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Data Sheet

August 14, 2026

HP / AGILENT

HP / Agilent 53131A 225 MHz Universal Frequency Counter/Timer

The Agilent/Keysight 53131A is a two-channel universal counter with 225 MHz bandwidth on Channels 1 and 2, 10 digits per second frequency/period resolution, and 500 ps time interval resolution. An optional third channel extends frequency measurements to 3, 5, or 12.4 GHz. Standard measurements include frequency, period, ratio, time interval, pulse width, rise/fall time, phase angle, duty cycle, totalize, and peak voltage, with GPIB SCPI programming up to 200 fully formatted measurements per second. Bench and ATE frequency and time-interval measurements, automated limit testing with pass/fail outputs, RF production test with optional Channel 3, and statistical characterization using built-in average, min/max, and standard deviation. GPIB Throughput: up to 200 fully formatted measurements per second Standard Timebase Temperature Stability: less than 5×10^{-6} (0 to 50 C, ref 25 C) Option 010 Aging Per Day: less than 5×10^{-10} after 30 days Specs from Keysight/Agilent 53131A/132A/181A counters data sheet (5967-6039 / Transcat reprint). Optional Channel 3 and oven time bases are configuration-dependent.



MODEL

**HP / Agilent
53131A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

53131A

LISTING

<https://aumictechlabs.com/products/53131a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The HP/Agilent 53131A is a 225 MHz universal frequency counter/timer engineered for precision time and frequency measurements across laboratory, system integration, and production environments. This dual-channel instrument delivers 10-digit frequency resolution and 500 ps time interval resolution, with real-time digital signal processing enabling simultaneous analysis and measurement throughput up to 200 fully formatted readings per second via GPIB. The 53131A measures frequency, period, time interval, pulse width, rise/fall time, phase angle, duty cycle, event totalization, and peak voltage - supported by built-in statistics (average, min, max, standard deviation), automated limit testing with pass/fail indication, and configurable math functions for scaling and offset.

Technical Specifications

Frequency Measurement: Dual 225 MHz channels; optional third channel extends capability to 3 GHz, 5 GHz, or 12.4 GHz

Frequency Resolution: 10 digits per second

Time Interval Resolution: 500 ps

Measurement Throughput: Up to 200 measurements per second via GPIB

Input Impedance: Selectable 1 M Ω ($\approx$ 30 pF) or 50 Ω

Trigger Level Range: $\pm$ 5.125 V with $\pm$ (15 mV + 1% of trigger level) accuracy

Key Features

- Real-time digital signal processing for enhanced speed and accuracy
- Flexible triggering options for precise event capture
- Automated limit testing with visual pass/fail status and external device trigger output
- Analog display mode for at-a-glance measurement status
- 20 stored front-panel setups for rapid configuration recall
- One-button access to frequently used functions

Typical Applications

Frequency and period analysis, precision timing measurements, phase relationship characterization, pulse parameter analysis, and production-level limit testing with automated reporting.

Compatibility & Integration

GPIB connectivity supports direct integration with automated test systems and data logging frameworks. Configurable setups enable rapid deployment across multiple test scenarios without manual reconfiguration.

Features & description

From manufacturer datasheet

Built-in statistics, math scaling, and analog display limit mode

Up to 20 stored front-panel setups Standard GPIB plus RS-232 talk-only IntuiLink PC connectivity software included Technical Specifications Channels 1 and 2 Bandwidth: 225 MHz Frequency Period Resolution: 10 digits per second Time Interval Resolution: 500 ps Frequency Measurement Range Ch1 Ch2: 0.1 Hz to 225 MHz DC Coupled Range: DC to 225 MHz AC Coupled 50 Ohm: 1 MHz to 225 MHz AC Coupled 1 Mohm: 30 Hz to 225 MHz FM Tolerance: 25% Sensitivity DC to 100 MHz: 20 mVrms to ± 5 V AC+DC Sensitivity 100 to 200 MHz: 30 mVrms to ± 5 V AC+DC Sensitivity 200 to 225 MHz: 40 mVrms to ± 5 V AC+DC Trigger Level Range: ± 5.125 V Trigger Level Resolution: 5 mV Input Impedance: 1 Mohm or 50 ohm 1 Mohm Capacitance: 30 pF Low Pass Filter: 100 kHz switchable, -20 dB at greater than 1 MHz Option 030 Channel 3 Range: 100 MHz to 3 GHz Option 050 Channel 3 Range: 200 MHz to 5 GHz Option 124 Channel 3 Range: 200 MHz to 12.4 GHz GPIB Throughput: up to 200 fully formatted measurements per second Standard Timebase Temperature Stability: less than 5×10^{-6} (0 to 50 C, ref 25 C) Option 010 Aging Per Day: less than 5×10^{-10} after 30 days Notes Specs from Keysight/Agilent 53131A/132A/181A counters data sheet (5967-6039 / Transcat reprint). Optional Channel 3 and oven time bases are configuration-dependent.

53131A Characteristics / Specifications

PARAMETER	VALUE
Channels 1 and 2 Bandwidth	225 MHz
Frequency Period Resolution	10 digits per second
Time Interval Resolution	500 ps
Frequency Measurement Range Ch1 Ch	0.1 Hz to 225 MHz
DC Coupled Range	DC to 225 MHz
AC Coupled 50 Ohm	1 MHz to 225 MHz
AC Coupled 1 Mohm	30 Hz to 225 MHz
FM Tolerance	25%
Sensitivity DC to 100 MHz	20 mVrms to ± 5 V AC+DC
Sensitivity 100 to 200 MHz	30 mVrms to ± 5 V AC+DC
Sensitivity 200 to 225 MHz	40 mVrms to ± 5 V AC+DC
Trigger Level Range	± 5.125 V
Trigger Level Resolution	5 mV
Input Impedance	1 Mohm or 50 ohm 1 Mohm Capacitance: 30 pF
Low Pass Filter	100 kHz switchable, -20 dB at greater than 1 MHz
GPIB Throughput	up to 200 fully formatted measurements per second
Standard Timebase Temperature Stability	less than 5×10^{-6} (0 to 50 C, ref 25 C)
Bandwidth	225 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

Specifications

PARAMETER	VALUE
Channels 1 and 2 Bandwidth	225 MHz
Frequency Period Resolution	10 digits per second
Time Interval Resolution	500 ps
Frequency Measurement Range Ch1 Ch2	0.1 Hz to 225 MHz
DC Coupled Range	DC to 225 MHz
AC Coupled 50 Ohm	1 MHz to 225 MHz
AC Coupled 1 Mohm	30 Hz to 225 MHz
FM Tolerance	25%
Sensitivity DC to 100 MHz	20 mVrms to ±5 V AC+DC
Sensitivity 100 to 200 MHz	30 mVrms to ±5 V AC+DC
Sensitivity 200 to 225 MHz	40 mVrms to ±5 V AC+DC
Trigger Level Range	±5.125 V
Trigger Level Resolution	5 mV
Input Impedance	1 Mohm or 50 ohm

1 Mohm Capacitance: 30 pF
Low Pass Filter: 100 kHz switchable, -20 dB at greater than 1 MHz
Option 030 Channel 3 Range: 100 MHz to 3 GHz
Option 050 Channel 3 Range: 200 MHz to 5 GHz
Option 124 Channel 3 Range: 200 MHz to 12.4 GHz
GPIB Throughput: up to 200 fully formatted measurements per second
Standard Timebase Temperature Stability: less than 5 x 10⁻⁶ (0 to 50 C, ref 25 C)
Option 010 Aging Per Day: less than 5 x 10⁻¹⁰ after 30 days

Notes
Specs from Keysight/Agilent 53131A/132A/181A counters data sheet (5967-6039 / Transcat reprint). Optional Channel 3 and oven time bases are configuration-dependent.

Ordering Information

OPTION	DESCRIPTION
Option 030	Channel 3 Range: 100 MHz to 3 GHz
Option 050	Channel 3 Range: 200 MHz to 5 GHz
Option 124	Channel 3 Range: 200 MHz to 12.4 GHz
Option 010	Aging Per Day: less than 5×10^{-10} after 30 days

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 ·
30-day returns
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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.