semiconductor

NTP-LA9001R

Logic Analyzer

• High Stability • Industrial Grade • Rack Mount

Features

- Selectable bandwidth options of **70 / 100 / 200 MHz**, available in **2-channel configurations**
- **NTP-LA9001R** models include a **16-channel logic analyzer** along with a **dual-channel 25 MHz arbitrary waveform generator**
- **Real-time sampling rate** of up to **1 GSa/s per channel** for 2-channel models, with a **maximum real-time sampling rate of 1 GSa/s** for 4-channel models
- Supports up to **10M points memory depth**, enhanced by **VPO waveform display technology**
- High waveform refresh performance with update rates reaching **120,000 waveforms per second**
- Equipped with a **8-inch WVGA TFT LCD display**
- Includes **frequency response analyzer software** at no additional cost
- Supports **FFT analysis up to 1M points**, enabling improved frequency-domain resolution
- Built-in **high-pass, low-pass, and band-pass filtering** capabilities
- Provides up to **29,000 segmented memory partitions** with advanced waveform search functionality
- Supports **I2C, SPI, UART, CAN, and LIN** serial bus triggering and protocol decoding
- **Data logging capability** allowing long-term signal monitoring for up to **100 hours**
- Integrated **network storage support** for data saving and sharing
- Supports **Interface data communication** for measurement data export and integration with external information systems

semiconductor

Technical Specifications

VERTICAL	Channels	2CH+EXT
SENSITIVITY	Bandwidth	DC ~ 100MHz (-3dB)
	Calculated Rise Time	3.5ns
	Bandwidth Limit	20MHz
	Vertical Resolution	8 bits : 1mV ~ 10V/div
	Input Coupling	AC, DC, GND
	Input Impedance	1MΩ // 16pF approx.
	DC Gain Accuracy	±(3% when 2mV/div or greater is selected ; ±(5%) when 1mV/div is selected
	Polarity	Normal & Invert
	Maximum Input Voltage	300Vrms , CAT I (300Vrms CAT II with GTP-070B-4/100B-4/200B-4, 10 : 1 probe)
	Offset Position Range	1mV/div ~ 20mV/div : ±0.5V ; 50mV/div ~ 200mV/div : ±5V ; 500mV/div ~ 2V/div : ±25V ; 5V/div~10V/div : ±250V
	Waveform Signal Process	+ , - , × , ÷ , FFT, User Defined Expression
		FFT : 1Mpts ; FFT : Spectral magnitude. Set FFT Vertical Scale to Linear RMS or dBV RMS ; FFT Window Displays : Rectangular, Hamming , Hanning, Blackman-Harris
TRIGGER	**Source**	CH1 , CH2, CH3, CH4, Line, EXT* ; *dual channel models only.
	Trigger Mode	Auto (Supports Roll Mode for 100 ms/div and slower), Normal, Single
	Trigger Type	Sequence
		Edge, Pulse Width(Glitch), Video, Pulse Runt, Rise & Fall(Slope), Alternate,
	Trigger Holdoff Range	Time out, Event-Delay(1~65,535 events), Time-Delay (Duration;4ns~10s), Bus 4ns ~ 10s
	Coupling	AC, DC, LF rej. , HF rej. , Noise rej.
	Sensitivity	1div
EXT TRIGGER	**Range**	±15V
	Sensitivity	DC ~ 100MHz Approx. 100mV; 100MHz ~ 200MHz Approx. 150mV
	Input Impedance	1MΩ ±3%, ~16pF
HORIZONTAL	**Time Base Range**	1ns/div ~ 100s/div (1-2-5 increments); ROLL : 100ms/div ~ 100s/div
	Pre-trigger	10 div maximum
	Post-trigger	2,000,000 div maximum
	Time Base Accuracy	±50 ppm over any ≥ 1 ms time interval
	Real Time Sample Rate	Max. : 1GSa/s (4ch model); Per channel 1GSa/s (2ch model)
	Record Length	10Mpts /CH
	Acquisition Mode	Normal, Average, Peak Detect, Single
	Peak Detection	2ns (typical)
	Average	Selectable from 2 to 256

X-Y MODE	X-Axis Input	Channel 1 ; Channel 3* (* : four channel models only)
	Y-Axis Input	Channel 2 ; Channel 4* (* : four channel models only)
	Phase Shift	±3° at 100kHz
CURSORS AND MEASUREMENT	Cursors	Amplitude, Time, Gating Available; Unit : Seconds(S), Hz(1/S), Phase (Degrees), Ratio(%)
	Automatic Measurement	38 sets : Pk-Pk, Max, Min, Amplitude, High, Low, Mean, Cycle Mean, RMS, Cycle RMS, Area, Cycle Area, ROVShoot, FOVShoot, RPREShoot, FPREShoot, Frequency, Period, RiseTime, FallTime, +Width, -Width, Duty Cycle, +Pulses, -Pulses, +Edges, -Edges, %Flicker, Flicker Idx., FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF, Phase Cursors measurement
	Control Panel Function	Cursors measurement
	Auto Counter	6 digits, range from 2Hz to minimum to the rated bandwidth
	Autoset	Single-button, automatic setup of all channels for vertical, horizontal and trigger systems, with undo Autoset
	Save Setup	20set
	Save Waveform	24set
DISPLAY SYSTEM	TFT LCD Type	8" TFT LCD WVGA color display
	Display Resolution	800 horizontal x 480 vertical pixels (WVGA)
	Interpolation	Sin(x)/x
	Waveform Display	Dots, Vectors, Variable persistence(16ms~10s), Infinite persistence
	Waveform Update Rate	120,000 waveforms per second, maximum
	Display mode	YT ; XY
	Display Graticule	8 x 10 divisions
INTERFACE	USB Port	USB 2.0 High-speed host port x 1, USB 2.0 High-speed device port x 1
	Ethernet Port (LAN)	RJ-45 connector, 10/100Mbps with HP Auto-MDIX
	Go/NoGo BNC	5V Max/10mA TTL open collector output
	Kensington Style Lock	Rear-panel security slot connects to standard Kensington-style lock
LOGIC ANALYSER SPECIFICATIONS	Sample Rate	Per Channel 1GSa/s
	Bandwidth	200MHz
	Record Length	Per Channel 10M pts (max)
	Input Channels	16 Digital (D15 - D0)
	Trigger Type	Edge, Pattern, Pulse Width, Serial bus (I2C, SPI, UART(RS232/422/485), CAN, LIN), Parallel Bus
	Thresholds Quad	D0~D3, D4~D7, D8~D11, D12~D15 Thresholds
	Threshold Selections	TTL, CMOS(5V,3.3V,2.5V), ECL, PECL, 0V, User Defined
	User-defined Threshold Range	±5V
	Maximum Input Voltage	±40 V
	Minimum Voltage Swing	±250 mV
	Input Impedance	101kΩ probe loading 8pF
	Vertical Resolution	1 bit

AWG SPECIFICATIONS (MSO-2000EA only)	Channels	2
	Sample Rate	200 Msa/s
	Vertical Resolution	14 bits
	Max. Frequency	25 MHz
	Waveforms	Sine, Square, Pulse, Ramp, DC, Noise, Sinc, Gaussian, Lorentz, Exponential Rise, Exponential Fall, Haversine, Cardiac
	Output Range	20 mVpp to 5 Vpp, High Z; 10 mVpp to 2.5 Vpp, 50Ω
	Output Resolution	1mV
	Output Accuracy	2% (1 kHz)
	Offset Range	±2.5 V ac+dc, High Z; ±1.25 V ac+dc, 50Ω
	Offset Resolution	1mV
FREQUENCY RESPONSE ANALYSIS	Dynamic Range	> 80 dB (typical)
	Input and Output Sources	Channel 1 or 2 (3 or 4 for four channel model)
	Frequency Range	20 Hz to 25 MHz
	Number of Test Points	10 to 90 points per decade
	Test Amplitude	20 mVpp to 5 Vpp into High-Z. Fixed amplitude across entire sweep
	Test Results	Logarithmic overlaid gain and phase plot
	Manual Measurements	Two pairs of tracking gain and phase markers
	Plot Scaling	Auto-scaled during test
POWER SOURCE MISCELLANEOUS	Line Voltage Range	AC 100V ~ 240V, 50Hz ~ 60Hz, auto selection
	Multi-Language Menu	Available
	On-Line Help	Available
	Time clock	Time and date, provide the date/time for saved data
	Operation Environment	Temperature: 0°C to 50°C. Relative Humidity: ≤ 80%, 40°C or below; ≤ 45%, 41°C ~ 50°C
DIMENSIONS & WEIGHT	384(W) X 208(H) X 127.3(D) mm, Approx. 2.8 kg	