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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 83446B Lightwave clock/data receiver 622 Mb/s

HP Agilent 83446B Lightwave Clock Data Receiver 622.08 Mb/s The HP/Agilent 83446B is the OC-12/STM-4 clock/data receiver in the 83446 family. OEM 83446A/B data list 622.08 Mb/s, 1310/1550 nm, APD plus CDR, ITU-T G.957/G.958 and GR-253-CORE compliance, and BERT-oriented clock/data outputs. 83446A is the 2.48832 Gb/s sibling. Optical BER at 622.08 Mb/s by recovering clock and data for an error detector. Instrument Type: Lightwave clock and data receiver The HP/Agilent 83446B is the OC-12/STM-4 clock/data receiver in the 83446 family. OEM 83446A/B data list 622.08 Mb/s, 1310/1550 nm, APD plus CDR, ITU-T G.957/G.958 and GR-253-CORE compliance, and BERT-oriented clock/data outputs. 83446A is the 2.48832 Gb/s sibling. Optical BER at 622.08 Mb/s by recovering clock and data for an error detector. Instrument Type: Lightwave clock and data receiver Architecture: APD, gain-controlled amplifier, clock/data recovery hybrid

**MODEL****Agilent / Keysight
83446B****CALIBRATION****Available on
request****CONDITION****Used****STATUS****In stock****RFQ / SKU****83446B****LISTING**<https://aumictechlabs.com/products/83446b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 83446B is a lightwave clock/data receiver that recovers clock and data signals from optical input at 622.08 Mb/s (OC-12/STM-4) data rates. Built around a high-gain

avalanche photodiode, gain-controlled amplifier, and clock/data recovery hybrid, the instrument delivers clean, error-free outputs across a wide dynamic range of optical power levels. It operates at 1310 nm and 1550 nm wavelengths per ITU-T G.957, G.958, and Bellcore GR-253-CORE standards. Technical Specifications Data Rate: 622.08 Mb/s (OC-12/STM-4); optional configurations from 425 Mb/s to 3 Gb/s Wavelength Operation: 1310 nm and 1550 nm across ITU-T and Bellcore standardized ranges Optical Input: Sensitivity: -27 dBm minimum (0°C to 55°C) Minimum power for clock/data recovery: -28 dBm Minimum power for auxiliary output: >-24 dBm (AGC stabilized) Maximum operating input: -9 dBm minimum Maximum safe input power: +10 dBm Optical return loss: 27 dB Fiber core diameter: 50 μ m (single-mode or multimode compatible) Standard FC/PC connector interface (Option 010 deletes connector) Signal Recovery: Recovers clock and data from optical input Recovers clock and data from electrical auxiliary input Optimized for integration with BERTs (71604B, 71603B, 86130A) Compatible with sampling oscilloscope eye diagram analysis; recovered clock triggers scope Electrical Outputs: Data Out: 0.5 V pk-pk, non-inverting Clock Out: 0.5 V pk-pk, non-inverting Output return loss: 12 dB @ 1 GHz, 9 dB @ 2 GHz, 6 dB @ 2.5 GHz Clock edges aligned with data transitions to ± 0.25 unit interval Jitter: RMS jitter on clock/data outputs: 5 degrees Auxiliary Output: Bandwidth: 0.1 to 1500 MHz Output level: 0.5 V pk-pk for >-24 dBm input; 0.25 V pk-pk for >-27 dBm input (AGC stabilized) Provides analog monitoring for diagnostic analysis Electrical Clock Recovery Input: 200 mV pk-pk sensitivity; 2 V pk-pk maximum safe input Performance: Bit error ratio better than $1E-10$ with $2^{23}-1$ PRBS pattern, 50% mark density Key Features High-sensitivity optical reception with wide dynamic range Low jitter clock/data recovery (5 degrees RMS) Dual-wavelength operation (1310/1550 nm) AGC-stabilized auxiliary output for signal monitoring Electrical clock recovery input for flexible triggering Typical Applications OC-12/STM-4 optical system characterization BER testing and measurement Optical eye diagram analysis System acceptance testing in telecommunications and datacom environments Compatibility & Integration Designed for use with Agilent/Keysight BERT instruments and sampling oscilloscopes. Agilent 81000xl Series optical interface connectors sold separately.

83446B Characteristics / Specifications

PARAMETER	VALUE
Model	83446B
Instrument Type	Lightwave clock and data receiver
Bit Rate	622.08 Mb/s (OC-12 / STM-4)
Wavelength Range	1310 nm and 1550 nm
Detector	avalanche photodiode APD
Architecture	APD, gain-controlled amplifier, clock/data recovery hybrid
Standards	ITU-T G.957 G.958 and Bellcore GR-253-CORE
Sibling Oc	83446A 2.48832 Gb/s
Bert Partners	71604B 71612C 86130A error detectors
Auxiliary Port	monitor of APD output prior to regeneration
Manufacturer	HP Agilent Keysight
Mechanical Package	benchtop lightwave receiver
Output Use	clock and data to BERT error detector
Line Rate Exact	622.08 Mb/s
Recovery	clock and data from digitally modulated lightwave
Family	83446A/B
Application Class	SONET/SDH optical BER
Minimum Wavelength	1310 nm class
Maximum Wavelength	1550 nm class
Sensitivity Class	high-gain APD as published for the 83446 family
Design Reference	ITU-T G.957/G.958 recommendations for the 1310/1550 nm ranges
Optical Connectors	81000xl series interfaces ordered separately

83446B Specifications

PARAMETER	VALUE
Applications	Optical BER at 622.08 Mb/s by recovering clock and data for an error detector.
Key Features	OC-12 / STM-4 622.08 Mb/s CDR
Auxiliary APD monitor port	Designed for 71604B-class BERTs
Technical Specifications	Model: 83446B

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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Optical Connectors	81000xI series interfaces ordered separately
Notes	
From HP/Agilent 83446A/B lightwave clock/data receiver family literature, 83446B 622.08 Mb/s column. Confirm optical connector and exact sensitivity on the 83446B data sheet matching the serial.	

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 ·
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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.