

SIGHT MARK[®]

USER MANUAL



WRAITH 4K MAX
3-24x50
(SM18030)

OUTDOOR
 **LEGACY**

ABOUT SIGHTMARK®

While Sightmark's MAKE YOUR MARK tagline perfectly illustrates our mission to provide uncompromising accuracy in virtually any environment, to us, those three words mean quite a bit more.

MAKE YOUR MARK represents our commitment; first, to those who serve; second, to our Constitutional right to bear arms, the right ensuring all others remain intact; and finally, every single professional and recreational shooting enthusiast embracing and sharing our Pro-2nd Amendment lifestyle.

MAKE YOUR MARK also symbolizes our desire to build more than a brand people know they can trust. It represents our higher calling to build an honorable, unapologetic legacy, truly appreciative of the fabric of a free society to pass on to future generations. Only accomplishing the latter truly embodies the gravity of what MAKE YOUR MARK means to us.

In the spirit of gratitude for those who preserve freedom as we know it to be, MAKE YOUR MARK is a call to action. One we take seriously when it comes to developing products worthy of our brand... and our lifetime warranty. The same brand countless professionals rely upon for performance in the best... and most assuredly, worst of times.



WRAITH 4K MAX

Sightmark's Wraith 4K Max digital riflescope is a harmony of technology, power and precision. In low-light conditions the Wraith 4K Max utilizes an enhanced ultra-high definition 4000x3000 digital CMOS sensor to detect objects up to 300 yards away, and in daylight, this detection range is even further. The Wraith 4K's sharp 1280x720 display resolution delivers crystal-clear imaging while 3-24x digital magnification gives users the versatility to adjust as needed. The Wraith 4K's 850nm IR illuminator features 90 minutes of operating time on max, and its night vision mode and daytime color mode offer crisp, vibrant views of the environment. With a hardy aluminum housing, the Wraith 4K boasts built-in UHD 4K video recording with audio, 10 reticle options and an IPX5 water-resistant rating. Its rechargeable, internal battery provides up to 8 hours of power.

FEATURES:

- 4K digital imaging
- Daytime color mode
- Night vision mode
- Rechargeable internal battery
- Built-in video recording
- 8x digital zoom
- 10 reticle options with 9 colors
- Additional weaver rail for accessories
- 4 weapon profile saves

INCLUDED:

- IR flashlight
- Daytime lens filter
- Objective lens cover
- Fixed picatinny mount
- USB cable
- User manual

TECHNICAL SPECIFICATIONS

Wraith 4k Max - SM18030			
Type of sensor	CMOS sensor	Relative aperture, D/f'	1.2
Sensor resolution, pixels	4000x3000	Field of View,°, horizontal	6
Display type	LCOS	Field of View, m@100m	10.5
Display Resolution, pix.	1280x720	Field of View, ft@100yd	31.5
Built-In Video Recorder Availability	Yes	Minimum focusing distance, ft/m	16.4
Maximum memory card supported, Gb	256	Eye Relief, in/mm	2.7 / 69mm
Format of video clip	MP4	Dioptr adjustment, dptr.	+/-5
Resolution of video clip	4K/1080/720	Emitter	LED
Format of photo files	JPEG	IR Wavelength, nm	850nm
Resolution of photo files	1080/720	Equivalent IR Power, mW	2,500
Lens focus, mm	60mm	Battery Life	90 minutes on max
Magnification	3-24	Battery type	2x CR123A
Lens diameter, mm	50	Night Vision detection range, yd/m	300 (@ 60fps) / 500 (@ 30fps)
Digital zoom	1-8x		

Wraith 4k Max - SM18030			
Battery life	5 hours recording, 8 hours no wifi and no recording	Maximum recoil, caliber	.308
External Power Supply	5V via USB	Tube diameter	n/a
Windage & Elevation click value	0.3 MOA	Length, in/mm	12/ 304.8
Adjustment range, MOA	227 MOA Windage x 60 MOA Elevation	Width, in/mm	1.875 / 63
Number of reticle options	10	Height, in/mm	3 / 75
Colors	Black, white, red, blue, green, cyan, orange, yellow, magenta	Weight (with batteries), oz	34.6
Body Material	Aluminum		
Accessory rail mount	Picatinny		
Operating Temp,°F / C°	-4 to 140/-20 to 60		
Waterproof rating	IPX5 - water resistant		
Nitrogen Purged, yes/no	no		
Shockproof, yes/no	yes, 3ft		

DIAGRAM

1. Objective lens with daytime aperture cover
2. Eyepiece (diopter adjustment)
3. Dial
4. Focus adjustment
5. IR Flashlight mount
6. IR control and battery cap
7. IR focus adjustment
8. Card slot
9. USB port
10. Power Button
11. Record Button



BATTERIES

This unit uses an internal rechargeable battery. To charge simply plug in to a USB type C charger.

This unit is equipped with a USB type C port for external power. The USB type C port is located under the rubber cover on the side of the unit.

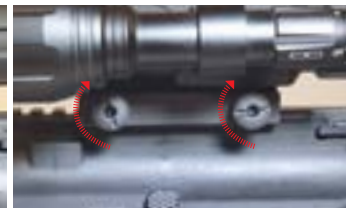
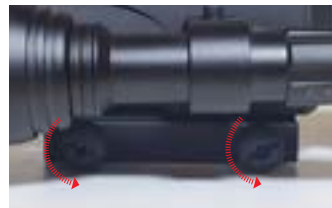
MICRO MEMORY CARD

This unit is equipped with a Micro memory card slot used for recording. The card slot is located under the rubber cover on the side of the unit.

MOUNTING

The unit is fitted with a Picatinny mount. To attach:

1. Loosen both mount thumbscrews.
2. Place mount on to Picatinny rail aligning the bolts with the Picatinny rail slots. Check eye relief and adjust to the proper position.
3. Tighten thumbscrews to 20-25-inch pounds.



DIOPTER ADJUSTMENT

To adjust diopter:

1. Locate the diopter adjustment (#2 in diagram.)
2. Turn the adjustment left or right until the display becomes focused (use icons or numbers on the display to check screen focus as the actual image through the viewfinder may need to be focused as well.)



IR ILLUMINATOR

To adjust the IR Illuminator:

1. Loosen the bolt holding the IR illuminator to the mount.
2. Adjust the angle of the illuminator in place by applying pressure to the front or rear of the illuminator.
3. Tighten the bolt that was loosened.
4. Twist the focus adjustment to adjust the beam width.



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FOCUS ADJUSTMENT

To adjust focus:

1. Locate the focus adjustment (#4 in diagram.)
2. Turn the adjustment left or right until the image becomes focused.










VIEWFINDER



1. Profile
2. Magnification 1X 2X 3X 4X 5X 6X 7X 8X
3. Date
4. Time
5. Memory card status (no Image if card is inserted and not full)
6. Day/night mode
7. Battery status
8. Reticle

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BASIC CONTROLS:

- To power on/off the unit push and hold the power button 
- To adjust magnification, twist the dial to the right  to increase the magnification and twist to the left  to decrease magnification.
- To take a picture or record video press the video button.  To stop recording video, press the video button again.
- To use the stadiametric rangefinder, click the power button  and twist the dial left or right  to adjust the markers to align to the feet and shoulders of the coyote, hog, or deer. (select the animal in the rangefinder menu)
- Click the menu button to enter the menu 

TO PROPERLY SETUP THE SCOPES FOCUS AND DIOPTER ADJUSTMENT:




- First adjust diopter by twisting the eyepiece until the icons and text become clear. The actual image through the scope will still be unclear. You should not need to adjust the diopter again unless you have a change in eye diopter.
- Once the diopter adjustment is set, adjust the focus ring near the front of the riflescope until the image through the scope become clear. You will need to adjust focus depending on the range being observed.

NAVIGATING THE MENU:







- The main menu has 7 main section:

- o Range Reference
- o Contrast
- o Reticle Menu
- o Playback
- o Setting Menu
- o Day/Night vision Modes
- o Brightness









- To navigate simply rotate the dial  to the section you would like to enter and click the dial 
- To exit a section or the whole menu simply click the power button 











TO ADJUST THE BRIGHTNESS:

- Click the dial button  to enter the menu.
- Rotate the dial  until brightness is selected. 
- Click the dial  to enter brightness adjustment.
- Rotate the dial  to adjust the brightness up or down and click the power button  to exit brightness adjustment.





TO ADJUST THE CONTRAST:

- Click the dial button  to enter the menu.
- Rotate the dial  until contrast is selected. 
- Click the dial  to enter contrast adjustment.
- Rotate the dial  to adjust the contrast up or down and click the power button  to exit contrast adjustment.

TO ADJUST THE RANGEFINDER REFERENCE:

- Click the dial button  to enter the menu.
- Rotate the dial  until range reference is selected. 
- Click the dial  to enter range reference adjustment.
- Rotate the dial  to change the range reference and click the power button  to exit range reference adjustment.
- To adjust the custom range reference select it using the dial  and long press the dial. 
- Rotate the dial  to adjust the size.
- Click power  until you are out of the menu.

TO ENTER THE RETICLE MENU:

- Click the dial button  to enter the menu.
- Rotate the dial  until reticle menu is selected. 
- Click the dial  to enter reticle menu.

RETICLE MENU SETTINGS:

- **To adjust the reticle type:**
 - Enter the reticle menu and use the dial to select reticle type.
 - Click the dial to select reticle type
 - Use the dial to select the reticle
 - Click the power button to exit the menu
- **To adjust the reticle color:**
 - Enter the reticle menu and use the dial to select reticle color.
 - Click the dial to select reticle color
 - Use the dial to select the reticle color
 - Click the power button to exit the menu
- **To use one-shot zero:**
 - Enter the reticle menu and use the dial to select 1 shot zero.
 - Click the dial to select 1 shot zero
 - Take one shot at a target. (Using a group of 3 shots may produce a more accurate zero)
 - While holding the red reticle over the point of aim, use the dial to first adjust the windage to align with the bullet hole.
 - Click the dial to switch to elevation and adjust that to the bullet hole. Click to fine tune the windage if necessary.
 - Press the power button to save the zero and exit the menu.

RETICLE MENU SETTINGS (CONTINUED):



- **To select a profile:**


The unit is equipped with the ability to set up to 4 profiles for different firearms or ammunition. The unit will save the reticle zero, reticle type and color to the profile. By default, the unit selects profile 1.

- o Click the dial to select reticle type
- o Enter the reticle menu and use the dial to select profile.
- o Click the dial to select profile
- o Use the dial to select the profile number
- o Click the power button to exit the menu

TO ENTER THE SETTINGS MENU:

- Click the dial button  to enter the menu.

- Rotate the dial  until the settings menu is selected. 

- Click the dial  to enter the settings menu.

SETTINGS MENU:

- **To activate Wi-Fi:**

- o Enter the settings menu and use the dial to select Wi-Fi
- o Click the dial to select Wi-Fi
- o Use the dial to select on or off
- o Click the power button to exit the menu

- **To adjust resolution:**

- o Enter the settings menu and use the dial to select Resolution

- o Click the dial to select Resolution
- o Use the dial to select the desired resolution
- o Click the power button to exit the menu

- **The unit allows you to adjust the magnification “click” value. To do this:**

- o Enter the settings menu and use the dial to select magnification adjustment value
- o Click the dial to select magnification adjustment value
- o Use the dial to select the desired adjustment value
- o Click the power button to exit the menu

- **The unit is equipped with an auto record function. To enable it:**

- o Enter the settings menu and use the dial to select Auto Record
- o Click the dial to select Auto Record
- o Click the dial to select between on and off
- o When the setting is on rotate the dial to highlight either Before or After and click and hold to adjust the amount of seconds before and after to record using the dial.
- o Press the power button to exit the menu

- **To factory reset the unit or format the SD card:**

- o Enter the settings menu and use the dial to select factory reset/ format SD
- o Click the dial to select open the formatting menu
- o Use the dial to select factory reset or format SD
- o Click the dial to select
- o Use the dial to rotate to the check mark to format the SD card or factory reset the unit.

- **The firmware version is displayed on the firmware icon in the setting menu**

- **To adjust the time or date:**

- o Enter the settings menu and use the dial to select adjust time and date
- o Click the dial to select adjust time and date
- o Use the dial to adjust the time or date

SETTINGS MENU (CONTINUED):

- o Click the dial to cycle through the fields
- o Click the power button to exit the menu
- **The settings menu also has more advanced settings under More.**
 - o Video encoding (h264,h265) :
This is the encoding for video recordings. H265 is a newer format with smaller file size and higher quality—but may not be compatible with all devices.
 - o Video Quality (Normal, Fine Superfine)
This is the compression setting for video files. Normal is the most compression and has the lowest quality and superfine has the least compression, highest quality, and the largest file size.
 - o Photo Quality (Normal, Fine, Superfine)
This is the compression setting for photos. Normal is the most compression and has the lowest quality and superfine has the least compression, highest quality, and the largest file size.
 - o Auto Low Light (On, Off)
Auto low light mode adjusts setting when lighting conditions require it.
 - o Slow Motion (On, Off)
When slow motion is on it will playback video files recorded at higher frames per second in slow motion.
 - o Slow Rate (depending on fps of recording- 30,60, 120)
This is the speed that it plays slow motion videos at. When set to 30 it slows the video down to 30 fps. For a 120fps video this will be 4x slow motion.
 - o Dual Files (On, Off)
This saves a low-quality video in addition to the high-quality video resolution selected.
 - o Video Shutter Time (Auto,1/30,1/60,1/120,1/240, 1/480,1/960)
Video shutter time adjusts the amount of time the shutter is opened allowing more or less light in depending on the selection.
 - o Video EV (-2.0,-1.7, -1.3, -1.0, -0.7, -0.3, 0.0, 0.3, 0.7, 1.0, 1.3, 1.7, 2.0)

- Video EV (exposure value) controls the exposure of video making it brighter or less bright.
- o Video ISO (MAX 6400, MAX 3200, MAX 1600, MAX 800, MAX 400, MAX 200, 6400, 3200, 1600, 800, 400, 200, 100,)
This adjusts the sensitivity to light of the sensor. Setting this too high will result in a brighter image that is very grainy and setting it too low will result in a very dark image.
- o EIS (On, Off)
This is electronic image stabilization. This will stabilize video slightly if possible.
- o Photo Burst (3 picture /second, 5 picture /second, 10 picture /second, Off)
- o Photo Shutter Time (Auto, 1/1000, 1/500, 1/250, 1/125, 1/60, 1/30, 1/15, 1/8, ¼, ½, 1, 2, 5, 10, 30, 60)
Photo shutter time adjusts the amount of time the shutter is opened allowing more or less light in depending on the selection.
- o Photo EV
Photo EV (exposure value) controls the exposure of photos making it brighter or less bright.
- o Photo ISO
This adjusts the sensitivity to light of the sensor. Setting this too high will result in a brighter image that is very grainy and setting it too low will result in a very dark image.
- o Sharpness
Use this to adjust the clarity of the photo.
- o Metering
- o TV Mode
- o Mic Volume
Used to adjust the volume of the microphone in recordings
- o Compass Adjust
Used to calibrate the compass and incline
- o Icon Hidden

SETTINGS MENU (CONTINUED):

When enabled the icons will be hidden after a short amount of time through the view finder.

- o Saturation

Setting this to a higher level will increase the vividness of any colors in daytime mode.







- o Video Stamp

When this setting is enabled videos will have the timestamp overlaid.




- o Reset Visual Settings





Reset any visual settings

DAY/NIGHT VISION:

- Click the dial button  to enter the menu.
- Rotate the dial  until Day/Night is selected. 
- Click the dial  to enter Day/Night .
- Rotate the dial  to switch between day, black and white night vision, and green night vision modes. and click the power button  to exit.

VIDEO/PHOTO PLAYBACK:

- Click the dial button  to enter the menu.
- Rotate the dial  until Playback is selected. 

- Click the dial  to enter Playback mode.
- Rotate the dial  to scroll through videos/photos.
- Click the dial  to open the video and press again to play/pause.
- Press the power button  to exit.

MAIN MENU:

- Brightness- 1-10
- Contrast- 1-10
- Range Reference- Coyote, Hog, Deer, Custom
- Reticle Menu –
 - o Reticle type
 - 1
 - o Reticle Color
 - 1
 - o 1 shot zero
 - o Profile (1-4)
- Settings Menu
 - o Wi-Fi (on/off)
 - o Recording resolution
 - 1
 - o More
 - Video encoding (h264,h265)

MAIN MENU (CONTINUED):

- Video Quality (Normal, Fine Superfine)
- Photo Quality (Normal, Fine, Superfine)
- Auto Low Light (On, Off)
- Slow Motion (On, Off)
- Slow Rate (depending on fps of recording- 30,60, 120)
- Dual Files (On, Off)
- Video Shutter Time (Auto,1/30,1/60,1/120,1/240, 1/480,1/960)
- Video EV (-2.0,-1.7, -1.3, -1.0, -0.7, -0.3, 0.0, 0.3, 0.7, 1.0, 1.3, 1.7, 2.0)
- Video ISO (MAX 6400, MAX 3200, MAX 1600, MAX 800, MAX 400, MAX 200, 6400, 3200, 1600, 800, 400, 200, 100,
- EIS (On, Off)
- Photo Burst (3 picture /second, 5 picture /second, 10 picture /second, Off)
- Photo Shutter Time (Auto, 1/1000, 1/500, 1/250, 1/125, 1/60, 1/30, 1/15, 1/8, ¼, ½, 1, 2, 5, 10, 30, 60,
- Photo EV
- Photo ISO
- Sharpness
- Metering
- TV Mode
- Mic Volume
- Compass Adjust
- Icon Hidden
- Saturation
- Video Stamp
- Reset Visual Settings
- o Magnification adjustment value (.1, .5, 1.0)
- o Auto Recording
- o Factory Reset

MAIN MENU (CONTINUED):

- o System information
- o Adjust time and date
 - Day/Night Vision
- o Day
- o Night B/W
- o Night green
 - Playback

FIRMWARE UPDATING

Visit <http://sm-wraith.com/firmware/> for updates and instructions.

SIGHTMARK WARRANTY

Please visit www.sightmark.com for warranty details and information.



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two criteria: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes of modifications to this unit is not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTES



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