

LECROY (TELEDYNE LECROY)

MS-500

The Teledyne LeCroy MS-500 is a high-performance Mixed Signal Oscilloscope (MSO) module that adds 36 digital channels to compatible LeCroy oscilloscopes, including the WaveRunner Xi and WaveSurfer Xs series. Designed to capture long records of fast digital signals, it offers a maximum input frequency of 500 MHz, up to 2 GS/s sampling, and a deep memory of up to 50 Mpts/Ch. This module enables embedded system designers to view and analyze analog, digital, and serial data signals simultaneously with precise time correlation.

SPECIFICATIONS

General

Interfaces	L-BUS, USB 2.0
Display	Uses host oscilloscope display (typically 10.4" color touch screen)

Physical

Power Supply	Powered via host oscilloscope L-BUS/USB port, or via external AC adapter (100 - 240 V AC)
Operating Temperature	5 °C to 40 °C °C
Dimensions (W×H×D)	213 mm × 38 mm × 211 mm mm
Weight	0.9 kg kg

Digital Input Channels

Number of Digital Channels	36
Input Impedance (Resistance)	100 kΩ
Input Capacitance	5 pF
Maximum Input Voltage	±30 V non-destruct
Threshold Grouping	4 groups (9 channels per group)
User-Defined Threshold Range	-10 V to +10 V
Threshold Accuracy	±(100 mV + 3% of threshold setting)
Minimum Input Voltage Swing	500 mV p-p

Performance

Channel-to-Channel Skew	< 1 ns (typical)
Digital-to-Analog Time Correlation Skew	< 2 ns
Maximum Input Frequency	250 MHz

Acquisition & Memory

Maximum Sampling Rate	2 GS/s (on 18 channels), 1 GS/s (on 36 channels)
Maximum Memory Depth	50 Mpts/Ch (on 18 channels), 25 Mpts/Ch (on 36 channels)
Minimum Detectable Pulse Width	2 ns

Triggering

Trigger Sources	Any digital or analog channel
Trigger Types	Edge, Pattern, State, Pulse Width, Glitch, Setup and Hold
Edge Triggering Modes	Rising edge, falling edge, or either edge
Pattern Triggering Setup	Pattern of HIGH, LOW, or DON'T CARE on 36 channels
State Triggering Setup	Pattern clocked by edge on another channel
Pulse Width Trigger Range	2 ns to 20 s
Glitch Trigger Minimum	2 ns
Setup and Hold Triggering	Setup/hold time violations on 36 channels relative to a clock edge
Analog/Digital Crosspattern Trigger	Yes

Integration & Software

Bus Decoding Protocol Support	I2C, SPI, UART, RS-232, CAN, LIN (software-dependent)
Mixed Signal Display Modes	Bus display (hex, binary, octal, decimal), individual digital lines
Search Engine Integration	WaveScan Search and Find
Compatible Oscilloscope Series	WaveRunner Xi/Xi-A, WaveSurfer Xs/Xs-A, WaveRunner 6000A, WavePro 7 Zi/Zi-A, HRO 12-bit

Measurements

Timing Measurements	single channel, digital-to-digital, or analog-to-digital
Cursor Readout	Hexadecimal, binary, octal, decimal bus values

Accessories

Lead Set Cable Length	1.0 m
Micro-gripper Quantity Included	40

Environmental

Storage Temperature Range	-20 °C to +60 °C
Operating Humidity	5% to 80% RH (non-condensing) at 30 °C
Storage Humidity	5% to 95% RH
Operating Altitude	Up to 3,000 m (10,000 ft)
Storage Altitude	Up to 12,192 m (40,000 ft)

Compliance

Safety Certifications	EN 61010-1
EMC Compliance	EN 61326-1
RoHS Compliance	Yes
WEEE Directive Compliance	Yes

Thresholds

Logic Threshold Presets	TTL, ECL, CMOS (2.5 V, 3.3 V, 5.0 V), PECL, LVDS
Threshold Resolution	10 mV

Digital Inputs

Digital Input Bandwidth	500 MHz
Digital Channel Grouping	4 banks of 9 channels
Input Dynamic Range	-10 V to +10 V

Connectivity

Host Interface	Proprietary LBUS
LBUS Cable Length	1.0 m

Power Requirements

Power Source	Powered directly from host oscilloscope via LBUS interface
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Probing

Digital Lead Connector	Standard 0.1-inch (2.54 mm) square-pin socket
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TECHNOLOGY

Mixed Signal Oscilloscope (MSO) Module

APPLICATIONS

Debugging and validation of embedded systems, microcontrollers, DSPs, FPGAs, ADCs, and DACs

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.