EasIR™-4 / EasIR™-2/ EasIR™-1 Thermal Camera

User Manual

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The Quality Management System of Wuhan Guide Infrared Co., Ltd. is approved to ISO9001:2000 for the design and manufacturing, stockholding, in-house repair and site servicing of non-contact temperature measuring instrumentation.

Wuhan Guide Infrared Co., Ltd. reserves the right to make changes and improvements on any of the products described in this manual without prior notice.

CE

EASIR^{TM}-4/ EASIR^{TM}-2/ EASIR^{TM}-1 Thermal Camera complies with current European directives relating to electromagnetic compatibility and safety. (EMC directive 89/336/EEC; Low voltage directive 73/23/EEC).

Table of the Contents

Introduction

This publication provides the necessary information required to safely operate the ***EASIR^{TM}-4/ EASIR^{TM}-2/ EASIR^{TM}-1*** Thermal Camera.

It is important to fully check all equipment with which you have been supplied.

The equipment should be used, maintained and serviced by suitably trained personnel, capable of carefully following the procedures and guidelines given in this User Manual.

All User Manuals and leaflets should be read thoroughly before proceeding with operation of the equipment.

It is also advisable that all User Manuals and Instruction Leaflets supplied are kept readily available, for reference when the equipment is in general use.

Precautions

The following precautions must be adhered to at all times and must be considered in addition to any advised precautions issued at the relevant worksite or work area.

- Keep the ***EASIR^{TM}-4/ EASIR^{TM}-2/ EASIR^{TM}-1*** Thermal Camera steady during operation.
- Do not use the ***EASIR^{TM}-4/ EASIR^{TM}-2/ EASIR^{TM}-1*** Thermal Camera in temperature exceeding its working and storage temperature ranges.
- Do not direct the ***EASIR^{TM}-4/ EASIR^{TM}-2/ EASIR^{TM}-1*** Thermal Camera at very high intensity radiation sources such as the sun, carbon dioxide lasers or arc welders etc.
- Do not expose the ***EASIR^{TM}-4/ EASIR^{TM}-2/EASIR^{TM}-1*** Thermal Camera to dust and moisture. When operating the unit near water, ensure that the unit is adequately guarded against splashes.
- When the ***EASIR^{TM}-4/ EASIR^{TM}-2/EASIR^{TM}-1***Thermal Camera is not in use or is to be transported, ensure that the unit and its accessories are stored in the protective carry case.
- Do not jam the holes or loudspeaker on the camera body.
- Do not re-switch on the camera until 15 seconds later after switching it off.
- Do not throw, knock or vibrate intensely the camera and its components in order to keep them from damage.
- Do not attempt to open the camera body, as this action will void the warranty.
- Keep the SD memory card for the exclusive use of the camera.
- During using, if move the IR camera from hot/cold place to cold/hot place, e.g. from inside/outside to outside/inside of a air-conditioned car in winter, should power off the camera firstly and leave it in the operation site for 20 minutes, then power on the camera for normal operation and accurate temperature measurement. Sharp and instant ambient temperature change may cause fault temperature measurement and even damage camera's IR detector.

- FPA setting: to ensure accurate temperature measurement, the FPA detector was calibrated in different temperature points--7degree, 17degree, 27degree, 37degree. When power on the camera in 0 degree for example, after period of working the temperature of the camera (the detector) will increase gradually. And when the internal temperature of the camera beyond 7 degree, FPA setting will take place and will last for about 30sec, and during the FPA setting the camera will not response for any operations. If power on the camera in a temperature about 8 degree, only when the temperature of the camera beyond 17degree, this phenomenon will happen again. Camera will adjust FPA setting itself automatically to ensure its stable performance.

Maintenance

To ensure that the ***EASIR^{TM}-4/ EASIR^{TM}-2// EASIR^{TM}-1*** Thermal Camera is kept in good working condition and remains fully operational, the following guidelines should be adhered to at all times.

Non-optical surfaces

The non-optical surfaces of the camera can be cleaned when required, with a soft cloth dampened with water and a mild detergent.

Optical surfaces

The lens of an IR camera is very expensive. Replacement or repair may be thousands of dollars. The anti-reflective coating on the surface of the lens is the most expensive part of the lens assembly (and is also critical to the radiometric capabilities of the system).

The optical surface should only be cleaned when visibly dirty. Care should be taken to avoid oil, chemical dirt and touching the exposed lens surface, as skin acid left behind from fingerprints can be damaging to coatings and lens substrates. After using the imager, please close the lens cover.

Do not use dilution to clean the imager and its accessories, especially the optics. Use clean soft dry tissue to clean the imager body, and the supplied lens cleaning tissue for lens.

Calibration and Repair Philosophy

To ensure the accuracy and reliability of the ***EASIR^{TM}-4/ EASIR^{TM}-2/EASIR^{TM}-1*** Thermal Camera, it is highly recommended that the instrument be calibrated at 12 monthly intervals.

Calibration or repair for the instrument can be obtained by either contacting the address/ telephone number on the cover of this User Manual, or by email to the following address: overseas@guide-infrared.com

Caution

The ***EASIR^{TM}-4/ EASIR^{TM}-2/EASIR^{TM}-1***Thermal Camera does not incorporate any user serviceable parts. Never attempt to disassemble or modify the camera. Opening the unit invalidates the warranty.

Technical Support

Technical support for your **Wuhan Guide** Thermal Imaging System can be obtained by either contacting the address / telephone number on the cover of this User Manual or by email to the following address: overseas@guide-infrared.com

Feedback to Us

We have tested and verified the information in this manual to the best of our abilities. Yet as we are committed to continuous development and progress, you might find features of the product have been changed since the time of printing. You are appreciated to let us know about any error you find, and your suggestions for further editions by either contacting the address/telephone number on the cover of this User Manual or by email to the following address: overseas@guide-infrared.com

System Overview

EASIR^{TM}-4/ EASIR^{TM}-2/ EASIR^{TM}-1 is a new infrared camera of Guide infrared, breaks the IR world with its lowest price and high performance. Designed for tough work environments and entry-level users, ***EASIR^{TM}-4/ EASIR^{TM}-2/ EASIR^{TM}-1*** is far more robust and shock-resistant for any tough working environment and it is easy to operate and allows for the learners to operate without being trained and take the inspection work easily with one hand .Featured with latest InfraFusion technology, it helps you pinpoint the problem exactly with the most efficiency. Power on the ***EASIR^{TM}-4/ EASIR^{TM}-2/ EASIR^{TM}-1***, let the 3.6" LCD bring you into the fresh IR world

System Configuration

Please ensure that the following items have been correctly supplied:

- IR Camera with visual camera, laser locator
- 11mm IR lens & protection cover
- 3.6" TFT LCD with high resolution
- 2GB SD card & card reader
- 12 AA rechargeable batteries
- AC Adapter & cable
- USB extension cable
- USB driver

- Guide IrAnalyser® Software
- User manual
- Wrist strap
- Safety case
- Soft bag

Options

- 30mm Tele lens
- 7mm wide angle lens
- Extended temperature range up to +350℃
- 1200℃ high temperature filter
- Sun Shield
- Tripod mount

Technical Specification

Imaging Performance			
THERMAL	***EASIR™-4***	***EASIR™-2***	***EASIR™-1***
Detector type:	Uncooled FPA microbolometer (160× 120 pixels, 25μm)		
Spectral Range:	8-14μm		
Thermal Sensitivity:	≤100mk at 30℃		
Field of View/ Focus:	20.6° X 15.5°/ 11mm		
Palette	8	6	4
Focus:	Automatic or motorized （thermal & visual）	Motorized (thermal)	Motorized (thermal)
VISUAL			
Built-in Digital Video:	CMOS Sensor, 1600x1200 pixels, 2^{24} true colors		N/A
Image Presentation			
External Display:	3.6" TFT LCD with high resolution		
Video Output :	PAL/ NTSC	N/A	
Live thermal video	Recording via USB to PC	N/A	
Built-in Flash	Yes		N/A
Infra Fusion:	Visual and IR blending		
Man-Machine Communication			
Buttons:	Respond as per operators' operation		

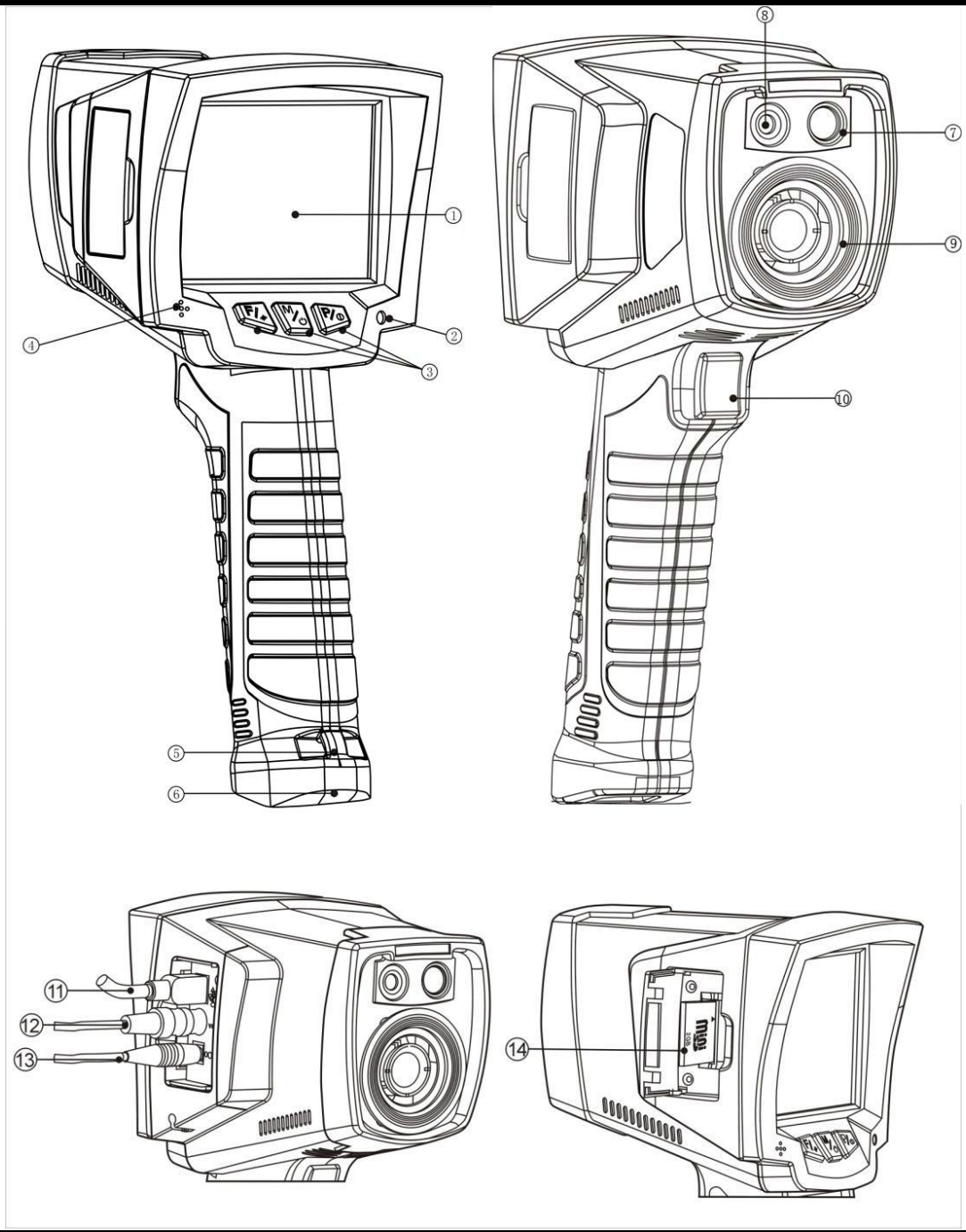
Menu:	Microsoft® Windows style	
Measurement		
Temperature Range:	-20℃ to 250℃ (350℃,optional)	-20℃ to 250℃
Accuracy:	±2℃ or ±2% of reading	
Emissivity Correction:	Variable from 0.01 to 1.00 (in 0.01 increment)	
Measurement Features:	Automatic correction based on distance, relative humidity, atmospheric transmission and external optics	
Optics Transmission Correction:	Auto, based on signals from sensors	
Image Storage		
Type:	Removable 2GB SD card & built-in memory	
File Format:	JPG with analysis records	
Voice Annotation :	Up to 60 seconds	N/A
Laser Locator		
Classification	Class 2 semiconductor laser	N/A
Power System		
Battery Type:	AA rechargeable battery, field-replaceable, AA Alkaline battery also usable	
Charging System:	In camera or in battery charger	
Battery Operating Time:	Over 3 hours continuous operation	
External Power Operation:	AC adapter 110/ 220 VAC, 50/ 60Hz	
Environmental Specification		
Operating Temperature:	-10℃ to 50℃	
Storage Temperature:	-20℃ to 60℃	
Humidity:	Operating and storing 10% to 95%, non- condensing	
Encapsulation:	IP54 IEC 529 housing	
Shock:	Operational: 25G, IEC 68-2-29	
Vibration:	Operational: 2G, IEC 68-2-6	
Interfaces		
USB 2.0:	For video and image transfer	N/A
Physical Characteristics		
Weight:	0.73KG(Excluding battery)	
Size:	111mmx124mmx240mm	
Colors	Yellow & Grey interlaced or Red & Black interlaced alternative	

System Features

Features	Advantages	Benefit
Speedy 50 Hz or 60 Hz. IR camera	makes sharp IR images	especially in cold outdoor climates, hand shakes do not appear on IR images
Auto focus for both IR and visual image	fast (ZipZip) and best focus by pressing one button only – quick buttons 2 places on camera for ergonomical fitness.	efficiently save your inspection time, manual electric focus also possible.
Innovative AGT (auto gate technology)	not only functions as shutter but also lens cap, free from all disturbing heat caused by optics and electronics inside	ensures the most stable and accurate temperature reading; protects the camera's sensitive optics and detectors.
3.6” LCD screen	delivers better view, and clear menu with large letter	clear image presentation and menu reading - espcially for InfraFusion !
Navigation interface	clear instructions for operation step by step	easy operation for any users, especially entry level users
Powerful analysis software	support image information read-in, powerful further analysis, live trend analysis, multipage generation by over 9 IR images, real-time video recording, report generation	analyzes the image with the help of various analysis method and generate report.
Analog video output	realtime PAL/NTSC thermal video output	convenient for demonstration and online monitoring, PAL/NTSC switchable on one camera satisfies customers from different countries and areas
Digital temperature data output	realtime recording of IR data stream (IR active video). Recording of up to 25 fps. of thermal image data via USB 2,0 to PC hard drives.	Temperature data stream recordings - object realtime analyze in realtime by "endless" recording on PC hard disc' - disc is the time limit.
Rugged designed for hard work	Approved for 2 mtr. drops	The camera last long time - years of field service in nearly any environment.
2.0 Megapixel CMOS	offers high resolution visual image	better assists finding the trouble spot & know better about inspection environment and target
Universal AA battery	available everywhere	more convenient to buy the alternative batteries locally.

Rugged and ergonomical design	easy to hold and carry	easy your inspection work
InfraFusion	overlays the thermal image directly on the corresponding visual image for comparison and problems locating	helps to identify where the problem exactly is
Versatile accessories 1.Tele lens, wide angle lens, high temperature range (350℃, or 1200℃) 2.Protecting cover 3.Sun shield cover	delivers more value-added functions to the camera	1. to view relatively far object, to have wider scope, to measure objects with high temperature 2. to protect optics 3. for outdoor inspections
USB 2.0	Realtime image, video data transfer to PC and real-time control of the camera on PC	realizes video transfer and operation control. User can record or just monitor the IR sreams on his PC screen - very powerfull for online monitoring of example print circurts QC. And other LAB jobs.
Medical edition	the accuracy can arrive 0.5 degree	special for fever sensing, and veterinary diagnose
IP54 rating	Water and dust tight	no fear to dust and water splash
Laser locator	locates the center point of the IR image	helps to locate where the problem exactly is
NO Goverment limitations	No need for US gov. Approvals	Free for lease, loan and rental use, and can be freely caried over borders.

Parts Described



1	LCD Display
2	Charging Indicator
3	Function Softkeys
4	Microphone
5	Battery Cover
6	Speaker
7	Visual Camera
8	Laser
9	IR Lens

10	Trigger Button
11	USB Interface
12	Video Interface
13	AC Adapter/Charging Input Terminal
14	SD Card Slot

Charging Instruction

Note:

- "slow flicker" in the text is about 1 time per second, "quick flicker" is about 3 times per second.

How to use the adapter

- The red indicator light will turn on when the adapter is connected with camera. Keep press the button  for 2 seconds to power on the camera with the green and red light flicker alternatively. When entering self-check interface, the indicator turns to be red and constant on
- Keep button  depressed for 2 seconds to power off the camera, the adapter indicator will be red and constant on.

Note:

- When using the adapter, the indicator will be constant red for both powering on and off.
- Do not use the adapter when there are non-rechargeable batteries in the battery compartment.

How to use the batteries

- Insert the batteries, the indicator will not flicker at once. Keep button  depressed for 2 seconds, the indicator will alternatively flickers as green and red and stop when entering the self-check interface.

How to charge with batteries

- Charge when power off
  - Insert the batteries and connect the camera with the adapter to start charging, and the red indicator flicker slowly
  - The indicator will turn to be constant green when the camera is fully charged.
- During battery charging, if red indicator flickers quickly, it means something wrong with the battery charging. Please check whether batteries are inserted right, or whether battery temperature exceeded maximum temperature limitation which is approx 50℃.

Note:

- The batteries cannot be taken out of the camera in the charging process.
- The temperature will be relatively high when it reaches to fully charging, if the red indicator flickers quickly during the power on reset (to remove and insert the adapter), it indicates the battery temperature is overly high and the charging process should be stopped. This phenomenon is normal; you can wait till the battery turns to be lower then continue the charging process.
- Please ensure batteries are fully charged and discharged at the first 3 times.
- Please choose qualified rechargeable batteries and battery charger supplied by the camera supplier.
- Please charge batteries when the ambient temperature is between 0℃ to 40℃.
- Do not mix new batteries and old batteries together to operate the camera.
- Do not mix batteries of different types together to operate the camera.
- AA Alkaline batteries are not chargeable.
- Please take out all the batteries when the camera will be left unused for long time.
- Insert batteries according to “+”, “-“ markers.

Buttons Introduction

There are three functional buttons of ***EASIR^{TM}-4/ EASIR^{TM}-2/ EASIR^{TM}-1*** （From left to right, they are  ,  and  ） and a trigger button T.

Power on /off the camera

The input voltage is 12V，keep button  depressed for more than 3 seconds to power on. When powering off, keep button  depressed until the switch off bar runs fully.

Focus

When there is no menu on the screen, press button  to enter focus menu, the following info will be displayed on the screen：

Far	Near	Auto
		

According to menu navigation, press button  to focus far; press button  to focus near; press button  to auto focus. Press button T to exit the focus menu. When doing auto focus, please keep the camera steady to ensure image quality.

Auto/manual mode switch

When there is no menu on the screen, keep button  depressed to switch between the manual mode and automatic mode.

AutoSpan	←	ManualSpan
		

Enter PIC mode

When there is no menu on the screen, press button  to enter PIC mode, the following info will be displayed on the screen ：

Visual	Spot	Fusion
		

Spot analysis

In the PIC mode, press button  to enter spot analysis mode

↑	↓	Left/Right
←	→	Up/Down
		

- Press button  to switch between the X or Y coordinate of the spot
- Press button  or button  to adjust the value of X or Y's coordinate.
- Press button T to exit the spot analysis and return to the real-time IR mode

Infra Fusion

In the PIC mode, press button  to enter visual /InfraFusion mode：

- In the InfraFusion mode, press button  or button  to adjust the proportion of fusion
- In the InfraFusion mode, press button T to return to the real-time IR mode. The proportion will be saved as the default value when start up the fusion mode next time.

Laser On/Off

When there is no menu on the screen, keep button  depressed for 2 seconds to turn on /off the laser (Ensure the Laser is “Enabled” in the menu Parameter)

Manual calibration

When there is no menu on the screen, keep button T and button  depressed at the same time to calibrate with shutter

When there is no menu on the screen, keep button T and button  depressed at the same time to calibrate without shutter

Image frozen and save

When there is no menu on the screen, press button T to freeze the image, the following info will be displayed on the screen:

Save	Voice	Visual /IR
		

- Press button T again to exit frozen mode and return to the real-time IR mode
- Press button  to save the image and return to live thermal image

Voice Annotation

In the frozen mode, press button  to add voice annotation, the following info will be displayed on the screen：

xx s

Record	Stop	Play
		

- Press button  to start recording voice annotation；
- Press button  to stop recording voice annotation, the following info will be displayed on the screen:

xx S

Record	Save	Play
		

- Press button  to play the voice annotation

- Press button  to enter visual mode, press again to return real-time IR mode.
- Press button T to return to real-time IR mode.

Main menu operation

When there is no menu on the screen, press button  to bring up Main menu, the following info will be displayed on the screen：

Parameter	File	Setup
		

Press button T to return to real-time IR mode;

- In the main menu mode, press button  to enter sub-menu parameter setting:

Emiss
Tamb
Distance
Palette
RelHum
Laser
↑ ↓ OK

- In the sub-menu Parameter, press button  to confirm the highlighted option and enter the next sub-menu, press button T to return to real-time IR mode.
- In the main menu mode, press button  to enter the sub-menu File :

Filelist
Del All
Storage
Help
About
↑ ↓ Ok

- In the sub-menu File, press button  to confirm the highlighted option and enter the next sub-menu, press button T to return to real-time IR mode.

- In the main menu mode, press button  to enter sub-menu Setup:

Default

Lang		
Tunit		
TimeDate		
PAL/NTSC		
AlamTemp		
↑	↓	Ok

- In the sub-menu Setup, press button  to confirm the highlighted option and enter the next sub-menu, press button T to return to real-time IR mode.

Function operation

Thermal camera focusing

There are two methods to adjust focus: motorized and automatic

To motorizedly focus:

- Aim the lens at the target
- Press  to activate the menu
- Press the softkey labeled “Far” and “Near” until the image on the LCD is as clear as possible

To automatically focus :

- Aim the lens at the target
- Press  to activate the menu
- Make sure the target is in the middle of the LCD, and then press the softkey labeled “Auto” until the image on the LCD is as clear as possible.

Image capturing and saving

- Aim the lens at the target of interest and adjust the focus motorizedly or automatically above to get a clear image on the LCD, and then pull the trigger to capture an image. The image will be frozen and bring up the image capture menu.
- Press the softkey labeled “Save”. If the SD card is in the camera, the image data will be acquiescently saved in the SD card.

selecting the Palette

- Press button  to display main menu.

- Press button  to enter Parameter
- Select sub-menu Palette
- Press button  or button  to shift among different palettes
- Press button  to confirm.

Setting Tmin and Tmax

When there is no menu on the screen, keep button  depressed to switch between the manual mode and automatic mode.

AutoSpan	←	ManualSpan
		

- Press button  to enter Manual mode and to adjust Tmin and Tmax manually.

+	-	Tmin
+	-	Tmax
		

- Press button  to increase the Tmax value, press button  to decrease the value, press button  to switch between Tmin and Tmax adjustment mode.
- Press button  to enter Auto mode and Tmin and Tmax will adjust automatically according to the change of scenery.

PIC Mode and InfraFusion

- When there is no menu on the screen, press button  to enter the PIC mode
- Press button  to enter the visual mode
- Press  to enter the InfraFusion mode.
- Press button T to return to real-time IR mode

- Press button  and button  to adjust the InfraFusion percentage.

Reviewing and Deleting Saved Images

To view saved images in the SD card:

- Press button  to activate the menu.
- Press button  to activate sub-menu File.
- Press button  to enter the Filelist.
- Press button  and button  to switch among different images, and press button  to view the selected image.

To delete the selected image:

- Press the softkey labeled “Delete”,
- Press the softkey labeled “Yes”.

To delete all the images in SD card:

- Press the softkey labeled “File”,
- Select “Del All” by pressing softkey labeled “ ↑ ” and “ ↓ ”, and “OK” to confirm.
- Press the softkey labeled “Yes”.

Voice Annotation

Voice annotation can only be added before saving an image. When freeze an image, the Image Capture menu appears. To add a voice annotation to the image:

- Press the softkey labeled “Voice”.
- Press the softkey labeled “Record” to start the recording.
- To Stop recording, press the softkey labeled “Stop”. Up to 60 seconds of voice annotation can be recorded for each image. Once it reaches 60 seconds, recording will stop automatically.
- Press the softkey labeled “Play” to replay the voice annotation before saving.
- Press the softkey labeled “Save” to save the video annotation.

How to get accurate temperature?

There are a lot of factors affecting temperature accuracy.

Here is a brief introduction to some typical parameters: emissivity, background temperature, distance, humidity and etc.

Note:

To get accurate temperature, you shall hold the camera stably and focus the camera well.

- Emissivity: All objects radiate infrared energy. The amount of energy radiated is based on two primary factors: the surface temperature of the object and the emissivity of object's surface.

  The default emissivity is 0.98, which is applicable to most surfaces.

  For some special materials or surfaces, please refer to the emissivity table to find a right emissivity value.

  You can change emissivity between 0.01 and 1.00 in menu Parameter and Emiss.

- Tamb: To display and adjust the real-time comparative scene temperature of target. The default setting of this parameter is automatic adjusted by the internal temperature sensor. If needed, this setting can be adjusted manually according to real temperature of some special scenes (like sky or snow) of measured target.

  Press  button and  button to bring the submenu of parameter setting, then choose "Tamb" and select Set option to set the value manually by pressing button  and button  . The new measurement will be based on the saved tamb value until re-enter Tamb option and exit, which will activate the default automatic mode.

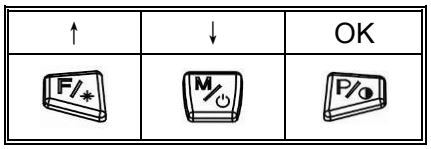
- Distance: To set the proper distance from target, the distance range is from 0.1 meter to 30 meters.

- Relative Humidity: To set relative humidity percentage value between 0 and 100 according to the practical environment.

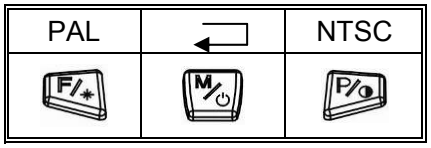
video Output

Composite video output (PAL or NTSC mode) option is available. With this option you can view the live image captured by the camera on a monitor or a recording device. Before trying to use this option, ensure that the camera is switched off.

- Properly connect the camera to the monitor (or recording device) with the video cable supplied together with the camera..
- Power on the monitor.
- Power on the camera.
- Press button  to activate the menu.
- Press  button to bring out the menu PAL/NTSC.
- Press  button to select PAL/NTSC, and press button  to confirm.



- Press button or button to select PAL/NTSC, and press button to cancel.



- When viewing the live image on external monitor, the camera screen will become black, but you can still use the buttons to control the camera.
- After viewing the live image, power off the camera, monitor (or recording device) and disconnect the cable.

Note:

It is required to power off the camera before connecting it to a monitor or a recording device.

ınfrared Video

The infrared video with temperature information taken will be transferred in PC through USB2.0 for further analysis by Guide IR software. The Infrared video function is displayed in the computer and controlled by the Guide IR Analyser. Before the communication please install the USB driver and IR Analyser into your computer.

PC System Requirements

Operating system: Window 2000 or higher (IE5.0 or higher)

Software: Microsoft® Office 2000 or higher

Hardware:

Processor	Pentium 4 2.4G or Above
RAM	At least 512M
Others	Independent Graphic Card

Using commands for infrared video analysis

After connecting the camera to the PC and operate the IR Analyser, you can use the relative commands to do all kinds of analysis and remote control.

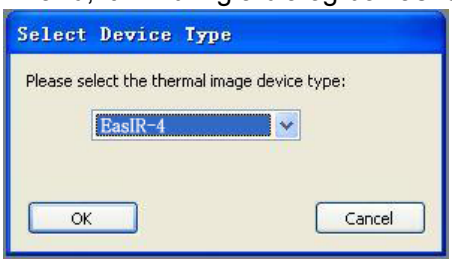
Video Command

Use this command to get infrared video from camera directly or directory path of the PC

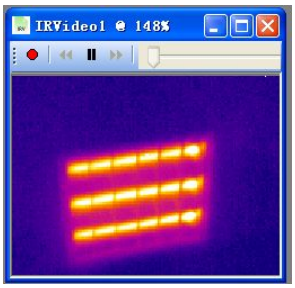
where the films are saved

- Device Video

Make sure the camera is under normal working status and connect the with the PC via USB2.0 to activate this command; it will bring a dialog box as following

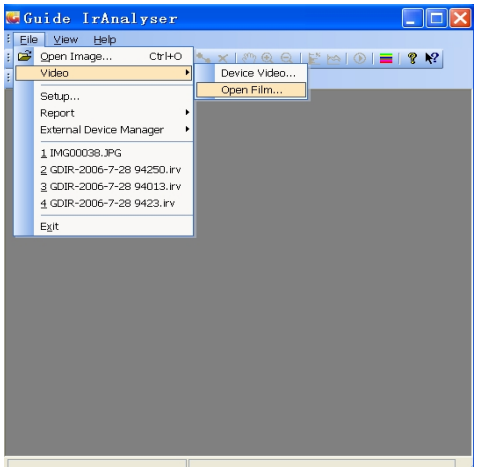


Select and press ok to confirm, the infrared video is open as following



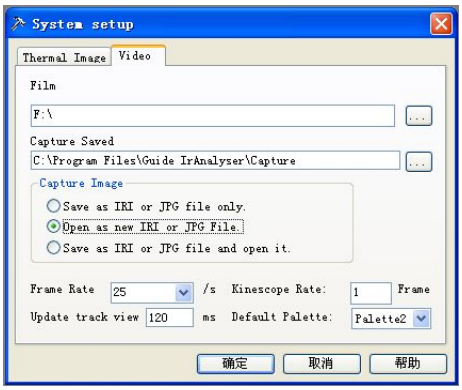
- Open Film

Use this command to open the saved Video file in the directory path of PC. The software will play this file and further analysis can be done on it.



Setup Command

Use this command to set a directory on the hard disks to store the infrared video, capture image and set other relevant information.



Film: set the directory path to save the video recording

Capture Saved: set the directory path to save the captured image

Frame Rate: set the frame of thermal image per second. The default value is 25/ second

Kinescope Rate: set the frame of thermal video. The default value is 1 frame.

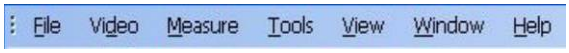
Update track view: update the interval between track circles

Default Palette: set the palette to be used for the infrared video

After saving the setup, the program will automatically go to the directory when opening infrared video and perform the track circle

Menu Bar

Menu bar consists of seven sub-menu options, including File, Video, Measure, Tools, View, Window and Help.



Keeping left button of the mouse depressed and moving the mouse will allow you to move the menu bar to any desired place.

File Menu

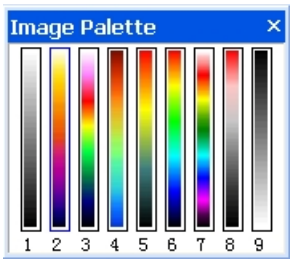
The File menu offers the following commands:

Open Image	Open an existing image file or infrared video
Close	Close an opening image file or infrared video
Setup	Set the directory where to store infrared video and relevant information
Exit	Exit the Guide IrAnalyser® program

Video Menu

Palette command

Select a palette for the current infrared video. Nine palettes as follows are available.



Auto adjustment command

Use this command to choose adjust image color automatically or manually.

- Auto adjustment: the system mapped every image to the appointed pseudo color according to its temperature.
- Manual adjustment: mapped the temperature range to the appointed palette via appointing the maximum and minimum temperature, then the image will be displayed. User can observe the image of appointed temperature range via manual adjustment.

Note:

Manual adjustment is to adjust temperature range. The image will be under manual mode after adjusting the temperature. Excute this command to return to auto mode.

Gauge Setting Command

The program establishes a mapping function for temperature and brightness of each image file. This command utilizes this mapping function to adjust brightness of the current opening image file. Dialog box of Temp Range will appear after choosing this command. Moving the scale pointer to select a suitable temperature range. Or click button Auto to restore the original brightness.

Note:

- Double clicking the opening image file will activate this command as well.

control command

The following command is available if the camera connected with PC via USB 2.0

Calibration (F2)	Send calibration command to the camera
Near Focus (F3)	Press F3 continously to adjust near focus, stop adjusting by releasing the bottom
Far Focus (F4)	Press F4 continously to adjust far focus, stop adjusting by releasing the bottom

Video capture command

When playing infrared video, use this command under Video Menu or Press Ctrl + T to capture the current image. The capture image can be done as following

- Save as .IRI file or .JPG file to the appointed directory path
- Open as new .IRI or .JPG file
- Save as .IRI file or .JPG file and open it

Note: The file format is .JPG

Auto focusing command

When playing infrared video, use this command under Video Menu or Press Ctrl + F to perform auto functions operation on camera.

Play command

Use this command or press  to play infrared video. If it is play mode, perform this command to change it to pause mode.

Pause Command

Use this command or press  to pause infrared video. If it is pause mode, perform this command to change it to play mode

Forward command

User this command or press  to make the video go forward by one frame when playing video.

Backward command

Use this command or press  to make the video go backward by one frame when playing video.

Record command

Use this command or press  to record the video capture and save it in appointed directory. The default saving directory is in the sub-directory of capture under installation directory. Computer system will denominate the video file automatically.
Perform this command again after stopping record.

Transferring Data from the Camera to PC

Before transferring data from camera to PC, ensure that the PC offers USB2.0 interface and the USB driver for the camera has been successfully installed in the PC.
Power on the camera.
Press the softkey labeled “File” to reveal the menu “Storage”.
Press the softkey labeled “ ↑ ” and “ ↓ ” to select “Storage”, and “OK” to confirm.
Press the softkey labeled “UFlash” to select the storage medium as UFLASH. Press the softkey labeled “SD Card” to select the storage medium as SD Card.

- If the storage medium is set as “UFLASH”, no hint will display on either the PC or the camera screen. Image export, image analysis, live video recording etc. can be done in

the PC. Images saved in UFLASH can be transferred to PC via IrAnalyser.

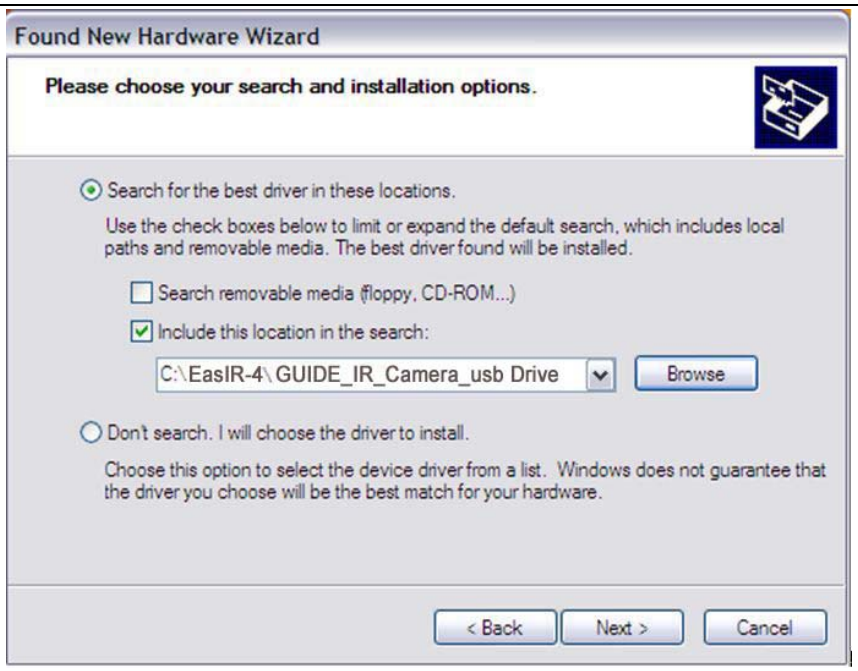
- If SD card is inserted in camera, the PC will identify the camera as a removable hard disk, you can copy the saved data to PC or delete them from the card, or even format the SD card and etc. But you cannot operate on it in the Guide IrAnalyser software.
- If without SD card in camera, you have to install the camera USB Driver to PC, and use the Guide IrAnalyser software to transfer images to PC.

Install USB driver to PC

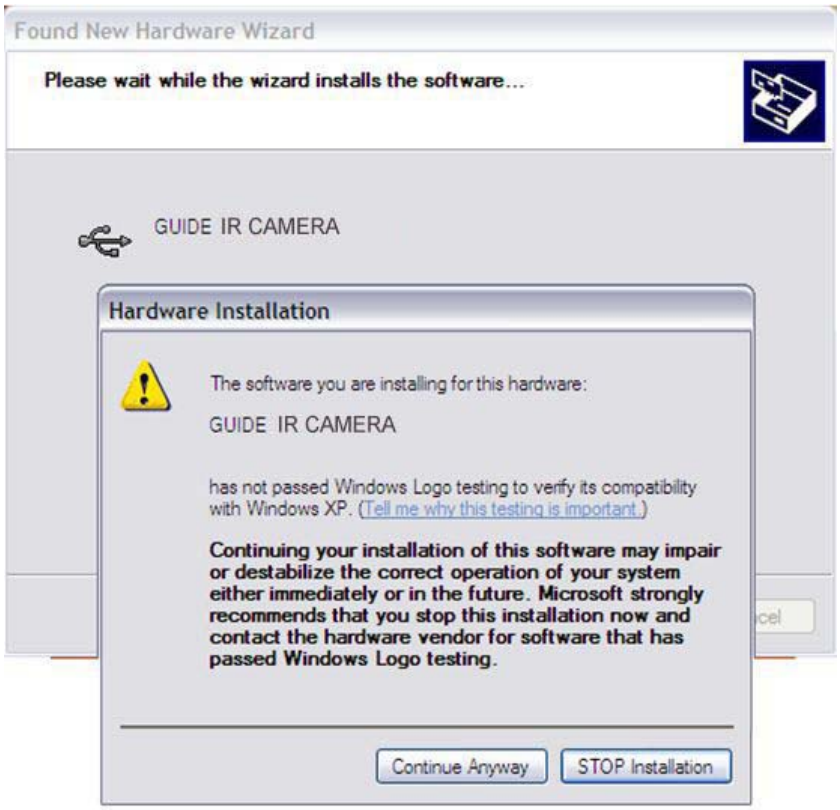
When there is no menu in the live thermal image, properly connect the USB interfaces of the camera to a USB2.0 port of your PC with the USB extension cable.

Microsoft® Windows launches a Found New Device Wizard to guide you to install the driver as follows:

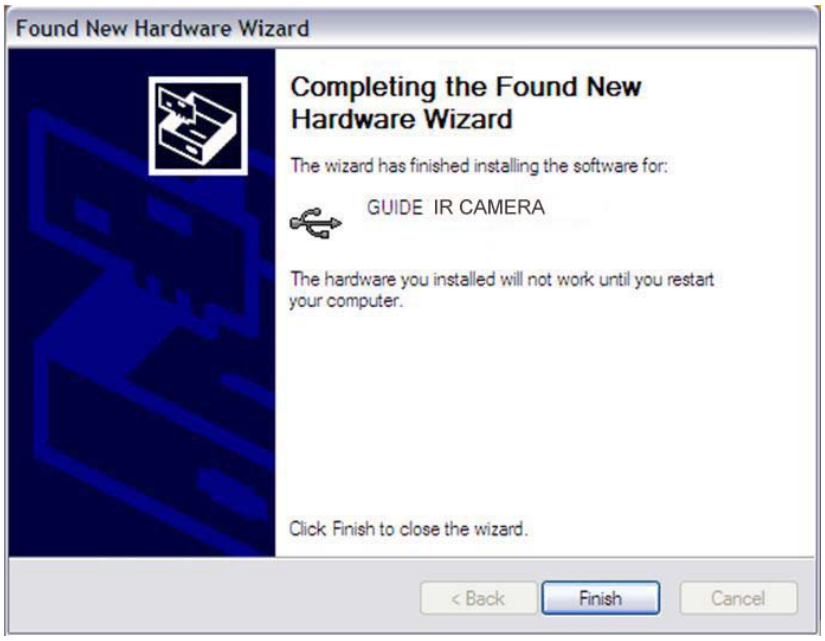
- Choose “Install from a list or specific location (advanced)” and include the folder where you save the driver program. Then Click button next to go further.



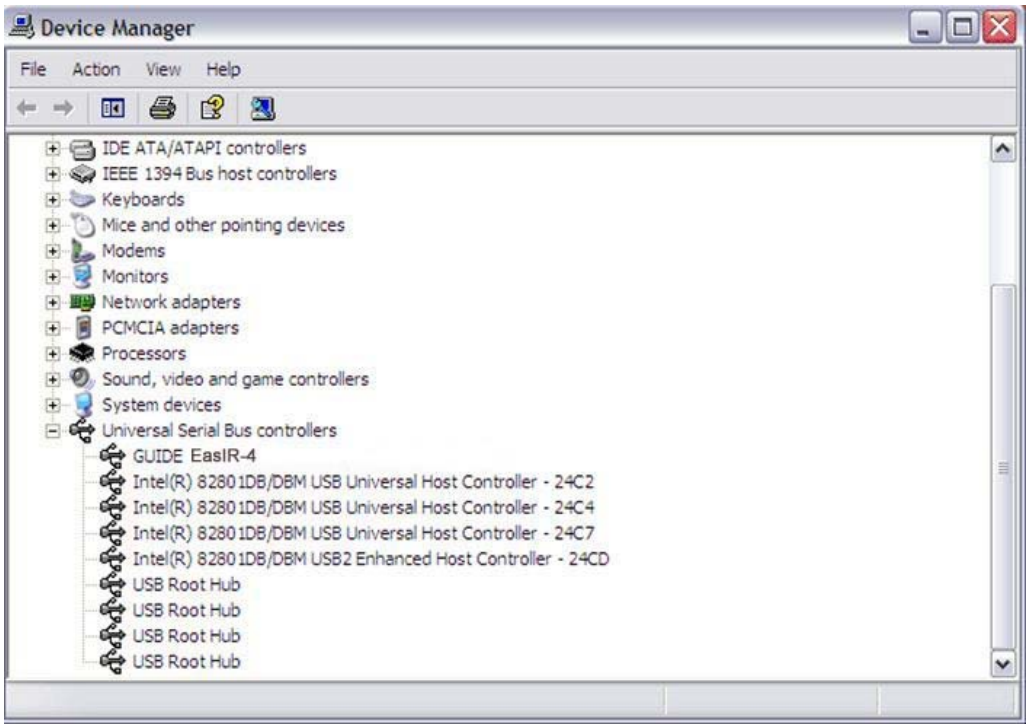
- Installation starts. When getting to the step as shown below, choose “Continue anyway” to proceed further.



- Installation continues and finishes quickly. Click button Finish.



- Go to Device Manager to check and confirm whether the driver has been successfully installed. If there is a listed under Universal Serial Bus Controller, it indicates the driver has been properly installed and you can transfer data from the camera to PC now.
- The procedures to go to Device Manager is as follows: Clicking My Computer-> Clicking the right mouse and choosing Property-> Choosing menu Hardware in the System Property dialog box-> Choosing option Device Manager under the menu Hardware.


Device Manager
File Action View Help
IDE ATA/ATAPI controllers
IEEE 1394 Bus host controllers
Keyboards
Mice and other pointing devices
Modems
Monitors
Network adapters
PCMCIA adapters
Processors
Sound, video and game controllers
System devices
Universal Serial Bus controllers
GUIDE EasIR-4
Intel(R) 82801DB/DBM USB Universal Host Controller - 24C2
Intel(R) 82801DB/DBM USB Universal Host Controller - 24C4
Intel(R) 82801DB/DBM USB Universal Host Controller - 24C7
Intel(R) 82801DB/DBM USB2 Enhanced Host Controller - 24CD
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub