OBSERVING THERMAL INFRARED IMAGER

User Manual

CONTENTS

CHAPTER I. IMPORTANT NOTES

This Manual is a general book, covering multiple thermal imagers in a product line; it means that some functions and specification are not applicable to the thermal imager with specific model.

The best using environment of the thermal imager is 25 DEG C; poor imaging quality may be formed if the best using environment is deflected.

Chapter II. Introduction

The device is a portable handhold observing thermal infrared imager; it has 307200/120000 effective infrared pixel points, and can replace shot and externally connect mobile device (iPhone, or Android device), and meet observing demand under different application scenes.

This device forms image by the outwards radiant heat of the article itself instead of the light source, and the technology is incomparable by naked eye, and even light amplifying night viewing device. It means that you still can “see the details” under the condition of no light source. all articles with temperature of over 0 DEG C absolutely in the nature cycle can radiate heat outwards and form contrast with the background; even under the worst condition, their existence can be clearly saw through the night viewing thermal imager still.

Chapter III. Notices

At any time, please strictly follow the notices below:

- Please keep stable and avoid fierce shaking when the device is used.
- Do not use or store the device in the environment where is beyond the permitted working temperature or storage temperature.
- Do not directly aim the device at the hot radiation source with very high intensity, such as sun, laser, and spot laser.
- Do not expose the device in the dusty or wet environment, and cover the lens cover if the device is out of service.
- When the device is out of service, please place the device and all fittings in a shady and dry environment.
- Do not strike, throw or shake the meter and its fittings in case of damage.
- Do not dismount the device without permission in case of damaging the device possibly and losing the warranty right.
- Do not use the device under the environment where the working temperature of the device is exceeded, in case of damaging the device possibly.
- Do not apply the dissolvable or similar fluid to device and cable, in case of damaging the device possibly.
- When eye lens is applied under some limit conditions (such as high temperature), its contrast may be reduced, and the picture is whitened; externally connect the display screen and then switch into the eye lens display after a period of time.

- Do not charge under the environment of over 40 DEG C.

When the device is scrubbed, please follow the measures as below:

- Non-optical surface: if necessary, scrub the non-optical surface of the thermal imager by clean and soft cloth.
- Optical surface: when the thermal imager is used, please avoid polluting the optical surface of the lens; especially, avoid contacting the lens by hand; for the sweat on the hands may leave trace on the lens glass and may corrode the optical coating layer on the glass surface, please carefully clean the surface of the optical lens by professional lens paper when it is polluted.

FCC Caution

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.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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

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

The device has been evaluated to meet general RF exposure requirement.

The device can be used in portable exposure condition without restriction.

Chapter IV. Article List

Standard fittings:

Shoulder girdle

Wrist strap

Video connecting line

Quick operation guideline

Thermal imager

Carrying bag

Adapter
(Equipped power adapter might be different to match the power standard in different sales area)

USB connecting line

Optional fittings:

- Laser indicator
- 19mm lens/35mm lens/65mm lens/80mm lens

19mm lens

35mm lens

65mm lens

80mm lens

Chapter V.
List of Product Parts

Chapter VI.
Operation Description

Button	Graphical representation	Functions
Power button		**Start up:** keep pressing the power button for 2 seconds until the thermal imager is powered on and startup image shown on screen. **Manual standby:** Under the startup state, short press the power button to enter the standby state. **Automatic standby:** under startup state, if there is no operation within 5 minutes, a standby indication will show on the screen; press any button within 30 seconds to exit automatic standby. **Exit standby:** Under the standby state, press any button to exit standby. **Power off:** Keep pressing the power button to bring up the power off icon. **Automatic power off:**Thermal imager will power off automatically when there is no operation in 25 minutes.

Button	Graphical representation	Functions
Brightness control button		**Adjust brightness:**click once and set five levels of brightness.
		**Turn on/off GPS:** Keep pressing for 2 seconds to enable/disablethe GPS function (only applicable to PRO version).
Image model button Click once and switch the white hot model, black hot model and red hot model (3 types)		**White hot model :** Objects with relatively high temperature wiil be white or light grey.
		**Black hot model :** Objects with relatively high temperature will be black or dark grey.
		**Red hot model :** Objects with high temperature will be red.
		**Enable/Disable hot spot tracing mode :** Keep pressing for 2 seconds to enable/disable the hot spot tracing function.
Electronic magnification button		**Adjust magnification:** Click once and orderly trigger image magnification to bring out X2 and X4.

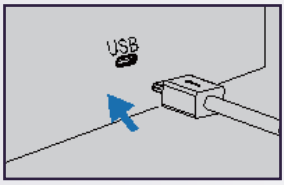
Button	Graphical representation	Functions
Photo & Video button		**Photo:** press to take a picture.
		**Video:** Keep pressing for 2 seconds to start recording. **Finish record:** After starting recording, keep pressing for 2 seconds to finish recording.
WiFi on/off button(only applicable to PRO Version)		**Turn on/off WiFi :** Click once to turn on/off WiFi. **APP Installation:** search and install "VIDAR"APP in all major application market, search WIFI "HANDHELD_TI" with mobile phone or other mobile devices, and input password “12345678” to get connected with your thermal imager.
Lens focusing		When different distance targets are observed, the image may be fuzzy; please rotate the lens focusing ring until a clear image.

Button	Graphical representation	Functions
Diopter regulation rotary button		The diopter regulation rotary button can adjust the eyepiece diopter so as to meet the users with different shortsighted degrees. When screen icon is fuzzy, the eyepiece is unmatched with the user's vision, please rotate the diopter regulation rotary button until the screen icon is completely clear.
Reset time		Please newly build up a TXT file and name the file according to the following rules： 2016/ 03/ 18/ 18/ 29 Year/Month/ Day/ Minute/Second Then copy the file to the root directory of memory card: …\SABRESD-MX6DQ\memory device, at last, restart the thermal imager.

Chapter VII. Connection with External Device

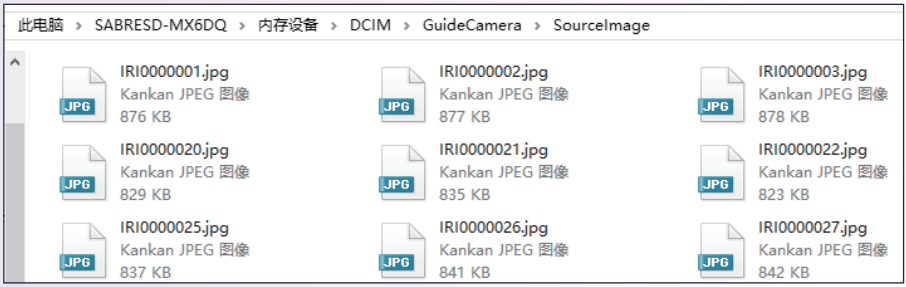
This product can be connected with external device by USB cable and video cable.

- **Micro USB interface**

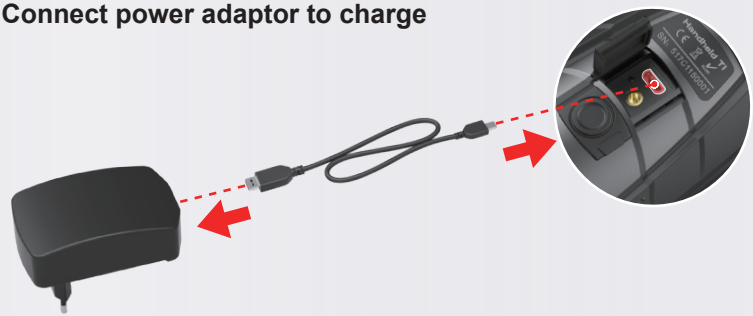


1. Review internal storage file.

After Connecting the USB cable with the table computer, turn on my computer, check the internal memory disk information, click and enter the memory device, and find out the folder for storing picture or picture; the specific path of picture is: …\SABRESD-MX6DQ\memory device\DCIM\GuideCamera\SourceImage, specific video path is:…\SABRESD-MX6DQ\memory device\DCIM\GuideCamera\SourceVideo



2. Connect power adaptor to charge



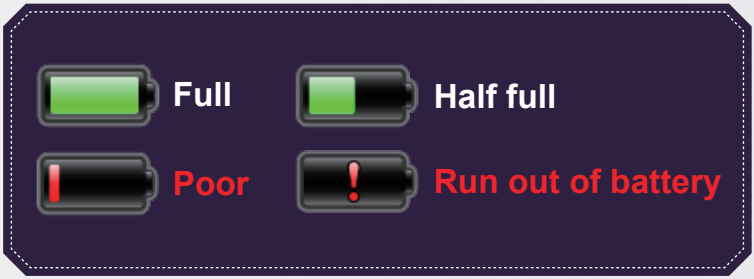
Connect the USB cable with the power adaptor for charging the thermal imager.

The first charging of thermal imager should be at least 3 hours

In normal charging mode: the charging indicator shows red;

When the charging is completed, the charging indicator will be green

The left bottom of screen will display the remaining power quantity of current device;



The USB interface nearby at the bottom part of the thermal imager is provided with a video output port; through the supporting video line, the image of the thermal imager can be output to the external monitor to display. Meanwhile, the video output function can be started by pressing the image model button and the magnification button; under the video output state, the right bottom of the screen has the video output icon VID display.

- **Replace lens**

  Optional lens are 19mm, 35mm, 65mm, 80mm lens

- **Remove lens**

Press the button A; meanwhile to rotate the ring in clockwise direction (unlock direction) to remove the lens.

- **Install lens**

Make the red point on the lens locking ring aim at the lens installation indication point at the front part of the thermal imager body; place the lens; hold the lens locking ring and rotate it in anti-clockwise direction (LOCK direction), mount the lens.

Chapter VIII. Guideline of Troubleshooting

Symptom	Cause	Solution
Unable to start up.	Poor battery.	Start up after charging.
Unclear image.	No focusing.	Manually focusing to make image clear.
	Lens is moistened or polluted.	Clean the lens by using professional device.
	The diopter regulation rotary key is not adjusted in place.	Please rotate the diopter regulation rotary key until the screen icon is completely clear.
Unable to use WiFi/GPS.	Model	WIFI and GPS only available in PRO version.
	Poor battery.	Re-charge until over 50% of power quantity.
	WiFi/GPS function is not started.	When the top left corner of the screen shows ⧖, the thermal imager is starting up; if the WiFi/GPS cannot start, please patiently wait until ⧖ is disappeared.

Symptom	Cause	Solution
Unable to take picture or record	Poor battery.	Re-charge until over 50% of power quantity.
	The photo function is not started.	When the top left corner of the screen shows ⌛, the thermal imager is starting up; if it cannot take photo or record, please patiently wait until ⌛ is disappeared.
	Memory is full.	When the top right corner of the screen displays ⚠, the memory card of the thermal imager is full, please delete the memory card or format the memory card.
No sound in video	Model.	Voice annotation is only available in PRO Version.
	The object is too far to thermal imager.	The record function of the thermal imager is only used for the record at near distance; if it needs to record sound at far place, please close to the object as much as possible.
Only grey image displayed by eyepiece.	The thermal imager is shielded.	Please remove the lens cover and confirm if there is shielding matter in front of the lens.

This Company does not undertake any legal responsibility of property and personnel injury for mistake and accident caused by own reason or the third party or the wrong judgment of image when user uses the product.

This operation guideline is organized for facilitating users to use and learn about our product; we will make all efforts to guarantee the accuracy of the content of the guideline, but still cannot guarantee the completeness of its content. For our product is sustainably updated and upgraded, this Company reserves the right of modifying at any time without prior notice.