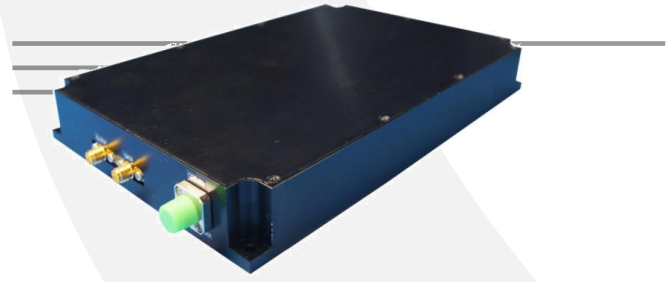




LRD-10-CLK-M



DEVICE

10 Gb/s Digital Receiver with Clock Recovery

OVERVIEW

The Optilab LRD-10-CLK-M is a 10 Gb/s bandwidth high gain, lightwave digital receiver module with a 10 Gb/s clock recovery circuit, designed for OC-192, DWDM, and Bit Error Rate Testing (BERT) of a digital optical link. The LRD-10-CLK-M is an O/E converter with post/limiting amplifier module designed for use in receivers of STM-64/OC-192 (9.953 Gb/s) and STM-64/OC-192 with Forward Error Correction (FEC) (10.664 Gb/s) optical transmission systems. This cost-effective module consists of a PIN photodiode, pre-amplifier, post-amplifier, and limiting amplifier. The built-in clock recovery circuit has a separate 10 Gb/s clock recovery output, and at the optical input level of -17 dBm it provides an output level of 1.0 Vp-p. Contact Optilab for more information.

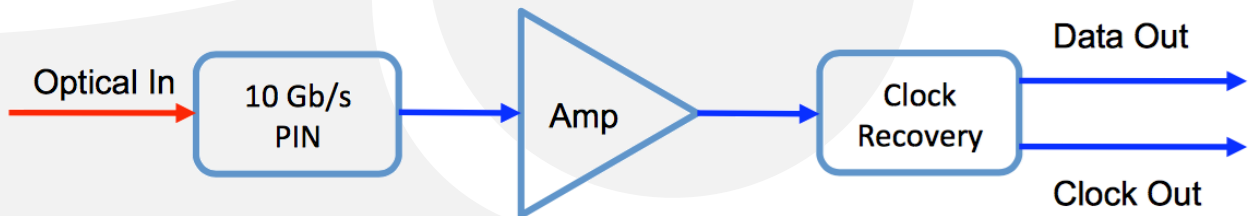
FEATURES

- Built in VOA
- Internal DFB laser
- Remote access Via USB
- Up to 15 GHz operating range
- 10 dB attenuation range
- Automatic Bias, Q+ mode or 4 modes

USE IN

- Analog photonics
- DWDM Network
- Satellite Communication
- Optical communications to 15 Gb/s
- Sub-nanosecond pulse generation
- 15 GHz RFoF transmission

FUNCTIONAL DIAGRAM





LRD-10-CLK-M

SPECIFICATIONS

OPTICAL

Operating Wavelength	1250 nm to 1650 nm
Optical Input Level	+ 3 dBm max.
Responsivity	0.85 A/W @ 1550 nm typ.
O/E Conversion Gain	12,000 V/W
Optical Return Loss	-30.00 dB typ.
Optical PDL @ 1550 nm	0.05 dB typ., 0.1 dB max.

ELECTRICAL

Useful Bandwidth	0.01 to 10 Gb/s
S21 3 dB Bandwidth	10 GHz typ.
S22 Characteristics	< - 10 dB to 10 Gb/s typ.
Output Coupling	AC Coupled
RF Impedance	50Ω
Ripple over Bandwidth	± 1.0 dB
Sensitivity	-18 dBm

CLOCK RECOVERY

Standard Clock Rate	9.953 Gb/s
FEC Clock Rate	10.664 Gb/s (optional)
Data Output	DC-coupled
Clock Output	AC-coupled
Output Voltage	1.0 V typ.
Clock Voltage	1.0 V typ.

MECHANICAL

Operating Temperature	0 °C to +70 °C
Storage Temperature	-40 °C to +85 °C
Power Supply Requirements	+ 12 V DC, 2 A max.
Optical Connectors	FC/APC, SC/APC optional
RF Output Connector	SMA Female, 50Ω
DC Connector	Molex 4-pin
Local Alarm	LED: Optional Input Power
Dimensions	210 mm x 135 mm x 28 mm
Accessories Included	110 V - 240 V AC Adaptor
Housing	Precision Machined Aluminum, Anodized

ORDERING OPTIONS

LRD-x-CLK-M

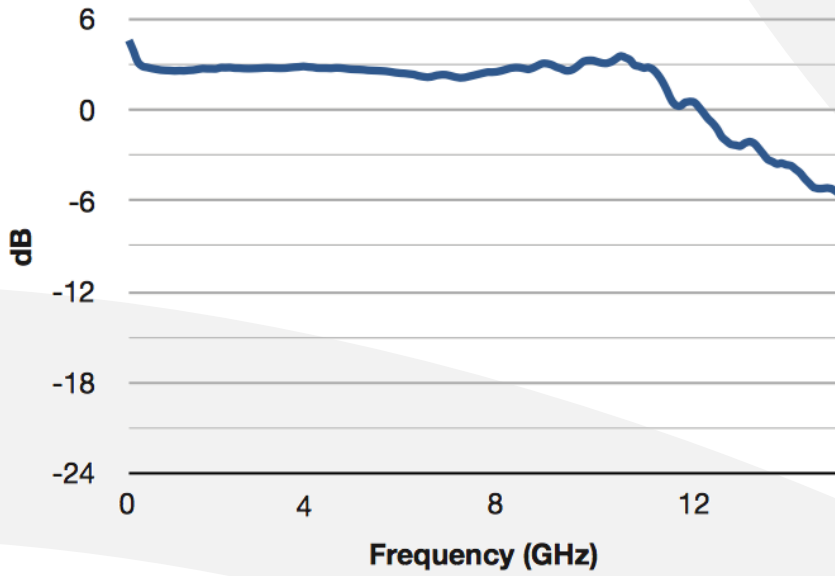
- x S, Standard 9.953 Gb/s;
- F, Forward Error Correction (FEC) 10.664 Gb/s





LRD-10-CLK-M

TYPICAL S21 BANDWIDTH



TEST REPORTS

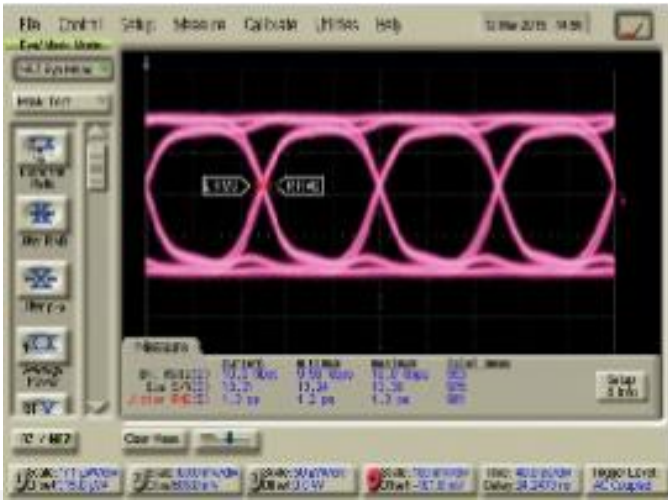


Figure 1: Recovered Data Output, measured with 2 dB attenuation and a DC block

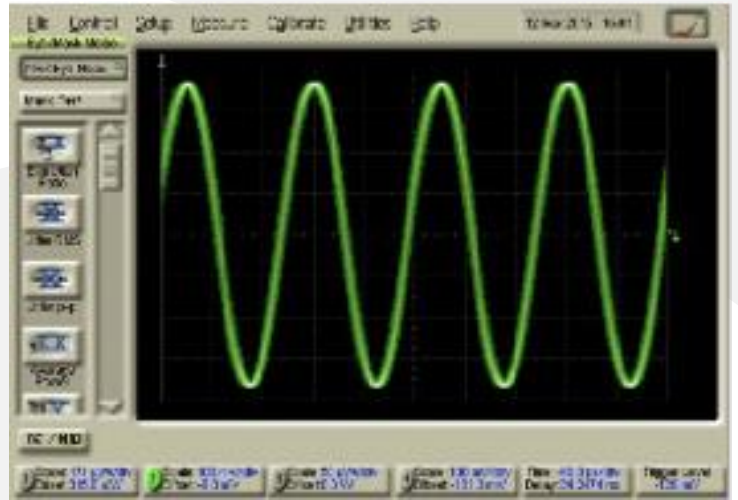


Figure 2: Recovered Clock Output, measured with 3 dB attenuation

