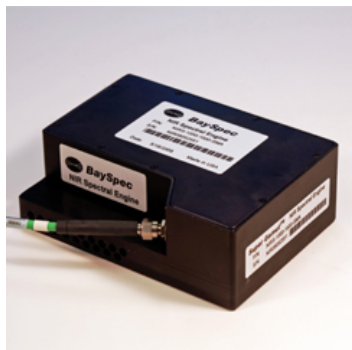




## Near Infrared (NIR) Spectral Engines

### The Super Gamut™ Series



Standalone

BaySpec's *Super Gamut™* series NIR spectral engines are designed to meet real-world challenges for best-in-class performance, long-term reliability, compact size and ultra-low power consumption. Benefiting from experience manufacturing high-volume optical channel performance monitoring devices for the telecommunications industry, BaySpec's NIR spectral devices utilize low-cost field proven components. For the first time in instrumentation history an affordable, accurate and ruggedized spectral device is a reality.

The *Super Gamut™* Series employs a highly efficient *Volume Phase Grating (VPG®)* as the spectral dispersion element and an ultra sensitive InGaAs array detector as the detection element, thereby providing high-speed parallel processing and continuous spectrum measurements. As an input, the device uses a fiber optic input or slit optics arrangement based on customer preferences. The signal is spectrally dispersed with the VPG® and the diffracted field is focused onto an InGaAs 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.

#### Key Features

- Real-time spectral data acquisition with fast milli-sec response time
- Athermal design for ultra-low power consumption and improved reliability
- Hermetic-sealing ensures reliable operation in harsh environments
- Operates over wide -10 to +40 °C temperature range
- Operates in high +85% relative humidity environments
- Covers wavelength ranges from 800-2500 nm
- Designed for field battery use operation



OEM example

#### Specifications

Parameter	Data	Unit
Wavelength Range	875-1750, 1000-2200, 1000-2500 or customer specified	nm
Spectral Resolution	5- 30	nm
Optical Design	Stigmatic <i>Volume Phase Grating (VPG)®</i> - based	
Stray light	0.05%	Yes
Detector	TE cooled InGaAs	
Operating temperature	-10 to 40	°C
A/D converter	16	bit
Environmental	Hermetically-sealed	
Wavelength Calibration	Factory Calibrated, independent of operating temperature	
Size	88 x 110 x 39 mm <sup>3</sup>	mm <sup>3</sup>
Interface	USB, RS-232	
Software	BaySpec "Tint" GUI package	
Input arrangement	Fiber optic or custom slit	

Specifications are subject to change without notice

#### Applications

- Pharmaceuticals
- Medical diagnostics
- Agriculture
- Semiconductors
- Beverage & Brewery
- Cosmetics
- Explosives detection
- Counterfeit detection
- Water quality
- Food safety
- Petrochemical
- Law Enforcement
- Pulp & Paper
- Homeland security



光技術をサポートする  
株式会社オプトサイエンス

<http://www.optoscience.com>

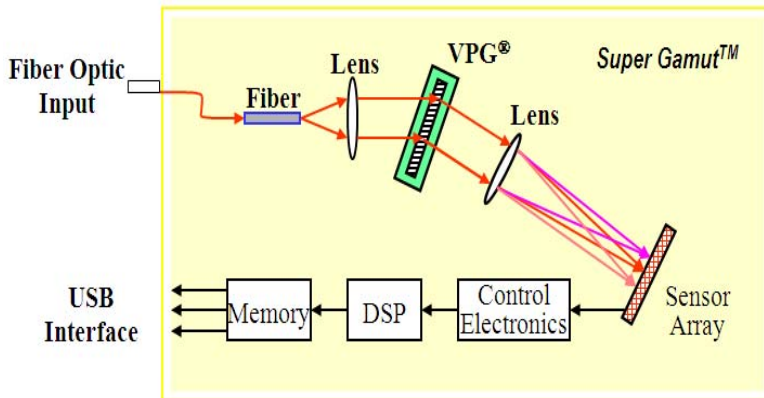
東京本社 〒160-0014 東京都新宿区内藤町1番地 内藤町ビルディング  
TEL:03(3356)1064 FAX:03(3356)3466 E-mail:info@optoscience.com  
大阪支店 〒532-0011 大阪市淀川区西中島7-7-2 新大阪ビル西館  
TEL:06(6305)2064 FAX:06(6305)1030 E-mail:osk@optoscience.com  
名古屋営業所 〒450-0002 名古屋市中村区名駅2-37-21 東海ソフトビル  
TEL:052(569)6064 FAX:052(569)8064 E-mail:ngo@optoscience.com

# Near Infrared (NIR) Spectral Engines

## The Super Gamut™ Series

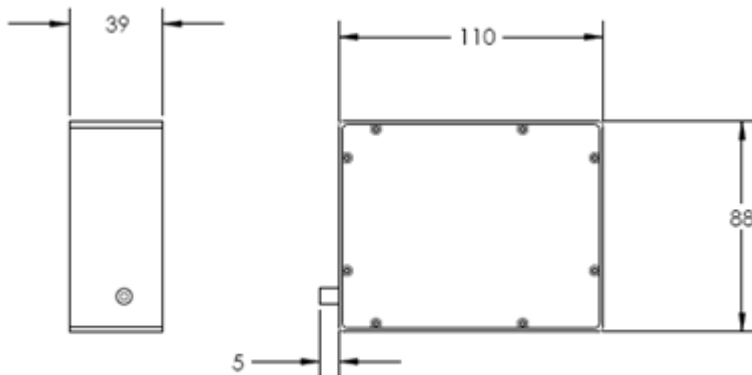


Functional Schematic (fiber optic connector option shown; slit option available)

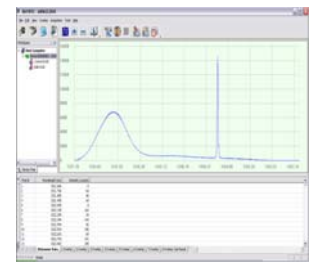


- Key design benefits:**
- No moving parts
  - Ultra reliable Volume Phase Grating (VPG®)
  - Athermal (TEC off) or Temperature controlled
  - Solid-state electronics
  - Hermetically sealed

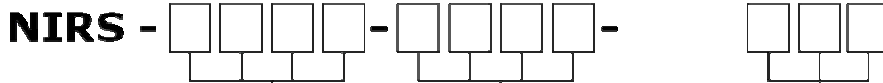
Mechanicals (fiber optic connector option shown; RS232, slit also available)



BaySpec "Tint" GUI Software included for ease of integration.



### Ordering Information



Code	Starting $\lambda$	Code	Ending $\lambda$	Code	Interface Type
Please specify the starting wavelength i.e. :		Please specify the ending wavelength i.e. :		SMA SMA905	
850	850.00 nm	1750	1750.00 nm	025	25 $\mu$ m
1000	1000.00 nm	2200	2200.00 nm	050	50 $\mu$ m
xxxx	customer specify	2500	2500.00 nm	100	100 $\mu$ m
		yyyy	customer specify	200	200 $\mu$ m

Note: fiber sold separately

