


Aumictech

Test & measurement • bought, sold, repaired, calibrated

Data Sheet

August 14, 2026

AGILENT / HP

Agilent / HP 8166A Lightwave Mainframe

Trigger Connectors: supported for module triggering class Serial Interface: available for module firmware update class Form Factor: benchtop multichannel lightwave mainframe Series Family: 8166A/B Lightwave Multichannel System Serial Interface: available for module firmware update class Form Factor: benchtop multichannel lightwave mainframe Series Family: 8166A/B Lightwave Multichannel System Operating Environment Class: laboratory optical test class



MODEL

Agilent / HP 8166A

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

8166A

LISTING

<https://aumictechlabs.com/products/8166a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent/HP 8166A Lightwave Mainframe is a modular optical test platform that hosts up to 17 optical measurement modules from the 8163A Lightwave Multimeter family. It has synchronized multichannel signal generation and analysis with true synchronous triggering across all channels, enabling parallel testing of complex optical components in research and manufacturing environments.

Technical Specifications

Module Capacity: 17 slots for 816xxx series modules

Display: Graphical display, 190 × 300 pixels

Triggering: True synchronous triggering on all channels with configurable hardware input/output trigger ports

Power Input: 100–240 VAC ±10%, 50/60 Hz ±5%

Maximum Power Consumption: 450 VA

Operating Temperature: 0°C to +45°C

Storage Temperature: –40°C to +70°C

Humidity: <95% RH (0°C to 45°C)

Operating Altitude: ≤2000 m

Pollution Degree: 2

Dimensions (H × W × D): 240 mm × 430 mm × 580 mm

Weight: 23

kg (net); 45 kg (shipping)

Key Features Full GPIB interface with SCPI command support for remote instrument control Parallel port (Centronics) and serial port (RS232) connectivity Firmware upgradeable with high-level API support VXIplug&play instrument drivers for LabVIEW and HP VEE integration Graphical user interface with immediate control and visual feedback

Typical Applications Multichannel optical component characterization and validation Parallel testing workflows in manufacturing test environments Research and development optical signal generation and measurement Complex optical measurement setups requiring synchronized data acquisition

Compatibility & Integration The 8166A accepts all modules from the 8163A Lightwave Multimeter family. It is not compatible with HP 8153A Lightwave Multimeter modules (part numbers <81600). Instrument control is accessible via GPIB, RS232, and Centronics interfaces using SCPI commands.

8166A Characteristics / Specifications

PARAMETER	VALUE
Model	8166A
Instrument Type	Lightwave Multichannel System mainframe
Front Module Slots	17
Back Module Slots	0
Display Type	monochrome graphical display
Remote Interface	GPIB
Default GPIB Address	20
GPIB Address Range	0 to 30
Module Compatibility	816x compact modules (8153 modules not allowed in 8166A/B per configuration guide)
Supported Module Classes	power sensors laser sources attenuators switches return loss DFB
Slot Numbering	front slots 1 to 17 left to right
Trigger Connectors	supported for module triggering class
Serial Interface	available for module firmware update class
Form Factor	benchtop multichannel lightwave mainframe
Brand Lineage	Agilent / Keysight / HP
Sibling Models	8166B
Series Family	8166A/B Lightwave Multichannel System
Operating Environment Class	laboratory optical test class
Firmware Update Path	GPIB or serial module update utility
User Interface	softkeys hardkeys channel navigation class
Channel Display Note	details screen may require Channel key when many modules installed
Power Mains Class	AC mains powered mainframe
Calibration Interval Class	annual class recommended for host and modules
Return loss	DFB

8166A Specifications

PARAMETER	VALUE
Applications	High channel count optical component and transceiver production test using many 816x compact modules.
High density multichannel lightwave platform	Compatible with 816x compact modules
GPIB remote programming	Monochrome display on 8166A generation
Technical Specifications	Model: 8166A
Notes	From Keysight 8163A/B, 8164A/B, and 8166A/B Lightwave Mainframes User Guide and 816x configuration guide for 8166A.

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
Model	8166A
Instrument Type	Lightwave Multichannel System mainframe
Front Module Slots	17
Back Module Slots	0
Display Type	monochrome graphical display
Remote Interface	GPIB
Default GPIB Address	20
GPIB Address Range	0 to 30
Module Compatibility	816x compact modules (8153 modules not allowed in 8166A/B per configuration guide)
Supported Module Classes	power sensors laser sources attenuators switches return loss DFB
Slot Numbering	front slots 1 to 17 left to right
Trigger Connectors	supported for module triggering class
Serial Interface	available for module firmware update class
Form Factor	benchtop multichannel lightwave mainframe
Brand Lineage	Agilent / Keysight / HP
Sibling Models	8166B
Series Family	8166A/B Lightwave Multichannel System
Operating Environment Class	laboratory optical test class
Firmware Update Path	GPIB or serial module update utility
User Interface	softkeys hardkeys channel navigation class
Channel Display Note	details screen may require Channel key when many modules installed
Power Mains Class	AC mains powered mainframe
Calibration Interval Class	annual class recommended for host and modules
Notes	
From Keysight 8163A/B, 8164A/B, and 8166A/B Lightwave Mainframes User Guide and 816x configuration guide for 8166A.	

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

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·
30-day returns
NAICS 423690 · 811210 · 541380
Generated August 14, 2026

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