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Data Sheet

August 14, 2026

HP / AGILENT

HP / Agilent 5372A Frequency and Time Interval Analyzer

HP Agilent 5372A Frequency and Time Interval Analyzer The HP 5372A frequency and time-interval analyzer captures frequency, phase, or time intervals at high speed for signals to 500 MHz (optional ChannelCto 2 GHz). OEM literature cites up to 13.3 million measurements per second, 150 ps-class resolution, hardware histograms, FFT jitter analysis, and deep memory beyond the 5371A. Used for jitter and phase-noise studies, VCO settling and post-tuning drift, PLL characterization, frequency stability, modulation analysis, and computer-peripheral timing diagnostics. The HP 5372A frequency and time-interval analyzer captures frequency, phase, or time intervals at high speed for signals to 500 MHz (optional ChannelCto 2 GHz). OEM literature cites up to 13.3 million measurements per second, 150 ps-class resolution, hardware histograms, FFT jitter analysis, and deep memory beyond the 5371A. Used for jitter and phase-noise studies, VCO settling and post-tuning drift, PLL characterization, frequency stability, modulation analysis, and computer-peripheral timing diagnostics.



MODEL

HP / Agilent 5372A

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

5372A

LISTING

<https://aumictechlabs.com/products/5372a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The HP/Agilent 5372A Frequency and Time Interval Analyzer delivers high-resolution characterization of timing signals across multiple domains. This instrument measures frequency

to 500 MHz (Channels A and B) or 2 GHz (Channel C with Option 030), period, time interval, phase deviation, time deviation (jitter), pulse width, duty cycle, rise/fall time, and dual-channel totalization. Capable of acquiring up to 13.3 million measurements per second for signals up to 500 MHz, the 5372A combines fast measurement throughput with exceptional resolution - achieving 150 ps rms on time interval and 2 ps LSD on averaged frequency measurements.

Technical Specifications

Frequency: 500 MHz single-channel (Channels A, B); 2 GHz with Option 030 (Channel C); dual-channel support

Period: 2 ns to 8.0 s range; 150 ps resolution

Time Interval: Single-channel 10 ns to 8.0 s; continuous A/B 2 ns to 8.0 s; dual-channel A→B/B→A 2 ns to 4.0 s; 150 ps rms resolution; 200 ps LSD (single-shot)

Time Deviation (Jitter): 2 ns to 8 s range; 150 ps rms resolution; bandwidth exceeding 2 MHz

Pulse Width: 1 ns to 1 ms range; 150 ps rms resolution

Rise/Fall Time: Measurable on Channel A

Measurement Speed: Up to 13.3 million measurements/s (500 MHz signals); higher rates available in fast measurement mode with limited range

Frequency Resolution: Single-shot 200 ps LSD; averaged 2 ps LSD; 10 digits/second

Time Interval Accuracy: $\pm \text{Resolution} \pm (\text{Time Base Aging} \times \text{Time Interval}) \pm \text{Trigger Level Timing Error} \pm 1 \text{ ns}$ systematic error (reducible to <100 ps with HP J06-59992A Time Interval Calibrator)

Measurement Memory: Up to 8191 measurements (function-dependent)

Key Features

- 25 arming modes for acquisition control
- Pre-trigger and inhibit functions
- Built-in math and statistics analysis
- Optional FFT for jitter spectrum analysis
- Adjustable external arm triggering (20 mV steps)
- Duty cycle and phase deviation measurements

Typical Applications

Research, development, and calibration environments requiring precise timing and frequency characterization.

Compatibility & Integration

Works with HP J06-59992A Time Interval Calibrator for reduced systematic error.

Features & description

From manufacturer datasheet

Built-in universal-counter style 11-digit frequency resolution path

Hardware histograms unique versus 5371A for high-throughput analysis Technical Specifications Single channel frequency ChannelsAand B: 125 mHz to 500 MHz Dual channel frequency ChannelsAand B: 250 mHz to 500 MHz Optional ChannelCfrequency: up to 2 GHz Maximum measurement rate: 13.3 million measurements per second Frequency resolution LSD: 200 ps single-shot class; 10 digits/s frequency Averaged LSD: 2 ps class Time interval range single channel: 2 ns to 8.0 s Time interval range dual channel: 2 ns to 4.0 s Time interval resolution: 150 ps rms Time deviation input range: 2 ns to 8 s Time deviation resolution: 150 ps rms Pulse width range: 1 ns to 1 ms Pulse width resolution: 150 ps rms Time base frequency: 100 MHz Time base stability: 5×10^{-10} per 24 hours Time base short term: 1×10^{-10} one second average Jitter analysis bandwidth: can exceed 2 MHz Standard inputs: ChannelsAandBOptional rear panel inputs: Options 060/090 Remote interface: GPIB with optional FastPort Display: graphic with histograms and FFT Max rate: 13.3 million measurements per second Standard max frequency: 500 MHz Optional Channel C: 2 GHz TI resolution: 150 ps rms Notes Specifications are compiled from HP/Agilent 5372A Frequency and Time Interval Analyzer product datasheets and authorized technical summaries. Option 030 adds the 2 GHz ChannelCpath.

5372A Characteristics / Specifications

PARAMETER	VALUE
Single channel frequency ChannelsAand B	125 mHz to 500 MHz
Dual channel frequency ChannelsAand B	250 mHz to 500 MHz
Maximum measurement rate	13.3 million measurements per second
Frequency resolution LSD	200 ps single-shot class; 10 digits/s frequency
Averaged LSD	2 ps class
Time interval range single channel	2 ns to 8.0 s
Time interval range dual channel	2 ns to 4.0 s
Time interval resolution	150 ps rms
Time deviation input range	2 ns to 8 s
Time deviation resolution	150 ps rms
Pulse width range	1 ns to 1 ms
Pulse width resolution	150 ps rms
Time base frequency	100 MHz
Time base stability	5×10^{-10} per 24 hours
Time base short term	1×10^{-10} one second average
Jitter analysis bandwidth	can exceed 2 MHz
Standard inputs	ChannelsAandBOptional rear panel inputs: Options 060/090
Remote interface	HPIB with optional FastPort
Display	graphic with histograms and FFT
Max rate	13.3 million measurements per second
Standard max frequency	500 MHz
TI resolution	150 ps rms
Bandwidth	can exceed 2 MHz

5372A Specifications

PARAMETER	VALUE
HP Agilent 5372A Frequency and Time Interval Analyzer	Overview
Optional 2 GHz Channel C and FastPort data output	Over 60 arming/triggering configurations with math and limit testing
Technical Specifications	Single channel frequency Channels A and B: 125 mHz to 500 MHz

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
Single channel frequency ChannelsAand B: 125 mHz to 500 MHz	
Dual channel frequency ChannelsAand B: 250 mHz to 500 MHz	
Optional ChannelCfrequency: up to 2 GHz	
Specifications	
PARAMETER	VALUE
Remote interface	HPIB with optional FastPort
Display	graphic with histograms and FFT
Max rate	13.3 million measurements per second
Standard max frequency	500 MHz
Specifications	
PARAMETER	VALUE
Maximum measurement rate	13.3 million measurements per second
Frequency resolution LSD	200 ps single-shot class; 10 digits/s frequency
Averaged LSD	2 ps class
Time interval range single channel	2 ns to 8.0 s
Time interval range dual channel	2 ns to 4.0 s
Time interval resolution	150 ps rms
Time deviation input range	2 ns to 8 s
Time deviation resolution	150 ps rms
Pulse width range	1 ns to 1 ms
Pulse width resolution	150 ps rms
Time base frequency	100 MHz
Time base stability	5×10 ^{−10} per 24 hours
Time base short term	1×10 ^{−10} one second average
Jitter analysis bandwidth	can exceed 2 MHz
Standard inputs	Channels A and B
Specifications	

PARAMETER	VALUE
Maximum measurement rate	13.3 million measurements per second
Frequency resolution LSD	200 ps single-shot class; 10 digits/s frequency
Averaged LSD	2 ps class
Time interval range single channel	2 ns to 8.0 s
Time interval range dual channel	2 ns to 4.0 s
Time interval resolution	150 ps rms
Time deviation input range	2 ns to 8 s
Time deviation resolution	150 ps rms
Pulse width range	1 ns to 1 ms
Pulse width resolution	150 ps rms
Time base frequency	100 MHz
Time base stability	5×10^{-10} per 24 hours
Time base short term	1×10^{-10} one second average
Jitter analysis bandwidth	can exceed 2 MHz
Standard inputs	Channels A and B Optional rear panel inputs: Options 060/090
Remote interface	HP-IB with optional FastPort
Display	graphic with histograms and FFT
Max rate	13.3 million measurements per second
Standard max frequency	500 MHz

Optional Channel C: 2 GHz

TI resolution: 150 ps rms

Notes

Specifications are compiled from HP/Agilent 5372A Frequency and Time Interval Analyzer product datasheets and authorized technical summaries. Option 030 adds the 2 GHz Channel C path.

Ordering Information

OPTION	DESCRIPTION
Option 030	adds the 2 GHz ChannelCpath.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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NIST-traceable calibration · SAM registered ·
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.