

PK Series

User's Manual



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Table of Contents

Read This First	1
Parts Introduction	3
Back and left side	3
Right side and top	4
Getting Ready	4
Quick Start Guide	5
Charge the battery.....	6
Install the battery	7
Turn the power on / off.....	9
Local setting	10
Checking the Information on the LCD	11
Parameter setting	12
Pseudo-color selection & Image quality regulation	13
Features	14
Spot analysis tools	14
Area analysis.....	15
Line analysis	16
Image adjustment.....	17
ISO mode.....	18
Save image	19
Record video	20
File browser.....	21
Data transmission & Update	22
Trouble Shooting	23
Specification	24

Read This First

Please Read

Introduction

- The real Android based tablet thermal camera PK 80/160 integrates tablet and thermal camera technologies, which makes the device multifunctional. Integrating infrared imaging technology with telecommunications technology. High quality infrared imaging in combination with a tablet allows the user to communicate in real time, and allows live image and video transmission.
- Please Note – The PK160 is no longer available from 2019.

Precautions

- Do not use the device in a wet environment to avoid liquid/moisture damage.
- Before you try to snapshot important subjects, we highly recommend that you snapshot several trial images to confirm that the IR camera is operating and being operated correctly.
- Only use chargers, batteries and cables provided, as others may cause damage to either/both the battery and device.
- Connecting the charger incorrectly may damage the device. Note: Any damage caused by misuse is not covered by the warranty.
- Do not remove the battery before removing the charger. This may damage the device.

Read This First

Please Read

- It is forbidden to disassemble the equipment, and it is only allowed to be maintained by an authorized organization.
- Before using the camera, please ensure that you read the safety precautions described. Always ensure that the IR camera is operated correctly.
- Installing APP without our certification may result in infrared thermal imaging failure, please install and use with caution.

Equipment Maintenance

Use the following procedures to clean the camera body, lens, LCD monitor and other parts.

- **Camera Body**
Wipe the body clean with soft cloth or eyeglass lens wiper.
 - **Lens**
First use a lens blower to remove dust and dirt, then remove any remaining dirt by wiping the lens lightly with soft cloth. Never use synthetic cleaners on the camera body or lens.
 - **LCD monitor**
Use a lens blower brush to remove dust and dirt. If necessary, gently wipe the LCD monitor with soft cloth or an eyeglass lens wiper to remove stubborn dirt. Never rub or press forcefully on the LCD monitor. These actions may damage it or lead to other problems.
-

Parts Introduction

Back and left side

Figure



1	Visual camera
2	Illuminator
3	Infrared camera
4	Shutter (NUC) button
5	Infrared image save button
6	Battery compartment

Parts Introduction

Right side and top

Figure




1	Volume button
2	Power button
3	Micro USB
4	3.5 mm Headset jack

Getting Ready

Quick Start Guide

Procedure

1	Insert the battery to the imager's battery compartment.
2	Hold the power key down for 3 seconds until the LCD display is active.
3	Click the infrared App icon  .
4	After opening the infrared App, please adjust the distance between the camera and target. Set parameters as needed. Analysis tools can be added to suit your purpose.
5	After adding the analysis tools, we suggest you freeze the image, and also you can click the Image icon to save the image .You can click the File icon to find the image you saved.
6	If you want to save a video, you can click the Video icon. Then click the File icon to find the video.
7	Use the standard USB cable, you can copy your file to the computer.
8	To power off the camera, hold the power key for 3 seconds until the device turns off. After that please remove the battery out.

Getting Ready

Charge the battery

General

Before using the device for the first time or when the battery has been unused for extended periods, you must charge the battery fully.

Procedure



1	Plug the small end of the charger into the USB port of the device.
2	Plug the large end of the charger into an electric socket.
3	When fully charged, disconnect the device from the charger. First unplug the charger from the device. Then unplug it from the electric socket.

Getting Ready

Install the battery

General Charge the battery pack fully before using it for the first time.

Procedure Follow this procedure to install/take out the battery pack.

- | | |
|----------|--|
| 1 | Insert the battery pack into the slot and close the back cover, and then push the locker to the right to lock the cover. |
|----------|--|



-
- | | |
|----------|---|
| 1 | Pull out the battery pack:
Push the locker to the left to unlock the cover, and lift up the cover, then pull out the battery. |
|----------|---|

Note Please replace the battery in 30 seconds, otherwise


will result in the loss of the saved parameters.
Remove the battery pack when the camera is not in use.

Getting Ready

Turn the power on / off

General The touch screen is lit while the power of the camera is on.

Procedure

1	Press and hold the power switch for 3 seconds. •The screen will be power on.
2	A startup image will appear on the screen. Click the infrared App icon  to access the infrared camera function.
3	Press power switch and then there will pop up a prompt box and click the [Power off] .

Note

You can download the IR Wizard APP installation package from our website www.satir-eu.com or find out the package in the built-in storage directory /file1/file2, then install the APP for editing thermal image and creating temperature measurement report.

Getting Ready


Local setting

General

You need to set the local language and time when the IR camera is turned on for the first time.

Procedure

Follow this procedure to set your local language.

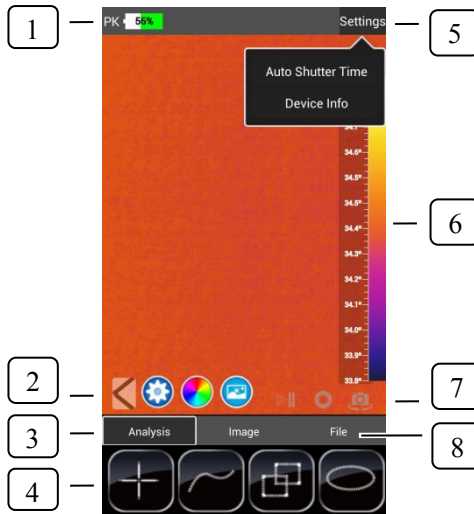
1	Find out and click Settings icon  .
2	Slide up to find out Language & input / Date & time option.
3	Click to set the local language and time.

Getting Ready

Checking the Information on the LCD

General The following displays in information view.

Main interface



Explanation This table explains the figure above.


1	Battery status
2	Main page
3	Main tool
4	Toolbar
5	Auto Shutter Time & Device Info
6	Temperature scale
7	Shortcuts
8	File browser

Basic Settings

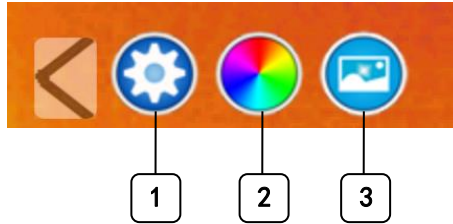
Parameter setting

Parameter Setting

General

Click the icon , the menu will pop up as below.

Figure






Explanation

This table explains the figure above.

1	Parameters Set up
2	Pseudo-color Select
3	Image quality regulation

Procedure

Modify the parameters according to work field.

1	Click the main page  .
2	Click parameter setting icon  .
3	Click one option of the list, then slide to set the value.
4	Click Confirm to save the changes, if you do not want to save the changes, click Cancel .
5	Click  to return and hide the menu.

Basic Settings

Pseudo-color selection & Image quality regulation

Pseudo-color Select

General You can select IRON, IRON INV, RAINBOW,FEATHER GRAY or GRAY INV according to the work field.

Procedure Follow this procedure to select the pseudo-color.







1	Click the main page  .
2	Click pseudo-color setting icon  .
3	Click the pseudo-color you want to select.
4	Click  to return and hide the menu.

Image quality regulation

General Select Original Image, Image Smooth or Detail Enhance.

Procedure Follow this procedure to adjust the quality of image.

1	Click the main page  .
2	Click icon  .
3	Click the image mode you want to select.
4	Click  to return and hide the menu.

Features

Spot Analysis tools




Spot analysis tools

General

This topic briefly explains how to set the analysis tools on the thermal image.

Procedure

Follow this procedure to set Spot analysis.

1	Click the Analysis button  .
2	Click the  icon to add a spot.
3	Warning Mode Settings Press and hold the spot you want to set for a while, then the warning mode interface will pop-up. In this mode, you can set the warning temperature and warning mode. After you finish the settings, click the Confirm to save you settings.
4	Moving the spot Press and drag the spot directly to anywhere of the image.
5	Removing the spot Move the spot to the  icon to remove the spot.

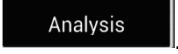




Features

Area analysis

Area analysis

Procedure

Follow this procedure to fulfill Area analysis.




1	Click the Analysis button 
2	Click the  or  icon to add a rectangle or oval analysis.
3	Setting the analysis area Press and hold the area you want to set for a while, then the area display settings will pop-up. After you finish the settings, click the Confirm to save your settings.
4	Moving the area Drag the line analysis directly to anywhere of the image.
5	Removing the area Move the rectangle or oval to the  or  icon to remove the rectangle or oval.
6	Changing the shape of the analysis area Hold and drag the corner or edge of the area to change the shape of the analysis area.

Features

Line analysis

Line analysis

Procedure Follow this procedure to fulfill line analysis tool.

1	Click the Analysis button 
2	Click the line icon  to add a line analysis.
3	Moving the line Drag the line analysis directly to anywhere of the image.
4	Removing the line Drag the line to  icon to clear it.

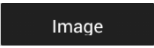


Features

About Image

Image adjustment

General You can adjust the Level (brightness) and Span (contrast) of the image captured by IR camera, manually or automatically. The default setting is automatic adjustment.

Procedure Follow this procedure to adjust the L/S manually.



1	Click the Image button  .
2	Click the L/S  icon to open Level/Span setting menu.
3	The L/S mode selection interface will pop up. When you choose the manual regulation mode, click the number you want to change to call the Level or Span adjustment menu. Then you can slide to select the value or click the number and input the value directly. After you finish the settings, click “ Confirm ” to save your settings. You can also slide on the screen directly as the screen prompt to adjust Level & Span. Slide up or down to adjust the level. Slide left or right to adjust the span.
4	You can click Settings which on the top right corner to set the auto shutter time or click  and left side button of the device for shutter.

Features

About image

ISO mode

Procedure Follow this procedure to set the ISO mode.

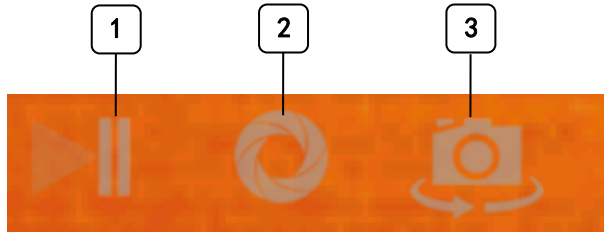
1	Click the Image button  .
2	Click the ISO icon  .
3	Select Between/Above/Below ISO mode.
4	Click ISO Color Picker . Pick up one color from the ring color plate and then click the center of the ring color plate to confirm.
5	Click Confirm to save the settings. Click Cancel to cancel the settings.

Features


About image

Save image




Figure



Explanation This table explains the figure above.

1	Freeze the image Freezing the screen, in order to storage and analyze the image.
2	Calibration Click the icon or press shutter button  to do temperatures drift and picture quality correction.
3	The switch between infrared and CCD lens.

Procedure Follow this procedure to take an IR picture.

1	Click the Image button  .
2	Click the camera icon  or press  the infrared image taking button. Hold the camera steadily when taking image.
3	During the saving time there will have a sign be displayed on the screen.




Features

About image

Record video

Procedure

Follow this procedure to record a video.

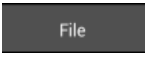

1	Click the Image button  .
2	Click the video icon  to start recording. There will have recording time be displayed on the screen.
3	Click the  icon to stop recording.

Features

File browser

File browser

Procedure Follow this procedure to browse and manage the files.

1	Click the File button  .
2	Click the directory to browse the image files.
3	Slide to select and click the image to check.
4	Click  and then will pop up Delete and Analysis .
5	Delete the image If you want to delete the image, click Delete button.
6	Image analysis If you want to reanalyze and check on the infrared image, click Analysis button.

Features

Data transmission & Update

Procedure Follow this procedure to do data transmission.

1	Open the cover for USB port on the top of the camera.
2	Connect the camera to computer via USB cable.
3	Slide to pull down notification bar, select and click USB connected and then click Turn on USB storage .
4	All the pictures and video are saved in the default folder inside SAT . Find this folder, now you can begin the data transmission. You can analyze the thermal image via IR report.
5	Update: Copy the update App from PC to the device. Pull out the USB cable and cover up the cover. Find and click to install the App via File Manager. If the App can't run, please unload the App and repeat the up operation again.

Trouble Shooting

Trouble Shooting

Problem	Solution
IR-software stops working	Enter the APP again.
The shutter be stuck while doing Calibration	Click the calibration icon again.
Camera will not record	Checking whether the Internal memory is full. If required, download the images to a computer and erase them to make some space.
Battery pack consumed quickly	Replace the battery pack with a new one.
Battery pack will not charge	Clean the battery terminals with clean cloth. Connect the power cord to the battery charger and insert its plug firmly into the power outlet.
	Replace the battery pack with a new one.

Specification

Technical Parameters

Please Note : The PK160 Model No Longer Available since 2019.

Type	PK-80	PK-160
Image performance		
FOV/Min. focus distance	21°x21°	21°x28°/0.5m
Spatial resolution	4.6 mrad	4mrad
Thermal sensitivity	≤0.01°C@30°C	≤0.08°C@30°C
Detector resolution	80x80	160X120
Focus	Fixed focus	
Image presentation		
Image mode	IR/Digital	
Visible pixels	HD 8MP	
LCD Display	5.5" HD Capacitive touch screen	
File format(IR/CCD)	.JPG	
Temperature measurement		
Measurement range	-20 to +200°C	-20°C~+150°C, +150°C~+350°C
Measurement mode	3 movable spot, auto hot/cold spot capture, isotherm analysis, profile analysis, 1 circle analysis, 1 rectangular analysis	5 movable spot, auto hot/cold spot capture, isotherm analysis, profile analysis, 2 circle analysis, 2 rectangular analysis
Measurement accuracy	±2°C or 2% of readings	
Protective performance		
Packaging Standard	IP54	
Shock/Vibration resistance	25G/2G	
Drop resistance	Yes	

Operating temperature	0°C~+50°C
Wireless transmission and positioning	
Wi-Fi	Yes
Bluetooth	Yes
Electronic compass	Yes
Physical characteristic	
Weight	415g
Additional features	
Built-in memory	Yes
Video record	Yes
Ports	USB port, 3.5 mm Headset jack

Please download quick user guide, user manual and SatlrReport Software from SATIR website if need be.

Manufacturer Information

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