VPG-X110

11 Gbps Data Pattern Driver System

Overview

The OPTELLENT VPG-X110 is a cost-effective easy-to-use 11Gbps data pattern generator (PPG) for testing components such as MZ and EM lasers in R&D and manufacturing environments The VPG-X110 generates multiple PRBS patterns, popular stress patterns, and user-defined patterns using an internal clock source. An optional input for an external clock source is also available. The VPG-X110 provides large output amplitude (up to 3 V) and cross-point control for driving MZ/EM lasers directly. The large output amplitude also facilitates the use of splitters to generate multiple data streams for parallel testing applications such as QSFP and Active Optical Cables. The VPG-X110 comes with a standard 2-year warranty.

An intuitive Graphical User Interface enables easy point-and-click operation. The Optellent VPG-X110 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.
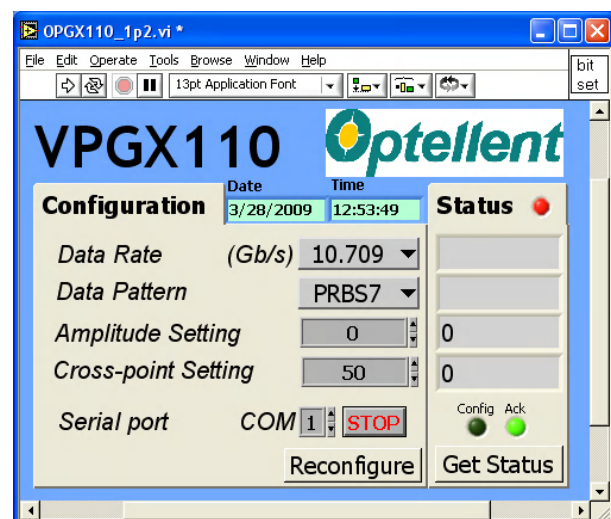
Applications

- Testing of optical transceivers, transponders, linecards, and subsystems

- Testing of opto-electronic components and devices (TOSA, lasers, etc…)

- Testing of Gb/s ICs, electronic modules, subsystems, and systems

- Serial bus design and high-speed backplane design

Key Features

- **Differential Data and Clock Outputs**

- **Multiple PRBS Patterns: 2^7-1, 2^{23}-1, 2^{31}-1**

- **Stress Patterns: K28.5, CJPAT, CRPAT (optional)**

- **User-defined pattern (optional)**

- **External Clock Input (optional)**

- **Intuitive GUI**

Software Interface

Specifications

Parameter	Min	Typ	Max	Units
Data Output				
Output Type	Differential			
Output Format	NRZ			
Termination	AC-Coupled			
Data Patterns	• **PRBS:** 2^7-1, 2^{23}-1, 2^{31}-1; 101010…pattern • **Pre-defined:** K28.5, CJPAT, CRPAT (Optional) • **User-defined:** 128 bits to 50000 bits (Optional)			
Output Amplitude (Single-ended)	900		3000	mV
Output crosspoint	40		60	%
Data Rise/Fall Time, (20 – 80%) [1]		35		ps
Data Output RMS Jitter [1]		1.8		ps
Clock Output				
Output Type	Differential			
Termination	AC- Coupled			
Output Amplitude (single-ended)		200		mV$_{p-p}$
Reference Clock Input (Optional)				
Termination	Differential, AC-coupled			
Clock input amplitude (Single-ended)		300	500	mV
Frequency Range	620		715	MHz
Trigger Output				
Output Amplitude	300			mV$_{p-p}$
Output Type	Single-ended, AC-coupled			
Electrical connectors	50Ω SMA Female			

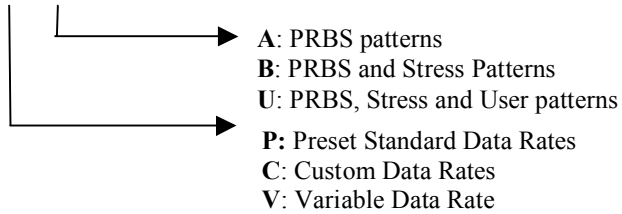[1] Measurements based on PRBS2^{23}-1 data at 9.95328 Gbps (OC-192)

System & General Specifications

PARAMETER	MIN	MAX	UNIT
Chassis Electrical Voltage	100	240	VAC
Current Drain at Normal Voltage		2.5	A
Operating Temperature Range	5	45	^{o}C
Storage Temperature Range	-40	70	^{o}C
Dimensions (L x W x H)	300 x 240 x 64		mm^3
	12 x 9.5 x 2.5		inch^3
PC Interface	RS-232		
Standard Warranty	2 years		

Ordering Information

VPGX110-X-X

A: PRBS patterns
B: PRBS and Stress Patterns
U: PRBS, Stress and User patterns

P: Preset Standard Data Rates
C: Custom Data Rates
V: Variable Data Rate

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

Accessories & Services for VPGX110

Part Number	Descritption
OPZ1015	Serial-to-USB Converter
OPZ1201	Carrying Bracket
OPZ1202	Mounting Brackets
OPZ2015	Additional 1 year Warranty
OPZ3015	Calibration Service