



3-18X50

FIRST FOCAL PLANE SCOPE
WITH ATHENA™ BPR MIL RETICLE

For Patent Information go to <https://goo.gl/2z62aS>



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Clear Reticle Instructions!

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Thank you for choosing this Primary Arms optic.

If you have any questions about your new optic or any of our other products, visit us at www.primaryarmsoptics.com, email us at info@primaryarmsoptics.com, or give us a call at 713-570-1910. The customer service team at our headquarters in Houston, Texas will respond promptly.

If you have any problems with a Primary Arms product, we urge you to contact us immediately and let our customer service professionals handle the situation for you. There is no need to return your scope to the retailer.



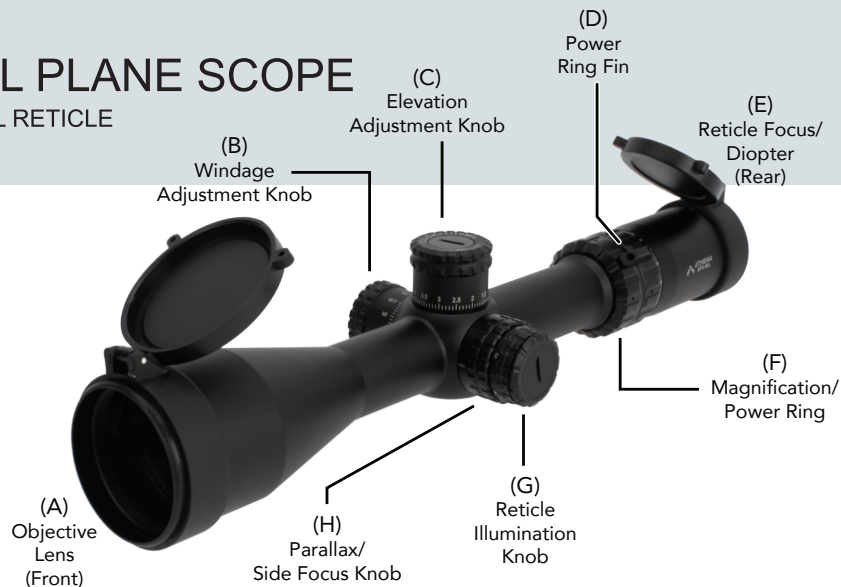
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3-18X50

FIRST FOCAL PLANE SCOPE WITH ATHENA™ BPR MIL RETICLE

The 3-18x50 FFP Scope is a tough precision optic with unprecedented flexibility. It is very fast to acquire the target at 3x magnification and extremely accurate at 18x magnification, remaining true at all magnifications. Advanced features like locking, resettable adjustment knobs, side focus parallax adjustment and red reticle illumination are incorporated efficiently. Due to the first focal plane design of this scope, please note that at high magnifications beyond 10x, not all of the reticle will be visible. The magnification has simply exceeded the field of view represented by the outer edges of the reticle.





ACHIEVING A CLEAR RETICLE PICTURE

Your 3-18x50 FFP scope comes with an adjustable diopter ring that must be set to match your eye. Located at the rear of the eyepiece, it is marked simply [+ 0 -]. The Reticle Focus/Diopter (E) changes the focus of the reticle as you see it inside the scope. It does not change the focus of objects that you look at through the scope. Setting the diopter is a **critical first step** to successful precision shooting. You can set the diopter before you have even mounted the scope in its rings.

Turn the Magnification/Power Ring (F) to a high setting, between 14x and 18x, and point the scope at a bright, featureless background such as blue sky or a blank white wall.

Turn the Parallax/Side Focus Knob (H) to infinity [∞].

With your head in position behind the scope, look at the wall or sky. If you look through prescription glasses when shooting, wear them now too. After 5 or 6 seconds, close your eyes.

Now open your eyes, glance through the scope and immediately see if the reticle is sharp or blurry. If you notice that the reticle seems blurry at first and then suddenly sharpens, your eyes have focused on the reticle itself instead of looking **through** the scope. You must adjust the Reticle Focus/Diopter (E) and try again.

If the reticle was blurry, turn the Reticle Focus/Diopter (E) ring and repeat the process again. The process will take multiple adjustments. Each time you repeat the process, ask yourself if the reticle was sharper or more blurry than before. The final adjustments may be very fine. If your eyes get watery or tired, walk away for a bit and come back to this later.

Once the reticle appears sharp as soon as you glance through the scope, the diopter is set for your eyes. Everyone's eyes are slightly different, so the ideal adjustment changes from person to person. Many shooters will mark their correct diopter position with a little dab of paint or fingernail polish next to the **0** mark, in case the ring gets turned accidentally later on. Others will apply electrical tape around the diameter of the ring to hold it in place.

This is a one-time adjustment. Reticle details may appear small when not looking at medium or long range targets, especially at low magnification. Shooting at those ranges is best done from a well-supported position using a bipod or sandbags.



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ADJUSTING PARALLAX

The Parallax/Side Focus Knob (H) is located on the left side of the scope, marked with ranges from 15 yards to infinity. Although it is often referred to as a “side focus” knob, parallax and focus are not the same thing. Parallax error occurs when the target’s image and the reticle are not aligned on the same focal plane inside the scope. To visualize this, pick a picture on the wall of a room as your “target”, and stick your thumb up in front of it like you are a hitch-hiker. Your thumb represents the reticle of the scope. Closing one eye and using your thumb to “aim” at the picture on the wall, you will notice that moving your head around changes where your thumb appears to be aimed. This is because your thumb is not located in the same focal plane as the picture on the wall. Any slight change in your head position will change your point of aim, and your point of impact. Adjusting the Parallax/Side Focus Knob (H) eliminates parallax error at different ranges by bringing the reticle into the same focal plane as the target, like having a friend place their thumb directly against the picture on the wall. Parallax error is most noticeable at high magnifications. Adjustment is much easier with your rifle secured by sandbags or a bipod.

Turn the Parallax/Side Focus Knob (H) until the target appears to be in focus. This will get you close to the correct adjustment.

Looking through the scope at the target, move your head just slightly from side to side. If you lose the sight picture you are moving too much. Go slowly, and see if the reticle appears to move relative to your target. A target that appears to be floating around the reticle as you move your head indicates parallax error.

If the target appears to move in the opposite direction of your head, turn the Parallax/Side Focus Knob (H) counterclockwise. If the target appears to move in the same direction as your head, turn the Parallax/Side Focus Knob (H) clockwise. These adjustments are very small. Move the Parallax/Side Focus Knob (H) just a little bit at a time and re-check.

Once the reticle and target hold their positions as you move your head from side to side, parallax error is eliminated for targets at this range. Normally this adjustment will also keep the target nicely in focus. However, to gain the most consistent hits on target, it is more important to eliminate parallax error than to have the target perfectly in focus.





RETICLE ILLUMINATION

The Reticle Illumination Knob (G) on the left side of the scope is marked with numbers of increasing brightness from 1 to 6. Between each number is an OFF setting. The cap unscrews counterclockwise, holding a CR2032 battery with the positive (+) side facing towards the cap. Reticle illumination is most useful in low light situations like sunrise and sunset. The two brightest reticle illumination settings in your Primary Arms scope are designed for day time use only. Reticle “bleed out”, abnormalities and/or small imperfections may be visible when viewed indoors or in low light conditions at these two settings. This is a normal result of the reticle etching process. Abnormalities at these settings will not be visible when viewed in day light conditions. Using these settings in low light situations will also overpower your eye’s ability to see the target. The right amount of illumination creates a clear contrast between the reticle and your intended target, without straining the eye. Reticle illumination at the lower settings is useful in low light/indoor environments.

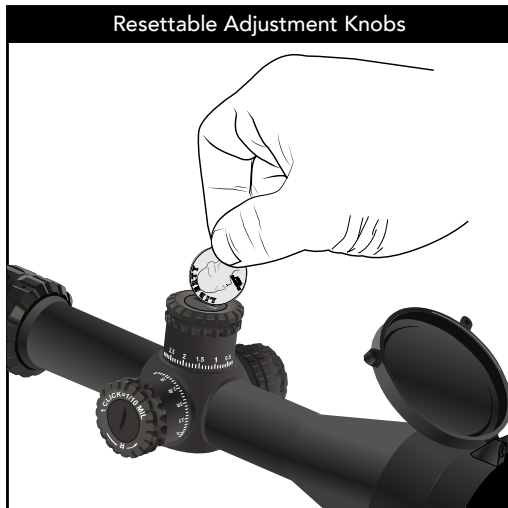


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ESTABLISHING ZERO

Using a bipod or sandbags, preferably on a bench or in the prone position, turn the power ring to a high magnification to see your target as easily as possible. When the numbers on the knobs are adjacent to the scope body, the knobs are in the “locked” position and cannot be turned. Pull the knobs away from the scope body to unlock and adjust them. When sighting in your rifle, if your shots are hitting low, turn the elevation knob counterclockwise to bring the point of impact up. If your shots are hitting to the left, turn the windage knob counterclockwise to bring the point of impact right. Once you are finished sighting in, you can push the knobs back towards the scope body to lock them, preventing accidental rotation.





RESETTING ZERO FOR WINDAGE AND ELEVATION

You can reset your Windage (B) and Elevation (C) Knob positions to read “zero” after sighting in your rifle. Using a coin, turn the locking screw in the knob cap counterclockwise and remove it. Carefully pull the outer knob straight away from the scope tube until it comes completely off. Line up the 0 mark with the center line underneath, and press the outer knob straight towards the scope tube to reinstall. Finger pressure is all that is needed. With the outer knob reinstalled, push down towards the scope tube to ensure the knob is locked and cannot rotate. Then carefully tighten the knob cap using a coin. Do not over torque the locking screw.

RESETTING THE POWER RING FIN

The Power Ring Fin (D) is held onto the power ring by two 2.5 mm allen screws. The fin can be removed by turning the hex screws counterclockwise to loosen them, and replaced on any of the available slots with pre-drilled holes. Adjusting the positioning of the power ring fin is best done with the scope already mounted on the rifle, checking carefully for any potential interference with other rifle components or accessories.

ACCESSORIES AND MORE INFORMATION

The Primary Arms sun shade (SKU: PA3-18SS and PA3-18SS-FDE) is a useful addition to your 3-18x50 FFP scope. The sun shade can prevent glare when shooting in bright sunlight at certain angles, and can keep water away from the objective lens in the rain. The sun shade easily screws into the objective bell of the scope with no tools needed. The sun shade is not included, and is available for sale separately.



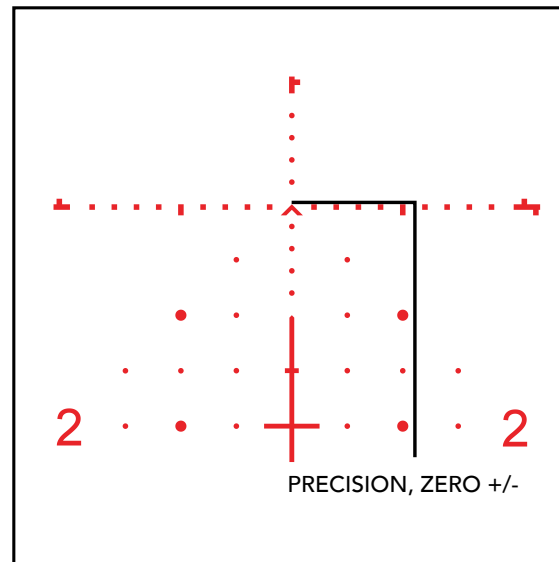


THE ATHENA BALLISTIC PRECISION MIL RETICLE

Athena BPR includes very fine subtensions for accurate ranging and fire correction at extended ranges and high magnification. Overall, the reticle extends 10 MIL up, left, and right of the center chevron, and 15 MIL down. Large hash marks are found in 1.0 MIL increments, with smaller marks between them at 0.5 MIL increments.

ESTABLISHING ZERO, OR DIALING IN YOUR SCOPE

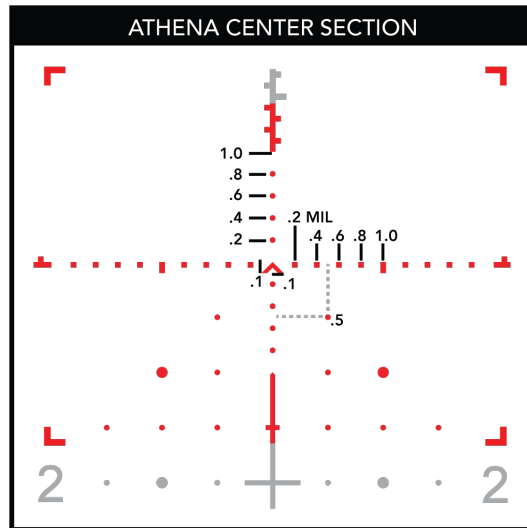
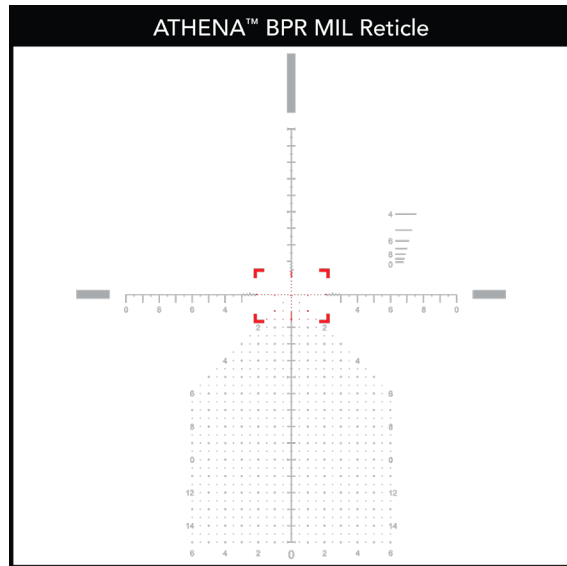
Athena BPR uses a chevron as the center aiming point of the reticle. When zeroing your rifle, adjust your Windage (B) and Elevation (C) knob positions so that the point of impact coincides with the tip of the chevron. Using the chevron tip allows for an infinitely small point of aim that never covers up the part of the target you want to hit, giving the chevron tip a precision advantage over traditional crosshairs or a center aiming dot.





ATHENA CENTER SECTION

The tip of a very small chevron occupies the center. The chevron measures just 0.1 MIL down from center and 0.1 MIL to the left and right of center. Thus, the outer tips of the chevron legs are located 0.1 MIL from center, and 0.2 MIL apart from each other.





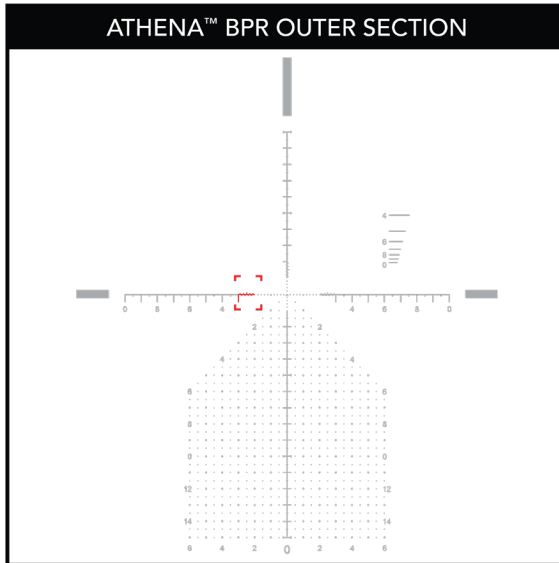
ATHENA OUTER SECTION

At 2 MIL distance left/right from center, the solid crosshair line begins, using alternating upper and lower marks forming a MIL ranging section. These can be used to range targets using extremely fine 0.1 MIL increments. At 3 MIL left/right from center, the 0.5 MIL hash marks begin.

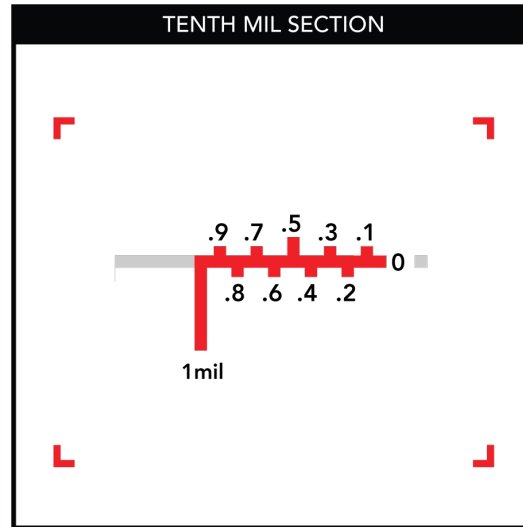


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ATHENA™ BPR OUTER SECTION



TENTH MIL SECTION



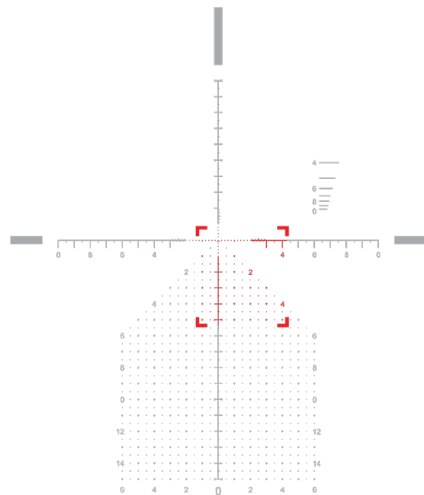


THE MIL GRID

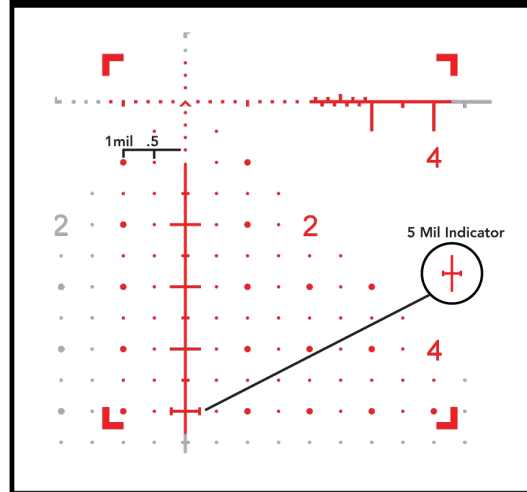
The MIL grid consists of small 0.05 MIL thick dots located at intervals of 0.5 MIL below center and 0.5 MIL left/right of center. The grid continues downwards adding a dot or number every 0.5 MIL. The full grid reaches 15 MIL down and 6 MIL left and right of center. To help with navigation, at 1.0 MIL intervals the dot size grows to 0.1 MIL thickness. Numbers 2, 4, and 6 located on the outer edges of the grid represent total MIL both down from center and left or right from center. Numbers 8 through 14 represent total MIL down from center, but the grid stops expanding to the left and right at 6 MIL.

Beginning 1.0 MIL below center, the centerline “backbone” crosshair features small hash marks that extend just 0.05 MIL left and right from center, alternating with large hash marks measuring 0.25 MIL left and right of center. To help with navigation, every 5.0 MIL the large hash marks are embellished with indicator bars on the ends, giving them a distinctive barbell shape.

ATHENA™ BPR MIL GRID DETAILS SECTION



GRID DETAILS





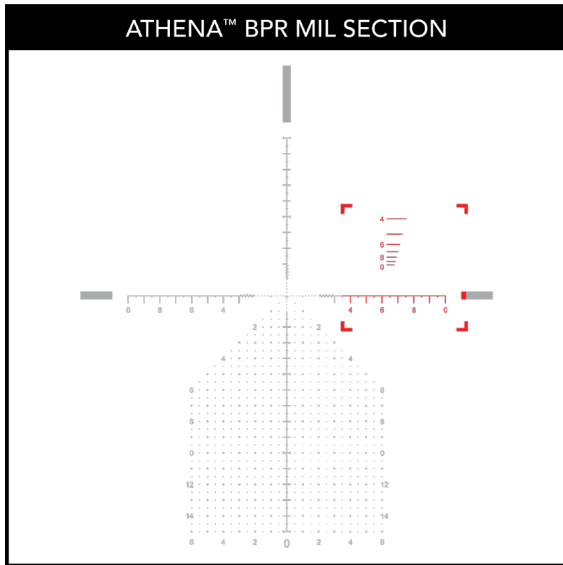
RANGING LADDER

Located high and right of center is the ranging ladder. Vertical ranging is calibrated for a 5'10" tall target. Looking through the scope at the target, line up the bottom of the target with the horizontal crosshair. The line that coincides with the top of the target indicates the distance to the target. For example, if the top of the target touches the line with a "4" next to it, the target is 400 yards distant. The ranging lines may be used as reference points to make more precise, yet quick ranging determinations. For example, a 5'10" target with its top midway between the "4" line and the "5" line will be approximately 450 yards away.

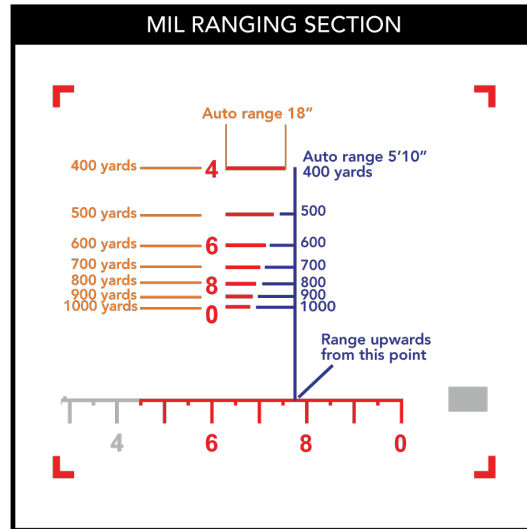
Horizontal ranging is calibrated for an 18" wide target. Simply line up the target's width with the appropriate line to determine range to target. For example, an 18" wide target that appears to be the same width as the ranging line with a "6" next to it will be 600 yards away. This method is useful when the target's height is partially obscured, as with a target in tall grass.



ATHENA™ BPR MIL SECTION



MIL RANGING SECTION





HOW TO RANGE ESTIMATE USING THE 0.1 MIL RANGING SECTION

The 0.1 MIL ranging sections are displayed starting 1.0 MIL vertically and 2.0 MIL horizontally from the center chevron. Due to the first focal plane design of this scope, you can perform ranging at any magnification, but using high magnification usually gives the best results. Starting at the edge of the section, marked "0" in the diagram, each bar and gap are exactly .1 MIL apart.

To range estimate a target in yards using the milliradian system, take the following steps:

1. Know your target's height or width in inches. For example, this target is 18 inches wide.
2. Multiply the 18" target size by the MIL conversion number 27.78.

$$18 \times 27.78 = 500.04$$

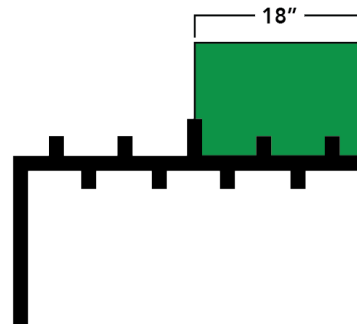
Therefore an 18 inch wide target, converted, equals approximately 500.

3. With the target downrange, look through the scope at high magnification and measure the target using the 0.1 MIL section. In this example, our target measures only 0.5 MIL wide.
4. Take the converted 18" target number (500), and divide it by the 0.5 MIL measurement observed through the scope.

$$500 / 0.5 = 1000$$

This target is 1,000 yards away. You can take any target's known size in inches and multiply it by the conversion number 27.78. Observe the target's measurement in MIL, and divide it by that measurement to determine the range in yards. The general formula is:

$$(\text{Target size in inches}) \times (27.78) / \text{Target measurement in MIL} = \text{Distance in yards}$$



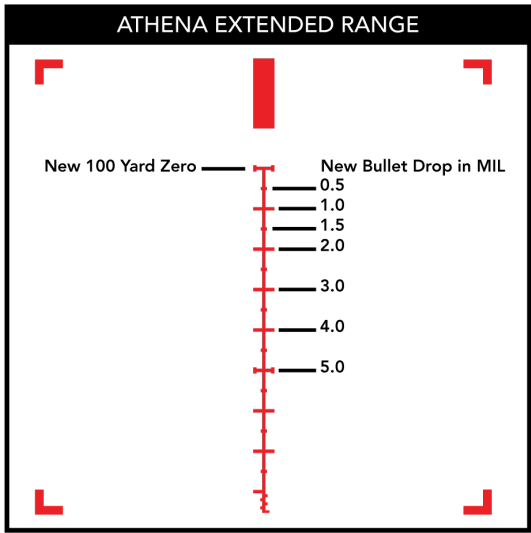
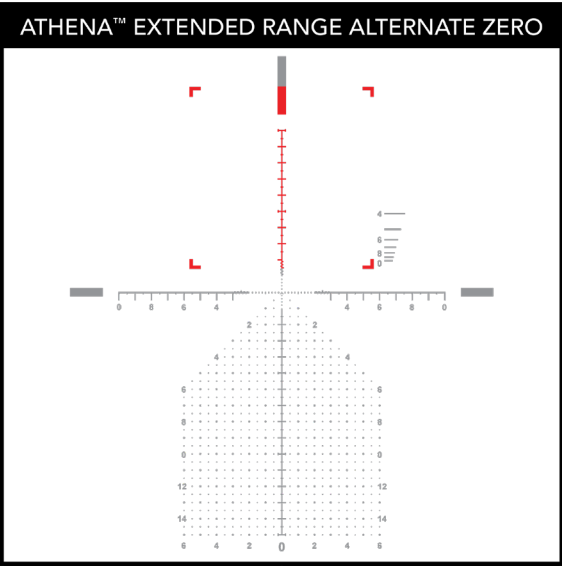
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EXTREME LONG DISTANCE SHOOTING USING ATHENA

To engage targets beyond 15 MIL of bullet drop using Athena BPR, employ a ballistic calculator program and use the vertical crosshair hashmarks to your advantage. Abandon using the 100 yard zero at the chevron, and instead dial in a higher zero using one of the 0.5 MIL hash marks on the vertical crosshair. For example, dialing in your rifle using the “barbell” hash mark located at 10 MIL above center as your point of aim creates a total 25 MIL of drop available in the reticle. The horizontal crosshairs or MIL Grid can still be utilized for wind call holdovers.





SPECIFICATIONS

Magnification: 3-18x	Exit pupil: 16.2 mm – 2.7 mm	Click value: 0.1 MIL
First focal plane	Field of view:	Total windage and elevation adjustment: 50 MOA/14.54 MIL
Objective lens diameter: 50 mm	36.7 feet @ 100 yards at 3x	
Eye relief: 3.5" – 3.9"	6.1 feet @ 100 yards at 18x	
Ocular lens diameter: 35.5 mm		

FEATURES

Tube diameter: 30 mm	Fully multi-coated lenses	6061 aluminum, anodized matte black
Red reticle illumination	Nitrogen purged	6061 aluminum, anodized flat dark earth
Fast focus eyepiece	Flip-up lens covers included	Uses one CR2032 battery (included)
Waterproof: Meets IP67 standard	Length (w/o Lens Covers): 13.2"	Lifetime warranty (see website for details)
Fog resistant	Weight (w/ Battery, w/o Lens Covers): 25.4 oz.	

Specifications may vary and are subject to change without notice.





LENS CARE

Please do not use any organic solvent such as alcohol or acetone on your scope. First, blow dust or any foreign objects off of the lens. Then, use a soft cotton or microfiber lens cloth to clean any fingerprints or smears off the lens. Alternatively, you may use a piece of professional lens paper for further cleaning, if necessary.

⚠ WARNINGS: Always ensure your firearm is unloaded (chamber empty and magazine removed) before installing optics or accessories.

⚠ WARNINGS: Improper installation of firearm parts or accessories may result in death or serious personal injury. If you are not properly trained in the installation of these parts, have them installed by a gunsmith or armorer.



REMEMBER: THE FOUR RULES OF FIREARMS SAFETY

Treat every firearm as if it were loaded
Never let your muzzle cover anything you are not willing to destroy
Keep your finger off the trigger until your sights are on target
Be sure of your target and what is behind it

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NOTES:



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NOTES:



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NOTES:



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PRIMARY ARMS®

3-18X50

FIRST FOCAL PLANE SCOPE WITH ATHENA™ BPR MIL RETICLE

WARRANTY

Your PA3-18X50FFP scope is covered by the Primary Arms Lifetime Warranty. If a defect due to materials or workmanship, or even normal wear and tear, has caused your product to malfunction, Primary Arms will either repair or replace your product. You can find more details at www.primaryarmsoptics.com.

Email: info@primaryarmsoptics.com
Phone: 713-570-1910
www.primaryarmsoptics.com

MANUFACTURER PART NUMBER

UPC

FINISH

PA3-18X50FFP-ATHENA-BPR-MIL

8 18500 01302 0

MATTE BLACK

PA3-18X50FFP-ATHENA-BPR-MIL-FDE

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FLAT DARK EARTH