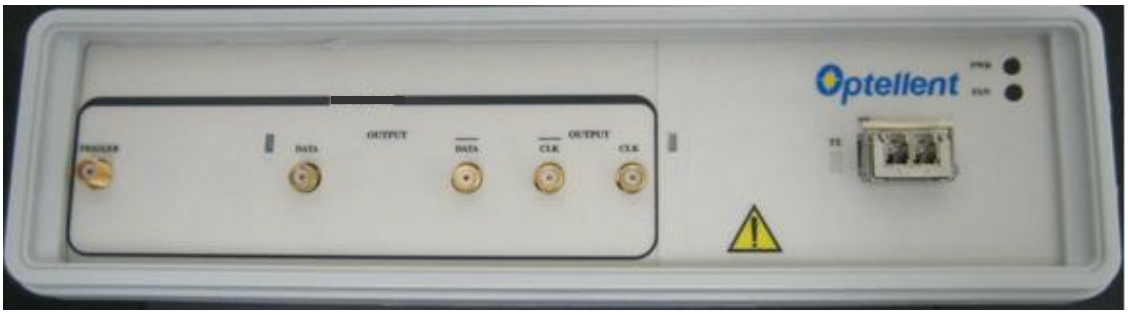
CDR-X110

11 Gbps Optical and Electrical Clock/Data Recovery System



Overview

The OPTELLENT CDR-X110 is a cost-effective, easy-to-use clock-and-data recovery system for testing components and systems in R&D and manufacturing environments. It incorporates a reference frequency source, electrical and optical input ports and clock recovery circuits in one compact module that operates between 9.5 and 11.5 Gb/s. The CDR-X110 is offered with either preset discrete data rates or with a continuously variable data rate (2kHz step size).

An optional Graphical User Interface enables easy point-and-click operation. The Optellent CDR-X110 software runs on Windows 98/2000/NT/XP and VISTA over USB or RS-232 serial interface via an RJ-45 Connector provided on the front panel.

Applications

- Testing of optical transceivers, transponders, linecards, and subsystems
- Testing of opto-electronic components and devices (TOSA, ROSA, lasers, etc…)
- Fibre optic testing (sensitivity, dispersion penalty)
- Testing of Gb/s ICs, electronic modules, subsystems, and systems
- Serial high-speed backplane and board design

Key Features

- **Differential Data and Clock Outputs**
- **Electrical and/or Optical Interfaces**
- **Preset / Variable data rates**
- **Trigger output for oscilloscopes**

Protocol Applications

SONET / SDH	
0C-192: STS-192 / STM-64	9.95328 Gbps
G.709	10.709 Gbps
ETHERNET	
10GBASE-T	10 Gbps
10GBASE-R (LAN/PHY)	10.3125 Gbps
10GBASE-R OTU2 FEC	11.096 Gbps
FIBRE CHANNEL	
10 x FC (10GFC)	10.519 Gbps
10GFC with FEC	11.317 Gbps
INFINIBAND & HDMI	
4 x Infiniband	10 Gbps
HDMI 1.3	10.2 Gbps

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Specifications

Parameter	Min	Typ	Max	Units
Data Output format	Differential NRZ			
Data Rates	• **Preset**: 0C-192/ STM-64 (9.95328 Gbps); Infiniband (10Gbps), 10GbE (10.3125 Gbps), 10GFC (10.519 Gbps); G.709 (10.709 Gbps); 10GbE with FEC (11.096Gbps), 10GFC with FEC (11.317Gbps) • **Custom Preset:** Special data rates requested by customers (Optional) • **Continuously Variable Data Rate** (2kHz Step size) (Optional)			
Output Amplitude (single-ended)		300	500	mV
Data Rise/Fall Time, (20 – 80%) (1)		25		ps
Data Output RMS Jitter (1)		1.8		ps
Electrical data input	100		1000	mV
Input data rate	9.5		11.5	Gb/s
Clock Output Amplitude (single-ended)		200		mV_{p-p}
Trigger Output Amplitude	300			mV_{p-p}
Trigger frequency	Clock frequency/16, clock frequency/64			
Electrical terminations/connectors	AC-coupled 50Ω SMA Female			
Optical connectors	MSA compliant XFP port (LC connectors)			

(1) Measurements based on $PRBS2^{23}$-1 data at 9.95328 Gbps (OC-192)

System & General Specifications

PARAMETER	MIN	MAX	UNIT
Chassis Electrical Voltage	100	240	VAC
Current Drain at Normal Voltage		2.5	A
Operating Temperature Range	5	45	°C
Storage Temperature Range	-40	70	°C
PC Interface (optional)	RS-232		
Standard Warranty	2 years		

Ordering information

CDRX110-X-X-X-X

X: other Custom Options

0: No Optical Transceiver;
1: Optical Transceiver (XFP) 850nm
2: Optical Transceiver (XFP) 1310nm
3: Optical Transceiver (XFP) 1550nm
4: Optical transceiver (XFP) with APD receiver

P: Preset Standard Data Rates
C: Custom Data Rates
V: Continuously Variable Data Rate (2 kHz Step Size)

E: Electrical input only
O: Optical input only
B: Both inputs

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