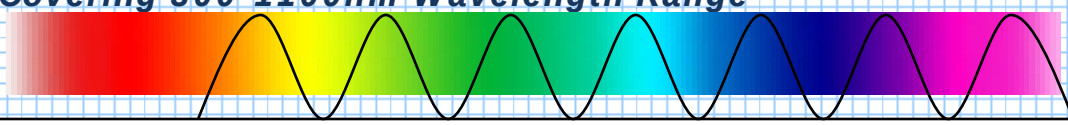
SuperGamut™ VIS-NIR Spectrometer

Covering 300-1100nm Wavelength Range



Applications:

- **PharmaceuticalsMedical diagnosticsAgriculture**
- **SemiconductorsBeverage & BreweryCosmetics**
- **Explosives detection**
- **Counterfeit detection**
- **Water quality**
- **Food safety**
- **Petrochemical**
- **Law enforcement**
- **Pulp & Paper**
- **Mining**
- **Oil Exploration**
- **Biomedical research**
- **Homeland securityRaman spectroscopy**

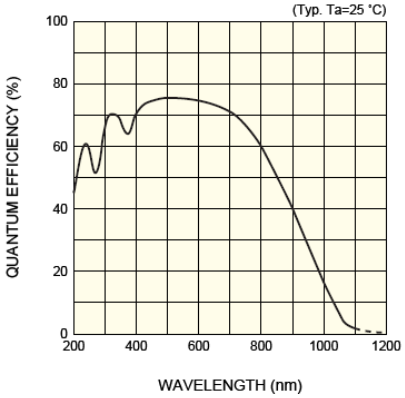
BaySpec's *Super Gamut*™ series Visible-NIR spectrometers are designed to meet real-world challenges for best-in-class performance, long-term reliability, compact size and ultra-low fluorescence interference for Raman instrumentation of biological, tissue and skin samples. Benefiting from experience manufacturing high-volume spectral monitoring devices for the telecommunications industry, BaySpec's spectral devices utilize low-cost field proven components. For the first time in instrumentation history an affordable, accurate and ruggedized Raman 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 CCD 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 a CCD 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.

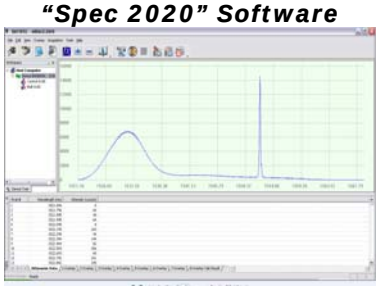
Key Features:

- No moving parts reliability
- Hermetically sealed for harsh environments
- Real-time spectral data acquisition with fast milli-sec response time
- Outstanding optical throughput is achieved with f/3 design
- Compact size and high efficiency through transmission VPG® grating
- Factory calibrated for long-life and low-maintenance

Quantum Efficiency (%)



"Spec 2020" Software



BaySpec, Inc. | 101 Hammond Avenue, Fremont, California 94539 USA | ☏ 1.510.661.2008 | www.bayspec.com

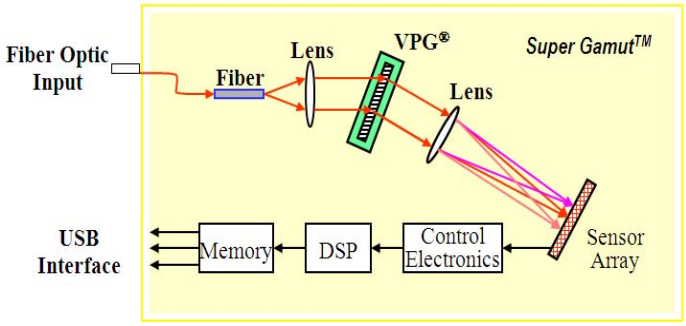
SuperGamut™ VIS-NIR Spectrometer

Covering 300-1100nm Wavelength Range

Parameter	Specification	Specification
PERFORMANCE		
Wavelength Range	300-1100nm or any fraction of range customer specified	
Resolution	~1-20 cm^{-1} slit dependent	
Signal / Noise	6000:1	
Stray light	0.05%	
Wavelength Calibration	Factory Calibrated	
Integration time	20µs to 300 seconds	
Dimensions	94 x 154 x 50 mm^3	
Weight	750g	
OPTICS		
f/ number	f/3	
Grating	Custom *Volume Phase Grating (VPG)*®	
Entrance Aperture Slit / Fiber Optic	Slit: 25µ, 50µ, 100µ, 200µ,etc Fiber optic: FC/APC, or custom design	
DETECTOR SPECS		
Detector array	1024 X 14 or 2048 X 64 Active Pixels	
High CCD Node Sensitivity.	6.5µV/e^- Typical	
Temperature	Ambient to -20C	
Full Well Capacity	200ke^-	
Detector	TE cooled CCD	
A/D converter	16bit	
Power	2A@5Vdc	
COMPUTER		
Data Ports	USB 2.0	
Trigger modes	Software Controlled	
Software	Windows 2000/XP or later	

*specifications subject to change

Schematic Diagram:



VNIR - □□□□ - □□□□ - □□□

Code	Starting λ
	Please specify the starting wavelength i.e. :
0300	300 nm
0785	785 nm
0850	850 nm
xxxx	customer specify

Code	Ending λ
	Please specify the ending wavelength i.e. :
0800	0800 nm
1050	1050 nm
1100	1100 nm
yyyy	customer specify

Code	Interface Type
SMA	SMA905
025	25 µm
050	50 µm
100	100 µm
200	200 µm

Note: fiber sold separately

BaySpec's *"Spec 2020"* software included, a Windows-based package with flexible data acquisition, processing and output functionality

BaySpec DLL/SDK , a DLL driver and a software development kit for new applications development and integration into to your host software systems.

Windows® XP/2000 compliant.

Fiber Bundle Option

Optional Light Source

OEM Integration

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