



# **LIGHT INTEGRATED OPTIC (LIO)**

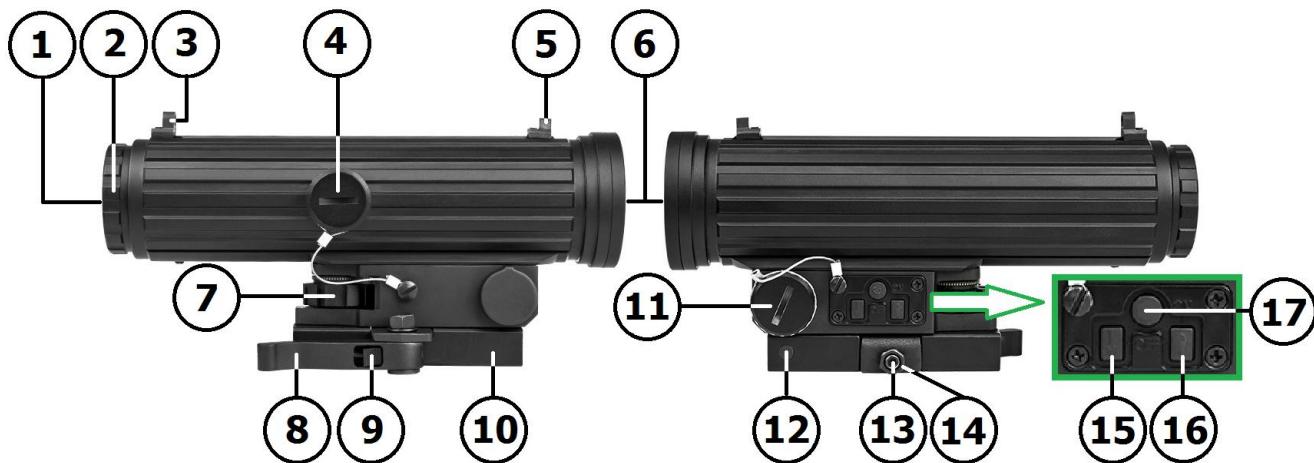
**OWNER'S MANUAL**

# LIGHT INTEGRATED OPTIC (LIO)

Congratulations on the purchase of your new VISM® Light Integrated Optic (LIO)! The LIO Scope gives you some very unique features not found in any other scope. Integrated into the Objective Lens are nine Navigation LEDs, two bottom LEDs are Red and the remaining seven are White LEDs. Other Features are: Backup Iron Sights installed on top of the scope body, Locking Quick Release Mount, Electronic Control Panel for operating the Illuminated Reticle and NAV LEDs, Fully Multi-Coated lenses, and bottom mounted Elevation Adjustment Dial.

Backed by a Lifetime Limited Warranty, your VISM® Scope will provide you with years of reliable service. This Owner's Manual will help you understand all of the features of your new scope. Follow all instructions carefully before initial use to experience the best performance.

## LIO Scope Features



1. Ocular Lens	10. Integrated Weaver/ Picatinny type Mount
2. Quick Focus Ring	11. Tethered Battery Cap and Battery Compartment
3. Rear Aperture Backup Iron Sight	12. Recoil Lug
4. Tethered Windage Cap and Adjustment	13. Allen Head Adjustment Screw
5. Front Post Backup Iron Sight	14. Lock Nut
6. Objective Lens	15. Down Arrow (↓) Button for Illuminated Reticle
7. Elevation Adjustment Dial	16. Up Arrow (↑) Button for Illuminated Reticle
8. Quick Release Lever	17. NAV Light On/OFF and Mode Switch
9. Auto-Locking Latch	

**CAUTION: BE SURE THAT YOUR FIREARM IS UNLOADED AND POINTED IN A SAFE DIRECTION. PRACTICE SAFE FIREARMS HANDLING PROCEDURES AT ALL TIMES.**

**NOTE: IF YOU ARE UNFAMILIAR WITH THE PROCESS OF MOUNTING A SCOPE, IT MAY BE NECESSARY TO EMPLOY THE SERVICE OF A QUALIFIED GUNSMITH.**

## Mounting the LIO Scope

The LIO Scope is equipped with a Quick Release Mount with an Auto-Locking Latch. To attach the Scope to a Weaver/ Picatinny/ MIL-STD 1913 type rail, move the Auto-Locking Latch located within the Quick Release Lever away from the pivot point and swing the Quick Release Lever to the forward (Open) position. Place the Quick Release Mount onto the optics rail, with the Recoil Lug placed into one of the cross slots on the optics rail. Move the Quick Release Lever rearward (Closed position) to secure/tighten the Quick Release Mount to the optics rail.

On the Left side of the Quick Release Mount is a Lock Nut and Allen Head Adjustment Screw. The Allen Head Adjustment Screw is used to adjust the rail mount tension. To adjust the rail mount tension, you must first loosen the Lock Nut Counter-Clockwise (↺). Once the Lock Nut is loosened or removed, you can then use an Allen wrench to turn the Allen Head Adjustment Screw.

Turn the Allen Head Adjustment Screw Clockwise (↻) to make the rail mount tension Tighter, turn the Allen Head Adjustment Screw Counter-Clockwise (↺) to make the rail mount tension Looser.

To test the rail mount tension, open and close the Quick Release Lever while mounted on the optics rail. Make adjustments to the Allen Head Adjustment Screw until you get the proper rail tension. Once you have the rail mount tension properly adjusted, turn the Lock Nut Clockwise (↻) to Lock the Allen Head Adjustment Screw in place.

## Dismounting the LIO Scope

To remove the LIO Scope from a rail, slide the Auto-Locking Latch located within the Quick Release Lever away from the pivot point and swing the Quick Release Lever to the forward (Open) position. You can then remove the Scope from the rail.

## Focusing the Scope

**CAUTION: VIEWING THE SUN WITH THIS SCOPE OR ANY OTHER OPTICAL DEVICE CAN CAUSE PERMANENT INJURY TO THE EYE; INCLUDING BLINDNESS.**

Holding the LIO Scope at the proper distance from your eye, in order to achieve a Full Field of View, the reticle should appear sharp and clear. If not, it will be necessary to adjust the focus by turning the Quick Focus Ring.

1. Make quick glances through the eyepiece at a featureless bright surface such as a white wall, or the open sky.
2. Turning the Quick Focus Ring Counter-Clockwise (↺) will extend the Ocular Lens outward, generally suitable for those who are far sighted. Turning the Quick Focus Ring Clockwise (↻) will draw the Ocular Lens inward, generally suitable for those who are near sighted.
3. Fine tune your adjustments until the reticle appears sharp and clear. Once the Ocular Lens reaches its outer limits of adjustment, be sure not to force it as doing so will cause damage to the eyepiece.



## Windage and Elevation Adjustment Dials

Your LIO scope is equipped with Elevation and Windage Adjustment Dials, which changes your reticles point of aim, relative to your rifles point of impact.

The Elevation Adjustment Dial is located under the Scope Body between the Scope Body and the Mount Base, and is responsible for the Up and Down movement of the reticle. The orientation for the Clockwise and Counter-Clockwise movement of the dial is referenced from looking from above the Scope Body down towards the Mount Base. If access to the Elevation adjustment is difficult to reach, you can use an Allen Wrench or the tip of a Rifle Cartridge (FMJ Bullet) to turn the Elevation Adjustment Dial. Insert the Allen Wrench long end or the Tip of the Bullet into the recess of the Elevation Dial and turn the Dial with the Tool or Cartridge to adjust the Reticles Elevation Up or Down.

Turning the Elevation Adjustment Dial Clockwise (↻) will move the Reticle Up (↑), shifting the bullet point of impact Down (↓).

Turning the Elevation Adjustment Dial Counter-Clockwise (↺) will move the Reticle Down (↓), shifting the bullet point of impact Up (↑)

The Windage Adjustment Dial is located on the right side of the Turret Body, and is responsible for the Left and Right movement of the reticle. To access the Windage Adjustment Dial, you will have to remove the Tethered Windage Adjustment Cap first. Turn the Windage Cap Counter-Clockwise (↺) for removal. You will now be able to rotate the Windage Adjustment Dial in either direction to adjust the Reticles Left and Right movement.

Turning the Windage Adjustment Dial Clockwise (↻) will move the Reticle Right (⇨), shifting the bullet point of impact Left (⇦).

Turning the Windage Adjustment Dial Counter-Clockwise (↺) will move the Reticle Left (⇦), shifting the bullet point of impact Right (⇨).

The Elevation and Windage Adjustment Dials also feature Audible and Tactile Clicks which not only can you see and hear the Click adjustments, but you can feel them as well. Each Click moves the reticle point of aim a  $\frac{1}{2}$  MOA\* at 100 Yards. See the chart below to see the amount of movement of each click of the Adjustment Dials will move the reticle for your LIO scope model at various distances.

Elevation/Windage movement per click				
100 yards	200 yards	300 yards	400 yards	500 yards
$\frac{1}{2}$ MOA	1 MOA	1 $\frac{1}{2}$ MOA	2 MOA	2 $\frac{1}{2}$ MOA

\*1 MOA = 1.047 Inches at 100 Yards

Your VISM® Scope is factory set with a Centered Reticle necessary for efficient sighting-in. If you have made any prior adjustments to the Elevation and Windage settings it will be necessary to re-center the reticle. Turn the Elevation Adjustment Dial in either direction until it comes to a complete stop. Next, turn the dial in the opposite direction, counting the number of clicks, until you have reached the limits of the adjustment range. Divide the number of clicks in half, and turn the dial that exact number of clicks back towards the center of the adjustment range. Repeat this procedure for the Windage Adjustment Dial. The reticle will now be centered.

## Zeroing the Scope

After you have completed installation of your scope it will be necessary to adjust the scopes point of aim to match the rifles point of impact. This can be accomplished using several methods, but we recommend the use of a Bore Sighting Device to save time and ammunition. Using a Bore Sighting Device will ensure that your shots land “on paper”. Follow the Manufacturer’s Instructions for the Bore Sighting Device that you choose in order to achieve the best results. You are now ready to finalize your Zero.

**CAUTION: ALWAYS BE SURE TO REMOVE THE BORE SIGHTING DEVICE BEFORE SHOOTING LIVE AMMUNITION. FAILURE TO DO SO CAN CAUSE DAMAGE TO YOUR FIREARM OR INJURY TO YOURSELF AND THOSE AROUND YOU.**

**CAUTION: WHEN OPERATING ANY TYPE OF FIREARM ALWAYS USE PROPER EYE AND EAR PROTECTION. BE SURE TO USE YOUR FIREARM IN AN AREA THAT IS PERMISSIBLE UNDER LOCAL, STATE, AND FEDERAL LAW.**

Bore Sighting alone is not sufficient enough to ensure an accurate Zero. You must shoot your firearm at the range in order to confirm a 100% accurate Zero. Follow these steps to fine tune your scope adjustments:

1. Secure your firearm using a steady platform such as a rifle bench rest or sand bags.
2. Fire 3 to 5 carefully aimed shots at a target that is set to your desired Zeroing distance (100 yards is recommended).
3. Observe where the bullet grouping has struck the target and make adjustments to the Elevation and Windage settings as necessary until your point of aim matches your point of impact.
4. Continue with this process until you have achieved your desired level of accuracy.
5. Your scope is now Zeroed to your firearm at the distance that you have chosen.

It is important to remember that many factors can affect the accuracy of your scopes zero including temperature, humidity, elevation, distance, angle, and other conditions. Changing ammunition brands can affect accuracy as well.

## Illuminated Reticle

The LIO Scope is equipped with a Blue Illuminated Reticle feature, for use when exterior lighting conditions are less than optimal. The Control Panel for the Illuminated Reticle is located on the left side of the scope body. There are 5 brightness levels for the Illuminated Reticle.

- Pressing the Up Arrow button will turn the Illuminated Reticle On.
- To adjust the brightness level of the Illuminated Reticle you simply press the Up Arrow  $\uparrow$  button to increase the brightness level of the reticle or press the Down Arrow  $\downarrow$  button to decrease the brightness level of the Illuminated Reticle.
- Pressing BOTH Up Arrow  $\uparrow$  and Down Arrow  $\downarrow$  buttons at the same time, will turn the Illuminated reticle Off.
- When the Illumination is turned back on, it will remember the last brightness setting used.

Adjust the brightness level as needed in accordance with the surrounding conditions. The illumination will increase reticle visibility especially during dawn and dusk. This illuminated scope is not intended for use in total darkness. When the illumination is turned OFF the reticle will appear as a normal Black Reticle.

Be sure that the Illuminated Reticle is turned Off when not in use to preserve battery life.

## Navigation LEDs

Integrated into the Objective Lens are nine Navigation (NAV) LEDs. The two bottom LEDs are Red and the remaining seven are White LEDs.

The NAV LEDs do not replace a weapons mounted Tactical Flashlight, they are meant to supplement it.

The LIO Navigation LEDs allow the shooter the option to use to the lower powered NAV LEDs to move around in the dark without bumping into obstacles, without giving the shooters position away to an adversary, and also maintaining the shooters night vision.



The White LED provides more lighting than the Red LED and helps with maneuvering and identifying targets in the dark in close confines/indoors. They are used to see & identify obstacles and targets at closer ranges, without blinding the shooter. There are three levels of brightness with the White LEDs to help with maneuvering and identifying targets in the dark in close confines/indoors.

The Navigation LEDs are controlled by the Round Button on the Control Panel, between the Two Rectangular Arrow Buttons for the Illuminated Reticle.

When you first press the Round Button it will turn On the two Red LEDS. A second press will turn On the first two White LEDS, a third press of the button will turn On four White LEDS, and a fourth press of the button will turn On all seven White LEDs for the brightest setting. One final press will turn Off the Navigation LEDs.

## Battery Installation

On the left side of the Scope Body you will find the Tethered Battery Cap with a machined notch in the center. If the Battery Cap is too difficult to turn, you may use a small coin to break it loose. The Battery Cap is removed by turning the Battery Cap Counter-Clockwise (↺).

Remove the old battery and dispose of it properly. Replace it with a New 3-volt CR123A Lithium Battery, with the positive (+) side facing outward. Reinstall the Battery Cap by twisting it Clockwise (↻) until snug.

If after you replace the Battery and the Illuminated Reticle or Navigation LED lights do not turn on, make sure you have installed the Battery orientation correctly or try another New Battery.

If the Illuminated Reticle turns On, but the Navigation LED lights do not turn On, the Battery may be near the end of its battery life and it's time for a New Battery.

Make sure that the Illuminated Reticle and the Navigation LED lights are turned OFF when not in use to preserve battery life. If you are going to store your scope for a prolonged period of time it is best to remove the battery to avoid leakage that can damage the scope.

## Care and Maintenance

Your VISM® Scope is shock proof, waterproof, and fog proof. However, you should never try to take it apart or clean it internally. The exposed optical lens surfaces will perform their best if they are routinely cleaned with a lens brush or a lens cloth. For a deep cleaning, you can also use high grade camera lens paper and camera lens cleaning solutions. Never use any other type of materials or solvents other than those designed specifically for optical lenses to avoid damaging your scope. Clean the outer portion of the lens cavity first with cotton swabs, clearing as much debris and dust as possible. Then, gently clean the lenses using a circular motion starting in the center and ending at the edges. Do not rub the lenses continually; simply wipe in short circular patterns. Maintain the exterior surfaces of the scope by removing dirt or sand by using a soft brush or a soft, dry cloth. You can also use a silicone treated cloth to restore luster and protect the scope against corrosion. Be careful not to touch any of the lenses with the silicone cloth. It is not necessary to lubricate any part of the scope as all of the moving parts, such as the turrets and the fast focus eyepiece, are permanently lubricated. When not in use, always store your scope in a dry place with the lens caps on to prevent scratches to the lenses.

**IF YOU ARE UNFAMILIAR WITH ANY OF THE PROCEDURES IN THIS MANUAL, ALWAYS SEEK THE HELP OF A QUALIFIED PROFESSIONAL TO AVOID DAMAGE TO YOUR SCOPE AND YOUR FIREARM.**

## VISM® LIGHT INTEGRATED OPTIC (LIO) SPECIFICATIONS

Model Number	Reticle Type	Magnification	Objective Lens Diameter	Eye Relief	Field Of View Feet @ 100 yrds	Exit Pupil Diameter	Turret Value Per Click	Max Windage & Elevation (MOA)	Lens Coating	Color Finish	Length Inches	Weight .oz
VHLO434GB	Mil Dot	4	32 mm	3.1	25.1	8 mm	1/2 MOA	±120	Green	Matte Black	6.8"	19.3



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