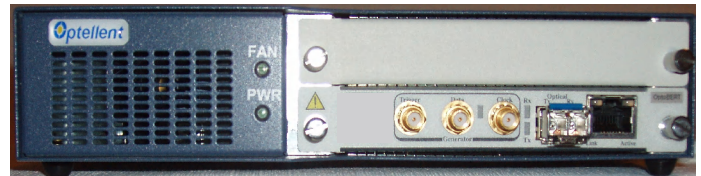


# OPG5000

## 5.0 Gbps Compact Data Generator System



### Overview

The OPTELLENT OPG5000 is a cost-effective easy-to-use electrical and optical data pattern generator for testing Fibre Channel (FC) devices, components, modules and systems in R&D and manufacturing environments. The OPG5000 supports Fibre Channel, Gigabit Ethernet, and Infiniband (2.5G/5G) data rates. The OPG5000 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 5 Gbps. Additionally, the OPG5000 is offered with multiple PRBS outputs, popular stress patterns, and user-defined patterns. The OPG5000 comes with a standard 2-year warranty.

An intuitive graphical user interface (GUI) enables simple point-and-click operation.

### 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, electronic modules, subsystems, and systems
- ▶ Serial bus design and high-speed backplane design
- ▶ Compliance testing (EMI, EMC)

### Key Features

- ▶ **Electrical and Optical Outputs**
- ▶ **Built-in Reference Clock**
- ▶ **Multiple PRBS Patterns:  $2^7-1$ ,  $2^{23}-1$ ,  $2^{31}-1$**
- ▶ **Stress Patterns: K28.5, CJPAT, CRPAT**
- ▶ **User-defined Patterns**
- ▶ **Intuitive GUI**
- ▶ **Automated Test Reports**
- ▶ **Easy-to-use, Compact and Cost-efficient**
- ▶ **2-year Warranty**

### Preset Data Rates

Fibre Channel	1.0625 Gb/s
Gigabit Ethernet	1.25 Gb/s
2 X Fibre Channel	2.125 Gb/s
Infiniband, PCIe	2.5 Gb/s
4 X Fibre Channel	4.25 Gb/s
Infiniband, PCIe	5 Gb/s

OC-3/12/48 Selection is available as an option (See Ordering Information).

## Pattern Generator Specifications

### Supported Patterns:

- PRBS 7, PRBS 23, PRBS 31
- NRZ 101010...
- Stress and User defined (Optional)

Generator Output				
Parameter	Min	Typ	Max	Units
Output type	Single-ended or Differential (Optional)			
Data rate	155.52		5000	Mb/s
Frequency accuracy			± 50	ppm
Output amplitude, single ended (1)	700	850	1200	mV
Data rise time (2)		70	85	ps
Data fall time (2)		70	85	ps
Data output RMS jitter (2)		3	5.5	ps
Clock output amplitude		300		mV
Connector, Electrical	50 Ω SMA, front panel			
Connector, Optical	LC (SFP)			

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

(1) Larger output signal amplitudes up to 1600mV are available as an option

(2) Measurements based on PRBS7 data at 4250 Mb/s

### Optical Output:

SFP housing is provided as a standard feature

SFP transceiver is optional

Wavelength options: 850nm, 1310nm, 1550nm

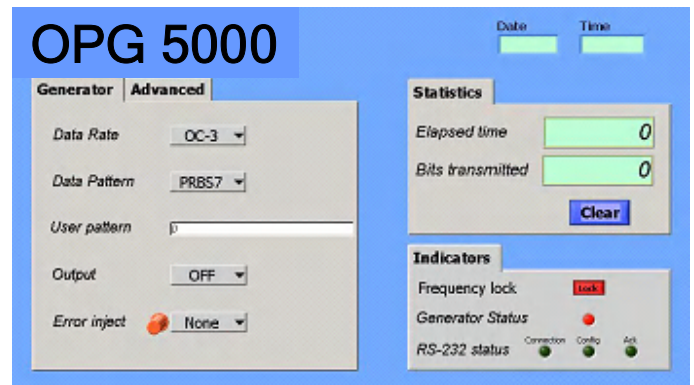
## System Specifications

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		mm <sup>3</sup>
	10.75x8.5x1.75		inch <sup>3</sup>
Safety	UL, IEC-61010-1		
EMC	EN55011, EN61000-3-2, EN61000-3-3, BS EN61326		
RS 232 PC Interface	RJ-45 connector		

## Software

The OPG5000 software runs on Windows 98/2000/NT 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 pattern generator into test automation suites using programs like C++, LabVIEW, VisualBASIC, and HP VEE.

### User Interface



## Ordering Information: OPG5000-X-X-X-X

**P:** Preset Data rates

**S:** OC3/12/48 SONET Rates

**C:** Custom Data Rate

**S:** Single-ended electrical output

**D:** Differential output

**X:** Custom Options

**0:** No optical interface;

**1:** Optical Interface (SFP) 850nm

**2:** Optical Interface (SFP) 1310nm

**3:** Optical Interface (SFP) 1550nm

**Example: OPG5000-P-S-0:** 5Gb/s Data Generator, Preset data rates, Single-ended electrical output, No optical interface