



The Power of Precision



The 721B-MIR Laser Spectrum Analyzer is for researchers who need to know the spectral characteristics of their lasers that operate at mid-infrared wavelengths. The model 721B-MIR provides this information for both CW and high-repetition rate pulsed lasers.

The model 721B-MIR uses proven Michelson interferometer-based technology with advanced digital processing for accurate measurement of absolute laser wavelength and high resolution laser spectral analysis. As with all products from Bristol Instruments, every measurement is guaranteed by continuous calibration with a built-in wavelength standard. The result is the reliable accuracy required for the most demanding applications.

FEATURES

Wavelength measurement and spectral analysis with one instrument.

Absolute wavelength accuracy of ± 1 part per million.

Spectral resolution as high as 2 GHz

Operation over the entire range of 4.0 to 11.0 μm.

Continuous calibration with a built-in wavelength standard.

Operation with CW and high-repetition rate pulsed lasers.

Visible tracer beam facilitates alignment.

Straightforward operation with PC using high-speed USB interface.

721B-MIR LASER SPECTRUM ANALYZER

The only spectral characterization of CW and pulsed MID-IR lasers available.

SPECIFICATIONS

LASER TYPE ¹	CW and Pulsed (pulse width >50 ns, repetition rate >50 kHz)
WAVELENGTH	
Range ²	4.0 - 6.3 μm and 5.7 - 11.0 μm
Absolute Accuracy ^{3,4}	± 1.0 part per million ± 0.006 nm @ 6250 nm ± 0.002 cm ⁻¹ @ 1600 cm ⁻¹ ± 0.05 GHz @ 48,000 GHz
Spectral Resolution ⁵	4 GHz (standard) 2 GHz (high)
Calibration	Continuous with built-in standard HeNe laser
Display Resolution	8 digits
Units	nm or cm ⁻¹ (vacuum or standard air), GHz
SIGNAL-TO-NOISE RATIO ⁶	> 30 dB (CW, 10 GHz FWHM, 10 X minimum input power)
MINIMUM INPUT POWER ⁷	50 μW
MEASUREMENT RATE/TIME ⁸	0.5 Hz (Wavelength Meter Mode) 2 - 5 s (Spectrum Analyzer Mode)
OPTICAL INPUT	Collimated beam, 3 mm diameter aperture Visible tracer beam exits aperture to facilitate alignment
COMPUTER REQUIREMENTS	PC running Windows Vista or XP with 1 GHz or higher microprocessor, at least 1 GB of RAM, USB 1.1/2.0 port, monitor (resolution 1200x800 or greater), mouse or other pointing device
INSTRUMENT INTERFACE	High-speed USB 2.0 interface Windows-based WAVELENGTH METER display program Windows-based SPECTRUM ANALYZER display program Library of commands for custom/LabVIEW programming
DIMENSIONS AND WEIGHT	6.5" W x 7.5" H x 15.0" L (165 mm x 191 mm x 381 mm) 14 lbs (6.4 kg)
POWER REQUIREMENTS	90 to 264 VAC, 47 to 63 Hz, 310 VA max

- (1) Averaging may enable operation with lasers that have lower repetition rates and/or shorter pulse widths, but with reduced signal-to-noise ratio. Contact Bristol for details.
- (2) For operation at shorter wavelengths, see 721 Series data sheet.
- (3) Wavelength Meter Mode: For laser spectral bandwidth less than 10 GHz (FWHM). When bandwidth is greater, wavelength accuracy is reduced.
- (4) Spectrum Analyzer Mode: Wavelength axis is calibrated to ± 1 part per million.
- (5) Signal-to-noise ratio is reduced for High Resolution mode.
- (6) Pulsed lasers, lasers with larger bandwidth, and/or lasers providing lower input power may have reduced signal-to-noise ratio.
- (7) Sensitivity at other wavelengths can be determined from a graph that is available upon request.
- (8) Measurement time for spectrum analyzer mode depends on wavelength range measured and displayed.



Bristol Instruments reserves the right to change the detail specifications as may be required to permit improvements in the design of its products. Specifications are subject to change without notice.

Call: (585) 924-2620 for more information or visit our website at : www.bristol-inst.com