OMEGA Series
O-40
O-55

LONG RANGE THERMAL
CLIP-ON SYSTEMS

OPERATION MANUAL

Version 11.0.30

IMPORTANT: Please read this manual in its entirety **PRIOR** to using this device!

<u>WARNING:</u> NEVER POINT THIS DEVICE DIRECTLY AT THE SUN OR ANY FIRE / HEAT SOURCE WITH TEMPERATURE OF OVER 500C/930F! DOING SO WILL PERMANENTLY DAMAGE THE THERMAL SENSOR AND WILL VOID ANY WARRANTY CLAIMS! SEE PAGE-16 FOR MORE DETAILS AND FOR VERY IMPORTANT CARE WARNINGS!

THERMAL IMAGING:

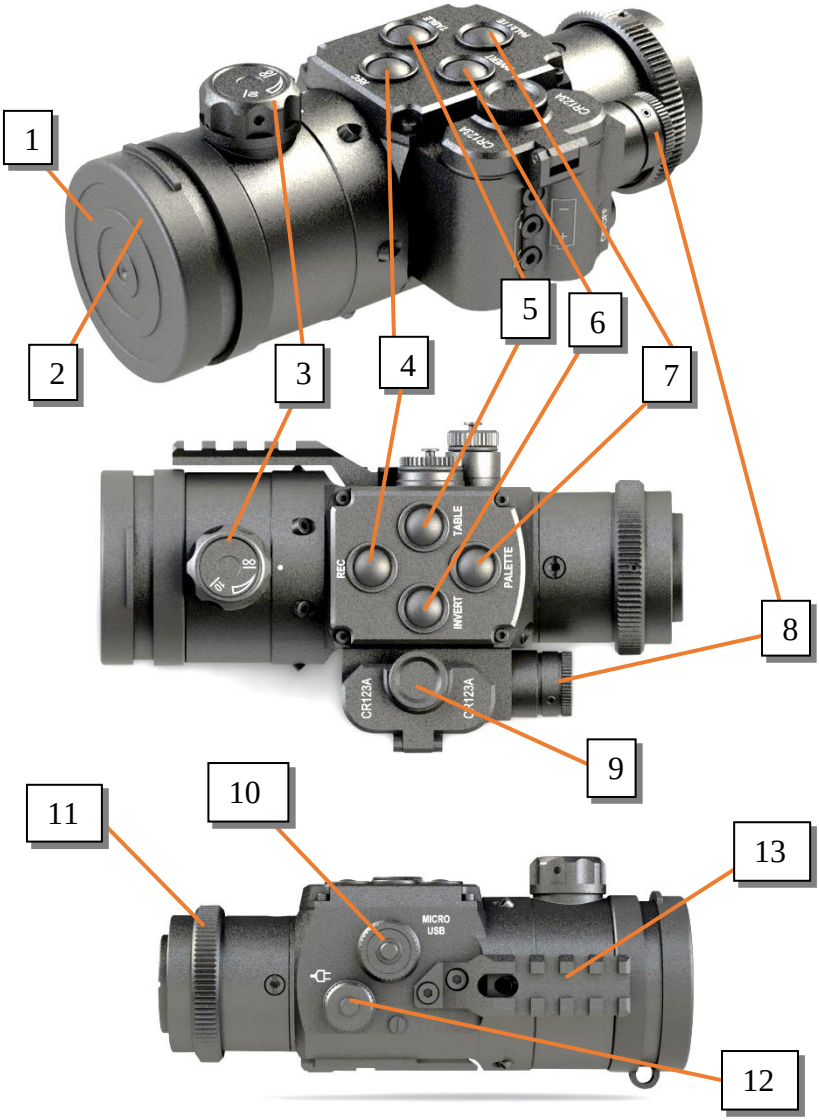
Let's try to understand how this device works and what it can and cannot do:

1. Your thermal device works on the principle of detecting infrared radiation, also known as energy. Instead of operating in a visible light spectrum of 400-700nm (such as regular binoculars or scopes), thermal imagers detect waves as high as 17,000nm or 17µm, which are beyond our capability to observe with naked eye. The infrared signal is received by the thermal device and is then converted into an electrical signal by the thermal sensor (called microbolometer), located inside the unit and that electrical signal is then displayed on the micro display located near the ocular (eyepiece).

2. Your device operates with batteries. Unlike a daylight scope, where you see the image due to light traveling through the glass and the prisms, the thermal imaging device works by projecting the image onto a screen. While the thermal sensor is the crucial component of any thermal device, the image display quality is also very important to have the best possible image clarity and widest field of view. Since the image is projected on the screen, it has certain limited resolution…so please do not expect your device to provide the same crystal clear and full-color image as you would see through your daylight scope. The main advantage of this thermal device is that it detects heat signatures in the conditions where seeing your target is virtually impossible with your naked eye.

OPERATION:

OMEGA-40 / OMEGA-55 Thermal Clip-On



Glossary:

1 – Objective Lens
2 – Objective Lens Protective Cover
3 – Distance Focusing Knob
4 – Video Recording (REC) Button
5 – Table display Button
6 – Image Invert Button
7 – USER Programmable Button
8 – Super Controller / Menu Access
9 – Battery compartment Cover
10 – Micro USB Connection
11 – Eyepiece Assembly Wheel
12 – External Power Connection
13 – Accessory Rail
14 – POWER ON / Standby / OFF Button
15 – Power LED Indicator Light
16 –Eyepiece Lens

INSTALLING THE BATTERIES:

Your thermal device operates on commonly available 3V Lithium batteries, CR123-type. You need 2 batteries to operate the device. Rechargeable batteries are OK, but their peak voltage cannot exceed 4.2V each.
To install the batteries, unscrew the battery compartment cover (9) until it pops open and install the batteries according to the diagram. Once the batteries are inside, replace and tighten the cover.

TURNING THE UNIT ON AND OFF:

Your thermal device has a push Power button (14). To turn the unit ON, first remove the objective lens cover and push the Power Button (14) for a little over one second. Look through the eyepiece – the unit will become operational within approximately 4-5 seconds. To turn the unit OFF push the same button for approximately 2 seconds. Please note that you can enter Standby mode where the

unit remains on, but the image display is turned off by pressing the Power Button just momentarily. The red LED power indicator (15) will remain lit during the standby mode. Always replace the objective lens cover after the unit is turned off and is no longer is in use.

FOCUSING THE UNIT:

To obtain the sharp image, you must rotate the Distance Focusing Knob (3) in either direction, until the image is at its best. You may have to repeat the process again, until the image is sharp and clear.

SUPER CONTROLLER FUNCTIONS:

Your thermal device comes with a unique Super Controller (8), which allows for nearly instant image adjustment to the best possible brightness and clarity without having to enter the menu settings. This feature is extremely useful when atmospheric conditions change rapidly, especially during high humidity and/or rapid temperature changes.

The super controller has the following sequence when short-pressed:

1. IMAGE GAIN (**GAIN**)
2. DISPLAY BRIGHTNESS (**BRGT**)
3. SENSITIVITY (**SENS**)
4. IMAGE DETAIL ENHANCEMENT (**IDE**)

- **To adjust the IMAGE GAIN**, rotate the Super Controller either clockwise or counterclockwise while viewing the image – you will see word **GAIN** and either positive or negative number appear on the bottom left corner of the image display. There are 10 negative and 10 positive Gain levels and a Zero level. Lowering the Image Gain will allow for better facial and detail recognition. Increasing the Image Gain will allow for better target detection and recognition of surroundings, such as houses/buildings, trees and bushes and so on, allowing you to better see the target surroundings and to better orient in the terrain.
- **To adjust the Display Brightness level** short-press the Super Controller once and letters **BRGT** will appear in the display – you can now rotate the same switch and Display Brightness will change. There are 30 levels of display brightness. During nighttime use, brightness level is optimal between 10 and 20, depending on the ambient conditions. Keep in mind that higher brightness levels drain the batteries faster.
- **To adjust the Thermal Sensitivity (Sensor's Brightness Output)** short-press the GAIN switch twice and letters **SENS** will appear in the display – you can now rotate the same switch and Sensitivity will change. There are 40 levels of sensitivity (min sensitivity is 40 and max is 80)

- **To activate the Image Detail Enhancement (IDE)** short-press the GAIN switch three times and letters **IDE** will appear in the display – you can now rotate the same switch and image details will be enhanced. There are 7 levels of enhancement and a Zero level. Each IDE level incrementally increases the level of the detail, similar to the TV resolution upscaling, allowing user to greatly enhance the image resolution and level of image detail. This feature is especially useful during high humidity, where normally level of image detail is poor. It is also useful when observing object at long distances and when utilizing Zoom function.

DEVICE MENU NAVIGATION – IMPORTANT!

1. When long-pressed, the Super Controller activates the main menu (**M**).
2. On Once Menu is activated, rotating controller will highlight each menu chapter from top to bottom.
3. Once the particular menu chapter is highlighted in green color, the selection can be initiated by short-pressing the Super Controller, after which the menu chapter will highlight in red color. Now rotate the Super Controller in either direction to select desired setting. Confirm the setting by short-pressing the Super Controller, which will change the highlight from red back to green color. Now the chapter is out of the selection mode and next menu chapter can be selected by rotating the Super Controller.
4. Exit back to the main menu by either short-pressing or long-pressing the Super Controller (depends on the menu function)
5. Main menu can then be turned off by long-pressing the Super Controller again, or, alternatively the menu automatically turns off after 15 seconds of inactivity.

Main Menu Selections (from top to bottom):

1. User Profile

There are 3 Custom User Profiles, which can be saved and deployed when necessary. Each user profile covers variety of settings, such as Color Palette, type of reticle, color of reticle, sensor gain and sensitivity, display brightness, Image Detail Enhancement and other settings. We recommend finding best settings for a particular terrain or weather conditions and then saving it as a User Profile, so that next time you are in a same/similar terrain or weather pattern, you can quickly activate the settings without having to adjust them all individually. There are 3 customized User Profiles and 3

*factory pre-set profiles (**Woods, Mountains & City**). Customized profile settings are automatically saved once adjustments are made and in order to start a new profile enter the main menu and switch the User Profile from 1 to 2 or 3, then perform new adjustments according to your preference.*

2. Color Palette

This setting allows user to select the image Color Palette. Please refer to page-12 IMAGE POLARITY INVERSION / COLOR PALETTES for more information

3. Palette on button "USER"

This menu setting allows you to select which color palette will turn on when USER button is pressed (this menu option is only shown when USER button is actually programmed to switch color palette (see USER Button Function on page-10 for more information))

4. Thermal Image Gain

See page-6 for GAIN adjustment. NOTE: this function is available via Super Controller and is normally adjusted without getting into Menu.

5. Display Brightness

See page-6 for BRGT adjustment. NOTE: this function is available via Super Controller and is normally adjusted without getting into Menu.

6. Thermal Sensitivity

See page-6 for SENS adjustment. NOTE: this function is available via Super Controller and is normally adjusted without getting into Menu.

7. Image Detail Enhancement (IDE)

See page-6 for IDE adjustment. NOTE: this function is available via Super Controller and is normally adjusted without getting into Menu.

8. Image Polarity Inversion

See page-13 for IMAGE POLARITY INVERSION. NOTE: this function is available via INVERT Button (14) and is normally done without getting into Menu.

9. Super Contrast Display Mode

This setting allows user to enter the Super Contrast mode, which is helpful during extremely humid weather conditions, where targets will appear "washed out" against the background, as well as during the situations where target heat is waning. This is especially useful during search and rescue operations where quick location of the heat source may be very important, as well as when tracking wounded or expired game. Please note that Super Contrast Mode is only seen on the scope' image display, therefore, if you are recording video

in the Super Contrast Mode, during video recording playback only normal mode will be visible. Super Contrast Mode can be utilized with any of the 10 color palettes.

10. USB Transfer Mode

This setting allows you to transfer the video recorded data through USB connection to your computer or tablet. Enter this selection by short-pressing the Super Controller. Please note that this mode disables most of the scope functions in order to allow the most reliable USB connection. See more details on page-17

11. Video Recording Mode (Video Start Mode)

This setting allows you to select how soon video recording starts. There are two options:

1. ***Normal start** – the video recording module is completely off until you press REC button (11), then the module starts, taking approximately 15-20sec between pressing the REC button and actual start of video recording. This mode allows you to save the batteries when video recording is not desired, such as simple terrain orientation.*
2. ***Quick start** – the video recording module starts as soon as you power the scope and enters the standby mode. When REC button is pressed, video recording starts within 5 seconds during the first recording and within 3 seconds thereafter. This mode allows you to start recording almost instantly and is useful when frequent shots are taken during hunt, or any time when video recording is frequently used. Please note during this mode additional battery power is used.*

12. Date and Time Stamp Position

This setting allows user to select the on-screen position of the date and time during video recording. Four positions are available: Right Down – Left Down – Right Up – Left Up in addition OFF position is available, which removes date/Time Stamp from video recordings.

13. Auto Bad Pixel Correction

*This function allows the scope computer to automatically correct any bad pixel. Please refer to the **IMPORTANT** bad pixel correction instructions on page-17.*

14. Manual Bad Pixel Correction

*This function allows the user to correct any bad pixel that may appear during the use of the device, without having to return the scope to the factory. Please see page-17 for **IMPORTANT** bad pixel correction instructions*

15. "USER" Button Function

This unique function allows user to select which function the User Button (12) can control instantly. You may choose to

assign a number of functions to this button, for example changing the User Profiles, or type of aiming mark (reticle) or changing the color of the reticle, or assigning a Super Contrast Mode, or instantly changing the color palette. You may assign the function to this button at any time and there are no limits to the number of times the user can re-assign this function.

16. Status Bar Position

This setting allows user to select where on screen the status bar is displayed. Two positions are available: Up and Down

17. Status Bar Delay Time, s

This setting allows user to select whether the status bar can remain visible constantly, or will be turned off after a short delay. Delay time is available between 2 and 7 seconds (in 1 second increments), as well as OFF position, which allows the status bar to remain visible constantly. NOTE: scope is shipped with status bar hide time in OFF position.

18. Menu Position

This setting allows user to select on screen display menu position. 3 settings are available: Up / Center / Down

19. OSD Transparency

This setting allows user to select the transparency of the On Screen Display Menu, as well as reticle and status bar transparency. 5 levels of transparency are available along with Zero transparency. Each higher level of transparency makes menu more transparent when activated. ***Higher levels of transparency prevent developing burn marks, common with OLED displays, when used over a long period of time.*** *We recommend setting transparency level on 3 or higher to maximize the longevity of the OLED display.*

20. Auto Power OFF, minutes

This setting allows the scope to automatically power down after a certain time of inactivity. Default setting is OFF, meaning the scope will continue to work until manually shut down, however you can choose an option when the scope will power down by itself if you have not pressed any button between 10 minutes and 60 minutes (in 10 minute increments). This feature is automatically disabled when active video-recording is in process.

21. Position Profile

This setting allows user to save up to 5 paired daylight scopes when using device as a clip-on. Profile is saved automatically, so when pairing to a different riflescope, you must switch profile from 1 to 2 (from 2 to 3 and so on) in order to keep the previous profile settings. Short press of Super Controller (8) to highlight the function and rotate the controller to choose profile number. Once finished, exit the menu.

22. Image Position Correction

This setting allows user to adjust the thermal image up/down and left/right in the clip-on mode, in order for the thermal display to be positioned in the center of the daylight scope. Short press of Super Controller (8) changes between vertical and horizontal adjustments and rotating the Super Controller adjusts the position. Once finished, exit the menu and settings are automatically saved.

23. Table Position Correction

This setting allows user to adjust the Table menu position in relation to the image viewed through the daylight scope, allowing the table to be positioned either in the center of the view, or away in any of the corners, as you prefer. Short press of Super Controller (8) changes between vertical and horizontal adjustments and rotating the Super Controller adjusts the position. Once finished, exit the menu and settings are automatically saved.

24. Restore Position Settings

This setting allows user to reset the image and table positions to the factory settings.

25. Date Set

This setting allows user to set the date, as it would appear on the video recording stamp. The date appears in YYYY-MM-DD sequence. Rotate the Super Controller to change the year, then switch to month by short-pressing the Super Controller and repeat the same for day. Once day is adjusted, short-pressing the Controller returns to the main menu.

26. Time Set

This setting allows the user to set the time, as it would appear on the video recording stamp. Switch between HH:MM:SS by short-pressing the Super Controller and adjust the time by rotating the Super Controller. Please note the time is displayed in military units, so 1pm = 13:00, 6pm = 18:00, 11pm = 23:00 and so on.

27. Clear Video Record Storage

This selection allows you to format the memory card and erase all video recordings from the card without connecting device to the computer. To protect from accidental erase, once this feature is selected, the device will ask you to confirm this selection within 5 seconds by short-pressing the Menu button, otherwise the function will not activate.

28. Language

This setting allows user to select menu language. 4 languages are available: ENGLISH – GERMAN – SPANISH – RUSSIAN

29. Software Version

This selection displays the current software version and cannot be edited. This information may become useful if customer support is required.

30. Settings Reset

This selection allows user to reset all settings to factory levels. We do not recommend using this function, unless you feel that the scope is not functioning as it should. If this happens and you need to reset the settings to factory levels and after the reset you have any troubles navigating the menu, please e-mail us at: FullMoonOptics@gmail.com or call us at 478-954-2721 with any questions you may have.

IMAGE POLARITY INVERSION / COLOR PALETTES:

It is possible to change the way the heat signatures are displayed – the default image is "WHITE HOT" meaning the heat signatures will appear in white or light color with most of the background appearing in black or dark color. You may switch (invert) this setting by pressing the INVERT Button (6) once and then heat signatures will appear in dark color "BLACK HOT" on otherwise light color background. In addition, the unit also has options of 10 color palettes, each with invert option, which highlight heat signatures in various colors. To change between the Color Palettes, long-press the Super Controller (8) to enter main menu, then rotate Super Controller until word "Palette" is highlighted. Then short-press Super Controller to select this function and then rotate the Super Controller to switch between various Color Palettes. There are 9 color palettes + default black & white mode. You should try each color setting to see which one renders images best during various atmospheric conditions and humidity levels, as well as for the particular task at hand. Once finished selecting the color palette, short-press the Super Controller to return to the main menu and then long-press the same Controller to exit the menu. Your color and invert setting is automatically saved and will appear next time you turn on the device.

USB & EXTERNAL POWER SUPPLY:

It is possible to connect an optional external 5V power supply to the device through the micro-USB connector (10) in order to operate it for a longer periods of time. The external power supply could be a common battery power pack, used to charge and operate your cell-phone and can be purchased on Amazon, or at local electronics retailer. Please make sure only 5V power supply is used and output power on the utilized USB port should be at least 2A. To connect an external power supply, remove the safety cap by unscrewing it counter-clockwise and either connect the micro-USB cable directly into the input, or (IF SUPPLIED WITH FACTORY USB ADAPTER CAP AND CABLE) screw in the USB adapter cap and then connect the micro-USB side of the factory cable into the factory USB adapter and then connect the normal USB side of the factory cable into the

USB output of your power supply. Once the external power supply is no longer needed, remove the factory cable and also remove the USB adapter and replace the metal safety cap before you take the unit to the field. Store the factory USB adapter and factory USB cable together in the carry case.

VIDEO RECORDING:

Please see page-8 for video recording start options (Normal Mode and Quick Mode)

To start video recording, press REC button (4) once. Depending on the chosen recording mode the actual recording will start anywhere between 3 and 15 seconds from the moment the REC button is pressed. Once the counter starts the actual recording begins.

To stop recording press REC button again once. Words "REC Saving" will appear momentarily in the display – this is your indication that video recording has been successful and is saving on your scope' internal hard drive.

Should you encounter any error during recording, message ERR will appear with a number next to it (example ERR-74). If this happens it may be due to recoil issue or possibly batteries discharge. In the case of any ERR message press REC button once and it will exit the ERR mode and then you can re-start recording by pressing REC button again. If ERR message keeps re-appearing, please call us at 478-954-2721 or e-mail us at FullMoonOptics@gmail.com.

BAD PIXEL CORRECTION:

IMPORTANT: DURING ANY BAD PIXEL CORRECTION PROCESS YOU MUST KEEP THE LENS COVER ON AT ALL TIMES AND WE RECOMMEND PLACING A DARK TAPE OVER THE PINHOLE IN THE LENS COVER. THIS IS NECESSARY FOR A COMPLETELY UNIFORM DARK SCREEN DURING THE PROCEDURE.

Your device comes with a unique feature allowing you to manually correct any bad pixels that may develop during the course of time. To do that, press and hold Super Controller (8) to enter the main menu. Then rotate the Super Controller counter-clockwise until "Bad Pixel Correction" is highlighted. Then short-press the Super Controller to enter the pixel correction mode. The white crosshairs with flashing dot in the center will be displayed. Now you can rotate the Super Controller to direct the flashing dot to the bad pixel (to change between horizontal movement and vertical movement short-press the Super Controller. Once the flashing dot is over the bad pixel, press Table button (5) and bad pixel will be corrected. You may need to press Table button more than once. Should you have a bad spot larger than one pixel, you must work each pixel one at a time, starting from outside pixels and then moving to the inside pixels. After all bad pixels are corrected, long-press the Super Controller until it

enters Main Menu. NOTE: if you do not perform this function, bad pixel corrections will not be saved and you will have to perform the corrections again next time you start the scope. **NOTE: latest models come with Automatic Bad Pixel Correction function, which does the process automatically.**

USB TRANSFER MODE: *Please read carefully!*

1. Power the scope.
2. Enter the main menu and select "USB Transfer Mode" (see also page-8) – **USB Transfer Mode turns OFF all other functions of the scope – it should only be used during actual data transfer.**
3. Remove the Micro-USB Connector cover (10).
4. Connect the micro-USB side of the cable to the Connector output. **We recommend using short length USB cable and if possible a USB3.0 cable for faster and more reliable operation.** Take care during the connection to eliminate possibility of breaking the connector points. Do not use excessive force when plugging the micro-USB connector and never try to rock the connector from side to side during connection – this may break the connector points and render the USB connection inoperable. **NOTE**: broken USB connector is not covered under warranty.

   4a. IF SUPPLIED WITH FACTORY USB ADAPTER CAP AND CABLE use the factory USB adapter cap and the factory cable for this task.
5. Connect the USB side of the cable to your computer.
6. Once the pop-up window appears, select "Open Files"
7. Transfer any video files you may have.
8. When finished you may keep the files recorded on the scope, or you may delete them from the scope storage to make space for new recordings.
9. **Always follow the safe connection exit by asking to eject the USB drive.**
10. Turn off device to exit USB Transfer mode

MOUNTING THE DEVICE ONTO A WEAPON AND ALIGNING THE IMAGE WITH DAYLIGHT SCOPE RETICLE:

Zeroing a thermal clip-on in front of a day optic requires more care and effort than zeroing a day optic or most light amplification clip-ons (for example: PVS22/30). Properly done it gives capabilities impossible to duplicate with day only or light enhanced optical shooting systems.

STEP 1: Shoot a three or five round group with your **day scope only** at 100 meters/yards, unless you are absolutely certain of your day optic zero, in which case you can skip this step. Mark these hits for later reference.

STEP 2: Mount a zeroed rifle as securely as possible in some sort of rest (the Lead Sled is recommended) and align the crosshairs on a 25 meter/yard (m/y) target. Shoot a round at the 25m/y target. Nudge or adjust the rifle back to pointing at the aim point. Normally a rifle zeroed for 200 m/y will shoot an inch or perhaps 1.5" below the point of aim. Mark the shot with a Magic Marker.

Before mounting the Omega clip-on set the following:

- Select Clip-on mode
- Select 'Position Profile' and set to 1 of 5 positions. (Allows pairing with up to 5 different rifles/daylight scopes).
- Set focus, gain, brightness, sensitivity and Image Detail Enhancement (IDE) for the clearest target image at 25m/y.

Now (without moving the rifle), it is time to install the Omega clip-on. If, during installation, you think you may have 'bumped' the rifle, remove the Omega clip-on and confirm or reset daylight optic alignment with the aim point.)

STEP 3: To mount onto a weapon, you must have a Picatinny Rail on your gun that is long enough to accept the clip-on in front of your daylight scope. Attach the included short mount with the two screws onto the baseplate of the clip-on. Use a little drop of Loctite Blue to secure the screws if you plan to use the device on one weapon either permanently or for a very long time. Align the front and rear mounting plates of the scope mount with the rails, so that clip-on mounting indents are inside the rails and slightly tighten the screws. NOTE: you must position your clip-on at such distance where the rubber eyecup shade is either immediately next to, or actually touching the front lens barrel of your daylight scope. This is necessary to keep any possible Point Of Impact shift to a minimum. Ideal distance between the front lens of your daylight scope and the back lens of your thermal clip-on is 15mm. Once the ideal position is obtained, if you intent on keeping this clip-on permanently on the gun, we recommend using Loctite blue to secure the clip-on mounting screws in place.

If mounted correctly, the device should be positioned similar to as shown below. Note the Rubber eyecup shade alignment with the daylight scope. It is OK to squeeze the eyecup slightly in order to make a contact with the daytime scope frame.

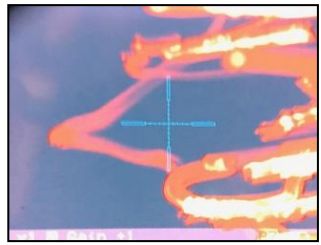
STEP 4: Attach a small thermal target to the aim point. Be prepared to freshen (replace) cold targets if they fade. Use the '**IMAGE POSITION CORRECTION'** menu to move the crosshairs to the thermal target, without moving the rifle. Fire a second round. Use 'IMAGE POSITION CORRECTION' menu to make both vertical and horizontal adjustments to move your 2nd shot toward the 1st shot. To adjust the bullet strike to the right, rotate the Controller knob clockwise while in the horizontal part of the menu. To move the bullet strike lower, rotate the Controller knob clockwise while in the vertical part of the menu. These adjustments are consistent with the way mechanical turrets work in the daylight riflescopes. There is no fixed value for the clicks for a particular setup (it is an electronical algorithm). Make adjustments, then fire another shot. Based on how far the bullet impact moved, you can calculate the approximate value of the clicks. Please keep in mind that the value of the vertical plane clicks may differ significantly from the value of the horizontal plane clicks.
Mark or make note of your 3rd shot and make additional adjustments as required.

STEP 5: When your 25m/y bullet strike overlays where your 'daylight scope only' setup shoots, move target to 100 m/y. It is no longer necessary to use the Lead Sled or bench rest.
Reset focus, gain, brightness, sensitivity and Image detail Enhancement for the clearest target image at 100m/y.
Fix a new thermal target and shoot a 3 to 5 round group. Make adjustments as necessary using the 'IMAGE POSITION CORRECTION' menu and shoot an additional group. Repeat as necessary. You are zeroed when the groups overlay those fired initially in **Step 1** with the 'day only' optic.

STEP 6: Set the **TABLE POSITION CORRECTION** for a quick reference to proper zero where the crosshair section of the table is aligned with your daylight scope reticle.
Your Omega clip-on is now zeroed to your particular rifle/optic in the clip on mode. It is a good idea to write down which rifle/optic is set to which 'Position Profile.' Noting your final '**IMAGE POSITION CORRECTION**' settings (for example: -7 horizontal / +43 vertical) may make starting from scratch easier if you need to go back to 'square one' for any reason.

WARNINGS:

1. NEVER point this device directly at the sun or any heat source over 500 degrees Celsius (930 degrees Fahrenheit) even if the device is not turned on! Doing so will permanently damage the sensor with random light glare (similar to pictured here). Such damage is not covered by the warranty and will void any warranty claims. Always have the protective cover on the scope when transporting it during daylight, particularly during sunny days! Always transport your scope during sunny day pointed downwards, especially when mounted on the weapon.



2. **NEVER** try to disassemble the unit by yourself or by anyone who is not our authorized technician. Doing so may result in injury and will void any warranty claims
3. **NEVER** leave the batteries inside the unit for a long period of time during extremely hot temperatures – the batteries may overheat, which may render the unit inoperable and will void the warranty
4. **NEVER** submerse the unit into water or use during heavy rain.

TECHNICAL SPECIFICATIONS:

Imaging Sensor	**Hybrid Resolution 17µm with Image Enhancement**
Frame Rate	**50 Hz Shutter-free / NUC-free**
Spectral Response	**8-14µm**
Image Display	**1,024x768 Micro-OLED**
Number Of Color Palettes	**10**
Eyepiece	**30mm**
Focusing Distance	**3m (4yds) - ∞**
Objective Lens Aperture	**40mm (55mm)**
Field Of View	**9.3° x 7.0° (7.5° x 5.6°)**
Detection range (human)	**2,000m (2,800m)**
Video Recording Resolution	**1024x768**
Video File Type	**.AVI**
Memory	**SSD 8GB**
Maximum impact load	**600g**
Power Supply	**2 x CR123 Lithium / or 5V USB**
Working time	**3.5-4.5hrs (CR123 batteries)**
Working Temperature Range	**-15C / +50C /// 5F / 122F**
Weight (riflescope mode)	**570g (600g)**

FULL MOON OPTICS

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