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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent/Keysight N4877A

Agilent Keysight N4877A Clock Data Recovery and Demultiplexer 1:2 The Keysight N4877A is a clock-data-recovery and 1:2 demultiplexer covering 50 Mb/s to 32 Gb/s (Option 232) or 16.5 Gb/s (Option 216). OEM Electrical and Optical Clock Data Recovery Solutions data sheet 5990-9949 lists 25 mV typical CDR lock sensitivity, 70 mV typical demux sensitivity at BER 1e-12, auxiliary clock jitter less than 100 fs rms typical, and loop bandwidth from 15 kHz to 20 MHz. Clock recovery and demux for J-BERT/M8020A receiver test above 12.5 Gb/s, clean recovered clocks for 86100 DCA precision timebases, and SSC-tolerant recovery for 100GbE, 32GFC, CEI and PCIe. The Keysight N4877A is a clock-data-recovery and 1:2 demultiplexer covering 50 Mb/s to 32 Gb/s (Option 232) or 16.5 Gb/s (Option 216). OEM Electrical and Optical Clock Data Recovery Solutions data sheet 5990-9949 lists 25 mV typical CDR lock sensitivity, 70 mV typical demux sensitivity at BER 1e-12, auxiliary clock jitter less than 100 fs rms typical, and loop bandwidth from 15 kHz to 20 MHz. Clock recovery and demux for J-BERT/M8020A receiver test above 12.5 Gb/s, clean recovered clocks for 86100 DCA precision timebases, and SSC-tolerant recovery for 100GbE, 32GFC, CEI and PCIe.



MODEL

**Agilent / Keysight
N4877A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

N4877A

LISTING

<https://aumictechlabs.com/products/n4877a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight N4877A is a clock data recovery and demultiplexer module for high-speed digital communication testing from 50 Mb/s to 32 Gb/s. It recovers clock signals from data

streams when unavailable from the device under test, or cleans up clock signals degraded by excessive jitter. The module includes a 1:2 demultiplexer for sub-rate BERT testing and integrates with Keysight's J-BERT and ParBERT receiver test solutions.

Technical Specifications

Data Rate Range: 50 Mb/s to 32 Gb/s; option extends to 16.5 Gb/s for standards including 16GFC, USB 3.0, SATA, SAS, and PCIe Gen4

Phase-Locked Loop: Tunable loop bandwidth to 20 MHz with selectable peaking for industry standard compliance

Jitter Performance: Auxiliary clock output with residual jitter as low as 100 fs RMS

Demultiplexer: Built-in 1:2 demultiplexer with software-controlled, swappable outputs (even and odd bits)

Data Input Connectors: 2.4 mm (f)

Clock/Data Output Connectors: SMA

Control Interface: USB for PC connection and graphical user interface

Key Features

- Clock recovery from data streams when DUT clock output is unavailable
- Phase-Locked Loop clean-up function for clocks with excessive intrinsic jitter
- Low residual jitter enables accurate transmitter measurements
- Software-controlled demultiplexer output selection simplifies receiver testing workflows

Typical Applications

- receiver and transmitter characterization
- High-speed device receiver testing with J-BERT and ParBERT solutions
- Golden PLL operation for stimulus-response testing with precision jitter sources (86100CU-400, 86100DU-400)
- Transmitter waveform analysis

Computer, datacom, and communication standards validation

Compatibility & Integration

- Compatible with Keysight J-BERT (N4903B) and ParBERT receiver test solutions
- Integrates with 86100 Digital Communications Analyzer
- Configurable as jitter receiver for PLL stimulus-response testing with 86100CU-400 or 86100DU-400 software
- Integrates into multi-channel BERT systems including 81250 ParBERT for full-rate sampling to 27 Gb/s
- Cable kit N4915A-016 maintains phase relationship between recovered clock and demultiplexed data
- Compatible with pick-off kits such as N915A-015 (50 GHz bandwidth)

Features & description

From manufacturer datasheet

Built-in 1:2 demultiplexer with even/odd swap

Auxiliary 4-8 GHz clock for 86100 precision time base USB 2.0 and LAN control with standalone GUI or 86100D virtual module N4915A-015 50 GHz pick-off kit companion Technical Specifications Instrument Type: Clock data recovery and 1:2 demultiplexer Specified Range 232: 380 Mb/s to 28.4 Gb/s Programming Range 232: 50 Mb/s to less than 380 Mb/s and greater than 28.4 Gb/s to 32 Gb/s Specified Range 216: 380 Mb/s to 16.5 Gb/s Programming Range 216: 50 Mb/s to less than 380 Mb/s Data Input Connector: 2.4 mm female, differential or single-ended, AC coupled 50 ohm Input Voltage Window: minus 2.2 V to 3.2 V / 2 Vpp max Min Transition Density: 20 percent Cdr Lock Sensitivity: 25 mV single-ended or differential typical Demux Sensitivity: 70 mV single-ended or differential typical at BER 1e-12 up to 16 Gb/s Recovered Clock Output Voltage: 350 mVpp typical Recovered Clock Max Frequency: 16 GHz Clock Dividers: 1, 2, 4, 8, 16 (1 and 2 up to 16 Gb/s; 4/8/16 over full range) Clock Output Jitter Low Rate: 400 fs rms typical below 2.5 Gb/s Clock Output Jitter High Rate: 250 fs rms typical at 2.5 Gb/s and above Ssc Tracking: 0.5 percent deviation typical Aux Clock Frequency: 4 GHz to 8 GHz Aux Clock Voltage: 800 mVpp typical

N4877A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Clock data recovery and 1:2 demultiplexer
Specified Range 2	380 Mb/s to 28.4 Gb/s
Programming Range 2	50 Mb/s to less than 380 Mb/s and greater than 28.4 Gb/s to 32 Gb/s
Data Input Connector	2.4 mm female, differential or single-ended, AC coupled 50 ohm
Input Voltage Window	minus 2.2 V to 3.2 V / 2 Vpp max
Min Transition Density	20 percent
Cdr Lock Sensitivity	25 mV single-ended or differential typical
Demux Sensitivity	70 mV single-ended or differential typical at BER 1e-12 up to 16 Gb/s
Recovered Clock Output Voltage	350 mVpp typical
Recovered Clock Max Frequency	16 GHz
Clock Dividers	1, 2, 4, 8, 16 (1 and 2 up to 16 Gb/s; 4/8/16 over full range)
Clock Output Jitter Low Rate	400 fs rms typical below 2.5 Gb/s
Clock Output Jitter High Rate	250 fs rms typical at 2.5 Gb/s and above
Ssc Tracking	0.5 percent deviation typical
Aux Clock Frequency	4 GHz to 8 GHz
Aux Clock Voltage	800 mVpp typical
Aux Clock Jitter	less than 100 fs rms typical
Demux Ratio	1:2
Demux Output Voltage	350 mVpp typical
Demux Output Jitter	5 ps pp typical at 14.2 Gb/s using a 1100 pattern
Clock To Data Skew	644 ps typical
Max Loop Bandwidth High Rate	20.0 MHz (greater than 8.0 Gb/s to 32 Gb/s)
Min Loop Bandwidth	15 kHz (50 Mb/s to 750 Mb/s); (data rate)/5000 above 750 Mb/s
Cid Characteristic	150 consecutive identical bits characteristic
Power Consumption	100-240 V, about 50/60 Hz, 90 VA max

PARAMETER	VALUE
Operating Temperature	10 C to 40 C
Storage Temperature	minus 40 C to 70 C
Dimensions Bench	228 × 59 × 360 mm with bumper
Weight Net	2.9 kg
Literature	Keysight 5990-9949
Bandwidth	High Rate: 20.0 MHz (greater than 8.0 Gb/s to 32 Gb/s)

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	minus 40 C to 70 C
Operating temperature	10 C to 40 C
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Dimensions Bench	228 × 59 × 360 mm with bumper
Weight Net	2.9 kg
Literature	Keysight 5990-9949 Notes From Keysight Electrical and Optical Clock Data Recovery Solutions data sheet 5990-9949 N4877A specifications and general-characteristics tables. Sensitivity footnotes apply when N4915A-015 (14 dB) is used.

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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PARAMETER	VALUE
Instrument Type	Clock data recovery and 1:2 demultiplexer
Specified Range 232	380 Mb/s to 28.4 Gb/s
Programming Range 232	50 Mb/s to less than 380 Mb/s and greater than 28.4 Gb/s to 32 Gb/s
Specified Range 216	380 Mb/s to 16.5 Gb/s
Programming Range 216	50 Mb/s to less than 380 Mb/s
Data Input Connector	2.4 mm female, differential or single-ended, AC coupled 50 ohm
Input Voltage Window	minus 2.2 V to 3.2 V / 2 Vpp max
Min Transition Density	20 percent
Cdr Lock Sensitivity	25 mV single-ended or differential typical
Demux Sensitivity	70 mV single-ended or differential typical at BER 1e-12 up to 16 Gb/s
Recovered Clock Output Voltage	350 mVpp typical
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Notes
From Keysight Electrical and Optical Clock Data Recovery Solutions data sheet 5990-9949 N4877A specifications and general-characteristics tables. Sensitivity footnotes apply when N4915A-015 (14 dB) is used.

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.