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Data Sheet

August 14, 2026

HP / AGILENT

HP / Agilent 58503B GPS Time & Frequency Reference Receiver

HP Agilent 58503B GPS Time And Frequency Reference Receiver The HP Agilent 58503B GPS Time And Frequency Reference Receiver is a classic HP/Agilent instrument in the GPS disciplined time and frequency reference family. OEM HP catalog and operating literature provide model-specific ratings that must be confirmed on the faceplate and manual for the installed options. Laboratory and ATE use matched to the instrument class, production test support, and calibration workflows requiring the verified faceplate configuration. The HP Agilent 58503B GPS Time And Frequency Reference Receiver is a classic HP/Agilent instrument in the GPS disciplined time and frequency reference family. OEM HP catalog and operating literature provide model-specific ratings that must be confirmed on the faceplate and manual for the installed options. Laboratory and ATE use matched to the instrument class, production test support, and calibration workflows requiring the verified faceplate configuration. HP/Agilent system instrument architecture



MODEL

**HP / Agilent
58503B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

58503B

LISTING

<https://aumictechlabs.com/products/58503b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The HP/Agilent 58503B GPS Time & Frequency Reference Receiver delivers precision time and frequency references traceable to GPS satellite signals. This 8-channel parallel-tracking receiver generates stable 10 MHz and 1 PPS outputs for synchronization and calibration in telecommunications, metrology, broadcasting, and metrology laboratories. SmartClock technology learns oscillator characteristics and compensates for aging and temperature drift, maintaining accuracy during both locked and holdover operation. The unit achieves GPS lock within 30 minutes and delivers nanosecond-level time accuracy with respect to UTC (USNO MC).

Technical Specifications

10 MHz Output Frequency accuracy (locked): Better than 1×10^{-12} (1 day average)

Holdover aging (unlocked): 1 V p-p into 50 Ω

1 PPS / 1 PP2S Output Jitter (locked, leading edge): < 750 ps rms

Time accuracy (locked): 20 ns (1 Sigma) to UTC after calibration; < 110 ns (95% probability) when properly installed

Accumulated time error (unlocked): 2.4 V pulse into 50 Ω

Pulse width: 26 μ s

GPS Receiver Channels: 8-channel parallel tracking

Technology: HP SmartClock with enhanced GPS digital filtering

Lock time: 30 minutes (95% probability)

Holdover qualification: 48 hours operation + 24 hours learning (95% probability)

Electrical Power: 90–132 Vac or 198–264 Vac (auto-select)

Key Features

Nanosecond-level UTC accuracy after calibration removes systematic timing offsets

Holdover stability maintains frequency accuracy without GPS signal for extended periods

Low phase noise across multiple offset frequencies ensures clean reference outputs

Selective Availability rejection via enhanced GPS filtering

Typical Applications

Telecommunications network synchronization and timing

Primary frequency standard for metrology and calibration

Broadcasting station clock reference

Research and precision measurement laboratories

58503B Characteristics / Specifications

PARAMETER	VALUE
Instrument Family	HP Agilent 58503B GPS Time And Frequency Reference Receiver
Manufacturer	HP Agilent
Form Factor	rack or modular class per series
AC Powered	yes
Remote Interface Class	HP-IB/GPIB class on series
Local Control	front panel
Display	digital or analog meter class
Operating Temperature Class	laboratory
Cooling	forced air or convection class
Series Literature	GPS disciplined time and frequency reference
Status Indicators	yes class
Self Test Path	configuration dependent
Calibration Path	HP procedures class
Protection Class	instrument specific protections
Input Output Isolation Class	per manual
Firmware Or Serial Prefix	determines exact table
Weight Class	series dependent
Size Class	series dependent
Power Consumption Class	series dependent
Safety Markings Class	IEC/UL era markings
Documentation	operating and service manuals required for numeric limits
Operating temperature	Class: laboratory
Output isolation	Class: per manual

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	Class: laboratory
Operating Temperature	Class: laboratory
Operating Temperature Class	laboratory
Cooling	forced air or convection class
Series Literature	GPS disciplined time and frequency reference
Status Indicators	yes class
Self Test Path	configuration dependent
Calibration Path	HP procedures class
Protection Class	instrument specific protections
Input Output Isolation Class	per manual
Firmware Or Serial Prefix	determines exact table
Weight Class	series dependent
Size Class	series dependent
Power Consumption Class	series dependent
Safety Markings Class	IEC/UL era markings
Documentation	operating and service manuals required for numeric limits Notes Sparse public numeric tables for this exact suffix; rows state verified identity and series class. Confirm exact ratings on the faceplate, option list, and HP operating manual before quoting limits. Do not invent V/I/frequency numbers.

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	
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exact ratings on the faceplate, option list, and HP operating manual before quoting limits. Do not invent V/I/frequency numbers.

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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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.