



PRODUCT MANUAL

CROSSFIRE® II

2 MOA RED DOTS

SPECIFICATIONS

			
DOT SIZE	2 MOA	2 MOA	2 MOA
DOT COLOR	Bright Red	Bright Red	Bright Green
BATTERY TYPE	CR2032	CR2032	CR2032
SOLAR WITH AUTO D-TEC TECHNOLOGY	No	Yes	Yes
BATTERY RUN TIME (@ SETTING 6 WITHOUT SOLAR)	50,000 hrs.	50,000 hrs.	50,000 hrs.
BATTERY RUN TIME (@ SETTING 6 WITH SOLAR)	N/A	150,000 hrs.	150,000 hrs.
ILLUMINATION SETTINGS	12 Settings (10 Daylight, 2 NV)	12 Settings (10 Daylight, 2 NV)	12 Settings (10 Daylight, 2 NV)
EYE RELIEF	Unlimited	Unlimited	Unlimited
MAGNIFICATION	1x	1x	1x
ADJUSTMENT GRADUATION	1/2 MOA	1/2 MOA	1/2 MOA
TRAVEL PER ROTATION	22.5 MOA	22.5 MOA	22.5 MOA
MAX ELEVATION ADJUSTMENT	100 MOA	100 MOA	100 MOA
MAX WINDAGE ADJUSTMENT	100 MOA	100 MOA	100 MOA
PARALLAX SETTING	Parallax Free	Parallax Free	Parallax Free

NON-SOLAR



SOLAR



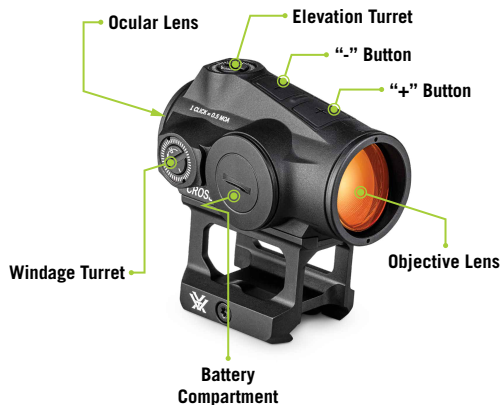
	Non-Solar	Solar
WIDTH	1.43"	1.53"
HEIGHT (W/LOW MOUNT)	1.9"	1.9"
HEIGHT (W/LOWER 1/3 CO-WITNESS MOUNT)	2.7"	2.7"
LENGTH	2.60"	2.60"
WEIGHT (W/ BATTERY & LOWER 1/3 CO-WITNESS MOUNT)	4.37 oz.	4.47 oz.
MOUNTING FOOTPRINT	Micro® T-2	Micro® T-2
LOW AND LOWER 1/3 CO-WITNESS MOUNT FOOTPRINT	Picatinny & Weaver®	Picatinny & Weaver®

Images are for representation only.
Product may vary slightly from what is shown.

CROSSFIRE® II RED DOTS

From close-range drills or steel at distance, the Crossfire® II is built to grow with you. Quick to set up. Simple to run. It's motion-activated, magnifier and night-vision compatible. Mount it up, and make some noise.

NON-SOLAR



SOLAR



Lower 1/3
Co-Witness
Mount



Low Mount



BASIC OPERATION

Battery Installation and Replacement

Remove the Battery Compartment cover. Install one CR2032 battery so the “+” lettering faces outward and replace the cover. When replacing the cover, be sure it is fully tightened.

Power Up

To turn the Crossfire® II on, press either the “+” or “-” button. To turn off the Crossfire® II manually, press and hold the “-” button for approximately three seconds.



Auto-Shutoff

The red dot will automatically shut off after 10 minutes. To turn on the Auto-Shutoff feature, press and hold both the “+” and “-” buttons for three seconds. During these three seconds, the dot will turn on the lowest brightness setting and gradually increase to the brightest setting. Once the dot has reached its brightest setting, the Auto-Shutoff feature is now on. To disengage Auto-Shutoff, hold “+” and “-” for three seconds. The dot will start at the highest setting and step down to the lowest brightness setting over three seconds.

Motion Activation with 10 Minute Auto-Shutoff

The Crossfire® II is equipped with motion activation. This feature is only available when the unit is turned on. By allowing the unit to shut off automatically after 10 minutes, the unit will turn on automatically the next time you pick up your gun. Turning the unit off manually will disable motion activation.

Brightness Selection

The Crossfire® II offers 12 brightness settings. 10 daylight settings and two night-vision settings. Adjust the dot brightness by pressing the appropriate “+” or “-” button.

Battery Run Time and Battery Life

The Crossfire® II uses a CR2032 battery. The battery run time is the actual power draw of the unit compared to the capacity of the battery. Not all batteries have the same output. On average, with the Crossfire® II in constant on mode with the Auto-Shutoff disabled, without the use of solar, the battery run time is 50,000 hrs. With the use of the Solar Auto D-TEC technology, the Crossfire® II will detect light conditions and automatically draw power from solar or battery as needed. This extends the battery run time up to 150,000 hrs.

Battery life is the time measured in-between putting a battery into the unit and having to replace it. This number is a variable based on many different factors including, time used, brightness setting changes, Auto-Shutoff mode engaged, solar power usage etc. While this number is dependent on the user here are some scenarios:

	Battery Life	
CROSSFIRE® II RED DOT SETTING 5 FOR 24 HOURS A DAY	50,000 Hours	2,083 Days
CROSSFIRE® II RED DOT SETTING 5 FOR 12 HOURS A DAY	100,000 Hours	4,167 Days
CROSSFIRE® II RED DOT SETTING 5 FOR 8 HOURS A DAY	150,000 Hours	6,250 Days
CROSSFIRE® II RED DOT SETTING 5 FOR 6 HOURS A DAY	200,000 Hours	8,333 Days

Note: All battery life scenarios are without solar power.

Turret Adjustments

Turrets are used to adjust the bullet's point of impact and are marked in Minute of Angle (MOA). There are two turrets on your dot. The turret on the top of the red dot is the Elevation Turret and is used to adjust the point of impact up and down. The turret on the right-hand side is the Windage Turret and is used to adjust the point of impact left and right.

Your Crossfire® II features adjustable Elevation and Windage Turrets with audible clicks. Each click moves the bullet's point of impact 1/2 MOA. The chart below indicates how many inches your bullet's point of impact will move per 1/2 MOA click at different distances from your target.

DISTANCE IN YARDS	MOVEMENT PER CLICK (INCHES)
10 YDS.	~ 0.05"
20 YDS.	~ 0.10"
25 YDS.	~ 0.125"
30 YDS.	~ 0.15"
40 YDS.	~ 0.20"
50 YDS.	~ 0.25"
75 YDS.	~ 0.375"
100 YDS.	~ 0.50"
200 YDS.	~ 1.00"

Note: If not shooting at one of the example distances, use this formula:

(Yardage x 0.01) x .5235 = Movement Per Click in Inches

EXAMPLE: At a 25-yard sight-in distance, it will take 24 clicks of the turret to move the bullet's point-of-impact three inches.

To Make Turret Adjustments:

Use the turret tool included in the box to turn the turret in the appropriate direction: up/down or left/right as indicated by the arrows.

Note: The dot will move in the opposite direction of the turrets when dialed.



Mounting Height Options

The Crossfire® II can be mounted at two heights, a Low Mount or Lower 1/3 Co-Witness Mount. Attach either the Low Mount or Lower 1/3 Co-Witness Mount to the bottom of your Crossfire® II using the included screws. Tightening the screws to 12 in-lbs. The optic center will be 21mm above the base surface if using the Low Mount and 40mm above the base surface if using the Lower 1/3 Co-Witness Mount.

Note: The unit will have dry thread locking compound on the screws out of the box. If remounting the unit more than two times, it is recommended to use thread locking compound on the screws going into the bottom of the unit.

Mounting the Crossfire® II

To get the best results from your Crossfire® II, proper mounting is essential. Although not difficult, the correct steps must be followed. Your firearm will need to be equipped with a Picatinny or Weaver® style rail/base. If needed, these may be purchased at most firearms dealers.



1. Attach the Crossfire® II to the rail/base with the Battery Compartment positioned on the right side.
2. Make sure the mount is solidly seated in the base groove. In order to prevent recoil injury, position the dot so you have at least four inches of eye relief.
3. Be sure the base clamp is hooked around the outside of the rail/base.
4. Press the dot downward and forward toward the muzzle. Then, tighten the base clamp bolt to 20 in-lbs without thread locking compound.

Note: It is good practice to regularly re-check all mounting screws to be sure they haven't loosened under field conditions.

SIGHTING IN

Bore Sighting

Initial bore sighting of the dot will save time and money at the range by roughly aligning the dot to the firearm. This can be done in several ways, either by using a mechanical or laser bore sighter according to the manufacturer's instructions, or by removing the bolt and sighting through the barrel.

To Visually Bore Sight a Rifle

1. Place the rifle solidly on a rest and remove the bolt.
2. Sight through the bore at a target approximately 25-50 yards away.
Note: It will help to have larger, high contrast target to focus on as it can be difficult to pick up smaller targets through the bore of the rifle.
3. Move the rifle and rest until the target is visually centered inside the barrel.
4. With the target centered in the bore, make the windage and elevation adjustments until the reticle is also centered on the target. You may notice the reticle travels in the opposite direction as listed on the turrets. This is completely normal.

Final Range Sight-In

After the dot has been bore sighted, final sight-in should be done at the range using the exact ammunition you expect to hunt or shoot with. Sight-in and zero the dot at the preferred distance. 25 or 50 yards are the most common zero distances for this optic.

1. Following all safe shooting practices, fire a three-shot group as precisely as possible to determine an average point of impact to correct from. This will also help you establish the firearm system's accuracy potential.
2. Adjust the turrets to correct for any offset in your point of impact. Be sure to read pages 10-11 prior to adjusting.
3. Fire another three-shot group to establish another average point of impact. This procedure may be repeated as many times as necessary until your point of impact and your point of aim are in the same place, and you have achieved a perfect zero.

Note: Vortex® does not recommend the use of a weighted gun vise, as it can put extreme stress on the gun, stock, dot, and mount. It is best practice to use a combination of sandbags or a bipod and sandbags. Letting your weapon recoil naturally also provides consistency from shot to shot.

MAINTENANCE AND STORAGE

Cleaning

Your Crossfire® II requires very little routine maintenance other than periodically cleaning the exterior lenses. The optic's exterior may be cleaned by wiping with a soft cloth. When cleaning the lenses, be sure to use products that are specifically designed for use on coated optical lenses.

- Be sure to blow away any dust or grit on the lenses prior to wiping the surfaces.
- Using your breath, or a very small amount of water or pure alcohol, can help remove stubborn dried water spots.

Lubrication

All components of the Crossfire® II are permanently lubricated, so no additional lubricant should be applied.

Note: Other than removing the Battery Compartment Cover, do not attempt to disassemble any components of the Crossfire® II. Disassembly may void warranty.

Storage

If possible, avoid storing your dot in direct sunlight or any very hot location for long periods of time.

TROUBLESHOOTING

Red Dot Does Not Illuminate

If the dot does not illuminate, please check the following before returning the dot for service:

- Is the battery dead? Replace the battery.
- Is the battery installed correctly? Be sure the battery is oriented with the "+" facing away from the unit.
- Is the battery cap loose? Be sure cover is snug and contact points are clean.

Dot Moves Within the Window

This is a normal function of any dot that is parallax free. The placement of the dot within the window does not affect your point of impact. As long as the dot is on the target and zeroed, you will hit your target.

Dot is Blooming

An astigmatism may cause the dot to look clustered, linear, or starburst. Lowering the dot intensity to an appropriate brightness setting, focusing on the target and not the dot, and keeping both eyes open helps reduce blooming.

Mounting Screws Coming Loose

Check to make sure that the mounting screws were torqued to proper specifications. Be sure to check that the screws that hold the optic base to the optic are torqued to 12 in-lbs with thread locking compound and that the bolt holding the optic base to the firearm is torqued to 20 in-lbs without thread locking compound. Included screws come with pre-installed thread locking compound. It is recommended that a thread locking compound be re-applied if the red dot has been re-mounted more than two times. Thread locking compound is recommended to ensure the screws do not back out under recoil. Ensure the correct screws are being used.

Bullets Are Not Grouping

Be sure all mount screws are tight. You should not be able to twist or move the dot in any direction. Many times, problems thought to be with the dot are actually mount problems.

Front Lens is Crooked

This is by design and normal.

SAFETY AND PRECAUTIONS

The Crossfire® II contains a 3V CR2032 battery.

WARNING

- **INGESTION HAZARD:** this product contains a CR2032, 3V button cell or coin battery.
- **DEATH** or serious injury can occur if ingested.
- A swallowed button cell or coin battery can cause **INTERNAL CHEMICAL BURNS** in as little as **2 HOURS**.
- **KEEP** new and used batteries **OUT OF REACH OF CHILDREN**.
- **SEEK IMMEDIATE MEDICAL ATTENTION** if a battery is suspected to be swallowed or inserted inside any part of the body.



- Remove and immediately recycle or dispose of used batteries according to local regulations and keep away from children. Do NOT dispose of batteries in household trash or incinerate.
- Even used batteries may cause severe injury or death.
- If ingested, call a local poison control center for treatment information.
- Non-rechargeable batteries are not to be recharged.
- Do not force discharge, recharge, disassemble, heat above (manufacturer's specified temperature rating) or incinerate. Doing so may result in injury due to venting, leakage or explosion resulting in chemical burns.
- Ensure the batteries are installed correctly according to polarity (+ and -).
- Do not mix old and new batteries, different brands or types of batteries, such as alkaline, carbon-zinc, or rechargeable batteries.
- Always completely secure the battery compartment. If the battery compartment does not close securely, stop using the product, remove the batteries, and keep them away from children.

NOTICE

Virtual Patent Marking Notice By Vortex Optics

This product may be protected by patents in the U.S. and elsewhere for Vortex Optics. <http://vtx.legal> website is provided to satisfy the virtual patent marking provisions of various jurisdictions including the virtual patent marking provisions of the America Invents Act and provide notice under 35 U.S.C. §287(a). Please visit <http://vtx.legal> to view list of products that may be covered by one or more U.S./Foreign patents or published patent applications.



VIP® WARRANTY

OUR UNCONDITIONAL PROMISE TO YOU.

We promise to repair or replace the product. Absolutely free.

- ▶ **Unlimited.**
- ▶ **Unconditional.**
- ▶ **Lifetime Warranty.**

You do not have to register, save the box, or a receipt for the Warranty to be honored.

Learn more at VortexOptics.com

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Note: The VIP® Warranty does not cover loss, theft, deliberate damage, or cosmetic damage not affecting product performance.

For the most up to date manual visit VortexOptics.com



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