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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent/Keysight N1078A

HP Agilent Keysight N1078A Optical Electrical Clock Recovery DCA-M Single Mode The Keysight N1078A is a single-mode optical/electrical clock recovery DCA-M with amplified O/E and optional 50/50 splitter. OEM data sheet 5992-1620EN rates recovery up to 64 GBd with Option 264, wavelength 1260 to 1620 nm tested at 1310 and 1550 nm, adjustable loop bandwidth, peaking, electrical equalizers for closed eyes, and USB FlexDCA control. Single-mode NRZ and PAM4 optical transmitter clock recovery for DCA sampling scopes and BERTs. The Keysight N1078A is a single-mode optical/electrical clock recovery DCA-M with amplified O/E and optional 50/50 splitter. OEM data sheet 5992-1620EN rates recovery up to 64 GBd with Option 264, wavelength 1260 to 1620 nm tested at 1310 and 1550 nm, adjustable loop bandwidth, peaking, electrical equalizers for closed eyes, and USB FlexDCA control. Single-mode NRZ and PAM4 optical transmitter clock recovery for DCA sampling scopes and BERTs. Optional integrated 50/50 SM splitter Option S50 Closed-eye equalizers on electrical inputs



MODEL

**Agilent / Keysight
N1078A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

N1078A

LISTING

<https://aumictechlabs.com/products/n1078a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight N1078A is a optical/electrical clock recovery module for DCA-M and DCA-X oscilloscopes. It delivers standards-compliant clock recovery across 125 MBd to 64 GBd for both single-mode optical and electrical NRZ and PAM4 signals. The module features a "Golden PLL" with adjustable peaking and loop bandwidth to 20 MHz, an optional variable equalizer for closed-

eye signal acquisition, and jitter spectrum analysis capabilities. Its integrated optical-to-electrical converter supports wavelengths from 1260 nm to 1620 nm, while auxiliary clock output reaches 8 GHz to 16 GHz at 700 mVpp with sub-80 fs RMS jitter. Ideal for 100/400G Ethernet and 64GFC receiver and transmitter validation.

Technical Specifications

Data Rate Coverage 125 MBd to 64 GBd (continuous) for electrical and optical NRZ and PAM4

Option 264: 125 MBd to 65.6 GBd (characteristic)

Option 253: 53 GBd to 58 GBd

Option 232: 125 MBd to 32.8 GBd (characteristic)

Option 225: 25 GBd to 29 GBd

Option 216: 125 MBd to 16.4 GBd (characteristic)

Clock Recovery & PLL Loop bandwidth adjustable to 20 MHz

Peaking adjustment for standards compliance

Clean-up PLL functionality for jittered clock signals

Variable equalizer option (EVA) for closed-eye locking

Jitter Spectrum Analysis option (JSA)

Electrical Input Input voltage range: ± 500 mV

Acquisition threshold (Option 264, open eye): 30 mVpp at ≤ 53.125 GBd; 60 mVpp above 53.125 GBd

Characteristic minimums: 10 mVpp at 10.3125 GBd, 20 mVpp at 53.125 GBd, 50 mVpp at 64 GBd

Closed-eye threshold (PAM4): 50 mVpp at 26.56 GBd with 20 dB channel loss at 13.28 GHz

Optical Input Wavelength range: 1260 nm to 1620 nm (tested at 1310 nm and 1550 nm)

Single-mode fiber compatible

Option S50: internal 50% single-mode splitter (9/125 μm)

Auxiliary Clock Output Frequency: 8 GHz to 16 GHz

Output voltage: 700 mVpp @ 13.28 GHz (characteristic)

Jitter performance: <80 fs RMS (characteristic)

Interface: single-ended, DC coupled, 50 Ω

Key Features

Standards-compliant "Golden PLL" architecture

Simultaneous optical and electrical signal conditioning

Degraded signal recovery via variable equalization

Jitter root-cause analysis with optional JSA

Minimal input thresholds for high-sensitivity operation

Typical Applications

100 Gbps and 400 Gbps Ethernet receiver/transmitter characterization

64 GFC optical transceiver testing

High-speed serial data eye diagram closure analysis

Reference clock cleanup in jitter-sensitive measurements

Compatibility & Integration

Designed for Keysight DCA-M and DCA-X oscilloscope platforms. Plugs directly into instrument slots for immediate clock recovery and jitter analysis integration.

N1078A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Optical/electrical clock recovery DCA-M single-mode
Max Data Rate Option 2	125 MBd to 64 GBd (65.6 GBd characteristic)
Optical Signal Type	Single-mode only
Splitter Class S	Integrated 50/50 single-mode splitter
Wavelength Range	1260 nm to 1620 nm tested at 1310 nm and 1550 nm
Insertion Loss S	4.75 dB (3.5 dB characteristic)
Return Loss Characteristic	16 dB
Maximum Input Power S	8 mW
Maximum Input Power Sxt	4 mW
Oma Lock S50 Option 2	200 uW rate less than or equal to 53.125 GBd; 400 uW above to 59 GBd
Electrical Min Lock Open Eye Option 2	30 mVpp rate less than or equal to 53.125 GBd; 60 mVpp above
Electrical Input Max Voltage	plus or minus 500 mV
Electrical Connector	2.92 mm female
Optical Connector	FC/PC 9/125 um
Oe Data Output Connector	2.92 mm female
Recovered Clock Random Jitter Class	280 fs maximum class per family table
Loop Bandwidth Range	0.015 to 20 MHz (depends on baud rate)
Aux Clock Output Frequency	8 GHz to 16 GHz
Control Interface	USB to N1000A 86100D or FlexDCA PC
Operating Temperature	10 C to 40 C
Literature	Keysight 5992-1620EN
Series Family	Keysight N107x DCA-M clock recovery
Bandwidth	Range: 0.015 to 20 MHz (depends on baud rate)
Data Rate	Option 264: 125 MBd to 64 GBd (65.6 GBd characteristic)

PARAMETER	VALUE
Return loss	Characteristic: 16 dB

N1078A Specifications

PARAMETER	VALUE
Applications	Single-mode NRZ and PAM4 optical transmitter clock recovery for DCA sampling scopes and BERTs.
Up to 64 GBd with rate Option 264	Optional integrated 50/50 SM splitter Option S50
Technical Specifications	Instrument Type: Optical/electrical clock recovery DCA-M single-mode
Notes	From Keysight N1076B/7A/7B/8A DCA-M data sheet 5992-1620EN N1078A sections. Configuration depends on ordered rate and splitter options.

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	10 C to 40 C
Operating Temperature	10 C to 40 C
Literature	Keysight 5992-1620EN
Series Family	Keysight N107x DCA-M clock recovery Notes From Keysight N1076B/7A/7B/8A DCA-M data sheet 5992-1620EN N1078A sections. Configuration depends on ordered rate and splitter options.

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
Instrument Type	Optical/electrical clock recovery DCA-M single-mode
Max Data Rate Option 264	125 MBd to 64 GBd (65.6 GBd characteristic)
Max Data Rate Option 232	125 MBd to 32 GBd (32.8 GBd characteristic)
Max Data Rate Option 216	125 MBd to 16 GBd (16.4 GBd characteristic)
Optical Signal Type	Single-mode only
Splitter Class S50	Integrated 50/50 single-mode splitter
Wavelength Range	1260 nm to 1620 nm tested at 1310 nm and 1550 nm
Insertion Loss S50	4.75 dB (3.5 dB characteristic)
Return Loss Characteristic	16 dB
Maximum Input Power S50	8 mW
Maximum Input Power Sxt	4 mW
Oma Lock S50 Option 264	200 uW rate less than or equal to 53.125 GBd; 400 uW above to 59 GBd
Electrical Min Lock Open Eye Option 264	30 mVpp rate less than or equal to 53.125 GBd; 60 mVpp above
Electrical Input Max Voltage	plus or minus 500 mV
Electrical Connector	2.92 mm female
Optical Connector	FC/PC 9/125 um
Oe Data Output Connector	2.92 mm female
Recovered Clock Random Jitter Class	280 fs maximum class per family table
Loop Bandwidth Range	0.015 to 20 MHz (depends on baud rate)
Aux Clock Output Frequency	8 GHz to 16 GHz
Control Interface	USB to N1000A 86100D or FlexDCA PC
Operating Temperature	10 C to 40 C
Literature	Keysight 5992-1620EN
Series Family	Keysight N107x DCA-M clock recovery

Notes

From Keysight N1076B/7A/7B/8A DCA-M data sheet 5992-1620EN N1078A sections. Configuration depends on ordered rate and splitter options.

Ordering Information

OPTION	DESCRIPTION
Option 264	Optional integrated 50/50 SM splitter Option S50

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>

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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.