options

for the SIA Family

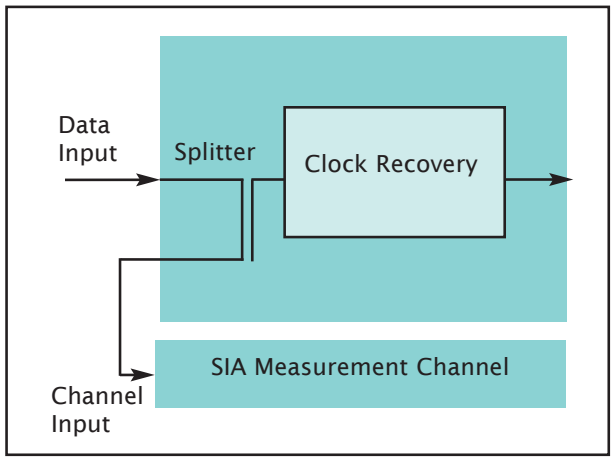
Multi-rate Clock Recovery

High Performance Industry Compliant Golden PLL Clock Recovery up to 4.25 Gb/s

The multi-rate clock recovery is the industry's first Golden PLL. It will comply with all the requirements defined by industry standard such as Fibre Channel MJSQ for golden PLL performance. The SIA Family of Signal Integrity Analysis solutions with the addition of the multi-rate clock recovery option enables signal integrity compliance and diagnostics measurements when a bit clock is not available. It provides measurements on any type of data including live traffic, non-repeating patterns and random data. The multi-rate clock recovery option removes the need for awkward setups in order to obtain accurate and repeatable compliant signal integrity measurements - simply plug in your test signal and make eye diagrams and jitter measurements at any of the supported data rates.

Clock Recovery Setup

The internal multi-rate clock recovery system generates a reference clock signal that can be used for compliance testing such as jitter analysis and eye mask testing. A signal is sent into the clock recovery input. This signal is split into 2 paths. One path is sent to the clock recovery circuitry and the other is sent to a measurement channel. The clock recovery circuitry recovers a bit clock from the data stream, which is then used internally for measurements.



Features:

Enables measurement of any data signal

Supports multiple data rates:

- Fibre Channel 1X, 2X, 3X, 4X
- Gigabit Ethernet 1X & 2X
- SATA 1X & 2X
- PCI Express™
- Infiniband
- OC-48
- XAUI

Measurement Benefits:

Performs jitter separation and analysis as well as eye diagrams at the supported bit rates for:

- Random data
- Live data traffic
- Non repeating data patterns

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Specifications

Data Rates	**Standards**	**Rate**
	Fibre Channel	1.0625 Gb/s
	Gigabit Ethernet	1.250 Gb/s
	Serial ATA (SATA)	1.500 Gb/s
	2X Fibre Channel	2.125 Gb/s
	OC48/STM16	2.48832 Gb/s
	2X Gigabit Ethernet	2.500 Gb/s
	Infiniband	2.500 Gb/s
	PCI Express	2.500 Gb/s
	2X Serial ATA (SATA Gen2)	3.000 Gb/s
	XAUI	3.125 Gb/s
	3X Fibre Channel (10GFC)	3.1875 Gb/s
	4X Fibre Channel	4.250 Gb/s
Roll-off	**Standards**	**Response**
	Fibre Channel	20 dB/dec
	Gigabit Ethernet	20 dB/dec
	Serial ATA	40 dB/dec
	2X Fibre Channel	20 dB/dec
	OC48/STM16	20 dB/dec
	2X Gigabit Ethernet	20 dB/dec
	Infiniband	20 dB/dec
	PCI Express	20 dB/dec
	2X Serial ATA	40 dB/dec
	XAUI	20 dB/dec
	3X Fibre Channel (10GFC)	20 dB/dec
	4X Fibre Channel	20 dB/dec
PLL Loop Bandwidth	Fbaud/1667	
Second Order PLL Damping Factor, Zeta	0.5 < Zeta < 1.0	
Operating Input Signal Level	**Differential** 0.125 to .5 Volts(pk-pk)	**Single-Ended** 0.250 to 1.0 Volts(pk-pk)
Tracking/Acquisition Range	± 0.1%	
Jitter Generation[1]	**Random Jitter (RJ)** <1.0 ps RMS Typical	**Deterministic Jitter (DJ)** < 0.10ps pk-pk Typical
Insertion Loss Through Path	8 dB Typical	
Nominal Clock to Data Path Delay	< 1.5 ns	

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Be certain of the signal you send.

Headquarters

7626 Golden Triangle Drive · Eden Prairie, MN 55344 · 952.831.0030 · Fax: 952.831.4474 · www.wavecrest.com

Wavecrest San Jose
408.436.9000

Wavecrest Europa GmbH
49.89.32225330

Wavecrest K.K
81.3.5960.5770