

LAB 8004+

Spécifications techniques



Station multi-instruments SYSTEM 8 (LAB8004+)

La station d'instruments multiples lab8004+ vous fournit tous les instruments nécessaires pour le test, la mesure des composants électroniques et des cartes électroniques. Ce module portable piloté par USB peut être installé dans un boîtier ABI USB Multilink ou même dans votre PC existant ! (veuillez contacter le service commercial pour plus de détails).

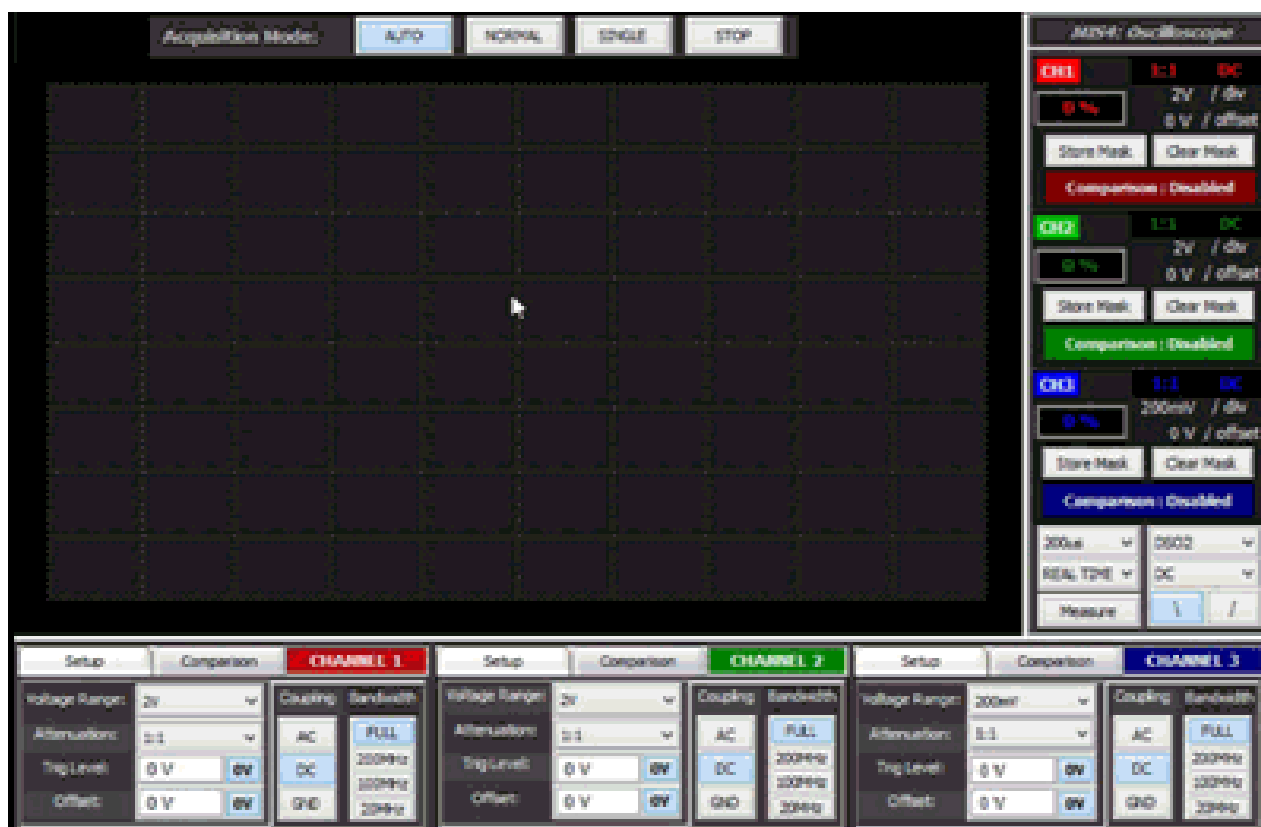
Le SYSTEM 8 LAB8004+, ainsi que le logiciel Ultimate, est une solution plus rapide et plus économique que l'utilisation d'oscilloscope, de mesure et d'autres instruments de test de banc traditionnels, et peut produire rapidement les résultats de réussite/échec requis ou d'autres résultats de test et de débogage.

Le LAB8004+ est livré avec le TestFlow Manager, un générateur de séquences de test qui guide les opérateurs lors des processus de recherche de pannes ou de procédure de test. Le TestFlow réduit considérablement le risque de mesures inexactes et enregistre automatiquement tous les paramètres de test pour un rapport de test personnalisé final.

8 instruments in 1 module !

Digital Oscilloscope

- 3 independent channels
- 350MHz, 500MS/s per channel
- 6 trigger sources
- 28 automatic measurements



Arbitrary Waveform Generator

- 2 independent channels, 14Bit resolution
- 25MHz, 200MS/s
- Variable clock for truly repetitive waveforms
- Max combined output voltage $\pm 10V$
- 6 standard wave shapes
- Create and import your own



Universal Frequency Counter

- 1 channel @1.1GHz +3 channels @350MHz (DSO)
- Programmable trigger threshold
- Sensitivity -21Bm @100kHz/- 1.2Bm @1.1GHz



Universal I/O

- 8 fully programmable, independent channels
- $\pm 10\text{V OUT @ } 20\text{mA}$, $\pm 15\text{V IN}$
- 5 logic presets available



Ammeter	Voltmeter	Ohmmeter
1 channel, isolated	2 channels, isolated	1 channel
DC, true RMS AC or AC+DC	DC, true RMS AC or AC+DC	20M Ω , 4 1/2 digits, 20,000 Count
$\pm 10\text{V}$, 4 1/2 digits, 20,000 Count	$\pm 500\text{V}$, 4 1/2 digits, 20,000 Count	Resistance, Continuity and Diode modes



3 Channel Digital Storage Oscilloscope (DSO) Instrument

VERTICAL SPECIFICATIONS

Analogue Bandwidth (-3dB)	350 MHz
Bandwidth Limiting	20 MHz, 100 MHz, 200 MHz, switchable
Rise time (10% to 90%, calculated)	1ns
Input ranges (full scale)	±40 mV to ±8 V, in 8 ranges
Input sensitivity	10 mV/div to 2 V/div
Input coupling	1 MΩ (AC* or DC or GND)
Input characteristics	1 MΩ 15 pF
Analog offset range	±40 mV input range: ±40 mV ±80 mV input range: ±80 mV ±200 mV input range: ±200 mV ±400 mV input range: ±400 mV ±800 mV input range: ±800 mV ±2 V input range: ±2 V ±4 V input range: ±4 V ±8 V input range: ±8 V

ADDITIONAL INFO

The maximum sample rate is available on all three channels independently.
*AC mode may require additional equipment for voltages more than +/-5V.

HORIZONTAL (TIMEBASE) SPECIFICATIONS

Timebase ranges	1ns/div to 1000s/div (real-time sampling) 1ns/div to 20ns/div (ERS)
Interpolation	Linear or sin(x)/x

ACQUISITION

Resolution	8 bits
Maximum real-time sampling rate	500 MS/s / Channel
Maximum ERS rate	3GS/s
Buffer size	1,048,576 Samples / Channel

TRIGGERING

Sources	DSO Channels 1 to 3 AWG Channel 1 to 2 FC Channel 1
Modes	Auto, normal, single
Advanced types (real-time mode)	Edge (AC, DC, HF reject, LF reject)
Trigger level range	±40 mV input range: ±40 mV ±80 mV input range: ±80 mV ±200 mV input range: ±200 mV ±400 mV input range: ±400 mV ±800 mV input range: ±800 mV ±2 V input range: ±2 V ±4 V input range: ±4 V ±8 V input range: ±8 V
Trigger sensitivity	1 division up to full bandwidth of scope

AUTOMATIC MEASUREMENTS

Types	Amplitude, Peak-Peak, Top, Top Peak, Base, Base Peak, Mean, RMS, Cyclic Mean, Cyclic RMS, Overshoot, Undershoot, Crest Factor, V Resolution, Period, Frequency, Rise Time, Fall Time, Pos Time Constant, Neg Time Constant, Positive Width, Negative Width, Positive Slew, Negative Slew, Bandwidth, Duty Cycle, T Resolution, Cycle Count
Statistics	Minimum, maximum, average and sweeps
Mask Comparison	Selectable inside or outside mode with voltage and time tolerances

PROTECTION

Input Over Voltage	±200V MAX
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2 Channel Arbitrary Waveform Generator (AWG) Instrument

OUTPUT SPECIFICATIONS

Voltage Output Range	-10 V to +10 V
Amplitude/Offset Set Resolution	10 mV
Current Limit (Drive Strength)	±200 mA / Channel
Output Impedance	50 Ω (±1%)

STANDARD WAVEFORM FEATURES

Waveform Shapes	DC, Sine, Square, Triangle, Ramp+, Ramp-
Amplitude / Offset Adjustment	Maximum combined output voltage: ±10 V
Signal Frequency	0.5 Hz to 25 MHz
Duty Cycle Range	0% to 100%

ARBITRARY WAVEFORM FEATURES

Sample Rate Range	2 kS/s to 200 MS/s (continuously variable clock)
Buffer Size	4,096 Samples / Channel
Resolution	14 Bits

PROTECTION

Input Over Voltage	±15 V
Output Short Circuit	Continuous with automatic recovery

TRIGGERING

Sources	DSO Channels 1 to 3, AWG Channel 1 to 2 or FC Channel 1
Modes	Normal or Single
Trigger Output Level	-10 V to +10 V
Trigger Output Mode	Cycle or Edge

ADDITIONAL INFO

Channels have fully independent control and are asynchronous with respect to each other and to other instruments on the MIS 4. Independent variable clock control for true repetitive outputs at any frequency, with zero cycle to cycle jitter.

4 Channel Frequency Counter (FC and DSOFC) Instrument

INPUT SPECIFICATIONS

	Dedicated Channel	DSO Channel
Voltage Range	±3.3 V	±40 mV to ±8 V (see DSO)
Impedance	50 Ω (±1%)	1 MΩ 15 pF
Frequency Range	DC to 1.1 GHz	DC to 350 MHz
Sensitivity	-21dBm @ 100kHz -1.2dBm @ 1.1GHz	1 division (see DSO)

GATE TRIGGERING

Sources	DSO Channels 1 to 3, AWG Channel 1 to 2 or FC Channel 1
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AUTOMATIC MEASUREMENTS

Statistics	Minimum, maximum, average and sweeps
Comparison	Selectable inside or outside mode with target and tolerances

8 Channel Universal Input Output (UIO) Instrument

OUTPUT SPECIFICATIONS

Voltage Output Range	-10 V to +10 V
Voltage Set Resolution	10 mV
Current Limit (Drive Strength)	±20 mA / Channel

INPUT SPECIFICATIONS

Voltage Input Range	-12 V to +12 V
Voltage Resolution	1 mV

PROTECTION

Output Short Circuit	Continuous with automatic recovery
Input Over Voltage	±15 V (transient suppressor)

METER SPECIFICATIONS

Voltage Resolution	1 mV
Current Resolution	1 mA

ADDITIONAL INFO

Channels are non-isolated, constant voltage and can be accessed via the multiway connector. Each channel has an independent mode control. Pre-sets are provided for CMOS, LVCMOS, ECL, TTL and LVTTTL logic levels.

2 Channel Digital Voltmeter (DVM) Instrument

DIRECT VOLTAGE

Ranges	±1 V, ±10 V, ±100 V and ±500 V
Resolution	100 µV to 10 mV
Input Impedance	10 MΩ

ALTERNATING VOLTAGE @ 50-60Hz (TRUE RMS, AC or AC+DC)

Ranges	1 V, 10 V, 100 V and 500 V
Bandwidth	to
Resolution	100 µV to 10 mV
Input Impedance	10 MΩ

METER SPECIFICATIONS

Voltage Resolution	4½ Digits 20,000 Count
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AUTOMATIC MEASUREMENTS

Statistics	Minimum, maximum, average and sweeps
Comparison	Selectable inside or outside mode with target and tolerances

ADDITIONAL INFO

The DVM shares its common terminal with the DOM but is isolated (500V MAX) from all other instruments.

1 Channel Digital Ammeter (DAM) Instrument

DIRECT CURRENT

Ranges	±100 mA, ±1 A and ±10 A
Resolution	10 µV to 1 mA
Sense Resistance	10 mΩ + cable resistance

ALTERNATING CURRENT @ 50-60Hz (TRUE RMS, AC or AC+DC)

Ranges	100 mA, 1 A and 10 A
Bandwidth	to
Resolution	10 µV to 1 mA
Sense Resistance	10 mΩ + cable resistance

METER SPECIFICATIONS

Resolution	4½ Digits 20,000 Count
Fuse	Fast Acting 12.5 A

AUTOMATIC MEASUREMENTS

Statistics	Minimum, maximum, average and sweeps
Comparison	Selectable inside or outside mode with target and tolerances

ADDITIONAL INFO

The DAM is isolated (500V MAX) from all other instruments.

1 Channel Digital Ohmmeter (DOM) Instrument

RESISTANCE

Ranges	10 Ω, 100 Ω, 1 kΩ, 10 kΩ, 100 kΩ, 1 MΩ and 10 MΩ
Resolution	1 mΩ to 1 kΩ

CONTINUITY

Ranges	0 Ω to 1 kΩ
Resolution	100 mΩ

DIODE

Ranges	0 V to 2 V
Resolution	100 µV
Test Current	1 mA

METER SPECIFICATIONS

Resolution	4½ Digits 20,000 Count
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AUTOMATIC MEASUREMENTS

Statistics	Minimum, maximum, average and sweeps
Comparison	Selectable inside or outside mode with target and tolerances

ADDITIONAL INFO

The DOM shares its common terminal with the DVM but is isolated (500V MAX) from all other instruments