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Data Sheet

August 2, 2026

BURLEIGH

Burleigh SA-91 Interferometer

Mirror Wavelength Coverage: approximately 450 nm to 1.8 μm (interchangeable mirror sets)
Companion Instrument: RG-91 ramp generator Analysis Type: Laser spectrum / linewidth interferometry Operate with appropriate mirror set installed for the laser wavelength under test. Thermal and vibration isolation improve measurement stability given Invar-based mechanical design. Coordinate scan ramp amplitude and rate with RG-91 settings per Burleigh application notes. Companion Instrument: RG-91 ramp generator Analysis Type: Laser spectrum / linewidth interferometry Operate with appropriate mirror set installed for the laser wavelength under test. Thermal and vibration isolation improve measurement stability given Invar-based mechanical design. Coordinate scan ramp amplitude and rate with RG-91 settings per Burleigh application notes. Confirm FSR (2 GHz vs 8 GHz) and mirror set wavelength band before measurement—configurations are not interchangeable without hardware change. SA-91 requires external ramp drive (RG-91) for scanning operation; it is not a standalone automated spectrum analyzer. Alias SA91 (hyphenless) appears in legacy inventory systems.



MODEL

Burleigh SA-91

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

SA-91

LISTING

<https://aumictechlabs.com/products/sa-91-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Burleigh SA-91 is a high-finesse Fabry-Perot interferometer for precision spectral characterization of narrow-band lasers and optical sources. Built on confocal mirror geometry with thermally stable Invar construction, it delivers high spectral resolution across the visible

through near-infrared spectrum. The instrument measures optical path differences, coherence length, laser linewidth, longitudinal mode structure, and frequency stability with exceptional accuracy.

Technical Specifications

Cavity Design: Confocal mirror geometry

Free Spectral Range: 2 GHz or 8 GHz

Finesse: >200 for wavelengths 300 for wavelengths ≥ 1000 nm

Minimum Resolvable Bandwidth: FSR/Finesse

Wavelength Range: 450 nm to 1.8 μm (interchangeable mirror sets); UltraBand™ coverage exceeds 250 nm per set

Mirror Reflectivity: 99.7% nominal

Transmission: >10%

Input Aperture: 1 mm

PZT Scan Distance: 1.2 $\mu\text{m}/1000$ V

PZT Non-Linearity: <1%

Scan Non-Linearity: <0.1% (with RG-91 electronic compensation)

Construction: Thermally stable Invar

Key Features

Interchangeable mirror sets span 450 nm to 1.8 μm without requiring instrument redesign

UltraBand™ wavelength coverage reduces number of mirror set changes needed during multi-wavelength experiments

High finesse enables sub-nanometer resolution

Four-axis alignment mount (SA-900) supports precise cavity positioning

Integrated PZT scanning with low non-linearity and electronic linearization

Typical Applications

Laser linewidth measurement

Longitudinal mode structure analysis

Frequency stability measurements

Wavelength calibration

Fiber dispersion analysis

Optical path difference measurements

Surface measurements

Compatibility & Integration

The SA-91 operates within a modular system: the RG-91 Ramp Generator supplies piezoelectric scanning voltage with adjustable range, zero offset, and rate, plus non-linearity correction. The DA-100 Detector/Amplifier provides 0.1 V/mW to 1 V/ μW sensitivity, 0.3–100 kHz bandwidth, and minimum detectable power of 1 nW (silicon, 633 nm) or 2 nW (germanium, 1.5 μm).

Features & description

From manufacturer datasheet

Features

- Confocal Fabry-Perot interferometer design
- Invar construction for thermal stability
- Free spectral range (FSR): 2 GHz or 8 GHz configurations
- Finesse: greater than 200 (450 nm–1000 nm class) or greater than 300 (>1000 nm class)
- Interchangeable mirror sets covering approximately 450 nm to 1.8 μm
- Used with RG-91 ramp generator for scanning operation
- High-resolution laser spectrum analysis

91 Characteristics / Specifications

PARAMETER	VALUE
Model	SA-91
Manufacturer	Burleigh (EXFO/Burleigh heritage)
Instrument Type	Confocal Fabry-Perot Laser Spectrum Analyzer
Construction	Invar
Free Spectral Range (FSR)	2 GHz or 8 GHz (configuration dependent)
Finesse	greater than 200 (450 nm–1000 nm class) or greater than 300 (>1000 nm class)
Mirror Wavelength Coverage	approximately 450 nm to 1.8 μ m (interchangeable mirror sets)
Companion Instrument	RG-91 ramp generator
Analysis Type	Laser spectrum / linewidth interferometry Standard Operating Conditions Operate with appropriate mirror set installed for the laser wavelength under test. Thermal and vibration isolation improve measurement stability given Invar-based mechanical design. Coordinate scan ramp amplitude and rate with RG-91 settings per Burleigh application notes.
Confirm FSR (2 GHz vs 8 GHz) and mirror set wavelength band before measurement	configurations are not interchangeable without hardware change. SA-91 requires external ramp drive (RG-91) for scanning operation; it is not a standalone automated spectrum analyzer. Alias SA91 (hyphenless) appears in legacy inventory systems.
Linewidth	and mode structure when driven with the RG-91 ramp generator.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications

Specifications

PARAMETER	VALUE
Model	SA-91
Manufacturer	Burleigh (EXFO/Burleigh heritage)
Instrument Type	Confocal Fabry-Perot Laser Spectrum Analyzer
Construction	Invar
Free Spectral Range (FSR)	2 GHz or 8 GHz (configuration dependent)
Finesse	>200 (<1000 nm class) or >300 (>1000 nm class)
Mirror Wavelength Coverage	approximately 450 nm to 1.8 μm (interchangeable mirror sets)
Companion Instrument	RG-91 ramp generator
Analysis Type	Laser spectrum / linewidth interferometry

Standard Operating Conditions

Operate with appropriate mirror set installed for the laser wavelength under test. Thermal and vibration isolation improve measurement stability given Invar-based mechanical design. Coordinate scan ramp amplitude and rate with RG-91 settings per Burleigh application notes.

Operational Notes

Confirm FSR (2 GHz vs 8 GHz) and mirror set wavelength band before measurement-configurations are not interchangeable without hardware change. SA-91 requires external ramp drive (RG-91) for scanning operation; it is not a standalone automated spectrum analyzer. Alias SA91 (hyphenless) appears in legacy inventory systems.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.