

# Breakthrough Functionality in Fiber Optic Testing



## OPTICAL VECTOR ANALYZER (Model OVA™ CTe/STe)

### KEY FEATURES AND PRODUCT HIGHLIGHTS

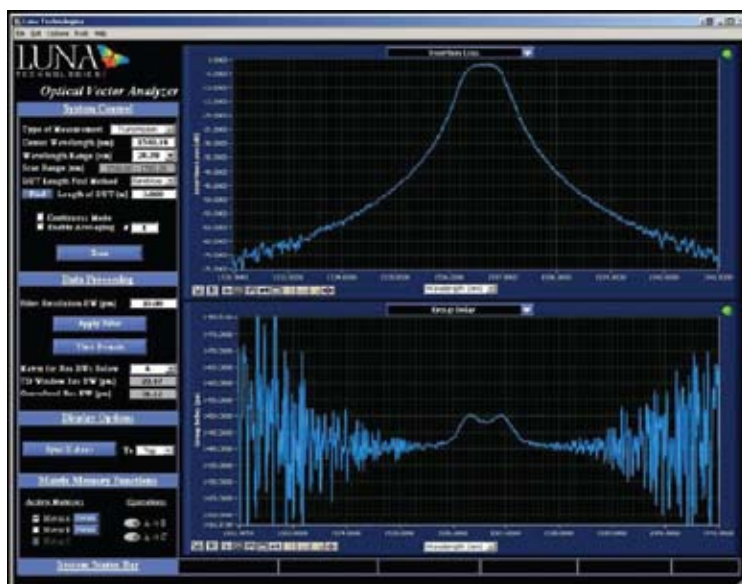
- All-parameter analysis
- Total system integration
- High resolution C and L band capability
- Real-time measurements
- Integrated and user-friendly interface
- Time domain viewing
- Complete polarization response

**The OVA™** is the fastest, most accurate and economical tool for loss, dispersion and polarization measurements of modern optical networking equipment. It is the ideal tool for single connection, all-parameter characterization of fiber components from couplers to specialty fiber and everything in between (fiber Bragg gratings, arrayed waveguide gratings, free-space filters, tunable devices, amplifiers, etc.), all with the single sweep of a tunable laser.

Luna's patented characterization technique allows direct measurement of a passive device's linear transfer function allowing the OVA instant access to:

- Insertion Loss (IL)
- Polarization Dependent Loss (PDL)
- Polarization Mode Dispersion (PMD) and 2nd order PMD
- Chromatic Dispersion (CD)
- Group Delay (GD)
- Optical Time Domain Response
- Jones Matrix Elements
- Optical Phase Response

With the OVA™, development cost, production cost, and time to market for DWDM components can be reduced by up to 60%.



### Distribution in the UK



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The leading supplier of scientific and industrial lasers, optical systems and associated accessories, fibre optic components and instrumentation, and machine vision products.

PARAMETER	FAST MODE*		AVERAGING MODE		UNITS
	Option	CTe	STe	CTe	
<b>Wavelength range:</b>		1265 -1335 or 1525-1605			nm
<b>Wavelength:</b>					
Standard Resolution		3.2		3.2	pm
High Resolution		1.6		1.6	pm
Accuracy <sup>1</sup>		± 1.5		± 1.5	pm
Repeatability		± 0.1		± 0.1	pm
<b>Optical phase error</b>		± 0.05		± 0.0075	radians
<b>Loss characteristics:</b>					
Dynamic range <sup>2</sup>		60		90	dB
Ripple		± 0.05		± 0.01	dB
Resolution		± 0.05		± 0.002	dB
Insertion Loss Accuracy <sup>3</sup>		± 0.1		± 0.05	dB
Return Loss Accuracy <sup>3</sup>		± 0.2		± 0.1	dB
<b>Chromatic dispersion:</b>					
Accuracy <sup>3</sup>		± 15		± 4      ± 5	ps/nm
<b>Group delay:</b>					
Range <sup>4</sup>		3 or 6		3 or 6	ns
Accuracy <sup>3</sup>		± 0.2      ± 0.5		± 0.05      ± 0.1	ps
Loss range <sup>2</sup>		40		60	dB
<b>PMD:</b>					
Range <sup>4</sup>		3 or 6		3 or 6	ns
Accuracy <sup>3</sup> – 1st Order		± 0.03(100pm steps) ± 0.15 (30pm steps)		± 0.06CTe ±0.08STe	ps
Accuracy <sup>3</sup> – 2nd Order		± 10		± 2	ps <sup>2</sup>
Loss range <sup>2</sup>		35		50	dB
<b>PDL:</b>					
Extinction ratio		40		50	dB
Accuracy <sup>3</sup>		± 0.05		± 0.03	dB
<b>Measurement Timing:</b>					
Laser sweep rate		70      35		70      35	nm/s
All-parameter measurement rate <sup>5</sup>		55      100		55      100	ms/nm
Fully specified measurement time <sup>6</sup>		12      20		12      20	s
Real-time mode update rate <sup>7</sup>		4      3		NA      NA	Hz
<b>Maximum device length (including leads)</b>		30      70		30      70	meters

- 1 Accuracy maintained by an internal NIST-traceable HCN gas cell.
  - 2 90, 60 and 50 dB dynamic ranges in 'Averaging Mode' for IL, GD and PMD are with the "High Dynamic Range Averaging" option installed and enabled.
  - 3 Fast Mode: no averaged calibration scans, 4 averaged measurement scans, 30 pm resolution bandwidth, 8 m device length (accuracies verified using NIST certified artifacts except for IL). High dynamic range option enabled. Averaging Mode: 4 averaged calibration scans, 64 averaged measurement scans, 30 pm resolution bandwidth, 8 m device length (accuracies verified using NIST certified artifacts except for IL). High dynamic range option enabled.
  - 4 Specifies the total device impulse-response duration that may be captured.
  - 5 Combined laser sweep and analysis time per scan.
  - 6 Measurement with full specification (see note 2) over Fast Mode: 40 nm range, and Averaging Mode: 2.5 nm range. Excludes calibration time.
  - 7 For 2 nm scan range.
  - 8 Combined scan and analysis time in high-resolution mode.
- \*results are typical