Shamrock 500i and 750

Research grade modular high resolution spectrographs

The Shamrock 500i and 750 imaging spectrographs are research-grade, high performance, motorized and rugged platforms designed for working with demanding low-light applications, but equally suited to routine measurements.

More information at
andor.com/learning

Accessory Tree
Please refer to p37

Application Note
'Spectral characterization of quantum light from an engineered Type-II sum-frequency generation process'

Resolution Calculator
andor.com/calculators

Versatility

The Shamrock series offers a choice of high resolution, highly modular multi-input and output platforms with a wide range of field-upgradable accessories, including indexed triple grating turrets, motorized slits and filter wheels, shutters, multi-way (multi-track) fiber optics, IR single point detectors, scanning accessories and microscope coupling interfaces.

The right resolution for your experiment

With focal lengths of 500 and 750 mm, researchers have access to a wide range of spectral resolution performance, down to 0.02 nm for plasma spectroscopy or up to a few nanometers for broadband luminescence / photoluminescence spectroscopy. Each Shamrock comes with a choice of three software-selectable gratings (or flat mirror) that offers maximum flexibility with both broadband and high resolution options available.

Key Applications

- Absorption - Transmission - Reflection (UV-NIR and SWIR)
- Raman (244, 532, 785, 833 and 1064 nm)
- Fluorescence - Luminescence (UV-NIR and SWIR)
- Micro-Raman and Micro-fluorescence
- Photon counting
- Single molecule spectroscopy
- Plasma studies

Features	Benefits
Pre-aligned, pre-calibrated detector and spectrograph systems	Motorized, individually factory-calibrated systems – "out-of-the-box" operation and seamless integration to experimental set-ups
Image astigmatism correction with toroidal optics (500i)	Maximum light throughput with multitrack capabilities
USB 2.0 interface	Plug and play connectivity, ideal for laptop operation alongside multi-USB camera control
Triple exchangeable grating turret	Precision kinematic mount for precise in-field upgrade
Double detector outputs	For extended wavelength coverage when combining Andor UV-VIS-NIR CCD and InGaAs cameras
Wide range of accessories available	The ultimate in modular set-up and in-field upgradability, including: - Motorized slits and filter wheel - Microscope interfaces - Shutters - Fiber-optic and lens couplers - Multi-way fiber-optic bundles - Light sources and optics
Monochromator capabilities	Extract best optical resolution while allowing use of single point detectors with sensitivity up to 12 µm
Gold and silver optics coating options	Most efficient for NIR detection when used in conjunction with Andor InGaAs cameras and single point detectors

Spectrograph Specifications Comparison*	Kymera 328i	500i	750
Aperture ratio (F/#)	F/4.1	F/6.5	F/9.8
Focal length (mm)	328	500	750
Wavelength Resolution (nm)	0.1 -> 0.7**	0.06	0.04
Band pass (nm)	61	40	28
Multi-track capability	Y	Y	Y

* Nominal values using 1200 l/mm grating, 13.5 µm pixel and 27.6 mm wide sensor, 500 nm central wavelength.
** With TruRes™ option