



K8

Hardware Operating Instructions



SMART MAX GEOSYSTEMS CO., LTD.

About

Welcome to use K8. This book describes how to install, set up and use K8.

Please read the instructions before start!

Contents

Overview	1
K8 Series Overview	2
Innovative Technology	2
Configuration Advantages	2
K8 Series Introductions	6
Front View	7
Back View	7
Interfaces	8
Standard Configuration List	10
Basic Operations	11
Power On	13
Power Off	13
Stylus Property Settings	13
Power Management	15
Install and Remove the Battery	15
Charging	16
Check the Remaining Power	16
Power Saving Mode	17
Install Micro SD Card	17
Serial Port Settings	18
Bluetooth and WiFi Settings	18
Bluetooth Settings	19
Bluetooth Dial-up Connection	20
WiFi Settings	21
Restore WinCE System	23
Connect to PC	29
Install Microsoft ActiveSync	30
Set up Hardware Connection with PC	30
Microsoft ActiveSync Automatic Connection	30
Visit K8 Series Handheld	31
Technology Parameters	32
Troubleshooting	35
Common Troubleshooting	36
ActiveSync Common Problems	36
Contact Us	38

Overview

1

CHAPTER

- **K8 Series Overview**
- **Innovative Technology**
- **Configuration Advantages**

K8 Series Overview

Specially designed for industrial users, K8 series industry-grade GIS data collector is a controller to work with RTK receivers. The rugged design of K8 series makes it withstand 1.5 meters natural fall and meets IP67 standard, which make your fieldwork easy and safe even in extreme conditions. Furthermore, the large capacity Li-Ion battery provides up to 8 hours of continuous operation.

Innovative Technology

■ **Integrated Bluetooth and WiFi Wireless Communications**

Built-in Bluetooth and WiFi wireless communication modules easily realize short distance wireless data transmission.

■ **Intelligent Speech Technology**

Supporting intelligent judgement, voice prompt, status warning and etc.

■ **U Disc File Management Mode**

Easy U disc storage style is adopted for file management. Without any special software, just the plug-and-play operation enables users to download and manage the handheld files conveniently.

Configuration Advantages

■ **Integrated Handheld Design**

Highly integrated industry design and all built-in key components, ABS + PC shell, withstand to 1.5 meters natural fall. Industrial three proofing standard: waterproof, shockproof and dustproof.

■ **High-end Configuration**

3.7 inches outdoor highlight color touch screen. The built-in Micro SD card slot supports massive storage expansion up to 32GB. And USB data download is supported.

■ **Standard Li-Ion Battery with Large Capacity**

7.4 V/1700mAh large capacity battery are equipped as standard configuration, which can support continuous operation up to 8 hours in GNSS mode (with only one battery inside).

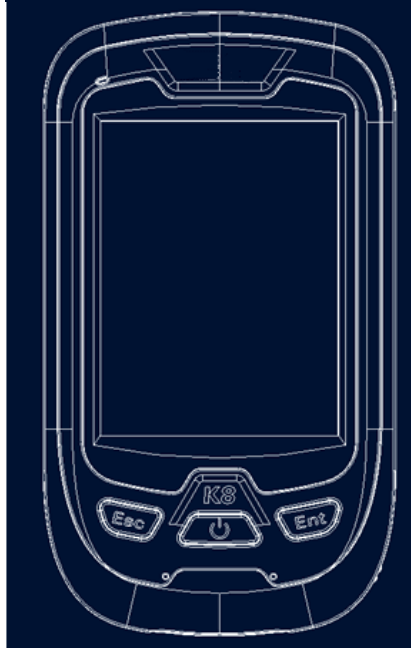
K8 Series Introductions

2

CHAPTER

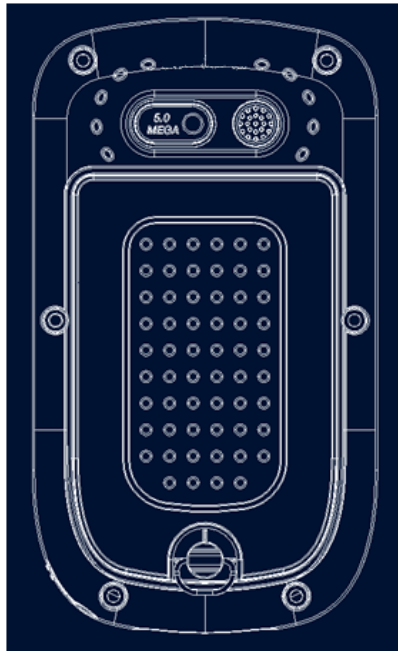
- **Front View**
- **Back View**
- **Interfaces**
- **Standard Configuration List**

Front View



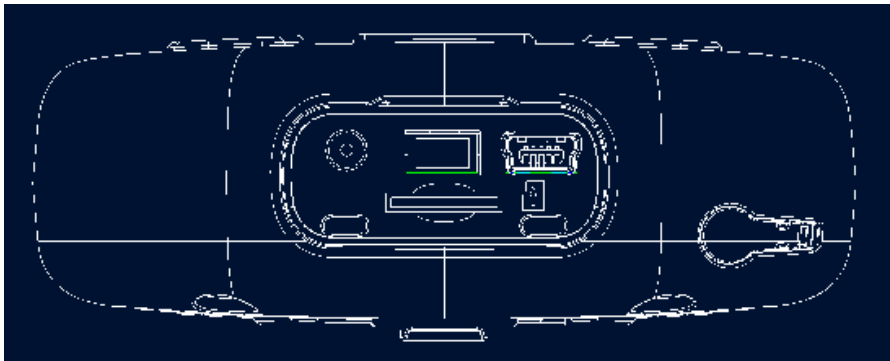
- Touch Screen: 3.7 inches outdoor color touch screen
- Microphone: Support on-site audio collection for attribute annotation
- Power: Press this button for 2 sec to turn on the handheld, or 3 sec to turn off it
- Esc: Exit the current window
- Ent: Confirm the information of the current window

Back View



- Touch Pen
- Speaker: Voice reporting
- Li-Ion Battery: 7.4V/1700mAh

Interfaces



- Mini-USB Port: Connecting PC for data transmission
- Power Interface: For charging
- Micro SD Card Slot: for installing Micro SD card, supports massive storage expansion up to 32 GB

Note: Close the plug to avoid water and dust when you don't use the interfaces.

Standard Configuration List

Configuration Item	Number
K8 Series Handheld	1
Power Adapter	1
USB Data Cable	1
Micro SD Card (2G Byte, Flash)	1
Touch Pen	2
K8 Series Hardware Operating Instruction	1
Battery	2

Basic Operations

3

CHAPTER

- **Power On**
- **Power Off**
- **Stylus Property Settings**
- **Power Management**
- **Install Micro SD Card**
- **Install SIM Card**
- **Serial Port Settings**
- **Bluetooth and WiFi Settings**
- **Restore WinCE System**

Power On

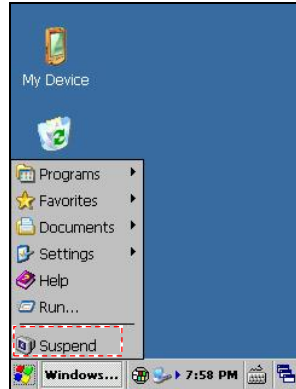
1. Press the power button for 2 sec, the handheld will turn on and load WinCE system automatically, as shown below:

The startup process lasts about 30 sec, please be patient.

Power Off

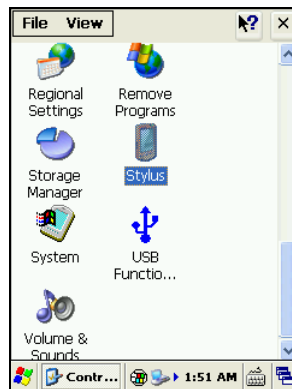
There are two ways to turn off the handheld:

1. Press the power button for more than 3 sec.
2. Tap *Start>Suspend* menu item in WinCE system desktop.

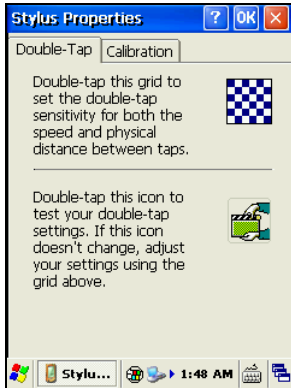


Stylus Property Settings

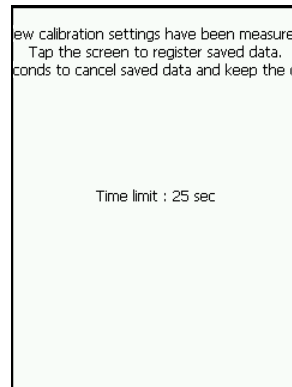
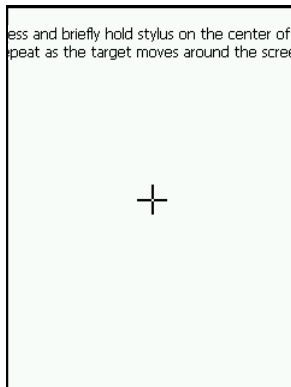
1. Tap *Start>Control Panel* menu item to open *Control Panel* dialog box.
2. Tap *Stylus* icon in *Control Panel* dialog box to open *Stylus Properties* dialog box.



3. Setup double-tap speed. Double tap the grid pattern to set double-tap speed and double tap file icon to test the double tap setting in *Double-Tap* page.



4. Calibrate the touch screen. Tap the *Recalibrate* button to open *Calibration* page. Follow the instructions on the top of the screen to calibrate the touch screen.



Power Management

Install and Remove the Battery

1. The battery is removable
2. Turn on the end cover, and take out the battery
3. Install the battery well and turn off the end cover.

Note: The battery life will be reduced with temperature decreasing and charge times increasing. Typically, a new 1700 mAh battery can support continuous work for about 8 hours. The working time may be different depending on the communication configuration, the status of screen backlighting, etc.

Warning:

1. Don't put battery in fire or use metal short-circuit electrode. Please use the special battery and charger from manufacturer only.
2. Stop using the battery once you find it heated abnormally, distorted, leaked, or smelly. Please replace it by a new one.
3. If the battery life significantly shortened, please stop using and change a new one as the battery has aging.

Charging

Special charger should be used for K8 series, and only in certain temperature range (0 °C~40 °C).

Methods and requirements: Commonly there will be some power left in the battery before users start to use it. Please firstly run out of all the power before first charging. Please charge the handheld for 8

hours for the first three times (in power off status), and later on 4 to 5 hours charging (in power off status) is enough. When the handheld is not used for a long time, please make sure the battery is charged once a month to keep its performance.

Warning: Do not disassemble or replace the battery by yourself. Please go to the maintenance station or contact the dealer if there is some problem about battery.

Check the Remaining Power

Tap the *Start>Settings>Control*

Panel >Power properties item to check the remaining power. If the remaining power shown in *Main battery* area is 100%, but on the task bar, the battery icon is along with a lightning bolt signal, then it means the battery is not yet fully charged. If the charging is stopped at this time, the remaining power (shown in this dialog box) may be reduced to 85%.



Only when the power part shown in *Main battery* area is as *Good* and 100%, the battery

is really fully charged.



Note: This is because the charging voltage detected by WinCE is a little higher than the real battery voltage. Constant pressure charging is important for full charging. Please complete the whole charging process to ensure the working time.

Power Saving Mode


In default condition, screen backlighting will be turned off automatically if no operation (press keys or tap touch screen) has been carried out for 1 minute. The system will enter the standby mode if no operation has been carried out for 30 minutes, and be power off if no operation has been carried out for 2 hours.

Install Micro SD Card

1. Open the rectangular soft plug at the button of the handheld, you can find Micro SD slot.
2. Put the Micro SD card upside down (the metal surface upward), then push the card into the slot till the card is completely inside the slot, and then close the plug.
3. You can remove the Micro SD card by lightly pressing the card to make it half pop-out automatically, and then pull it out gently.

Note: Micro SD card (TF card) is a small-size external flash memory card. It is usually used in cell phone, PDA etc. Ordinary SD card is larger than Micro SD card, and is not suitable for K8 series handheld. Please be sure not to mix them up.

Serial Port Settings

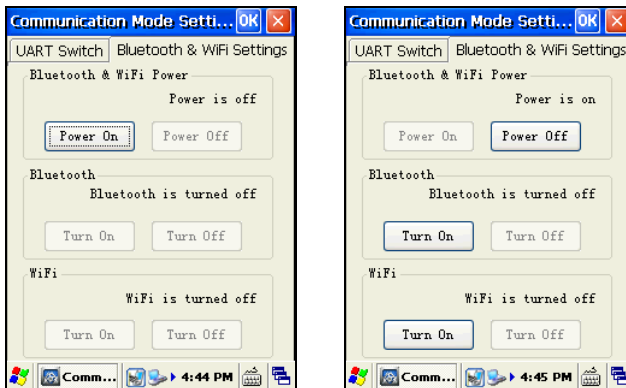
Double tap the *Communication Mode Settings* icon  in the *Control Panel*, then the *Communication Mode Settings* dialog box appears, as shown below:



Users can define the function of COM1 as Radio (PC) or Bluetooth in this dialog.

Bluetooth and WiFi Settings

Tap the *Bluetooth & WiFi Settings* tag in the *Communication Mode Settings* dialog box, the *Bluetooth & WiFi Settings* interface appears, as shown below left. To use Bluetooth or WiFi, you need to tap the *Power On* button in the *Bluetooth & WiFi Power* area, to turn on the power of Bluetooth and WiFi. Thus the *Turn On* buttons of Bluetooth and WiFi are activated, as shown below right.



Tap the *Turn On* button in the *Bluetooth* area you can enable the Bluetooth. When the Bluetooth is enabled, you can tap the *Turn Off* button in the *Bluetooth* area to disable it.

Similarly, Tap the *Turn On* button in the *WiFi* area you can enable the WiFi. When the WiFi is enabled, you can tap the *Turn Off* button in the *WiFi* area to disable it.

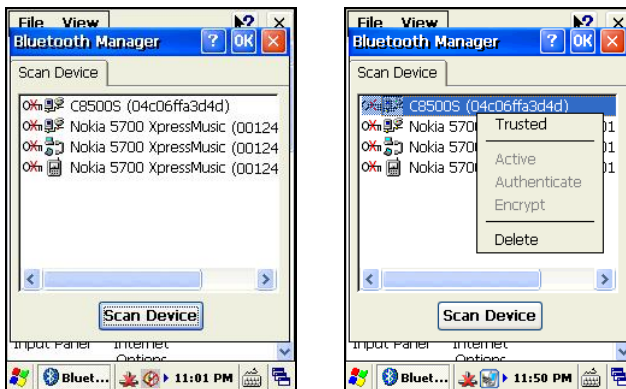
Note: Tap the *Power Off* button in the *Bluetooth & WiFi Power* area, both the Bluetooth and WiFi will be disabled.

Bluetooth Settings

When the Bluetooth is enabled, the icon  appears in the task bar, as shown below left. Double tap the *Bluetooth Device Properties* icon , the *Bluetooth Management* interface pops up as shown below right.





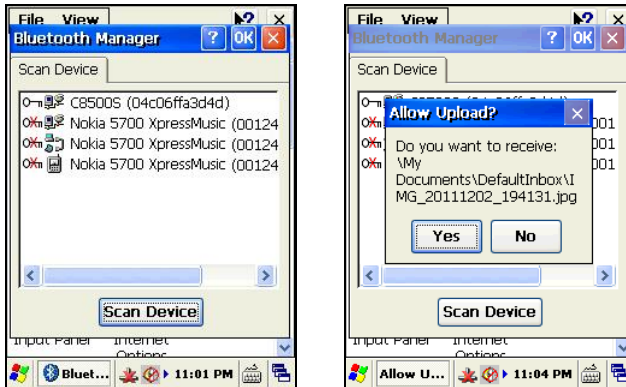
Tap the *Scan Device* button, the handheld begins to scan Bluetooth devices within 10 meters, and show them in the *Scan Device* page, as shown below left. Double tap the device to connect, select the *Trusted* menu item in the appeared menu, as shown below right.




The *Bluetooth Manager* dialog box appeared, as shown below left, tap the *Yes* button. Input the matching password (user-defined) in the appeared dialog box, tap the *OK* button, and then wait for inputting the matching password in the other device.






When the other device finished confirmation, the symbol  turns to , which means the matching is successful, as shown below left. After successfully set up the matching, if a file is transmitted from the other device, the Bluetooth file transmission window pops up automatically, as shown below right. Tap the *Yes* button to start download. The file will be saved to My Device\My Documents\DefaultInbox\.





Bluetooth Dial-up Connection

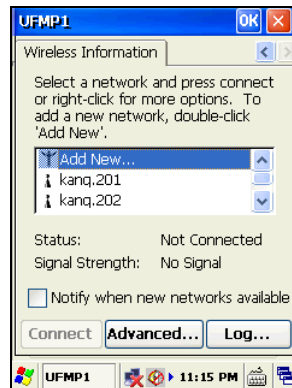
Usually, while scanning the devices, several items will be shown for the same device, for example, the Nokia device shown in the left picture below. To implement its Bluetooth Dial-up function, please double tap the item with the icon  ahead, and then select the *Trusted* menu item, and input the matching password.

1. When the matching is successful, double tap the icon  item, and select the *Active* menu item in the popped up menu. Then the icon  will turn to . Now please tap the *OK* button.



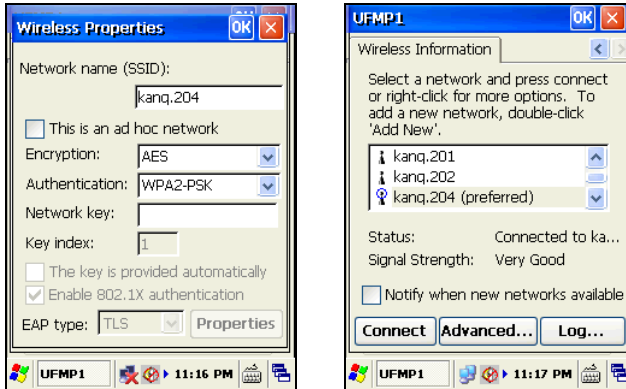
WiFi Settings

When WiFi is enabled, the icon  appears in the task bar, as shown below left. Double tap the icon , the *UFMP1* dialog box appears, tap the *Wireless Information* tag, as shown below right:

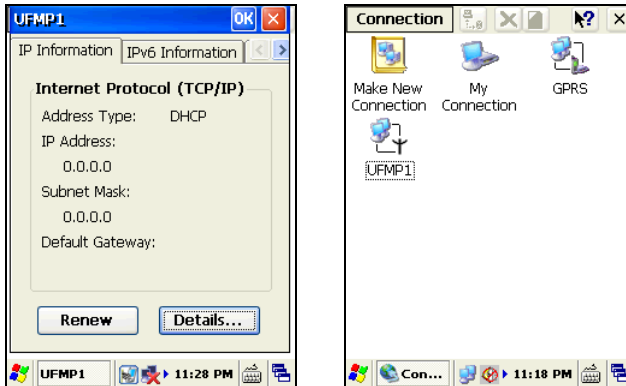



The system will search surrounding WiFi networks automatically, and list them in the *Wireless Information* page. Double tap the WiFi network to connect, pops up the *Wireless Properties* dialog box, as shown below left. Select the encryption method and the

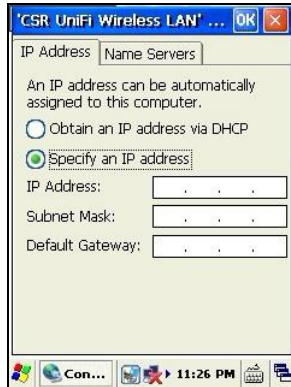
authentication type, input the network password, and click the *OK* button to finish. Users can check the signal status and signal strength in the *Wireless Information* page, and check the assigned IP address in the *IP information* page.



If the IP address in the IP information page is 0.0.0.0, as shown below left, it means the wireless network is not able to assign IP address automatically. So you need to consult the network manager to get a specific IP address, and configure it manually. The specific operations are as follows: Select *Start > Settings > Network and Dial-up Connections*, pops up a dialog box as shown below right.



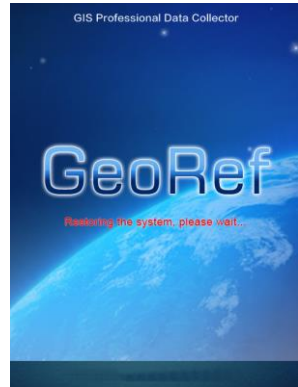
Double tap the *UFMP1* icon , pops up the following dialog box. Select “Specify an IP address”, input the IP address, subnet mask and default gateway, tap the *OK* button to finish.



Restore WinCE System

Make sure the backup of software and data have been done before restoring WinCE system.

In the power off status, keep pressing the “OK” button and press the power button until the handheld turns on and the interface of “Restoring the system, please wait...” is shown as right:



This operation will restore all data and settings to the initial status of handheld except Micro SD. Please note: the software GeoPac will be deleted. Reinstallation is required to perform any field work.

Warning: To avoid data loss, please do not try this operation if it’s not necessary. Make sure the backup of software and data have been done before this operation.

Connect to PC

4

CHAPTER

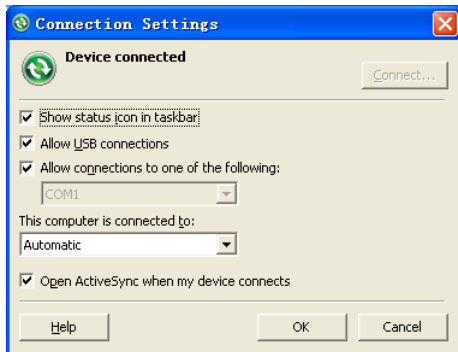
- **Install Microsoft ActiveSync**
- **Set up Hardware Connection with PC**
- **Microsoft ActiveSync Automatic Connection**
- **Visit K8 Series Handheld**

Install Microsoft ActiveSync

K8 series is compatible with ActiveSync 4.5 or later. You can download the latest version from the Microsoft website at:

<http://www.microsoft.com/download/en/details.aspx?id=15>

After installing the Microsoft ActiveSync, click the *Start > Program* menu item, find and run Microsoft ActiveSync. In the pop-up *Connection Settings* dialog box, choose *Allow USB connections* option, shown as below.

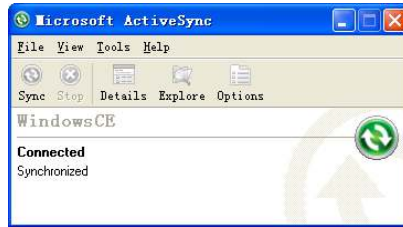


Set up Hardware Connection with PC

Turn on K8 series to enter WinCE system. Connect K8 series and the USB interface of PC via USB cable.

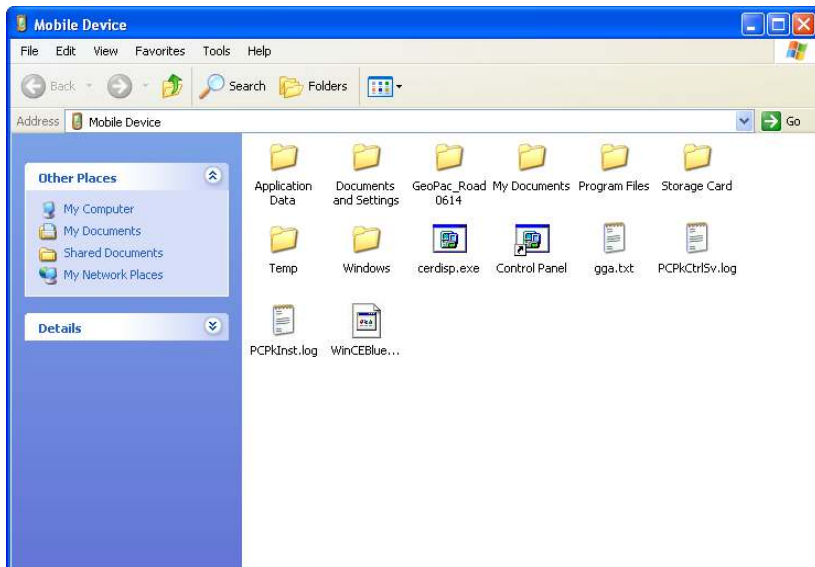
Microsoft ActiveSync Automatic Connection

After the data cable has been connected, Microsoft ActiveSync on the computer will recognize the handheld device and connect automatically. Then select “No” if it asks “Set Up a Partnership Yes or No?” and click the *OK* button, the connection will be completed successfully. When firstly connected, the driver will be required. Follow the tips to install the driver of WinCE. Find the driver in the CD in the handheld goods package.



Visit K8 Series Handheld

After first successful connection, the Microsoft ActiveSync will automatically connect K8 series to PC with data cable. The mobile device can be seen in Windows resource manager, double-click it then you can visit K8 series handheld. Users can add or delete files saved in K8 series by PC operation. Users can also download handheld data files to PC conveniently. WinCE resource browser interface is shown as the following picture:



Technology Parameters

5

CHAPTER

System	
Processor	1.0GHz industrial level processor
Random access memory	512MB
Flash memory	512MB
Operation system	Windows CE6.0
Display screen	3.7 inches industrial level TFT sunlight-readable color touch screen
Resolution	640*480
Communication parameters	
WLAN	802.11b/g/n
Bluetooth	Bluetooth 2.0
Port	USB2.0, and RS232
Power supply	
Battery	1700mAh /7.4V Li-ion battery, two batteries in standard configuration
Working time	8h as controller
Application function	
Audio	Internal microphone and speaker
Hardware physical	
Size	149*84*27mm
Weight	360g (with battery)
Working temperature	-25℃--+65℃
Storage temperature	-40℃--+80℃
Water/dustproof	IP67
Shock	survive a 1.5 m natural drop onto concrete


Troubleshooting

6

CHAPTER

- **Common Troubleshooting**
- **ActiveSync Common Problems**

Common Troubleshooting

Problem	Cause	Solution
Can't turn on.	Low battery.	Recharge the battery.
	Working temperature is beyond the allowed range (-20 °C ~ 60 °C).	Bring the handheld into the environment where the temperature is in the allowed range.
Crash in using.	Excessive operations were in processing in the handheld in a short time	Restart the handheld.
The screen is black.	In order to prevent battery power loss, the screen will automatically be black if there is no operating for one minute.	Press any buttons or tap the screen.
	The handheld does not turn on.	Press the "Power" button to turn on the handheld.
	The handheld runs out of power.	Recharge the battery.
The screen didn't respond to one-tap.	No calibration of the touch screen.	Realign the touch screen.
The screen didn't respond to double-tap.	The current double-tap speed is too fast or too slow.	Reset the double-tap speed.
The handheld can't be charged.	The internal temperature has risen above 40 °C.	Temporarily turn off the handheld, recharge it when the temperature is dropped to the allowed range. Go away from the heat source, such as sunshine. The handheld will charge automatically when the temperature is dropped to the allowed range.
	The internal temperature has fallen below 0 °C.	Charge the handheld when the internal temperature is over 0 °C.
Can't recognize the storage card.	The storage card has not been inserted properly.	Carefully take out the card, and then insert it into the card slot gently.
	The gold finger (the metal part of card) is dirty.	Use cotton swab with alcohol to wipe it clean before use
Unable to connect to computer.	Data cable is not connected properly.	Check and connect the data cable.
	The synchronization software has not been installed on the computer.	Install the synchronization software ActiveSync.
The Bluetooth dial-up failure.	The device for dial-up can't offer the icon  item.	Use other device for dial-up connection.

ActiveSync Common Problems

Problem	Cause	Solution
ActiveSync will not connect to the handheld automatically.	The connection is not initiated automatically.	In ActiveSync dialog box, select <i>File > Connection Settings</i> and then tap <i>Connect</i> .
	An incompatible version of ActiveSync is installed.	ActiveSync 4.5 and later version is compatible with K8 series. You can download the latest version from the Microsoft website at http://www.microsoft.com/download/en/details.aspx?id=15

	The connection is not enabled in ActiveSync.	Check "Allowing the USB connection" in <i>File > Connection Settings</i> .
	Microsoft USB drive is not installed.	Install Microsoft USB drive.

If the problem you encountered still can't be solved, please contact us. SMG will offer you excellent after-sales service.

Contact Us

Thank you for using our K8 series collector. We will try our best to provide you the best pre-sales and after-sales service. Please be freely to contact us with any usage condition or advices about K8 series, we will reply to you as soon as possible.

SMART MAX GEOSYSTEMS CO., LTD

www.smartmaxgeosystems.com

Tel: +86-0551-65420563

Email: info@smartmaxgeosystems.com

ADD: FLAT 601, 6/F, VASTKIN HOUSE, 84 JERVOIS STREET, SHENG WAN, HONG KONG, CHINA.