LECROY (TELEDYNE LECROY)

DDA5005A

The Teledyne LeCroy DDA5005A (Disk Drive Analyzer) is a specialized 5 GHz digital oscilloscope designed for advanced analysis of magnetic disk storage systems and high-speed serial data. Built on the WavePro 7000A series platform, it integrates disk drive measurement packages with robust 4-channel acquisition capabilities.

SPECIFICATIONS

General

Interfaces	LAN (10/100Base-T), USB 2.0 (4 ports), RS-232 (DB-9), Centronics Parallel, SVGA Output, GPIB (Optional)
Display	10.4-inch Color TFT-LCD Touch Screen, SVGA (800 x 600)

Physical

Power Supply	100 - 240 VAC (±10%) at 45 - 66 Hz / 115 VAC (±10%) at 380 - 420 Hz, Max 650 W
Operating Temperature	5 °C to 40 °C °C
Dimensions (W×H×D)	465 mm × 355 mm × 310 mm mm
Weight	18 kg kg

Vertical System

Analog Bandwidth (-3 dB)	5 GHz
Number of Input Channels	4
Vertical Resolution	8-bit (up to 11-bit with Enhanced Resolution ERES)
Input Impedance	50 Ω (±1%)
Input Coupling	DC, GND
Maximum Input Voltage	5 Vrms, ±5 V Peak
Input Sensitivity Range	2 mV/div to 1 V/div
DC Gain Accuracy	±1.5% of full scale
Hardware Bandwidth Limits	20 MHz, 200 MHz
Rise Time (10% - 90%)	90 ps (typical)
Rise Time (20% - 80%)	65 ps (typical)
Channel-to-Channel Isolation	> 40 dB (100:1) at 5 GHz
Input Connector Type	ProLink
Enhanced Resolution (ERES)	8.5 to 11 bits in 0.5-bit steps
Channel-to-Channel Deskew Range	±4.5 ns

Horizontal System

Timebase Range	20 ps/div to 10 s/div
Timebase Stability	±1 ppm

Acquisition System

Maximum Real-Time Sample Rate	20 GS/s (2 channels), 10 GS/s (4 channels)
Standard Record Length (Memory Depth)	20 Mpts (2 channels), 10 Mpts (4 channels)
Acquisition Modes	Sample, Sequence (Segmented Memory up to 25,000 segments), Envelope, Average, Enhanced Resolution (ERES)
Optional Memory Depth (Option L)	24 Mpts/ch (4-channel mode), 48 Mpts/ch (2-channel mode)
Optional Memory Depth (Option VL)	50 Mpts/ch (4-channel mode), 100 Mpts/ch (2-channel mode)

Trigger System

Standard Trigger Types	Edge, Glitch, Width, Logic, Pattern, TV-Multi, Runt, Slew Rate, Interval, Dropout, State/Edge Qualified
Disk Drive Triggers	Sector, Servo Gate, PES (Position Error Signal), Read Gate
Trigger Sources	Ch 1, Ch 2, Ch 3, Ch 4, External, Line
Trigger Coupling	DC, AC, HFRej, LFRej
Trigger Jitter	2.5 ps rms (typical)

Waveform Measurements and Analysis

Disk Drive Measurements	Amplitude, timing, pulse shape parameters, PRML analysis, head/media characterization

General Specifications

Operating System	Windows XP Professional
Processor	Intel Pentium 4

Ports & Connectors

External Reference Input	10 MHz, 50 Ω
External Reference Output	10 MHz, 50 Ω

Environmental

Storage Temperature	-20 °C to +60 °C
Operating Altitude	Up to 3,048 m (10,000 ft) at <= +25 °C
Non-Operating Altitude	Up to 12,192 m (40,000 ft)
Operating Humidity	5% to 80% RH (non-condensing) up to +30 °C, de-rating to 45% RH at +40 °C
Storage Humidity	5% to 95% RH (non-condensing)
Vibration (Operating)	0.31 g rms, 5 Hz to 500 Hz, 15 minutes per axis
Vibration (Non-Operating)	2.4 g rms, 5 Hz to 500 Hz, 15 minutes per axis
Functional Shock	20 g peak, half-sine, 11 ms pulse

Horizontal & Triggering

Trigger Modes	Auto, Normal, Single, Stop
Pre-trigger Delay	0 to 100% of full scale
Post-trigger Delay	0 to 10,000 divisions

Auxiliary Inputs/Outputs

Calibrator Output	1 kHz, 1 V square wave

Processor & Storage

Removable Hard Drive Capacity	>= 40 GB

TECHNOLOGY

Digital Phosphor Oscilloscope (DPO) / Disk Drive Analyzer

APPLICATIONS

Disk Drive Characterization, PRML Analysis, High-Speed Serial Data Analysis