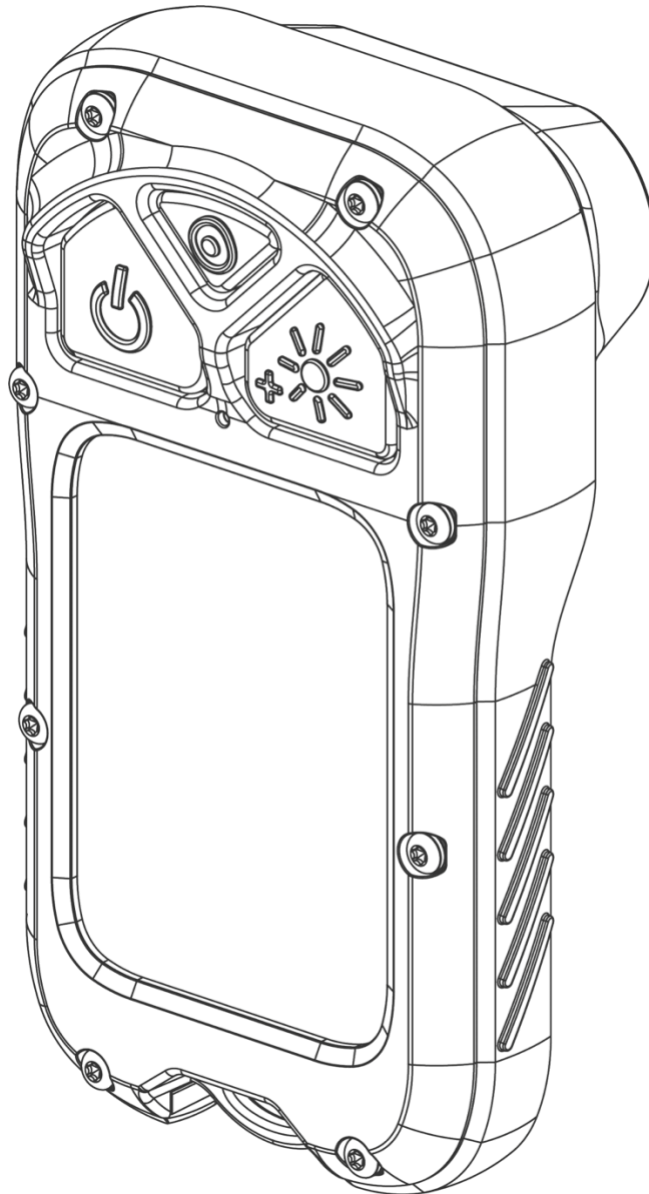


User Manual

FirePRO 200

Thermal Imaging Camera



September 2023

REV 1

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1 Introduction

Thank you for choosing Seek Thermal. The FirePRO 200 is a dependable situational awareness thermal imaging camera designed by firefighters, for firefighters. We hope you find this thermal imaging camera to be the most efficient and effective tool in your arsenal and we look forward to continuing to support the fire service community worldwide.

1.1 How to use these instructions

Ensure that each person who uses the product has read and understood this user manual before using this product. Failure to do so can result in serious injury or death.

Follow all the instructions. This will avoid fire, explosions, electric shocks, or other hazards that may result in damage to property and/or severe or fatal injuries. Keep all safety information and instructions for future reference and pass them on to subsequent users of the product.

Seek Thermal is not liable for cases of material damage or personal injury caused by incorrect handling or non-compliance with this user manual. In such cases, the warranty will be voided.

For more information contact:

Seek Thermal Inc.

6300 Hollister Ave

Santa Barbara

CA 93117

www.thermal.com

www.thermal.com/support

1.2 Intended use and reasonably foreseeable misuse

This product is intended to be used as a personal safety aid. Never become wholly dependent on the thermal imager for personal navigation. It is not a substitute for proper safety training. Always maintain awareness of location and escape routes when using this device. Failure to do so may result in serious injury or death.

The product may only be used in accordance with the instructions described in this manual. Any use other than those described in this manual is considered as non-intended use. This will also invalidate the warranty.

1.3 Online documentation

We update our user manuals regularly. The latest version of the documentation is available at www.thermal.com/support

1.4 Other languages

This is the English user manual. Manuals in other languages are available upon request.

2 Quick Start Guide

Please refer to the following to start using the product right away:

1. Before first time use, charge the FirePRO 200 using the supplied charging dock for 3.5 hours or until the charge screen indicates full battery.
2. Push the Power button to turn the camera on. The camera will start imaging within 7 seconds.
3. Aim the front of the camera lens toward the scene of interest.
4. To change modes; press and hold the Mode/Flashlight button for 3 seconds. The modes will cycle through in the following order: TI Basic, TI Basic+, Survey. A mode icon indicator will appear in the bottom left of the screen for TI Basic+ and Survey mode. Please refer to the Camera Modes section for detailed descriptions.
5. To turn flashlight on/off; press and release the Mode/Flashlight button.
6. To capture images; press and release the Media Capture button.
7. To transfer image files, connect the dock to a Windows or MAC computer.
8. To change the temperature units between Fahrenheit and Celsius, insert the tip of a pen into the pin hole situated between the Power button and Mode/Flashlight button.

3 Getting To Know Your FirePRO 200

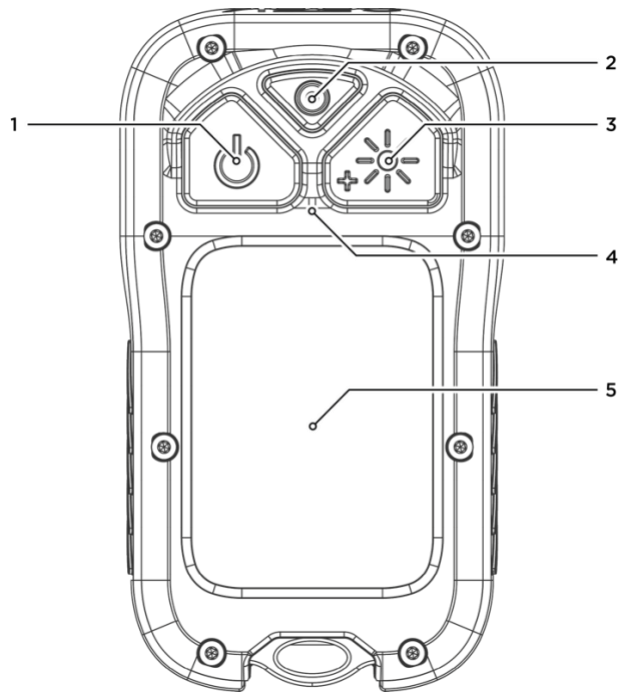
3.1 What's included in the box

- Thermal imaging Camera
- Charging dock
- USB-C to USB-A cable
- Hook and loop retaining strap
- Durable Quick Start Guide
- Safety information booklet

3.2 Equipment ratings

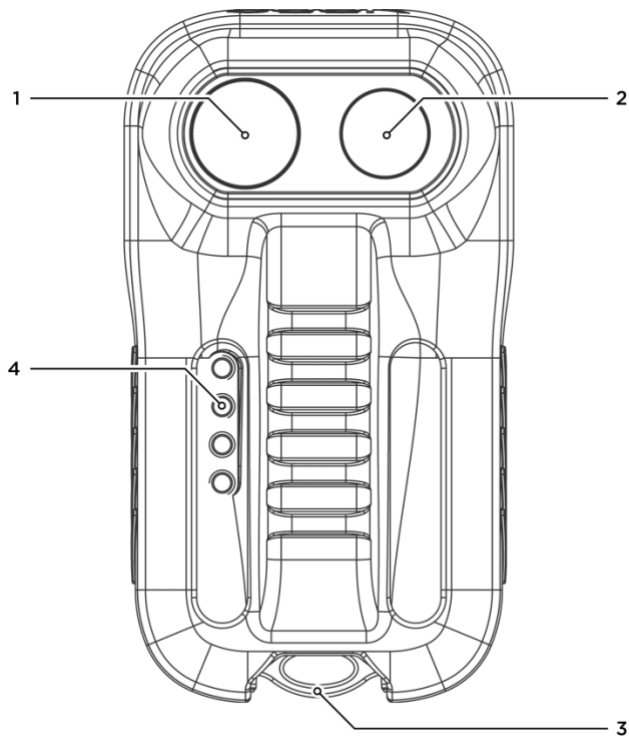
Battery Material	Lithium-ion
Nominal Voltage	3.6 V
Nominal Capacity	3500 mAh
Environmental	Intended for wet locations (camera) Intended for outdoor use (camera) Intended for indoor use (charger) 10 ~ 95 % RH, non-condensing Overvoltage Category OCV: 1 Pollution Degree 2
Altitude	Camera: 5000m. Desktop: 5000m (Warning: Overall altitude is dependent upon the altitude rating of the AC/DC adapter used to provide the 5Vdc source).
Operation and Storage Temperature	Storage: -20°C to +60°C During discharge: -20°C to +60°C During Charge: 0°C to +45°C
Charger Input Rating	5VDC, min 1.0A (USB Type C connection) Only for use with a USB AC/DC charger or USB computer host with a 5Vdc output which is rated LPS or Class II.
IP Rating	IP67 (camera), IP20 (charger)

3.3 Camera elements



1. Power On / Off
2. Image capture
3. Flashlight / Mode selection
4. °F to °C unit change button
5. 320 x 240 LCD display

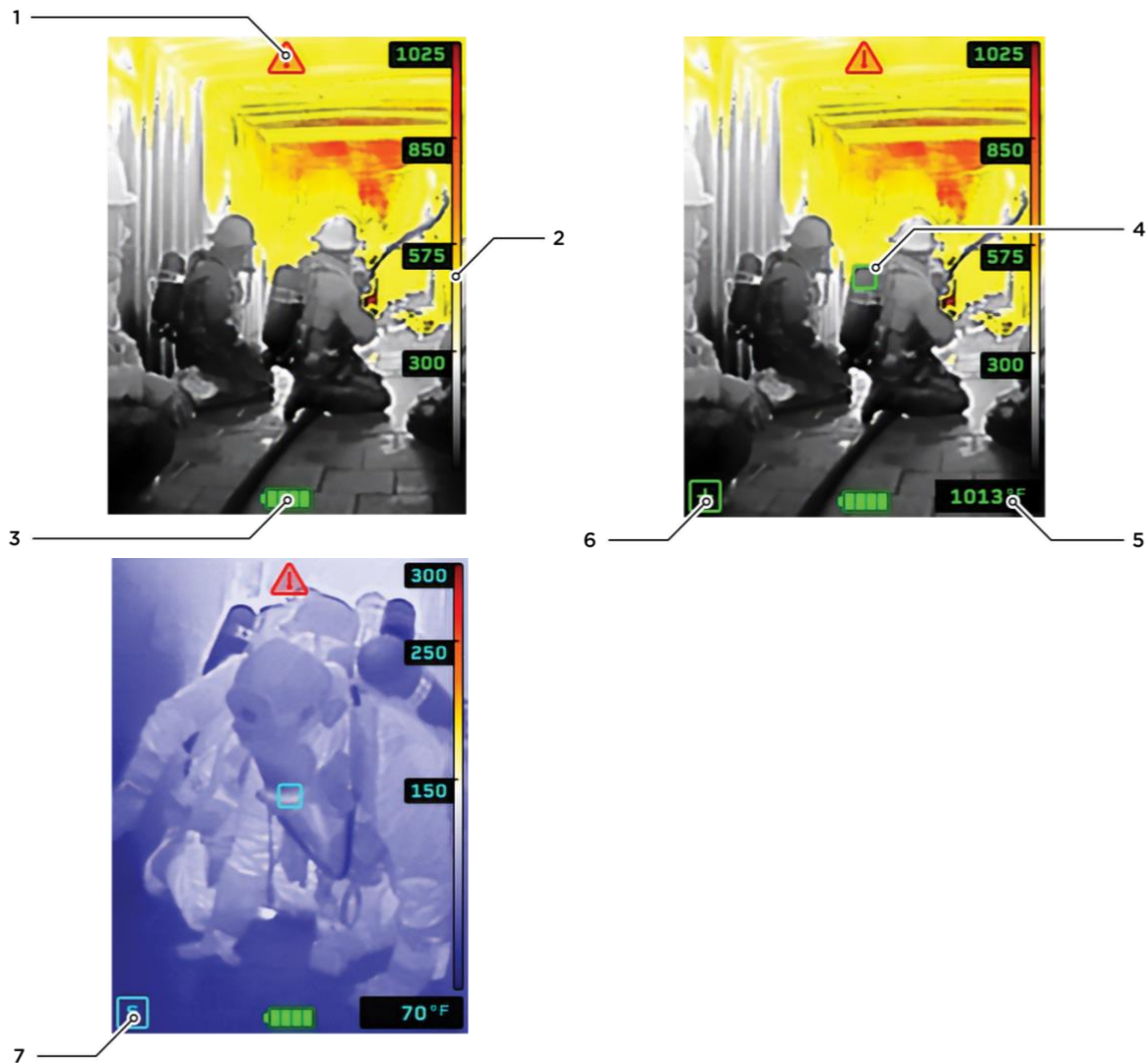
Figure 1 – Front camera view



1. LED flashlight
2. Thermal imaging sensor and lens
3. Lanyard attach point (sold separately)
4. Charging contacts


Figure 2 - Rear camera view


3.4 Screen elements





1. Over temperature indicator; provides a visual warning that the thermal imaging camera is close to the overheating of internal components. Move the camera to a cooler location
2. Color reference temperature bar
3. Battery status indicator
4. Temperature reticle (when TI BASIC+ or Survey mode are enabled)
5. Temperature measurement reading, displays the temperature measured at the center reticle location (when TI BASIC+ or Survey mode are enabled)
6. TI BASIC+ icon, indicates that the extra features of TI BASIC+ are enabled; Using the camera in TI BASIC+ mode may require additional training
7. Survey Mode icon. Indicates that the extra features of Survey mode are enabled; Using the camera in Survey mode may require additional training

3.5 Battery status indicator (operational)

 > 75% charge remaining

 > 50% charge remaining

 > 25% charge remaining

 < 25% charge remaining
(<5 min. remaining when flashing)

4 Operation and Use

4.1 Charging the device

1. Place the charging dock on suitable stable surface.
2. Plug the USB cable into a safe power block (not provided) or computer USB port.
3. Place the FirePRO with the screen facing upwards and the charging contacts facing downwards into the dock.
4. The screen on the FirePRO will indicate battery status within a few seconds.

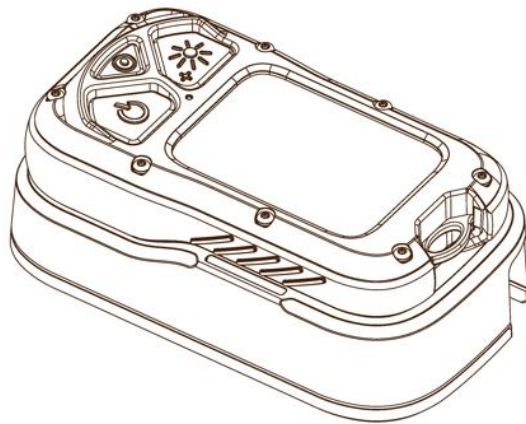


Figure 3 - Camera and charging dock

NOTICE

Charge time for a fully depleted battery is 3.5 hours.

NOTICE

Charging the camera using a computer may take considerably longer than using a separate USB power block.

NOTICE

The charger is suitable for indoor use only.

Clean the charging contacts periodically. See Section 5 for more information.

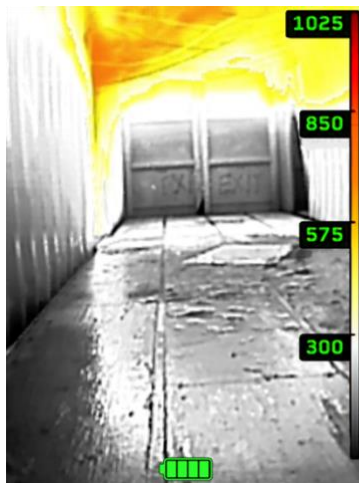
CAUTION

This desktop charger is intended to be mounted on a flat and stable surface in a suitable location where there is no risk of physical impact or acceleration forces.

4.2 Camera modes

The camera has 3 thermal imaging modes.

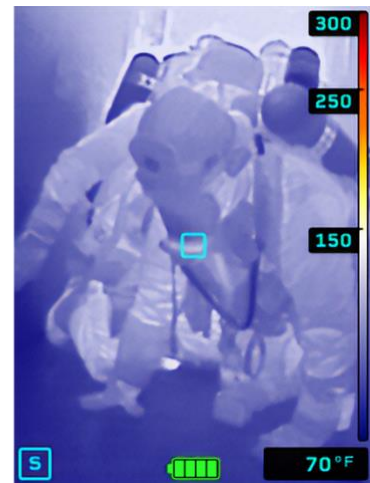
1. TI Basic
2. TI Basic+
3. Survey



TI Basic



TI Basic+



Survey

TI Basic and TI Basic+ mode are dedicated firefighting modes. Colorization begins at 300°F (150°C).

Survey mode is optimized for overhaul and size-up applications. Colorization begins at 150°F (65°C).

NOTICE

See Section 6 for more information on training and additional resources.

4.3 Image capture

To save an image to the camera's internal memory:

- 1 Press and release the Media Capture button.
- 2 A white flash will appear on the screen, notifying the user that an image has been saved.

NOTICE

The number of images that can be captured is dependent on the combined total size of videos and images saved. Images will be deleted on a first-in-first-out basis, i.e. when the memory is reaching full capacity, the oldest image will be deleted.

4.4 Connecting the camera to a computer

Place the camera on the charging dock and connect the USB cable to a Windows or MAC computer.

FIREPRO will appear as a removable drive.

To transfer images and videos:

- 1 Enter the DCIM folder on FIREPRO
- 2 Copy and paste videos / images to the folder of your choice on your computer.
- 3 Eject the FirePRO from the computer.

4.5 Updating your camera

Periodically, Seek Thermal will release product improvements or enhancement in the form of firmware updates. Visit thermal.com/firepro-200 to check for the latest firmware version. To check the current Firmware version:

1. Connect your camera to a Windows or MAC computer
2. The firmware version will be displayed on the USB connect screen under "Firmware Version"
3. The number will display in the following format: 34.27.3.X

If your current firmware version has a lower number than the version currently online, please update your camera using the following procedure:

1. Connect your camera to a Windows or MAC computer
2. Download the latest Firmware
3. Drag the THERMAL.STR file onto the FIREPRO device
4. Wait approximately 10 seconds
5. Eject the camera from your computer
6. Remove the camera from the dock and power the device on
7. Wait 5 seconds, the camera will then begin to update
8. A green tick will indicate successful Firmware update

NOTICE

The file name will be in the format: THERMAL.STR

Please ensure the file name is in this format. Firmware update will fail if this format is not retained.

5 Maintenance and cleaning

The FirePRO 200 thermal imager requires little maintenance. For best care, please follow the guidelines below:

- When not in use, the thermal imager should be stored in at an average room temp of 23°C (73°F) and kept clear from potential physical damage.
- If company or department information is added to the thermal imager, ensure that you do not cover the original product labels or markings, the thermal imager lens, flashlight window, the functional buttons, or the display.
- To clean the camera housing, use a soft cloth with warm water only and a mild detergent. Do not use solvents to clean the camera.

- To clean the lens and flashlight, a commercial lens cleaning solution with more than 30% isopropyl alcohol may be used with a soft cloth. Gently use the cloth on the lens, as the lens has a delicate anti reflective coating.
- Do not allow any liquids or debris to enter the battery compartment, and make sure the battery compartment is closed when handling the device around dirty or contaminated environments.
- Decontamination: please make sure the camera is thoroughly cleaned, decontaminated, and disinfected before sending to your reseller or Seek Thermal for service. Contaminants include: chemical fire extinguishing compounds, radioactivity, biohazardous materials, and residues from chemical fires
- Seek Thermal reserves the right to charge the full cost for the decontamination and disinfection of cameras that are shipped to our service department.

6 Training

Basic familiarity and fire service use case examples are provided on the Seek Thermal website at www.thermal.com

For additional training resources, please visit the following:

Instructor Andy Starnes - www.insighttrainingllc.com

Max Fire Box fire dynamics - www.maxfirebox.com

NOTICE

Read and understand this entire manual. Training and practice are required before use of this equipment in a hazardous situation. Use of a thermal imager without proper training may place the user at higher risk in dangerous situations which could result in serious injury or death.

WARNING

The following is not, nor is it intended to be, an exhaustive list of behaviors of infrared energy that differ from visible light. Use of this thermal imaging camera must be part of a complete training program. Interpretation of the thermal image requires training and experience. Do not use this product if you have not been thoroughly trained in its use and operation. Use of this product without proper training and thorough understanding of its operation may cause errors in judgment based on misinterpretation of the thermal imaging information, which could result in serious injury or death. The training must include extensive practice with the thermal imager in a variety of non-hazardous and hazardous environments to develop a complete understanding of how to interpret the thermal image. The user must be able to distinguish between relatively harmless and potentially hazardous sources of heat. The user must also be able to distinguish between actual sources of heat and reflected images of heat sources. Because different brands and models of thermal imagers may operate differently, always update training with each new piece of equipment.

Before entering a potentially hazardous situation, turn on and test the thermal imager to confirm it is operating properly. Failure to confirm the thermal imager is operating properly may place the user at higher risk in dangerous situations which could result in serious injury or death.

Beware of misconceptions about thermal imagers. Thermal imagers only show temperature differences between objects and not an optical image of the objects. The greater the temperature difference, the more distinct the thermal image. Experience and training are required to correctly interpret the thermal image.

- These are some other circumstances which could result in misinterpretation:
- The thermal imager cannot see through walls. A source of heat behind a wall will not be evident if it does not heat the wall itself.
- The heat from some high temperature objects or sources of high heat may be blocked, obscured, or made less distinct in the thermal image display by any of the following:
 - Water mist, spray, or highly saturated fog
 - Some chemical substances in a concentrated cloud or vapor
 - Extremely dense smoke
 - Heated smoke or a layer of heated gases
- If a concrete floor and a hole in that floor have the same temperature, there will be no apparent difference in the thermal image display to indicate the presence of the hole.
- Visually transparent or reflective materials such as glass, shiny plastic, or water can reflect infrared radiation from an actual source of high temperature. The user must be able to distinguish and identify when the image in the display could be a reflection and not the actual source of high temperature. For Example:
 - When viewing a window or other shiny surface at an angle, a source of high temperature reflected in the surface will be at some angle opposite and away from the apparent location.

- When viewing a source of high temperature through a clear window with a thermal imager, the thermal imager display will only show a reflection of the user holding the thermal imager and not the source of high temperature behind the window.
- When viewing a hole filled with water, the thermal imager display will show a reflection of any heat sources above and away from the water surface.
- Molten or boiling substances will appear hot in the thermal image display, but it may be difficult to identify their physical nature and the hazards they present based on the thermal image alone.
- Keep the lens clean while operating the thermal imager.
- Dirt or soot build up on the lens will obscure or reduce the clarity of the thermal image. Wipe the lens with a glove or cloth as needed. Clean the lens thoroughly after use.
- Condensation on the lens of the thermal imager will also block the thermal image and make entire display appear blank. Wipe the lens regularly to remove accumulated condensation. Use an approved anti-fog preparation on the lens to reduce the possibility of condensation on the lens.

7 Customer and Product support

For any questions or issues with the use of this product, do not hesitate to contact our customer support group at:

www.thermal.com/support

7.1 Quality Assurance

The Quality Management System under which this product was developed and manufactured complies to the ISO 9001 Standard. Seek Thermal Incorporated reserves the right to make changes and improvements on any of the products without prior notice.

7.2 Troubleshooting

WARNING

If you are experiencing problems with your product, please refer to this checklist. If the problem persists, please contact Seek Thermal Customer Services or your local distributor.

Error	Solution
Thermal imager will not turn on.	Ensure battery is fully charged.
Thermal imager switches off by itself.	Ensure battery is fully charged.
Battery will not charge.	Clean battery charging contacts.
Power is on but LCD is black.	Ensure no obstacles are impeding the view.
Image is a reflection of the user.	Ensure no water or glass items are impeding the view.
Image appears blurred.	Ensure the lens window is clean.

8 Legal and Warranty

8.1 Export Compliance

The technology utilized in Seek Thermal imagers may be subject to export control regulation by the governments of the USA. Where an export license applies, once obtained by Seek Thermal on behalf of the customer, all parties must strictly adhere to the terms and conditions pertaining to that license.

Where an export license applies, a copy of the license will be provided to the end user, and the end user must agree to follow all license terms and conditions. As an indicative (but not exhaustive) guide, typical thermal imager End User License Standard Conditions are reproduced in the next section.

8.2 End User License standard conditions

The end user must maintain the Item in their possession at all times and is responsible for its security against theft, loss, unauthorized access, or use.

No resale, donation, export, re-export, transfer, or disposal by other means of the Item is authorized. When the Item reaches the end of its service life, it **MUST** be returned to:

Seek Thermal Incorporated

6300 Hollister Avenue,

Santa Barbara, CA 93117

www.thermal.com

www.thermal.com/support

Sale, resale, loan, or surrender of the Item for any reason is prohibited.

Maintenance of the Item is limited to routine preventative maintenance and installation of field replacement parts only. Disassembly and/or repair of electrical/mechanical assemblies must only be performed by Seek Thermal authorized personal.

If the Item is lost, stolen, or destroyed, or unauthorized people have access to it, this must be reported to Seek Thermal within 21 days. The report must include a description of the incident, to include as appropriate:

- Who had physical possession of the item
- What is being done to recover the item
- Police incident report number
- Steps taken to prevent another such event.
- If unauthorized personnel had access to the Item, who allowed this and what has been done to avoid recurrence.

The end user must agree to all conditions set forth in the export license by signing said conditions and returning the signed export license to Seek Thermal prior to shipment of the Item.

8.3 Disclaimer

Specifications subject to change without further notice. Models and accessories subject to regional market considerations. License procedures may apply. Products described herein may be subject to US Export Regulations. Please refer to thermal.com/support with any questions.