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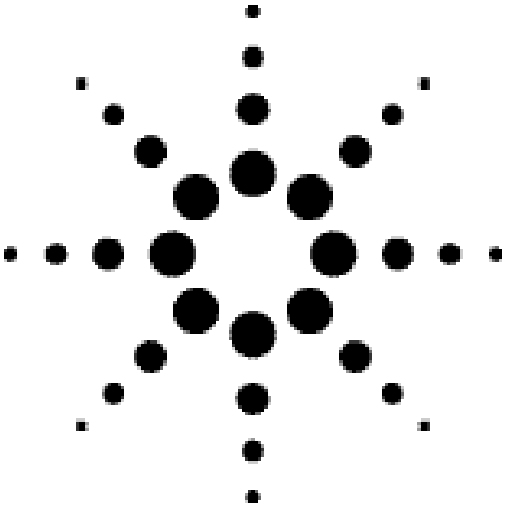
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Find the *Keysight / Agilent 54002A* at our website: *Click HERE*



Agilent 5372A Frequency & Time Interval Analyzer

Data Sheet

Product Specifications

Single Frequency Measurement

Least Significant Digit Displayed:
± ((200 ps) / (Sample Interval)) x Frequency

Resolution:
± ((150 ps rms + (1.4 x Trigger Error)) / (Sample Interval)
x Frequency

Accuracy: ± Resolution ± (Time Base Aging x Frequency)
Continuous Frequency Measurements (mean estimation)

rms Resolution (for number of measurements/block >3):
((square root of (13.5) x (150 ps rms + 1.4 x Trigger Error)) /
((# of Blocks)^1/2 x (# of Meas./Block)^3/2 x Sample Interval) x Freq.

Accuracy: ± Resolution ± (Time Base Aging x Frequency)

Time Interval Measurements

Least Significant Digit Displayed:
± ((200 ps) /(square root of (N)))
N = number of measurements averaged

Resolution: ± ((150 ps rms ± Start Trigger Error
± Stop Trigger Error) / (square root of (N)))

Accuracy: ± Resolution ± (Time Base Aging
x Time Interval)
± Trigger Level Timing Error
± 1 ns Systematic Error

(Systematic error can be reduced to <100 ps with the HP J06-59992A) Time Interval Calibrator)

Input: Channels A and B

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The following refers to an 5372A with 54002A pods installed.

Range: dc to 500 MHz.

Sensitivity: (x1 attenuation, minimum hysteresis)
15 mV rms sine wave (45 mV pk-pk), typically 10 mV rms.
45 mV pk-pk for pulse input.
Hysteresis control is available to reduce input sensitivity to trigger noise.

Dynamic Range:
x1:45 mV pk-pk to 2 V pk-pk.
x2.5 attenuator: 115 mV pk-pk to 5 V pk-pk.

Minimum Pulse Width:

1 ns for all measurement modes except holdoff arming.
1.5 ns with holdoff arming.
Input: Channel C (option 030)
Type N Connector

Range: 100 MHz - 2 GHz (divide-by-4 prescaler).

Sensitivity: (0 dB attenuation)
100 MHz to 1.5 GHz: -25 dBm.
1.5 GHz to 2 GHz: -20 dBm.

Dynamic Range:
100 MHz to 1.5 GHz: -25 dBm to +7 dBm.
1.5 GHz to 2 GHz: -20 dBm to +7 dBm.
Trigger level fixed at 0V NOMINAL.

Impedance: ac coupled, 50 ohm, VSWR <2.5.

External Arm

Range: dc coupled to 100 MHz.

Minimum Pulse Width: 5 ns

Impedance: 1 Mohm NOMINAL, shunted by <50 pf.

Triggering adjustable in 20 mV steps

Range ±5.00 V

Measurement Control

Holdoff or Sample:
0 to 4 x 1e9 events (65,000 events with fast meas. mode); 2 ns to 8.0 seconds (131 usec with fast meas. mode).

Edge Holdoff or Sampling: HP 5372A becomes armed after a delay from edge as follows:
Ext Arm arms A or B <15 ns
B arms A, A arms B <8 ns
A arms A, B arms B <5 ns

Interval Sampling: 100 ns to 8 seconds (131 usec with fast meas. mode).



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Cycle Sampling: Cycles of input signal or 500 MHz time base in discrete steps: 2^4, 2^8, 2^12, 2^16, 2^20, 2^24, 2^28 (2^4, 2^8, 2^12 with fast mode).

Random Sampling: Start of subsequent measurement delayed by a random number of events betwen 6 and 17 on channel A. Maximum input frequency 100 MHz.

Inhibit Input: Rear panel input will inhibit memory acquisition when signal is above/below threshold (programmable from front panel, or HP-IB). Inhibit is independent of other arming and sampling.

Pre-trigger: Measurements can be acquired before and after a pre-trigger event. These include an edge on the external arm channel for frequency, period, or time interval measurements or a detected time interval value for time interval measurements.

Rear Panel

Frequency Standard Output: 10 MHz. Short term stability not specified.

Frequency Standard Input: 1, 2, 5, or 10 MHz input.

Gate Outputs: Falling TTL edge indicates measurement sample.

Delay Outputs: Falling TTL edge indicates completion of holdoff arming.

Inhibit Input: Programmable input level suppresses measurement acquisition.

TI Detect: Output is low for duration of out-of-range measurements.

FastPort Outputs (option 020): Three 40-pin connectors provide unprocessed data directly from count hardware. 16 bits of data and 1 strobe for each connector.

Broad measurement selection
Measurements include frequency and period; time interval, +/- time interval, and continuous time interval; phase deviation, and phase A relative to B; time deviation (jitter); and specialized measurements including pulse width, duty cycle, and rise/fall time.

Quick and easy analysis
Built-in functions, including window margin analysis from time interval histogram data, averaged results, and statistics, simplify measurement analysis. Calculated Allan Variance specifies frequency stability in the time domain.

Graphic display
Results reveal maximum information at a glance. Markers provide read-out and analysis of your measurements. Numerical results can also be displayed.

200 ps single-shot LSD
There is usually no need to repeat a signal simply to accommodate your test equipment. If you can work with a repetitive signal, the 5372A provides signal averaging to improve resolution.

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