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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 83447A Microwave Preamplifier

Application: eye-diagram triggering without an explicit clock Operating Environment: laboratory ambient per 83447A manual Wavelength Class: 1310/1550 nm optical input class when optical path is fitted Connector Class: optical connector interface plus electrical clock out Operating Environment: laboratory ambient per 83447A manual Wavelength Class: 1310/1550 nm optical input class when optical path is fitted Connector Class: optical connector interface plus electrical clock out Verification: confirm installed rate options on the 83447A option label



MODEL

**Agilent / Keysight
83447A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

83447A

LISTING

<https://aumictechlabs.com/products/83447a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 83447A is a lightwave trigger receiver that converts optical waveforms into electrical trigger signals for applications where external electrical clock references are unavailable. Designed for eye-diagram analysis of telecommunications optical signals, the unit operates across the 1200 nm to 1600 nm wavelength band and supports NRZ data rates from 50 Mb/s to 2.5 Gb/s. Technical Specifications Wavelength Range: 1200 nm to 1600 nm Data Rate (NRZ): 50 Mb/s to 2.5 Gb/s Operating Input Power: -20 dBm to +3 dBm Maximum Safe Continuous Optical Input Power: 10 mW peak Maximum Through-Path Optical Insertion Loss: 1.5 dB Electrical Trigger Output Impedance: 50 ohms nominal Return Loss: 10 dB minimum Output Level (Optical Input > -15 dBm): 400 mV pk-pk Maximum Output Jitter (at -15 dBm): 0.012 UI

(rms) below 1000 Mb/s; 0.03 UI (rms) above 1000 Mb/s Maximum Output Jitter (at -20 dBm): 0.02 UI (rms) below 1000 Mb/s; 0.05 UI (rms) above 1000 Mb/s

Key Features Direct optical-to-electrical trigger conversion eliminates dependency on external clock signals Low jitter performance enables high-fidelity eye-diagram measurements across the supported data rate range Wide dynamic range supports input signals from -20 dBm to +3 dBm Low insertion loss maintains optical signal integrity in pass-through configurations

Typical Applications Eye-diagram analysis of optical telecommunications signals Optical clock recovery and timing extraction Optical waveform characterization without external electrical references

Compatibility & Integration The 83447A integrates with lightwave test systems and oscilloscopes equipped with optical receiver inputs. Output impedance is 50 ohms, matching standard electrical measurement equipment.

83447A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Lightwave clock recovery
Series Family	HP 83447A / 83494A / 83496x clock recovery
Rate Class Low	52 Mb/s STM-0/OC-1 class
Rate Class Mid	155 Mb/s and 622 Mb/s STM-1/STM-4 class
Rate Class High	2488 Mb/s STM-16/OC-48 class
Maximum Rate Class	2.5 Gb/s class lightwave clock recovery
Trigger Output	recovered clock for DCA/BERT trigger
Companion Mainframe	HP 83480A digital communications analyzer class
Input Domain	optical and/or electrical data depending on 83447A configuration
Standards	SDH/SONET clock recovery
Form Factor	dedicated clock-recovery instrument
Loop Bandwidth	instrumentation CDR loop for compliant eye triggering class
Documentation	HP 83447A lightwave clock recovery operating literature
Successor Class	83494A plug-in CDR and 83496A/B 86100 CDR modules
Application	eye-diagram triggering without an explicit clock
Output	electrical recovered clock
Operating Environment	laboratory ambient per 83447A manual
Power	AC mains operated
Wavelength Class	1310/1550 nm optical input class when optical path is fitted
Connector Class	optical connector interface plus electrical clock out
Verification	confirm installed rate options on the 83447A option label
Bandwidth	instrumentation CDR loop for compliant eye triggering class

83447A Specifications

PARAMETER	VALUE
Agilent Keysight 83447A Lightwave Clock Recovery	Overview
Applications	Triggering equivalent-time oscilloscopes and error detectors on live OC-1 through OC-48 optical/electrical data.
Clock recovery for SDH/SONET standard rates	Optical and electrical input class of 83447A
Technical Specifications	Instrument Type: Lightwave clock recovery

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

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Notes On Sparse Table: exact lock-range ppm and optical sensitivity belong on the 83447A specification table
Use Indoor: laboratory instrument

Notes

SDH/SONET rate class through 2.488 Gb/s and DCA trigger role from HP 83447A lightwave clock-recovery product literature. Optical sensitivity and loop-bandwidth numbers were not taken from a complete OEM numeric table here; do not invent them.

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.