STONEX
S7 SERIES
USER GUIDE

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Release Notice

This is the June 2012 Release (Revision D) of Stonex S7 SERIES user guide. Stonex S7's operating system is based on the Microsoft Windows Mobile version 6.5 operating system.

Limited Warranty Terms and Conditions:

Product Limited Warranty

Subject to the terms and conditions set forth herein, Stonex Europe Srl warrants that for a period of (1) year from date of purchase S7 product will substantially conform to Stonex's publicly available specifications for the product and that the hardware and any storage media components of S7 will be substantially free from defects in materials and workmanship.

Product Software

Product software, whether built into hardware circuitry as firmware, provided as a standalone computer software product, embedded in flash memory, or stored on

magnetic or other media, is licensed solely for use with or as an integral part of the S7 product and is not sold. The terms of the end user license agreement, as included below, govern the use of the S7 Software, including any differing limited warranty terms, exclusions and limitations, which shall control over the terms and conditions set forth in the limited Product warranty.

Warranty Remedies

If S7 product fails during the warranty period for reasons covered by this limited warranty and you notify Stonex of such failure during the warranty period, Stonex will immediately carry out standard service procedures. According to different situation, Stonex will repair OR replace the nonconforming Product with new, equivalent to new, or reconditioned parts or Product, OR refund the Product purchase price paid by you, at Stonex's option, upon your return of the Product in accordance with Stonex's product return procedures then in effect.

How to Obtain Warranty Service

To obtain warranty service for the Product, please contact your Stonex dealer.

Alternatively, you may contact Stonex Europe Srl. to request warranty service.

Email: support@stonex.it

Please be prepared to provide:

- your name, address, and telephone numbers;
- proof of purchase;
- a copy of this Stonex warranty;
- a description of the nonconforming Product including model name, serial number of device;
- an explanation of the problem;

The customer service representative may need additional information from you depending on the nature of the problem.

Warranty Exclusions and Disclaimer

This Product limited warranty shall only apply in the event and to the extent that (i) the Product is properly and correctly installed, configured, interfaced, maintained, stored, and operated in accordance with Stonex's applicable operator's manual and specifications, and; (ii) the Product is not modified or misused. This Product limited warranty shall not apply to, and Stonex shall not be responsible for, defects or performance problems resulting from (i) the combination or utilization of the Product with hardware or software products, information, data, systems, interfaces, or devices not made, supplied, or specified by Stonex; (ii) the operation of the Product under any specification other than, or in addition to, Stonex's standard specifications for its products;(iii) the unauthorized installation, modification, or use of the Product;(iv) damage caused by: accident, lightning or other electrical discharge, fresh or salt water immersion or spray (outside of Product specifications); or exposure to environmental conditions for which the Product is not intended; (v) normal wear and tear on consumable parts (e.g., batteries); or (vi) cosmetic damage. Stonex does not warrant or guarantee the results obtained through the use of the Product or software, or that software components will operate error free.

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Regarding products equipped with technology capable of tracking satellite signals from based augmentation systems (SBAS) (WAAS, EGNOS, and MSAS), OMNISTAR, GPS, modernized GPS or GLONASS satellites, or from IALA beacon sources: STONEX is not responsible for the operation or failure of operation of any satellite based positioning system or the availability of any satellite based positioning signals. The foregoing limited warranty terms state STONEX's entire liability, and your exclusive remedies, relating to the STONEX product. Except as otherwise expressly provided herein, the product, and accompanying documentation and materials are provided "as-is" and without express or implied warranty of any kind, by either STONEX or anyone who has been involved in its creation, production, installation, or distribution, including, but not limited to, the

implied warranties of merchantability and fitness for a particular purpose, title, and noninfringement. The stated express warranties are in lieu of all obligations or liabilities on the part of STONEX arising out of, or in connection with, any product. Because some states and jurisdiction do not allow limitations on duration or the exclusion of an implied warranty, the above limitation may not apply to you.

Limitation of Liability

STONEX's entire liability under any provision herein shall be limited to the amount paid by you for the product. To the maximum extent permitted by applicable law, in no event shall STONEX or its suppliers be liable for any indirect, special, incidental, or consequential damage whatsoever under any circumstance or legal theory relating in any way to the products, software and accompanying documentation and materials,(including, without limitation, damages for loss of business profits, business interruption, loss of data, or any other pecuniary loss),regardless of whether STONEX has been advised of the possibility of any such loss and regardless of the course of dealing which develops or has developed between you and STONEX. Because some states and jurisdictions do not allow the exclusion or limitation of liability for consequential or incidental damages, the above limitation may not apply to you.

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STONEX **S7 SERIES includes three models: S7-S, S7-D, S7-G. These receivers combined STONEX GPS/GNSS receiver with a field computer powered by Microsoft Windows Mobile version 6.5 operating system, a system which you can master usage fast. Stonex S7 is the best choice you can have for field data collection as it delivers real high accuracy in all GPS/GNSS situations. With all together every essential and important functionality for productive GIS data collection in one single device: high-accuracy positioning, quality photo capture, Internet connectivity, you can use S7 to carry out high accuracy surveying work.**

The STONEX S7 SERIES handheld has built-in Bluetooth wireless technology for cable-free connection to other devices, and Wi-Fi connectivity for connections to networks. In addition, wireless GSM cellular modem allows free connectivity to Internet for data downloading and transmitting.

Fig. 1.0.1 - S7 mainframe

CE certification

STONEX S7 SERIES comply with the relevant standards of CE and it also get the agreement of the Notify Body CE0890.

FCC Certification

S7 Series sells to all over the world that means ours meet the standards of different countries. 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.

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

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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
The portable device is designed to meet the requirements for exposure to radio waves established by the Federal Communications Commission (USA). These requirements set a SAR limit of 1.6 W/kg averaged over one gram of tissue. The highest SAR value reported under this standard during product certification for use when properly worn on the body is 1.184 W/kg.

IC Certification

For the Canada market, this device also complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device

may not cause interference and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil s'accorde avec Industrie Canada licence-exempte RSS standard.(1) cet appareil ne peut pas causer l'intervention, et (2) cet appareil doit accepter de l'intervention, y compris l'intervention qui peut causer l'opération non désirée de.

This Class【B】digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada

1.1. Specification

System:

- Operation system: Windows Mobile 6.5

- Processor：Marvell PXA-310 806MHz Xscale CPU

- Internal storage: 256MB RAM, 4G flash memory/SD expansion slot (up to 16GB)

Media:

- Integrated Speaker and Microphone, Recording and Playback support

- 640x480 resolution,3.7" color LCD and touch screen

- Built-in 5 megapixel autofocus camera, with LED flashlight

Data Communication

- Standard waterproof USB connector

- Standard Bluetooth

- 802.11b/g Wireless LAN

- Built-in GPRS/GSM Communication Module, CDGE Support and Selectable One-way Data Traffic

GNSS Specifications

S7-S:

- Positioning Accuracy: Sub-meter/decimeter
- Channels: 12 Channels
- System: GPS (L1 C/A, L1 carrier phase smoothing), SBAS
- Post-differential Positioning: <0.5m+1ppm
- Point Positioning (Autonomous):2.5m (RMS)
- DGPS Positioning: <0.5m (CEP)
- SBAS Positioning: 0.6m (CEP)
- Update Rate: 1Hz
- Time to first fix: <60s (Usual)
- NMEA 0183 Support: Available
-                                  RTCM Support: RTCM SC-104 v2.x
- SNR: ≥45dbHz (up to 4 satellites)

S7- D:

- Positioning Accuracy: Sub-meter/decimeter
- Channels: 14 Channels
- System: GPS (L1 C/A, L1), GLONASS (L1 C/A, L1),SBAS
- Post-differential Positioning: <0.5m+1ppm
- Point Positioning (Autonomous):1.5m (RMS)
- DGPS Positioning: 0.5m (CEP)
- SBAS Positioning: 0.6m (CEP)
- Update Rate: 1Hz
- Time to first fix: <60s (Usual)
- NMEA 0183 Support: Available
- RTCM Support: RTCA,RTCM2,RTCM3,CMR

S7-G:

- Positioning Accuracy: Centimeter

- Channels: 120 Channels

- System: GPS (L1 C/A, L1, L2, L2C), GLONASS (L1 C/A, L1, L2)GALILEO (E1 test), COMPASS, SBAS

- Post-differential Positioning: 5mm + 1ppm (horizontal)

- Point Positioning (Autonomous):1.2m (RMS)

- RTK Positioning (int. antenna):   H: 2cm+1ppm; V: 3cm+2 ppm

- RTK Positioning (ext. antenna):   H: 1cm+1ppm; V: 2cm+1.5 ppm

- DGPS Positioning: 0.4m (CEP)

- SBAS Positioning: 0.6m (CEP)

- Update Rate: 1Hz

- Time to first fix: <50s (Usual)

- NMEA 0183 Support: Available

- RTCM Support: RTCM 2.1, 2.3, 3.0, 3.1, CMR, CMR+,RTCA

Input/Output

- Support SBAS (MSAS\WAAS\EGNOS)

- Data I/O, NMEA-0183 (GGA, ZDA, GLL, RMC, GSA, GSV, VTG)

- Correction I/O agreement: RTCM2/3 (depending on the S7 model)

- CORS and Area Reference Station VRS Compatibility

Size and Weight

- Size: 234×99×56mm (L*W*D)

- Weight (battery included):

- S7-S/D: 850g

- S7-G: 895g

Battery

- Battery capacity:11.1V×2500mAh, large capacity

- Working hours:8 hours (normal use)

Environment

- Humidity: 5%~95% RH (non-condensing)

- Operating Temperature: -20°C to +60°C

- Storage Temperature: -30°C to +70°C

- Waterproof/Dustproof: IP65

- Drop test: 1.5m on concrete

1.2. Product Features

1. Professional GPS module

    International professional brand survey GPS main board, with latest ASIC chip and COAST patent algorithm, is quicker and more stable than navigation GPS main board when tracking satellites, more accurate and reliable when it is positioned. Using multipath rejection technology, Stonex S7 can deliver excellent performance even in conditions where sky view is obstructed by buildings, trees or landscape features.

2. High accuracy single point SBAS

3. Connection to CORS network of stations

    Built-in high quality GPRS module, can be seamlessly connected to CORS system or provisional base station which has net function. Stable connection to net assures accurate and reliable real-time differentiate correction data reaching high accuracy.

4. Convenient Bluetooth

    Equipped with Bluetooth module, STONEX S7 can transmit data with other Bluetooth devices. It can also be used with RTK receivers as a PDA.

5. Compatibility for static survey

    S7 can be used with other GPS receivers in static survey to get high accuracy data (using external antenna), in massive GPS control survey task.

6. Excellent field performance

With GPS antenna, main board, main receiver controller, all integrated in one single device, S7 has industrial grade quality, can work well even in harsh environments. The high capacity of the battery offers 8 hours of work, enabling S7 to be used in field.

7. Advance system

Intel processor, 256MB internal memory, 640×480 high resolution and 3.7" VGA LCD display, great graphics capability. You can freely operate it by touch screen and open pictures easily. Moreover, S7 screen is readable even in sunlight.

1.3. Inside the Box (Standard Accessories)

When you unpack the STONEX S7 SERIES handheld check that you have received all the following components:

- S7 PDA
- USB cable
- Power adapter and plugs
- Battery
- Package bag
- Rear handstrap
- Stylus pen and string
- Screen protector
- S7 CD and user guide

Inspect all contents for visible damage (scratches, dents) and if any components appear damaged, notify the shipping carrier. Keep the shipping and packaging material for the carrier's inspection.

1.4. Optional Accessories

- Plastic carrying case
- Bracket

- External antenna (GNSS L1; GNSS, L1 L2)
- Telescopic carbon pole
- Coaxial cable for external antenna (2m, 5m)

1.5. Use and Care of the Handheld

To protect the STONEX S7 SERIES handheld when not in use, STONEX recommends storing the handheld in the package bag provided.

When using the handheld:

- To protect the touch screen from pressure and abrasive objects, STONEX has applied a screen protector on screen before delivery. One more piece is provided inside the package.
- Protect the touch screen by using your finger or the stylus provided and avoid using excessive pressure and sharp or abrasive objects.
- Keep the outer surface free of dirt and dust.
- Ensure that protective covers and doors are appropriately fitted to the external antenna port, SIM and storage card areas, so that they are kept free from dirt, dust, fluid ingress and electrostatic discharge.
- Protect the handheld from extreme temperatures, for example do not leave the handheld on the dashboard of a vehicle.
- When the battery is removed the handheld is not waterproof. Avoid exposing the internals of the handheld to dust and moisture when removing the battery. STONEX recommends that you only swap the battery indoors or from inside a vehicle.
- Use the handstrap provided with the STONEX S7 SERIES handheld. To clean the handheld, wipe it with a clean and dry cloth. Do not immerse the handheld in water.

Storing the handheld:

If you are not going to use the handheld for three months or more, STONEX recommends that you do not leave the handheld in Suspend mode. Instead, partially charge the battery and then turn off the handheld.

To prepare the STONEX S7 SERIES handheld for storage:

1. Transfer any data that you need to an office computer.
2. Charge the battery to approximately 30%.
3. Press the Power key for six second until the red Power light begins to blink.
4. Store the handheld at room temperature.

To use the STONEX S7 SERIES handheld after storage:

1. Press the Power key to turn on the handheld.
2. Recharge the battery.

Chapter 2: Getting Started

In this chapter:

- ➢ **Parts of the S7 SERIES Handheld**
- ➢ **Powering the handheld**
- ➢ **Turning on and turning off The handheld**
- ➢ **Resetting the handheld**
- ➢ **Storing data**
- ➢ **Installing and removing a SIM card**
- ➢ **Fitting the hand strap**

2.1. Parts of the S7 SERIES Handheld

The following diagrams show the main parts of the handheld.

Fig.2.1- Parts of S7 SERIES handheld

Key Buttons

The S7 SERIES handheld has a keypad for fast and easy access to common actions. LEDs provide visual notification of system events.

Fig.2.1- S7 SERIES handheld keypad area

The function of each key is described below:

Key	Description
Power key	Press briefly (less than one second) to turn on the handheld or to turn off the handheld (put it into Suspend mode). To access to other power options or to reset the handheld press and hold for one second until the *Power* menu appears.
Left and right soft keys	By default these keys perform the same action as the left and right soft keys in the title bar. Alternatively, program these keys to perform a selected action. To program the keys use the control Buttons.

Tip: To lock the screen and handheld keys without turning off the handheld use the device lock option.

The function of each LED is described below:

Key	LED	Description
Battery status		Solid green and red: Battery charge is complete.
		Flashing green: Battery is charging.
GPS receiver status		Solid green: GPS receiver is turned on.
Wireless radio status		Solid blue: Blutooth is turned on.
		Solid green: Phone is turned on.
		Solid blue and green: Both Blutooth and phone are

2.2. Powering the Handheld

The STONEX S7 SERIES handheld contains a removable rechargeable Lithium-ion battery.

Notes: Charge the battery completely before using the handheld for the first time. If the battery has been stored for longer than six months, charge it before use. STONEX recommends charging the battery for five hours to recharge it fully.

When the battery is fully charged, the handheld battery provides enough power for a full work day (8 hours) using the internal GPS/GNSS antenna and with the backlight on at the default settings.

Notes: Cold temperatures or using Bluetooth wireless technology, Wi-Fi, or the wireless cellular modem consumes additional battery power and so shortens battery life between charges.

AC Adapter Safety

- Use only the AC adaptor intended for the STONEX S7 SERIES handheld. Using any other AC adaptor can damage the handheld and void its warranty. Do not use the AC adaptor with any other products.
- Make certain that the input voltage on the adaptor matches the voltage and frequency in your location.
- Make certain that the adaptor has prongs compatible with your outlets.
- Do not use the AC adaptor in wet outdoor areas; it is designed for indoor use only.
- Unplug the AC adaptor from power when not in use.
- Do not short the output connector.

- Be aware that there are no user-serviceable parts in this product.
- If the AC adaptor becomes damaged, replace it with a new STONEX AC adaptor.

Electrostatic discharge

Static electricity will destroy internal electronic components.

To prevent electrostatic damage:

Before touching any internal electronic components internal, such as memory module, make certain you have released the static carried by the body.

A way you can take is to touch unpainted metal surface first.

S7 SERIES is designed for outdoor use but it can discharge under low humidity or very high voltage condition. Users should avoid touching the handheld side sunk port with fingers, thus can minimize the risk of discharging to sensitive electronic component.

Battery safety

Do not damage the rechargeable Lithium-ion battery. A damaged battery can cause an explosion or fire and can result in personal injury and/or property damage.

To prevent injury or damage:
- Do not use or charge the battery if it appears to be damaged. Signs of damage include, but are not limited to, discoloration, warping, and leaking battery fluid.
- Do not store or leave your device near a heat source such as near a fireplace or other heat-generating appliance, or otherwise expose it to temperatures in excess of 70° C such as on a vehicle dashboard. When heated to excessive temperatures battery cells could explode or vent, posing a risk of fire.
- Do not immerse the battery in water.
- Do not use or store the battery inside a vehicle during hot weather.
- Do not drop or puncture the battery.
- Do not open the battery or short-circuit its contacts.

Avoid contact with the rechargeable Lithium-ion battery if it appears to be leaking. Battery fluid is corrosive, and contact with it can result in personal injury and/or property damage.

To prevent injury or damage:

- If the battery leaks, avoid contact with the battery fluid.

- If battery fluid gets into your eyes, immediately rinse your eyes with clean water and seek medical attention. Do not rub your eyes!

- If battery fluid gets onto your skin or clothing, immediately use clean water to wash off the battery fluid.

- Do not open the battery or short-circuit its contacts.

Charge and use the rechargeable Lithium-ion battery only in strict accordance with the instructions. Charging or using the battery in unauthorized equipment can cause an explosion or fire and result in personal injury and/or equipment damage.

To prevent injury or damage:

- Do not charge or use the battery if it appears to be damaged or leaking.

- Charge the Lithium-ion battery only in a STONEX product that is specified to charge it. Be sure to follow all instructions that are provided with the battery charger.

- Discontinue charging a battery that gives off extreme heat or a burning odor.

- Use the battery only in STONEX equipment that is specified to use it.

- Use the battery only for its intended use and according to the instructions in the product documentation.

Inserting the battery

To insert the battery into the handheld:

1. Slide the battery into the cavity with the label facing upwards (as shown in Figure 2.2).

2. Push the battery in until it clicks into place.

Notes: Make sure that the battery is fully inserted and that both the left and right latches are fully engaged. If the battery is not properly inserted, it may fall out if the device is dropped.

Fig 2.2.1 - Inserting the battery

Charging the battery

The removable rechargeable Lithium-ion battery is partly charged when the instrument leaves factory. It should be fully charging before first time use. If the battery has been stored for longer than six months, it should be charged again before use. STONEX recommends charging the battery for five hours to recharge it fully.

Charge the battery in the handheld, or, if you have a spare battery, you can charge it outside the handheld.

To charge the battery:

1. Connect the connector of the AC adaptor cable to the battery and the power plug to an AC power outlet.

2. Turn off the handheld or put the handheld in Standby mode.

    Note: STONEX recommends that you charge the handheld at or below normal

room temperature (0 to 30° C).

3. Leave the battery to charge. It may take up to five hours for the handheld to charge completely.

▪ When the battery is charging inside the handheld the Power LED on the front cover is flashing green.

▪ When the battery is fully charged the Power LED is solid green.

The Power LED on the keypad on the handheld indicates the battery power or charging status as shown below:

Power source	🔋 LED state	Handheld/battery state
Battery power	Off	Handheld is turned off or is in Suspend mode.
	Off	Handheld is turned on and battery level is good.
External power	🟢···🟢···	Flashing green: Battery is charging.
	🟢 🔴	Solid green and red: Charging is complete.

Note: During normal charging the battery may become hotter than the maximum temperature allowed (40° C). If this happens, charging is automatically suspended until the battery cools and then charging automatically restarts. During this time the battery icon in the title bar shows 🔲 , to indicate that the handheld is running on external power. It may take about one hour for the battery to cool.
Avoid keeping the battery at full charge at high temperatures.

Note: The life of the battery can be significantly shortened if power is constantly supplied to the handheld. To avoid this issue, connect the handheld to an external power source only when the battery requires charging. Once fully charged disconnect the external power source and allow the battery to discharge through normal use.

Checking the level of battery power

To check the level of battery power remaining at any time while the device is running,

tap the battery icon in the title bar of the Home screen and then tap ▣ in the pulldown list. The Power control appears, displaying the Battery tab.

When the handheld battery is recharging from an external power source, the battery icon in the Home screen changes to ▣. You can still tap the icon to view the level of battery power.

To check the level of battery power remaining on a spare battery or one that is not inside the handheld press the battery icon ⊕ on the battery pack label. The level of charge indicator will light up with the approximate level of battery power remaining on the battery. Each LED represents a 20% increment in battery capacity.
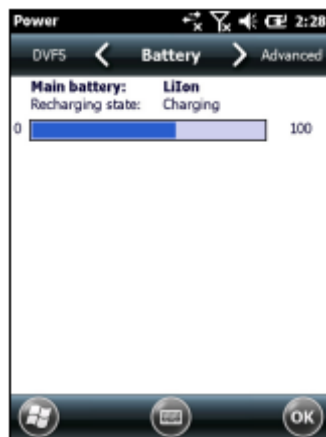
Fig.2.2.2 – Power interface

Low battery indicators

When the battery level reaches:

- 15% the battery icon in the title bar of the Home screen changes to ▣.

- 10% the Power LED on the handheld flashes red and the a warning message appears on the handheld.

- 5% the battery charge is critical and a warning message appears on the handheld.

STONEX recommends that you recharge the battery when any of these indicators appear.

Swapping the battery

If the battery runs low while you are working, you can swap the battery.

1. Save any open files.

2. Ensure that you have a spare battery close by with sufficient charge to keep working.

3. Turn off the handheld.

4. Remove the old battery by pinching the battery latches together until the battery is ejected. Slide the battery out.

Notes: The handheld is not sealed from water and dust when the battery is removed. STONEX recommends only removing the battery for short periods of time and only removing the battery indoors or from inside the protection of a vehicle.

5. Insert the new battery

Notes: The handheld has enough power to keep the device running for approximately 30 seconds with the battery removed. If the power drains before the battery is restored the device will shut down. STONEX recommends saving open files before swapping the battery.

6. Press the Power key to resume your session.

Conserving power

Although the handheld battery can operate for a full day without recharging, STONEX recommends you to do the following to reduce power consumption:

- Set the handheld to automatically turn off when idle.
- Set the backlight to automatically turn off when the handheld is idle for a specified time.
- Turn off the integrated Bluetooth, Wi-Fi, and wireless cellular modem radios whenever you are not using them.

- Disconnect from the integrated GNSS receiver when GNSS data is not required by closing GPS COM port. When you disconnect from GNSS, the integrated GNSS receiver switches off and stops drawing power.

Note: Do not disconnect from GNSS if you will be reconnecting within about five minutes. A GNSS application can take up to 30 seconds to reactivate the integrated GNSS receiver, so disconnecting to save power can cost time.

2.3. Turning on and turning off the handheld

If the screen on the handheld is blank, the handheld is in Standby mode, Battery Charge mode or has been shut down. To turn on the handheld press the Power key briefly (less than one second).

To turn off the handheld and put the handheld into Suspend mode press the Power key briefly (less than one second). The handheld is placed in a very low power state but the Bluetooth and wireless cellular modem radios may remain active.

To completely shut down the handheld press the Power key for one second until the Power menu appears and then tap Shutdown. All running applications are shut down, and the handheld is completely turned off.

Standby mode

When you press the Power key to turn off the handheld, the handheld goes into Standby mode. This is a low-power mode that maintains the main memory contents and keeps applications running but does not allow you to operate any of the functions of the handheld: the handheld is apparently off. The integrated GNSS receiver is turned off and any application using GNSS is disconnected. If a wireless radio is turned on (the LED is flashing), the Wi-Fi radio will be turned off, and the Bluetooth and wireless cellular modem radios will remain turned on. The handheld is capable of receiving data via Bluetooth or the cellular modem radio while it is in Standby mode. The handheld is able to automatically wake up to calendar alarms if it is in Standby mode.

Note: *To save battery power, use the Wireless Manager to turn off the wireless radios before you place the handheld into Suspend mode.*

To turn on the handheld when it is in Standby mode, press the Power key. The handheld is immediately ready for operation. There may be a delay of up to 30 seconds while the integrated GNSS receiver and the Wi-Fi radio automatically reactivate.

You can configure the handheld to automatically enter Standby mode when it has been idle for a specified time. By default, the handheld is set to enter Standby mode if it is not used for one minute.

To change the time before the handheld enters Standby mode:

1. Tap the title bar of the *Home* or the *Start* screen and then tap. The Power control appears, displaying the *Battery* tab.
2. Tap the *Advanced* tab.
3. From the *On battery power* option, select the *Turn off screen if device not used for* check box and then select the idle time from the drop-down list.
4. Tap OK.

2.4. Resetting the handheld

If the screen on the handheld is blank, the handheld has turned off. Press the Power button to turn on the handheld.

If the handheld stops responding to the stylus or if it does not respond when you press any of the keypad buttons, you may need to reset it by performing a soft or hard reset. You can also reset the handheld to its factory default settings by performing a factory reset.

Resetting to factory default settings

Reset the handheld to factory default settings to restore the handheld to its original state or only if a soft reset and then a hard reset does not resolve the problem.

Note: *Resetting the handheld to factory default settings erases* **all** *data, installed*

application, and settings stored in the handheld, except for any data or applications that were pre-installed on the handheld or are stored on a storage card. It does not change the language of the operating system used on the handheld.

Note: If you have encrypted files on a storage card and you reset the handheld to factory default settings, the encryption key on the handheld is deleted. This means that any files you have encrypted on a storage card are permanently locked and unreadable by any device.

*Note: To quickly and easily restore data deleted by performing a factory reset, synchronize the handheld with a computer **before** you reset the handheld to the factory default settings. Once the handheld is reset then resynchronize the handheld with the computer.*

To reset the handheld to the factory default settings:

1. Tap ▨ / *Settings/System/Restore factory settings.*

2. Input "1234",tap "OK".
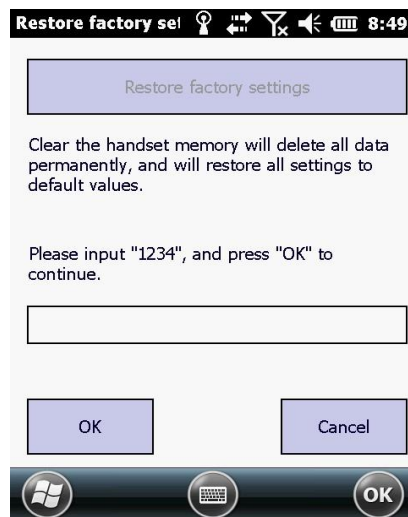
Fig.2.4.1 – restore factory setting

2.5. Storing data

The handheld has two types of memory:

- Storage memory is similar to the hard disk in a computer, and it is used for storing programs and data.

- Program memory is similar to the RAM in a computer, and it is used for running programs. You cannot use it to save data.

To check the storage capacity on the handheld, tap [image] / *Settings* / *System* / *Memory*. The Storage and Program columns show the current memory available, and the memory that is already in use. Pre-installed documents and program files are not affected by power loss or resetting. However, you can still lose data if you accidentally delete or overwrite it.

Note: The Windows Mobile version 6.5 operating system does not include a Recycle Bin. When you delete files from the handheld, they are deleted permanently.

STONEX recommends that you regularly copy important data to an office computer.

Storage cards

As an alternative to internal storage you can save data to a removable card. Use either an SD or SDHC (high capacity SD) card to securely transfer data to and from another device that supports SD or SDHC cards.

Note: The S7 SERIES handheld does not support SDIO (Secure Digital Input/Output) or SDXC (Secure Digital Extended Capacity) cards.

Warning: The presence of any dust or moisture in the storage card slot may adversely affect the device and void your STONEX warranty. To prevent dust or moisture entering the storage card slot:

- *Make certain that the storage card slot door is attached correctly when you are using the handheld outdoors.*
- *When inserting or removing a storage card, place the handheld on a dust-free indoor surface.*

Warning: Static electricity can harm electronic components inside the handheld. To

prevent static damage:

- *Discharge static electricity from your body before you touch any of the electronic components inside your device, such as a memory module. You can do so by touching an unpainted metal surface.*

To insert an SD or SDHC card:

1. Place the handheld on a dust-free indoor surface.

2. Flip open the storage card slot door on the side of the handheld.

3. Insert the storage card into the storage card slot with the gold contacts facing down. Gently press the card until you hear a click, and the card is locked into place.

4. Close the storage card slot door.

When you select the *Save As* option in an application, the storage card appears in the list of available storage locations.

Note: *Do not store required data or applications to a storage card if the card will be removed. Data saved to a storage card is available only when the card is inserted in the handheld.*

To remove the storage card from the storage card slot, gently press the card in and then let go. The card pops out.

Encrypting files on storage cards

To prevent sensitive data on an SD or SDHC card from being used if the card is lost or stolen, files can be encrypted as they are placed on the card.

When encryption is enabled, an encryption key is stored on the handheld. Files are encrypted as they are copied or written to the storage card. Files already saved on storage cards before enabling encryption are not automatically encrypted.

Note: *Because the encryption key is stored on the handheld, encrypted files are only readable on the handheld on which they are initially encrypted. It is not possible to read*

encrypted files on the storage card with any other device, including another STONEX S7

SERIES handheld or an office computer.

Note: If you reset the handheld to the factory default settings, the encryption key is deleted

and the handheld is no longer able to read any encrypted files on a storage card. This

means that any files you have encrypted are permanently locked and unreadable by any

device. To avoid being unable to read previously encrypted files, STONEX recommends that

you use another device, such as an office computer, as the primary location for storing

important data and to control the encryption of important files.

To enable encryption of files as they are written to a storage card:

1. Tap /*Settings / System / Encryption*.
2. Select the *Encrypt files when placed on a storage cards* check-box.

Note: Encrypted files appear as ordinary files on the handheld they were encrypted on. If

the storage card is inserted in another device, the files appear with a .menc file extension

and cannot be opened.

To disable encryption, clear the Encrypt files when placed on a storage cards check-box.

Note: Disabling encryption does not remove encryption from any existing files on the

storage card, but ensures that new files placed onto the storage card are not encrypted.

To encrypt files that are already stored on a storage card:

1. Copy the files to the handheld's internal storage or to a PC.
2. Ensure encryption is enabled on the handheld.
3. Copy the files back to the storage card. The files are encrypted as they are
    written to the storage card.

To remove encryption from files so they can be read by other devices:

1. Insert the storage card in the handheld and then connect the handheld to a PC using Microsoft ActiveSync ® technology or the WMDC.

2. Copy the encrypted files from the storage card to the PC.

3. To use the decrypted files on the handheld, copy the files from the PC to the handheld's internal storage.

4. To store the decrypted files on a storage card, ensure encryption is not enabled on the handheld and then copy the decrypted files from the PC to the storage card.

2.6. Installing and removing a SIM card

The S7 SERIES handhelds are equipped with a cellular modem. To use the integrated modem, the 2G edition handhelds require a SIM card.

Note: The SIM card and its contents can be easily damaged by scratches or bending.

Note: The presence of any dust or moisture in the SIM card slot may adversely affect the device and void your STONEX warranty. To prevent dust or moisture entering the SIM card slot:

- *Make certain that the SIM card slot door is attached correctly when you are using the handheld outdoors.*
- *When inserting or removing a SIM card, place the handheld on a dust-free indoor surface.*

Note: Static electricity can harm electronic components inside the handheld. To prevent static damage, discharge static electricity from your body before you touch any of the electronic components inside your device, such as a memory module. You can do so by touching an unpainted metal surface.

To insert a SIM card:

1. Turn off the handheld.

2. Place the handheld on a dust-free indoor surface.

3. Flip open the SIM card slot door on the side of the handheld.

4. Insert the card into the SIM card slot with the gold contacts facing down. Gently press the card until you hear a click, and the card is locked into place.

5. Close the SIM card slot door.

To remove the SIM card:

1. Follow steps 1 to 3 above.

2. Gently press the card in and then let go. The card pops out.

3. Gently slide the card out of the slot.

2.7. Fitting the hand strap

The hand strap and screws are provided in the box with the handheld. To fit the hand strap:

1. Align the upper hand strap bracket with the two mounting holes and then use a screwdriver to tighten the screws.

2. Stretch the hand strap to align the bottom hand strap bracket with the mounting hole and then use a screwdriver to tighten the screw.

Chapter 3: Using the Windows Mobile Operating System

In this chapter:

➢ **Parts of the screen**

➢ **Interacting with the handheld**

➢ **Status indicators**

➢ **Pre-installed programs**

➢ **Entering information**

➢ **Personalizing the handheld**

➢ **Messaging**

The S7 SERIES handheld is powered by the Windows Mobile 6.5 operating system.

This chapter describes the main features of this generation of the Windows Mobile

operating system.

3.1. Parts of the screen

The main parts of the *Home* screen and the *Start* screen are shown below.

Title bar
Contains status icons for important system functions.

Home screen
Provides access to the key functions on your device. Scroll, and tap any item to open it.

Start button
Tap to open the Start screen, where you can access programs and system controls.

Tile bar
Contains touchable tiles providing access to applications, menus, and notifications.

Start screen
Tap any item on the menu to open it.

Lock device
Tap to lock the screen. Once locked, you have multiple points of unlock entry depending on the current status.

Connectivity icons
Tap either icon to access the Wireless Manager.

Pull-down list
Tap anywhere on the title bar to open the title bar pull-down list, where you can access connectivity controls (the Wireless Manager), battery information, time and date settings, and volume.

Fig. 3.1.1 – home and screen

3.2. Status indicators

Status indicators that appear in the title bar at the top of the screen are as follows:

Battery status indicators

Icon	Description
	Battery has full charge
	Battery has high charge
	Battery has medium charge
	Battery has low charge
	Battery has very low charge (20% or less)
	Battery charging/using external power

Fig. 3.2.1 – battery icon description

The battery status icon on the title bar of the *Home* screen or the *Start* screen shows the status of the battery charge. Tap the title bar and then on the pull-down list tap the icon to access the Power control dialog.

Speaker status indicators

Icon	Description
	Speaker is on
	Speaker is off

Fig. 3.2.2 – speaker icon description

The speaker status icon on the title bar of the *Home* screen or the *Start* screen shows the status of the speaker. Tap the title bar and then on the pull-down list tap the icon ◨ to adjust the volume and to turn the speaker on or off.

Network and modem status indicators

Icon	
▣	Connected to ActiveSync or the Windows Mobile Device Center (WMDC) on a computer
	Connected to a Bluetooth-enabled phone
▨	Disconnected from ActiveSync or WMDC
	Disconnected from a Bluetooth-enabled phone
▣	Wi-Fi radio is on
▣	Wi-Fi is detected
▣	Connected to a wireless network
▥	Maximum cellular modem signal strength
▽	No cellular modem signal
▼	Cellular modem is turned off
▼	No cellular service
▼	Searching for cellular modem service
▥	Data is transferring using the cellular modem
▣	No SIM card
G	GPRS network is available
▣	GPRS network is connecting
▣	GPSR connection is active

Fig. 3.2.3 – network icon description

The network and modem status icons on the title bar of the *Home* screen or the *Start* screen show the status of each radio. Tap the title bar and then on the pull-down list tap the ▣ or ▣ icon. In the Connectivity or Phone dialog, select Wireless Manager and turn on or turn off the radio.

3.3. Pre-installed programs

Programs that are pre-installed on the S7 SERIES handheld are as follows:

Program	Function
ActiveSync	Synchronize information between the handheld and a computer.
Alarms	Set alarms.
Calculator	Perform basic arithmetic functions.
Calendar	Keep track of appointments and arrange meetings.
Contacts	Keep track of your friends and colleagues.
File Explorer	View and manage files.
Internet Explorer	Browse the World Wide Web.
Email	Write, send, and receive email messages.
Messenger	Send instant messages using Windows Live™ Messenger.
Notes	Create handwritten, typed, or recorded notes.
Pictures and Videos	Take, view, and edit pictures, or record and launch video clips.
Search Phone	Search for a file or item stored on the handheld.
Tasks	Keep track of your tasks.
Text	Send, receive, and organize text messages
Windows Live	Access Windows Live services, including email, instant messenger and Internet search.
Windows Media	Play Windows Media® or MP3 audio and video files.

Fig. 3.3.1 – programs of S7

3.4. Interacting with the handheld

To interact with the handheld use the stylus or your finger to tap items on the touch screen or to scroll up or down.

Action	Definition
Tap	Touch the screen once to open items and select options.
Tap and hold	Tap and hold the stylus on an item to see a list of actions available for that item. On the pop-up menu that appears, tap the action you want to perform.
Drag	Hold the stylus on the screen and drag across the screen to select text and images. Drag in a list to select multiple items.
Flick	Flick the stylus or you finger over the screen to scroll a page or a list up or down.

Fig. 3.4.1 – manual operation

If at any time the touch screen does not respond correctly to stylus taps or your finger,

realign it.

The stylus is located on the rear of the handheld. To remove the stylus from its holder slide the stylus downwards.

To attach a tether to the stylus:

1. Hold the stylus with the STONEX logo facing upwards and insert the end of the tether down through one of the two holes in the top of the stylus and then back up through the other hole.

2. Insert the other end of the tether through the loop and pull until the knot in the tether is tight.

3. Attach the tethered stylus to the handheld as described below.

To attach a tethered stylus to the handheld, feed the end of the tether through the top of the stylus retainer on the rear of the handheld and then feed the end of the stylus through the loop until the knot in the tether is tight.

3.5. Entering information

Depending on the program you are using, you can enter information in several ways, as described below:

Input method	Description
Synchronizing	Use Microsoft connection management software to exchange information between the handheld and a PC.
Typing	Use the Keyboard input panel to enter typed text by tapping keys on the on- screen keyboard.
Drawing	Use the stylus like a pen to draw (or write) directly on the screen.
Recording	Create a stand-alone recording or embed a recording into a note.

Using the on-screen keyboard

The keyboard button automatically appears in the tile bar of any application.

To display the keyboard, tap the keyboard button or tap a text box in the application.

To enter characters use your finger or the stylus to tap the keys on the keyboard. When you finish entering text in a field tap `Tab` to accept the text you have entered and then move to the next field.

To enter special characters tap `123` to display keyboards containing numbers and symbols. To switch back to the main keyboard tap `123` again.

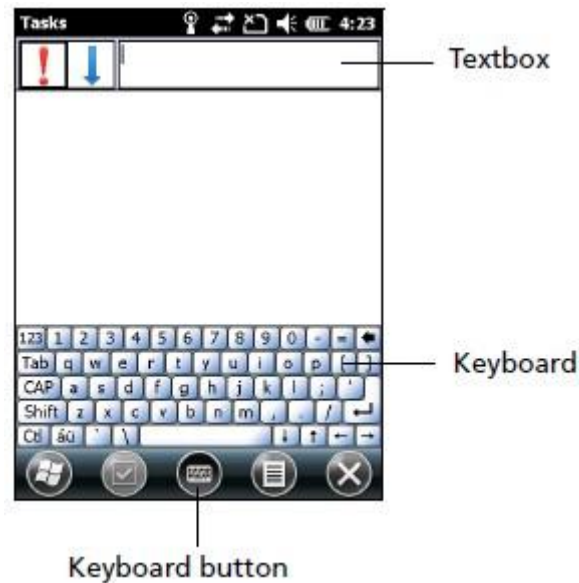To hide the keyboard tap the keyboard icon again.

Fig. 3.5.1 - keyboard

Drawing and writing directly on screen

In some applications, for example Notes, you can draw (or write directly) on the screen using the stylus.

1. Tap and then tap the Notes icon

2. Tap the Menu icon

3. Select Drawand then select Draw.

4. Use the stylus to write or draw on the screen.

Fig. 3.5.2 – writing operation

Making a recording

For handheld configurations equipped with an integrated microphone, you can create a stand-alone voice Note or you can add a recording to a Note. Then you can work with voice Notes in the same way that you work with Notes.

To make a recording:

1. Tap 🔲 and then tap the Notes icon.

2. Tap the Menu icon 🔳

3. Do one of the following:

   - To create a stand-alone recording, in the screen displaying the list of Notes, tap the Record button ⬤ to begin recording.

   - To add a recording to a Note, create or open a Note and then tap the Record button ⬤ to begin recording.

Note: *For S7 SERIES configurations that include an integrated microphone, the microphone is on the front of the handheld in the keypad area. The microphone will capture voice Notes when you are holding the handheld in front of you. In noisy environments, you may need to move the handheld closer to you or to the source of the sounds you want to record. Configurations available for sale in China are not equipped*

with an integrated microphone.

4. When you finish recording, tap the Stop button ■.

Fig. 3.5.3 – making recording

If you are creating a stand-alone recording an icon appears in the Note list.

If you are recording in an open Note an icon appears in the Note. Tap OK to return to the Note list.

To play a recording tap the recording in the Note list or open the Note and then tap the icon in the Note.

3.6. Personalizing the handheld

Use the controls in the Settings area to customize the handheld. The following examples describe controls that are available.

Buttons

Use the Buttons control under Personal settings to assign the action you want to be performed when you press the left or right application key.

By default, these keys perform the same action as the left and right tiles in the tile bar.

Alternatively, program these keys to perform a selected action.

Application buttons can be programmed to perform one of the following types of actions:

- Run a selected application, for example Messaging or Calendar.

- Act as a software button, for example an OK/Close button or a scroll button.

- View a selected screen or part of a screen, for example return to the Home screen or launch the Context menu or Input panel.

To open the Buttons control:

- Tap ⊞ / Settings / Personal / Buttons.

To specify an action for the button:

1. Tap the Program Buttons tab.

2. Tap a button in the list to select it.

3. From the Assign a program drop-down list, select the action you want to occur when you press the button or tap the soft key.

4. Tap OK.
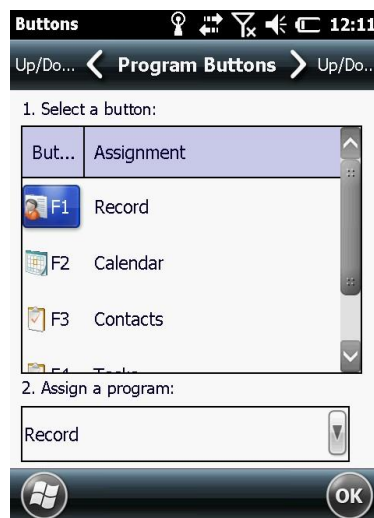
Fig. 3.6.0.1 – buttons setting

Home

Use the Home settings to change the display theme that controls the appearance of the Home screen and to customize how items appear on the Home screen.

Appearance

You can use a theme to customize the background picture on the Home screen, the color of the title and tile bars, menus and messages.

To change the display theme:

1. Tap ⊞ / Settings / Home.

2. Tap the Appearance tab.

3. Do one of the following:

   - To use a predefined theme select it from the list.

   - To select the picture that you want to display in the Home screen background select "Use this picture as the background" check box. Then tap Browse to search for a file on the handheld.

4. Tap OK.

Fig. 3.6.2 – appearance setting

Items

You can choose between:

- the Windows default Home screen view, which allows you to flick through the list of entries, giving access to functions such as email, text messaging, current time and Internet Explorer.

- customizing which items appear on the Home screen and the order in which they appear.

To use the default Home screen view:

1. Tap [icon] / Settings / Home.

2. Tap the Items tab.

3. Select the Windows Default check box.

4. Tap OK.

To customize the items which appear on the Home screen:

1. Tap [icon] / Settings / Home.

2. Tap the Items tab.

3. Select or clear the check boxes to show or hide the Home screen items.

4. Use the Move Up and Move Down buttons to change where the selected item appears on the Home screen.

5. Tap OK.

Fig. 3.6.3 – items setting

Set the time and date

1. On the Home screen tap the clock item or tap the title bar and then on the pull-down list tap the clock icon [icon] The Clock & Alarms screen appears.

2. Tap the Time tab.

3. In the Time Zone field, select the required time zone from the drop-down list.

4. In the Date field tap the down arrow and then select the correct date.

Tip: On the calendar which appears tap on the month or year to select the required value.

5. In the Time field tap in turn the hour, minute and second values and then tap the up or down arrows to set the correct time.

Fig. 3.6.4 – time and date setting

Device lock

Tap the Device Lock icon ⬚ on the Start screen to lock the screen and keypad while the handheld remains turned on.

Once the handheld is locked the screen and most of the keys do not respond until the handheld is unlocked. The exception is the Power key which always responds when pressed.

Communication with external devices such as a GNSS receiver or external sensors used by GNSS field software is not interrupted by locking the handheld. This means that you can keep using the GNSS field software when the handheld is locked. For example, you could lock the device so that you can safely transport it between features, while keeping the software connected to the GNSS receiver so that you can continue recording GNSS positions.

The locked screen provides multiple unlocked sliders for different applications, when there are new notifications. For example, if a new email has arrived, an email unlock

slider takes you straight to the email.

To unlock the device slide the Unlock icon for the required application to take you straight to that application.

Fig. 3.6.5 – device locking

It is possible to keep your data secure by requiring a password each time the handheld is turned on, tap [icon] / Settings / Lock to set a password or to change password settings.

Power

To open the Power control do one of the following:

- Tap the title bar of the Home screen or the Start screen and then tap [icon]
- Tap [icon] / Settings / Power.

Tap the Battery tab to check the battery level.

Tap the Advanced tab to set the time before the handheld turns off when idle.

Sounds and notifications

Use the Sounds & Notifications control to set preferences for the speaker volume and system sounds. To open the Sounds & Notifications control:

- Tap [icon] / Settings / Sounds & Notifications.

Fig.3.6.6 – sounds setting

To turn on or turn off sounds:

1. Tap the Sounds tab.

2. Select or clear the check boxes to enable or disable categories of sounds.

3. If you select the Screen taps or Hardware buttons check boxes select the Soft or Loud option to control the volume of the sounds.

4. Tap OK.

You can use predefined schemes to customize sounds or you can create your own sound schemes.

To specify a sound scheme:

1. Tap the Notifications tab.

2. From the Event drop-down list select an event.

3. Select the type of notification you want to receive for that event.

4. Tap OK.

Fig. 3.6.7 – notifications setting

Screen

Use the Screen control to align the touch screen or to change the appearance of text on the screen. To open the Screen control:

▪ Tap / Settings / System / Screen.

To change the screen settings:

1. Tap the General tab.

2. To change the orientation of the screen select an option in the Orientation group.

3. To start the alignment sequence for the touch screen, tap ⬚ Align Screen.

4. Tap OK.

Fig. 3.6.8 – general setting

Using ClearType font smoothing can make text easier to read on the screen.

To enable ClearType:

1. Tap the ClearType tab and then select the Enable ClearType check box.

2. Tap OK.

To change the size of text on screen:

1. Tap the Text Size tab.

2. Tap and drag the slider control to the left to make text smaller or to the right to make text larger.The example text below the slider shows how the text will appear on screen.

3. Tap OK.
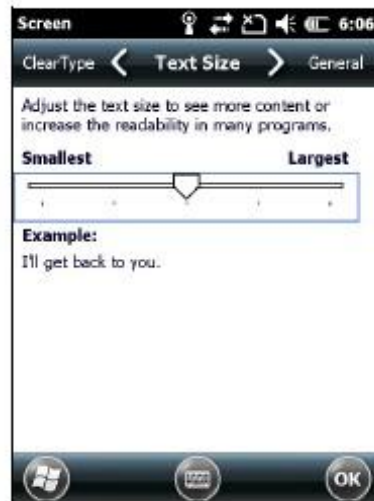
Fig. 3.6.9 – text size setting

Backlight

The backlight makes the screen easier to read in low light but uses extra power. Use the Backlight control to configure power-saving settings for the backlight. To open the Backlight control:

- Tap [icon]/ Settings / System / Backlight.

To set the backlight to automatically turn off:

1. To automatically turn off the backlight when the handheld is idle and is using battery power tap the Battery Power tab. Select the Turn off backlight check box and then select a time from the drop-down list.

2. To automatically turn off the backlight when the handheld is idle and is using external power tap the External Power tab. Select the Turn off backlight check box and then select a time from the drop-down list.

3. Tap OK.

Fig. 3.6.10 – backlight setting

To change the brightness:

1. Tap![icon]/ Settings / System / Brightness.

2. Tap and drag the Brightness Level slider control to the left to make the backlight
   darker or to the right to make the backlight brighter.

3. Tap OK.
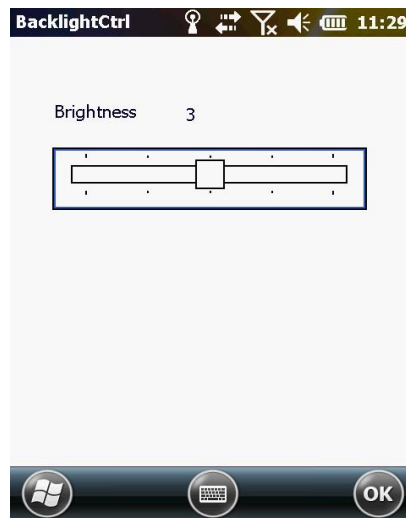
Fig. 3.6.11 – brightness change

3.7. GPRS network setting

Use GPRS to connect the internet, you can receive and send messages through the
network. You need to apply for GPRS Service from your service provider.
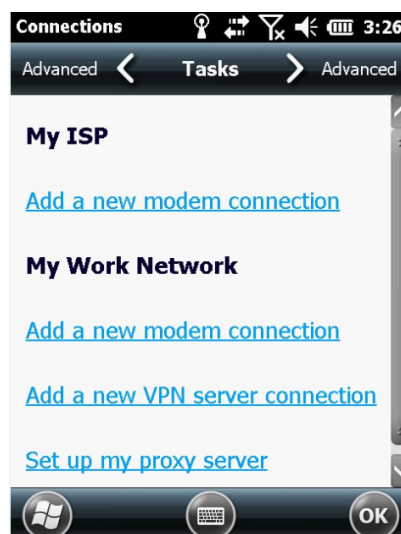
Fig. 0.1 – network setting

Add new GPRS connecting

1. Click the start menu-setting-connections –connections.

2. Choose "advanced", and then click "select networks" in advanced page. Remarks: if internet had been set, you can turn to step 5.
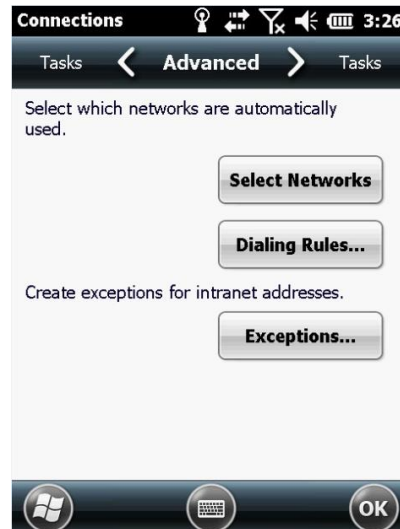
Fig. 3.7.2 – network selecting

3. Choose "My ISP" in drop-down box and click "Ok" to return to first chart and then click the "tasks" tag in the upside, while the network connecting is setting main screen will appear. Remarks: if internet had been set, you can turn to step 5.

Fig. 3.7.3 – network manager

4. Click "add a new modem connection" in the screen of "tasks".

Fig. 3.7.4 - modem connection

5. In "select a modem" choose "cellular line (GPRS)" and then click the next step.

Then add a new GPRS connection
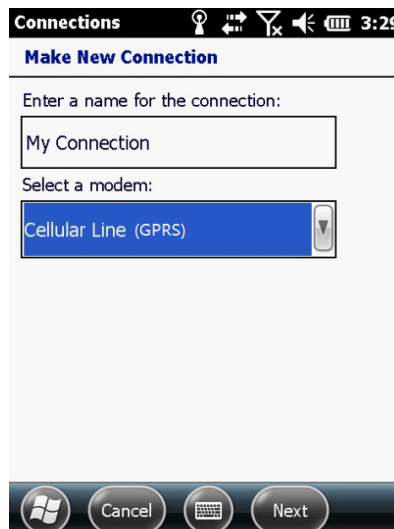
Fig. 3.7.5 – modem selection

6. Input the name of access point such as "cmnet"(WAP flat rate, input cmwap) and then click "next step".

Fig. 3.7.6 - name inputting
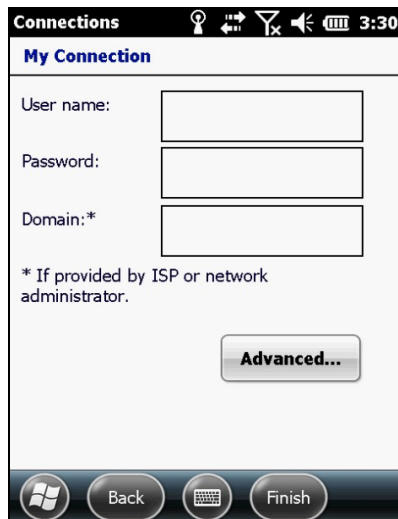
Fig. 3.8.7 – detail inputting

7. Click "finish".

3.8. Bluetooth connecting

S7 SERIES can be used as RTK handheld.

1. Start menu-setting-Bluetooth.

2. Click "add a new device".

Fig. 3.8.1 – Bluetooth setting
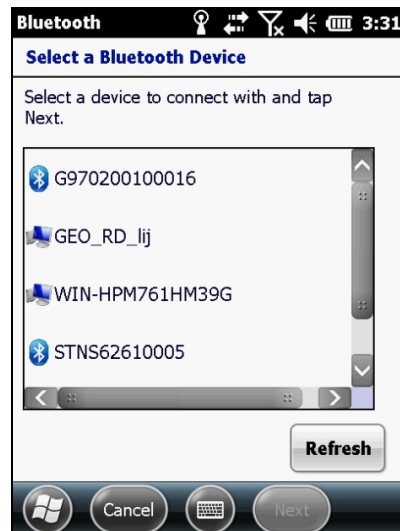
Fig. 3.8.2 – device selecting

3.   Input the password "1234".
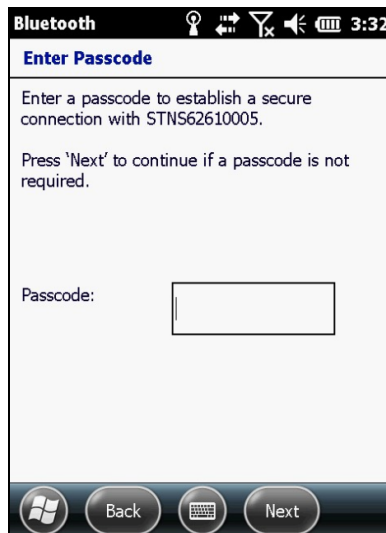
Fig. 3.8.3 – passcode inputting

4. Click "finish".

5. Back to Bluetooth main screen and choose "COM Ports"
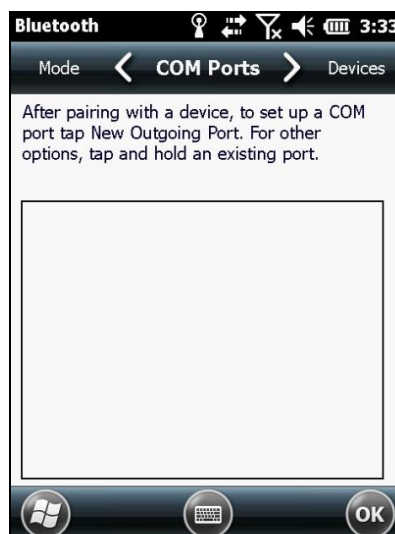
Fig. 3.8.4 – com ports setting

6. Choose "New Outgoing Port"

7. Confirm the handheld SN and then click "Next".

8. Choose port, in general, choose port COM8 or COM9, and then "click finish".

Chapter 4: Connecting to a PC

In this chapter:

- ➢ **Connection management software**
- ➢ **Connecting the handheld to a PC**
- ➢ **Managing the connection using the Windows Mobile Device Center**
- ➢ **Managing the connection using ActiveSync technology**
- ➢ **Installing software onto the handheld**

Connect the S7 SERIES handheld to a PC to transfer information, settings and files from one device to the other, or to install software onto the handheld.

You can connect the handheld to a PC using the USB cable or a Bluetooth wireless link.

To protect your data STONEX recommends that you regularly copy important data to the PC.

4.1. Connection management software

To install software onto a device powered by the Windows Mobile operating system or to copy files between the handheld and a PC you must connect the device to a PC. If the computer is running:

- Windows 7 or Windows Vista® operating system, use the Windows Mobile Device Center (WMDC) to manage the connection.
- Windows® XP or 2000 operating system, use ActiveSync technology to manage the connection.

Note: You must install the Windows Mobile Device Center or ActiveSync technology onto the computer before you connect the handheld.

This connection management software also enables you to synchronize Desktop office applications on with the handheld.

Note: The available space on the handheld is small compared to a PC. To avoid accidentally synchronizing the handheld with a large amount of data on a PC, STONEX recommends that you either connect to the handheld without forming a partnership, or that you limit the information types and amount of data that is synchronized.

Note: Synchronizing data is designed to keep the same data on both the PC and the handheld. Exercise care when resynchronizing applications after deleting data from one computer, as resynchronizing will delete the same information from the other computer.

Installing the Windows Mobile Device Center

The Windows 7 and the Windows Vista operating system include a basic connectivity driver for devices powered by a Windows Mobile operating system. This driver allows you to transfer files from the handheld to an office computer.

To install software onto a device powered by a Windows Mobile operating system, you must install Windows Mobile Device Center 6.1 onto a PC.

A copy of the Windows Mobile Device Center is provided on the S7 SERIES Getting Started Disc. Alternatively, go to

http://www.microsoft.com/en-us/download/windowsMobile.aspx?q=windows+mobile to download the latest version from the Microsoft website.

Installing ActiveSync technology

A copy of ActiveSync technology is provided on the S7 SERIES Getting Started Disc. Alternatively, go to http://www.microsoft.com/en-us/download/details.aspx?id=15 to download the latest version from the Microsoft website.

4.2. Connecting the handheld to a PC

To connect the S7 SERIES handheld to a PC:

1. Make sure that the handheld and the PC are switched on.

2. Make sure you have installed the appropriate connection management software onto the PC

3. To form a connection, do one of the following:

    - Use the handheld's integrated Bluetooth radio to establish a wireless serial link to a Bluetooth-enabled computer.

    - Use a USB connection:

      a. Connect the USB data cable to the USB port on the handheld.

      b. Connect the other end of the USB data cable to a USB port on the PC.

When the handheld and the PC are connected, you can manage the connection through a

window that appears on the PC. See one of the following:

- Managing the connection using the Windows Mobile Device Center.

- Managing the connection using ActiveSync technology.

4.3. Managing the connection using the Windows Mobile Device Center

1. Connect the handheld to the PC.

2. If the Autoplay window appears, close the window.

3. The Windows Mobile Device Center window displays the message Connected:

Note: If the connection is not made automatically, check that the connection is enabled in the Windows Mobile Device Center software and on the handheld.

Fig. 4.3.1 – connection to the PC

Fig. 4.3.2 – set by PC

4. Do one of the following:

   - To synchronize files and data between the handheld and a PC, click Set up your
     device and then follow the instructions on screen.

   - To transfer data between the handheld and the PC without synchronizing the
     devices, click Connect without setting up your device.

5. To transfer files between the PC and the handheld click File Management.
   A Windows Explorer-type window appears, displaying files stored on the
   handheld. Copy and paste files to other locations on the computer or from the PC
   to the handheld.

6. To install software onto the handheld see Installing software onto the handheld.

7. To uninstall software from the handheld click Programs and Services and then
   click Add/Remove Programs.

*Tip: If the Add/Remove Programs option does not appear below Programs and Services
click More. The Add/Remove Programs option appears.*

For more information, refer to the Windows Mobile Device Center Help.

4.4. Managing the connection using ActiveSync technology

1. Connect the handheld to the PC. The Synchronization Setup Wizard appears:

Fig. 4.4.1 – setup wizard

Note: If the connection is not made automatically, check that the connection is enabled in the ActiveSync technology and on the handheld.

2. Do one of the following:

    - To synchronize files and data between the handheld and a PC, click Next and then follow the instructions in the Synchronization Setup Wizard.

    - To transfer data between the handheld and the PC without synchronizing the devices, click Cancel to close the wizard.

3. The Microsoft ActiveSync window displays the message Connected:
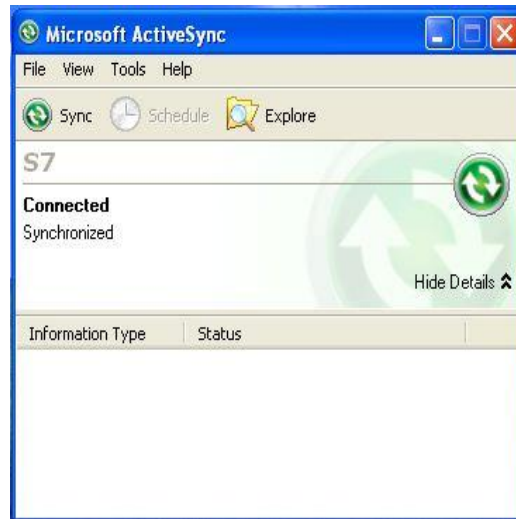
Fig. 4.4.2 – connection prompt

4. To transfer files between the PC and the handheld, click Explore. A Windows Explorer-type window appears, displaying files stored on the handheld. Copy and paste files to other locations on the PC, or from the PC to the handheld.

5. To install software onto the handheld, see Installing software onto the handheld.

6. To uninstall software from the handheld, select Add/Remove Programs from the Tools menu. Clear the check box beside the program you want to remove and then click OK.

   For more information, refer to the ActiveSync Help.

4.5. Installing software onto the handheld

Before you begin, refer to the installation instructions provided with the software. Some software installations are specifically designed to run on a device powered by a Windows Mobile operating system.

To install software that has a Windows Mobile installation setup:

1. Connect the handheld to a PC.

2. Copy the installation files to a folder on the handheld.

3. Browse to the folder on the handheld. Tap and hold the installation setup file and then select Run.

4. If prompted after installation, perform a soft reset of the handheld.

To install software that is provided on a CD, or as an installation setup that runs on an PC:

1. Connect the handheld to a PC.

2. If the software is provided on a CD, insert the software CD into the PC.

3. Run the installation setup.

4. If prompted, select the install option for a device powered by a Windows Mobile operating system. Once the software is installed on the computer it is automatically transferred to the handheld.

Note: If a storage card is inserted in the handheld, the card appears as an installation location option. STONEX recommends that you install software to the handheld's internal storage, not to a storage card. If you install software to a card and then remove the card from the handheld, the software will not be available for use.

5. If prompted after installation, perform a soft reset of the handheld.

Chapter 5: Using the camera

In this chapter:

- ➢ **Parts of the camera**
- ➢ **Starting the camera application and capturing photos or video**
- ➢ **Adjusting camera settings**

The S7 SERIES handheld contains an integrated digital camera to capture photos or video.

Parts of the camera

Use the Camera button to:

- Start the camera application
- Lock focus (press and hold the button)
- Capture photos (release the button)
- Start and stop recording a video (in Video mode, press the button)

Starting the camera application and capturing photos or video

To start the camera, do one of the following:

1. Press the Camera button in the center of the keypad.
2. Tap / Pictures & Videos / Camera.

   When the camera application is started, it is by default in Still (photo) mode.

3. Do one of the following:

   a. To capture a photo:

    - Hold the handheld steady. Use the preview window to frame the subject in the center of the frame.

    - To capture the photo, press the enter button of the keyboard and hold the camera steady until the review photo is shown.

   b. To capture a video:

    - Tap the menu Menu button and then select Video.

    - Use the preview window to frame the start of the video.

    - To start recording, press the Camera button and then release. Move the handheld to record the video.

    - To pause recording, tap the Pause button. To stop recording, tap the Stop button or press the Camera button.

Note: *When the camera application displays the* *icon, it is storing the photo or video file. Removing the battery or the memory card while recording may affect photos / videos or damage the memory card.*

To switch to Still mode from Video mode, tap the menu Menu button and then select Still.

Adjusting camera settings

To access the camera settings:

1. Start the camera application and then tap the Menu button.

   The available camera settings are displayed in a list.

2. Tap the required setting or change the current value. The list of available settings varies depending on whether you are in Video mode or Still mode.

Table 6.1 Camera settings

Mode	Setting	Options
Video	Resolution	640x480, 320x240,
Still	Resolution	2560x480, 640x480, 320x240
Still & Video	Compression	Low quality, Medium quality, High quality
Still & Video	Full Screen	Hides the tile bar

Camera and Video options

To access to the Camera options, tap / Pictures & Videos / Camera / Menu / Options.

Use the camera options to customize where still photos and videos are stored, and to customize storage settings for still photos.

- Save files to: If you have a storage card installed you can choose to save

photos in either the main memory of the device or to a folder on the storage card. Photos saved to the main memory are saved in the My Pictures folder.

- Still filename prefix: Use this option to give still photos a customized filename prefix.
- Video filename prefix: Use this option to give videos a customized filename prefix.
- Time limit for videos: To set the automatic time limit for videos, choose a suitable time limit from the options list.

Chapter 6: Troubleshooting

In this chapter:

- ➢ **Power issues**
- ➢ **Backlight issues**
- ➢ **Touch screen issues**
- ➢ **Storage card issues**
- ➢ **Keypad issues**
- ➢ **Connection issues**
- ➢ **GNSS receiver issues**
- ➢ **Real-time DGNSS issues**
- ➢ **Recommended GNSS settings for maximum precision and productivity**

Use this section to identify and solve common problems that may occur when using the S7 SERIES handheld. Please read this section before you contact technical support.

6.1. Power issues

problem	cause	solution
The handheld does not turn on.	The battery is flat.	Recharge or swap the battery.
The screen is blank.	The handheld is turned off.	Press the Power button to turn on the handheld.
	The handheld has locked up.	Reset the handheld.
The handheld is not charging	The internal temperature has risen above the allowed maximum (40 °C or 104 °F) for charging the battery.	Do one or all of the following: ▪ Turn off the integrated radios before charging the handheld. ▪ Suspend the handheld before charging. ▪ Remove the handheld from any external heat sources (for example, sunlight). The handheld will automatically start charging again when the internal temperature has dropped below the range for charging the battery.
The battery power percentage bar does not appear in the Power control.	The battery has 0% power.	Recharge the battery. Once the battery level is above 0%, the battery power percentage bar reappears. Tap 🪟 / Settings / System / Power / Battery to view the level of power remaining in the battery.

Under some circumstances the AC adapter may be faintly audible at close proximity.	The AC adapter is a highly efficient Energy Star V adapter which is required to operate at very low audible duty cycles when unloaded so as not to waste energy.	There is no safety issue related to the faint noise. In the event of a disconcerting noise, disconnect the mains adapter from the mains as soon as a battery charge is complete.
The charge level of the battery drops when the handheld is turned off.	The handheld was left in Standby mode or was left fully charged for a long duration.	Before storing the handheld, completely shut down the handheld (see Turning on and turning off the handheld, page 17). Then store the handheld as recommended (see Storing the handheld, page8).
	The handheld was left in suspend mode with a wireless radio turned on.	Before suspending the handheld, use the Wireless Manager to turn off all wireless radios. Make sure that all the radios are turned off after suspending the handheld. If a radio is still active, the Wireless LED is Solid blue or green.

6.2. Backlight issues

problem	cause	solution
The backlight does not come on when you tap the screen or press a button.	The backlight is not set to turn on in the Backlight control.	Tap / Settings / System / Backlight to view the Backlight control, and make sure that: the Turn on backlight when a button is pressed or the screen is tapped check box is selected.

| The screen is blank or hard to see. | The backlight is off. | Tap the screen or press a button. |
| | The backlight level needs to be adjusted. | Tap ⊞ / Settings / System / Brightness to view the Backlight control and then adjust the slider in the Brightness tab. |

6.3. Touch screen issues

Problem	Cause	Solution
The touch screen does not respond to finger or stylus taps.	The touch screen is incorrectly aligned.	Realign the screen(see page 28).
	The touch screen is locked.	To unlock the touch screen, slide the Unlock icon.
	The handheld has locked up.	Reset the handheld.(see Resetting the handheld, page 19)
The screen is blank.	The handheld is turned off.	Press the Power button to turn on the handheld.
	The battery is flat.	Recharge or swap the battery (see page 15 and 17)
	The handheld has locked up.	Reset the handheld (see Resetting the handheld, page 19)
The screen is hard to see.	The backlight level needs to be adjusted.	Open the brightness control and then adjust the backlight level (see Backlight and brightness, page 37).
	The backlight is off.	Tap the screen to turn on the backlight.
	You are unable to see parts of an application windows when the screen is in landscape orientation.	Some applications are designed for portrait orientation only. To view the entire application window, change the screen display to portrait. See Screen, page 36

6.4. Storage card issues

Problem	Cause	Solution
The handheld does not recognize a storage card.	The handheld does not support SDIO (SD input/output) cards.	Use an SD or SDHC card.
Files on the storage card are not visible or are not able to be opened.	Files have been encrypted on another device and have a *.menc* file extension.	Remove encryption from the files (see Encrypting files on storage cards, page 21).

6.5. Keypad issues

Problem	Cause	Solution
Pressing the application key does not activate the function shown on the tile above it.	The hardware application key has been programmed to run another program or to perform another action.	Do one of the following: ▪ Tap the touchscreen tile to activate the function shown on the tile. ▪ Re-program the application key to perform the same action as the touchscreen tile. To do this, tap ⊞ / Settings / Personal / Buttons, select the button to reprogram

6.6. Connection issues

Network connections

Problem	Cause	Solution
The connection with the	If you change the proxy	Make any changes to proxy

cellular phone suddenly ends.	settings of the handheld while connected to a cellular phone, the cellular phone ends the connection.	settings before connecting to a mobile device.
Unable to connect to another S7 SERIES handheld.	Data encryption settings are set incorrectly.	When setting up a peer-to-peer ad-hoc network with a WEP encryption, set a Network Key, rather than leaving the key blank to be provided automatically.

Windows Mobile Device Center

Problem	Cause	Solution
Windows Mobile Device Center will not connect to the handheld.	The connection is not initiated automatically.	In the Windows Mobile Device Center software on the office computer, select Mobile Device Settings / Connection Settings.
	The Windows Mobile Device Center software does not recognize the S7 SERIES handheld.	Restart the PC. Disconnect the handheld from the PC, reset it (see Resetting the handheld, page 19) and then reconnect it to the PC.
	The connection is not enabled in Windows Mobile Device Center on the PC.	In the Windows Mobile Device Center software on the PC, click Mobile Device Settings / Connection Settings. If you are using: ▪ a USB cable, make sure that the Allow USB connection check box is selected from the drop-down list. ▪ a Bluetooth connection, make sure that the correct port for Bluetooth is selected.

		Then open the Bluetooth control on the handheld. In the Devices tab, tap the partnership and in the services list make sure that the ActiveSync check box is selected.
	The connection is not enabled on the handheld.	On the handheld, tap / ActiveSync / Menu / Connections. Make sure that the Synchronize all PCs using this connection check box is selected, and that the correct option is selected.
	The handheld connection settings conflict with network settings or VPN client software.	If you are using a USB cable, use the USB to PC utility to change the connection method the handheld uses to connect to the Windows Mobile Device Center on the computer. Tap / Settings / Connections / USB to PC Utility. Clear the Enable advanced network functionality check box. The handheld stops using the default RNDIS method to connect to the Windows Mobile Device Center.

ActiveSync technology

Problem	Cause	Solution
ActiveSync technology will not connect to the handheld.	The connection is not initiated automatically.	In the ActiveSync technology dialog on the office computer, select File / Connection Settings and then tap Connect.
	ActiveSync does not recognize the S7 SERIES handheld.	Disconnect the handheld from the PC. Restart the PC. Reset the handheld (see Resetting the handheld, page 19) and then reconnect the handheld to the PC.

An incompatible version of ActiveSync technology is installed.	ActiveSync version 4.5 and later is compatible with the S7 SERIES handheld. If version 4.5 or later of the ActiveSync software is not installed on the PC, you can install it from the S7 SERIES Getting Started Disc. You can also download the latest version from the Microsoft website at http://www.microsoft.com/en-us/download/details.aspx?id=15
The connection is not enabled in ActiveSync on the computer.	In the ActiveSync technology dialog on the office computer, click File / Connection Settings. If you are using: ▪ a USB cable, make sure that the Allow USB connections check box is selected from the drop-down list. ▪ a Bluetooth connection, make sure that the correct port for Bluetooth is selected. Then open the Bluetooth control on the handheld. In the Devices tab, tap the partnership and in the services list make sure that the ActiveSync check box is selected.
The connection is not enabled in ActiveSync on the handheld.	On the handheld, tap [icon] / ActiveSync / Menu / Connections. Make sure that the Synchronize all PCs using this connection check box is selected, and that the correct option is selected.
The handheld connection settings conflict with network settings or VPN client software.	If you are using a USB cable, use the USB to PC utility to change the connection method the handheld uses to connect to ActiveSync on the computer. Tap [icon] / Settings / Connections / USB to PC Utility. Clear the Enable advanced network

functionality check box.

The handheld stops using the default RNDIS

method to connect to the ActiveSync technology.

Bluetooth wireless technology

Problem	Cause	Solution
The handheld cannot discover a nearby Bluetooth device.	The integrated Bluetooth radio is not activated.	The handheld's Bluetooth radio has been deactivated. If Bluetooth wireless technology is allowed where you are working, use the Radio Activation Manager software to re-activate the radio.
	The device is out of range.	Move the devices closer to each other and then scan again.
	Bluetooth wireless technology is not enabled on one or both devices.	Make sure that the Bluetooth radio is turned on, on both the handheld (see page40) and the other Bluetooth device.
	The device has not been made discoverable.	Make sure that the Bluetooth device has been made discoverable.
The COM port that you assigned to a serial port service is not available in your application.	The application cannot recognize ports if they are added after the application opens.	Exit from the application, add the port and then run the application again.
The Bluetooth connection fails while in use.	The Bluetooth device has moved out of range.	Move the devices closer to each other. The devices should reconnect automatically. If they do not, select the Bluetooth device in the Devices tab. Tap and hold the device name and then select Delete. Tap New to discover the device again.

	The Bluetooth radio has lost the connection.	Turn off the Bluetooth radio on the handheld and then turn on the Bluetooth radio (see page 39).
	Bluetooth file transfer interrupts the connection.	When you transfer large image or data files, other Bluetooth connections may stop responding. To avoid problems, close other Bluetooth connections before transferring large files.
An error message reports "Problem with Bluetooth Hardware".	The integrated Bluetooth radio may have been deactivated.	Use the Radio Activation Manager to reactivate the Bluetooth radio.

Wi-Fi connections

Problem	Cause	Solution
The "New Network Detected" notification does not appear automatically.	The Wi-Fi radio is off.	Tap the wireless icon in the Home screen or go to the Wireless Manager and make sure Wi-Fi is on.
	The handheld is out of range of the network.	Move to within range of the network, then tap ⬚ / Settings /Connections /Network Cards and then set up the connection.
The handheld cannot connect to a secure site. You cannot configure an Internet connection.	The date on the handheld is incorrect.	Check that the handheld has the date set correctly on the Home screen. If the date is incorrect, tap the clock icon on the Home screen and then adjust the date and time.
Within range of more than one network, you are not	The radio is connecting to the first network	Tap ⬚ /Settings /Connections /Wi-Fi. Tap and hold the network

connecting to the network you would prefer to use.	signal it has received.	you would prefer to use and then select Connect.
The "New Network Detected" notification appears but the tile bar and tile options are not displayed.	Some applications are not fully compatible with all features of the Windows Mobile 6.5 operating system.	Use the application buttons on the keypad, as they map to the tiles in the tile bar: ▪ To dismiss the notification, press the right application button on the keypad. ▪ To connect to the network, press the left application button. Alternatively, select a Windows Mobile application from the Start screen, such as the Home screen or File Explorer, and the tile bar and soft keys will be displayed correctly.
Wi-Fi is unavailable in the Wireless Manager.	The integrated Wi-Fi radio has been deactivated.	Use the Radio Activation Manager to reactivate the Wi-Fi radio.

Internal cellular modem connections

Problem	Cause	Solution
Can't download data.	Your account has no remaining credit.	Contact your cellular provider to ensure that your account has sufficient credit.
Can't connect.	The phone is turned off.	Turn on the phone using the Wireless Manager.
	The connection is incorrectly configured.	Check your APN and connection settings with your provider.
	Cellular service is unavailable.	Check that the phone is within range of receiving strong enough signals to connect. Move to a

		location with stronger cellular reception. Check with your cellular provider that coverage is available in your region.
Can't set up a connection.	SIM card is missing.	Insert SIM card.
	SIM card is locked.	Check the PIN security: tap [icon] / Settings / Personal / Phone, and select the Security tab.
	GPRS selection is incorrect for your cellular provider.	Check your settings: tap [icon] / Settings / Connections/Connections.

6.7. GNSS receiver issues

Problem	Cause	Solution
The handheld is not receiving GNSS positions.	The integrated GNSS receiver is not activated.	Use the Connect or Activate GNSS/GPS command in the field software to open the GNSS COM port and activate the integrated GNSS receiver.
	The GNSS COM port is already in use. Only one application at a time can have the port open.	Do the following ▪ Exit the software that is using the GNSS COM port and then retry in your application. ▪ Check that a GNSS application is not running in the background. Tap / Task Manager and then select and close (click End Task) any GNSS applications you are not using. ▪ Make sure that connections are not left in use by the GNSS Connector software; close the application when you are not using the connections.

Problem	Cause	Solution
The handheld	Wait for real-time is selected in	Check that the real-time correction source

is not receiving GNSS positions.	the GNSS field software and the integrated receiver is waiting to receive real-time corrections.	is setup correctly.
	External antenna connected but not receiving data.	The handheld can take up to two seconds to detect that an external antenna has been connected or disconnected.

6.8. Real-time DGNSS issues

Problem	Cause	Solution
The handheld is not receiving SBAS real-time corrections	The SBAS satellite is obstructed from view.	Check the location of the SBAS satellite in the Skyplot section of the GNSS field software, and if possible move to a different location.
	You are outside the WAAS, EGNOS, or MSAS coverage area.	Wide Area Augmentation System (WAAS) satellites are tracked in the Continental United States including Alaska, and in southern parts of Canada. European Geostationary Navigation Overlay Service (EGNOS) satellites are tracked in Europe. MTSAT Satellite-based Augmentation System (MSAS) satellites are tracked in Japan. If you have selected satellites that are not available at your location, you cannot use SBAS corrections.

Problem	Cause	Solution
The handheld is not receiving real-time corrections from	The external source is incorrectly connected to the real-time COM port.	In the Real-time Settings section of the GNSS field software, select the COM port that the real-time source is connected to.

the external	The port settings are	Change the port settings to match those used
real-time	incorrect.	by the external source.
correction source	No GNSS positions are available.	You cannot use real-time corrections until the GNSS receiver is computing positions. In the GNSS field software, make sure that the integrated GNSS receiver is activated, enough satellites are available, and that the satellite geometry (PDOP) is good enough to compute positions.

6.9 Recommended GNSS settings for maximum precision and productivity

The following table lists some of the factors that affect the precision of your data, and describes how to minimize the effect of atmospheric interference and poor satellite geometry.

Factor	Description	To maximize precision and productivity
Satellite shadow	Satellite shadow is when the line of sight between the GNSS receiver and satellites is partially or fully blocked by obstructions such as buildings, trees, or land masses. The effect of satellite shadow is a reduction in the number of satellites that the receiver is able to track. In general, the quality of your data increases	Tracking more satellites can help to improve satellite geometry and thereby improve accuracy. Ensure the integrated GNSS receiver gets a clear view of the sky as possible. Keep your body mass as far from the receiver as practical and do not crowd over the handheld. Use an external antenna if needed to elevate the position of the antenna.

Factor	Description	To maximize precision and productivity
	with the number of satellites being used to calculate the position.	
Multipath	Multipath is when GNSS satellite signals are reflected off nearby objects, such as buildings or cars, causing an erroneous signal to be received by the GNSS antenna. This can cause errors of several meters.	To reduce multipath, where possible collect data in an open environment away from large reflective surfaces and with a clear view of the sky.
Occupation time at a point	Occupation time is the time spent at a point logging GNSS positions.	For point features, remain at the feature and log a number of GNSS positions to obtain an averaged position. When collecting line and area features, collect them using averaged vertices.