

# OL 600-NVG / OL 600-NVG-P

## Direct Viewing Imaging Optics Module

For the OL 750-NVG Spectroradiometric Measurement System and Stand-alone Measurement of NVIS and Other Displays



### General Description

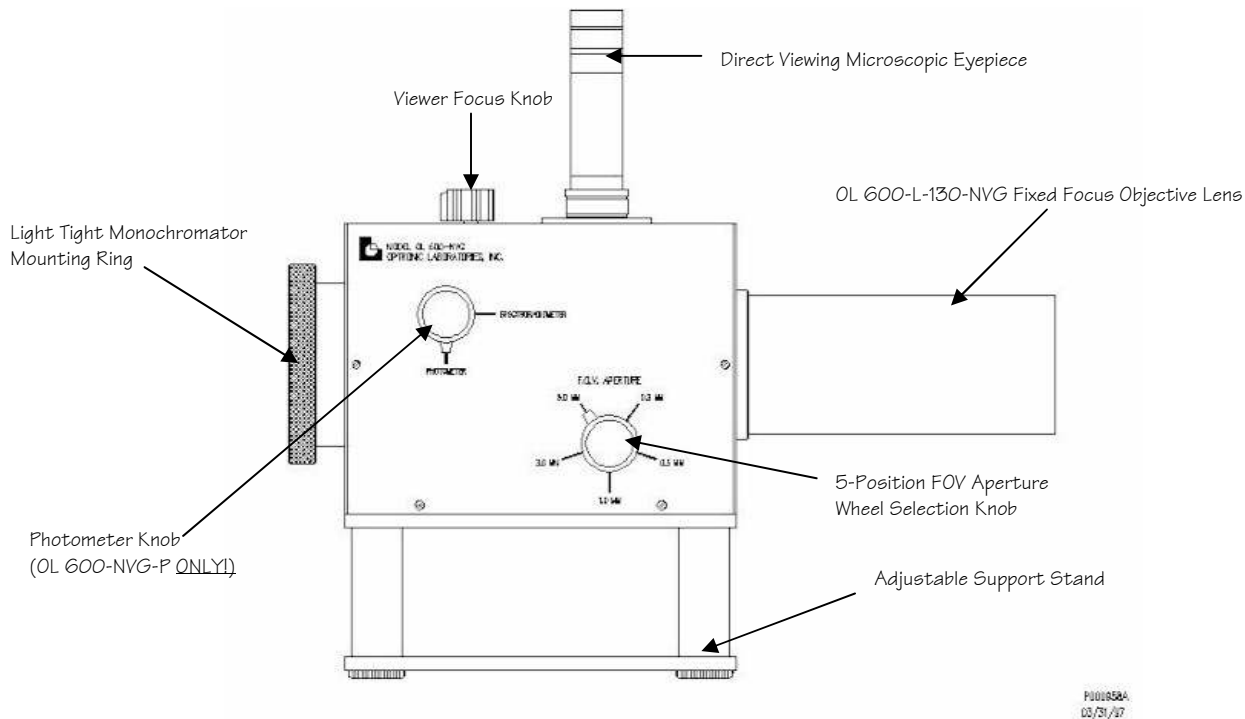
The OL 600-NVG Direct Viewing Imaging Optics Module (DVIOM), when coupled to the OL 750-NVG Spectroradiometric Measurement System, can be utilized for performing spectral radiance measurements or luminance measurements of night vision displays per MIL-L-85762A.

The OL 600-NVG uses direct viewing optics for precise positioning and focusing of the source. A 5-position aperture wheel with aperture diameters of 5, 3, 1, 0.5, and 0.3mm in combination with the 1.7:1 magnification enables the system to measure sources as small as 0.18 mm (0.007 inches). Adding the optional OL 600-NVG-P photometer gives real-time photometric as well as spectroradiometric measurements.

### Features

- Conforms to all MIL-L-85762A, B30 and B40 specifications.
- Direct viewing optical design.
- Parallax and alignment errors, inherent in other systems, are totally eliminated.
- 5-position reflective field-of-view (FOV) aperture wheel for selection of the best measurement area.
- A precision microscope eyepiece for unparalleled image clarity with personal adjustments to eliminate user eyestrain.
- Easy switching from spectroradiometric to luminance measurement without re-alignment with the optional OL 600-NVG-P.
- Compact, for laboratory and cockpit measurements
- OL 600-130-NVG objective lens gives diffraction-limited performance.
- Accepts other lenses for other spot sizes, adjustable focus and wide wavelength coverage.

**OL 600-NVG / OL 600-NVG-P**  
**Direct Viewing Imaging Optics Module**



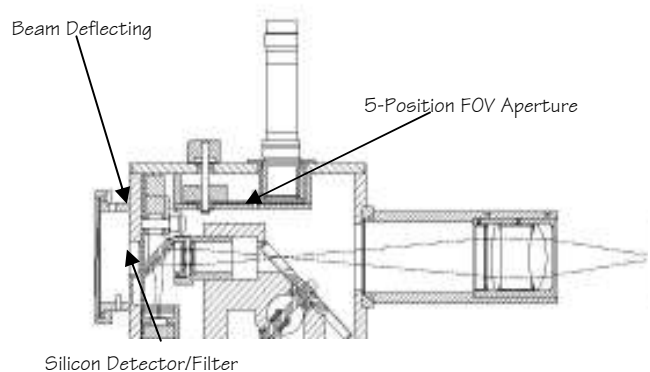
The optional OL 600-NVG-P DVIOM (shown above) is a special version of the OL 600-NVG which is included in the OL 750-NVG-P Internal Photometer Option. The OL 600-NVG-P incorporates a photometric sensor, comprised of an internally housed, high-accuracy silicon detector/photopic filter combination.

The internally mounted photometer option on the OL 600-NVG-P includes a front surface aluminized beam deflecting mirror, mounted in a pivoting assembly that can be rotated into the optical path. The "Photometer Knob" controls the position of the mirror so that either photometric or spectral measurement can be selected.

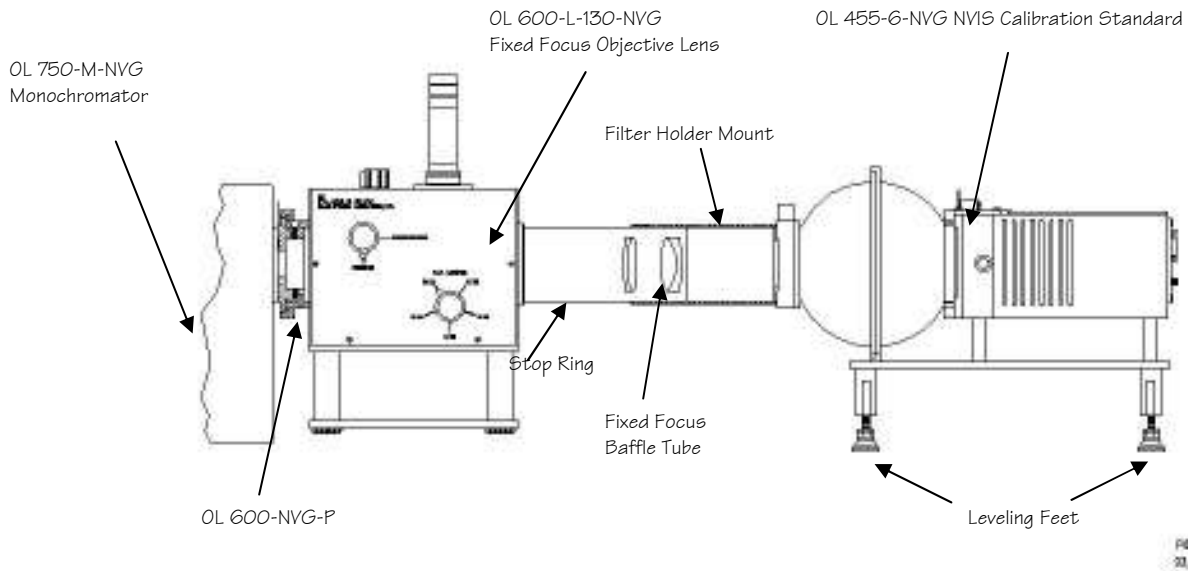
The photometer option also includes an internally mounted photometric sensor and externally mounted detector support module. The sensor has an effective wavelength range of 380 nm to 780 nm and an  $f'$  of <1.5% for very high accuracy luminance measurements.

A detector cable is also provided for connection to the OL 750-C Controller.

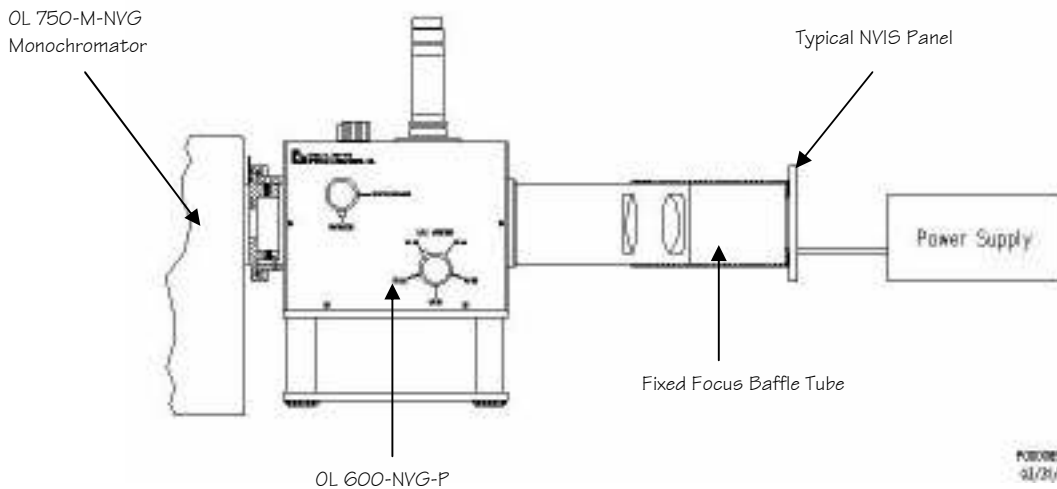
**OL 600-NVG-P**



**NVIS Measurements to MIL-L-85762A using the OL 600-NVG DVIOM**



The OL 750-NVG NVIS measurement system is first calibrated using an optional OL 455-6-NVG Calibration Standard. The Stop Ring is factory preset such that the Fixed Focus Baffle Tube (which is provided with all OL 750-NVG Measurement Systems) will place the limiting aperture of the OL 455-6-NVG at the object plane of the objective lens. The NVIS panel to be measured should be placed at this location as well. The baffle tube can be adjusted to minimize room light effects on measurements. OL 600-NVG can also be positioned to measure in-cockpit displays via fiber optic cable.



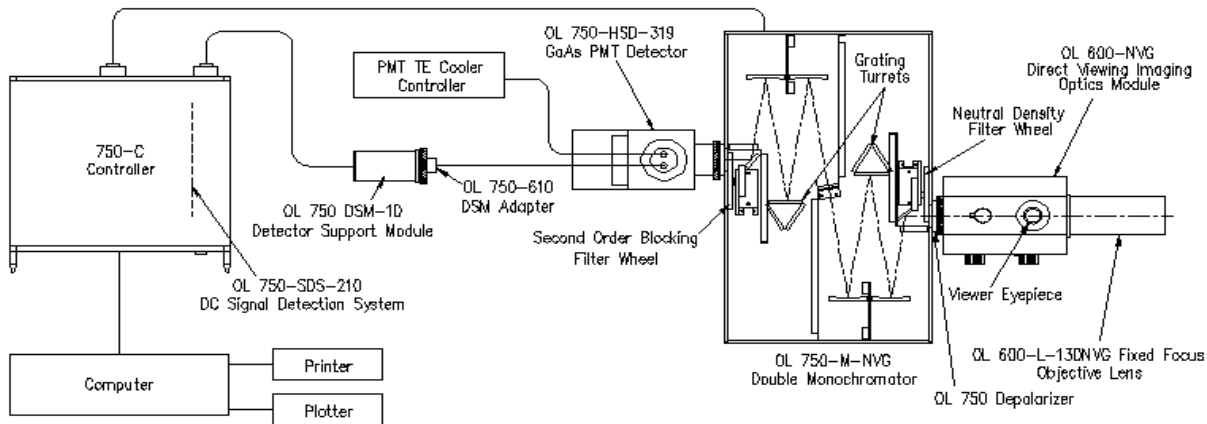
## For Intricate Head-up Display Measurements

### User Interchangeable OL 600-L-100 Objective Lens (optional)

Interchanging the standard lens with an optional OL 600-L-100 objective lens converts the OL 600-NVG into a powerful system for measurement of Head-up displays, night illuminated objects, larger spot sizes and displays requiring adjustable focus.

Lens/Type ..... 200 mm f/5 telephoto  
 Material ..... Achromat (Doublet)  
 Wavelength Range..... 360 nm to 1100 nm  
 Focus Adjustment Range ..... 80 cm minimum to Infinity  
 Magnification at Minimum Focus ..... 0.33X (3-to-1 reduction)

### Complete OL 750-NVG Measurement System fully assembled for both spectroradiometric and photometric measurements compliant to MIL-L-85762A



CONFIGURATION FOR MEASURING SPECTRAL RADIANCE PER MIL-L-85762A  
(Top View)

FD3463

Other NVIS related literature can be accessed in our web site library at [www.olinet.com](http://www.olinet.com)

B125	OL 750-NVG System Overview
B125A	OL 750-NVG Technical Performance & Applications
B125B	OL 750-NVG Features & Benefits
R16	Instrumentation for measuring NVIS Displays
R19	Inside the Black Box: Optimization for measurement of NVIS Displays
A13	Fast NVIS Measurements
IS20	Test Procedures – OL 750-NVG to MIL-L-85762A, B30