



Agilent

N4968A Clock and Data Demultiplexer Data Sheet



Figure 1. N4968A clock and data demultiplexer

Features

- Clock and data demultiplexer for lower-rate BER measurements
- 3.5 to 44 Gb/s operation
- Demux-by-2 or demux-by-4
- Integrated phase shifter for high-speed clock and data alignment
- Differential or single-ended input
- Adjustable sub-rate clock output

Description

The Agilent technologies N4968A clock and data demultiplexer 44 Gb/s (TR1D4A) is a small high-performance 3.5 to 44 Gb/s clock and data demultiplexer, designed to simplify the process of making high-bitrate BER measurements at half- or quarter-rate speeds. The N4968A clock and data demultiplexer 44 Gb/s (TR1D4A) is capable of operating in demux-by-2 (17 to 8.5 Gb/s) or demux-by-4 (38 to 9.5 Gb/s) modes, with an adjustable sub-rate clock output for triggering BER testers, oscilloscopes, logic analyzers, or other instruments.

Key Specifications

Description	Min	Typ	Max
Input bit rate**	3.5 Gb/s	–	44 Gb/s
Output bit rate	0.875 Gb/s	–	11 Gb/s
Data input amplitude***	150 mVpp-se	600 mVpp-se	1000 mVpp-se
Data output amplitude	210 mVpp	240 mVpp	270 mVpp
Clock input amplitude	470 mVpp	600 mVpp	1200 mVpp
Clock output amplitude**	–	500 mVpp-se	–
Demux-by-4 clock input frequency	1.75 GHz	–	22 GHz
Demux-by-2 clock input frequency	3.5 GHz	–	22 GHz***

* Data input uses a V (f) connector. Data output and clock input use K (f) connectors. Clock output uses an SMA(f) connector.

** Differential input/output, can be used single-ended with proper 50 Ω termination.

*** Maximum input bit rate is 22 Gb/s.

Anticipate — Accelerate — Achieve



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N4968A Clock and Data Demultiplexer

Block diagram

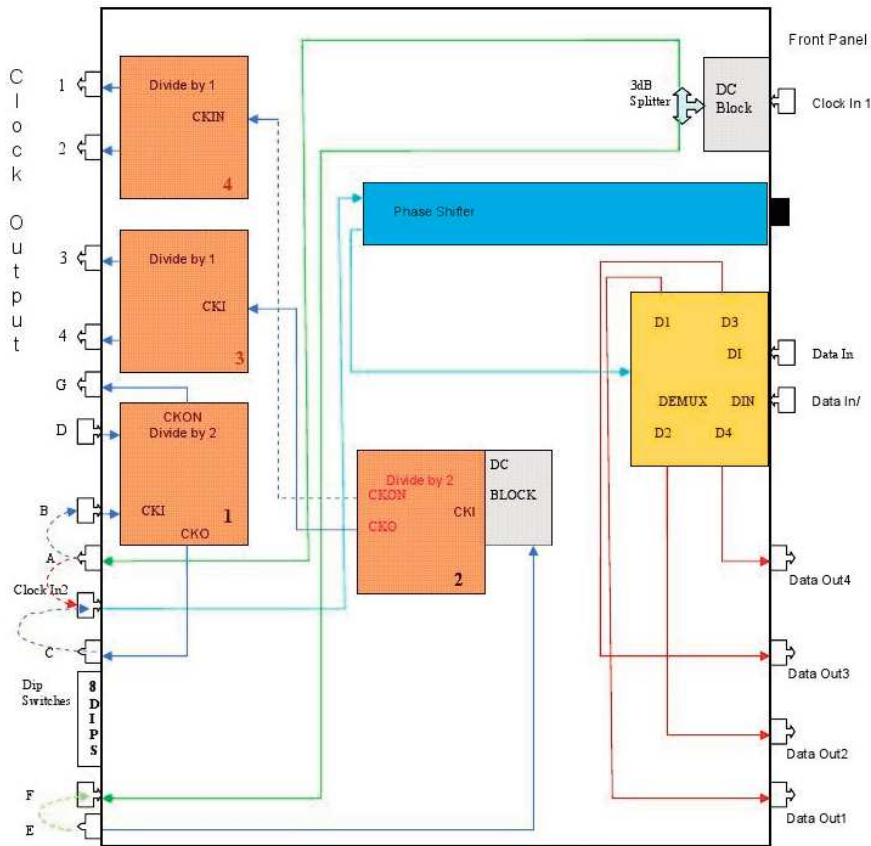


Figure 2. N4968A clock and data demultiplier 44 Gb/s

14 G operation

1. Split the clock output of the clock source.
2. One output of the splitter to the (N4970A PRBS generator 10 Gb/s (TG2P1A)) clock input.
3. The other output to the N4968A clock and data demultiplexer 44 Gb/s (TR1D4A) Clk1.

20 G operation

1. Connect the N4970A PRBS generator 10 Gb/s (TG2P1A) Clk output to the directional coupler input.
2. Connect the directional coupler output to the N4970A PRBS generator 10 Gb/s (TG2P1A) Clk input.
3. Connect the -10dB coupled output of the directional coupler to the Clk1 of the N4968A clock and data demultiplexer 44 Gb/s (TR1D4A).
4. Loop A to B.
5. Loop C to Clk2.
6. Loop E to F.
7. UXD20PEs 1 and 2's ratios = $\frac{1}{2}$ and 3 and 4's ratio = 1.

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40 G operation

1. Connect the N4974A PRBS generator 40 Gb/s (TG1P4A) Clk output to the directional coupler input.
2. Connect the directional coupler output to the N4974A PRBS generator 40 Gb/s (TG1P4A) Clk input.
3. Connect the -10dB coupled output of the directional coupler to the Clk1 of the N4968A clock and data demultiplexer 44 Gb/s (TR1D4A).
4. Loop A to Clk2
5. Loop E to F.
6. UXD20PEs 3 and 4's ratios=1, 2's ratio = $\frac{1}{2}$ and 1's ratio is n/a.

Specifications

General and Mechanical Parameters	
Operating temperature	+10 to +40 °C
Storage temperature	-40 to +70 °C
Power requirements	42 W External AC Adaptor (included) • 100 to 240 V AC, 47 to 63 Hz, 1.35 A
Physical dimensions (W x H x D)	25.4 x 6.35 x 25.4 cm (7 x 2.5 x 10 inches)
Weight	7 lbs
Regulatory Standards	
EMC	
Complies with European EMC Directive 2004/108/EC	<ul style="list-style-type: none">• IEC/EN 61326-1• CISPR Pub 11 Group 1, class A• AS/NZS CISPR 11• ICES/NMB-001
This ISM device complies with Canadian ICES-001. Cet appareil ISM est conforme a la norme NMB-001 du Canada.	

Ordering Information

N4968A clock and data demultiplexer
44 Gb/s (TR1D4A)
Includes standard 1-year warranty.

Warranty and Calibration Service

For warranty and calibration service information, contact your local authorized Agilent distributor or Agilent sales department.



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