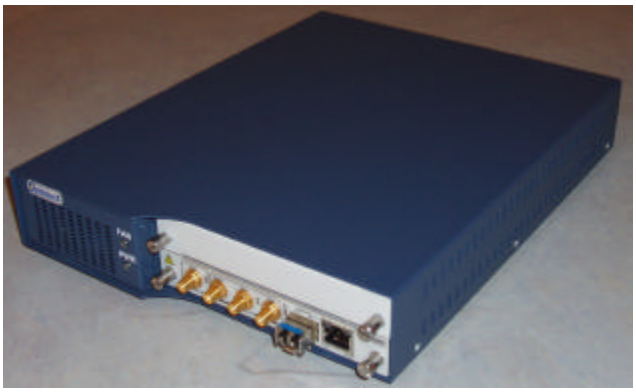
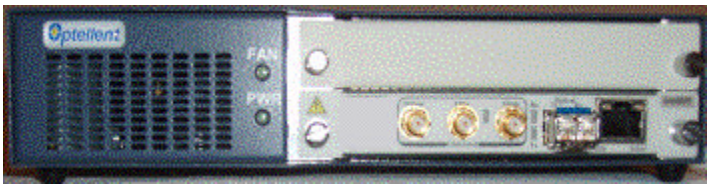
OPG1250

1.25 Gbps Electrical & Optical Data/Pattern Generator





Overview

The OPTELLENT OPG1250 is a cost-effective easy-to-use electrical and optical data pattern generator for testing components and systems in R&D and manufacturing environments as well as field installations. The OPG1250 incorporates an internal reference clock, a pseudo-random bit sequence (PRBS) source, and an RS-232 or USB interface in one compact module that provides both electrical and optical outputs at data rates up to 1.25 Gbps. Additionally, the OPG1250 is offered with multiple PRBS outputs, popular stress patterns, and user-defined patterns. The OPG1250 comes with a standard 2-year warranty.

An intuitive Graphical User Interface enables easy point-and-click operation. Software drivers are available for incorporating the OPG1250 into test automation suites using programs like LabVIEW, VisualBASIC, HP VEE.

Applications

- Testing of optical transceivers, transponders, linecards, and subsystems
- Testing of opto-electronic components and devices (TOSA, ROSA, lasers, etc…)
- Testing of Gb/s ICs, PCBs, electronic modules, subsystems, and systems
- Serial bus and high-speed backplane design
- Production and compliance testing (EMI, EMC)
- Installation testing and troubleshooting in optical transport networks

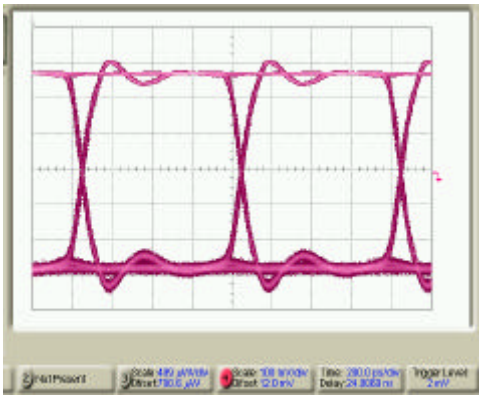
Key Features

- **Electrical and Optical Outputs**
- **Built-in Reference Clock**
- **Multiple PRBS Patterns: 2^7-1, 2^{23}-1**
- **Stress and User-defined Patterns**
- **Intuitive GUI and Automated Test Report**
- **Easy-to-Use, Compact and Cost-Efficient**
- **2-year Warranty**

Preset Data Rates

Standard Rates	Data Rate (Mbps)
Fast Ethernet	125
OC-3/STM-1	155.52
OC-12/STM-4	622.08
Fibre Channel	1062.5
Gigabit Ethernet	1250

Additional Preset Data Rates can be requested (See Ordering Info).



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Pattern Generator

Parameter	Min	Typ	Max	Units
Data Output (Electrical)				
Output Type	Single-Ended or Differential			
Output Format	NRZ			
Termination	AC-Coupled			
Data Patterns	• **PRBS:** 2^7-1, 2^{23}-1; 101010…pattern • **Pre-defined:** K28.5, CJPAT, (Optional) • **User-defined:** 128 bits to 500 bits (Optional)			
Data Rates	• **Preset**: Fast Ethernet (125 Mbps); 0C-3/ STM-1 (155.52 Mbps); 0C-12/ STM-4 (622.08 Mbps); Fibre Channel (1062.5 Mbps); Gigabit Ethernet (1250 Mbps) • **Custom Preset:** Special Data rates requested by customers (Optional)			
Data Rate Range	125		1250	Mbps
Frequency Accuracy			± 50	ppm
Output Amplitude (Single-ended) Fixed (Standard) High Output Version, Fixed (Option) Variable Output Amplitude (Option)	 500 1800 300		 800 1800	 mV_{p-p} mV_{p-p} mV_{p-p}
Data Rise/Fall Time, (20 – 80%) (1)		130	160	ps
Data Output RMS Jitter (1)		4.5	6	ps
Connector	50Ω Nominal, SMA Female			
Data Output (Optical)				
Interface	SFP housing provided as a standard feature MSA-Compliant SFP Transceiver (Optional)			
Wavelength	850nm, 1310nm, 1550nm, CWDM, DWDM			
Fiber Type	Multimode and Single Mode Fiber			
Optical Connector	LC			
Clock Output				
Output Type	Single-Ended			
Termination	AC- Coupled			
Output Amplitude (peak-to-peak, S.E.)	200			mV_{p-p}
Connector	50Ω Nominal, SMA Female			
Trigger Output				
Output Amplitude	400			mV_{p-p}
Output Type	Single-ended, AC-coupled			
Connector	50Ω SMA Female			

(1) Measurements based on PRBS2^{23}-1 data at 1250 Mbps

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System & General Specifications

PARAMETER	MIN	MAX	UNIT
Chassis Electrical Voltage	100	240	VAC
Current Drain at Normal Voltage		1.4	A
Operating Temperature Range	5	45	°C
Storage Temperature Range	-40	70	°C
Dimensions (L x W x H)	273x216x45 10.75x8.5x1.75		mm^3 $inch^3$
Optical Interface	Standard SFP housing		
Safety	UL, IEC-61010-1		
EMC	EN55011, EN61000-3-2, EN61000-3-3, BS EN61326		
PC Interface	RS232/USB		
Standard Warranty	2 years		

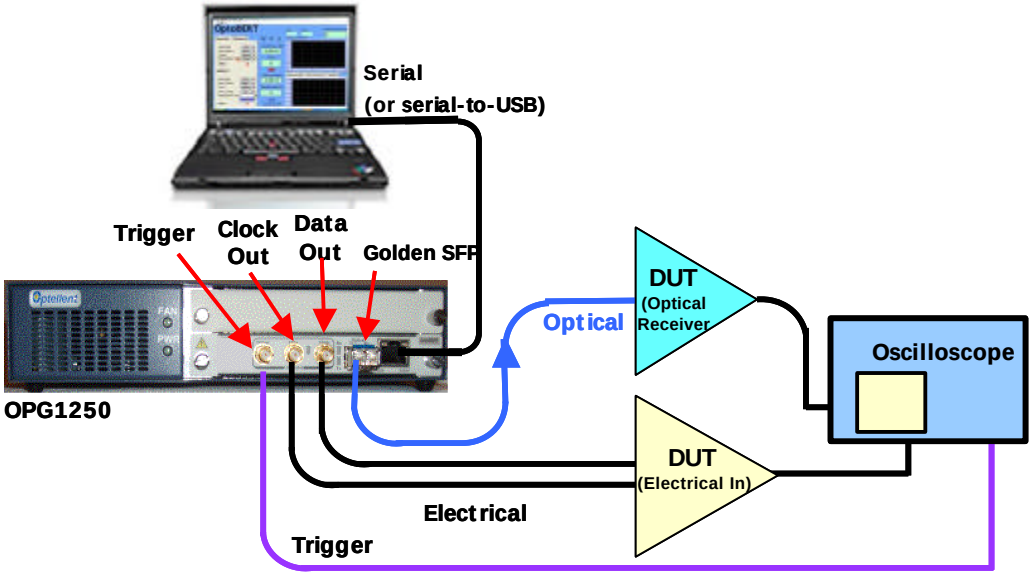
Software

The Optellent OPG1250 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.

Software drivers are available for incorporating the Data/Pattern generator into test automation suites using programs like C++, LabVIEW, VisualBASIC, and HP VEE.

Testing with the OPG1250

Example: Eye quality measurement setup of a DUT having electrical input (i.e., laser, IC, etc...) and a DUT having optical input (i.e., an optical receiver) using the OPG1250



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Ordering Information

OPG1250-X-X- X-X

- **A:** 1.8V (Single-ended) Electrical Output Amplitude, Fixed
- **B:** 1.8V (Single-ended) Electrical Output Amplitude, Variable
- **X**: other Custom Options

- **0**: No Optical Transceiver;
- **1**: Optical Transceiver (SFP) 850nm
- **2**: Optical Transceiver (SFP) 1310nm
- **3**: Optical Transceiver (SFP) 1550nm
- **4**: Optical Transceiver (SFP) DWDM with High-sensitivity APD Receiver

- **S**: Single-ended Electrical Output
- **D**: Differential Electrical Output

- **P:** Preset Standard Data Rates
- **C**: Custom Data Rates
- **V**: Variable Date Rates

Accessories Included
- User Software
- User Manual
- Power cord
- PC Interface cable

Example: OPG1250-P-S-0: 1.25G Data/Pattern Generator, Preset data rates, Single-ended Output, no transceiver

Accessories & Services for OPG1250

Part Number	Descritption
OPZ1015	Serial-to-USB Converter
OPZ2001	Additional 1 year Warranty
OPZ3011	Calibration Service

Related Products

Model Number	Descritption
OPB1250	1.25 Gb/s OptoBERT (Optical & Electrical BERT)
OPB3200	3.2 Gb/s OptoBERT (Optical & Electrical BERT)
OPG3200	3.2 Gb/s Data/Pattern Generator
OPB4250	4.25 Gb/s OptoBERT (Optical & Electrical BERT)
OPG4250	4.25 Gb/s Data/Pattern Generator
OPBX110	10 Gb/s OptoBERT (Optical & Electrical BERT)
OPGX110	10 Gb/s Data/Pattern Generator

Ordering Contact

For additional information or to order:
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