Optellent
Enabling communication technologies

OptoBERT™ OPBK125

125 Mbps Low Frequency Bit-Error-Ratio Test System

Overview

The OPTELLENT OptoBERT™ OPBK125 is a cost-effective easy-to-use bit-error-ratio (BER) measurement system for testing components and systems in R&D and manufacturing environments as well as field installations. It incorporates a pattern generator, clock recovery circuits, and a bit-error-ratio analyzer in one compact module that provides electrical interfaces at data rates up to 125 Mb/s.

An intuitive graphical user interface (GUI) enables easy point-and-click operation. The GUI displays error counts, BER, and features a unique error-events display to display the location of bit errors within every second.

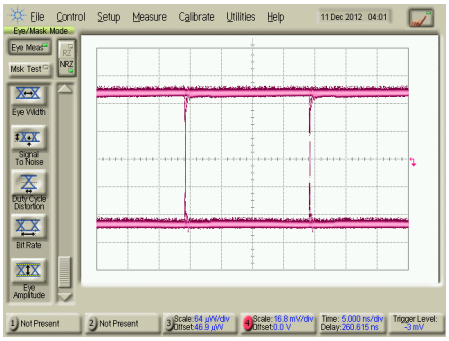
The OptoBERT has a recording feature to output the measured BER results into a spreadsheet file without any programming or scripting.

Applications

- Optical/electrical system and component testing
- Installation testing and troubleshooting in optical transport networks
- Manufacturing cost reduction by eliminating expensive traditional BER test equipment in production lines
- EMI/EMC testing

Key Features

- **Integrated Generator and Analyzer**
- **Easy-to-use and Cost-efficient**
- **Intuitive Graphical User Interface**
- **Automated Measurement Report**
- **Unique Error Events Display**
- **Custom data rate options**



Data Rates

Minimum speed	380 kb/s
Maximum speed	125 Mb/s

Supported Patterns:

- PRBS 7, PRBS 23
- NRZ 101010…

Software

The OptoBERT™ OPBK125 software runs on Windows 98/2000/7/8/10 and XP over RS-232 serial interface via an RJ-45 Connector provided on the front panel.
A software driver is available for incorporating the OptoBERT into test automation suites using programs like C++, LabVIEW, VisualBASIC, and HP VEE.

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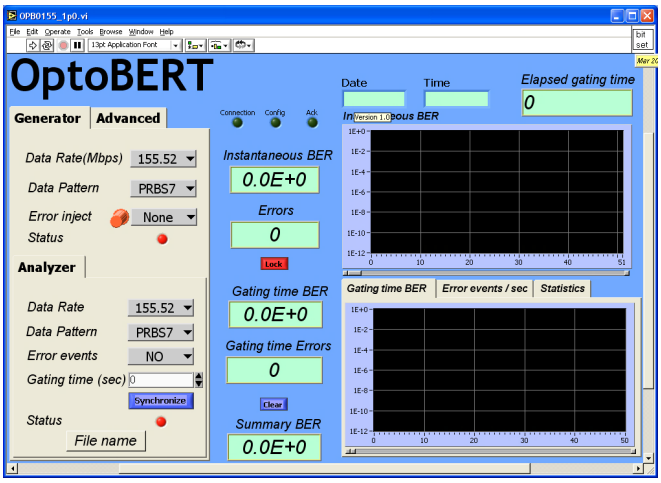
User Interface



Pattern Generator

Error Injection:
10^{-7}, 10^{-8}, 10^{-9}, single error injection

Specifications

Generator Output				
Parameter	**Min**	**Typ**	**Max**	**Units**
Output type	Differential			
Data rate	0.38		125	Mb/s
Frequency accuracy			± 50	ppm
Output amplitude, single ended **(1)**	700	850		mV
Data rise time **(1)**			750	ps
Data fall time **(1)**			750	ps
Data output RMS jitter **(1)**			100	ps
Clock output amplitude		1000		mV
Connector, Electrical	50 Ω SMA, front panel			

Trigger Output				
Parameter	**Min**	**Typ**	**Max**	**Units**
Output amplitude	400			mV
Output type	Single-ended, AC-coupled			
Connector	50 Ω SMA, front panel			

(1) Measurements based on PRBS23 data at 125 Mb/s (OC-3).

Error Analyzer

Specifications

Parameter	**Min**	**Typ**	**Max**	**Units**
Input type	Single-ended AC coupled			
Electrical sensitivity **(1)**			50	mV
Electrical data input	50		1000	mV
Clocking mode	Built-in clock recovery			
Pattern Synchronization	Automatic			
Connector, Electrical	50 Ω SMA, front panel			

(1): Measurements based on PRBS23 data at 155.32 Mb/s (OC-3).

System Specifications

PARAMETER	**MIN**	**MAX**	**UNIT**
Chassis Electrical Voltage	100	240	VAC
Current Drain at Normal Voltage		1.4	A
Operating Temperature Range	5	40	°C
Storage Temperature Range	-40	70	°C
Dimensions (L x W x H)	273x216x45 10.75x8.5x1.75		mm^3 $inch^3$
Safety	UL, IEC-61010-1		
EMC	EN55011, EN61000-3-2, EN61000-3-3, BS EN61326		
RS 232 PC Interface	RJ-45 connector		

Specifications are subject to change without notice.
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