

BaySpec's all new *DeepView™* Fourier or Spectral-Domain (SD) OCT-800 Series Spectral Engine incorporates a high speed digital line scan camera with a robust *VPG®*-based Spectrograph simultaneously covering multiple wavelengths for precise and rapid optical coherence tomography measurements.

The *DeepView™* Spectral Engine provides convenience for researchers and OEM users assembling fourier or spectral-domain optical coherence tomography (SD-OCT), white light interferometry (WLI) or VIS-NIR spectroscopy systems. This flat-field spectral analyzer design is based on highly efficient transmission *Volume Phase Grating (VPG®)* and mounts on an ultra fast digital line scan camera. The spectral engine accepts single-mode fiber optic inputs and is customizable via grating inserts to match the spectral bandwidth and center wavelength of the users' light source.

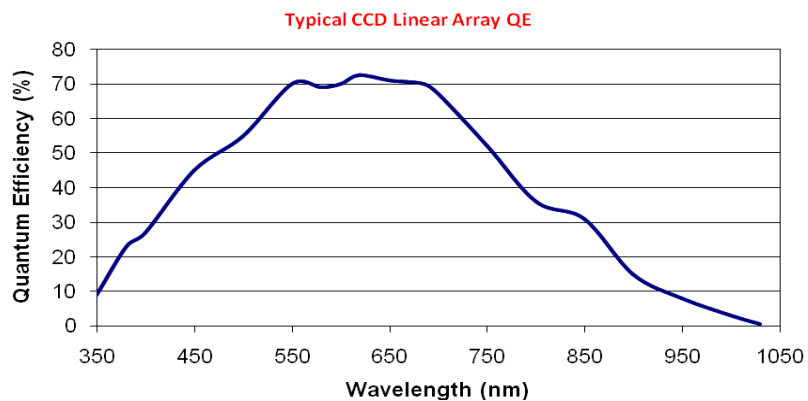
The OCTS 800 Series spectral engine employs a highly efficient *Volume Phase Grating (VPG®)* as the spectral dispersion element and an ultra sensitive pixel CMOS detector array as the detection element, thereby providing high-speed parallel processing and continuous spectrum measurements. The signal is spectrally dispersed with the *VPG®*, and the diffracted field is focused onto the CMOS array detector. The control electronics read out the processed digital signal to extract required information. Both the raw data and the processed data are available to the host.

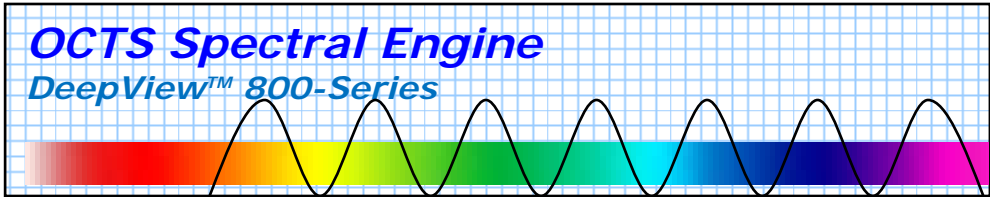
Applications

- Fourier or Spectral-Domain Optical Coherence Tomography (SD-OCT)
- High-speed SD-OCT for cancer detection
- High-resolution spectral OCT in retinal diagnostics and measurements in ophthalmology
- Spectral OCT guidance on implant and surgery
- High speed and fast turn-around Spectral OCT assessment of surgical outcome
- Catheter/Endoscopic SD OCT image guided diagnostics, image-guided surgery, and image-guided therapy
- In vivo and in vitro general medical diagnostics and imaging
- In vivo and in vitro operation room and surgical procedure Quality Assurance
- Non-invasive skin cancer and skin disease diagnostics and detection
- Industrial applications such as non-destructive testing

Key Features:

- Rugged and reliable spectrometer featuring *no moving parts*
- Highly-efficient, high-resolution *Volume-Phase Grating®*
- Flexible options for center wavelength and spectral bandwidth, selectable at time of order; contact factory for custom solutions and packaging different camera types.
- Grating and optical bench customizable for your light source and application
- Single-mode fiber coupled input
- Mounted on digital line scan camera





Specifications:

Optical:	Data
Image plane size ¹	26 mm wide
Optical spot size (single mode fiber)	15 μm across detector
Vertical positioning stability	≤5 μm over time
Alignment access	Tip and tilt Camera fine rotation to level spectrum with detector array
Aperture (f#)	f/4
Focal length (nominal)	100 mm
Single fiber input	to read 1 spectra

¹with single-mode fiber input (core diameter of 9 μm)

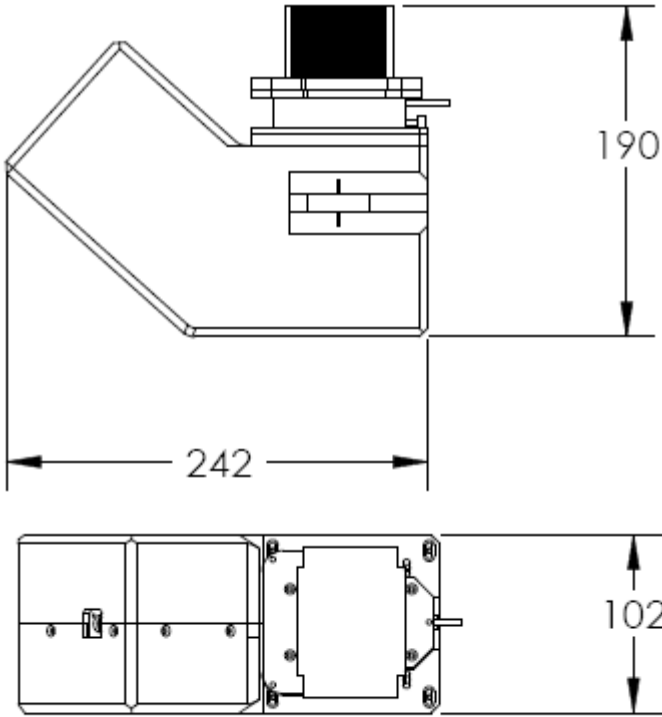
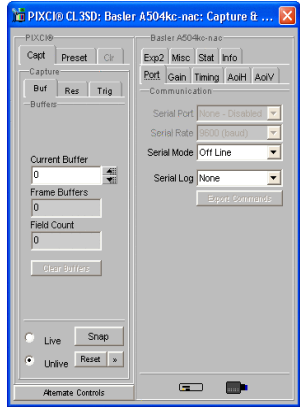
²Full alignment procedures shipped with spectrograph

Mechanical:	Data
Length x Width x Height:	9.1 x 8.3 x 12.0 cm ³ 3.60 x 3.28 x 4.72 in ³ Height includes fiber mount and camera mounting plate
Weight:	< 900 g (spectrograph) < 360 g (camera)
Fiber optic interface	Keyed FC/APC (inquire about PM or alternate types)
Camera compatibility	Basler spL4096-140k, inquire on other types
Focus adjustment	Available

Key design benefits:

- No moving parts
- Ultra reliable Volume Phase Grating (VPG®)
- Temperature controlled
- Solid-state electronics

Basler Image Processing Software included for ease of integration.



Ordering Information:

(grating options – ordering suffix², other options by request)

	-800-680-920
Center wavelength (nm)	800
Bandwidth (nm) ³	240
Wavelength range (nm)	680-920
Wavelength dispersion (nm _{avg} /pixel) ⁴	0.10
Wavelength dispersion (nm _{avg} /mm)	1.2
Stray light(% of peak 100 pixels away) ⁵	0.1%

²Spectrometer model number is OCTS-XXX-YYY-ZZZ; Replace XXX with nominal center wavelength; replace YYY with starting wavelength; ZZZ for ending wavelength.

³Over 20 mm image plane

⁴With 10 μm pixel pitch

⁵Test laser wavelengths used: 800 nm, as appropriate for grating option selected

Specifications are subject to change without notice

