



Wide FOV Night Vision Goggle

The *WFOV F-NVG* series products are wide field of view foveal-night vision goggles. They are developed based on our proprietary optical foveal design. They feature an outstanding field of view (FOV) of 80° (circle) without compromising optical resolution as well as the size, weight and power consumption (SWaP). The 80° FOV is twice as large as the standard AN/PVS-14/-15 NVG. The increased FOV enables a wider area awareness alert and/or observation under night or low light level illumination.

The *WFOV F-NVG* is made of foveal objective lens and foveal eyepiece in series with an image intensifier (I2) that converts the invisible infrared (IR) radiation to green light. The foveal design plays the fundamental role leading to the wide FOV yet with a high on-axis resolution.

The *WFOV F-NVG* series comes with both binocular and monocular versions. The binocular version is a retrofit from the standard AN/PVS-15 while the monocular is a retrofit from the AN/PVS-14/-18. The following summarizes the *WFOV F-NVG* major performance characteristics:

- 80° FOV (AN/PVS-14/-18/-15 series of 40° FOV)
- High on-axis resolution limited by I2 tube
- Low optical distortion
- Lighter weight, more compact size and the same power consumption as compared to the standard AN/PVS-14/-18/-15
- Both hand-held and helmet mountable



Retrofitted AN/PVS-15 NVG with 80° FOV



Scene from a standard NVG 40° FOV



Foveal NVG
80° FOV

Scene from the retrofitted NVG 80° FOV

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WFOV F-NVG

The limited 40° FOV of standard AN/PVS-14/-18/-15 NVGs restricts the off-axis detection, and thus hinders the added peripheral vision. In addition, aggressive head scanning is necessary for maintaining a minimal situational awareness, which creates the possibility of disorientation, neck strain, and fatigue for the aviators.

Our *WFOV F-NVG* series removes these problems. As compared to the most recent state-of-the-art PNVG which has a rectangular FOV of 40°×97°, the *WFOV F-NVG* circular 80° FOV guarantees a true 2-dimensional (2-D) wide area coverage in a much more compact and lighter weigh package.

The benefited applications include vehicle navigation, wide area surveillance and tracking, handheld and head mounted visual augmentation systems. The benefited commercial sectors include law enforcement, security and surveillance, robotic navigation, hunting and home.

Binocular *WFOV F-NVG* Specifications

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| Magnification | 1X |
| Field of View (FOV) | 80° |
| Range of Focus | 25 cm to infinity |
| Eye Relief | 15 to 20 mm (80° to 68° FOV) |
| Diopter Adjustment | +2 to -4 diopters |
| Image Intensifier | GEN III |
| Battery Type | one (1) AA battery |
| Battery Life | 16 hours at room temperature |
| IR Illuminator | yes (built-in) |
| Size (length) | 105 mm (from sacrificial filter to demist shield) |
| Weight | 676 grams with battery (23.8 oz.) |
| Submersible | ~ 20 meters (66 ft.) |
| Mounts | Helmet mount adapter |