ARMASIGHT™

ARFS
Advanced Range Finding Stadia

USER'S MANUAL

DESCRIPTION

The Armasight Advanced Range Finding Stadia (ARFS) is an innovative means for adding a passive range-finding capability to your image intensified night vision or low-light digital imaging device. The creative application of reticule projection into the objective lens to display a scaled stadia range-finding device demonstrates the established legacy of Armasight to leverage proven optical concepts into new and useful tools for professional operators. The ARFS is offered in three different sizes to ensure a solution for most objective lenses and magnifiers. The removable ARFS module permits the user to remove the stadia rangefinder for use on other equipment or to restore the device to an unobscured field of view.

ARFS is an optical projection attachment for night vision devices (NVD). The ARFS mounts to either the objective lens or afocal magnifier of a night vision device. The built-in illuminated universal stadia range finder allows for accurate target measurements and range estimates.

SPECIFICATIONS

Model	ARFS3	ARFS4	ARFS5
Compatible Lenses (Devices with Standard/Optional Lenses)	3x Afocal Lens (Spark, Sirius, N-14, Nyx-14, Nyx-14 PRO, PVS-14, Nyx-7, Nyx-7 PRO, PVS-7)	4x Lens F108mm (Discovery 5x, Sirius, N-14, Nyx-14, Nyx-14 PRO, Nyx-7, Nyx-7 PRO)	5x Afocal Lens (Spark, Sirius, N-14, Nyx-14, Nyx-14 PRO, PVS-14, Nyx-7, Nyx-7 PRO, PVS-7)
Landing Size of Lens	ø60.2mm - 62.2mm	ø75.5mm - 77.5mm	ø74.5mm - 76.5mm
Reticle Type	Illuminated universal stadia range finder with Goniometric Scale Grid (the value of one small crosshair division equals 5 millirads (5 digits or 18 ang. min), the value of a big division – 10 millirads (10 digits or 36 ang. min))		
Reticle Brightness Adjustment	Digital		
Automatic Shut-Off Time	3 minutes		
Battery Type	2 x CR2016 (3V)		
Battery Life (minimal)	400 measurements / 20 hours		
Environmental Rating	Water and Fog Resistant		
Operating Temperature	-30 +50°C (-22 +122°F)		
Storage Temperature	-50 +70°C (-58 +158°F)		
Dimensions	46.7×78.9×83.9 mm / 1.8"×3.1"×3.3"	47.5×97.7×101 mm / 1.9"×3.8"×7"	46×93.1×97.4 mm / 1.8"×3.7"×3.8"
Weight	211 g / 0.47 lbs	257 g / 0.57 lbs	237 g / 0.52 lbs
Standard Components	ARFS, Protective Cap, 2 x CR2016 Batteries, Hex Key Wrench		
Warranty	2 Years		

INSTALLATION

Take off the cap from the lens of NVD. Loosen the fixing screw on the lateral face of the body of ARFS. Install the ARFS onto the lens of NVD as shown on the image. Tighten the fixing screw of the ARFS.

The AFRS comes with two CR2016 batteries installed. Replace the batteries as follows:

1. Using 2 mm hex key wrench, unscrew the four screws that secure the top cover to the the unit. Remove the cover.

2. Replace the batteries with two new ones (CR2016, 3V). Install the batteries, aligning their polarity markings (+/-) with those embossed on the compartment.

3. Replace the cover and tighten the screws.

ARFS MOUNTED ON THE NVD

OPERATING PROCEDURES

Switch on the NVD. Remove the ARFS protective cap. Adjust the unit until the image is clear and sharp. Make short press on the ARFS button to switch on the projection device of the mark. The projection device switches on with the medium level of the crosshair brightness. To adjust brightness of the crosshair, press and hold down the operating button of AFRS. Brightness of the crosshair will decrease. Upon reaching comfortable brightness level, release the button. To increase the brightness of a crosshair, press the button repeatedly and hold it, brightness of the crosshair will increase. To switch off the projection device, press the button short.

NOTE: You can use the NVD with ARFS during day time with the ARFS protective cap on.

RETICLE USING

Look through the eye glass of the NVD to combine the image of the object with goniometric scale grid of the projector and, guided by the following, to determine the angular size of the object by the number of grid divisions:

- the value of one small crosshair division equals 5 millirads (5 digits or 18 ang. min), the value of a big division – 10 millirads (10 digits or 36').
- horizontal angle should be determined along the horizontal scale grid, vertical - along the vertical scale grid;
- if you know the height, length or width of the object, the distance to the object D (m) determined according to a formula:
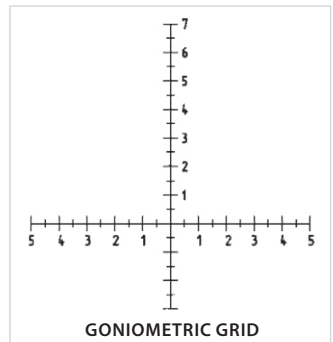
$$D = L \times 1000/\alpha,$$

  L is a given length of the object, m;

  α is the apparent visual on-scale grid angle.

The example of range-finding:

The average man height L = 1.75 m, if his image observed in the device according to the scale grid equals 20 millirads (α = 20 digits), then the distance to him equals:

  D = 1.75 x 1000/20 = 87.5 m

GONIOMETRIC GRID

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