

# Thermal Imager **T<sub>e</sub>**

User's Manual



## KIT CONTENTS

T2 Imager/Scope

.50" hex key

USB-C cable

Remote LRF trigger

CR123 batteries (4)

## SPECIFICATIONS

<b>Size</b>	108mm x 49mm x 96mm
<b>Weight</b>	400g without battery
<b>Zoom</b>	3-8x continuous optical zoom w/ auto focus adjustment
<b>Field-of-View</b>	from 18.7° to 7°
<b>Min. Focus Dist.</b>	2 meters
<b>LRF Ranging Distance</b>	20 - 1,000 meters
<b>Focus</b>	Focus free
<b>Spectral Range</b>	8-14 micron
<b>Power</b>	(2) CR123, 3V (8+ hrs) (2) RCR123 rechargeable, 3V (8+ hrs) (1) 18650 rechargeable (10+ hrs)
<b>Resolution</b>	160 x 120 pixels FLIR Lepton
<b>Display</b>	38mm color OLED
<b>Operating Temp.</b>	-10° to +45° C
<b>Frame Rate/Shutter</b>	9Hz w/ shutter
<b>Laser</b>	Class 1 905nm
<b>Environmental</b>	IP66

## CONNECTING

To connect to G1, use the provided USB cable and insert into bottom port on T2 as shown.



## MOUNTING

To adjust rail mount clamp tension:

1. Loosen small set screw on bottom of mount using 0.050" hex key
2. Open clamp and install onto rail
3. Close clamp
4. Adjusted slotted side screw until desired clamp tension is achieved
5. Open clamp and remove from rail
6. Tighten set screw



## INSTALLING BATTERIES

The T2 uses these battery types: (2) CR123 (non-rechargeable),\* (2) RCR123 (rechargeable),\* or (1) 18650 rechargeable.

*\*DO NOT mix rechargeable and non-rechargeable batteries*

1. Unscrew and remove the battery cap.
2. Insert the supplied non-rechargeable CR123 batteries into the unit as shown.
3. If an 18650 battery is used, remove and save the white sleeve from the T2 battery compartment. The 18650 battery inserts directly into the battery compartment.
4. Tighten the battery cap.
5. The T2 is setup by default to work with the supplied non-rechargeable CR123 batteries. If other battery types are used, see: SETTING CORRECT BATTERY TYPE on page 7.



## INSTALL LRF REMOTE TRIGGER

If desired, connect the remote LRF trigger to the T2 USB port as shown. The trigger includes a velcro strip to mount the trigger where desired.



## BUTTON FUNCTION OVERVIEW: OPERATIONS

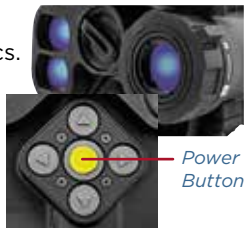


*(SP) Short Press: Quick momentary press (HOLD) Hold: Press and hold button*  
*(MP) Medium Press: Press 1-2 seconds*

## POWER ON T2

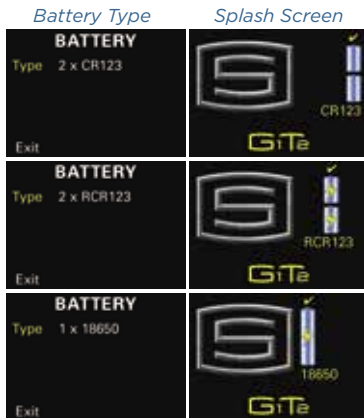
Flip the T2 lens cover up to reveal the LRF and thermal optics. Press the POWER button for 1-2 seconds to power ON. A splash screen will appear followed by the thermal display.

Press the POWER button again for 1-2 seconds to power the T2 off. Replace the T2 lens cover when not in use.



## SETTING CORRECT BATTERY TYPE

The T2 has been configured to operate with the supplied CR-123 batteries. However, the T2 can also operate on rechargeable CR-123 batteries or single 18650 battery. The battery type used must be selected or the battery life indicator will not be accurate. Battery type is displayed on the splash screen at each power on. To change the battery type, first power the T2 off. Press and hold ANY button and then the power button during power on until the battery selection menu appears. Select the desired battery type and then click 'Exit.' Confirmation of battery type selected appears on the splash screen during next power on.



## LASER RANGING

The T2 laser rangefinder is activated by quickly depressing the REMOTE TRIGGER or the LEFT ARROW button. The rangefinder will display '---' until a valid range is returned. The T2 will continue to range while the REMOTE TRIGGER or LEFT ARROW button is pressed.

Range data is presented in the T2 display. If a target is outside of this range or no reflection is present, the display presents '---' indicating it is ranging but no target is detected. Distance units can be selected in System Menu.

## SET SCREEN BRIGHTNESS AND TOGGLE DISPLAYS

Press UP or DOWN arrows to toggle between 6 brightness settings: 100 > 80 > 60 > 40 > 20 > min

The setting is shown on the screen for 2 seconds after brightness is selected.

Press and hold RIGHT ARROW for 1-2 seconds to toggle the G1 (if connected) and T2 screens off/on options: G1&T2(on) - default; G1(off)T2(on); G1(on)T2(off).



### Screen Brightness Levels



## OPTICAL ZOOM CONTROL

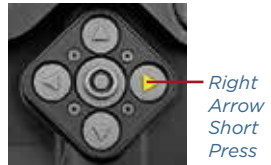
The T2 has 3-8x optical zoom control. Turn the lens clockwise to reduce image zoom and counter-clockwise to increase image zoom. A zoom indicator is shown on the T2 display.



## COLOR MODE SELECTION

The T2 display has 4 color modes (the G1 internal display isn't affected). Quickly depress the RIGHT ARROW to cycle through the color modes until the desired mode is displayed.

MODE 1: Grayscale - white-hot      MODE 3: Green only  
MODE 2: Grayscale - black-hot      MODE 4: Color



## SCREENSHOTS

The T2 captures screen snapshots when the POWER BUTTON is pressed quickly. The T2 can store up to 100 screenshots. Older screenshots are overwritten when additional shots are taken.

Screenshots can be reviewed in the T2 menu or downloaded to a PC/MAC as instructed on page 14.





## TOGGLE T2 DISPLAY RETICLE

Press the UP ARROW button for 1-2 seconds to toggle the T2 display reticle on or off.

*Up Arrow  
Medium Press  
(1-2 sec)*



## MENU MODE

Depress the DOWN ARROW button for 1-2 seconds to enter the T2 menu mode. Available menu options include: **Display** settings, **Sleep** power saving settings, **System** settings, stored **Images** review, and a manual **NUC** option.

*Down Arrow  
Medium Press  
(2-3 sec)*

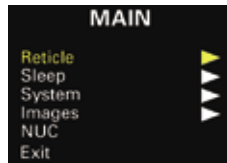


Menu navigation is as follows:

DOWN ARROW – scroll down

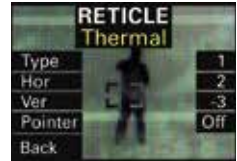
RIGHT ARROW- select/enter

POWER BUTTON- select/enter



## RETICLE MENU

There are six reticle types available for the T2 thermal display.



The thermal on-screen digital reticle can be adjusted for alignment sighting a weapon or coalignment with another device. The reticle can be adjusted +/- 20 pixels in horizontal (Hor) and vertical (Ver) axes.

The T2 laser range finder includes a visible red laser pointer that can be toggled on to confirm where the LRF is pointing. If installed, remove the laser pointer cap with a slotted screwdriver as shown. When the pointer is turned ON in the menu, the red pointer will appear until the pointer is turned OFF or the menu is exited. Replace cap when not in use.

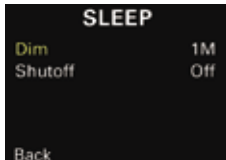


## SLEEP MENU

The sleep menu offers battery saving options. Dim and Shutoff timer can be individually set to:

Off >1 min. > 5 min. > 10 min.

The T2 will exit Dim mode after slight movement. Shutdown powers the T2 down. Shutdown mode has priority over Dim mode if both modes are set to the same timer.

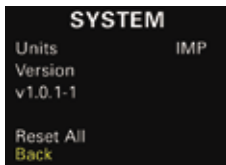


## SYSTEM MENU

Distance units can be in either Yards (IMP) or Meters (SI).

Version represents the current T2 firmware version. Refer to FIRMWARE update guidance below for more information.

Selecting RESET ALL resets all settings (sleep, reticle, color, etc.) to factory settings.



## IMAGES MENU

Screenshots can be reviewed by selecting IMAGES. Press the UP or DOWN ARROW to scroll through screenshots. Press the POWER button for 4 seconds to delete a captured image. Press the POWER button for 10 seconds to delete all screenshots. Press the POWER button to return to the MAIN menu.



## NON-UNIFORMITY CORRECTION (NUC)

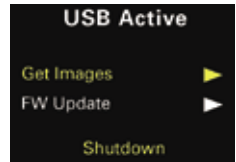
The T2 conducts automatic NUC calibrations during operation every 30 seconds.

However, the operator can manually perform a NUC by highlighting and selecting the NUC option from the MENU. The T2 will perform a NUC and exit menu mode.



## USB FIRMWARE UPDATES / IMAGE DOWNLOADS

Connect supplied USB-C cable to the T2 and a computer (MAC/PC). The unit will automatically detect the USB connection and a USB menu will appear. Select the desired option. The T2 will power down when the host USB connection removed.



Note the current firmware version in the SYSTEM MENU, i.e. v3.1.35-6. Visit the Downloads page at Sectoroptics.com to download the latest firmware. Note the downloaded firmware file, i.e. v4.0.01-1.bin.

**To update Firmware,** select the “FW Update.” A drive will automatically mount to the host PC/MAC as “T2 Drive.” Copy and paste the new firmware file into this drive location. The T2 will indicate a “Loading” message as the new firmware is copied. After the new file is loaded directory, the T2 screen indicates the updated firmware version is loaded and an “Update” option appears. Select “Update” to begin. “In Progress” will display while updating and a “Success” message appears when the update completes.



**To download images**, select “Get Images” in the USB Active menu. The GET IMAGES submenu will open. The T2 is able to process and download 24 screenshots at a time. The IMAGE ID number corresponds with the ID number located on the screenshot during screenshot review (i.e. 15/100). Select the image lot that contains the desired screenshot ID by selecting “Next Image IDs” to toggle through all saved screenshots. Selecting “Download” will cause a drive to mount on the host PC/MAC as “T2 Drive” containing selected images which can then be transferred to a local file location.



*Warning: Only use the specially designed USB-C cables provided with the T2.*

**COPYRIGHTS AND OTHER NOTICES**

DISCLAIMER: SECTOR OPTICS RESERVES THE RIGHT TO MAKE CHANGES IN SPECIFICATIONS AT ANY TIME AND WITHOUT NOTICE. THE INFORMATION PROVIDED BY THIS DOCUMENT IS BELIEVED TO BE ACCURATE AND RELIABLE. HOWEVER, NO RESPONSIBILITY IS ASSUMED BY SECTOR OPTICS FOR ITS USE; OR FOR ANY INFRINGEMENTS OF PATENTS OR OTHER RIGHTS OF THIRD PARTIES FROM ITS USE. NO LICENSE IS GRANTED UNDER ANY PATENTS OR PATENT RIGHTS OF SECTOR OPTICS

THIS DEVICE MAY CONTAIN COMMODITIES, TECHNOLOGY OR SOFTWARE SUBJECT TO EXPORT LAWS AND REGULATIONS FROM THE US AND OTHER COUNTRIES. DIVERSION CONTRARY TO LAW IS PROHIBITED.

**FCC STATEMENT**

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRABLE OPERATION.

**WARRANTY**

SECTOR OPTICS WARRANTS THIS PRODUCT AGAINST DEFECTS IN MATERIAL/WORKMANSHIP FOR 5 YEARS FROM PURCHASE. IF THE PRODUCT IS DEFECTIVE, CONTACT SECTOR OPTICS TO OBTAIN AN RMA NUMBER AND RETURN INSTRUCTIONS. SECTOR OPTICS IS NOT RESPONSIBLE FOR WARRANTY SERVICE AS A RESULT OF MISUSE, ABUSE, NEGLIGENCE OR BY DAMAGE FROM ANY DISASTERS SUCH AS FIRE OR FLOOD. ANY SIGNS OF EXTENDED WATER SUBMERSION OR TAMPERING WILL VOID THIS WARRANTY.

01/26/21

To register your product, please visit the  
"Product Registration" page at [SectorOptics.com](https://SectorOptics.com).



10505 Roselle Street, #100 • San Diego, CA 92121 • 1.858.755.4549 • [SectorOptics.com](http://SectorOptics.com)