



X1 PRIMAL
4-16X44
RIFLESCOPE

Table of Contents

3	Optic Specifics
5	Explanation of MOA
6	Explanation of Second Focal Plane
6	Reticle Information
7	Fast Focus Eyepiece
7	Explanation of Parallax
8	Illumination System
8	Factory Zero, Windage and Elevation
9	Mounting the Riton Optic
9	Eye Relief and Reticle Alignment
10	Bore Sighting
10	Zeroing the Riflescope
10	Zero Reset the Turrets
11	Troubleshooting
11	Warranty

THANK YOU FOR CHOOSING RITON OPTICS.

We know that you have many options and we are thankful for selecting Riton as your optics provider.

As a company founded by Law Enforcement and Military Veterans, we take our commitment to service seriously. We have an unwavering passion for offering high quality optics at the industry's most competitive prices and matched by incredible service. You will see the difference in everything we do because we are different, and we developed this company to be exactly that so that you, the consumer, get everything you deserve. If you are ever in need of additional information or assistance, please contact us. We are here to continually serve you as a valued partner.

X1 PRIMAL 4-16X44

Optic Specifics The absolute top of the food chain for an affordable hunting optic! The X1 Primal 4-16x44 features an integrated throw lever for ease of magnification adjustment and capped, zero resettable turrets to put you right on your target every time. The X1 Primal 4-16x44 also utilizes Riton HD glass, providing for an optimal Field of View (FOV) with a crystal-clear picture.

DETAILED PRODUCT FEATURES:

- Advanced Turret System with Zero Reset Turrets
- Aircraft Grade Aluminum with Rugged Design Ready for the Toughest Environments
- 100% Waterproof, Fog proof and Shockproof (tested up to 1200 G's)
- 1/4 MOA Fingertip Windage and Elevation Adjustment
- Fast-Focus Eyepiece
- Assembled in EP-Level Clean Room
- Riton Capped Turrets



Technical Specifications



Magnification:	4-16
Parallax Adjustment:	Side, 10-infinity yards
Tube Diameter:	1"
Objective Lens Diameter:	44mm
Focal Lens Position:	Second Focal Plane
Lens Coating:	Fully Multi-Coated, Full Wide Band, Waterproof Coated, Low Light Enhancement
Reticle:	RUT Reticle
Field of View at 100 yds:	24.1-6.3'
Material:	6061-T6 Aircraft Grade Aluminum
Weight:	24.8oz/703g
Length:	13.12"/333mm
Eye Relief:	100mm/3.9"
Exit Pupil:	11 Low - High 2.8mm
Click Value at 100 yds/mm:	1/4"
Adjustment Range:	94 MOA
Mounting Length:	140mm/5.5"
Turret Type:	Capped

Explanation of Minute of Angle (MOA)

MOA unit of arc measurements are based on degrees and minutes. There are 360 degrees in a circle and 60 minutes in a degree for a total of 21,600 minutes (MOA) in a circle. A minute of angle will subtend 1.05 inches at a distance of 100 yards.



	100 Yards	200 Yards	300 Yards	400 Yards	500 Yards
1/4 MOA	.25 IN	.50 IN	.75 IN	1 IN	1.25 IN

*Graduations can be calculated at additional distances beyond 500 yds.

Second Focal Plane (SFP) Reticle

The reticle in your Riton riflescope is a Second Focal Plane (SFP). SFP reticles are located in rear of the image erecting and magnifying lenses. The advantage of a SFP reticle is that it always maintains the same appearance. Shooters using reticle hash marks should be aware that the listed subtensions used for estimating range, holdover, and windage correction are at the maximum magnification.

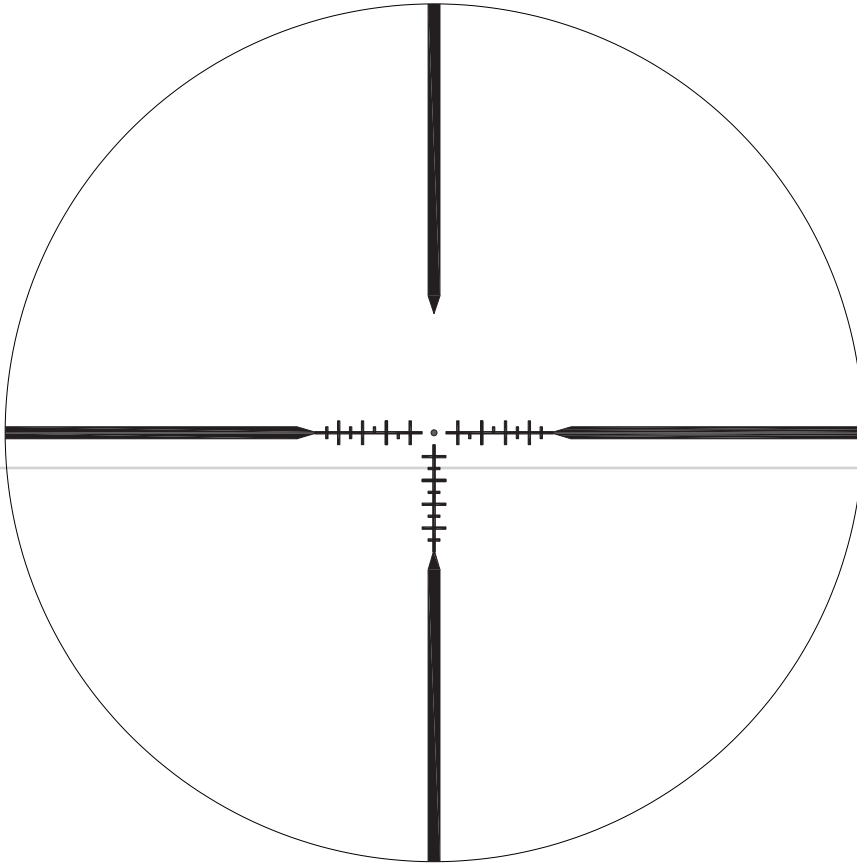
TO CHANGE MAGNIFICATION:

Simply turn the magnification ring to the desired magnification level. Lower powers offer a wider field of view while higher powers



Reticle Information

The Riton X1 4-16x44 is equipped with the Riton RUT reticle.



Fast Focus Eyepiece

The Riton fast focus eyepiece is designed to quickly and easily adjust the focus on the rifle-scope's reticle.

TO ADJUST THE RETICLE FOCUS:

1. Look through the scope on max magnification at a blank white wall or white paper
2. Turn the eyepiece in or out until the reticle image is as crisp as possible.



Explanation of Parallax

Parallax describes a situation where the focal plane of the object in the scope is offset from the reticle. If you have parallax, you have an optical illusion that must be corrected. Parallax should not be confused with focus. Parallax compensation changes neither the focus of the reticle nor the focus of the image; it simply moves the planes at which these two objects are in focus so that they share the same plane.

TO ADJUST THE PARALLAX:

1. Set your fast focus eye piece for your eye. Look at a blank backdrop and turn your eye piece in and out until you have a crisp sharp reticle.
2. Look through scope and place cross-hair on target. Move your head around without leaving exit pupil. Does the cross hair move or become fuzzy or blurry?
3. If the cross-hair moves or is blurry, adjust side parallax until sight picture is crystal clear.



Mechanical Zero

Your Riton rifle scope is pre-set from the factory with the reticle in the center of the adjustment ranges.

TO FIND FACTORY ZERO:

1. Dial turret one direction until it will no longer rotate.
NOTE - Do not force the turret past it's stopping point.
2. Dial turret opposite direction counting how many MOA it turns.
3. Divide that total number of MOA in half and dial to that number for your factory zero.
4. Complete this procedure for both windage and elevation dials to approximately center the reticle.



Mounting Your Riton Riflescope

Always use high quality rings or mount that match your optic's main tube diameter.

TO MOUNT YOUR RITON RIFLESCOPE:

1. Mount the bottom ring halves or mount on the mounting base of your rifle.
2. Place the riflescope on the bottom ring halves and loosely install the upper ring halves so that your riflescope is able to move between rings.
3. Before tightening the scope ring screws, adjust for maximum eye relief to avoid injury from recoil.
4. Tighten the scope rings per the torque specs of the rings or mount.

Note - If using Riton scope rings or mount, the recommended torque specs are 45 in/lbs for the base and 18 in/lbs for the top halves of the rings.



Eye Relief and Reticle Alignment

TO SET A PROPER EYE RELIEF AND RETICLE ALIGNMENT:

1. Set the riflescope magnification to the highest setting.
2. Slide the riflescope as far forward as possible in the rings.
3. While looking through the riflescope in a normal shooting position, slide the riflescope back towards your face, paying attention to the field of view. Just as the full field of view is visible, stop the movement of the riflescope.
4. Without disturbing the front-back placement, rotate the riflescope until the vertical cross-hair exactly matches the vertical axis of the rifle. Use of a reticle leveling tool, a weight hung on a rope, or bubble levels to help with this procedure.
5. After aligning the reticle, tighten and torque the ring screws down per the manufacturer's instructions.



Bore Sighting

Bore sighting is a preliminary procedure to achieve proper alignment of the scope with the rifle's bore. Initial bore sighting of the riflescope will decrease the amount of time and ammunition you need to use at the range.

This can be done by using a mechanical or laser bore sighter according to the manufacturer's instructions or by removing the bolt and sighting through the barrel on some rifles.

TO BORE SIGHT YOUR RIFLESCOPE:

1. Place the rifle solidly on a rest and remove the bolt.
2. Sight through the bore at a target approximately 50 yards away.
3. Move the rifle and the rest until the target is visually centered inside the barrel.
4. With the target centered in the bore, make windage and elevation adjustments until the reticle cross-hair is also centered over the target.

Note - If a laser bore sighting or any other similar device inside the bore was used, it must be removed before firing. An obstructed bore can cause serious damage to the gun and possible injury to the shooter.

Zeroing the Scope

IMPORTANT SAFETY CHECKS:

- Always check your weapon and surroundings for safety.
- Follow all weapon manufacturer safety guidelines.
- Always shoot from a solid rest using consistent and proper form.
- Be sure that your target is level to aid in accurate sight-in process.

TO ZERO THE SCOPE:

1. Start sight-in process from 25 yards, from solid rest fire 3-shot group, ensuring that you fire at same spot each time. Use grid lines on target to center and level your cross-hairs.
2. After the first 3-shot group, make adjustments to bring bullet impact to center of target you're shooting at. Repeat this process at 100 yards and you will have accurate 100 yard zero.

Note - Scope graduations are 1/4 MOA. Scope turrets are marked with direction of bullet impact change. At 100 yards a 1/4 MOA scope adjustment will move bullet impact 1/4 inch in direction adjusted. At 25 yards that same 1/4 MOA adjustment will be 4 times smaller, so 1/4 MOA adjustment at 25 yards will move bullet impact 1/16 of an inch.

Zero Reset of Turrets

By zeroing the rifle at 100 yards, the shooter can calculate how many clicks of adjustment are needed for different distances or wind conditions.

TO ZERO RESET YOUR TURRETS AFTER YOUR RIFLE IS

SIGHTED IN:

1. Unscrew the turret cap.
2. Remove the screw from center of turret and take off the turret knob.
3. Put the turret knob back on with zero line aligned with mark below the turning knob.
4. Tighten the screw to lock it in.



Troubleshooting

Problems thought to be associated with the scope are often actually mount problems. Take time to ensure the mounts are tight to the rifle and that scope is secured and doesn't twist or move in the rings. Confirm that correct base and rings are being used and in the proper orientation. Be sure to torque rings per manufacturer's specs.

Keep in mind there are many issues that can cause poor bullet grouping. Always utilize a solid rest and maintain good shooting technique. Have a qualified gunsmith look over your rifle to be sure all things are in working order. See that the action and barrel are properly cleaned. Some rifles and ammunition don't work well together, try different ammunition and see if accuracy improves.

Riton Warranty

As a part of the Riton Promise we believe in providing you with the best possible service, including the industry's best warranty. The quality of our products makes this the best warranty you'll likely never have to use; however, as hunters and outdoorsmen and women, we know that bad things sometimes happen to even the most cautious.

OUR WARRANTY IS SIMPLE:

- No proof of purchase or registration required for your Riton products.
- Lifetime warranty regardless of original purchaser.
- All warranty replacements will receive a brand-new product off the shelf. We will not ever replace the product with a repaired or refurbished product.
- Replacement product will be shipped within 48 hours of receiving and approving your return.
- Loss, theft and/or deliberately worn and damaged products are not covered. Warranty is VOID if damage results from unauthorized repair or alteration.



1-855-39-RITON

info@ritonoptics.com

RITONOPTICS.COM