BROAD RANGE OF PROBING SOLUTIONS

LabMaster 9 Zi-A acquisition modules support a broad range of probes for a variety of applications. (Note: all modules don't include 1 MΩ input capability necessary for some probes - consult specifications for details).

ZS Series High Impedance Active Probes

- 1 GHz (ZS1000) and 1.5 GHz (ZS1500) bandwidths
- High Impedance (0.9 pF, 1 MΩ)
- Extensive standard and available probe tip and ground connection accessories
- ±12 Vdc offset (ZS1500)
- LeCroy ProBus system

High-Voltage Differential Probes

- 20 MHz and 100 MHz bandwidth
- 1,000 V_{rms} common mode voltage
- 1,400 V_{peak} differential voltage
- EN 61010 CAT III
- 80 dB CMRR at 50/60 Hz
- LeCroy ProBus system

High-Voltage Passive Probes

- Suitable for safe, accurate high-voltage measurements
- 1.2 kV to 20 kV
- Works with any 1 MΩ input oscilloscope

AP031

- Lowest priced differential probe
- 15 MHz bandwidth
- 700 V maximum input voltage
- Works with any 1 MΩ input oscilloscope

Current Probes

- Range of probes from 30 A_{rms} (50 A_{peak}) to 500 A_{rms} (700 A_{peak})
- 2 MHz to 100 MHz bandwidths
- Small form factor accommodates large conductors with small jaw size
- LeCroy ProBus system

WaveLink Differential Probes

- 4 and 6 GHz models
- Excellent noise performance
- ±4 V offset
- ±3 V common mode control
- Solder-In, Browser, Quick Connect, Square Pin, Positioner Tip and HiTemp Cables

ZD Series Differential Probes

- 200 MHz, 500 MHz, 1 GHz and 1.5 GHz bandwidths
- Wide range of probing accessories
- LeCroy ProBus system

SPECIFICATIONS

Standard

Math Tools

Display up to 8 math function traces (F1–F8). The easy-to-use graphical interface simplifies setup of up to two operations on each function trace, and function traces can be chained together to perform math-on-math.

absolute value
average (summed)
average (continuous)
correlation (two waveforms)
derivative
deskew (resample)
difference (–)
enhanced resolution (to 11 bits vertical)
envelope
exp (base e)
exp (base 10)
fft (power spectrum, magnitude, phase, up to 128 Mpts)
floor
integral
interpolate (cubic, quadratic, sinx/x)
invert (negate)
log (base e)
log (base 10)
product (x)
reciprocal
ratio (/)
rescale (with units)
roof
(sinx)/x
sparse
square
square root
sum (+)
zoom (identity)

Measure Tools

Display any 12 parameters together with statistics, including their average, high, low, and standard deviations. Histicons provide a fast, dynamic view of parameters and wave shape characteristics. Parameter Math allows addition, subtraction, multiplication, or division of two different parameters.

amplitude
area
base
cycles
data
delay
Δ delay
duty cycle
duration
falltime (90–10%, 80–20%, @ level)
frequency
first
last
level @ x
maximum
mean
median
minimum
narrow band phase
narrow band power
number of points
+ overshoot
– overshoot
peak-to-peak
period
risetime (10–90%, 20–80%, @ level)
rms
std. deviation
top
width
median
phase
time @ minimum (min.)
time @ maximum (max.)
Δ time @ level
Δ time @ level from trigger
x @ max.
x @ min.

Standard (cont'd)

Pass/Fail Testing

Simultaneously test multiple parameters against selectable parameter limits or pre-defined masks. Pass or fail conditions can initiate actions including document to local or networked files, e-mail the image of the failure, save waveforms, send a pulse out at the front panel auxiliary BNC output, or (with the GPIB option) send a GPIB SRQ.

Jitter and Timing Analysis

This package provides jitter timing and analysis using time, frequency, and statistical views for common timing parameters, and also includes other useful tools. Includes:

- "Track" graphs of all parameters, no limitation of number
  - Cycle-Cycle Jitter
  - N-Cycle
  - N-Cycle with start selection
  - Frequency @ level
  - Period @ level
  - Half Period
  - Width @ level
  - Time Interval Error @ level
  - Setup
  - Hold
  - Skew
  - Duty Cycle @ level
  - Duty Cycle Error
- Edge @ lv parameter (counts edges)
- Histograms expanded with 19 histogram parameters and up to 2 billion events
- Trend (datalog) of up to 1 million events
- Track graphs of all parameters
- Persistence histogram, persistence trace (mean, range, sigma)

SPECIFICATIONS

Software Options

SDA II Serial Data Analysis Software (LM9Zi-SDAII)

Total Jitter

A complete toolset is provided to measure total jitter. Eye Diagrams with millions of UI are quickly calculated from up to 512 Mpts records, and advanced tools may be used on the Eye Diagram to aid analysis. Complete TIE and Total Jitter (Tj) parameters and analysis functions are provided.

- Time Interval Error (TIE) Measurement Parameter, Histogram, Spectrum and Jitter Track
- Total Jitter (Tj) Measurement Parameter, Histogram, Spectrum
- Eye Diagram Display (sliced)
- Eye Diagram IsoBER (lines of constant Bit Error Rate)
- Eye Diagram Mask Violation Locator
- Eye Diagram Measurement Parameters
  - Eye Height
  - One Level
  - Zero Level
  - Eye Amplitude
  - Eye Width
  - Eye Crossing
  - Avg. Power
  - Extinction Ratio
  - Mask hits
  - Mask out
  - Bit Error Rate
  - Slice Width (setting)
- Q-Fit Tail Representation
- Bathtub Curve
- Cumulative Density Function (CDF)
- PLL Track

Jitter Decompostion Models

Two jitter decomposition methods are provided and simultaneously calculated to provide maximum measurement confidence. Q-Scale, CDF, Bathtub Curve, and all jitter decomposition measurement parameters can be displayed using either method.

- Spectral Method
- NQ-Scale Method

Random Jitter (Rj) and Non-Data Dependent Jitter (Rj+BUj)

- Random Jitter (Rj) Measurement Parameter
- Rj+BUj Histogram
- Rj+BUj Spectrum
- Rj+BUj Track

Deterministic Jitter (Dj)

- Deterministic Jitter (Dj) Measurement Parameter

Data Dependent Jitter (DDj)

- Data Dependent Jitter (DDj) Measurement Parameter
- DDj Histogram
- DDj Plot (by Pattern or N-bit Sequence)

Clock and Clock-Data Timing Jitter Analysis Package (LM9Zi-JITKIT)

Provides convenient setup and four views of jitter (statistical, time, spectrum, and overlaid) for a variety of horizontal, amplitude, and timing parameters. Direct display of jitter measurement values. Supports multiple simultaneous views with fast selection of multiple parameter measurements for fast and easy validation.

Software Options (cont'd)

Cable De-embedding (LM9Zi-CBL-DE-EMBED)

Removes cable effects from your measurements. Simply enter the S-parameters or attenuation data of the cable(s) then all of the functionality of the SDA 8 Zi can be utilized with cable effects de-embedded.

8b/10b Decode (LM9Zi-8B10B D)

Intuitive, color-coded serial decode with powerful search capability enables captured waveforms to be searched for user-defined sequences of symbols. Multi-lane analysis decodes up to four simultaneously captured lanes.

Serial Data Mask (SDM) (LM9Zi-SDM)

Create eye diagrams using a comprehensive list of standard eye pattern masks, or create a user-defined mask. Mask violations are clearly marked on the display for easy analysis.

Electrical Telecom Pulse Mask Test (LM9Zi-ET-PMT)

Performs automated compliance mask tests on a wide range of electrical telecom standards.

Spectrum Analyzer Mode (LM9Zi-SPECTRUM)

This package provides a new capability to navigate waveforms in the frequency domain using spectrum analyzer type controls.
FFT capability added to include:

- Power averaging
- Power density
- Real and imaginary components
- Frequency domain parameters
- FFT on up to 128 Mpts

Disk Drive Measurements Package (LM9Zi-DDM2)

This package provides disk drive parameter measurements and related mathematical functions for performing disk drive WaveShape Analysis.

- Disk Drive Parameters are as follows:
  - amplitude assymetry
  - local base
  - local baseline separation
  - local maximum
  - local minimum
  - local number
  - local peak-peak
  - local time between events
  - local time between peaks
  - local time between troughs
  - local time at minimum
  - local time at maximum
  - local time peak-trough
  - local time over threshold
  - local time trough-peak
  - local time under threshold
  - narrow band phase
  - narrow band power
  - overwrite
  - pulse width 50
  - pulse width 50 –
  - pulse width 50 +
  - resolution
  - track average amplitude
  - track average amplitude –
  - track average amplitude +
  - auto-correlation s/n
  - non-linear transition shift

SPECIFICATIONS

	13 GHz LabMaster	16 GHz LabMaster	20 GHz LabMaster	30 GHz LabMaster	36 GHz LabMaster	45 GHz LabMaster
Vertical System						
Analog Bandwidth @ 50 Ω (-3 dB) (2.4/2.92 Inputs)				30 GHz	36 GHz	45 GHz
Analog Bandwidth @ 50 Ω (-3 dB) (ProLink Input)	13 GHz (≥ 10 mV/div)	16 GHz (≥ 10 mV/div)	20 GHz (≥ 10 mV/div)	20 GHz (≥ 10 mV/div)	20 GHz (≥ 10 mV/div)	20 GHz (≥ 10 mV/div)
Analog Bandwidth @ 50 Ω (-3 dB) (ProBus Input)	For 9xxMZi-A "Master" Acquisition Module: 3.5 GHz (≥10 mV/div) For 9CZi-A Master Control Module: Not Applicable					
Analog Bandwidth @ 1 MΩ (-3 dB) (ProBus Input)	For 9xxMZi-A "Master" Acquisition Module: 500 MHz (typical, ≥2 mV/div) For 9CZi-A Master Control Module: Not Applicable					
Rise Time (10–90%, 50 Ω) (test limit, flatness mode)	32.5 ps	28.5 ps	22 ps	15.5 ps	13 ps	10.5 ps
Rise Time (20–80%, 50 Ω) (flatness mode)	24.5 ps	21.5 ps	16.5 ps	11.5 ps	9.75 ps	8.0 ps
Input Channels	Up to 20, depending on configuration selected. (Any combination of up to 20 ProLink input channels, or 4 ProBus input channels)			Up to 10 @ 30 GHz. Up to 20 @ 20 GHz (Any combination of 20 GHz ProLink inputs or 2 ProBus input channels). Max number of channels depends on configuration selected	Up to 10 @ 36 GHz. Up to 20 @ 20 GHz. Max number of channels depends on configuration selected.	Up to 5 @ 45 GHz Up to 10 @ 30 GHz Up to 20 @ 20 GHz (Any combination of 20 GHz ProLink inputs or 2 ProBus input channels). Max number of channels depends on configuration selected
Bandwidth Limiters	20 MHz, 200 MHz, 1 GHz, 4 GHz, 6 GHz, 8 GHz	20 MHz, 200 MHz, 1 GHz, 4 GHz, 6 GHz, 8 GHz, 13 GHz	20 MHz, 200 MHz, 1 GHz, 4 GHz, 6 GHz, 8 GHz, 13 GHz, 16 GHz	20 MHz, 200 MHz, 1 GHz, 4 GHz, 6 GHz, 8 GHz, 13 GHz, 16 GHz **For > 20 GHz Mode:** 20 GHz, 25 GHz	**For ≤20 GHz Mode:** 20 MHz, 200 MHz, 1 GHz, 4 GHz, 6 GHz, 8 GHz, 13 GHz, 16 GHz **For >20 GHz Mode:** 20 GHz, 25 GHz, 30 GHz	**For ≤ 20 GHz Mode:** 20 MHz, 200 MHz, 1 GHz, 4 GHz, 6 GHz, 8 GHz, 13 GHz, 16 GHz **For 25 and 30 GHz Mode:** 20 GHz, 25 GHz, 30 GHz **For 45 GHz Mode:** none
Input Impedance	**ProLink Inputs:** 50 Ω ±2% for ≤ 100 mV/div, 50 Ω ±3% for > 100 mV/div **ProBus Inputs:** 50 Ω ±2% or 1 MΩ || 16pF, 10 MΩ || 11 pF with supplied Probe			**2.92mm Inputs:** 50 Ω ±2% for ≤ 79 mV/div, 50 Ω ±3% for > 79 mV/div **ProLink Inputs:** 50 Ω ±2% for ≤ 100 mV/div, 50 Ω ±3% for > 100 mV/div **ProBus Inputs:** 50 Ω ±2% or 1 MΩ ||16pF, 10 MΩ || 11 pF with supplied Probe	**2.92mm Inputs:** 50 Ω +/-2% for ≤79 mV/div, 50 Ω +/-3% for >79 mV/div **ProLink Inputs:** 50 Ω +/-2% for ≤100 mV/div, 50 Ω+/-3% for >100 mV/div	**2.4/2.92mm Inputs:** 50 Ω ±2% for ≤ 79 mV/div, 50 Ω ±3% for > 79 mV/div **ProLink Inputs:** 50 Ω ±2% for ≤ 100 mV/div, 50 Ω ±3% for > 100 mV/div **ProBus Inputs:** 50 Ω ±2% or 1 MΩ ||16pF, 10 MΩ || 11 pF with supplied Probe
Input Coupling	**ProLink Inputs:** 50 Ω: DC, GND **ProBus Inputs:** 1 MΩ: AC, DC, GND; 50 Ω: DC, GND			**2.92 mm Inputs:** 50 Ω: DC, GND **ProLink Inputs:** 50 Ω: DC, GND **ProBus Inputs:** 1 MΩ: AC, DC, GND; 50 Ω: DC, GND	**2.92 mm Inputs:** 50 Ω: DC, GND **ProLink Inputs -** 50 Ω: DC, GND	**2.4/2.92 mm Inputs:** 50 Ω: DC, GND **ProLink Inputs:** 50 Ω: DC, GND **ProBus Inputs:** 1 MΩ: AC, DC, GND; 50 Ω: DC, GND
Maximum Input Voltage	**50 Ω (ProLink):** ±2 Vmax @ ≤ 100mV/div, 5.5V_{rms} @ > 100mV/div **50 Ω (ProBus):** ±5 Vmax, 3.5 V_{rms} **1 MΩ (ProBus):** 250 V max. (peak AC: < 10 kHz + DC)			**2.92 mm Inputs:** ±2 Vmax @ ≤ 100mV/div, 5.5V_{rms} @ > 100mV/div **50 Ω (ProLink):** ±2 Vmax @ ≤ 100mV/div, 5.5V_{rms} @ > 100mV/div **50 Ω (ProBus):** ±5 Vmax, 3.5 V_{rms} **1 MΩ (ProBus):** 250 V max. (peak AC: < 10 kHz + DC)	**2.92 mm Inputs:** ±2 Vmax@≤100mV/div, 5.5Vrms@>100mV/div **50 Ω (ProLink):** ±2 Vmax@≤100mV/div, 5.5Vrms@>100mV/div	**2.4/2.92 mm Inputs:** ±2 Vmax @ ≤ 100mV/div, 5.5V_{rms} @ > 100mV/div **50 Ω (ProLink):** ±2 Vmax @ ≤ 100mV/div, 5.5V_{rms} @ > 100mV/div **50 Ω (ProBus):** ±5 Vmax, 3.5 V_{rms} **1 MΩ (ProBus):** 250 V max. (peak AC: < 10 kHz + DC)

SPECIFICATIONS

	13 GHz LabMaster, 16 GHz LabMaster, 20 GHz LabMaster	30 GHz LabMaster	36 GHz LabMaster	45 GHz LabMaster
Vertical System (cont'd)				
Channel-Channel Isolation	DC to 10 GHz: 50 dB (> 315:1) 10 to 15 GHz: 46 dB (> 200:1) 15 to 20 GHz: 40 dB (> 100:1) (For any two ProLink input channels, same or different v/div settings, typical)	DC to 10 GHz: 50 dB (> 315:1) 10 to 15 GHz: 46 dB (> 200:1) 15 to 20 GHz: 40 dB (> 100:1) 20 GHz to Max BW: 30 dB (> 32:1) (For any two ProLink or 2.92 mm input channels, same or different v/div settings, typical)		
Vertical Resolution	8 bits; up to 11 bits with enhanced resolution (ERES)			
Sensitivity	**50 Ω (ProLink):** 2 mV–1 V/div, fully variable (2–9.9 mV/div via zoom) **50 Ω (ProBus):** 2 mV–1 V/div, fully variable; **1 MΩ (ProBus):** 2 mV–10 V/div, fully variable	**50 Ω (2.92 mm):** 10 mV–500 mV/div, fully variable **50 Ω (ProLink):** 2 mV–1 V/div, fully variable (2–9.9 mV/div via zoom) **50 Ω (ProBus):** 2 mV–1 V/div, fully variable **1 MΩ (ProBus):** 2 mV–10 V/div, fully variable	**50 Ω (2.92 mm):** 10 mV–500 mV/div, fully variable **50 Ω (ProLink):** 2 mV–1 V/div, fully variable (2-9.9 mV/div via zoom)	**50 Ω (2.4/2.92 mm):** 10 mV–500 mV/div, fully variable **50 Ω (ProLink):** 2 mV–1 V/div, fully variable (2-9.9 mV/div via zoom) **50 Ω (ProBus):** 2 mV–1 V/div, fully variable **1 M Ω (ProBus):** 2 mV–10 V/div, fully variable
DC Vertical Gain Accuracy (Gain Component of DC Accuracy)	±1% F.S. (typical), offset at 0 V; ±1.5% F.S. (test limit), offset at 0 V			
Offset Range	**50 Ω (ProLink):** ±500 mV @ 2–100 mV/div ±4 V @ > 100 mV/div–1 V/div **50 Ω (ProBus):** ±750 mV @ 2–100 mV/div ±4 V @ > 100 mV/div–1 V/div **1 MΩ:** ±1V @ 2–140 mV/div ±10 V @ 142m V–1.40 V/div ±100 V @ 1.42 V–10 V/div	**50 Ω (2.92 mm):** ±500 mV @ 2–79 mV/div ±4 V @ 80 mV/div–500 mV/div **50 Ω (ProLink):** ±500 mV @ 2–100 mV/div ±4 V @ > 100 mV/div–1 V/div **50 Ω (ProBus):** ±750 mV @ 2–100 mV/div ±4 V @ > 100 mV/div –1 V/div **1 MΩ:** ±1V @ 2–128 mV/div ±10V @ 130 mV–1.28 V/div ±100 V @ 1.3V–10 V/div	**50 Ω (2.92 mm):** ±500 mV @ 2–79 mV/div ±4 V @ 80 mV/div -500 mV/div **50 Ω (ProLink):** ±500 mV @ 2–100 mV/div ±4 V @ >100 mV/div -1 V/div	**50 Ω (2.4/2.92 mm):** ±500 mV @ 2–79 mV/div ±4 V @ 80 mV/div–500 mV/div **50 Ω (ProLink):** ±500 mV @ 2–100 mV/div ±4 V @ > 100 mV/div–1 V/div **50 Ω (ProBus):** ±750 mV @ 2–100 mV/div ±4 V @ > 100 mV/div –1 V/div **1 MΩ:** ±1V @ 2–128 mV/div ±10V @ 130 mV–1.28 V/div ±100 V @ 1.3V–10 V/div
DC Vertical Offset Accuracy	±(1.5% of offset setting + 1 mV) (test limit)			
Horizontal System				
Timebases	Internal timebase with 10 GHz clock frequency common to all input channels. Single, distributed 10 GHz clock for all channels ensures precise synchronization with timing accuracy between all channels identical to that provided within a single, conventional oscilloscope package			
Time/Division Range	**Real-time Mode:** 20 ps/div–64 s/div; **RIS Mode:** 20 ps/div–10 ns/div; **Roll Mode:** N/A	**For ≥ 25 GHz Mode:** **Real-time Mode:** 20 ps/div–640 µs/div, depending on memory length **For ≤ 20 GHz Mode:** **Real-time Mode:** 20 ps/div–64 s/div; **RIS Mode:** 20 ps/div–10 ns/div; **Roll Mode:** N/A		
Clock Accuracy	< 1 ppm + (aging of 0.5 ppm/yr from last calibration)			

SPECIFICATIONS

	13 GHz LabMaster	16 GHz LabMaster	20 GHz LabMaster	30 GHz LabMaster	36 GHz LabMaster	45 GHz LabMaster
Horizontal System (cont'd)						
Time Interval Accuracy	< 0.06 / SR + (clock accuracy* Reading) (rms)					
Jitter Noise Floor (TIE, typical)	For Acq. Length ≤ 10 µs: 250 fs_{rms} For Acq. Length > 10 µs: 300 fs_{rms}	For Acq. Length ≤ 10 µs: 225 fs_{rms} For Acq. Length > 10 µs: 275 fs_{rms}	For Acq. Length ≤ 10 µs: 190 fs_{rms} For Acq. Length > 10 µs: 240 fs_{rms}	For Acq. Length ≤ 10 µs: 140 fs_{rms} For Acq. Length > 10 µs: 190 fs_{rms}	For Acq. Length ≤10µs: 135 fs_{rms} For Acq. Length >10µs: 185 fs_{rms}	For Acq. Length ≤ 10 µs: 125 fs_{rms} For Acq. Length > 10 µs: 175 fs_{rms}
Trigger and Interpolator Jitter	< 0.1 ps_{rms} (typical, software assisted), 2 ps_{rms} (typical, hardware)					
Channel-Channel Deskew Range	±9 x time/div. setting or 25 ns max. (whichever is larger), each channel					
External Timebase Reference (Input)	10 MHz; 50 Ω impedance, applied at the rear input					
External Timebase Reference (Output)	10 MHz; 50 Ω impedance, output at the rear					
Acquisition System						
Single-Shot Sample Rate/Ch	40 GS/s on each channel. (80 GS/s when combining channels using the optional WM8Zi-2X80GS External Interleaving Device)			80 GS/s on each channel in ≥ 25 GHz Mode. 40 GS/s on each channel in ≤ 20 GHz Mode. (80 GS/s in ≤ 20 GHz Mode when combining channels using the optional WM8Zi-2X80GS External Interleaving Device)		120 GS/s on each channel in 45 GHz Mode 80 GS/s on each channel in ≥ 25 GHz Mode 40 GS/s on each channel in ≤ 20 GHz Mode (80 GS/s in < 20 GHz Mode when combining channels using the optional WM8Zi-2X80GS External Interleaving Device)
Random Interleaved Sampling (RIS)	200 GS/s for repetitive signals (20 ps/div to 10 ns/div)			For ≥ 25 GHz Mode: Not Applicable For < 25 GHz Mode: 200 GS/s for repetitive signals (20 ps/div to 10 ns/div)		
Maximum Trigger Rate	1,000,000 waveforms/second (in Sequence Mode, up to 4 channels)					
Intersegment Time	1 µs					
Maximum Acquisition Memory Points/Ch (4 Ch / 2 Ch)						
Standard Memory (4 Ch / 2 Ch / 1Ch) (Number of Segments)	20M / 20M / 20M (2000) Memory and Sample Rate can be doubled in half channel mode with use of WM8Zi-2X80GS External Interleaving Device.			40 M / 40 M / 40M (1000) (In ≤ 20 GHz Modes, reference memory specification for 20 GHz LabMaster)		60M / 60M / 60M (1000) (In < 30 GHz or < 20 GHz Modes, reference memory specification for 30 GHz and 20 GHz Lab-Masters

SPECIFICATIONS

	13 GHz LabMaster	16 GHz LabMaster	20 GHz LabMaster	30 GHz LabMaster	36 GHz LabMaster	45 GHz LabMaster
Acquisition System (cont'd)						
Memory Options (4 Ch / 2 Ch / 1 Ch for ≤ 20 GHz Models, 2 Ch / 1 Ch for 30 and 36 GHz Models, 1 Ch for 45 GHz Model) (Number of Segments)	**S-32 Option:** 32M / 32M / 32M (7,500) **M-64 Option:** 64M / 64M / 64M (15,000) **L-128 Option:** 128M / 128M / 128M (15,000) **VL-256 Option:** 256M / 256M / 256M (15,000) Note: On all memory options, memory and sample Rate can be doubled in half channel mode with use of WM8Zi-2X80GS External Interleaving Device.			S-32 Option: 64M / 64M (3,500) M-64 Option: 128M / 128M (7,500) L-128 Option: 256M / 256M (15,000) VL-256 Option: 512M / 512M (15,000) (In ≤ 20 GHz Modes, reference memory specification for 20 GHz LabMaster)		**S-32 Option:** 96M (3,500) **M-64 Option:** 192M (15,000) **L-128 Option:** 384M (15,000) **VL-256 Option:** 768M (15,000) (In < 30 GHz or < 20 GHz Modes, reference memory specification for 30 GHz and 20 GHz LabMasters
Acquisition Processing						
Averaging	Summed averaging to 1 million sweeps; continuous averaging to 1 million sweeps					
Enhanced Resolution (ERES)	From 8.5 to 11-bits vertical resolution					
Envelope (Extrema)	Envelope, floor, or roof for up to 1 million sweeps					
Interpolation	Linear or Sin x/x					
Triggering System						
Modes	Normal, Auto, Single, and Stop					
Sources	Using 9xxMZi-A Master Acquisition Module: any input channel, Aux, Aux/10, Line, or Fast Edge on 9xxMZi-A, or any input channel (Edge trigger only) on 9xxSZi-A Slave Acquisition Modules. Using 9CZi-A Master Control Module: Any Ch 1-4 or Fast Edge of the first 9xxSZi-A "Slave" Acquisition Module input, or any input channel (Edge trigger only) on additional 9xxSZi-A Slave Acquisition Modules. Slope and level unique to each source except line trigger.					
Coupling Mode	DC, AC, HFRej, LFRej					
Pre-trigger Delay	0–100% of memory size (adjustable in 1% increments of 100 ns)					
Post-trigger Delay	0–10,000 divisions in real time mode, limited at slower time/div settings or in roll mode					
Hold-off by Time or Events	From 2 ns up to 20 s or from 1 to 99,999,999 events					
Internal Trigger Range	±4.1 div from center					
Trigger Sensitivity with Edge Trigger (Ch 1–4) 2.4/2.92mm Inputs	N/A			3 div @ < 15 GHz 1.5 div @ < 3 GHz 1.0 div @ < 200 MHz (for DC coupling, ≥ 10 mV/div, 50 Ω)		
Trigger Sensitivity with Edge Trigger (Ch 1–4) ProBus Inputs	2 div @ < 3.5 GHz, 1.5 div @ < 1.75 GHz, 1.0 div @ < 200 MHz, (for DC coupling, ≥ 10 mV/div, 50 Ω)					
Trigger Sensitivity with Edge Trigger (Ch 1–4) ProLink Inputs	For 9xxMZi-A "Master" Acquisition Module or Ch 1-4 of a 9xxSZi-A "Slave" Acquisition Module when used with a 9CZi-A Master Control Module: 3 div @ < 15 GHz (13GHz for 13 GHz LabMaster), 1.5 div @ < 3 GHz, 1.0 div @ < 200 MHz, (for DC, AC, LFRej coupling, ≥ 10 mV/div, 50 Ω)					
External Trigger Sensitivity, (Edge Trigger)	For 9xxMZi-A "Master" Acquisition Module or Slave Acquisition Module used with 9CZi-A Master Control Module: 2 div @ < 1 GHz, 1.5 div @ < 500 MHz, 1.0 div @ < 200 MHz, (for DC coupling)					
Max. Trigger Frequency, SMART Trigger	For 9xxMZi-A "Master" Acquisition Module or Ch 1-4 of a 9xxSZi-A "Slave" Acquisition Module when used with a 9CZi-A Master Control Module: 2.0 GHz @ ≥ 10 mV/div (minimum triggerable width 200 ps)					
External Trigger Input Range	For 9xxMZi-A "Master" Acquisition Module or Ch 1-4 of a 9xxSZi-A "Slave" Acquisition Module when used with a 9CZi-A Master Control Module: Aux (±0.4 V); Aux/10 (±4 V)					

SPECIFICATIONS

	13 GHz LabMaster	16 GHz LabMaster	20 GHz LabMaster	30 GHz LabMaster	36 GHz LabMaster	45 GHz LabMaster
Basic Triggers						
Edge	Triggers when signal meets slope (positive, negative, or either) and level condition.					
Window	Triggers when signal exits a window defined by adjustable thresholds					
TV-Composite Video	Triggers NTSC or PAL with selectable line and field; HDTV (720p, 1080i, 1080p) with selectable frame rate (50 or 60 Hz) and Line; or CUSTOM with selectable Fields (1–8), Lines (up to 2000), Frame Rates (25, 30, 50, or 60 Hz), Interlacing (1:1, 2:1, 4:1, 8:1), or Synch Pulse Slope (Positive or Negative)					
SMART Triggers™						
State or Edge Qualified	Triggers on any input source only if a defined state or edge occurred on another input source. Holdoff between sources is selectable by time or events					
Qualified First	In Sequence acquisition mode, triggers repeatably on event B only if a defined pattern, state, or edge (event A) is satisfied in the first segment of the acquisition. Holdoff between sources is selectable by time or events					
Dropout	Triggers if signal drops out for longer than selected time between 1 ns and 20 s					
Pattern	Logic combination (AND, NAND, OR, NOR) of 5 inputs (4 channels and external trigger input). Each source can be high, low, or don't care. The High and Low level can be selected independently. Triggers at start or end of the pattern					
SMART Triggers with Exclusion Technology						
Glitch	Triggers on positive or negative glitches with widths selectable as low as 200ps to 20 s, or on intermittent faults					
Width (Signal or Pattern)	Triggers on positive, negative, or both widths with widths selectable as low as 200ps to 20 s, or on intermittent faults					
Interval (Signal or Pattern)	Triggers on intervals selectable between 1 ns and 20 s					
Timeout (State/Edge Qualified)	Triggers on any source if a given state (or transition edge) has occurred on another source. Delay between sources is 1 ns to 20 s, or 1 to 99,999,999 events					
Runt	Trigger on positive or negative runts defined by two voltage limits and two time limits. Select between 1 ns and 20 ns					
Slew Rate	Trigger on edge rates. Select limits for dV, dt, and slope. Select edge limits between 1 ns and 20 ns					
Exclusion Triggering	Trigger on intermittent faults by specifying the expected behavior and triggering when that condition is not met					
Cascade (Sequence) Triggering						
Capability	Arm on "A" event, then Trigger on "B" event. Or Arm on "A" event, then Qualify on "B" event, and Trigger on "C" event. Or Arm on "A" event, then Qualify on "B" then "C" event, and Trigger on "D" event					
Types	A, B, C, or D event: Edge, Glitch, Width, Window, Dropout, Interval, Runt, Slew Rate, or Pattern (analog)					
Holdoff	Holdoff between A and B, B and C, C or D, or any is selectable by time or number of events					
Reset	Reset between A and B, B and C, C and D, or any combination is selectable in time or number of events					
High-speed Serial Protocol Triggering (Optional)						
Data Rates	(Option LM9Zi-HSPT, for signals connected to 9xxMZi-A "Master" Acquisition Module inputs) 100 Mb/s–2.7 Gb/s, 3.0, 3.125 Gb/s					
Pattern Length	80-bits, NRZ or 8b/10b					
Clock and Data Outputs	400 mV_{p-p} (typical) AC coupled					
Clock Recovery Jitter	2 ps_{rms} + 0.3% Unit $Interval_{rms}$ for PRBS data patterns with 50% transition density (typical)					
High-speed Serial Protocol Triggering (Optional)						
Hardware Clock Recovery Loop BW	PLL Loop BW = Fbaud/5500, 100 Mb/s to 2.488 Gb/s (typical)					
Low Speed Serial Protocol Triggering (Optional)						
Optionally available	I2C, SPI (SPI,SSPI,SIOP), UART-RS232, CAN, LIN, FlexRay, I2S (Audio), MIL-1553					

SPECIFICATIONS

	13 GHz LabMaster	16 GHz LabMaster	20 GHz LabMaster	30 GHz LabMaster	36 GHz LabMaster	45 GHz LabMaster
Color Waveform Display						
Type	On 9xxMZi-A "Master" Acquisition Module or 9CZi-A Master Control Module: Color 15.3" flat panel TFT-Active Matrix LCD with high resolution touch screen.					
Resolution	WXGA; 1280 x 768 pixels					
Number of Traces	Display a maximum of 40 traces. Simultaneously display channel, zoom, memory and math traces					
Grid Styles	Auto, Single, Dual, Quad, Octal, X-Y, Single + X-Y, Dual + X-Y, Twelve, Sixteen, Twenty					
Waveform Representation	Sample dots joined, or sample dots only					
Integrated Second Display						
Type	Color 15.3" flat panel TFT-Active Matrix LCD with high resolution touch screen. Requires ordering of option LM9Zi-VIDEOCARD-Zi-EXTDISP-15 to relace the standard video card in the LabMaster CPU or LabMaster 9CZi-A Master Control Module, so performance described in "External Monitor Port" is no longer provided. DVI and power connector provided to support LeCroy Zi-EXTDISP-15 additional touch screen display accessory. Includes support for extended desktop operation					
Resolution	WXGA; 1280 x 768 pixels					
High-Speed Digitizer Output (Option)						
Type	Option LSIB-1. Installs in LabMaster 9xxMZi-A CPU or LabMaster 9CZi-A Master Control Module and uses one available PCIe slot normally used by a 9xxSZi-A Module.					
Transfer Rates	Up to 325 MB/s (typical)					
Output Protocol	PCI Express, Gen 1 (4 lanes utilized for data transfer)					
Control Protocol	TCP/IP					
Command Set	Via Windows Automation, or via LeCroy Remote Command Set					
Processor/CPU						
Type	In 9xxMZi-A CPU or 9CZi-A Master Control Module: Intel® Xeon™ X5660 2.8 GHz (or better). There are two processors in each CPU, and each processor has 6 cores for a total of 12 cores and an effective processor speed of 33.6 GHz					
Processor Memory	24 GB standard. Up to 192 GB optionally available					
Operating System	Microsoft Windows® 7 Professional Edition (64-bit)					
Oscilloscope Operating Software						
Real Time Clock	Date and time displayed with waveform in hardcopy files. SNTP support to synchronize to precision internal clocks					
Setup Storage						
Front Panel and Instrument Status	Store to the internal hard drive, over a network, or to a USB-connected peripheral device					
Interface						
Remote Control	Via Windows Automation, or via LeCroy Remote Command Set					
Network Communication Standard	VXI-11 or VICP, LXI Class C (v1.2) Compliant					
GPIB Port (optional)	Supports IEEE – 488.2. Installs in LabMaster 9xxMZi-A CPU or 9CZi-A Master Control Module and uses one available PCIe slot normally used by a 9xxSZi-A Module					
LSIB Port (optional)	Supports PCIe Gen1 x4 protocol with LeCroy supplied API. Installs in LabMaster 9xxMZi-A CPU or 9CZi-A Master Control Module and uses one available PCIe slot normally used by a 9xxSZi-A Module					
Ethernet Port	Supports 10/100/1000Base-T Ethernet interface (RJ45 port)					
USB Ports	9xxMZi-A CPU: minimum 2 total USB 2.0 ports support Windows compatible devices 9xxMZi "Master" Acquisition Module: 3 total, mounted on front panel					
External Monitor Port	In 9xxMZi-A or 9CZi-A Master Control Module: Dual Link DVI compatible to support internal display or internal display on 9xxMZi-A "Master" Acquisition Module internal display (1280 x 768 pixel resolution) or customer-supplied monitor with up to WQXGA (2560 x 1600 pixel) resolution. 15 pin D-Type WXGA compatible to support customer-supplied external monitor. Only one monitor can operate at a time					

SPECIFICATIONS

	13 GHz LabMaster	16 GHz LabMaster	20 GHz LabMaster	30 GHz LabMaster	36 GHz LabMaster	45 GHz LabMaster
Power Requirements						
Voltage	LabMaster 9xxMZi-A "Master" Acquisition Module and 9xxSZi-A: 100–240 VAC ±10% at 45–66 Hz; 100–120 VAC ±10% at 380–420 Hz; Automatic AC Voltage Selection, Installation Category II LabMaster 9xxMZi-A CPU: 100–240 VAC ±10% at 45-66 Hz; Automatic AC Voltage Selection, Installation Category II LabMaster 9CZi-A Master Control Module: 100–240 VAC ±10% at 45-66 Hz; Automatic AC Voltage Selection, Installation Category II					
Max. Power Consumption	9xxMZi-A "Master" Acq. Module – 850 W / 850 VA 9xxMZi-A CPU – 400 W / 400 VA 9xxSZi-A "Slave" Acq. Module – 700 W / 700 VA 9CZi-A Master Control Module - 450 W / 450 VA. Each Module and the CPU has a separate power cord			9xxMZi-A "Master" Acq. Module – 900 W / 900 VA 9xxMZi-A CPU – 400 W / 400 VA 9xxSZi-A "Slave" Acq. Module – 750 W / 750 VA 9CZi-A Master Control Module - 450 W / 450 VA. Each Module and the CPU has a separate power cord		
Environmental						
Temperature (Operating)	+5 °C to +40 °					
Temperature (Non-Operating)	–20 °C to +60 °C					
Humidity (Operating)	5% to 80% relative humidity (non-condensing) up to +31 °C Upper limit derates to 50% relative humidity (non-condensing) at +40 °C					
Humidity (Non-Operating)	5% to 95% relative humidity (non-condensing) as tested per MIL-PRF-28800F					
Altitude (Operating)	Up to 10,000 ft. (3048 m) at or below +25 °C					
Altitude (Non-Operating)	Up to 40,000 ft. (12,192 m)					
Random Vibration (Operating)	0.5 g_{rms} 5 Hz to 500 Hz, 15 minutes in each of three orthogonal axes					
Random Vibration (Non-Operating)	2.4 g_{rms} 5 Hz to 500 Hz, 15 minutes in each of three orthogonal axes					
Functional Shock	20 g_{peak}, half sine, 11 ms pulse, 3 shocks (positive and negative) in each of three orthogonal axes, 18 shocks total					
Physical Dimensions						
Dimensions (HWD)	9xxMZi-A "Master" Acquisition Module and 9CZi-A Master Control Module – 14" H x 18.4" W x 16" D (355 x 467 x 406 mm) 9xxMZi-A CPU – 5.7" H x 18.2" W x 20.8" D (145 mm x 462 mm x 527 mm) 9xxSZi-A "Slave" Acquisition Module – 7" H x 18.2" W x 20.8" D (177 mm x 462 mm x 527 mm)					
Weight	9xxMZi-A "Master" Acquisition Module – 48 lbs. (22 kg) 9xxMZi-A CPU – 29 lbs. (13 kg) 9xxSZi-A "Slave" Acquisition Module – 37 lbs. (17 kg) 9CZi-A Master Control Module - 41 lbs. (19 kg)			930MZi-A "Master" Acq.Module – 55 lbs. (25 kg) 9xxMZi-A CPU – 29 lbs. (13 kg) 93xSZi-A "Slave" Acquisition Module – 44 lbs. (20 kg) 9CZi-A Master Control Module - 41 lbs. (19 kg)		945MZi-A "Master" Acq. Module – 57 lbs. (26 kg) 9xxMZi-A CPU – 29 lbs. (13 kg) 945SZi-A "Slave" Acquisition Module – 46 lbs. (21 kg) 9CZi-A Master Control Module - 41 lbs. (19 kg)
Shipping Weight	9xxMZi-A "Master" Acquisition Module – 70 lbs. (32 kg) 9xxMZi-A CPU – 36 lbs. (16 kg) 9xxSZi-A "Slave" Acquisition Module – 44 lbs. (20 kg) 9CZi-A Master Control Module - 41 lbs. (19 kg)			930MZi-A "Master" Acq.Module – 77 lbs. (35 kg) 9xxMZi-A CPU – 29 lbs. (13 kg) 930SZi-A "Slave" Acquisition Module – 51 lbs. (23 kg) 9CZi-A Master Control Module - 41 lbs. (19 kg)		945MZi-A "Master" Acq. Module – 79 lbs. (36 kg) 9xxMZi-A CPU – 29 lbs. (13 kg) 945SZi-A "Slave" Acq. Module – 53 lbs. (24 kg) 9CZi-A Master Control Module - 41 lbs. (19 kg)
Certifications						
	CE Compliant, UL and cUL listed; conforms to EN 61326, EN 61010-1, UL 61010-1 2nd edition, and CSA C22.2 No. 61010-1-04					
Warranty and Service						
	3-year warranty; calibration recommended annually. Optional service programs include extended warranty, upgrades, and calibration services					

ORDERING INFORMATION

Product Description	Product Code
LabMaster 9 Zi-A Series Master Control Modules	
LabMaster *Master* Control Module with15.3" WXGA Color Display.	LabMaster 9CZi-A
LabMaster 9 Zi-A Series Master Acquisition Modules	
13 GHz, 40 GS/s, 4 Ch, 20 Mpts/Ch LabMaster *Master* Acquisition Module with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Input	LabMaster 913MZi-A
16 GHz, 40 GS/s, 4 Ch, 20 Mpts/Ch LabMaster *Master* Acquisition Module with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Input	LabMaster 916MZi-A
20 GHz, 40 GS/s, 4 Ch, 20 Mpts/Ch LabMaster *Master* Acquisition Module with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Input	LabMaster 920MZi-A
30 GHz, 80 GS/s, 2 Ch, 40 Mpts/Ch LabMaster *Master* Acquisition Module (20 GHz, 40 GS/s, 4 Ch, 20 Mpts/Ch) with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Input	LabMaster 930MZi-A
45 GHz, 120 GS/s, 1 Ch, 60 Mpts/Ch LabMaster *Master* Acquisition Module (30 GHz, 80 GS/s, 2 Ch, 40 Mpts/Ch; 20 GHz, 40 GS/s, 4 Ch, 20 Mpts/Ch) with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Input	LabMaster 945MZi-A
LabMaster 9 Zi-A Series Slave Acquisition Modules	
13 GHz, 40 GS/s, 4 Ch, 20 Mpts/Ch LabMaster *Slave* Acquisition Module with 50 Ω input	LabMaster 913SZi-A
16 GHz, 40 GS/s, 4 Ch, 20 Mpts/Ch LabMaster *Slave* Acquisition Module with 50 Ω input	LabMaster 916SZi-A
20 GHz, 40 GS/s, 4 Ch, 20 Mpts/Ch LabMaster *Slave* Acquisition Module with 50 Ω input	LabMaster 920SZi-A
30 GHz, 80 GS/s, 2 Ch, 40 Mpts/Ch LabMaster *Slave* Acquisition Module with 50 Ω input (20 GHz, 40 GS/s, 4 Ch, 20 Mpts/Ch)	LabMaster 930SZi-A
36 GHz, 80 GS/s, 2 Ch, 40 Mpts/Ch LabMaster *Slave* Acquisition Module with 50 Ω input (20 GHz, 40 GS/s, 4ch, 20 Mpts/Ch)	LabMaster 936SZi-A

Product Description	Product Code
LabMaster 9 Zi-A Series Slave Acquisition Modules (cont'd)	
45 GHz, 120 GS/s, 1 Ch, 60 Mpts/Ch LabMaster *Slave* Acquisition Module with 50 Ω input (30 GHz, 80 GS/s, 2 Ch, 40 Mpts/Ch; 20 GHz, 40 GS/s, 4 Ch, 20 Mpts/Ch)	Labmaster 945SZi-A

Included with LabMaster 9CZi-A Standard Configuration

DVI cable for WXGA connection, 1m long
Optical 3-button Wheel Mouse, USB 2.0
Printed Getting Started Manual
Anti-virus Software (Trial Version)
Microsoft Windows 7 License
Commercial NIST Traceable Calibration with Certificate
3-year Warranty

Included with LabMaster 9xxMZi-A Standard Configuration

÷10, 500 MHz Passive Probe (Qty. 4 on 4–20 GHz units, Qty. 2 on 30–45 GHz units)
ProLink to K/2.92 mm Adapter: 4 each LPA-K-A
PCIe x 8 cable, 2m long
DVI cable for WXGA connection, 2m long
Power Cable (quantity 2) for the Destination Country
Optical 3-button Wheel Mouse, USB 2.0
Printed Getting Started Manual
Anti-virus Software (Trial Version)
Microsoft Windows 7 License
Commercial NIST Traceable Calibration with Certificate
3-year Warranty

Included with LabMaster 9xxSZi-A Standard Configuration

ProLink to K/2.92 mm Adapter: 4 each LPA-K-A
PCIe x 8 cable, 2m long
PCIe x 4 cable, 2m long
Power Cable for the Destination Country
ChannelSync 10 GHz clock cable, 2m long
Commercial NIST Traceable Calibration with Certificate
3-year Warranty

Memory Options

20 Mpts/Ch Standard Memory	LM9Zi-STD
32 Mpts/Ch Memory Option	LM9Zi-S-32
64 Mpts/Ch Memory Option	LM9Zi-M-64
128 Mpts/Ch Memory Option	LM9Zi-L-128
256 Mpts/Ch Memory Option	LM9Zi-VL-256

Sampling Rate Options

80 GS/s on 2 Ch Sampling Rate Option (not available for 930xZi-A or 945xZi-A) Includes two separate external interleaving devices with storage case	WM8Zi-2X80GS

ORDERING INFORMATION

Product Description	Product Code
CPU, Computer and Other Hardware Options	
Additional 500 GB Hard Drive for LM9xxMZi-A	LM9Zi-500GB-RHD-02
48 GB RAM Upgrade for LM9xxMZi-A	LM9Zi-24-UPG-48GBRAM
96 GB RAM Upgrade for LM9xxMZi-A	LM9Zi-24-UPG-96GBRAM
192 GB RAM Upgrade for LM9xxMZi-A	LM9Zi-24-UPG-192GBRAM
GPIB Option for LeCroy Oscilloscope Half-height card	GPIB-2
CPU Video Card to support Zi-EXTDISP-15 2nd Touch Screen Display	LM9Zi-VIDEOCARD-ZI-EXTDISP-15
Serial Data Analysis	
SDA II Serial Data Analysis Option	LM9Zi-SDAII
Cable De-embed Option	LM9Zi-CBL-DE-EMBED
Eye Doctor II Advanced Signal Integrity Tools	LM9Zi-EYEDRII
Serial Data Compliance	
ET-PMT Software Option	LM9Zi-ET-PMT
SDM Software Option	LM9Zi-SDM
QualiPHY Enabled DDR2 Software Option	QPHY-DDR2
QualiPHY Enabled DDR3 Software Option	QPHY-DDR3
QualiPHY Enabled Display Port Software Option	QPHY-DisplayPort
QualiPHY Enabled Ethernet 10/100/1000BT Software Option	QPHY-ENET*
QualiPHY Enabled HDMI Software Option	QPHY-HDMI
QualiPHY Enabled LPDDR2 Software Option	QPHY-LPDDR2
QualiPHY Enabled MIPI D-PHY Software Option	QPHY-MIPI-DPHY
QualiPHY Enabled PCIe Gen1 Software Option	QPHY-PCIe
QualiPHY Enabled PCIe 3.0 Software Option	QPHY-PCIe3
QualiPHY Enabled SAS-2 Software Option	QPHY-SAS2
QualiPHY Enabled SATA Software Option	QPHY-SATA-TSG-RSG
QualiPHY Enabled USB 2.0 Software Option	QPHY-USB‡
QualiPHY Enabled SuperSpeed USB Transmitter/ Receiver Compliance Software Option	QPHY-USB3-TX-RX
QualiPHY Enabled WiMedia UWB Software Option z	QPHY-UWB

* TF-ENET-B required. ‡ TF-USB-B required.

Product Description	Product Code
Serial Data Test Fixtures	
10/100/1000Base-T Ethernet Test Fixture	TF-ENET-B**
Telecom Adapter Kit 100 Ω Bal., 120 Ω Bal., 75 Ω Unbal.	TF-ET
HDMI Test Fixture Set (TPA-P-SE, TPA-P-DI)	TF-HDMI
HDMI Pull-Up Terminator Quad Pack — For Use with the Efficere ET-HDMI-TPS-P Plug Test Adapter	TF-HDMI-3.3V-QUADPAK
SATA 1.5 Gb/s, 3.0 Gb/s and 6.0 Gb/s Compliance Test Fixture	TF-SATA-C
SATA 1.5 Gb/s, 3.0 Gb/s and 6.0 Gb/s Compliance Test Fixture Measure Kit	TF-SATA-C-KIT
USB 2.0 Compliance Test Fixture	TF-USB-B
SuperSpeed Compliance USB Test Fixture	TF-USB3
2 x BNC to SMA Adapter	ENET-2ADA-BNCSMA
2 x 18 inch SMA to SMA Cable	ENET-2CAB-SMA018
2 x 36 inch SMA to SMA Cable	ENET-2CAB-SMA036
100 ps Rise Time Filter	RISE-TIME-FILTER-100PS
150 ps Rise Time Filter	RISE-TIME-FILTER-150PS
20 dB SMA Attenuators	20DB-SMA-ATTENUATOR

** Includes ENET-2CAB-SMA018 and ENET-2ADA-BNCSMA.

Product Description	Product Code
Serial Trigger and Decode	
MIL-STD-1553 Trigger and Decode Annotation Option	LM9Zi-1553 TD
64b/66b Decode Annotation Option	LM9Zi-64b66b D
8b/10b Decode Annotation Option	LM9Zi-8B10B D
Ethernet 10G Decode Option	LM9Zi-ENET10Gbus D
ARINC 429 Symbolic Decode Annotation Option	LM9Zi-ARINC429bus DSymbolic
Audiobus Trigger and Decode Annotation Option for I2S, LJ, RJ, and TDM	LM9Zi-Audiobus TD
Audiobus Trigger, Decode Annotation, and Graph Option for I2S, LJ, RJ, and TDM	LM9Zi-Audiobus TDG
CANbus TD Trigger and Decode Annotation Option	LM9Zi-CANbus TD
DigRF 3G Decode Annotation Option	LM9Zi-DigRF3Gbus D
DigRF v4 Decode Annotation Option	LM9Zi-DIGRFv4bus D
MIPI D-PHY Decode Annotation Option	LM9Zi-DPHYbus D
MIPI D-PHY Decode and Physical Layer Test Option	LM9Zi-DPHYbus DP
I^2C, SPI and UART Trigger and Decode Annotation Option	LM9Zi-EMB

ORDERING INFORMATION

Product Description	Product Code
Serial Trigger and Decode (cont'd)	
Fibre Channel Decode Annotation Option	LM9Zi-FCbus D
FlexRay Trigger and Decode Annotation Option	LM9Zi-FlexRaybus TD
FlexRay Trigger, Decode Annotation, and Physical Layer Test Option	LM9Zi-FlexRaybus TDP
100 Mb/s to 3.125 Gb/s High-speed Serial Pattern Trigger Option for LabMaster LM9xxZi-A Master Acquisition Modules	LM9Zi-HSPT
I²C Bus Trigger and Decode Annotation Option	LM9Zi-I2Cbus TD
LIN Trigger and Decode Annotation Option	LM9Zi-LINbus TD
MIPI M-PHY Decode Annotation Option	LM9Zi-MPHYbus D
MIPI M-PHY Decode Annotation and Physical Layer Test Option	LM9Zi-MPHYbus DP
MS-500-36 with I²C, SPI and UART Trigger and Decode Annotation Option	LM9Zi-MSO-EMB
PCI Express Decode Annotation Option	LM9Zi-PCIEbus D
PROTObus MAG Serial Debug Toolkit	LM9Zi-PROTObus MAG
Decode Annotation and Protocol Analyzer Synchronization Software Option	LM9Zi-ProtoSync
Decode Annotation and Protocol Analyzer + BitTracer Synchronization Software Option	LM9Zi-ProtoSync-BT
SAS Decode Annotation Option	LM9Zi-SASbus D
SATA Decode Annotation Option	LM9Zi-SATAbus D
SPI Bus Trigger and Decode Annotation Option	LM9Zi-SPIbus TD
UART and RS-232 Trigger and Decode Annotation Option	LM9Zi-UART-RS232bus TD
USB2-HSIC Decode Option	LM9Zi-USB2-HSICbus D
USB 2.0 Decode Annotation Option	LM9Zi-USB2bus D
USB 3.0 Decode Annotation Option	LM9Zi-USB3bus D
Mixed Signal Solutions	
250 MHz, 1 GS/s, 18 Ch, 10 Mpts/Ch Mixed Signal Oscilloscope Option	MS-250
500 MHz, 2 GS/s, 18 Ch, 50 Mpts/Ch Mixed Signal Oscilloscope Option	MS-500

Product Description	Product Code
Mixed Signal Solutions (cont'd)	
250 MHz, 1 GS/s, 36 Ch, 25 Mpts/Ch (500 MHz, 18 Ch, 2 GS/s, 50 Mpts/Ch Interleaved) Mixed Signal Oscilloscope Option	MS-500-36
Data Storage Software	
Advanced Optical Recording Measurement Package	LM9Zi-AORM
Disk Driver Measurements Software Option	LM9Zi-DDM2
Disk Drive Analyzer Software Package	LM9Zi-DDA
Power Analysis Software	
Power Measure Analysis Software Package	LM9Zi-PMA2
Jitter Analysis Software	
Clock Jitter Analysis Package	LM9Zi-JITKIT
Other Software Options	
Spectrum Analyzer and Advanced FFT Option	LM9Zi-SPECTRUM
EMC Pulse Parameter Software Package	LM9Zi-EMC
Digital Filtering Software	
Digital Filter Software Package	LM9Zi-DFP2
High Speed Output Accessories	
High-speed PCIe Gen 1 x4 Digitizer Output	LSIB-1
PCI Express x1 Express Card Host Interface for Laptop Express Card Slot	LSIB-HOSTCARD
PCI Express x1 Host Interface Board for Desktop PC	LSIB-HOSTBOARD
PCI Express x4 3-meter Cable with x4 Cable Connectors Included	LSIB-CABLE-3M
PCI Express x4 7-meter Cable with x4 Cable Connectors Included	LSIB-CABLE-7M
Miscellaneous	
LM9Zi Pro Tower System	LM9Zi-PRO-TOWER
Master Acquisition Module + CPU Rackmount Kit	LM9Zi-MASTER+CPU-RACKMOUNT
LM9Zi Slave Acquisition Module + Rackmount Kit	LM9Zi-SLAVE-RACKMOUNT
LabMaster 9xxMZi-A or 9CZi-A Softcase	WM8Zi-SOFTCASE
LabMaster 9xxSZi-A or CPU Module Softcase	LM9Zi-SLAVE-CPU-SOFTCASE

ORDERING INFORMATION

Product Description	Product Code
Miscellaneous (cont'd)	
Removable Front Panel with 4 Independent Channel Controls.	Zi-FRONTPANEL-4CH
Integrated 2nd Touch Screen Display (Top-mounted, Fully Integrated 15.3" WXGA with Touch Screen Display, Including all Cabling and Software)	Zi-EXTDISP-15
Keyboard, USB	KYBD-1
Probes	
WaveLink 13 GHz, 1.6 V_{p-p} Differential Probe System	D1305-PS
WaveLink 16 GHz, 1.6 V_{p-p} Differential Probe System	D1605-PS
WaveLink 20 GHz, 1.6 V_{p-p} Differential Probe System	D2005-PS
WaveLink 25 GHz, 1.6 V_{p-p} Differential Probe System	D2505-PS
18 GHz Differential Amplifier	DA18000
13 GHz Differential Probe System	D13000PS
11 GHz Differential Probe System	D11000PS
WaveLink 6 GHz Differential Amplifier Module with Adjustable Tip	D600A-AT*
WaveLink 4 GHz, 2.5 V_{p-p} Differential Amplifier Small Tip Module	D410*
WaveLink 4 GHz, 5 V_{p-p} Differential Amplifier Small Tip Module	D420*
WaveLink 6 GHz, 2.5 V_{p-p} Differential Amplifier Small Tip Module	D610*

Product Description	Product Code
Probes (cont'd)	
WaveLink 6 GHz, 5 V_{p-p} Differential Amplifier Small Tip Module	D620*
Differential Positioner Tip with Accessories (for use with D610 or D410)	Dx10-PT-KIT
Differential Positioner Tip with Accessories (for use with D620 and D420)	Dx20-PT-KIT
WaveLink ProLink Platform/Cable Assembly (4 – 6 GHz)	WL-PLink
WaveLink ProBus Platform/Cable Assembly (4 GHz)	WL-PBus
2.5 GHz, 0.7 pF Active Probe (÷10), Small Form Factor	HFP2500
1.5 GHz, 0.9 pF, 1 MΩ High Impedance Active Probe	ZS1500
2.5 GHz, 0.9 pF, 1 MΩ High Impedance Active Probe	ZS2500
200 MHz, 3.5 pF, 1 MΩ Active Differential Probe	ZD200
500 MHz, 1.0 pF, Active Differential Probe	ZD500
1 GHz, 1.0 pF, Active Differential Probe	ZD1000
1.5 GHz, 1.0 pF, Active Differential Probe	ZD1500
7.5 GHz Low Capacitance Passive Probe (÷10, 1 kΩ; ÷20, 500 Ω)	PP066

* For a complete probe, order a WL-PLink or WL-PBus Platform/Cable Assembly with the Probe Tip Module.

A variety of other active voltage and current probes are also available. Consult LeCroy for more information.

Customer Service

LeCroy oscilloscopes and probes are designed, built, and tested to ensure high reliability. In the unlikely event you experience difficulties, our digital oscilloscopes are fully warranted for three years and our probes are warranted for one year.

This warranty includes:

- No charge for return shipping
- Long-term 7-year support
- Upgrade to latest software at no charge

LeCroy 1-800-5-LeCroy www.lecroy.com

Local sales offices are located throughout the world. Visit our website to find the most convenient location.

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