

Optical Parameter Oscillator System – StratoLase SSOPO Series

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Tunable Lasers

Femtosecond Laser

WDM Laser Sources

Benchtop Laser Sources

HeNe Lasers

ASE Sources

Terahertz

Electro-Optic Modulators



INVISIBLE LASER RADIATION
 AVOID EXPOSURE TO BEAM
 CLASS 3B LASER PRODUCT
 1-6µm <500mw
 IEC 60825-1 EDITION 1.2 2001-08



Applications

- “IR-HeNe” for Optical Component Alignment and Testing
- Low-Cost Test and Measurement
 - IR Optical Element Characterization
 - Waveguide Characterization
 - CCD Array Testing
- Low-Cost Access from 2400-7150cm⁻¹

Features

- Turnkey, Wavelength-Selectable IR Lasers
- Two Models With Wavelengths of 1400-4150nm
- Simple User Interface
- Typical Output Power:
 - Signal: 20 to 40mW
 - Idler: 10 to 20mW
- Signal Wavelength Selection in 1nm Increments
- Pulse Length: ~10ns
- Repetition Rate: ~2kHz
- User-Selectable Filters to Switch Between Signal, Idler, and Unfiltered OPO Output

Introduction

Thorlabs has partnered with Stratophase to introduce a new family of selectable wavelength mid-infrared lasers, specifically designed for lab-based alignment and test applications. The SSOPO optical parametric oscillators rely on Stratophase’s Periodically Poled Lithium Niobate (PPLN) Technology, allowing a wide range of wavelengths to be achieved easily.

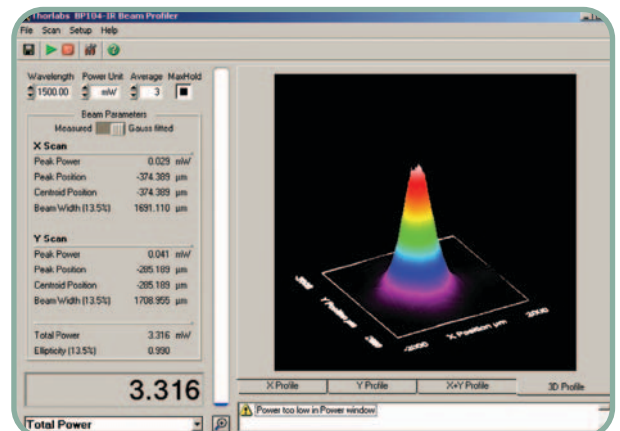
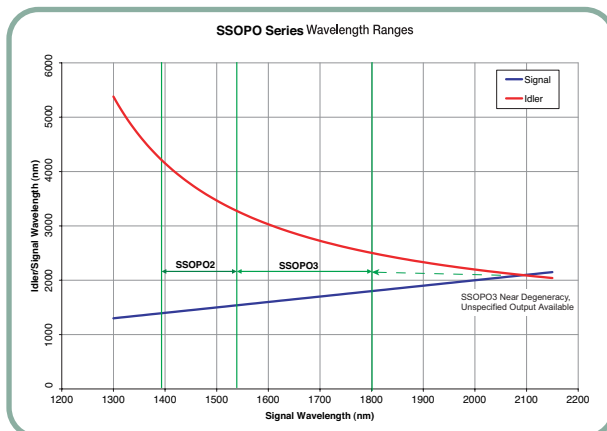
The StratoLase sources allow users to select the desired operating wavelength using simple controls located on the front panel of the system control enclosure. The system then automatically tunes the phase-matching conditions of the OPO to give the desired output.

This series offers the user turnkey access to an impressively wide range of wavelengths, making them an invaluable multipurpose tool for any lab-based IR alignment or test activities.

Two versions are available: the SSOPO2 (with a wavelength range of 1400-1545nm) and the SSOPO3 (with a wavelength range of 1540-1780nm). As an unspecified extra, the SSOPO3 allows access to wavelengths past 1780nm with up to a 2µm range. Both systems can also be configured to allow access to the pump laser at 1047nm bypassing the nonlinear conversion in the PPLN crystal (optional P1047).

Operation

- OPO System, including pump laser, starts automatically upon turn of a key. Stand-alone system, no additional PC control required.
- User can select either signal or idler wavelength on control panel. Both output wavelengths are intrinsically linked through energy conservation with the pump wavelength.
- Controller calculates and sets automatically required temperature and grating settings. Output can only be enabled after phase matching conditions are achieved for selected wavelength pair.
- User-operated filter selector allows access to signal or idler or the unfiltered OPO output (signal, idler, depleted pump).



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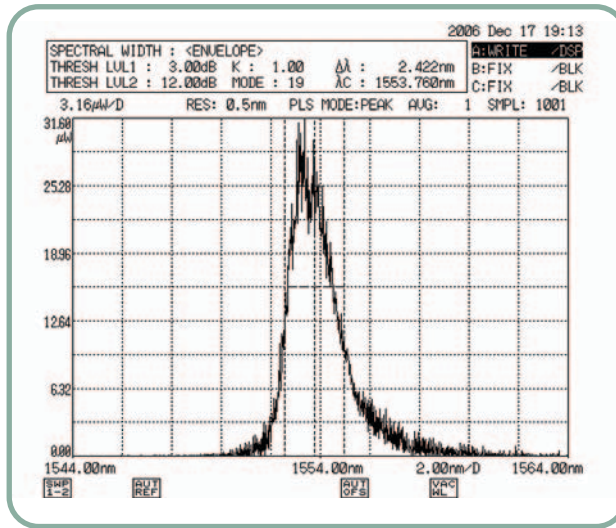
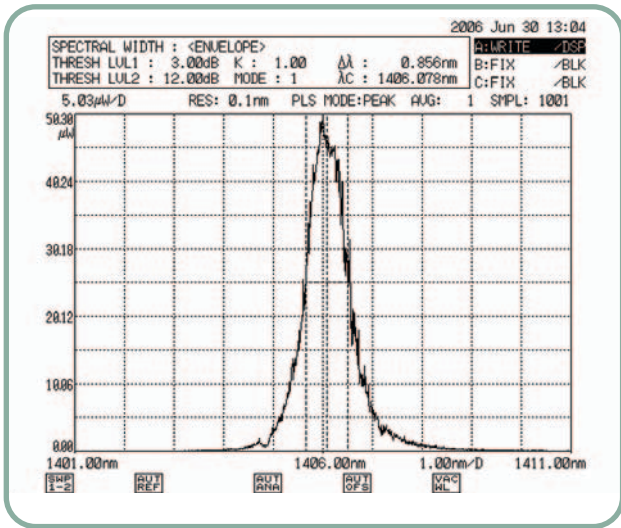
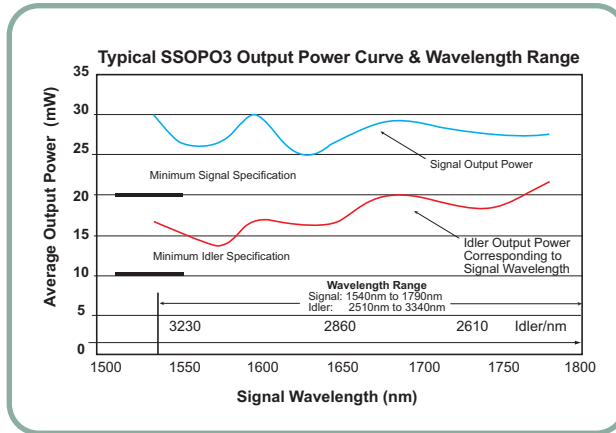
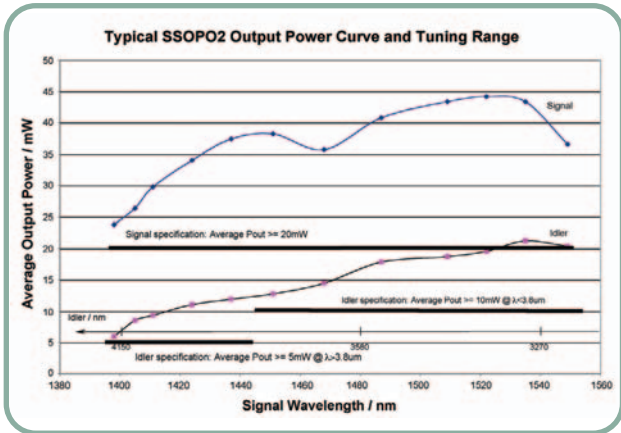
Benchtop Laser Sources

HeNe Lasers

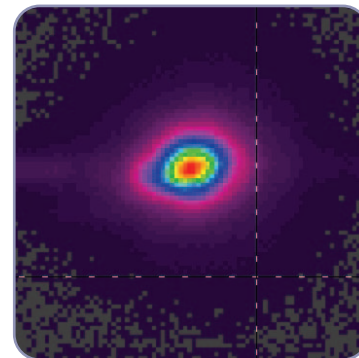
ASE Sources

Terahertz

Electro-Optic Modulators



SSOPO Specifications	SSOPO2	SSOPO3
Signal Wavelength Range	~1400-1545nm	~1540-1780nm
Signal Power	20mW	20mW
Idler Wavelength Range	~3250-4150nm	~2540-3270nm
Idler Power (Typical)	10mW (Except 5mW for λ > 3.8μm)	10mW
Repetition Rate	2kHz	2kHz
Pulse Width (Typical)	10ns	10ns
Signal Spectral Width (FWHM, Typical)	SSOPO2: ~2nm (@1400nm) to ~3nm (@1530nm) SSOPO3: ~3nm (@1550nm) to ~8nm (@1730nm)	
Signal Beam Quality	$M^2 < 3$	$M^2 < 3$
Signal Beam Diameter @ Output (1/e ²)	~1.2mm	~1.2mm
Signal Beam Divergence Full Angle (1/e ²)	~4mrad	~4mrad



2D Beam Profile Idler @ 3.21μm

ITEM#	\$	£	€	RMB	λ (μm) SIGNAL/IDLER	POWER (mW) SIGNAL/IDLER	DESCRIPTION
SSOPO2	\$ 19,000.00	£ 11,970.00	€ 17,670.00	¥ 181,450.00	1.40-1.54/3.25-4.15	20/5-10	Selectable Wavelength OPO System
SSOPO3	\$ 19,000.00	£ 11,970.00	€ 17,670.00	¥ 181,450.00	1.54-1.78/2.54-3.27	20/10	Selectable Wavelength OPO System
P1047	\$ 1,500.00	£ 945.00	€ 1,395.00	¥ 14,325.00	1.047	130	Add-on: Pump Access