

# Keysight Technologies

8163B Lightwave Multimeter

8164B Lightwave Measurement System

8166B Lightwave Multichannel System

Data Sheet



## Keysight 8163B Mainframe

The Keysight Lightwave Multimeter system includes the mainframe and a variety of plug-in modules, suited for set-ups requiring:

- Single or dual channel power meters
- Single or dual wavelength fixed or tunable sources
- Loss test sets
- Return loss test sets

## Specifications

Display	Graphical active color display 300 x 240 points visible, 4 updates per second
Display resolution (power meters)	0.0001 dB/dBm, 0.0 1pW to 10 pW (depending on power meter), up to 6.5 digits (user definable)
Chipset	Mobile Intel QM57Express
Compatibility	The Keysight 8163B mainframe supports all 8153A Series and 8163A & B Series modules. <sup>1</sup>
Trigger	True synchronous on all channels. Max. 100 kHz for triggering and 1 MHz (50% duty cycle) for external digital modulation.
Environmental	
Storage temperature	-40 °C to +70 °C
Operating temperature	0 °C to +45 °C
Humidity	< 95% rH from 0 °C to 55 °C
	The products are designed for pollution degree 2
	The maximum operation altitude is 2000 m
Power	AC 100 to 240 V ± 10%, 50 to 60 Hz 5%, 120 VA max.
Dimensions (height x width x length)	88 mm x 213 mm x 380 mm (3.5" x 8.4" x 15")
Weight	net 4.200 kg (9.3 lbs), shipping 6.5 kg (14.5 lbs)
GPIB capability	All modes and parameters accessible via GP-IB interface
GPIB interface function codes <sup>2</sup>	SH1, AH1, T6, L4, SR0, RL1, PP0, DC1, DT0, C0. SCPI Standard
GPIB interface performance	Max. 300 kB/sec (burst data rate during read of 12001 data points from power meter)
Local Area Network (LAN)	10/100BASE-T Ethernet port
Parallel printer interface	Centronics
RS232 interface: max. baud rate	115200 bps
Number of modules	2 modules
Ordering information	
8163B	Lightwave Multimeter, Mainframe
8163B-1CM	Rack mount kit (5063-9240)
08163-44101	Filler panel for empty slots

1. Keysight 8163B Series modules are NOT compatible with the HP 8153A Lightwave Multimeter.
2. For code compatibility to the HP 8153A Lightwave Multimeter please refer to the mainframe's Programming Guide, part number 08164-90B65.

## Keysight 8164B Mainframe

The Keysight 8164B mainframe, supports a range of high-performance tunable laser modules, as well as all of the fixed source and sensor modules of the 8153A and 8163A/B Lightwave Multimeter Series.

### Specifications

Display	Graphical active color display, 640 x 480 points visible, 4 updates per second, VGA connector for external monitor
Display resolution	
Compatibility	The Keysight 8164B mainframe supports all 8153A Series and 8163A & B Series modules. <sup>1</sup>
Trigger	True synchronous on all channels. Max. 100 kHz for triggering and 1 MHz (50% duty cycle) for external digital modulation.
Environmental	
Storage temperature	-40 °C to +70 °C
Operating temperature	0 °C to +35 °C
Humidity	< 80% rH from 10 °C to 35 °C The products are designed for pollution degree 2 The maximum operation altitude is 2000 m
Power	AC 100 to 240 V ± 10%, 50/60 Hz, 280 VA max.
Dimensions (height x width x length)	145 mm x 426 mm x 545 mm (5.8" x 16.9" x 21.6")
Weight	net 20 kg, shipping 23 kg
GPIB capability	All modes and parameters accessible via GP-IB interface
GPIB interface function codes <sup>2</sup>	SH1, AH1, T6, L4, SR0, RL1, PP0, DC1, DT0, C0. SCPI Standard
GPIB interface performance	Max. 300 kB/sec (burst data rate during read of 12001 data points from power meter)
Local Area Network (LAN)	10/100BASE-T Ethernet port
Parallel printer interface	Centronics
RS232 interface: max. baud rate	115200 bps
Number of modules	4/1 modules
Ordering information	
8164B	Lightwave Measurement System, Mainframe
8164B-1CM	Rack mount kit (5063-9214)
8164B-1CN	Front handle kit (5063-9227)
08163-44101	Filler panel for empty slots (compact slots only)
81645A	Filler module for 8164B mainframe (Slot 0)

1. Keysight 8163B Series modules are NOT compatible with the HP 8153A Lightwave Multimeter.
2. For code compatibility to the HP 8153A Lightwave Multimeter please refer to the mainframe's Programming Guide, part number 08164-90B65.

## Keysight 8166B Mainframe (Discontinued)

The Keysight 8166B mainframe can be easily integrated into test environments by using plug and play drivers over GPIB, or by using the configurable hardware input and output trigger ports.

All modules of the 8163A/B Lightwave Multimeter family can be used in any combination in the Multichannel System.

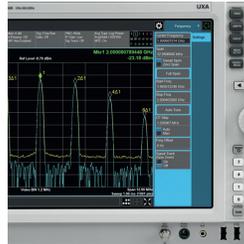
### Specifications

Display	Graphical active color display, 300 x 240 points visible, 4 updates per second, VGA connector for external monitor
Display resolution	0.0001 dB/dBm, 0.01 pW to 10 pW (depending on power range), up to 6.5 digits (user definable)
Compatibility	The Keysight 8166B mainframe supports all modules from the 8163A/B Lightwave Multimeter series. <sup>1</sup>
Trigger	True synchronous on all channels. Max. 100 kHz for triggering and 1 MHz (50% duty cycle) for external digital modulation.
Environmental	
Storage temperature	-40 °C to +70 °C
Operating temperature	0 °C to +45 °C
Humidity	< 95% rH from 0 °C to 45 °C The products are designed for pollution degree 2 The maximum operation altitude is 2000 m
Power	AC 100 to 240 V ± 10%, 50/60 Hz, 450 VA max.
Dimensions (height x width x length)	240 mm x 430 mm x 580 mm (9.5" x 17" x 23")
Weight	net 23 kg, shipping 45 kg
GPIB capability	All modes and parameters accessible via GP-IB interface
GPIB interface function codes <sup>2</sup>	SH1, AH1, T6, L4, SR0, RL1, PP0, DC1, DT0, C0. SCPI Standard
GPIB interface performance	Max. 300 kB/sec (burst data rate during read of 12001 data points from power meter)
Parallel printer Interface	Centronics
RS232 interface: max. baud rate	115200 bps
Number of modules	17 modules
Ordering information	
8166B	Lightwave Multichannel System, Mainframe (discontinued)
8166B-1CM	Rack mount kit (5063-9216)
08163-44101	Filler panel for empty slots

1. Modules designed for the HP 8153A Lightwave Multimeter are NOT compatible with the Keysight 8166A/B Lightwave Multichannel System.
2. For code compatibility to the HP 8153A Lightwave Multimeter please refer to the mainframe's Programming Guide, part number 08164-90B65.

## From Hewlett-Packard through Agilent to Keysight

For more than 75 years, we've been helping you unlock measurement insights. Our unique combination of hardware, software and people can help you reach your next breakthrough. **Unlocking measurement insights since 1939.**



For more information on Keysight Technologies' products, applications or services, please contact your local Keysight office. The complete list is available at: [www.keysight.com/find/contactus](http://www.keysight.com/find/contactus)

### Americas

Canada	(877) 894 4414
Brazil	55 11 3351 7010
Mexico	001 800 254 2440
United States	(800) 829 4444

### Asia Pacific

Australia	1 800 629 485
China	800 810 0189
Hong Kong	800 938 693
India	1 800 11 2626
Japan	0120 (421) 345
Korea	080 769 0800
Malaysia	1 800 888 848
Singapore	1 800 375 8100
Taiwan	0800 047 866
Other AP Countries	(65) 6375 8100

### Europe & Middle East

Austria	0800 001122
Belgium	0800 58580
Finland	0800 523252
France	0805 980333
Germany	0800 6270999
Ireland	1800 832700
Israel	1 809 343051
Italy	800 599100
Luxembourg	+32 800 58580
Netherlands	0800 0233200
Russia	8800 5009286
Spain	800 000154
Sweden	0200 882255
Switzerland	0800 805353
	Opt. 1 (DE)
	Opt. 2 (FR)
	Opt. 3 (IT)
United Kingdom	0800 0260637

For other unlisted countries:  
[www.keysight.com/find/contactus](http://www.keysight.com/find/contactus)  
 (BP-09-28-15)



[www.keysight.com/go/quality](http://www.keysight.com/go/quality)  
 Keysight Technologies, Inc.  
 DEKRA Certified ISO 9001:2008  
 Quality Management System

This information is subject to change without notice.  
 © Keysight Technologies, 2015 - 2016  
 Published in USA, January 15, 2016  
 5988-3924EN  
[www.keysight.com](http://www.keysight.com)

### myKeysight

[www.keysight.com/find/mykeysight](http://www.keysight.com/find/mykeysight)

A personalized view into the information most relevant to you.

### Three-Year Warranty

[www.keysight.com/find/ThreeYearWarranty](http://www.keysight.com/find/ThreeYearWarranty)

Keysight's committed to superior product quality and lower total cost of ownership. Keysight is the only test and measurement company with a three-year warranty standard on all instruments, worldwide. And, we provide a one-year warranty on many accessories, calibration devices, systems and custom products.



### Keysight Assurance Plans

[www.keysight.com/find/AssurancePlans](http://www.keysight.com/find/AssurancePlans)

Up to ten years of protection and no budgetary surprises to ensure your instruments are operating to specification, so you can rely on accurate measurements.



### Keysight Infoline

[www.keysight.com/find/service](http://www.keysight.com/find/service)

**Keysight Infoline** Keysight's insight to best in class information management. Free access to your Keysight equipment company reports and e-library.

### Keysight Channel Partners

[www.keysight.com/find/channelpartners](http://www.keysight.com/find/channelpartners)

Get the best of both worlds: Keysight's measurement expertise and product breadth, combined with channel partner convenience.

[www.keysight.com/find/lightwave](http://www.keysight.com/find/lightwave)

[www.keysight.com/find/oct](http://www.keysight.com/find/oct)