channels)
Max Real-Time Sample Rate (Multi-Channel)	20 GS/s (on 4 channels)
Max Memory Depth	up to 256 Mpts/ch (configuration dependent)
Vertical Resolution (Standard)	8-bit
Vertical Resolution (Enhanced Resolution Mode)	Up to 11-bit

Vertical System

Input Impedance	50 Ω or 1 M Ω
Input Coupling	50 Ω : DC; 1 M Ω : AC, DC, GND
Maximum Input Voltage	5 Vrms (50 Ω); 100 V max (1 M Ω)
Vertical Sensitivity Range (50 Ohm)	2 mV/div - 1 V/div
Vertical Sensitivity Range (1 MOhm)	2 mV/div - 10 V/div
DC Gain Accuracy	$\pm 1.5\%$ of full scale
Offset Range	50 Ω : ± 1 V (2 mV to 19.4 mV/div), ± 4 V (19.6 mV to 102 mV/div), ± 10 V (104 mV to 1 V/div)
Probe Interfaces Supported	ProLink and ProBus
Bandwidth Limiters	20 MHz, 200 MHz, 1 GHz, 3 GHz, 4 GHz
Channel-to-Channel Isolation	50 Ω : > 43 dB (150:1) to 1 GHz, > 38 dB (80:1) to 1.5 GHz, > 34 dB (50:1) to 3 GHz, > 30 dB (30:1) to 6 GHz

Horizontal System & Timebase

Timebase Accuracy	± 1 ppm
Channel-to-Channel Deskew Range	± 9 μ s

Trigger System

Trigger Modes	Auto, Normal, Single, Stop
Trigger Coupling	AC, DC, LF Rej, HF Rej
Standard Trigger Types	Edge, Glitch, Width, Logic, Slewrates, Interval, Dropout, Runt, TV-Video
High-Speed Serial Pattern Trigger Speed	Up to 2.7 Gb/s
High-Speed Serial Pattern Trigger Length	Up to 80-bit patterns

Serial Data Analysis & Jitter Software

Eye Diagram Analysis	SDA Quad Summary View showing Eye, TIE, Bathtub, and Jitter Histogram simultaneously
Eye Diagram Feature	Fastest eye building using X-Stream II architecture
Jitter Decomposition Model	Dual-Path Spectral and N-Rz
Total Jitter (Tj) Parameters	Supported
Random Jitter (Rj) Parameters	Supported
Deterministic Jitter (Dj) Parameters	Supported
Data-Dependent Jitter (DDj) Parameters	Supported
Periodic Jitter (Pj) Parameters	Supported
Inter-Symbol Interference (ISI) Plots	Supported
Supported Serial Standards Masks	Ethernet, USB 2.0, HDMI 1.2, PCI Express (2.5 GT/s), Serial ATA (1.5 Gb/s), UWB
Cable De-Embedding Feature	Permits SDA tools to be used as if the cables were not in the system
8b/10b Decoding	Supported
Spread Spectrum Clock Support	Supported
Mask Violation Locator	Supported

Acquisition Modes

Real-Time Acquisition Mode	Supported
Sequence Mode (Segmented Memory)	Supported
Roll Mode	Supported
Average Mode	Supported
Envelope Mode	Supported
WaveStream Fast Viewing Mode	Supported

Measurement, Math & Waveform Analysis

Advanced Math Operators	FFT, Calculus (Derivative, Integral), Histograms, Trend, Track
Custom Math Capabilities	MATLAB, C/C++, Excel integration

Display & User Interface

Display Size	15.3 in (39 cm) diagonal
Display Resolution	WXGA (1280 x 768) pixels
Display Type	Color Widescreen Touch Screen
Multi-Grid Management	Supported (up to 8 grids)

Processor & System Hardware

CPU	Intel Core 2 Quad (2.5 GHz or higher)
System Memory (RAM)	4 GB standard (up to 8 GB)
Storage Drive Type	Solid State Drive (SSD) or Hard Disk Drive (HDD)
Operating System	Windows 7 Professional (64-bit)

Connectivity & Interface Ports

LAN Interface	10/100/1000Base-T (LXI Class C compliant)
USB Ports	6 x USB 2.0 (Host), 1 x USB 2.0 (Device)
GPIO Interface	Optional (via external card or adapter)
External Video Output Port	DVI-D and VGA
Reference Clock Input	10 MHz (BNC)
Reference Clock Output	10 MHz (BNC)
Auxiliary Output	Trigger Out, Calibrator Out
External Trigger Input	BNC

Environmental & Compliance

Storage Temperature Range	-20 °C to 60 °C
Operating Humidity Range	5% to 80% RH (non-condensing)
Operating Altitude Limit	3,000 m (10,000 ft)

Acquisition System

Waveform Interpolation	Linear, Sin(x)/x
Standard Memory Depth	32 Mpts/ch (4 channels), 64 Mpts/ch (2 channels)

Math & Analysis

Maximum Zoom Traces	8
Maximum Math Traces	8

Triggering

Trigger Jitter	< 2.5 ps rms (typical)
External Trigger Input Impedance	50 Ohm / 1 MOhm (selectable)

Horizontal System

Sample Clock Jitter	< 125 fs rms (typical, internal reference)
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Power

Power Consumption	975 VA (typical)
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Interfaces

LXI Compliance	LXI Class C compliant
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Inputs & Outputs

Input Connectors	ProLink (50 Ohm only) and ProBus (1 MOhm / 50 Ohm)
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Clock / Timebase

Jitter Noise Floor	120 fs rms (typical)
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Interfaces & Connectivity

LSIB Support	Supported via optional LeCroy Serial Interface Bus card (up to 325 MB/s)
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Environmental

Operating Vibration	0.31 g rms (5 Hz to 500 Hz), 15 minutes in each of three orthogonal axes
Non-Operating Vibration	2.4 g rms (5 Hz to 500 Hz), 15 minutes in each of three orthogonal axes
Operating Shock	30 g peak, half-sine, 11 ms pulse, 3 shocks in each direction along 3 mutually perpendicular axes

TECHNOLOGY

Digital Real-Time Oscilloscope

APPLICATIONS

High-speed Serial Data Analysis & Compliance Testing

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