

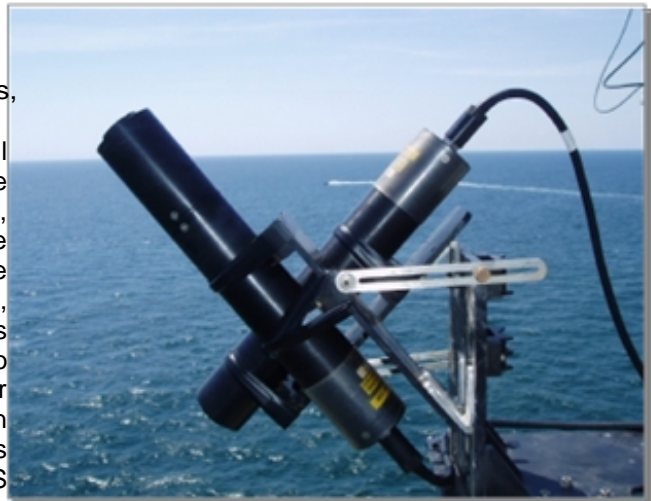


HYPERSPECTRAL SURFACE ACQUISITION SYSTEM (HYPERNAS)

The HyperNAS optical remote sensing system provides high precision hyperspectral measurements of water-leaving spectral radiance and downwelling spectral irradiance. The 136-channel HyperOCR radiance and irradiance sensors are mounted above the sea (or land) surface in an aircraft or onboard a ship for simultaneous viewing of the sea surface and sky. Added features of the HyperNAS include internal shutters for accurate dark corrections and fully characterized cosine response for accurate, high quality data.

In addition, an optional GPS unit and Satlantic tilt and heading sensor can provide precision orientation, geo-referencing and accurate time stamping of the optical data. A radiation pyrometer can be added for land or sea surface temperature measurements.

The HyperNAS provides continuous monitoring of ocean colour along the ship's track, on towers or other platforms for time series observations, or on aircrafts for airborne remote sensing analyses. The spectral water-leaving radiance and remote sensing reflectance data obtained from HyperNAS are used to derive the concentrations of sea-water constituents, including dissolved organic matter, suspended sediments, and chlorophyll concentration in the surface layer. Since chlorophyll is an indicator of algal biomass, this information is used to estimate phytoplankton abundance and marine productivity, to detect phytoplankton blooms, and to monitor organic pollution through its influence on blooms. The HyperNAS also provides valuable surface truth for calibration and validation of satellite ocean colour products. If surface water samples are obtained simultaneously with HyperNAS measurements, the combined data can be used for bio-optical modeling.



Features:

- Precision, high-resolution LT, Li, and Es measurements •
 - Compact system design
 - Easy to deploy
 - Adjustable viewing angles from Nadir and Zenith •
 - Flexible configurations
 - Optional integrated surface temperature sensor
 - Optional GPS unit for precision geo-referencing and time tagging •
 - Optional tilt heading sensor
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HYPER SAS SPECIFICATIONS

	Irradiance in-air	Radiance in-air
Field of View:	Cosine ±3% 0 - 60° 10% 60° - 85° (350 - 800 nm)	3° (FOV extension aperture)
Typical Saturation:	9 $\mu\text{W cm}^{-2}\text{nm}^{-1}$	0.5 $\mu\text{W cm}^{-2}\text{nm}^{-1}$
SNR:	1.6×10^4	1.6×10^4
Size:	39.9 (cm) Height 6.0 (cm) Diameter 1.0 (kg) Weight	36.2 (cm) Height 6.0 (cm) Diameter 1.0 (kg) Weight
Operating Temperature:	-10 to +50 °C	-10 to +50 °C

The HyperOCR is a fully digital, irradiance hyperspectral sensor package that provides up to 136 channels of optical data with wavelengths ranging from 350 to 800 nm. Depending on your deployment package, this innovative system operates as an in-air and in-water sensor.

For additional information about the HyperSAS, please contact info@satlantic.com or visit www.satlantic.com/sas.



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Specifications may change without notice
