

An Overview of Low-light Level Night Vision Device

Low-light level night vision device, which could be night vision goggles, monocular, binocular, scope etc., is a photoelectric imaging system with the use of light enhancement technology. It can be used to intensify detection ability of human eye to image in low light condition, thus in various fields, especially in military, it gets rapid development and wide application.

Such kind of night vision device, taking Eyoung Tech's low-light level night vision monocular as an example, is used to observe the surrounding environment and targets nearby under poor visibility, so as to get a wide field of view observation. Our night vision monocular can be both helmet mounted and handheld, the optimal choice for night patrol, rescue, hidden object investigation and map viewing, etc., covering a wide range of application field.



Working Principle of Low-light Level Night Vision Device

At night, objects can actually reflect those natural faint light, such as moonlight, starlight, airglow etc., all of which can be hardly observed by human eyes. When using a night vision device, these night sky light reflected from target is collected into the objective lens, and form image on the cathode surface of the image intensifier tube. With the photomultiplier amplification of the electronic optical system of the image intensifier, the image with brightness increased by tens of thousands of times is obtained on the fluorescent screen.



During this whole process, the image finishes the conversion from optical image to electronic image and then to optical image, until brightness enhancement are completed. The optical image with enhanced brightness is then enlarged by the eyepiece for direct observation. In a sense, human eye is a part of low-light level optical system.