

HSFTOOLS

Pocket Thermal Camera User Manual

Scan to Download HSFTOOLS APP



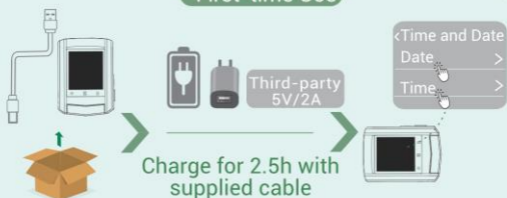
Android



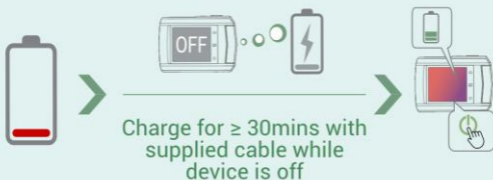
iOS



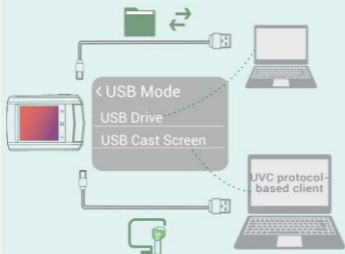
First-time Use



Long Time Unused



Use supplied cable for data transfer and screen casting



Third-party



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CHAPTER 1 OVERVIEW

1.1 Important Notice to User

This manual describes and explains the features for multiple camera models. Because the camera models of a series have different features, this manual may contain descriptions and explanations that do not apply to your particular camera model.

Not all the camera models of a series support the mobile applications, software, and all their functions mentioned (or not mentioned) in this manual. Please refer to the user manuals of the application and software for more detailed information.

This manual is updated on a regular basis. It means that this manual may not contain the information about the new features of the latest firmware, mobile clients, and software.

1.2 Device Description

The thermal camera is a device with both visual and thermal images. It can do temperature measurement, video recording, snapshot capturing, alarm, and can connect to Wi-Fi, and hotspot. The built-in high-sensitivity Super Resolution(SR) detector and high-performance sensor detects the variation of temperature and measure the real-time temperature.

The device is easy to use, and adopts ergonomic design. It is widely used for building inspection, HVAC, as well as electrical and mechanical equipment maintenance.

1.3 Main Function

Temperature Measurement

The camera detects the real-time temperature, and displays it on the screen.

Fusion

The camera can display fusion of thermal view and visual view.

Palettes

The camera supports multiple color palettes for different targets and user preference.

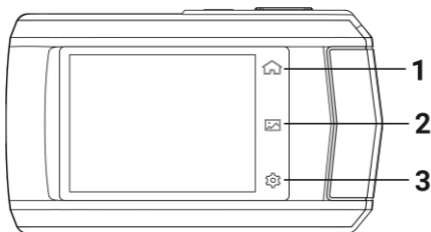
Alarm

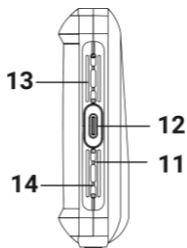
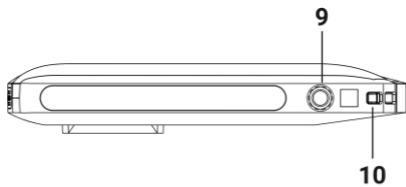
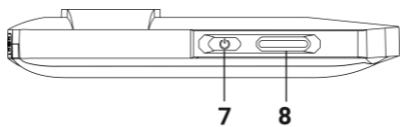
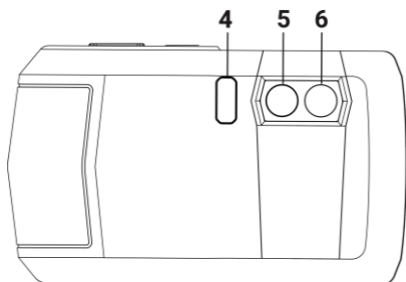
The camera supports temperature alarms.

Super Resolution (SR)

The camera supports **Super Resolution** to enhance object outlines. Some camera models can display the real-time Super Resolution image in live view.

1.4 Appearance





No.	Description	Function
1	Home Key	Tap to return to the live view interface.
2	File Key	Tap to enter albums.
3	Settings Key	Tap to enter settings interface.
4	Flash Light	Fill light on objects and output flashing alarm.
5	Thermal Lens	View the thermal image.
6	Visual Lens	View the visual image.
7	Power Key	<ul style="list-style-type: none"> ◆ Hold: Power on/off the device. ◆ Press: Manual sleep/Wake up the device.
8	Capture Key	<p>In live view:</p> <ul style="list-style-type: none"> ◆ Press: Capture snapshots/stop recording. ◆ Hold: Start recording. <p>In menu mode: Return to the live view interface.</p>
9	Tripod Mount	Mount the tripod.
10	Strap Attachment Point	Mount the strap.
11	Indicator	<p>Indicate the charging status of the device.</p> <ul style="list-style-type: none"> ◆ Solid red: charging normally ◆ Flashing red: charging exception

No.	Description	Function
		◆ Solid green: fully charged
12	Type-C Interface	Charge the device or export files with the supplied USB cable.
13	Buzzer	Output audible alarm.
14	Microphone	Record audio.

**NOTE**

Your camera will periodically perform a self-calibration to optimize image quality and measurement accuracy. In this process, the image will pause briefly and you'll hear a "click" as a shutter moves in front of the detector. The prompt "Image Calibrating ..." appears in the upper center of the screen as the device is calibrating itself. The self-calibration will be more frequent during start up or in very cold or hot environments.

CHAPTER 2 PREPARATION

2.1 Charge Device

The camera is equipped with a built-in battery. It is recommended to charge the camera with the included USB cable. Do not use the USB-C to USB-C cable of other manufacturers.

The power adapter (not included) should meet the following standards:

- ◆ Output Voltage/Current: 5 VDC/2 A
- ◆ Minimum Power Output: 10 W

Check the power indicator for the charging status:

- ◆ Solid red: charging normally
- ◆ Flashing red: charging exception
- ◆ Solid green: fully charged




NOTE

- ◆ If the camera is not in use for an extended period and is over-discharged, it is recommended to charge for at least 30 min before powering it on.
- ◆ It is recommended to use the USB cable included in the package for both charging and data transfer.

2.2 Power On/Off


Power On

Hold  for over three seconds to turn on the device. You can observe the target when the interface of the device is stable.



**NOTE**

It may take at least 30 s until the device is ready for using after you power on it.


Power Off

When the device is turned on, hold  for about three seconds to power off the device.

2.2.1 Manual Sleep

When the device is turned on, press  once to turn on the sleep mode, and press  again to wake up the device.

2.2.2 Set Auto Power-Off

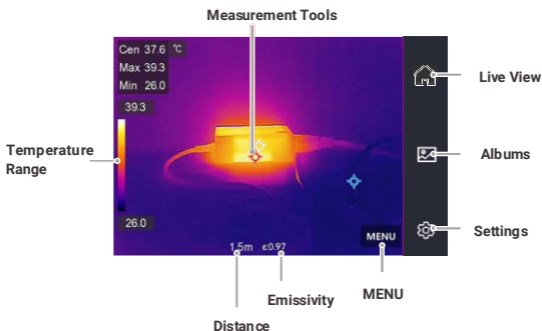
Tap , and go to Device Settings > Auto Power-off to set the automatic shutdown time for device as required.

2.3 Operation Method

The device supports touch-screen control. You can tap the screen to set parameters and configurations.

2.4 Menu Description

Live View



Swipe-down Menu




NOTE

Because this manual is updated on a regular basis, the interfaces might be slightly different from the version of your particular camera model. Please refer to the actual camera.

CHAPTER 3 DISPLAY SETTINGS

3.1 Set Screen Brightness

Go to **Local Settings > Display Settings > Screen Brightness** to adjust the screen brightness. Or tap , and drag it to adjust the screen brightness.



3.2 Set Super Resolution


The device supports **Super Resolution** on live view and on snapshots. Turn on **Super Resolution** to enhance the object outlines for better image display. The actual effect is subject to the actual product.


Go to **Local Settings > Capture Settings > Super Resolution** to turn it on/off.

3.3 Set Image Mode

You can set the thermal/visual view of the device.

Thermal, Fusion, PIP, Blending, and **Visual** are selectable.

1. Tap **MENU**, and select .
2. Tap the icons to select an image mode.

<i>Image Mode</i>	<i>Description</i>
 Thermal	Thermal image only.

**Fusion**

Thermal object image with visual outlines. Adjust **Parallax Correction** in live view to improve image alignment.

**PIP**

In **PIP** mode, the device displays thermal view inside the visual view. Adjust the size, parallax correction and digital zoom of the PIP.

**Blending**

In **Blending** mode, the device displays the mixture view of thermal and visual channel. Select the visual-thermal **Level** to change the visual-thermal ratio.

**Visual**

Visual object image only.

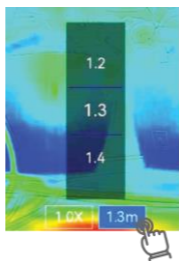
3. Tap **BACK** to exit.

3.3.1 Set Parallax Correction

You can set the parallax correction in the image mode (**Fusion**, **PIP**, or **Blending**) to improve the thermal-visual image alignment.


Tap on the screen to show the adjustment interface, select **Parallax Correction** (xx m), and scroll the value wheel to set the value.

The interface might be different from the version of your particular camera model. Please refer to the actual camera.






3.4 Set Palettes

The palettes allow you to select the desired colors.


1. Tap **MENU**, and select .
2. Tap the icons to select a palette.
3. Tap **BACK** to exit the setting interface.

3.5 Adjust Level & Span

Set a display temperature range and the palette only works for targets within the range. You can adjust the display temperature range.

1. Tap **MENU**, and select .
2. Select auto adjustment  or  manual adjustment.
3. Tap **BACK** to exit.

**Auto**

Select . The device adjusts display temperature range parameters automatically.

**Manual**

- 1) Tap on an interest area of the screen. A circle is displayed around the area, and the display temperature range readjusts to show as many details of the area as possible.
- 2) Tap on the value on screen to lock or unlock a value.
- 3) Scroll the adjustment wheel on the screen to fine-tune the max. temperature and the min. temperature respectively.
- 4) Tap **OK** to finish.

3.6 Color Distribution

<i>Mode</i>	<i>Description</i>
Linear	Linear color distribution enhances and displays more details of high temperature targets, which is good for checking small high temperature defective areas such as cable connectors.

Histogram

Histogram color distribution enhances high temperature targets and remains some details of low temperature objects in the area, which is good for discovering small low temperature targets such as cracks.

Color distribution function provides different image display effects in auto level & span. Linear and histogram color distribution modes can be selected for different application scenes.

1. Go to **Local Settings > Capture Settings > Color Distribution**.
2. Select a color distribution mode.
3. Tap < to save and exit.

3.7 Adjust Digital Zoom

1. Tap the live view interface to call the digital zoom frame.
2. Tap the digital zoom frame.
3. Select the digital zoom value as required.
4. Tap the screen to save and exit.

3.8 Display On-Screen Info

Go to **Local Settings > Display Settings** to enable the information on-screen display.

- ◆ **Time and Date:** Device time and date.
- ◆ **Parameters:** Temperature measurement parameters, for example, target emissivity, temperature unit, etc.
- ◆ **Screen Brightness:** Adjust the screen brightness.
- ◆ **Unit:** Set the temperature unit and distance unit.

CHAPTER 4 TEMPERATURE MEASUREMENT

The temperature measurement function provides the real-time temperature of the scene. The device displays the measurement results on the left of your screen.

4.1 Set Temperature Measurement Parameters

You can set temperature measurement parameters to improve the accuracy of temperature measurement.

1. Go to **Local Settings > Temp Measurement Settings**.
2. Set the Temperature Range, Emissivity, etc.
 - ◆ **Temperature Range:** Select the temperature measurement range. The device can detect the temperature and switch temperature measurement range automatically in Auto Switch mode.
 - ◆ **Emissivity:** Set the emissivity according to your target. You can customize it or select a recommended value.
 - ◆ **Refl. Temp.:** Reflected temperature. If any object (not the target) of high temperature is in the scene, and the target emissivity is low, set the reflection temperature as the high temperature to correct the temperature measurement effect.
 - ◆ **Distance:** The distance between the target and the device. You can customize the target distance or select the target distance as **Near, Middle, or Far**.
 - ◆ **Humidity:** Set the relative humidity of current environment.
3. Return to previous menu to save the settings.





**NOTE**

You can go to **Local Settings > Device Settings > Device Initialization > Remove All**

Measurement Tools to initialize the temperature measurement parameters.

4.2 Set Measurement Tools

You can set measurement tools to measure the min., max., and center temperatures of the current scene.

1. Tap **MENU**, and select .
2. Tap to select the temperature measurement tool as required. **Hot** , **Cold** , and **Center**  are selectable.
3. Tap **BACK** to save and exit.



NOTE

The min., max., and center temperatures are displayed on the left top of the screen. Tap the tool again to delete.

4.3 Set Temperature Alarm

When the temperature of targets triggers the set alarm rule, the device will perform configured actions, such as making audible warning and flash alarm.

1. Go to **Local Settings > Temp Measurement Settings > Alarm Settings**.
2. Enable **Temperature Alarm** and set the alarm parameters.

Alarm Threshold

When the tested temperature exceeds the threshold. The device will buzz if the audible warning is enabled, and the

flashlight will flash if the flashing alarm is enabled.

**Alarm
Linkage**

- ◆ **Audible Warning:** The device beeps when target temperature exceeds the alarm threshold.
 - ◆ **Flashing Alarm:** The flash light flashes when target temperature exceeds the alarm threshold.
-


3. Tap < to save and exit.

CHAPTER 5 PICTURE AND VIDEO

The device can record videos and capture snapshots. The files are saved in the local albums.



NOTE

- ◆ The device does not support capturing or recording when the menu is shown.
- ◆ When the device is connected to your PC, it does not support capturing or recording.
- ◆ Tap  and go to Local Settings > Device Settings > Device Initialization to initialize the storage as needed.

5.1 Capture Picture

In live view, press capture key to capture a snapshot. Enable the flashlight via the swipe-down menu in dark environment.

You can also set the following parameters in **Local Settings > Capture Settings** as needed.

<i>Parameters</i>	<i>Description</i>
Capture Mode	◆ Capture One Image: Press capture key once to capture one image.
	◆ Scheduled Capture: Set Interval (the time interval of each snapshot to be taken) and Number (the number of snapshots to be taken in a roll, ranging from 1 to 10,000) for scheduled capture. Press capture key in live view, and the camera captures the set number of images


Parameters	Description
Edit before Saving	<p>according to the set interval. Press capture key again to stop capturing.</p> <p>In Capture One Image mode, if you need to edit the captured image immediately, enable Edit before Saving.</p> <ul style="list-style-type: none"> ◆ Text Note: Select text note and enter the editing page. Tap on screen to input content and press ✓ to save. ◆ Scan QR Code: <ol style="list-style-type: none"> 1) Select QR code and the device enters the scanning mode. 2) Aim the scanning frame at a QR code. Device reads the code and save the code information. 3) Optional: If the scanning fails, you can enter the code information (Asset ID) using on-screen keyboard according to the prompt.
Filename Header	<p>Set the naming rule for the saved files. The default image naming is filename header + saving time. Filename Header is configurable. Saving time is the device system time when the saving occurs.</p>
Super Resolution	<p>Enable Super Resolution before capturing to enhance the object outlines of the captured images.</p>
File Naming	<p>The files can be named after Time Stamp or Numbering (filename header + sequence number).</p>

Parameters	Description
Save Visual Image	If a visual image is needed to be saved separately, enable Save Visual Image and set Visual Image Resolution .

**NOTE**

- ◆ For **Capture One Image**, if **Edit before Saving** is NOT enabled, the live image freezes and is saved in the default saving album. If **Edit before Saving** is enabled, the device enters the image editing interface.
- ◆ For **Scheduled Capture**, a counter displays in live view showing the completed amounts of capturing.

What to do next











- ◆ Tap  to enter albums to view and manage files and albums. See **5.3 Manage Albums** and **5.5 Manage Files** for operation instructions.
- ◆ You can connect your device to PC to export local files in albums for further use. See **5.6 Export Files**.

5.2 Record Video

1. In the live view interface, hold capture key to start recording. The recording icon and count down number display in the interface.
2. The recording video will be saved automatically after pressing capture key once to stop recording.

5.3 Manage Albums

The recorded image/video files are saved in the albums. You can create new albums, rename an album, change the default album, move files between the albums, and delete albums.

Task	Operations
Create a New Album	<ol style="list-style-type: none"> 1) Tap  to enter Albums. 2) Tap  to add a new album. 3) A soft keyboard is displayed, where you can enter the name of the album by touching the screen. 4) Tap  to finish. <div style="border: 1px dashed gray; padding: 5px; margin-top: 10px;">  NOTE The newly created album becomes the default saving album and appears at the top of the album list. </div>
Rename an Album	<ol style="list-style-type: none"> 1) Tap  to enter Albums. 2) Select the album to rename. 3) Tap , and select Rename. A soft keyboard is displayed. 4) Tap  to delete the old name, and enter the new name for the album by touching the screen. 5) Tap  to finish.
Change the Default Saving Album	<ol style="list-style-type: none"> 1) Tap  to enter Albums. 2) Select the album you want to use as the default saving album. 3) Tap , and select Set as Default Saving Album.

**NOTE**

Default saving album appears at the top of the album list.

- 1) Tap to enter **Albums**.
- 2) Select the album you want to delete.
- 3) Tap **⋮**, and select **Delete**. A prompt box appears on the interface.
- 4) Tap **OK** to delete the album.

Delete an Album

**NOTE**

The files in an album are deleted as well when deleting the album. Move the files to other albums if they are still needed. See **5.5 Manage Files** for instructions.

5.4 View Recorded Files

1. Tap to enter **Albums**.
2. Tap to select the target album.
3. Tap to select a video or snapshot to open it.
4. Tap the image or video, and tap to view more information.

**NOTE**







- ◆ Files are arranged in chronological order, with the most recent at the top. If you fails to find the most recently taken snapshots or videos, please check the time and date settings of your device.








See **7.1 Set Time and Date** for instructions. When you are viewing files, you can switch to other files by tapping < or >.

- ◆ For more information contained in capture snapshots or videos, you can download and install the PC analyzing tool to analyze them.

5.5 Manage Files

You can move, delete, edit the recorded files, and add text notes to the files.



<i>Task</i>	<i>Operations</i>
Delete a File	<ol style="list-style-type: none"> 1) Tap  to enter Albums. 2) Tap to select the album storing the file to be deleted. 3) In the album, tap to view the file to be deleted. 4) Tap the screen to show the menu bar below, and tap . A prompt box appears on the interface. 5) Tap OK to delete the file.
Delete Multiple Files	<ol style="list-style-type: none"> 1) Tap  to enter Albums. 2) Tap to select the album storing the files to be deleted. 3) In the album, tap , and tap the files to be deleted. 4) Tap . A prompt box appears on the interface. 5) Tap OK to delete the files.
Move a File	<ol style="list-style-type: none"> 1) Tap  to enter Albums.

Task	Operations
	<ol style="list-style-type: none"> 2) Tap to select the album storing the file to be moved. 3) In the album, tap to view the file to be moved. 4) Tap the file to show the menu bar below, and select . The album list is displayed. 5) Tap to select the album to move to.
Move Multiple Files	<ol style="list-style-type: none"> 1) Tap  to enter Albums. 2) Tap to select the album storing the files to be moved. 3) In the album, tap  to select the files to be moved. 4) Tap . The album list is displayed. 5) Tap to select the album to move to.
Add Text Note on File	<ol style="list-style-type: none"> 1) Tap  to enter Albums. 2) Tap to select the album storing the file to be edited. 3) In the album, tap to view the file to be edited. 4) Tap the screen to show the menu bar below, and tap . A soft keyboard is displayed. 5) Enter the text note by touching the screen. 6) Tap  to finish.

What to do next

You can open the edited photo to view the text note.

**NOTE**

You can tap  to select all files, and tap  to cancel the selection.

5.6 Export Files via PC

1. Connect the device to your PC with the supplied USB cable, and select **USB Drive** mode in the prompt on device. In **USB Drive** mode, casting screen is not supported.
2. Open the detected disk, copy and paste the videos or snapshots to PC to view the files.
3. Disconnect the device from your PC.

**NOTE**

For the first connection, the driver will be installed automatically.

CHAPTER 6 DEVICE CONNECTIONS


6.1 Cast Device Screen to PC

The device supports casting screen to PC by UVC protocol-based client software or player. You can connect the device to your PC via the included USB cable, and cast the real-time live view of the device to your PC.


1. Download and install UVC protocol-based client software or player, e.g. PotPlayer, on your PC.
2. Connect the device to your PC via the supplied cable.
3. Select **USB Cast Screen** as the USB mode.
4. Open the client on your PC, and you can view the real-time screen.


6.2 Connect HSFTOOLS App and the Device via Wi-Fi

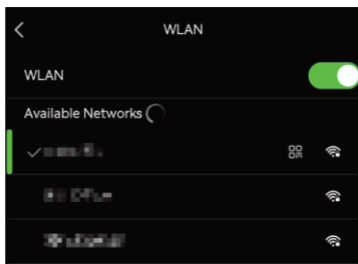
Connect HSFTOOLS App and your device over a Wi-Fi network. Then you can operate your device with the App. Scan the QR code on the front cover of this manual to download the app.

1. Connect your device to a Wi-Fi.
 - 1) Go to **Local Settings > Connections > WLAN**.
 - 2) Tap  to enable Wi-Fi, and the searched Wi-Fi will be listed.
 - 3) Select the Wi-Fi to connect. A soft keyboard is displayed.
 - 4) Enter the password by touching the screen.

**NOTE**

- ◆ DO NOT enter **space** in your password, or the password may be incorrect.
- ◆ Please tap  to enter password into the password field.


2. In WLAN setting interface, press  to select the connected Wi-Fi, and the full QR code pops up.



3. Open the App on your phone, scan the QR code on the device, and follow app instructions to connect your device.

6.3 Connect HSFTTOOLS App and the Device via hotspot

Connect HSFTTOOLS App and your device over the hotspot set up on your device. Then you can operate your device with the App. Scan the QR code on the front cover of this manual to download the app.

1. Enable the hotspot on your device.
 - 1) Go to **Local Settings > Connections > Hotspot**.
 - 2) Tap  to enable the hotspot function. The hotspot name is the last 9 digits of the device serial No.

2. (Optional) Set the hotspot password.

◆ Using hotspot password:


1) Select Set Hotspot.

It displays a randomly generated password. The password is required when other devices need to join the hotspot.

2) Set your password for the hotspot.



NOTE

- ◆ DO NOT tap **space** in your password, or the password may be incorrect.
- ◆ The password should at least contain 8 digits, consisting of numbers and characters.
- ◆ Please tap  to enter password into the password field.

3. Scan the QR code with the HSFTTOOLS app to join the hotspot.

A QR code displays in the setting interface on the device when hotspot is enabled. Open the app on your phone, scan the QR code, and follow app instructions to connect your device.

CHAPTER 7 SYSTEM SETTINGS

7.1 Set Time and Date

1. Go to **Local Settings > Device Settings > Time and Date**.
2. Set the date and time.
3. Tap < to save and exit.

**NOTE**

Go to **Local Settings > Device Settings > Display Settings** to turn on/off time and date display.

7.2 Set Language

Go to **Local Settings > Device Settings > Language** to select a required language.

7.3 Set Auto-Rotation

Turn on auto-rotation in swipe-down menu.

Or go to **Local Settings > Device Settings > Auto-Rotation** to turn on this function.

CHAPTER 8 MAINTENANCE

8.1 View Device Information

Go to **Local Settings > Device Settings > About** to view the device information.

8.2 Upgrade Device

Before You Start

- ◆ Please download the upgrade file from the official website or contact the custom service and technical support to get the upgrade file first.
 - ◆ Make sure that the device battery is fully charged.
 - ◆ Make sure that Auto Power-off function is turned-off to avoid accidental suspension during upgrading.
1. Connect the device to your PC via the included USB cable, and select **USB Drive** as the USB mode in the prompt on the device.
 2. Unzip the upgrade file and copy it to the root directory of the device.
 3. Disconnect the device from your PC.
 4. Reboot the device and then it will upgrade automatically. The upgrading process will be displayed in the main interface.



NOTE

After upgrading, the device reboots automatically. You can view the current version in **Local Settings > Device Settings > About**.

8.3 Restore Device

Go to **Device Settings > Device Initialization > Restore Device** to initialize the device and restore default settings.


8.4 Save Operation logs

The device can collect its operation logs and save in the storage only for troubleshooting. You can turn on/off this function in **Local Settings > Device Settings > Save Logs**.

You can connect the camera to PC using the supplied USB cable, and select USB Drive as the USB mode on camera to export the operation logs (*.tar) in the root directory of the camera, if necessary.

8.5 Format Storage

Format storage before first use of it.

Tap , and go to **Device Settings > Device Initialization > Format Storage** to initialize the device memory.

8.6 About Calibration




Please contact the local dealer or visit our website for the information on maintenance points.

SAFETY INSTRUCTION

These instructions are intended to ensure that user can use the product correctly to avoid danger or property loss. Please read all the safety information carefully before using.

Symbol Conventions

The symbols that may be found in this document are defined as follows.

<i>Symbol</i>	<i>Description</i>
 Danger	Indicates a hazardous situation which, if not avoided, will or could result in death or serious injury.
 Caution	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
 Note	Provides additional information to emphasize or supplement important points of the main text.

Laws and Regulations

- ◆ Use of the product must be in strict compliance with the local electrical safety regulations.

Transportation

- ◆ Keep the device in original or similar packaging while transporting it.

- ◆ Keep all wrappers after unpacking them for future use. In case of any failure occurred, you need to return the device to the factory with the original wrapper. Transportation without the original wrapper may result in damage on the device and the company shall not take any responsibilities.
- ◆ DO NOT drop the product or subject it to physical shock. Keep the device away from magnetic interference.

Battery

- ◆ CAUTION: Risk of explosion if the battery is replaced by an incorrect type. Replace with the same or equivalent type only. Dispose of used batteries in conformance with the instructions provided by the battery manufacturer.
- ◆ Improper replacement of the battery with an incorrect type may defeat a safeguard (for example, in the case of some lithium battery types).
- ◆ Do not dispose of the battery into fire or a hot oven, or mechanically crush or cut the battery, which may result in an explosion.
- ◆ Do not leave the battery in an extremely high temperature surrounding environment, which may result in an explosion or the leakage of flammable liquid or gas.
- ◆ Do not subject the battery to extremely low air pressure, which may result in an explosion or the leakage of flammable liquid or gas.
- ◆ Dispose of used batteries according to the instructions.
- ◆ The built-in battery cannot be dismantled. Please contact the manufacturer for repair if necessary.
- ◆ For long-term storage of the battery, make sure it is fully charged every half year to ensure the battery quality. Otherwise, damage may occur.

- ◆ Use the battery provided by a qualified manufacturer. Refer to the product specification for detailed battery requirements.
- ◆ In the first use, charge the device for more than 2.5 hours in the power-off status.
- ◆ The lithium battery voltage is 3.85 V, and the battery capacity is 2100 mAh.
- ◆ The battery is certified by UL2054.

Power Supply

If a power adapter is provided in the device package, use the provided adapter only. If no power adapter is provided, ensure the power adapter or other power supply complies with Limited Power Source. Refer to the product specification for detailed power requirements.

- ◆ Make sure the plug is properly connected to the power socket.
- ◆ DO NOT connect multiple devices to one power adapter, to avoid over-heating or fire hazards caused by overload.

Maintenance

- ◆ If the product does not work properly, please contact your dealer or the nearest service center. We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.
- ◆ Wipe the device gently with a clean cloth and a small quantity of ethanol, if necessary.
- ◆ If the equipment is used in a manner not specified by the manufacturer, the protection provided by the device may be impaired.
- ◆ Please notice that the current limit of USB 3.0 PowerShare port may vary with the PC brand, which is likely to result in incompatibility issue. Therefore, it's

advised to use regular USB 3.0 or USB 2.0 port if the USB device fails to be recognized by PC via USB 3.0 PowerShare port.

- ◆ Your camera will periodically perform a self-calibration to optimize image quality and measurement accuracy. In this process, the image will pause briefly and you will hear a “click” as a shutter moves in front of the detector. The self-calibration will be more frequent during start up or in very cold or hot environments. This is a normal part of operation to ensure optimum performance for your camera.

Using Environment

- ◆ Make sure the running environment meets the requirement of the device. The operating temperature shall be -10 °C to 50 °C (14 °F to 122 °F), and the operating humidity shall be 95% or less.
- ◆ Place the device in a dry and well-ventilated environment.
- ◆ DO NOT expose the device to high electromagnetic radiation or dusty environments.
- ◆ DO NOT aim the lens at the sun or any other bright light.
- ◆ When any laser equipment is in use, make sure that the device lens is not exposed to the laser beam, or it may burn out.
- ◆ The device is suitable for indoor and outdoor uses, but do not expose it in wet conditions.
- ◆ The level of protection is IP 54.

Emergency

- ◆ If smoke, odor, or noise arises from the device, immediately turn off the power, unplug the power cable, and contact the service center.

Manufacture Address

No. 5 VSIP II, No. 7 Street, Vietnam- Singapore Industrial park II, Hoa Phu Ward, Thu Dau Mot City, Binh Duong Province, Vietnam

CARVE VIET NAM TECHNOLOGY COMPANY LIMITED

COMPLIANCE NOTICE

The thermal series products might be subject to export controls in various countries or regions, including without limitation, the United States, European Union, United Kingdom and/or other member countries of the Wassenaar Arrangement. Please consult your professional legal or compliance expert or local government authorities for any necessary export license requirements if you intend to transfer, export, re-export the thermal series products between different countries.

LEGAL INFORMATION

About this Manual

The Manual includes instructions for using and managing the Product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version of this Manual at the company website.

Please use this Manual with the guidance and assistance of professionals trained in supporting the Product.

Trademarks

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YOU AGREE TO USE THIS PRODUCT IN COMPLIANCE WITH ALL APPLICABLE LAWS, AND YOU ARE SOLELY RESPONSIBLE FOR ENSURING THAT YOUR USE CONFORMS TO THE APPLICABLE LAW. ESPECIALLY, YOU ARE RESPONSIBLE, FOR USING THIS PRODUCT IN A MANNER THAT DOES NOT INFRINGE ON THE RIGHTS OF THIRD PARTIES, INCLUDING WITHOUT LIMITATION, RIGHTS OF PUBLICITY, INTELLECTUAL PROPERTY RIGHTS, OR DATA PROTECTION AND OTHER PRIVACY RIGHTS. YOU SHALL NOT USE THIS PRODUCT FOR ANY PROHIBITED END-USES, INCLUDING THE DEVELOPMENT OR PRODUCTION OF WEAPONS OF MASS DESTRUCTION, THE DEVELOPMENT OR PRODUCTION OF CHEMICAL OR BIOLOGICAL WEAPONS, ANY ACTIVITIES IN THE CONTEXT RELATED TO ANY NUCLEAR EXPLOSIVE OR UNSAFE NUCLEAR FUEL-CYCLE, OR IN SUPPORT OF HUMAN RIGHTS ABUSES.

REGULATORY INFORMATION

These clauses apply only to the products bearing the corresponding mark or information.

FCC Information

Note: This product 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 product 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 product 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.

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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 undesired operation.

Note: Due to the device size limit, the above statement may not be disclaimed on the device.

HSFTOOLS