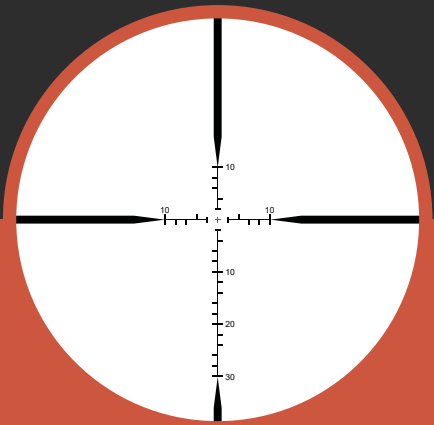
ATHLON
RIDICULOUSLY GOOD OPTICS

APLR-H2 SFP IR MOA

Midas HMR Riflescope

SECOND FOCAL PLANE



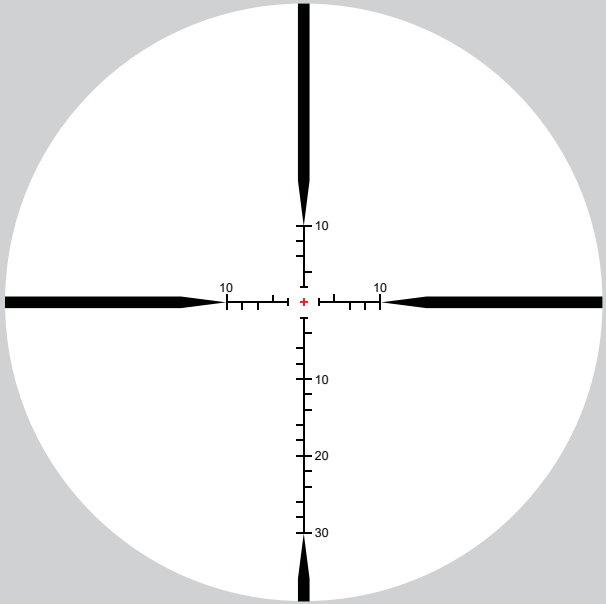
RETICLE MANUAL

THE ATHLON® APLR-H2 SFP IR MOA RETICLE

Athlon's APLR-H2 SFP IR MOA reticle is an easy to see long range MOA reticle. The 2 MOA subtensions and floating center cross hair make it easy to hit your mark. The outer crosshair tapers down to a point drawing your attention to the floating illuminated cross hair. You also get a wide field of view with less target obstruction with only 10 MOA vertical reticle on the top of the cross hair.

For 2.5-15x50 reticle subtension is valid at 15x.
For 2-12x42 reticle subtension is valid at 12x.
For 4-24x50 reticle subtension is valid at 16x.

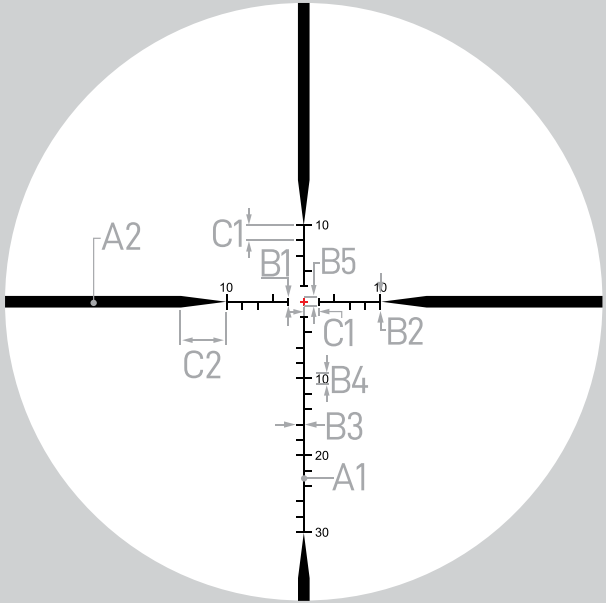
Application: Hunting



RETICLE SUBTENSIONS

The APLR-H2 SFP IR MOA reticle is based on the minute of angle, a unit of angular measurement, usually shortened to moa. A "moa" is defined as "one minute of an angle". As a full circle has 360 degrees, and each degree is composed of 60 minutes (60'). thus there are 360 (degrees) x 60 (minutes) = 21,600 minutes in a circle. Since there are 360 degree in a circle, we can get 360 degree/21600 minutes=0.016667 degrees/minute. If the target is 100 yards (3600 inches) away, we can use a formula, 3600*TAN(RADIANS(.016667)), to get 1.047 inches which means 1 moa equals to 1.047 inches at 100 yards. Many people just round down the 1.047 inches to 1 inch @100 yards. If you are using metric system, formula 100000mm*TAN(RADIANS(.01667)) gets you that 1 moa equals to 29.1 mm @100 meters.

The APLR-H2 SFP IR MOA reticle is located at the second plane which stays in between erector tube and ocular lens. The size or the appearance of a second focal plane reticle does not change when you zoom in or zoom out, however the relative ratio between reticle and your target changes all the time because your target appears bigger or smaller when the magnification changes.



SUBTENSIONS IN MOA

A1	A2	B1	B2	B3
0.18*	1.5*	1	2	1
B4	**B5**	**C1**	**C2**	
1	1	2	6	

2.5-15x50 and 2-12x42: use table above
4-24x50: A1=0.12, A2= 0.9

DISTANCE RANGING

Equations for ranging distance to a target using moa:

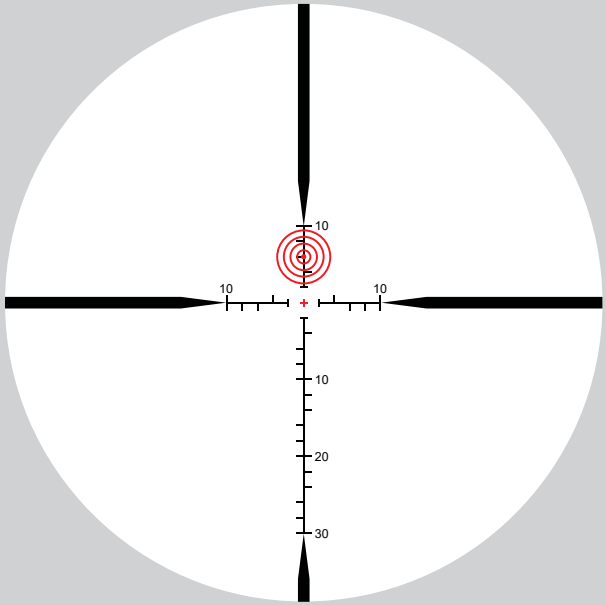
$$\frac{\textit{Height of Target (Inches) x 100}}{\textit{MOA Reading on Reticle}} = \textit{Distance to Target (Yards)}$$

$$\frac{\textit{Height of Target (CM) x 34.4}}{\textit{MOA Reading on Reticle}} = \textit{Distance to Target (Meters)}$$

Because the actual, or at least closest estimate of, the height of your target is a key part of above equations, you need to know either the target's height or the height of nearby objects with known dimensions.

To ensure an accurate reading, place your rifle on as steady a rest as possible before measuring. If needed, use the smallest reticle markings available to obtain the most precise measurement.

EXAMPLE



Reading a 3-foot target (36 inches) at 6 moa gives 600 yards

$$\frac{\textit{36 inches x 100}}{\textit{6 MOAs}} = \textit{600 yards}$$

HOLDOVER FOR COMPENSATING BULLET DROP

To use elevation holdovers effectively, you need to know both the distance to your target and your bullet's trajectory (drop in inches or moa). Since most ballistic charts list bullet drop in inches, it's important to understand that 1 moa equals 1.047 (rounded down to 1 inch) at 100 yards, 2 inches at 200 yards, and so on. This value scales with distance.

To calculate your holdover in moa:

1. Determine how many inches 1 moa represents at your distance:
   1 × (distance in yards ÷ 100)
2. Divide your bullet drop (in inches) by that number

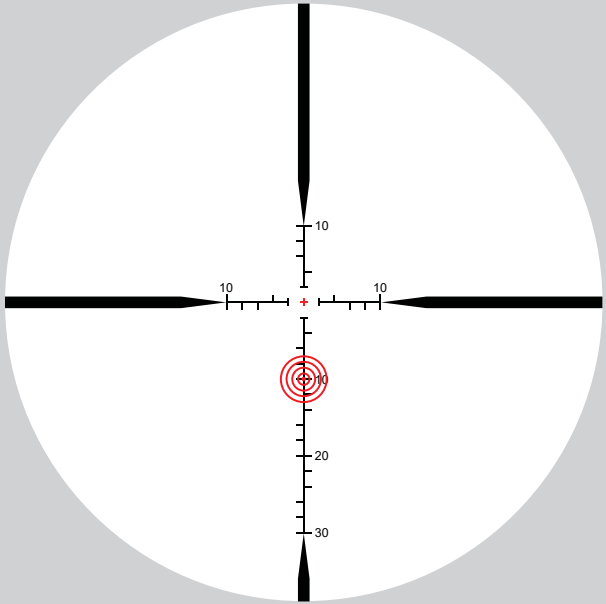
Example: 600 yards, 60-inch drop

- 1 x (600 ÷ 100) = 6 inches
- 60 ÷ 6 = 10 moa

Using this example, if your target is at 600 yards, holding at the 10 moa mark compensates for the 60-inch bullet drop (under no-wind conditions).

For maximum precision, it's always a good idea to develop your own D.O.P.E. (Data of Previous Engagements) chart. This allows you to reference specific bullet drop data under different environmental and weather conditions.

EXAMPLE



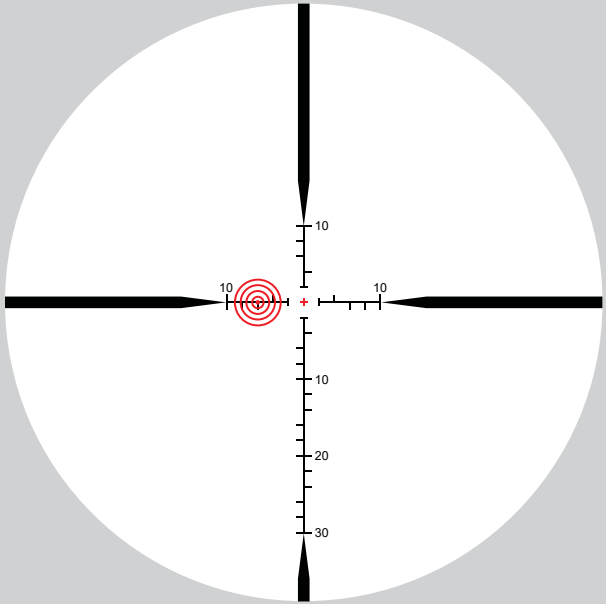
10 moa / 60 inch holdover for a target @ 600 yards out. No wind.

HOLDOVER FOR WIND CORRECTION AND MOVING TARGET

The APLR-H2 SFP IR MOA reticle has 2 moa mark increment both vertically and horizontally from the 1 moa center cross hair which can help you set your holdover positions to compensate wind correction and hold the lead for a moving target.

The bullet's time of flight, the velocity and direction of the wind, and the bullet's "slipperiness," expressed as its ballistic coefficient (BC), all determine your wind hold. Understanding how these three factors influence the bullet's trajectory, whether in inches or moa, allows you to calculate the required hold. Once calculated, finding the corresponding hold position on the reticle becomes much simpler.

EXAMPLE

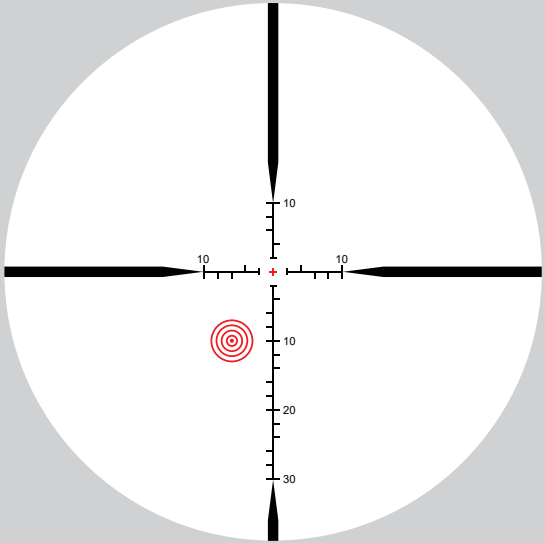


6 moa wind correction for 10 mph wind from right to left @ 600 yards. Elevation turret has been dialed up to compensate bullet drop, just simply use center horizontal cross line to holdover for wind correction.

USE VISUAL CROSS POINT FOR WIND CORRECTION AND BULLET DROP

Instead of adjusting for drop and wind separately, you can aim using a single reference point. Use the reticle's hash marks to find where your bullet drop hold and wind hold intersect, and aim at that point. This "virtual cross point" combines both corrections into one hold.

EXAMPLE

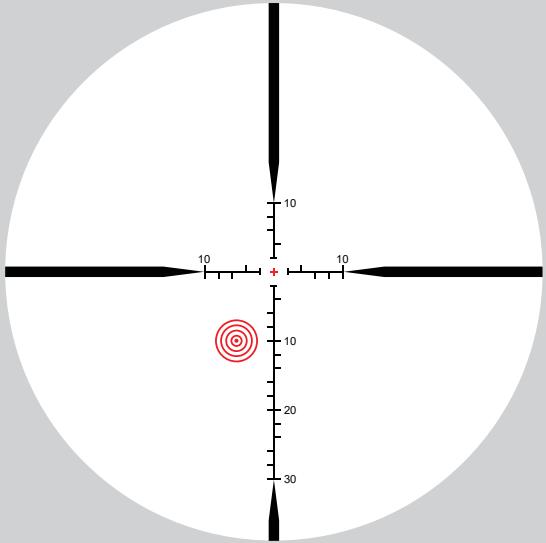


Use a 10 moa hold to compensate for a 60 inch bullet drop at 600 yards, and a 6 moa wind hold for 10 mph wind from right to left. Aim where those two holds intersect on the reticle.

HOLD LEAD CORRECTION FOR A MOVING TARGET

To hit a moving target, you must apply lead by aiming ahead of its path. The amount of lead depends on the distance to the target, its speed, the bullet's time of flight, and wind conditions. As a general rule, your lead should match the distance the target travels during the bullet's flight time, with any necessary wind correction added or subtracted.

EXAMPLE



Apply a 5.9 moa lead for a target moving left to right at 2 mph at 600 yards. With a bullet flight time of 1 second, the target travels approximately 2.94 feet. No wind correction is needed.

THE ATHLON
GOLD MEDAL LIFETIME WARRANTY*

Demand the most from your equipment. When things go unexpectedly or accidents happen, rest assured, Athlon Optics carry a lifetime transferable warranty. Athlon guarantees to repair or replace your product if damaged through normal use. No charge; No receipt; No Registration required.

This warranty does not cover damages caused by deliberate damage, misuse, theft or maintenance provided by someone other than the Athlon Authorized Service Department.

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