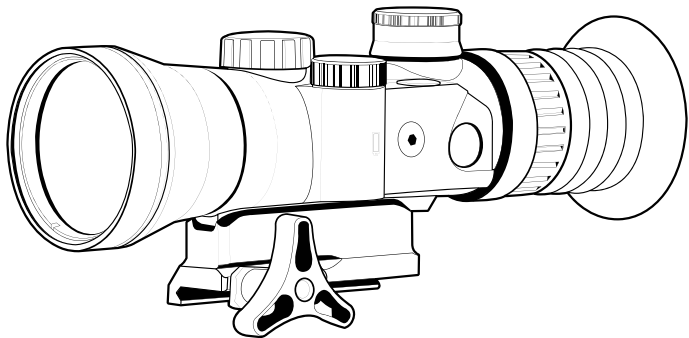


# D-730

3.7x Night Vision Weapon Sight

Operator Manual



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## DESCRIPTION

The 3.7x D-730 "Superlite" is one of the smallest and lightest night vision weapon sights available. Notable features include an amber mil-dot reticle with adjustable brightness control, a waterproof housing and pristine multi-coated optics that provide striking high-contrast images in a variety of conditions. At only 6 inches long and 19.8 ounces, the D-730 is a powerful performer in an ultra compact pocket size package!

# WARNINGS | PLEASE READ THIS



**Please read this manual thoroughly before operating this device.**

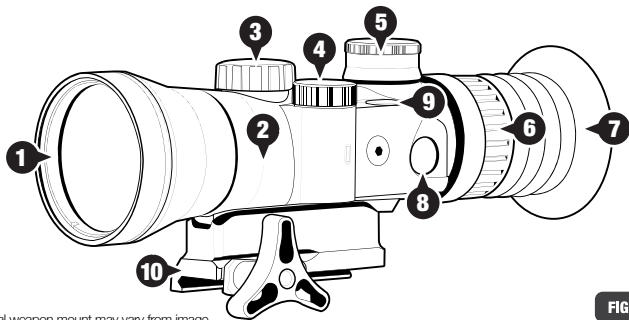
Keep this manual in a safe place for future reference.

This Night Vision Device should only be used during night or low light conditions. It contains a light sensitive image intensifier tube that can be damaged if exposed to excessive light. To prolong tube life and avoid damage, do not turn the unit on in daylight without the protective cover.

All Image Intensified Devices require some light to operate such as moonlight or ambient starlight. Night vision devices will not penetrate smoke, fog, rain, or heavy snowfall. Cloud cover and tree shadows will reduce the effectiveness of this device. Do not operate this Night Vision Device in a potentially explosive environment, near gasoline fumes or other volatile materials. This is a high voltage electrical device.

Do not disassemble, puncture, recharge, or expose the battery to fire or high temperature. Doing so may result in an explosion and resulting chemical burns. When the device is not in operation for a prolonged period, remove the battery from the device and keep it separately in a cool and dry place.

# PRODUCT OVERVIEW



\*actual weapon mount may vary from image

**FIGURE 1**

<b>[1]</b> Objective Lens	<b>[7]</b> Rubber Eyepiece Guard
<b>[2]</b> Main Housing	<b>[8]</b> Reticle Brightness Control
<b>[3]</b> Focus Adjustment	<b>[9]</b> Power Button
<b>[4]</b> Battery Compartment	<b>[10]</b> Quick Release Mount
<b>[5]</b> Windage & Elevation Turrets	<b>[11]</b> IR Mount (Not Shown)
<b>[6]</b> Eyepiece/Diopter	

## KIT COMPONENTS

D-730 Night Vision Weapon Sight	Flip-up Cap/Daylight Filter
Hard Case	3v CR123 Battery
Operator's Manual	Quick Release Mount
Lens Cloth	

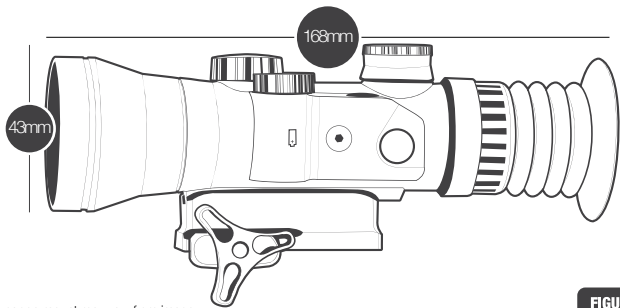
# TECHNICAL SPECIFICATIONS

Magnification	3.7x
Lens System	85mm f1.6
FOV	8.5°
Range of Focus	33' to ∞   10 m to ∞
Detection Range	1395' (G3)   425 m (G3)
Recognition Range	1148' (G3)   350 m (G3)
Reticle Type	Mil-Dot - Amber
Windage/Elevation Adj. @100 yards	¼ MOA per click ¼" per click
Diopter	+3 to -3
Weather Resistant	Waterproof
IR Illuminator	Optional
Battery Type/Life	(1) 3v CR123   60 hours
Dimensions (without mount)	168mm x 43mm x 43mm
Weight	19.8 oz
Operating Temperature	-40°C to +50°C
Warranty	2 years

## Note:

The effective detection and recognition range of D-730 is dependent on the amount of ambient light, magnification of the scope, atmospheric transparency, and contrast between the target of observation and its background. In high ambient light (moonlight) with the target against a light background (sand or snow), the effective range is increased. In low ambient light (overcast) with the target against a dark background (trees, brush, etc.), the effective range is decreased.

# FEATURES



\*actual weapon mount may vary from image

**FIGURE 2**

Long range observation under very low light levels.

Ultra Portable

Illuminated amber MIL-DOT reticle with brightness control

High resolution throughout field of view

Specially designed and fully coated optics with very high Light transmission factor.

Internal focusing system increases stability & precision

Bright source protection

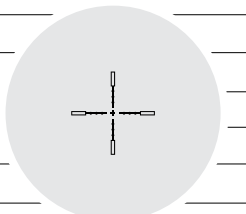
Automatic brightness control

Standard "Weaver" high-strength mounting system

Waterproof nitrogen purged construction

State-of-the-art impact resistant housing

Lightweight



**MIL-DOT RETICLE**

## 1. BATTERY INSTALLATION

### **!WARNING!**



Prior to installing the battery make sure the day time protective cover is fitted over the lens. Excessive light can damage intensifier tube and void warranty

The D-730 uses (1) 3v CR123 battery. Unscrew the battery compartment cover (fig 1-4) and install the battery according to the polarity diagram on the battery housing.

## 2. USING THE D-730

Performance-readiness of the D-730 can be checked in the daytime using the Daytime Filter/Objective Lens Cover

### **!WARNING!**



Removing cover during daylight, excessive use during daylight, or pointing towards exceptionally bright light sources e.g. sun, light bulbs, welding arc, etc. will void product warranty. (See page 12 for more information)

A yellow-green image should be seen through the eyepiece after switching on the device.

1. Remove the Objective Lens Cover.
2. Press power button (fig. 1-9). A green image with reticle should be seen through the eyepiece.
3. Rotate the eyepiece (fig. 1-6) to sharpen the focus on the reticle. Use the reticle brightness control to adjust reticle brightness (fig. 1-8).
4. Acquire a target and adjust the objective focus (fig. 1-3) to sharpen the image.
5. When the D-730 is no longer required, press and hold the power button for 2 seconds (fig. 1-9) to power OFF the unit and replace the Objective Cover.

Always remember to turn off the D-730 when it is no longer being used. If the device is not going to be used for more than 10 days, batteries should be removed to prevent leakage and corrosion. Always keep the Objective Lens Cover on when the device is not in use.

## 3. MOUNTING ON THE RIFLE

### NOTE:

Mounting procedure may vary depending on the type of mount used.

1. Loosen the mounting clamp(s) (fig. 1-10)
2. Mount the D-730 on the rail of the rifle so that the rubber eyecup is touching shooter's eye (add 1"-2" for higher caliber weapons). The position of the device should be such that the shooter is in the natural shooting position when using the scope, without needing to lean too far forward or back.
3. Tighten the mounting clamp(s).

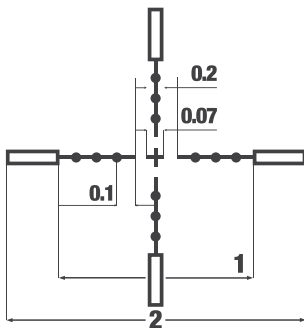
### NOTE:

If necessary loosen/tighten the tension bolts with a wrench so that the mount is securely fastened to the rail.

4. The D-730 is now mounted and ready to be sighted-in.

## 4. THE RETICLE

Reticle Brightness can be adjusted by the reticle brightness control knob (fig. 1-8). Measurements are in meters at a distance of 100 meters using 4x (D-730).



**FIGURE 3**

1 cm = 0.3937 in  
1 meter = 100 cm  
1 meter = 3.281 ft  
100 meters = 109.4 yds



## 5. SIGHTING-IN THE D-730

D-730 can be sighted-in during the daytime by using the Daytime Filter/Objective Lens Cover or during nighttime. The process is identical to any standard day scope and is achieved by adjusting windage and elevation target turrets (fig. 1-5) located underneath protective dust caps. The target turrets feature positive click adjustments and each click is equal to ¼ MOA (i.e. ¼" at 100 yards, ½" at 200 yards, etc.)

# NIGHT VISION CHARACTERISTICS

## MONOCHROMATIC IMAGE

Night Vision Devices produce a monochromatic image. You will not be able to see any differentiation between colors. In particular, red and green lights will both appear green. Take care to verify color differences with unaided vision. Exercise extreme caution when operating aircraft, ground vehicles, or marine vessels while using night vision equipment.

## COLOR SENSITIVITY

Night Vision Devices are more responsive to red and white lights than green and blue lights. Because of this, distant red and white lights may appear closer than green or blue lights. Exercise extreme caution when using these lights for navigation. Periodically verify the distances to these lights with your unaided eyes.

## EXTREME DARKNESS

Night Vision Devices are effective under most dark conditions including overcast starlight. They are not practical in an extremely dark environment such as in a tunnel where there is no natural ambient light. Without sufficient ambient light, the operator may notice pinpoint - size sparkles (scintillation or noise) in the image area. These sparkles are small amounts of energy generated inside the image intensifier that strike the phosphor screen and are an indication that the device is working.

# NIGHT VISION CHARACTERISTICS

## **CONTRAST REVERSAL**

Night Vision Devices detect light that cannot be seen by the human eye. This light is often referred to as being in the near-infrared light spectrum. The existence of this light and the manner in which it reflects is not normally visible to the naked eye. For this reason, objects that normally appear lighter than their surroundings may appear dark against a light background. In addition, the output image of the Night Vision Device is dependent on the reflective quality of the objects the operator sees in the viewing area. Objects that appear light during the day but have a dull surface may appear duller when viewed through a Night Vision Device. All of these factors must be taken into account when utilizing a Night Vision Device for observation or navigation purposes.

## **DEPTH PERCEPTION**

Night Vision does not present normal depth perception. Use extreme caution when using a Night Vision Device where reliance upon depth perception is important.

## **FOG AND RAIN**

Night Vision Devices are very responsive to reflected ambient light; therefore, fog or heavy rain can reflect too much light toward the Night Vision Device and may seriously degrade its performance.

## **HONEYCOMB**

This is a faint hexagonal pattern throughout the image area. This effect is more noticeable under high light conditions. Do not be concerned - the honeycomb effect is an inherent characteristic of all high-amplification night vision systems that incorporate a microchannel plate in the intensifier.

## **BLACK SPOTS**

These are cosmetic blemishes in the image intensifier. They do not affect the performance or reliability of a night vision device and a number of sizes are inherent in the manufacturing process.

# NIGHT VISION CHARACTERISTICS

## **IMAGE INTENSIFIER LIFE**

Night Vision Devices are designed to be robust. The image intensifier tube, however, does not have an unlimited lifetime. The life of the image intensifier is dependent upon the amount of use. Under normal operating conditions, it will provide reliable performance for an extended period of time.

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## **MAINTENANCE**

### **OPTICS**

Always clean the optics with a suitable optical cleaning cloth. Do not use detergents or excessive moisture to clean any part of the Night Vision Device.

### **BATTERY/BATTERY COMPARTMENT**

Any Night Vision Device that is to be stored for a long or undetermined amount of time must have the batteries removed.

### **MOISTURE**

The Night Vision Device is water resistant. No warranties or guarantees apply to a Night Vision Device that has been submerged in water. Take great care when using any night vision in a wet environment as the image intensifier tube is sensitive to moisture.

### **SALT WATER**

If the Night Vision Device is exposed to a salt water environment, wipe it off with a clean cloth slightly dampened with fresh water and dry it thoroughly. Take special care of the optics as noted above.

### **SUNLIGHT**

Night Vision is sensitive to light and must be stored away from direct contact with bright light sources of any kind.

## **!WARNING!**

Improper care or unauthorized maintenance can damage device and may result in warranty nullification.

## TROUBLESHOOTING

<b>SYMPTOMS</b>	<b>PROBABLE CAUSE</b>	<b>CORRECTIVE ACTION</b>
No visible Image	<ul style="list-style-type: none"><li><b>a.</b> Objective lens cap not been removed.</li><li><b>b.</b> Battery cover is loose.</li><li><b>c.</b> Incorrect battery polarity</li><li><b>d.</b> Weak battery</li></ul>	<ul style="list-style-type: none"><li><b>a.</b> Remove cap</li><li><b>b.</b> Tighten cover</li><li><b>c.</b> Reinsert battery</li><li><b>d.</b> Replace battery</li></ul>
Image flickers, flashes, or clicking is heard	<ul style="list-style-type: none"><li><b>a.</b> Normal for new battery to cause this for first five minutes.</li></ul>	<ul style="list-style-type: none"><li><b>a.</b> If condition continues contact manufacturer for service instructions</li></ul>
Dark spots on screen	<ul style="list-style-type: none"><li><b>a.</b> Cosmetic blemishes. Normal for this technology.</li></ul>	<ul style="list-style-type: none"><li><b>a.</b> Acceptable as long as it does not interfere with operation of the device</li></ul>
Image not clear	<ul style="list-style-type: none"><li><b>a.</b> Focus is not adjusted.</li><li><b>b.</b> Too close to object</li></ul>	<ul style="list-style-type: none"><li><b>a.</b> Adjust focus</li><li><b>b.</b> Increase viewing distance.</li></ul>
Fixed pattern noise. (honeycomb)	<ul style="list-style-type: none"><li><b>a.</b> Cosmetic blemishes caused by too much illumination.</li></ul>	<ul style="list-style-type: none"><li><b>a.</b> Acceptable as long as target resolution can be resolved.</li></ul>
Pattern of dark thin lines (chicken wire)	<ul style="list-style-type: none"><li><b>a.</b> Normal under worst conditions. These lines will form hexagonal or square wave-shaved lines.</li></ul>	<ul style="list-style-type: none"><li><b>a.</b> Acceptable as long as it does not interfere with operation of the device</li></ul>
Image dimmer than usual.	<ul style="list-style-type: none"><li><b>a.</b> Weak batteries</li><li><b>b.</b> Low natural illumination level.</li></ul>	<ul style="list-style-type: none"><li><b>a.</b> Replace the batteries.</li><li><b>b.</b> Turn on IR illuminator.</li></ul>

# WARRANTY

The D-730 is covered by a limited 2 year warranty from time of sale. The warranty is valid only for the original purchaser. The manufacturer warrants its products to be free from defects in material and workmanship during the warranty period. If the product proves to be defective during this period, the manufacturer will repair the original product or replace it with a like product at the sole discretion of the manufacturer.

This limited warranty does not cover:

1. Any product on which the serial number has been defaced, modified, or removed.
2. Any product that has experienced deterioration or a malfunction from: accidents, misuse, neglect, fire, water, lighting or other acts of nature, unauthorized product modification or failure to follow instructions supplied with the product, repair or attempted repair by anyone not authorized to do so, use of supplies or parts not meeting manufacturer's specifications, normal wear and tear, and/or extreme wear and tear caused by battlefield conditions or other extreme environments.

No other warranties, expressed or implied, are valid without an agreement in writing provided by the manufacturer. All shipping involved in warranty work/replacement is the sole responsibility of the purchaser.

## LIMITATIONS OF LIABILITY

Night Optics USA, Inc. will not be liable for any claims, actions, suits, proceedings, costs, expenses, damages or liabilities arising out of the use of this product. Operation and use of this product are the sole responsibility of the Customer. Night Optics USA, Inc.'s sole responsibility is limited to providing the products and service outlined herein in accordance with the terms and conditions of this Agreement. The provision of products sold and services performed by Night Optics USA, Inc. to the Customer shall not be interpreted, construed, or regarded, either expressly or implied, as being for the benefit or creating any obligation toward any third party of legal entity outside Night Optics USA, Inc. and Customer; Night Optics USA, Inc.'s obligations under this Agreement extend solely to the Customer.

Night Optics USA, Inc.'s liability hereunder for damages, regardless of the form or action, shall not exceed the fees or other charges paid to Night Optics USA, Inc. by the Customer or the Customer's dealer. Night Optics USA, Inc. shall not, in any event, be liable for special, indirect, incidental, or consequential damages, including, but not limited to, lost income, lost revenue, or lost profit, whether such damages were foreseeable or not at the time of purchase, and whether or not such damages arise out of breach of warranty, a breach of agreement, negligence, strict liability, or any other theory of liability.





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