

OPTICS TRADE

Digital Night Vision
Clip-on Systems

May, 2020

GENERAL FEATURES

- On the market since 2013 when Pulsar introduced the DFA 75
- Similar build like other digital night vision devices
- They consist of the following parts:
 - objective lens, a light-sensitive sensor (CMOS or CCD), blocks of electronics for image processing and control, and a display
- Do not feature a fixed eyepiece, but on many devices, an eyepiece can be mounted for observation purposes
- Can be mounted on the objective or ocular of a daytime optic
- With a clip-on device the zero on the rifle does not change
- Can be mounted on all daytime optics with special adapters
- The magnification of the daytime optic should not exceed 8x



MOST COMMON USE EXAMPLES

- Very popular among hunters
- Can be used for all hunting scenarios, so the user has to buy only one device for the night hunt
- Cheaper than separate night vision binoculars, or another night vision device
- Clipping the night vision clip-on device on a daytime optic can be done only in a matter of seconds
- If used on a binocular or monocular, can be very quickly swapped and clipped on a rifle scope



LAWS IN EU FOR NV CLIP-ON'S

- Owning a night vision clip-on device is not forbidden in most countries in the European Union
- They can be used for observation purposes, but mounting them on a daytime rifle scope is in some countries forbidden
- They can be, whatsoever, be used for hunting abroad
- Because these laws are constantly changing, we recommend you to make some research about owning and using it in your country.



NIGHT VISION SCOPES (MONOCULARS) VS NV CLIP-ONS

- Night vision clip-on's are designed to be mounted on the ocular or on the objective of a day time optic
- Night vision scopes are designed as stand-alone optics
- The ocular of a clip-on has to be designed differently – so that the user gets the best possible image when it is mounted on a daytime optic
- Observation with a clip-on is also possible, but the image is small and it looks like in a tunnel
- Many night vision clip-on devices do also not feature a diopter adjustment for focusing, but only the parallax adjustment
- Night vision clip-on devices are also designed to withstand the recoil of a rifle
- Mounting a NV scope on a daytime optic is very popular among airsoft players
- We strongly recommend NOT mount a monocular on a centerfire rifle
- The recoil can damage the device or harm you in the eye due to the short eye relief



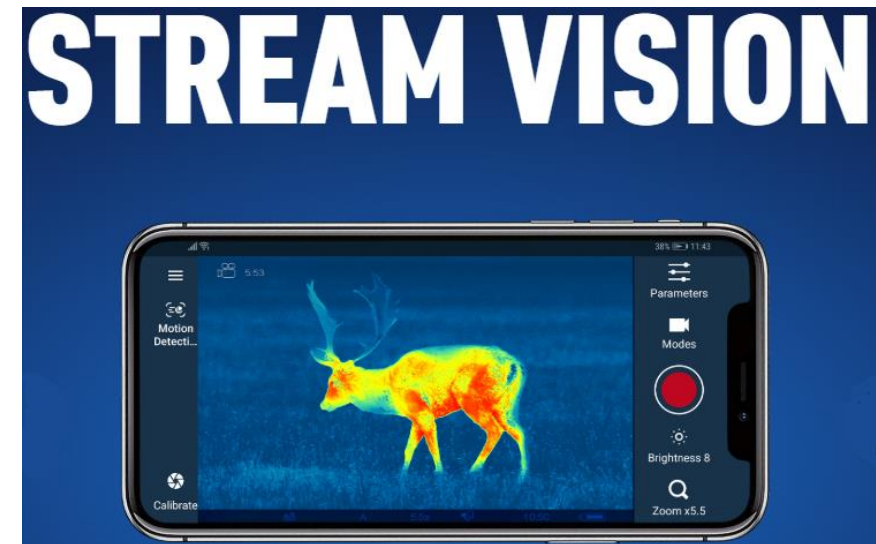
DIGITAL VS ANALOG NIGHT VISION

Pros and cons of each

- Analog night vision
 - (+) Available with IIT's of all 3 generations
 - (+) Direct image with no screen – no refresh rate
 - (+) Longer observation distances at night
 - (+) Very long battery life
 - (-) Should not be turned on during the day – the IIT can get damaged
 - (-) Not possible to take photos or videos
 - (-) No additional internal settings
 - (-) Only 1 fixed magnification

DIGITAL VS ANALOG NIGHT VISION

- Digital night vision
 - (+) Have a sensor and a screen – many possible settings
 - (+) Can also be used during the day
 - (+) The magnification can be changed – digital
 - (+) Offer many additional features
(GPS, stadiametric rangefinder, etc.)
 - (+) Connectivity to a smartphone, tablet, computer etc.
 - (-) High energy consumption
 - (-) Are bigger and bulkier
 - (-) Not so good image resolution than with analog devices



ADAPTERS FOR NIGHT VISION CLIP-ON'S

- To mount a clip-on device to a daytime optic, an adapter is needed which clamps directly on the objective or the ocular of the daytime optic
- With many clip-on devices such an adapter is included, for the most common outside diameters
- Some manufacturers include also additional plastic reduction rings, to fit even more optics on the market
- If the daytime optic has a different outside diameter then which is included, an aftermarket adapter is needed
- The most known aftermarket adapters which have a high-quality come from companies Rusan and Smartclip
- They feature a small micro-adjustment screw for the perfect fit on the optic
- Inside these adapters is also a protection tape
- Pulsar, for example, has a brand-specific mounting solution - these need a special adapter or a special reduction ring (converter) that fits the normal adapter





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