

Acousto-Optic Tunable Filter VA310 Video Adapter



KEY FEATURES

- VIS-NIR-SWIR Range 400-1700 nm
- Low-Power Consumption
- High-Switching Speed: 16,000 λ /sec
- Solid State: No Moving Parts
- High-Spatial Resolution
- C-Mount Interface
- OEM Integration Design
- Wide Operational Temperature Range

APPLICATIONS

- Military – SWIR Concepts for the Shadow - UAV Platform
- Laboratory and Industrial Applications
- Environmental Science
 - Waste Material Sorting
- Remote Sensing
- Biological and Biomedical Research
 - Including Detection of Cancer Cells
- Online Quality and Process Monitoring
- Other OEM Applications

AOTF Video Adapters (VA310 Series)

Brimrose has introduced the VA310 Series of AOTF Video Adapters designed for measuring visible or NIR hyperspectral imaging information remotely on a variety of materials.

The VA310 AOTF Video Adapters are suitable for biological or biomedical research. They are used for military research and other defense applications. They are also used for online process monitoring and waste material sorting. The video adapters have high-spatial resolution for the visible/NIR and the SWIR spectral ranges. The Brimrose AOTF video adapters provide enhanced image quality and are optimized for minimum image distortion.

Brimrose AOTF Imaging System (BAOTFIS) Software Equipped.



The Brimrose SWIR f22.5mm/F3.5 lens is custom designed for operation with the Brimrose VA310-0.9-1.7 Video Adapter, or the IS310-0.9-1.7 or IS510-0.9-1.7 Hyperspectral Imagers which can operate over an 800-1700 nm wavelength range using our custom cameras.

Brimrose Corporation of America

AOTF Video Adapter VA310 Specifications

Model #	VA310-.40-0.65	VA310-.55-1.0	VA310-.9-1.7
Device Type	Image Quality AOTF		
Wavelength Range	400-650 nm	550-1000 nm	900-1700 nm
Spectral Resolution	2-6 nm		5-20 nm
Spatial Resolution	Up to 2560 x 1920 pixels		Up to 1280 x 960 pixels
Sensor Size *	9 x 6.7 mm (2/3")		16 x 12.8 mm 12.8 x 9.6 mm
Field of View for Camera System (Horizontal)	1.5-6.5° with Zoom Lens f70-300 mm and 5.7-13° with Zoom Lens f28-80 mm		1.5-6.5° with Zoom Lens f70-300 mm and 5.7-13° with Zoom Lens f28-80 mm and 16° with Brimrose C-Mount SWIR Lens f22.5 mm
Working Distance	Depends on Camera Lens		
Field of View for Microscope System	1.6 mm with 4x objective lens 0.64 mm with 10x objective lens 0.16 mm with 40x objective lens		
Camera Mount **	C-mount		
Lens Mount	C-Mount and F, PK Mount Adapter or OEM Integration		
Driving Power	~2 watts		
RF Connector - type	SMA		
Weight	< 1.0 kg		
Dimensions	W x H x D: 60 x 70 x 178 mm		

* Other sensor sizes are available upon request.

** Other mounts are available upon request.

For more information, please check the Brimrose website or contact us at office@brimrose.com.

SPS/SPF Model AO Controller Specifications

The SP Model AO Controllers are high-performance, RF frequency synthesizers incorporated into a self-contained case with AC power supply. A modular cable with a DB9 connector interface allows frequency control via the Personal Computer USB port (Serial RS232 optional). Using simple commands with any terminal (modem) program (such as ProComm) allows the user to set any frequency from the computer keyboard. In addition, included with the unit is a frequency control program that can be used with any IBM PC.

Driver Model #	VFI-XX-YY-SPS-A-C3	VFI-XX-YY-SPF-A-C3
Frequency Range	Matching the AOTF requirements.	
Frequency Step Size	4 Hz	10 Hz
Frequency Stability	0.010% absolute (100 PPM); +15° C to +75° C	0.015%; +15° C to +75° C
Frequency Switching Speed	15 ms typ. (from f_{min} to f_{max})	8 ns
Minimum Duration of Each Step	N/A	32 ns for sweeping mode 1 ms for hopping mode (for <300 hops) 15 ms for hopping mode (>300 hops)
Power Output	5.0 w optimized for maximum performance of the AOTF device.	
Power Control	N/A	12 bit attenuator with 25 dB range (min.)
Modulation	None (TTL or Analog Optional)	
Enclosure	The unit will be packaged in a 190 mm (7.5 inch) wide by 100 mm (4 inch) high by 220 mm (8.75 inch) deep instrument case. The rear panel heat sink increases the depth to 240 mm (9.75 inches) maximum. The size is exclusive of connectors. A detachable AC line cord and RF cable are provided.	
Environmental	Nominal Laboratory Conditions: The maximum temperature is +35° C. The unit is not sealed against moisture or condensing humidity.	
Output Impedance	50 ohms	
Output Connectors	SMA jack on front panel	

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SWIR f22.5mm/F3.5 Lens Specifications

Brimrose has designed the first Brimrose SWIR f22.5mm/F3.5 lens for operation in the 800-1700nm wavelength range. The lens performs best with the Brimrose VA310-0.9-1.7 video adapter, or the IS310-0.9-1.7 or IS510-0.9-1.7 hyperspectral imagers.

Specification	SWIR f22.5mm/F3.5 Lens
Operating Wavelength Range	800 - 1700 nm
Focal Length	22.5 mm
Aperture	F3.5 ~ F16
Mount Type	C-Mount
Focus Distance	0.5 m ~ ∞
Format Compatibility	All Brimrose SWIR AOTF Imaging System
Angle of View (H & V)	17°
Groups/Elements	4/6
Dimensions (D x L)	Approx. 55 x 122 mm
Weight	340 g

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