

Eye-BERT Micro

Bit Error Rate Tester, Optical Signal Generator, and SFP Test Set

Product Description

The Eye-BERT Micro is a low cost, easy to use, all-in-one SFP based fiber optic test solution offering high performance bit error rate testing at a fraction of the cost while providing a rich set of features not found in other bit error rate testers. Features include: variable bit rate, user programmable patterns, and optical power and temperature monitoring (per SFP capability). Additionally, with a click of a button, the Eye-BERT Micro will automatically test an SFP module based on the information it reads from the module and generate a detailed test report complete with manufacturer, part number, serial number, date code, fiber type, link length, speed, and test results. The Unit is supplied with anti-skid bumpers for bench use, flanges for chassis mounting, and is small enough to be integrated into larger systems for dedicated link verification.



Flange Mount

Performance Specifications

	Specification	Unit
Standard Rates Supported ¹	125, 155.52, 200, 622.08, 1062.5, 1250, 2125, 2488.32, 2500, 2666.08, 4250	Mbps
Standards Supported ¹	Fast Ethernet, Gigabit Ethernet, OC3/STS-3/STM-4, OC48/STS-48/STM-16, OC48+FEC, ESCON/SBCON, 1X/2X/4X Fiber Channel, 2.5G Infiniband / PCI Express	
Frequency Resolution ¹	1	Hz
Bit Rate Adjustability ¹	+/- 5% typical, from standard rates	
Frequency Accuracy	+/- 20	ppm
Data Patterns	2 ⁷ -1, 2 ²³ -1, 2 ³¹ -1, K28.5, CJTPAT ² , CRPAT ² , CSPAT ² , Any 40 bit user pattern	
Computer Interface	USB-2, (Mini B)	
Power	5VDC, 1A Max	
Unit Dimension	3.5 x 2.5 x 1.2	inches

Notes:

1. Depends on transceiver and CDR capability, typically rates can be varied by more than +/-5%. See applications information for other supported rates.
2. CJTPAT, CRPAT, CSPAT are intended for jitter testing and are not supported by the pattern detector.

Features

- 125Mbps to 4.25Gbps
- Variable data rates in 1Hz increments
- PRBS 2⁷, 2²³, 2³¹-1, K28.5, CRPAT, CJTPAT, CSPAT
- Programmable 40bit pattern
- Signal generator mode, 3MHz to 2.1GHz
- Compact package (3.5" x 2.5" x 1.2")
- User replaceable SFP transceivers
- Decode and display of SFP registers, supports internal and external calibration
- Automated SFP testing / report generation
- Bench top and flange mount configurations

Applications

- Bit error rate testing
- SFP identification, testing, and diagnostics
- Optical signal generator
- Jitter testing
- Automated test sets
- Dedicated link verification
- OEM / Custom versions also available

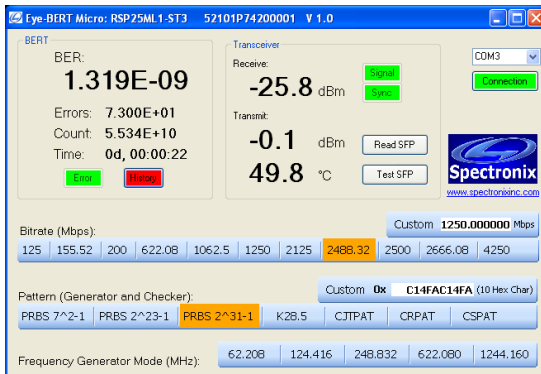
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Operation

The Eye-BERT Micro is supplied with a USB driver and Windows software, shown below. The interface allows the user to choose the data rate from one of the pre-programmed standards or to specify one in the "Custom" rate field. Seven standard patterns are also provided or the user can specify any 40 bit pattern in the "Custom" pattern field.



Error rate, error count, bit count, and test time are displayed along with signal, sync, error, and error history indicators. Counters can be reset by selecting either the BER field or the history button. If digital diagnostics are supported by the SFP, receive power, transmit power, and temperature are also displayed. The transmitter can be enabled or disabled at any time by selecting the transmit power field.

Frequency Generator Mode:

Frequency Generator mode is useful for bandwidth testing of optical receivers or other components. In this mode a 50/50 square wave is generated based on the selected bit rate and a divider ratio. For every bit rate, a choice of five different frequencies is presented allowing generation of most any signal between 3MHz and 2.1GHz.

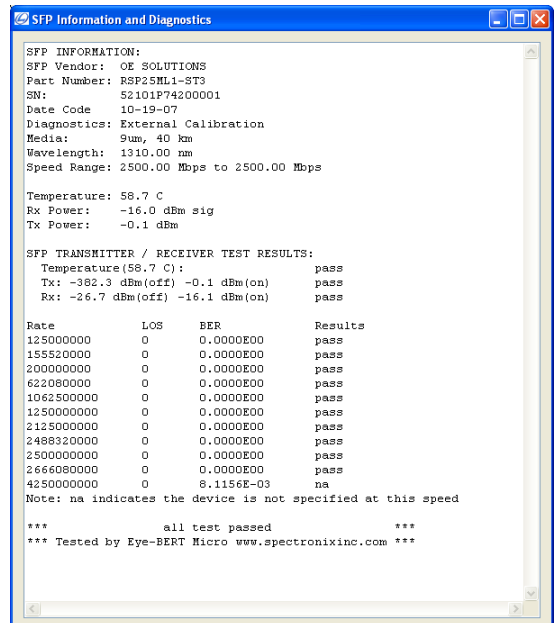
System Requirements:

Windows XP, Vista, and 7

Applications

SFP Identification and Testing:

SFP identification and testing is easily accomplished without even having to look up the transceiver specifications. Inserting an SFP with a loopback cable and selecting the "Test SFP" button will cause the Eye-BERT Micro to read the device registers and automatically test the performance against the values read. A detailed test report is generated in less than 20 seconds.



User Configurability:

The Eye-BERT Micro can accept any SFP transceiver allowing a wide variety of interface options including: single/multi mode fiber, electrical coax, twisted pair, etc.

Custom Programming:

The Eye-BERT Micro uses USB / serial port emulation along with a straight forward communication protocol making custom user application development straight forward.

Ordering Information

100286A

Eye-BERT Micro, supplied with power supply, USB cable, USB driver, Windows GUI, and users manual