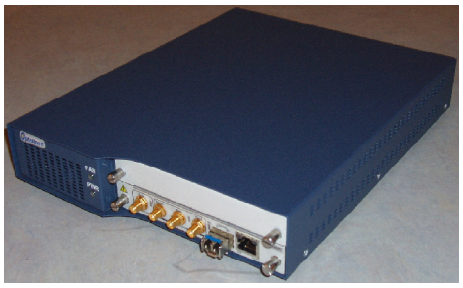
Testing Made Simple



Electrical & Optical BER Testers and Pattern Generators

Applications

- Production Testing of Optical Transceivers, Transponders

- Opto-Electronic Components and Devices (TOSAs/ ROSAs,)

- Active Optical Cables

- High-speed ICs, modules and boards
- Video ICs, boards and systems (HD and SD)
- Testing and troubleshooting of optical networks
- Research Labs and Universities

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It's All About Your Productivity …

That is the premise behind OPTELLENT's OptoBERT™ family of Electrical/Optical bit-error-ratio testers (BERTs) and Data/Pattern Generators. The OptoBERT™ testers feature:

- Integrated pattern generator and bit-error-rate analyzer
- Internal clock recovery and reference frequency
- Both electrical and optical interfaces
- Multiple patterns: PRBS, stress, and User-defined patterns
- Intuitive GUI and automated test reports
- Easy-to-use, cost-efficient and compact
- 2-year standard warranty
- Low cost of ownership

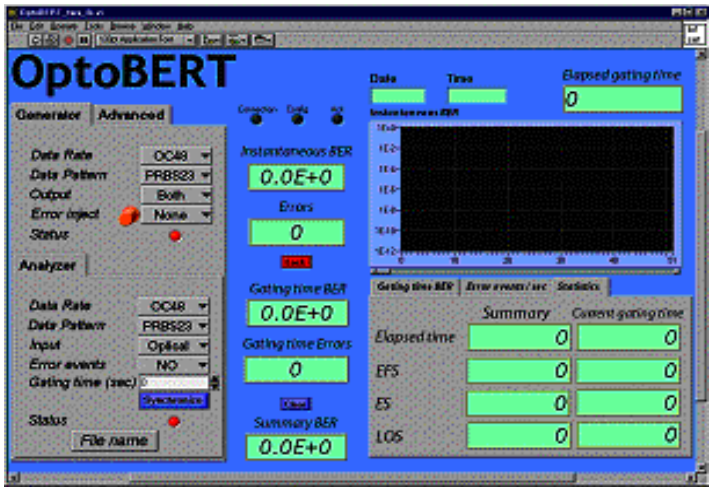
Besides offering industry-leading lead times, Optellent specializes in customizing test equipment to meet the specific needs of its customers. Optellent has successfully incorporated custom patterns, MZ drivers, clock and data recovery options, test report templates, etc., for its customers. Optellent is committed to supporting its customers with integration of our test equipment into their test suites.

Software

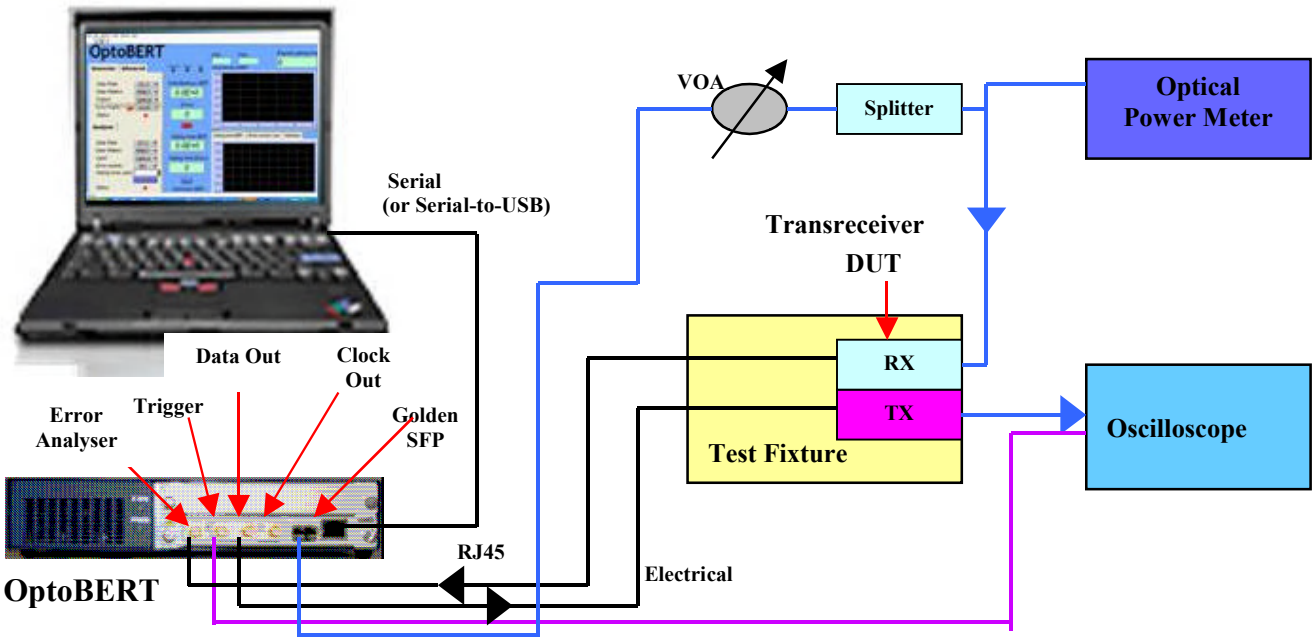
The OptoBERT™ and the Data/Pattern Generators family of products features software that runs on Windows 98/2000/NT, XP and VISTA over an RS-232 serial interface via an RJ-45 connector. An optional RS232-to-USB converter is available.

Software drivers are available for incorporating the OptoBERT into test automation suites using programs like C++, LabVIEW, VisualBASIC, and Agilent VEE.

User Interface



Application Example: Transceiver Testing



Specifications

PARAMETER	OPB1250	OPB3200	OPB4250	OPB5000	OPBX110	OPB04X10	Units
Data Rates (Min/Max)	125-1250	155.52-3125	155.52 - 4250	155.52-5000	9950-11320	9950-11320	Mb/s
Preset Data Rates	FE; GbE; FC; OC3, 12	OC3,12,48; OC48+FEC; GbE; FC; 2XFC; XAUI	GbE; FC; 2XFC; 4XFC	1GFC;2GFC; 4GFC; 5G;Infiniband; Gigabit Ethernet; OC3,12,48	0C-192/STM-64; Infiniband; 10GbE, 10GFC, G.709 with FEC 10GbE with FEC, 10GFC with FEC	OC-192: STS-192/ STM-64; G.709, 10GBASE-T, 10GBASE-R, 10GFC, 10GFC with FEC; HDMI 1.3, 4XInfiniband	-
Output Amplitude(Typical; Single-Ended)	550	750	500	800	800	400	mV
Rise/Fall time (Max)	160	90	75	70	25	35	ps
Data Output RMS Jitter (Typical)	5	4	4	4	2	2	ps
Clock Output Amplitude (Typical)	200	300	200	200	300	N/A	mV
Error Injection (10^{-7}, 10^{-8}, 10^{-9}, single)	Yes	Yes	No	No	Yes	No	-
Data Patterns (PRBS, NRZ 1010..)	Yes	Yes	Yes	Yes	Yes	Yes	-
Other patterns (K28.5, CJPAT, CID, FDDI) (Optional)	Yes	Yes	K28.5, CxPAT	K28.5, CxPAT	K28.5, CxPAT	K28.5	-
User-Defined Pattern (Optional)	Yes	Yes	Yes	Yes	Yes	Yes	-
Variable Data Rate (Optional)	Yes	Yes	Yes	Yes	Yes	Yes	-
Variable Output Amplitude(Optional)	Yes	Yes	Yes	Yes	Yes	Yes	-
Pre/De-emphasis(Optional)	No	No	Yes	Yes	No	Yes	-
Electrical Sensitivity (Max)	50	50	100	100	50	50	mV
Built-in Clock Recovery	Yes	Yes	Yes	Yes	Yes	Yes	-
Automatic Pattern Synchronization	Yes	Yes	Yes	Yes	Yes	Yes	-

PARAMETER	MIN	MAX	MIN	MAX	units
Chassis Electrical Voltage	100	240	100	240	VAC
Current Drain at Normal Voltage		1.4		2A	A
Operating Temperature Range	5	40	5	45	°C
Storage Temperature Range	-40	70	-40	70	°C
Dimensions (L X W X H)	273X216X45		300 x 240 x 64 12 x 9.5 x 2.5		mm^3 $inch^3$
Safety	UL, IEC-61010- 1		TBD		-
EMC	EN55011, EN61000-3-2, EN61000-3-3, BS EN61326		TBD		-
Electrical Connectors	50Ω SMA, front panel		50Ω SMA, front panel		-
Optical Connector	LC (SFP)		LC		-
RS 232 PC Interface	RJ-45 connector		USB/RJ-45		-

Standard Warranty: 2 years

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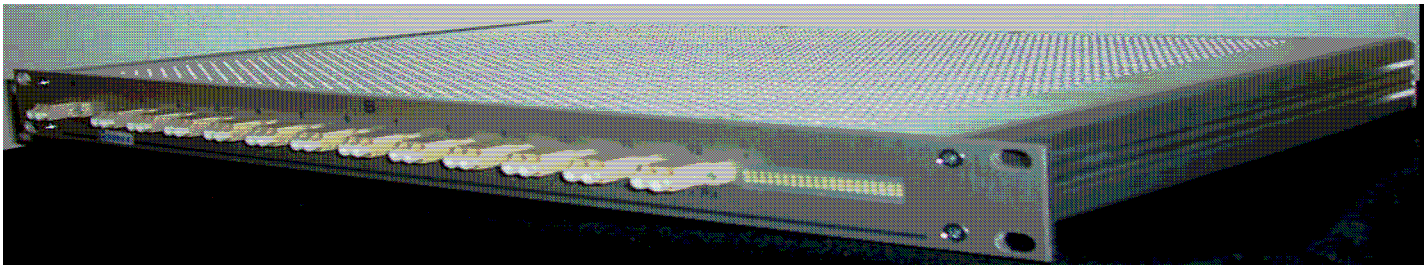
OPS-Series Optical Switch



The OPTELLENT OPS-Series Optical Switch is a cost-effective easy-to-use all-optical switch solution for demanding applications in fiber optic instrumentation and communication. The rack mountable instrument can switch up to 4 input fibers to any of up to 48 output fibers in a simplex or duplex mode, independently of data format, wavelength or optical power. The switch supports either single or multimode fibers. Optical connections are set by a MEMS-based switch network, where micro-machined silicon mirrors redirect light to the selected ports. The use of MEMS technology offers solid-state reliability and long-term stability. The OPS-Series Optical Switch can be controlled locally using RS232 interface or from anywhere over the internet using its standard Ethernet interface. An intuitive graphical user interface (GUI) enables easy point-and-click operation.

Model Number	Description
OPG 1250	1.25 Gb/s Data Generator
OPG 3200	3.2 Gb/s Data Generator
OPG 4250	4.25 Gb/s Data Generator
OPB 1250	1.25 Gb/s OptoBERT
OPB 3200	3.2 Gb/s OptoBERT
OPB 4250	4.25 Gb/s OptoBERT
OPB 5000	5 Gb/s OptoBERT
OPR 3200	3.2Gb/s Retimed Optical Receiver
OPG X110	10Gb/s Pattern Generator
OPB X110	10Gb/s OptoBERT
OPB 04X10	10Gb/s 4-channel BERT

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Protocol	Data Rate (Gbps)
Telecom	
OC-3	0.155
OC-12	0.622
OC-48	2.48832
OC-48 with FEC	2.66606
OC-192: STS-192 / STM-64	9.95328
G.709	10.709
Datacom, Storage & Video	
Fast Ethernet	0.125
Standard definition TV(SDTV-SDI)	0.27
Fibre Channel (1GFC)	1.0625
Gigabit Ethernet	1.25
High Definition TV(HDTV-SDI)	1.485
Serial-ATA	1.5
2 X Fibre Channel (2GFC)	2.125
Infiniband	2.5
Serial-ATA2	3
RapidIO	1.25-3.125
XAUI	3.125
4 X Fibre Channel (4GFC)	4.25
4 X Infiniband & 10GBASE-T	10
HDMI 1.3	10.2
10GBASE-R (LAN/PHY)	10.3125
10 X Fibre Channel (10GFC)	10.519
10GBASE-R OTU2 FEC	11.096
10GFC with FEC	11.317

Contact Optellent for your custom testing needs and for information about local distributors of Optellent's products in your area.