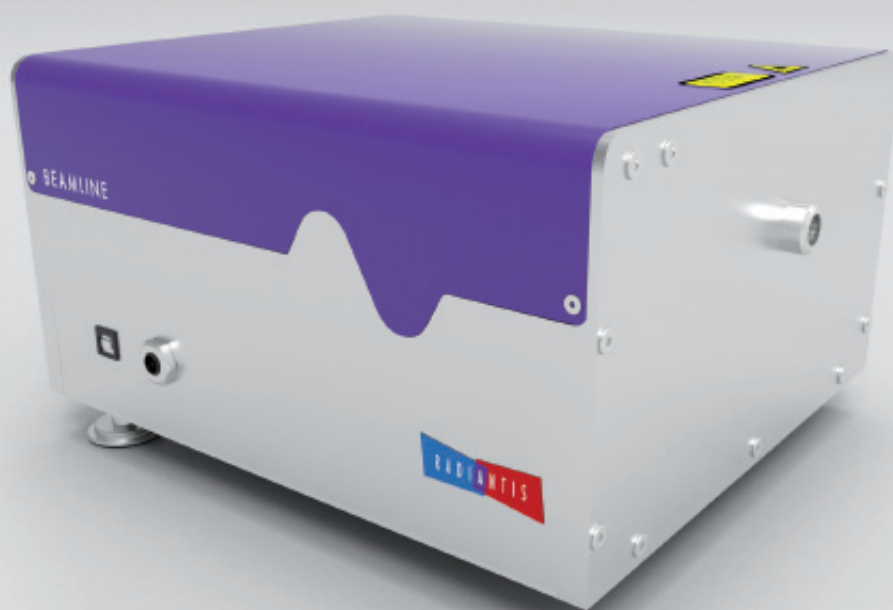


BeamLine

Compact Fully-Integrated Laser Beam Stabiliser



Key Features

- Single enclosure unit with 4 axis control (X , Y , θ_x , θ_y)
- Large capture range (up to 2 degrees) and input beam diameter (up to 10 mm)
- Fully-automated computer-controlled tuning and self-calibration
- Drop-in installation without off-set of the beam on existing optical set-ups
- Simplicity of use via user-friendly software interface
- Compatible with CW and pulsed lasers, including ultrashort pulse lasers
- Broad spectral coverage across 350 – 1100 nm or 900 – 1600 nm
- Fully-automated computer-controlled stabilisation

Applications

- Multi-photon excitation (MPE) microscopy
- Multiple-wavelength pump-probe experiments
- Coherent anti-stokes Raman spectroscopy (CARS)
- OPO Pumping
- Micromachining

BeamLine is a compact and fully-integrated laser beam stabilizer. It can be placed into an optical path to actively lock the position of the beam. Beam misalignments typically caused by thermal drifts of the optical components, lasers or optical tables or by wavelength-dependent beam shifts of tunable laser sources, can be corrected with BeamLine.

Installation is straightforward and only requires precise positioning of the enclosure into the optical beam. This fully-integrated system includes all optics and electronics in a single enclosure, eliminating the need of alignment or manipulation of single components during installation. Moreover, when positioned into an existing optical set-up, BeamLine does not introduce an off-set to the beam, hence avoiding the need to realign or reconfigure.

BeamLine has been designed for versatile usability and can be fully-controlled via a friendly and simple software user interface.

This is a instrument, compatible with a broad range of laser wavelengths (350 – 1100 nm or 900 – 1600 nm), beam heights (any

height >93 mm without need for periscope), beam diameters (up to 10 mm) and capture ranges (up to 2 degrees), always ensuring the high level of performance. Minimal transmission losses and dispersion are introduced by this unit which makes it compatible with any CW or pulsed laser, especially with ultrashort pulse laser systems of any repetition rate.

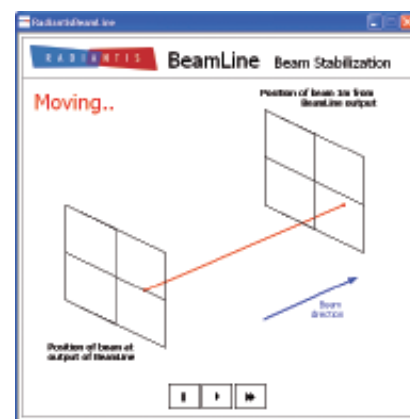
BeamLine is a tool for non-linear microscopy applications such as multi-photon microscopy, coherent anti-stokes Raman spectroscopy (CARS), pump-probe spectroscopy and micromachining where precise control of the beam position is required. It can also enhance the beam pointing with wavelength of commercial tunable laser sources such as mode-locked Ti:sapphire lasers and also optical parametric oscillators (OPOs) and harmonic generators.

Specifications¹

Characteristics	BeamLine
Entrance aperture size	10 mm (always captures within this range)
Angular capture range	2 degrees (35 mrad)
Pointing accuracy	<20 microradians
Position accuracy	<50 microns at 1 m from output
Spectral coverage	350 – 1100 nm or 900 – 1600 nm
Repetition rate	Any (CW and pulsed)
Transmission loss	<3%
Beam height range	Any height > 93 mm without need for periscope
Input polarization	Options: Horizontal or Vertical
Output polarization	Horizontal (>100:1)
Size (W x L x H)	231 x 264 x 138 mm (9.09 x 10.39 x 5.4 inch)

Notes:
¹ Specifications are subject to change without notice

Beam Stabilization



BeamLine Dimensions

Dimensions in mm

