

**TRIMBLE® NOMAD® 1050  
HANDHELD COMPUTER**

Version 1.00  
Revision A  
August 2015



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## Legal Notices

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## Release Notice

This is the August 2015 release (Revision A) of the Nomad 1050 documentation.

## Limited Warranty & Liability Limitations

This product is limited warranted against defects in materials and workmanship for twenty-four (24) months from the original date of purchase. Nomad accessories and peripherals are limited warranted against defects in materials and workmanship for ninety (90) days from the original date of purchase. If notice is received of such defects during the limited warranty period, the proven defective product(s) will either be repaired or replaced, at the manufacturer's option. Replacement products may be either new or like new.

The manufacturer does not warrant that the operation of the products will be uninterrupted or error free. If the product is not, within a reasonable time, repaired or replaced to a condition as limited warranted, the customer will be entitled to a refund of the purchase price upon prompt return of the product.

Limited warranty does not apply to defects resulting from (a) improper or inadequate maintenance or calibration, (b) software, interfacing, parts, or supplies not supplied by manufacturer, (c) unauthorized modification, or misuse, (d) operation outside of the published environmental specifications for the product, or (e) physical damage due to external causes, including accident, abuse, misuse or problems with electrical power. Water damage caused by improper installation of the Expansion Caps or I/O Boots is not covered by warranty. Removal of the back case voids the limited warranty. There are important seals that will break and the Nomad will no longer be waterproof.

To the extent allowed by local law, the above limited warranties are exclusive and no other warranty or condition, whether written or oral, is expressed or implied, specifically disclaiming any implied warranties or conditions of merchantability, satisfactory quality, and fitness for a particular purpose.

To the extent allowed by local law, the remedies in this limited warranty statement are the customer's sole and exclusive remedies. Except as indicated above, in no event will the manufacturer or its suppliers be liable for loss of data or for direct, special, incidental, consequential (including lost profit or data), or other damage, whether based in contract, tort, or otherwise.

## Notice for European Union customers

For product recycling instructions and more information, please go to: [www.trimble.com/Corporate/Environmental\\_Compliance.aspx](http://www.trimble.com/Corporate/Environmental_Compliance.aspx)

### Recycling in Europe:

To recycle WEEE (Waste Electrical and Electronic Equipment products that run on electrical power), call +31 497 53 24 30 and ask for the —WEEE Associate.

Or

Mail a request for recycling instructions to:

Trimble Europe BV  
c/o Menlo Worldwide Logistics  
Meerheide 45  
5521 DZ Eersel, NL



This product complies with international regulations for Restriction on Hazardous Substances Directive (RoHS)

### Windows Mobile:

<http://www.windowsphone.com/en-gb>

**Section 508 Support:** Download accessibility templates for our products. <http://www.trimble.com/Mobile-Computing/Section-508.aspx>



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# Safety Information

Before you use your Trimble product, make sure that you have read and understood all safety requirements.



**WARNING** – This alert warns of a potential hazard which, if not avoided, could result in severe injury or even death.

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**CAUTION** – This alert warns of a potential hazard or unsafe practice that could result in minor injury or property damage or irretrievable data loss.

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**Note** – An absence of specific alerts does not mean that there are no safety risks involved.

## Caring for your device

### Case vent hole

A Gore-Tex membrane is used at the vent hole to equalize the atmospheric pressure within the device and to prevent dust, water, and so on, from entering. The vent must remain clear of any obstruction. Damage to the touchscreen will occur if the vent is covered. Covering the vent with stickers and labels may void the warranty.



### Cleaning the device

Use a soft, dampened cloth with either water or a diluted mild detergent. If a mild detergent is used, ensure all soap residue is removed. Do not use any chemical cleaners and do not put the device in the dishwasher.

### Care of the touchscreen

Use only the included stylus or other devices specifically designed for use with touchscreens. DO NOT use the metal screwdriver end of the stylus on the touchscreen or it will scratch your screen. Only use the spring-tip end of the stylus.

The use of ballpoint pens, nails or other sharp objects to operate the touchscreen will scratch and/or damage the device. Keep the touchscreen clean by gently wiping the display, using a soft, dampened cloth with either clean water or glass cleaner.

Do not use abrasive cleaners directly on the display. Doing so may void your warranty. Use the screen protectors included with the device to keep the touchscreen clean and protected, following the instructions provided on the screen protector package.

## Mechanical shock

The device is designed to resist damage for drops up to 4 ft (1.22 meters). However, you should protect the display from impact, pressure, or abrasive substances that can scratch it or crack it. The device should not be dropped unnecessarily.

## Environmental considerations

The device's rugged design allows you to run your applications in harsh outdoor environments. Here are some considerations that will help you get the most out of the device when working in very wet, hot or cold conditions.

### Water

This device is designed to withstand accidental immersion. To maintain the device's water resistant seal, it is important that the cap screws are fastened. Keep the bottom boot and its connectors as dry as possible. If the boot does get wet, dry off the contacts as much as possible. If your device is subjected to corrosive environments (that is, salt water, dust, limestone, or corrosive liquids) we recommend rinsing in tap water daily to maximize the life of your product.

Removal of the back case torx screws or failure to reattach the cap or boot could cause leakage and may void your warranty.

### Temperature range

The operational temperature range is from -22 °F to +140 °F (-30 °C to +60 °C). The operational temperature range for the WWAN device is from -4 °F to +140 °F (-20 °C to +60 °C). Although the device is designed to be rugged, do not leave it in direct sunlight or in a vehicle in the sunlight for extended periods.

Batteries perform best at room temperature. The battery has a stable capacity as temperatures rise; however, the colder the temperature, the greater the reduction in available battery life. Under very cold conditions (-4 °F / -20 °C and below), the battery life will be shortened. To improve the battery performance in very cold conditions, consider carrying a fully charged, spare battery in a warm place (for instance, keeping them inside your coat). The device is designed for battery replacement to be easily done.

## Environmental specifications




TEMPERATURE	Operation: -22 °F to +140 °F (-30 °C to +60 °C) Storage: -40 °F to +158 °F (-40 °C to +70 °C)
WWAN devices	Operation: -4 °F to +140 °F (-20 °C to +60 °C) Storage: -4 °F to +122 °F (-20 °C to +50 °C)
SHOCK	MIL-STD-810G, Method 503.4
HUMIDITY	MIL-STD-810G, Method 507.4
WATER	IP68, sealed against accidental immersion (submersible to 1 meter for 30 minutes), MIL-STD 810G, Method 512.4, Procedure 1
DROP	MIL-STD-810G, Method 516.5, Procedure IV 26 drops @4 ft. (1.22 m) onto plywood over concrete; 6 drops @-22 °F (-30 °C), 6 drops @+140 °F (+60 °C)
SAND AND DUST	IP68, sealed against dust, MIL-STD 810G, Method 510.3, Procedure I & II
VIBRATION	MIL-STD 810G Method 514.5, Procedure I & II
ALTITUDE	MIL-STD 810G, to 15,000 ft (4572 m) at a nominal temp. of +73 °F (+23 °C), Method 500.5, Procedures I, II, & III
EMI	Meets FCC class B requirements
ROHS COMPLIANT	This product complies with international RoHS regulations

## Environmental hazards



The product complies with international RoHS regulations.

有毒有害物质和元素

### Toxic and hazardous substances and elements

部件名称 Part Name	铅 Lead (Pb)	汞 Mercury (Hg)	镉 Cadmium (Cd)	六价铬 Hexavalent Chromium (Cr6+)	聚溴联苯 Poly-brominated biphenyls (PBB)	聚溴二苯醚 Poly-brominated diphenyl ethers (PBDE)	
印制电路组件 Printed Circuit Assemblies	X	0	0	0	0	0	
显示 Display	X	0	0	0	0	0	
键盘 Keypad	X	0	0	0	0	0	
住房 Housing	0	0	0	0	0	0	
硬件 Hardware	0	0	0	0	0	0	

**Product Period does not include these items**

电池 Battery	X	0	0	0	0	0	
交流适配器 Power supply	X	0	0	0	0	0	
电缆 cable	0	0	0	0	0	0	
开始指南 Manual	0	0	0	0	0	0	
手带 Hand strap	0	0	0	0	0	0	
触控笔包 Stylus pkg.	0	0	0	0	0	0	
随带光盘 Companion CD	0	0	0	0	0	0	



## Hardware specifications

OPERATING SYSTEM	Windows® Embedded Handheld 6.5
CPU	1.0Gz, Texas Instruments DM3730
RAM (VOLATILE)	512 MB DDR SDRAM; ~10 MB reserved
FLASH STORAGE	8 GB onboard non-volatile NAND Flash; ~50 MB reserved
DISPLAY	480 x 640 pixel (VGA) 16-bit color TFT with LED backlight
KEYPAD	PDA or Data Numeric
BATTERY LIFE	15 hours continuous room temperature operation with default settings and no use of embedded radios
BATTERY CHARGING	4 to 4.5 hours to full charge
BATTERY CAPACITY	5200 mAh Li-Ion rechargeable
POWER SUPPLY	Cincon TR30RAM050. Output DC 5.0 V 4.0 A
POWER	Input: DC 5.0 V 4.0 A
I/O BOOTS	USB boot: Mini-USB client, USB host, Audio Jack, Power Serial boot: Mini-USB client, RS-232 serial (9-pin), Power Docking boot: Docking pads, Mini-USB client, USB host, Audio Jack, Power
SOUND	Integrated sealed speaker and microphone. Audio jack is for a headset with mono speaker and microphone
EXPANSION PORTS	SD slot, USB host Color Digital Camera: SD slot, Camera (5 megapixel) Barcode Scanner & Camera: SD slot, Scanner, Camera
INTEGRATED WIRELESS	All device models have integrated Bluetooth® Optional Wireless WAN, Wi-Fi and GPS

## Regulatory information

### U.S.A.

This device complies with Part 15 of the FCC Rules. It is tested to comply with FCC standards for home or office use. 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.

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 to 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.

### Canada

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications. Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

## Exposure to Radio Frequency (RF) Signals

Your device contains a radio transmitter and receiver. The radiated output power is far below the international radio frequency exposure limits. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on the safety standards previously set by international standards bodies:

- American National Standards Institute (ANSI) IEEE. C95.1-1992.
- National Council on Radiation Protection and Measurement (NCRP). Report 86. 1986.
- Int'l Commission on Non-Ionizing Radiation Protection (ICNIRP) 1996.

- Ministry of Health (Canada), Safety Code 6. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

Use of unauthorized or modified antennas may impair call quality and damage the phone, causing loss of performance. To assure optimal phone performance and ensure human exposure to RF energy is within the guidelines set forth in the relevant standards; always use your device only in its normal-use position. Avoiding contact with the antenna area when the phone is IN USE optimizes the antenna performance.

## Declaration of conformity

### Europe

According to ISO / IEC Guide 22 and EN 450 14

**Manufacturer's Name:** Trimble Navigation Limited.

**Manufacturer's Address:** PO Box 947, Corvallis, OR 97339 USA

Declares, under our sole responsibility, that the product:

<b>Product Name:</b>	Handheld Data Collector
<b>Model Number:</b>	Nomad
<b>Regulatory Name:</b>	Ranger/TSC3
<b>Product Options:</b>	ALL

#### Conforms to the following Product Specifications:

R&TTE Directive 1999/5/EC ETSI EN 300 328 V1.6.1 (2004) ETSI EN 301 489-1 V1.5.1 (2004)  
ETSI EN 301 489-17 V1.2.1 (2002)  
EN 55022 (1998) CISPR 22 (2005)  
EN 55024 (1998), Amendments A1:2001, A2:2003  
EN 60950-1 (2001)  
CFR 47, Part 15, Subpart B  
EN 61000-3-2 (2000)  
EN 61000-3-3 (2001)  
EN 61000-4-3 (2002)  
EN 61000-4-2 (2001)  
EN 61000-4-4 (2004)  
EN 61000-4-5 (2001)  
EN 61000-4-6 (2004)  
EN 61000-4-11 (2004)

## Supplementary information

In addition, the product is battery powered and the power supply provided with this product has been certified to IEC 60950 +A1, A2, A3, A4, A11.

As manufacturer, we declare under our sole responsibility that the equipment follows the provisions of the Standards stated above.

Corvallis, OR USA

**Importer of Record:** Trimble European Regional Fulfillment Center, Logistics Manager, Meerheide 45, 5521DZ Eersel, Netherlands.

**CAUTION:** Only approved accessories may be used with this equipment. In general, all cables must be high quality, shielded, correctly terminated and normally restricted to two meters in length. Power supplies approved for this product employ special provisions to avoid radio interference and should not be altered or substituted.

Unapproved modifications or operations beyond or in conflict with these instructions for use may void authorization by the authorities to operate the equipment.

## Carrying the device

For body worn operation, this device has been tested and meets the FCC RF exposure guidelines when used with accessories supplied or designated for this product. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

SAR Frequency (MHz)	Highest Multiband SAR Value (1g mW/g)
824-849	1.290
1850-1910	0.521
2400-2483.5	0.099

## Safe use of the device

### Repair

Do not attempt to dismantle the device for repair. There are no user-serviceable parts inside. For service, use the contact details listed on the cover of this manual or contact your local dealer.

### Battery safety

Lithium-Ion batteries are classified by the U. S. Federal Government as non-hazardous waste and are safe for disposal in the normal municipal waste stream. These batteries contain recyclable materials and are accepted for recycling. Dispose of used batteries in accordance with local regulations.

- Do not disassemble or open, crush, bend or deform, puncture, or shred the battery. There are no user-serviceable parts in the battery pack.
- Do not modify or remanufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, or expose to fire, explosion, or other hazard. Do not expose to temperatures above +158 °F (+70 °C).
- Use only the battery for the system for which it was specified.
- Only use the battery with a charging system that has been qualified with the system per this standard. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazard.
- Do not short circuit a battery or allow metallic or conductive objects to contact the battery terminals.
- Replace the battery only with another battery that has been qualified with the system per this standard. Use of an unqualified battery may present a risk of fire, explosion, leakage, or other hazard.
- Promptly dispose of used batteries in accordance with local regulations.
- Battery usage by children should be supervised.
- Non approved batteries will not function in the device.
- Avoid dropping the device or battery. If dropped, especially on a hard surface, and the user suspects damage to the battery, take it to a service center for inspection.
- Improper battery use may result in a fire, explosion, or other hazard.
- In the event of a battery leak, do not allow the liquid to come in contact with the skin or eyes. If contact has been made, wash the affected area with large amounts of water and seek medical advice.
- Seek medical advice immediately if a battery has been swallowed.

## Power supply safety

Use only AC and vehicle adapters intended for the device. Other external power sources may damage your product and void the warranty. Certification of this Class III product is only valid with the power supply - Cincon TR30RAM050.

- Ensure the input voltage on the adapter matches the voltage in your location. Ensure the adapter has prongs compatible with your outlets.
- The power supply is designed for indoor use only. Avoid using the power supply in wet areas.
- Unplug the power supply from power when not in use.
- Do not short the output connector.

## Telecommunications & Internet Association (TIA) information

**Hearing Aids:** Some digital wireless phones may interfere with some hearing aids. In the event of such interference, you may want to consult your service provider, or call the customer service line to discuss alternatives.

**Pacemakers and Other Medical Devices:** The Health Industry Manufacturers Association recommends a minimum separation of six inches be maintained between a handheld wireless phone and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with the independent research by and recommendations of Wireless Technology Research. Persons with pacemakers should use the ear opposite the pacemaker to minimize the potential for interference. If you have any reason to suspect that interference is taking place, turn the phone OFF immediately.

If you use any other personal medical device, consult the manufacturer of your device to determine if they are adequately shielded from external RF energy. Your physician may be able to assist you in obtaining this information.

Turn the phone OFF in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

# Getting started

- Parts of the handheld
- Installing the battery
- Charging the battery
- Attaching the hand strap
- Applying the screen protector
- Turning the device on and off
- Selecting the language
- Aligning the screen
- Setting the time zone
- Setting a password (optional)
- Power button features
- Using the Power menu
- Notification LEDs
- Using Replace Battery/SIM mode
- Inserting and removing a SIM card
- Resetting the device

This user guide explains how to get started with the Trimble Nomad® 1050 handheld computer.

The Nomad handheld computer's rugged design enables you to work in harsh outdoor environments; you can operate the device in blazing heat, subzero cold, driving rain or dusty job sites—places you could not take a consumer-grade handheld computer.

**Note** – *Not all the features discussed in this manual apply to every model, as some of the features are offered as options. If the feature described does not apply to your device, disregard that section.*

## Parts of the handheld

### Front view (with numeric data keypad)



- ① Expansion cap
- ② Notification LED
- ③ Left application soft key\*
- ④ Start button\*
- ⑤ Tab button\*
- ⑥ Shift button\*
- ⑦ Power button
- ⑧ Number pad and navigation keys
- ⑨ Enter button
- ⑩ Today button\*
- ⑪ Backspace button\*
- ⑫ OK button\*
- ⑬ Right application soft key\*
- ⑭ Battery LED

\*If your device has the following features, these buttons / keys are assigned as follows:

- Left application soft key = Flashlight
- Right application soft key = Scanner
- Today button = Camera

See [Using the keypad, changing button assignments, page 36](#) for information on assignable application keys.



## Front view (with PDA keypad)



\*See [Using the keypad, changing button assignments](#), page 36 for information on assignable application keys.

## Back view (without hand strap)



## Top view - camera, scanner, USB host expansion caps

The Nomad 1050 handheld is available in the following configurations:

- includes an integrated camera and a microSD memory card slot.
- Includes an integrated camera, barcode scanner, and a microSD memory card slot.
- includes a USB host slot and a Secure Digital (SDIO) memory card slot\*.

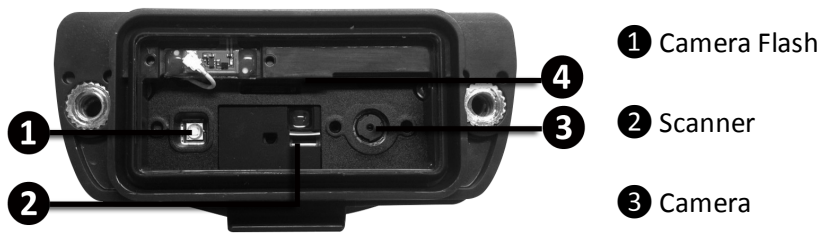
To access the memory card slot / USB host slot, use the Philips screwdriver end of the stylus or a small #1 Philips head screwdriver to rotate, counter-clockwise, the two quarter-turn fasteners on the the expansion cap, then remove the expansion cap.



(See [Using memory cards](#), page 52 for information on inserting a memory card).

## 1 Getting started

Depending on the configuration of the device, it will have the following:



\* USB Host slot and Secure Digital (SDIO) memory card slot not shown.

## Bottom view: I/O boots

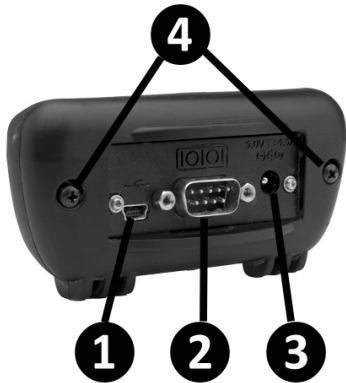
The different boots available for the device can be swapped by loosening the screws pointed out in the images below.

### USB I/O boot



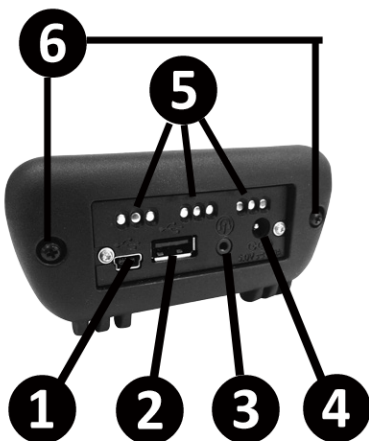
- ① Mini USB client
- ② USB host
- ③ Audio jack
- ④ External power
- ⑤ Screws to swap boot

## Serial I/O boot



- ① Mini USB client
- ② Serial port
- ③ External power
- ④ Screws to swap boot

## Docking I/O boot



- ① Mini USB client
- ② USB host
- ③ Audio jack
- ④ External power
- ⑤ Docking pads
- ⑥ Screws to swap boot

- All boots have a mini-USB client that uses a standard USB cable (included with the device). The mini-USB port can be used to connect to a desktop computer.
- The USB I/O Boot also has a USB host port (to connect to USB client devices) and an audio jack that is wired for a headset with a mono speaker and microphone combination (it is not for stereo headsets).

**Note** – Many USB host peripheral devices supported by personal computers (Microsoft® Windows XP, Microsoft Vista®, Microsoft Windows 7, etc.) are not supported by this device. Mass storage devices (for example, memory drives) and USB Human Interface Devices (HID) (for example, keyboards) are supported. Before purchasing a USB peripheral, check with the manufacturer to ensure that it will operate with one of these natively supported USB classes. Some devices have no applicability in Windows Embedded Handheld. For example, it does not

## 1 Getting started

*make sense to use a mouse with the device because it is designed to be touchscreen- or keypad-operated.*

- The serial I/O Boot also has an RS-232 connector for use with serial devices. COM1 is always reserved in software for the 9-pin port, even if you do not have a device with a serial boot.

**Note** – Please read the warranty and safety information in this manual prior to using the device.

## Installing the battery

The Lithium-Ion (Li-Ion) battery and battery cover are shipped detached from the device.

1. Insert the battery into the compartment so the connectors on the battery mate with the pins in the battery compartment. Press firmly.
2. Place the battery door over the battery, with the flat side of the battery door at the top.
3. Remove the rubber cap from the end of the stylus to expose a Philips screwdriver, or use a small #1 Philips head screwdriver to finger-tighten the four screws in the battery door.

**Note** – DO NOT use the screwdriver part of the stylus on the touchscreen or it will scratch your screen. Only use the spring-tip end of the stylus.

**IMPORTANT:** Fully charge the battery once it is installed in the device. The battery gauge may not be accurate until it has been fully charged at least once, which should take approximately 4.5 hours. The battery LED (top right front of the device) turns green when it is fully charged.



## Charging the battery

The battery can be charged in the device, or outside of the device with an external battery charger (sold separately, as an accessory).

The recommended temperature range for charging the battery is between +32 °F and +113 °F (0 °C and +45 °C). If the battery temperature is outside of this range, the battery will not charge.

The power supply that ships with the device has four international plugs that fit almost every electrical outlet in the world. To charge the battery in the device:

## 1 Getting started

1. Connect the appropriate plug to the power cord and attach the power supply.
2. Plug into an electrical outlet and plug the barrel end of the power supply into the device.

The battery will charge fully in about 4.5 hours. A full charge is indicated by the battery LED (right side of the device) turning green.



---

**WARNING** – 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 can 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 Trimble 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 Trimble equipment that is specified to use it.
  - Use the battery only for its intended use and according to the instructions in the product documentation.
- 

## Battery life

The Lithium-Ion (Li-Ion) battery life is dependent upon the application and operating environment.

Tips for extending the battery life:

- Keypad backlight: The default is OFF. Using this backlight could reduce your battery life by up to 25%.
- Display backlight: Tap  / *Settings* / *Backlight* to minimize the amount of time the backlight stays on, and dim it to only as bright as required to view the display.  
For information on changing the backlight settings, see [Adjusting the display and keypad brightness, page 49](#).
- Wi-Fi, Bluetooth, camera, or barcode scanner: If your device comes with any of these options installed, use ONLY when necessary. Turn off when not needed.
- Cold temperatures: Keep the device as warm as possible. If feasible, keep it inside your coat or a vehicle when not in use.
- GPS: Ensure that the GPS-aware applications that communicate with the GPS are closed when not in use. See [Using the GPS receiver, page 75](#) for more information.
- Expansion ports: Select low-power consumption Micro SD cards and use them only when necessary.
- Auto features: Tap  / *Settings* / *Power* / *Advanced*. To conserve battery power, specify your device to turn off in a short time if not in use.

Other factors that may have some impact on battery life include heavy usage of the Bluetooth radio and heavy processing by the CPU, but these factors are typically less significant.

## Attaching the hand strap

Attach the hand strap to the back case, as shown.



## Applying the screen protector

To keep the touchscreen clean and protected, apply the screen protector following the instructions provided in the screen protector package. Unprotected screens become scratched and scuffed over time. Screen protectors extend the life of the display by providing a protective and replaceable barrier between abrasive grit and the surface of the display.

Trimble recommends that you replace the screen protector every 2 months, or more often if heavily used.

Screen damage associated with not using a screen protector, not using the approved screen protector or failure to follow the instructions for installation may void the product warranty.

## Turning the device on and off

To turn the device on, press the **Power** button until the screen lights up.

To place the device in Sleep mode, when the device is on, press and release the **Power** button.

To completely shut down the device, press and hold the **Power** button for 1-2 seconds (if you hold it for longer, the [device will reset](#)), then tap **Shutdown**. For more information, see [Using the Power menu, page 25](#).

## Selecting the language

The first time the device is turned on or if the firmware is re-loaded, you may need to select the language you want to use on the device.

## 1 Getting started

**IMPORTANT:** Carefully choose the correct language because all other languages are removed after this selection. Contact technical support if you select the wrong language.

1. Because the touchscreen is not yet enabled, use the up or down arrows to highlight the required language and press **Enter** to select it.



2. Use the up or down arrows to highlight the checkbox.



3. Press **Enter** to place a checkmark in the box for **Yes**.
4. Use the up or down arrows to highlight **NEXT** and press **Enter**.
5. Wait while the device is configured to the selected language. It will restart when finished.

**Note** – Only Microsoft applications and messages will be translated into languages other than English. All other error messages, notifications and other applications may appear in English.

## Aligning the screen

When you use the device for the first time, the message Tap the screen to set up your Windows Mobile-based device appears.

The align screen message displays a series of targets to tap in sequence on the screen. Use the stylus to tap the targets firmly and accurately. Sometimes you need to repeat the alignment procedure more than once to provide a satisfactory alignment.

**Note** – You can align the screen at any time. When the device is on, press and hold the **Power** button for 1-2 seconds (if you hold it for longer, the device will reset), then tap **Align Screen**.

## Setting the time zone

When you use the device for the first time, you are prompted to select your time zone and set the date and time. Select your time zone location, set the time and date to the correct values and tap **Next**.



To change these settings at any time, tap  / *Settings / Clocks & Alarms*, then select the *Time* tab.

## Setting a password (optional)

When you use the device for the first time, you are prompted to enter a password. You do not have to provide a password for the device unless you are concerned about unauthorized use. If you do not want to set a password, tap **Skip**.

If you opt for password protection the password must be entered every time the device is turned on or the **Power** button is pressed to resume operation.

**MAKE SURE YOU REMEMBER THE PASSWORD.** The only way to recover from a forgotten password is to factory-reset the device, which will erase all application software, licenses, settings, and data on the device. See [Resetting the device, page 29](#).

To change the password or to set one later if you skipped this step, see [Locking the device, page 34](#).

## Power button features


The **Power** button turns the device on and off and performs a number of other functions.

- **Turn backlight on/off:** To toggle the backlight on or off, hold down the **Power** button for approximately 1 second. Once toggled off, the backlight will stay off until it is toggled back on. Screen taps and key presses will not cause it to turn on.
- **Power menu:** Hold down the **Power** button for about 3 seconds to display a countdown. Continuing to press the **Power** button will cause a reset when the countdown reaches zero. If you release the **Power** button while the countdown is proceeding, the Power menu displays. See [Using the Power menu, page 25](#).

**Note** – *If the countdown or the Power menu does not appear when the Power button is held down, continue to hold down the **Power** button for at least 8 seconds to reset it.*

## Using the Power menu

To open the *Power menu*, when the device is on, press and hold the **Power** button for 1-2 seconds (if you hold it for longer, the device will reset). From the *Power menu* you can:

- clean the screen. Tap **Clean screen**; the touchscreen is disabled. When you have finished, press the Enter button  to re-enable the touchscreen.
- align the screen. Tap **Align screen**. See [Aligning the screen, page 24](#).

## 1 Getting started

- place the handheld in Replace Battery/SIM mode. See [Using Replace Battery/SIM mode, page 26](#).
- shutdown the handheld to power it off completely. Tap **Shutdown**.
- reset the handheld. See [Resetting the device, page 29](#).

## Notification LEDs

There are two LEDs at the top of the device that provide status information:

Right LED	Function
Off	On battery power
Solid yellow	Charging on power supply
Solid green	Fully charged on power supply
Flashing yellow	Battery problem during charging (temperature out of range, defective or missing battery)

Left LED	Function
Off	No notifications, phone off
Flashing yellow	Microsoft notifications
Flashing green, rapid flash	Cellular modem on, network available
Flashing green, slow flash	Cellular modem on, data transfer in progress

**Note** – If the left LED is flashing green, battery power is being consumed due to the cellular modem being turned on.

## Using Replace Battery/SIM mode

The Nomad 1050 handheld has a *Replace Battery/SIM* mode that enables you to replace a discharged battery with a charged battery without turning the device off, or to remove the battery for a short time if you need to insert or remove a SIM card.

If the battery runs low while you are working, you can swap the battery without the need to close files or turn the device off, and can resume working straight away.

The device saves enough power in *Replace Battery/SIM* mode, so you can swap the battery within approximately one minute without triggering a [device reset](#).

## 1 Getting started



**WARNING:** If the saved power runs out before the new battery is installed, the device will reset. This will not impact saved data, programs or configuration, however unsaved data will be lost and the time settings will need to be reset.

---



**WARNING-** The device is not sealed from water and dust when the battery is removed. Only remove the battery for short periods of time and do not remove the battery in conditions where water or dust is likely to enter the device.

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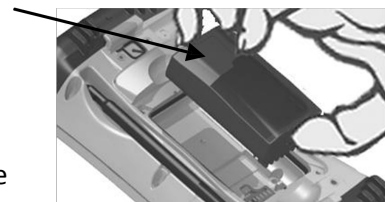


**CAUTION** - The device has enough power to keep running for approximately 1 minute with the battery removed. If the power drains before the battery is restored the device will shut down. Trimble recommends saving open files before swapping the battery.

---

To change a battery in *Replace Battery/SIM* mode, or insert or remove a SIM card:

1. Close open applications and save data.
2. Remove the hand strap from the device. (See [Attaching the hand strap, page 23](#)).
3. If you are replacing the battery, ensure that you have a spare battery close by with sufficient charge to keep working. If you are inserting a SIM card, make sure you have the SIM card close by.
4. Press and hold the **Power** button for 1-2 seconds (if you hold it for longer, the device will reset; see [Resetting the device, page 29](#) for more information).
5. Tap **Replace Battery/SIM**, then tap **Yes**. Wait for the Power LED to stop flashing and the screen to go blank.
6. Use the supplied stylus or a small #1 Philips head screwdriver to loosen the four screws in the battery door.
7. Remove the battery from the device.
8. If required, remove or insert a SIM card. (See [Inserting and removing a SIM card, page 28](#)).
9. Replace the battery with a new freshly charged one (or with the one you removed if it still has charge / you only removed it to insert or remove a SIM card).
10. Use the stylus or screwdriver to finger-tighten the four screws.
11. Replace the hand strap.
12. Press the **Power** button to resume working on the handheld.



## Inserting and removing a SIM card



**WARNING** - Static electricity can harm electronic components inside your 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.



**CAUTION** - The SIM card and its contents can be easily damaged by scratches or bending. Use caution when inserting or removing the card.

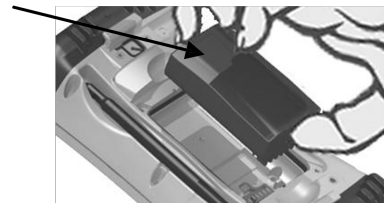


**CAUTION** - The presence of any dust or moisture in the SIM card slot may adversely affect the device and void your Trimble warranty. To prevent dust or moisture entering the SIM card slot:

- When inserting or removing a SIM card, place the handheld on a dust-free indoor surface.

1. Remove the hand strap from the device. (See [Attaching the hand strap, page 23](#)).
2. If the device is on, close any open applications and save data. Then place the device in *Replace Battery/SIM* mode:
  - a. Press and hold the **Power** button for 1-2 seconds (if you hold it for longer, the device will reset; see [Resetting the device, page 29](#) for more information).
  - b. Tap **Replace Battery/SIM**, then tap **Yes**. Wait for the Power LED to stop flashing and the screen to go blank.
3. Use the supplied stylus or a small #1 Philips head screwdriver to loosen the four screws in the battery door.

4. Remove the battery from the device.



5. Slide the silver SIM carriage to the unlocked position (to the right).



## 1 Getting started

6. Gently open the hinged SIM carriage door, and place the SIM card (purchased from your cellular service provider) into the slot. The golden contacts should be facing down. Also ensure that the notched corner aligns with the angled corner on the SIM carriage.



7. Close the SIM carriage and then slide it to the locked position (to the left).

8. Re-insert the battery.

9. Place the battery door over the battery, with the flat side of the battery door at the top of the device. Use the stylus or screwdriver to finger-tighten the four screws.

10. Re-attach the hand strap.

For information on configuring a cellular connection, see [Configuring the cellular connection](#), page 64.

To remove the SIM card:

1. Follow steps 1 to 5 above.
2. Gently slide the card out of the slot.
3. Follow steps 7 to 10 above.

## Resetting the device

If something is not working as expected, try closing and reopening the application you are working in, or restarting or resetting the device.

To force an application to close, tap  / *Task Manager*. Select the application you want to close, then tap **End Task**.

If you cannot force the application to close, or if closing and restarting the application does not fix the problem, reset the device. This forces the operating system to reboot, but may cause unsaved data to become corrupted. A reset should be done only if the device is otherwise unresponsive.

To perform a reset:

1. Press and hold the **Power** button to display a countdown.
2. Continue to hold the **Power** button until it counts down to zero, followed by a brief appearance of the boot screen.
3. Release the **Power** button.

## 1 Getting started

If resetting the device as described above does not help, you may need to completely restore the device back to its original settings by performing a factory reset. You should only restore the device to factory settings if all other attempts to solve the problem fail. Restoring to factory settings will erase all applications and data stored on the internal storage on the device.

To factory-reset the device:

1. Follow steps 1 to 3 as described above to reset the device.
2. Press the **Power** button and right menu key at the same time.
3. Follow the on-screen instructions to initiate a factory reset.

## Using the Nomad 1050 handheld

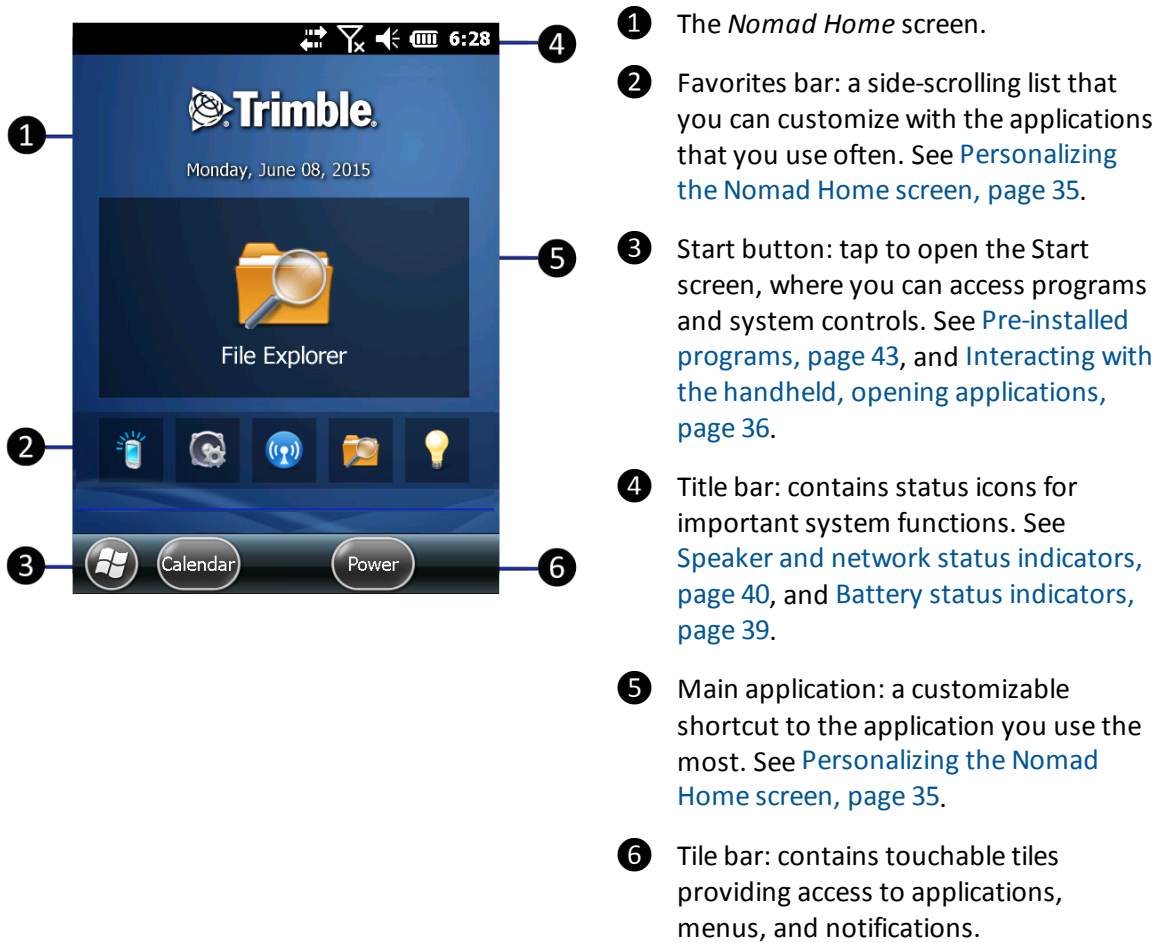
- The main screens
- Locking the device
- Personalizing the Nomad Home screen
- Using the Widows Home screen
- Interacting with the handheld, opening applications
- Using the keypad, changing button assignments
- Checking the level of battery power
- Calibrating the battery
- Battery status indicators
- Speaker and network status indicators
- Pre-installed programs
- Changing screen settings
- Using the on-screen keyboard
- Writing or drawing on the screen
- Making a recording
- Sounds and notifications
- Adjusting the display and keypad brightness
- Installing applications onto the handheld
- Storing data
- Using E-mail

The device is powered by the Windows Embedded Handheld 6.5 Professional operating system. This chapter describes the main features of the handheld and this generation of the Windows Embedded Handheld operating system.

## The main screens

### The *Nomad Home* screen

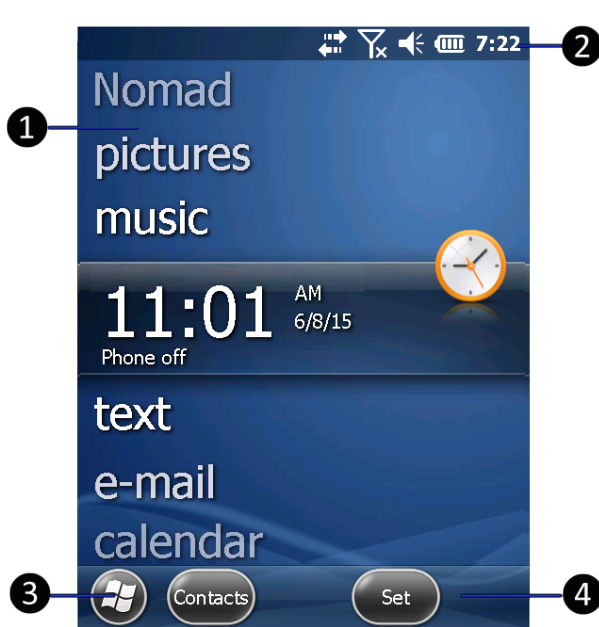
The handheld device is set to show the *Nomad Home* screen:



If required, you can change the *Home* screen to show the default Windows *Home* screen (see [Personalizing the Nomad Home screen, page 35](#)).



## The Windows Home screen



- 1 Home screen: provides access to the key functions on your handheld. Scroll, and tap any item to open it.
- 2 Title bar: contains status icons for important system functions.
- 3 Start button: tap to open the Start screen, where you can access programs and system controls.
- 4 Tile bar: contains touchable tiles providing access to applications, menus, and notifications.

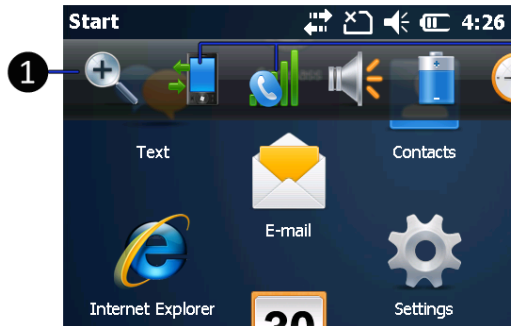
## The Start screen



- 1 Start screen: tap any item on the screen to open it.
- 2 Lock device: tap to lock the screen. See [Locking the device, page 34](#).


## The pull-down list

You can access the pull-down list from the *Home* screen or the *Start* screen.



- 1 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.
- 2 Connectivity icons: tap either icon to access the Wireless Manager.

## Locking the device

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 the buttons do not respond until the handheld is unlocked.

Communication with external devices such as a GPS receiver, or external sensors used by GPS field software, is not interrupted by locking the handheld. This means that you can keep using the GPS 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 GPS receiver so that you can continue recording GPS positions.

The lock screen provides multiple unlock sliders for different applications, when there are new notifications. For example, if a new e-mail has arrived, an e-mail unlock slider takes you straight to the e-mail.

To unlock the device, tap **Unlock**, then tap *Unlock* on the screen.

You can also help to keep your data secure by requiring a password each time the handheld is

turned on. Tap  / *Settings* / *Lock* to set a password or to change password settings.

Make sure you remember the password! The only way to recover from a forgotten password is to factory-reset the handheld (see [Resetting the device](#), page 29). This will erase all application software, licenses, settings, and data on the device.

## Personalizing the Nomad Home screen


The *Home* screen provides fast access to the applications and device settings that you use the most frequently.

To open an application from the *Home* screen, tap it. See [Interacting with the handheld, opening applications, page 36](#).

By default, the Nomad 1050 handheld *Home* screen is set to the Nomad *Home* screen. If required, you can change this to the Windows *Home* screen (see [Personalizing the Nomad Home screen](#) below).

The Nomad *Home* screen provides fast access to system information, your most-used application (the Main application), and other favorite applications. You can personalize the shortcuts that appear in the Main application and Favorites areas of the *Home* screen.

To choose a custom shortcut for the Main application and to set shortcuts on the Favorites bar:

1. Tap  / *Settings* / *Home*.
2. Select the *Items* tab. Nomad Home should be selected as the default *Home* screen.
3. Tap **Options....** From the list of installed applications, select the application that you want to be the Main application. Only applications that are installed on the system memory can be used as the Main application. Tap **Next**.
4. Select as many shortcuts as required for the Favorites bar. Tap **Next**.
5. Tap the up and down arrows to customize the order of items in the Favorites bar.
6. Tap **Apply**, then tap **Ok** to close the *Items* tab.

## Using the Windows Home screen

To use the Windows *Home* screen rather than the default Nomad *Home* screen:

1. Tap  / *Settings* / *Home*.
2. Select the *Items* tab. Select Windows Default as the default *Home* screen.


## Interacting with the handheld, opening applications

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 or your finger 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 or your finger on the screen and drag across the screen to select text and images. Drag in a list to select multiple items.
Flick / swipe	Flick / swipe the stylus or your finger over the screen to scroll a page or a list up or down.

### Using the Nomad Home screen and the Start menu

You can open applications from the *Home* screen or the *Start* menu. All applications installed on the handheld are accessible from the *Start* menu. The Nomad *Home* screen is a launcher for your most common applications and settings.

To go to the *Home* screen, tap . For more information, see [The main screens, page 32](#), and [Personalizing the Nomad Home screen, page 35](#).


To open an application, tap it.

To see other shortcuts on the *Home* screen Favorites bar, swipe the scrolling list left or right.

If at any time the touch screen does not respond correctly to stylus taps or your finger, realign it. For more information, see [Aligning the screen, page 24](#).

### Using the keypad, changing button assignments


By default, the buttons on the device's physical keypad are set to the following:

- the left soft key is assigned to the flashlight, if the device has an integrated camera.
- the right soft key is assigned to the scanner, if the device has an integrated barcode scanner.
- the  button opens the Camera application and is then used to focus the camera.
- the yellow function button (sticky FN) accesses the actions with yellow markings, such as the navigation arrows.


If required, you can program the soft keys and some other buttons to perform a customized action, such as:

- Run a selected application, for example Messaging or Calendar.
- Act as a software button, for example an OK/Close button or a scroll button.

To assign a custom action to a button and set keypad options:

1. Tap  / *Settings / Personal / Buttons*.
2. Specify an action for a button:
  - a. Tap the *Program Buttons* tab. The list of assignable buttons is shown on the left hand side, with the program that is assigned by default on the right.
  - b. Tap a button in the list to select it.
  - c. 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.
  - d. Tap **OK**.
3. Change keyboard options for the sticky function keys. Tap the *Keyboard Options* tab, then select as required:
  - Auto release: when you press and release the yellow function button, then press a button with a yellow marking, its "yellow" function applies to one press only; it then goes back to its default function as marked on the button.
  - Manual release (the default setting): when you press and release the yellow function button, it is "on" until you press it again to turn it 'off'. So when you press a button with a yellow marking, its "yellow" function applies until you press the **Function** button again.
  - Disabled: To use the "yellow" function of any of the buttons with a yellow marking, you must press and hold the yellow **Function** button.
  - Play Sticky Key Sounds: Enable or disable as required to play or mute sticky key sounds.
4. Tap **OK**.

## Checking the level of battery power

To check the level of battery power remaining at any time while the device is running, tap  / *Settings / Power*. The *Battery* tab shows the approximate battery power remaining.

Tap the *Advanced* tab to choose the settings for automatically turning off the device when not in use.

Tap the *Calibration* tab to see if battery calibration is recommended. For more information, see [Calibrating the battery, page 38](#).

## Conserving power


Trimble recommends that you do the following to reduce power consumption:

- Set the backlight to automatically turn off when the device is idle for a specified time. For more information, see [Adjusting the display and keypad brightness, page 49](#).
- Reduce the brightness setting for the backlight. For more information, see [Adjusting the display and keypad brightness, page 49](#).
- Turn off the integrated Bluetooth and Wi-Fi radios, and the device's modem, whenever you are not using them. For more information, see [Turning on and turning off the wireless radios, page 60](#).

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


## Calibrating the battery

The battery has an internal gauge that provides an estimate of the amount of energy in the battery as it charges and discharges. If the battery is showing inaccuracy in the power gauge or large jumps in capacity, (for example, the battery charge is showing as 50% but goes flat shortly thereafter) it may need calibration.

1. Tap  / *Settings* / *Power* / *Calibration*. A message shows Calibration recommended or Calibration not necessary. If calibration is recommended or the battery is reporting inaccurately, do the following:
2. Connect the device to mains power. The device **MUST** stay connected to mains power during the calibration or you may need to restart the process.
3. Ensure the temperature is between +32 °F and +113 °F (0 °C and +45 °C) while charging.
4. Tap **Start Calibration**.

During the calibration process, the **Power** button is disabled temporarily and the backlight is turned up to 100%.

It takes up to 25 hours to complete the calibration. When finished, a notification will state Calibration is complete. Trimble recommends that you do not use the device during the calibration







process. If you need to stop the calibration process, tap  / *Settings* / *Power* / *Calibration* / *Stop Calibration*.

You may see an error message during the calibration process:

Error message	Solution
Battery is not charging, aborting Battery temperature may be out of range.	Wait until battery temperature settles and try again.
Discharge became invalid, restarting.	Calibration will restart itself.
AC power is in an unknown or uncontrolled state; aborting	Plug in device and restart calibration. Try a different power supply and restart calibration. If it continues to fail, have the device serviced.

## Battery status indicators

The battery charging icon in the Title bar at the top of the screen shows one of the following icons to denote the battery charge status:



Icon	Description	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

## Speaker and network status indicators



Status indicators that appear in the title bar at the top of the screen are as described below.

### Speaker status indicator







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

Icon	Description
	Speaker is On
	Speaker is Off












### Network and modem status indicators







The network and modem status icons on the title bar show the status of each radio. You can tap the title bar and then on the pull-down list tap the  or  icon to open the Wireless Manager (see [Using the Wireless Manager, page 60](#)).

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

Icon	Description
	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
	Bluetooth radio is available
	Wi-Fi radio is on but not connected





























Icon	Description
	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
<b>3G</b>	UMTS network is available
	UMTS network is connecting
	UMTS connection is active
<b>3G+</b>	3G+ network is available















Icon	Description
<b>A</b>	Analog network is available
<b>E</b>	EDGE network is available
	EDGE network is connecting
	EDGE connection is active
<b>G</b>	GPRS network is available
	GPRS network is connecting
	GPRS connection is active
<b>H</b>	HSDPA network is available
	HSDPA network is connecting
	HSDPA connection is active











## Pre-installed programs

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

Icon	Program	Function
	About	Shows information about your device.
	ActiveSync	Synchronize information between the device and a computer.
	Adobe Reader LE	Read PDF documents.
	Alarms	Set alarms.
	Backlight	Manage backlight power settings.
	Beam	Manage Beam settings.
	Bluetooth	Manage Bluetooth connection settings and devices.
	Buttons	Customize keypad button assignment.
	Calculator	Perform basic arithmetic functions.
	Calendar	Keep track of appointments and arrange meetings.
	Camera	Capture photos and videos.
	Certificates	View and delete client-side certificates.

Icon	Program	Function
	Clocks & Alarms	Manage time zone and alarm settings.
	Connections	Manage network and internet connection settings.
	Contacts	Keep track of your friends and colleagues.
	Customer Feedback	Choose to participate in the Microsoft Customer Feedback program
	Domain Enroll	Enroll your device on a company network
	E-mail	Write, send, and receive e-mail messages.
	Encryption	Enable/disable external storage card file encryption.
	Error Reporting	Enable/disable automated error logging and reporting.
	File Explorer	View and manage files.
	GPS	Configure GPS receiver settings for third party applications.
	Home Settings	Configure how the Home screen appears.
	Input	Manage user input configuration settings.
	Internet Explorer	Browse the World Wide Web.
	Internet Sharing	Share an internet connection between devices.

Icon	Program	Function
	Lock	Lock the display.
	Managed Programs	Manage user-installed applications.
	Memory	View system internal and external memory status.
	Messenger	Send instant messages using Windows Live™ Messenger.
	Network Cards	Manage WiFi network connections and settings
	Notes	Create handwritten, typed, or recorded notes.
	Office Mobile 2010	Provides access to these Office Mobile applications: Excel® Mobile 2010, PowerPoint® Mobile 2010, OneNote® Mobile 2010, SharePoint Workspace Mobile 2010, and Word Mobile.
	Pictures and Videos	Take, view, and edit pictures, or record and launch video clips.
	Power	Manage device power settings.
	Regional Settings	Manage regional settings for time, date, and numeric information display.
	Remove Programs	Uninstall user-installed applications.
	Screen	Text size and display settings.
	Search Device	Search for files and data.
	Settings	Access the handheld's settings options, such as wireless connections, sounds and notifications, and power.

Icon	Program	Function
	Sounds & Notifications Settings	Adjust audio settings.
	System Information	Display device level system information.
	System Report	Generates and displays a report on system status.
	Task Manager	Display currently running tasks and applications.
	Tasks	Keep track of your tasks.
	Text	Send and receive text messages (requires cellular data service).
	USB to PC	Configure PC USB connections.
	Windows Live	
	Windows Media	Play audio and video files.
	Wireless Manager	Manage Bluetooth, Wi-Fi, and cellular radios.

## Changing screen settings

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 align the touch screen, tap **Align Screen**, and then follow the on-screen instructions.
4. Tap **OK**.

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.
3. The example text below the slider shows how the text will appear on screen.
4. Tap **OK**.



## Using the on-screen keyboard



The keyboard icon  automatically appears in the tile bar of any application requiring text or numeric input.


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

To enter characters, use the stylus to tap the keys on the keyboard.

When you finish entering text in a field, tap  to accept the text you have entered and then move to the next field.

To enter upper case characters, tap the Shift key  before tapping the letter you want, or tap the CAP key  to type multiple capital letters.

To enter numbers and symbols, tap  to display a keyboard containing numbers and other symbols. To switch back to the main keyboard, tap  again.

To hide the keyboard, tap  again.

To change the size of the keypad, see [Changing screen settings, page 46](#).

## Editing text

If you need to edit text, tap on the screen to place the insertion point where you need it.

You can select text, and cut, copy, and paste text.




- To select text, double-tap the display at the point you want to select a word, or tap and hold then tap *Select All* to select all text.
- To cut or copy text, select the required text, then tap and hold, then select *Cut* or *Copy*.
- To paste text, tap the required insertion point, then tap and hold, then select *Paste* to insert the last text that you cut or copied. To replace text, select it before tapping *Paste*.

## Using Auto-suggestion

The device uses the active dictionary to make word suggestions as you type. When the device suggests a word, tap the suggestion if you want to accept it. If the word you want to type is not displayed, you must type the whole word.

## Writing or drawing on the screen

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




1. Tap  and then tap Notes .
2. Open a note, tap Menu  and select *Draw*.
3. Use the stylus to write or draw on the screen.

## Making a recording

The device comes with an integrated speaker and a microphone. It also has an audio jack that is wired for a headset with a mono speaker and microphone combination. It is not for stereo headsets.



With the 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 Notes .
2. Tap Menu  and select *View Recording Toolbar*.



3. Do one of the following:

- To create a stand-alone recording, in the screen displaying the list of notes, tap  to begin recording.
- To add a recording to a note, create or open a note and then tap  to begin recording.

4. When you finish recording, tap . If you are creating a stand-alone recording, a new recorded item 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.


The recorded file is saved in the Notes folder.

To play a recording, tap the recording in the note list or open the note and then tap  in the note.


## Sounds and notifications

You can set the device to play a sound for system warnings and events, program notifications, screen taps, and hardware buttons presses.

To change sound settings:

1. Tap  / *Settings* / *Sounds & Notifications*.
2. Tap the *Sounds* tab.
3. Select or clear the check boxes to enable or disable categories of sounds.
4. If you select the *Screen taps* or *Hardware buttons* check boxes, select the *Soft* or *Loud* option to control the volume of the sounds.
5. Tap **OK**.


You can also adjust the system volume to suit the ambient environment so that system and application sounds can be heard adequately.

To set the system volume, tap the status bar at the top of the screen, tap  in the pull-down list, then drag the volume sliders as required.


## Adjusting the display and keypad brightness

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. Use the brightness sliders to adjust the display brightness.


To adjust the brightness of the screen:

1. To turn Auto Brightness on or off, tap  / *Settings / System / Backlight*, and select the *Brightness* tab.
2. Drag the brightness level sliders as required.
3. Tap **OK**.

To set the backlight to automatically turn off:

1. Tap  / *Settings / System / Backlight*.
2. 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 if device is not used for* check box and then select a time from the drop-down list.
3. 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 if device is not used for* check box and then select a time from the drop-down list.
4. Tap **OK**.

To set the keypad backlight:

1. Tap  / *Settings / System / Backlight*, and select the *Keypad Brightness* tab.
2. Drag the brightness level sliders as required.
3. Tap **OK**.

## Installing applications 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 Windows Embedded Handheld device. To install software on a Windows Embedded Handheld device:

1. Connect the handheld device to a computer (see [page 57](#)).
2. Copy the installation files to a folder on the handheld device.
3. Browse to the folder on the handheld device. Tap the installation setup file to run it, or tap and hold the file and then select **Run**.
4. If prompted after installation, restart the handheld device.

To install software that is provided as an installation setup that runs on an office computer, either from a CD or that you have downloaded:

1. Connect the handheld device to a computer (see [page 57](#)).
2. If the software is provided on a CD, insert the software CD into the office computer. Otherwise, download the software onto the office computer.
3. Run the installation setup.
4. If prompted, select the install option for a Windows Embedded Handheld. Once the software is installed on the computer, it is automatically transferred to the handheld device.

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


5. If prompted after installation, restart the handheld device.

## Storing data


Unlike many handheld devices which can lose data if they lose power, all your data is always stored in non-volatile persistent storage memory. Losing power will not impact saved data or configurations other than the real-time clock. This means that you do not have to use a RAM backup utility to protect your data. However, you can lose data by accidentally deleting or overwriting it. As with any computer system, we recommend that you regularly backup your data to removable media or to a PC.

The handheld device has two types of memory:

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

To check the memory capacity on the handheld device, tap  / *Settings* / *System* / *Memory*. The *Storage* and *Program* columns show the current memory available, and the memory that is already in use.

## Accessing storage memory using File Explorer

File Explorer ( / *File Explorer*) lets you browse the contents of folders on the device. To easily delete, rename, or copy an item, touch and hold the item.



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**CAUTION** - The Windows Embedded Handheld 6.5 Professional operating system does not include a Recycle Bin. When you delete files from the handheld device, they are deleted permanently.

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## Using memory cards

Depending on the model of your device, it may have a MicroSD (Secure Digital) memory card slot. You can save data to a memory card, and use it to securely transfer data to and from another device that supports MicroSD memory cards.

To insert a memory card:

1. Use the Philips screwdriver end of the stylus or a small #1 Philips head screwdriver to rotate the two quarter-turn fasteners on the the expansion cap counter-clockwise . Remove the expansion cap. Under the expansion cap is a MicroSD memory card slot.



2. Gently insert a MicroSD card into the slot and release; the card should catch in the slot. Make sure the front of the card faces the display side of the device. Push the cards in straight to avoid damaging it.

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

To eject a MicroSD card, gently press the top of the card to release it.

Notes:

- DO NOT use the device without reattaching the cap; the device is NOT sealed when the cap is off and water damage can occur, possibly voiding the warranty.
- DO NOT store required data or applications to a memory card if the card will be removed. Data saved to a memory card is available only when the card is inserted in the handheld.

## Encrypting files on memory cards

To prevent sensitive data on a memory 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 device. Files are encrypted as they are copied or written to the memory card. Files already saved on memory cards before enabling encryption are not automatically encrypted.

**Note** – Because the encryption key is stored on the device, encrypted files are only readable on the device on which they are initially encrypted. It is not possible to read encrypted files on the storage card with any other device, including another handheld device or an office computer.




**CAUTION** - If you reset the handheld device to the factory default settings, the encryption key is deleted and the handheld is no longer able to read any encrypted files on a memory 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, Trimble 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.

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For information on factory-resetting the device, see [Resetting the device, page 29](#)

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

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

**Note** – Encrypted files appear as ordinary files on the device they were encrypted on. If the memory 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 card* check box.

**Note** – Disabling encryption does not remove encryption from any existing files on the memory card, but ensures that new files placed onto the memory card are not encrypted.

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

1. Copy the files to the device's internal memory or to an office computer.
2. Ensure encryption is enabled on the device.
3. Copy the files back to the memory card. The files are encrypted as they are written to the memory card.

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

1. Insert the memory card in the device and then connect the device to an office computer (see [Connecting and syncing to an office computer, page 57](#)).
2. Copy the encrypted files from the memory card to the office computer.
3. To use the decrypted files on the device, copy the files from the office computer to the device's main memory.
4. To store the decrypted files on a memory card, ensure that encryption is not enabled on the device and then copy the decrypted files from the office computer to the memory card.

## Using E-mail

You can send and receive e-mail messages using the Nomad 1050 handheld. To use e-mail, you can do one of the following:

- Synchronize e-mail messages with Microsoft Exchange or Microsoft Outlook® on an office computer.
- Send and receive e-mail messages by connecting directly to an e-mail server through an ISP or a network.

## Synchronizing e-mail messages

You can synchronize e-mail messages on the handheld and the computer.



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**CAUTION** - Synchronizing data is designed to keep the same data on both the office computer and the handheld device. Exercise care when resynchronizing applications after deleting data from one computer, as resynchronizing will delete the same information from the other computer.

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To synchronize e-mail, you must enable Inbox synchronization in the Microsoft ActiveSync technology (for Windows XP) or the WMDC (for Windows Vista or Windows 7). For more information, refer to the *ActiveSync Help* or the *WMDC Help* on the office computer.

During synchronization:

- Messages are copied from the mail folders of Exchange or Outlook on the office computer to the Messaging folder on the handheld. By default, you will receive messages from the past 3 days only, the first 100 lines of each message, and file attachments of less than 100 KB in size.
- e-mail messages in the Outbox folder on the handheld are transferred to Exchange or Outlook, and then sent from those programs.
- e-mail messages in subfolders in other e-mail folders in Outlook are synchronized only if they were selected for synchronization (using ActiveSync technology or the WMDC).

To send and receive e-mail for a synchronized Exchange or Outlook account, connect the handheld to the office computer (see [Connecting and syncing to an office computer, page 57](#)). Synchronization automatically begins, and the handheld sends and receives e-mail.

## Connecting directly to an e-mail server


You can send and receive e-mail messages by connecting to an e-mail server. Before you can send and receive e-mail, you must create an e-mail account in the Messaging software.

**Note** – You must set up an Internet connection on the handheld before you can set up and use your e-mail account. For more information, see [Connecting to a Wi-Fi access point, page 67](#), [Connecting to a cellular network, page 65](#), or [Working with Bluetooth, page 62](#)

If you need to connect to different mailboxes, set up and name a different service for each connection.

**Note** – *The Messaging software supports only the POP3 and IMAP4 protocols for incoming mail, and SMTP for outgoing mail.*

To set up a mail service:

1. Tap  / *E-mail*.
2. Tap *Setup E-mail*.
3. Enter the e-mail address for your account.
4. Enter a password. Select *Save password* if you want the device to remember your password.
5. Tap **Next**.
6. To automatically get connection settings for your e-mail account from the Internet, select the check box.
7. Tap **Next**.
8. Follow the steps in the Setup wizard. If the connection settings are not automatically downloaded from the Internet, you must enter them using the connection details supplied by your ISP or network administrator.

**Note** – *You cannot change the account name later.*

9. Tap **Finish**, then tap **OK** to download mail immediately.

When you connect the handheld to the e-mail server, new messages are downloaded to the Messaging folder, messages in the Outbox folder are sent, and messages that have been deleted on the e-mail server are removed from the Messaging folder. Messages received directly from an e-mail server are linked to the e-mail server rather than an office computer. When you delete a message on the handheld, it is also deleted from the e-mail server the next time you connect the handheld to the e-mail server.

You can work online or offline. When working online, you read and respond to messages while connected to the e-mail server. Messages are sent as soon as you tap **Send**, which saves space on the handheld. When working offline, you can disconnect from the e-mail server after you download new message headers or partial messages and then decide which messages to download completely. The next time you connect, Messaging downloads the complete messages you have marked for retrieval and sends any messages that you have written.

## Connecting to other devices

- Connecting and syncing to an office computer
- Using the wireless radios to connect to other devices
- Turning on and turning off the wireless radios
- Using the Wireless Manager
- Turning on and turning off the Bluetooth radio from within the Bluetooth application
- Making the Nomad 1050 handheld visible (discoverable) to other Bluetooth devices
- Working with Bluetooth
- Connecting to a cellular network
- Connecting to a Wi-Fi access point

The Nomad 1050 handheld computer offers multiple methods of communication with other devices as described in this chapter. Not all the features apply to every model, as some of the features are offered as options. If the feature described does not apply to your device, please disregard that section.



## Connecting and syncing to an office computer

You may need to connect the Nomad 1050 handheld to an office computer to:

- install and activate software or receiver options.
- transfer information, settings, and files from one device to the other.
- synchronise data with an office computer.

You can connect the device to a computer using a Bluetooth wireless link, or using the USB cable.

To protect your data, Trimble recommends that you regularly copy important data to an office computer.

### Connection management software

To install software onto a Windows Embedded Handheld device, or to copy files between the device and a computer, you must connect the device to an office computer. If the computer is running:

- the Windows 7 or Windows Vista operating system, use the Windows Mobile Device Center to manage the connection.

**Note** – *The Windows 7 and Windows Vista operating systems include a basic connectivity driver for Windows Embedded Handheld devices. This driver allows you to transfer files from the handheld to an office computer. The Windows Mobile Device Center enables you to synchronize office applications on an office computer with the handheld.*

- the Windows XP 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 device.*

You can download the latest version of the Windows Mobile Device Center or ActiveSync technology from the Microsoft website.



**CAUTION** - The available space on the handheld device is small compared to an office computer. To avoid accidentally synchronizing the handheld device with a large amount of data on the office computer, Trimble recommends that you either connect to the handheld device **without forming a partnership**, or that you limit the information types and amount of data that is synchronized.

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**CAUTION** - Synchronizing data is designed to keep the same data on both the office computer and the handheld device. Exercise care when resynchronizing applications after deleting data from one computer, as resynchronizing will delete the same information from the other computer.

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To connect the device to a computer:

1. Make sure the device and the computer are switched on.
2. Make sure you have installed the appropriate connection management software onto the computer.
3. To form a connection, do one of the following:
  - Use a USB connection:
    - a. Connect the USB data cable to the USB connector on the device.
    - b. Connect the other end of the cable to a USB port on the computer.
  - Use the device's integrated Bluetooth radio to establish a wireless link to a Bluetooth-enabled computer. For more information, see [Working with Bluetooth, page 62](#).

When the handheld device and the computer are connected, you can manage the connection through a window that appears on the office computer. See one of the following:

- [Managing the connection using the Windows Mobile Device Center, page 58](#)
- [Managing the connection using ActiveSync technology, page 59](#)

## Managing the connection using the Windows Mobile Device Center

1. Connect the handheld device to the computer [Connecting and syncing to an office computer, page 57](#).
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.*
4. Do one of the following:
  - To synchronize files and data between the handheld device and a computer, click *Set up your device* and then follow the instructions on screen.
  - To transfer data between the handheld device and the computer without synchronizing the devices, click *Connect without setting up your device*.
5. To transfer files between the computer and the handheld device, click *File Management*. A Windows Explorer type window appears, displaying files stored on the handheld device. Copy and paste files to other locations on the computer, or from the computer to the handheld device.
6. To install software onto the handheld device, see [Installing applications onto the handheld, page 50](#).
7. To uninstall software from the handheld device, 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 Microsoft *Windows Mobile Device Center Help*.

## Managing the connection using ActiveSync technology

1. Connect the handheld device to the computer (see [page 57](#)). The *Synchronization Setup Wizard* appears:  
**Note** – *If the connection is not made automatically, check that the connection is enabled in the ActiveSync technology and on the handheld device.*
2. Do one of the following:
  - To synchronize files and data between the handheld device and a computer, click **Next** and then follow the instructions in the *Synchronization Setup Wizard*.
  - To transfer data between the handheld device and the computer without synchronizing the devices, click **Cancel** to close the wizard.
3. The *Microsoft ActiveSync* window displays the message *Connected*:
4. To transfer files between the computer and the handheld device, click **Explore**. A Windows Explorer type window appears, displaying files stored on the handheld device. Copy and paste files to other locations on the computer, or from the computer to the handheld device.
5. To install software onto the handheld device, see [Installing applications onto the handheld, page 50](#).
6. To uninstall software from the handheld device, 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 Microsoft *ActiveSync Help*.

## Using the wireless radios to connect to other devices

To use the Wi-Fi or Bluetooth radio or the cellular modem, you need to turn it on (see [Turning on and turning off the wireless radios](#) below).

Using a data connection from your local cellular provider, the integrated cellular modem can be used to connect to the Internet, send and receive messages (including e-mail, SMS, or instant messages), or to send and receive files and other data to and from the office directly in the field.

You can use the integrated Wi-Fi radio to connect to the Internet or a corporate network using a connection to a Wi-Fi access point (also known as “hotspots”).

You can use Bluetooth wireless technology to connect to the Internet using a cellular phone. You can also connect directly to other Bluetooth-enabled devices, such as a barcode scanner, that are within range (typically within 5 m to 10 m of the handheld).

## Turning on and turning off the wireless radios

To save power and optimize battery life, turn off wireless radios when they are not in use.

You can use the Wireless Manager application to turn on and turn off the handheld's Bluetooth and Wi-Fi radios, and the handheld's cellular modem (see [Using the Wireless Manager](#), page 60).


You can also turn on or turn off the Bluetooth radio from within the Bluetooth application (see [Turning on and turning off the Bluetooth radio from within the Bluetooth application](#), page 61).

To make the handheld visible to other Bluetooth-enabled devices and enable them to connect, see [Making the Nomad 1050 handheld visible \(discoverable\) to other Bluetooth devices](#) (page 61).

## Using the Wireless Manager

You can use the Wireless Manager application to turn on and turn off the Wi-Fi and Bluetooth radios and the cellular modem. You can turn on and turn off any of the radios at the same time, or control each individually.

To open the Wireless Manager, do one of the following:

- Tap the title bar, tap any of the radio icons and then tap **Wireless Manager**.
- Tap  / *Settings / Connections / Wireless Manager*.

Turn on the Wi-Fi and/or Bluetooth radio to be able to connect to other devices or networks.

Turn on the cellular modem to be able to send and receive data, and send text messages.


Turn off the Wi-Fi and/or Bluetooth radio, and/or cellular modem to prevent the handheld from sending or receiving wireless signals.

To conserve power, turn off the radios when not in use.


To turn the radios on or off, do one of the following:

- Tap **All** at the top of the screen to turn on the radios, or to turn off all the radios if they are already on.
- Tap **Wi-Fi**, **Bluetooth**, or **Phone** to turn on the radio that you want to use, or to turn off the radio if it is already on.

The status fields below the **Wi-Fi** button, **Bluetooth** button, and the **Phone** button change from *Off* when the radios are turned on and show the current state of the radio. The Wi-Fi status field shows *Connecting* or *Available*, the Bluetooth status field shows *On* or *Visible*, and the **Phone** status field shows *On* or the name of the cellular network that you are connected to.

To exit the Wireless Manager, tap .


## Turning on and turning off the Bluetooth radio from within the Bluetooth application

1. Tap  / *Settings* / *Bluetooth*.
2. Tap the *Mode* tab.
3. Select the *Turn on Bluetooth* check box to turn on the radio, or clear this check box to turn off the radio.
4. Tap **OK**.

## Making the Nomad 1050 handheld visible (discoverable) to other Bluetooth devices

To allow other Bluetooth-enabled devices to connect to the device, or if the device will not connect to or pair with another device you are attempting to connect to, you must make the device visible (also referred to as “discoverable”).

To make the device visible to other devices:

1. Tap  / *Settings* / *Bluetooth*.
2. Tap the *Mode* tab.
3. Select the *Turn on Bluetooth* check box, if it is not already selected.
4. Select the *Make this device visible to other devices* check box, and tap **OK**.

## Working with Bluetooth

All devices have embedded Bluetooth capability—a short-range wireless communication technology that exchanges information over a distance of up to 30 feet (10 meters), without requiring a physical connection.

To use another Bluetooth-enabled device with the Nomad 1050 handheld, you must form a Bluetooth connection between the two devices, during which you select the type of service to use for the connection. This defines how the devices will communicate with each other.

After forming the Bluetooth connection between the devices you may need to configure settings for the connection such as the COM port for the field software to use, or the number for the phone to dial. You must then connect to the other device using the appropriate software application.

To connect the handheld to another Bluetooth-enabled device, you can use either a paired connection or a non-paired connection.

To access Bluetooth settings, tap  / *Settings* / *Bluetooth*. You can set the following:


- *Mode*: To enable Bluetooth, select the check box *Turn on Bluetooth*. If you want other Bluetooth devices to find the device, select the check box *Make this device visible to other devices*.
- *Devices*: Tap **Add new device** to search for other Bluetooth devices. For enhanced security, use passcodes.
- *COM Ports*: Available only for Bluetooth-connected devices that support serial (COM) connections.
- *Power*:
  - When the check box *Maintain Bluetooth connections when device is turned off* is selected, Bluetooth connections on the device are not terminated when the device is turned off (suspended). When the device is turned back on, the Bluetooth connections are still active, provided the other Bluetooth device is still connected (the other device may not have this feature and may disconnect.)

**Note** – *Communication cannot occur with other Bluetooth devices while the device is suspended.*
  - When the check box *Allow Bluetooth activity to turn the device on* is selected, another Bluetooth device can send data and the device will turn on and reply if necessary.

**Note** – *Trimble recommends that the device be configured to automatically turn off when not in use. Otherwise, another Bluetooth device could turn on the device, transfer data and if it does not turn off again, drain the battery.*

## Creating a Bluetooth partnership (pairing)

Bluetooth partnerships are required for connections to some computers, printers, and headphones. The configuration of Bluetooth connections varies depending on how each Bluetooth device works. Refer to all device documentation.

1. Tap  / *Settings / Bluetooth / Mode*. Ensure that both devices have Bluetooth turned on, are visible, and within close range.
2. Tap *Devices / Add new device...* Wait a few moments while the device searches for other Bluetooth devices.
3. Tap the name of the other Bluetooth device and tap **Next**. For enhanced security, use passcodes. Enter the same passcode on the other device.
4. If required, change the name of the other device and tap **Finish**.

Once a partnership has been created, the devices do not need to be set as visible any more.

## Using a printer via a Bluetooth connection

If the printer is Bluetooth-enabled via Bluetooth serial profile, you can connect the Nomad 1050 handheld computer to it.

1. Set up a partnership between the handheld device and the printer. (If the printer asks to connect to the device, tap **No**.) Refer to your printer documentation for instructions and to see if a passcode is required.
2. After a few moments, select the printer from the Device list on the handheld device.
3. Confirm that serial port service is available (select the check box) and tap **Finish**.

**Note** – *Windows Embedded Handheld operating system does not support printing without additional third-party software.*

## Using Bluetooth-enabled headphones

You can use a Bluetooth stereo A2DP headphone only. Bluetooth hands-free audio devices that are typically used with cell phones are not supported.

## Troubleshooting Bluetooth connection problems

If the device cannot find another Bluetooth device, confirm that the device is within range (less than 30 feet / 10 meters) and no large objects obstruct the path of other Bluetooth-enabled devices. Confirm that the device is turned on and has been configured to be discoverable.

## Configuring the cellular connection

Depending on the configuration of the device, it may have the wireless wide area network (WWAN) feature; after purchasing a data connection plan from your local GSM cellular provider, you can communicate from field to office, send e-mail messages and send text messages using a cellular connection.

**Note** – *The Wireless WAN / cellular features of this device are used only for data communication and do not have voice capability or the ability to send MMS messages (Multimedia Messaging Service). Voicemails left on the phone number for this device can be retrieved only by using another phone, depending upon the plan you purchased from your service provider. Trimble recommends that you request a data-only plan from your service provider and have a voice restriction placed on your line.*

When browsing the internet using the cellular connection, you must turn off the Wi-Fi (802.11) or the device will default to the Wi-Fi connection.



Applications or services that send or receive data over a cellular network may incur additional fees. Contact your carrier for information about your service plan and fees.

To save battery power, turn off the phone feature when not in use.

Notes:

- DO NOT use the Nomad 1050 handheld while driving a moving vehicle.
- When you are on a plane, in a medical facility or at a refuelling station where wireless communication devices are not allowed, [turn off all wireless communications](#). Turning the device off using the **Power** button off does not turn off the wireless radios.


To set up the cellular connection:

1. Make sure the SIM is inserted in the handheld. See [Inserting and removing a SIM card, page 28](#).
2. Tap  / *Settings / Connections / Wireless Manager*. If the Phone is Off, tap *Phone* to turn it on.
3. Tap  / *CellStart*.
4. Tap **Menu** / *Connections*. Under *Available Settings*, tap the [+] by your country to expand the list of carriers.
5. Tap the [+] by the carrier you have signed up with to expand the list. Select [*carrier*]-Typical and tap **Add**.
6. Tap **OK**.
7. Test the settings by opening Internet Explorer and browsing to a web page.

**Note** – *If you use multiple configuration settings, you can select the primary by tapping the setting and tapping Default.*




To remove cellular data settings:

1. Tap  / *CellStart*.
2. Tap **Menu** / *Connections*. Under *Configured Settings*, tap the connection setup you want to remove.
3. Tap **Action**, then tap **Remove**.

**Note** – If you have multiple connections configured and you remove the default configuration, the top connection will become the new default.

To access detailed settings for each configuration:



1. Tap  / *CellStart*.
2. Tap **Menu** / *Connections*.
3. On the *Network Connections* screen, tap **Menu** / *Open Connections Applet*.

## Connecting to a cellular network

Use the integrated cellular modem to connect to a cellular network and access the Internet or a company network. Use this type of connection to access a background map server, or for Internet and e-mail access.

Before you begin the steps below, make sure that a SIM is inserted and the cellular network is configured. See [Configuring the cellular connection, page 64](#).





Some applications automatically launch the connection when you start the application, if a current connection is not already established. To manually connect:

1. Tap  / *Settings* / *Connections* / *Wireless Manager*. If the modem is Off, tap **Phone** to turn it on. Close the Wireless Manager.
2. On the *Connections* screen, tap *Connections*. (Or tap  / *Settings* / *Connections* / *Connections*.)
3. Under Tasks, tap *Manage existing connections*. The configured connections are listed.
4. Tap and hold the connection that you want to use. Tap *Connect* from the pop-up menu.
5. The task bar shows the “connecting” icon. When the connection is open/established, the task bar shows the “connected” icon. The icons shown depend on the network—see [Speaker and network status indicators, page 40](#) for full details.

**Note** – EDGE is a faster form of GPRS. E or G will automatically appear in the notification bar and will depend on the network capabilities in your area. Some service providers may only provide GPRS.

Once connected, open an application, for example, Internet Explorer, to test the connection.

## Using the cellular network

- Browse the Internet: Tap  / *Internet Explorer*, and enter the address of one of a web site.
- Internet Sharing: The Internet service from the Nomad 1050 handheld can be shared with a computer. Tap  / *Internet Sharing*. You can connect using a USB cable or using [Bluetooth wireless technology](#).
- SMS messages: You can send a SMS (short message service) in exactly the same way as a normal mobile telephone. Each SMS text message can contain a maximum of 160 characters, depending on your service provider.
- Sending and receiving e-mail:
  - E-mail setup: Tap  / *E-mail* / *Setup E-mail*. Follow the instructions on the screen to set up the e-mail service. You can synchronize with a POP Mail server, or with a Microsoft Exchange server.
  - Sending and receiving e-mails: Tap  / *E-Mail* and select an e-mail account. Tap **New** to compose a message and tap **Send**. Input the contact information. Depending on your account settings, the device will check for new e-mail periodically. You can force a download of new messages, by tapping **Menu** / *Send* / *Receive*.


## Customizing the phone

Tap  / *Settings* / *Personal* / *Phone*. You can:

- Select a ring type and ring tone, and keypad tones.
- Set a PIN number to block unauthorized access to your data connection.
- Configure settings for services such as Caller ID, Call Forwarding, etc.
- Set network selection options.
- View information about your phone, such as:
  - the IMEI (Unique number that identifies the phone module that is embedded in the Nomad 1050 device).
  - IMSI and ICCID - Unique numbers embedded on the SIM card.

**Note** – *If you purchase a SIM card separately, the phone service provider may want your Nomad IMEI number. It is located on the Info tab here, as well as in the battery compartment.*

You can also select the ring for new text messaging notifications:

1. Tap  / *Settings / Sounds & Notifications / Notifications*.
2. In the *Event* dropdown list, select *Messaging: New text message*.
3. Select *Play sound*, then select the sound you want.
4. Tap **OK**.

**Note** – *This device is data-only and dialing controls are not available. Under Settings / Personal / Phone / Services (see above), voice calls to the device can be forwarded to another phone.*


## Connecting to a Wi-Fi access point

To connect to a Wi-Fi access point, you must:

1. Set up the Wi-Fi connection.
2. Connect to the Wi-Fi network or access point.


**Note** – *If you have installed a personal certificate on the handheld, you do not need to set up the wireless connection manually as described in Step 1. To connect to the network or access point go to Step 2: [Connecting to the network or access point](#).*


### Step 1: Setting up the Wi-Fi connection


1. Tap  / *Settings / Connections / Wireless Manager*. Make sure Wi-Fi is turned on.
2. Tap **Menu** and then select *Wi-Fi Settings*. Any networks that you have already configured are displayed in the list of preferred networks.
3. To add a new network, tap **Menu**, then *Add New...* To change the settings for an existing network, tap the network.
4. Enter the name of the network and other connection details and then tap **Next**.
5. Do one of the following:
  - To use authentication, select the authentication method from the *Authentication* list.
  - To use data encryption, select an encryption method from the *Data Encryption* list.
  - To automatically use a network key, select the check box for *The key is automatically provided*. Otherwise, enter the *Network key* and the *Key index*.
6. Tap **Next**.
7. For increased security, select the *Use IEEE 802.1x network access control* check box and then configure additional authentication information.
8. Tap **Finish**.

## Step 2: Connecting to the network or access point

1. Make sure the device is not connected to any other device using a USB data cable, as a USB connection has priority over a Wi-Fi connection.
2. Bring the device within range of the network or access point.

When a Wi-Fi network or access point is detected, the icon  appears on the title bar. If the access point icon does not appear, use the Wireless Manager to turn off and then turn back on the Wi-Fi radio. When the Wi-Fi radio is turned on, any networks or access points within range are detected and the icon appears.

3. Tap  / *Settings* / *Connections* / *Wi-Fi*. The *Wireless* tab shows the available networks.
4. Tap and hold the network you want to connect to and then on the pop-up menu, tap *Connect*.
5. If a *Network Log On* screen appears, enter your user name, password, and domain information and then tap **OK**.

6. When the device is connected to the network or access point, the Wi-Fi connected icon  appears in the title bar.
7. Start using the program you want to use, for example Internet Explorer.

To disconnect from the network or an access point at any time, turn off the device's Wi-Fi; tap the title bar, tap the Connectivity icon on the pull-down list, select Wireless Manager and then tap the Wi-Fi button.





To delete a Wi-Fi connection, tap and hold the connection in the *Wireless* tab of the *Wi-Fi Settings* screen and then select *Remove Settings*.

## Working with the camera

- [Using the camera](#)
- [Managing pictures](#)
- [Camera settings](#)

Depending upon the configuration of the device, it may have an integrated digital camera. If so, the protective cap on the top of the device will have a clear window.



## Using the camera

1. Press the  key to launch the *Pictures & Videos* application.
2. Tap **Camera**.
3. Press the  key to focus the image.
4. Press the Enter key  to take a picture.
5. Press the Enter key  to close the picture preview.

**Note** – Files are saved under *My Device / My Documents / My Pictures*.

**Note** – The camera preserves battery power by going into standby mode after 30 seconds if it is not used. Tap the screen or press a button to resume use. If *GeoTagging* is turned on, the *GPS* will continue tracking satellites. Either *Acquiring Satellites* or *GPS Ready* will be shown above the preview image when the camera is not in standby.

## Managing pictures


1. To open the the *Pictures & Videos* application, do one of the following:
  - Press the  key.
  - Tap  / *Pictures & Videos*, or *File Explorer / My Device / My Documents / My Pictures*.
2. To view any picture full screen, tap it.
3. Tap **Menu** to access the following options:
  - **Zoom:** Zoom controls appears in the lower right hand corner of the screen. You can zoom in, zoom out, or return to normal view (only on higher resolution pictures).
  - **Play Slide Show:** The app starts a slide show of the pictures you have saved. Tap the screen to bring up controls enabling you to toggle between portrait and landscape, pause the slideshow, advance to the next or return to the previous picture, or stop the slide show.
  - **Set as Home Background:** Tap to place the selected picture as the background of the *Home* screen.
  - **Beam Picture:** Tap to beam the selected picture using Bluetooth wireless technology to another Bluetooth-enabled device. See [Working with Bluetooth, page 62](#) for more information on using Bluetooth.
  - **Save:** Saves the selected picture to a contact or a jpg.

- **Edit:** Enables you to make changes to the selected picture. To rotate the picture 90 degrees, tap **Rotate**. To access the following options, tap **Menu**:
    - **Crop:** Tap **Crop** and then drag the stylus on the screen to select the area to be cropped.
    - **Auto Correct:** Automatically corrects the color in images.
    - **Undo:** Cancels the last change you made to the picture.
    - **Revert to Saved:** Cancels all changes you made to the picture since it was last saved.
    - **Save As:** Enter a new name than tap **OK** to save the edited picture as a new file.
  - **Properties:** Tap to see the selected picture's properties, or to change its name.
  - **Options:** Tap to change Camera, Video, and Slide Show options, to set the picture size to be used when sending the picture via email or text message, and to set the rotation direction when you rotate a picture.
4. To send a picture to via email or text message (if you are connected to the Internet) tap **Send**. Then select how you want to send the picture.

You can also create folders to manage your pictures:

1. In the thumbnail view, tap **Menu / Edit / New Folder**. (You can rename the new folder using File Explorer.)
2. To move a picture to a folder, in the thumbnail view select the picture you want to move, tap **Menu / Edit / Cut**.
3. Still in the thumbnail view, select the folder you want to move the picture to, and tap **Menu / Edit / Paste**.


## Camera settings

1. Tap  / *Pictures & Videos / Camera*.
2. By default, the camera app is in *Still* mode. Tap **Menu**.

The settings are:

- If you are in *Still* mode:
  - **Video** - Tap *Video* to switch to *Video* mode
  - **Mode** - Tap *Normal*, *Timer* (for a 5 second delay), or *Burst* (takes 5 photos ~3 seconds apart; the preview window stays the same).
  - **Brightness** - Tap the required brightness level for your photos (+3 - to -3).
  - **Resolution** - Tap the required resolution for your photos. The higher the resolution, the larger the file size.

- **Zoom** - Tap the required zoom number to zoom in and out. Zoom x1 is the default.
- **White Balance** - Instead of using the default automatic mode, you can correct photos using *Incandescent*, *Sunny*, or *Fluorescent*.
- **Flash** - Tap *On* when a flash is needed. (You can press the left soft key to toggle the camera flash on/off.)
- **Full Screen** - Tap to make the picture full screen. To turn off *Full Screen*, tap the screen to return to the menu, then tap *Full Screen* again.
- **Options:**
  - General tab - Set the picture size (this is useful when you need to email a photo), and set the rotation direction to the right or left.
  - Slide Show - Set pictures to be portrait or landscape, and set the slideshow as a screensaver.
  - Camera - Set how and where photos are saved.
  - Video - Turn audio capture on or off, and set a video time limit.
- **Geotagging** - Turn Geotagging on or off (when GPS is in use). If enabled, select *Exif Data only* to store the geotag in the image data, *Embed Text only* to show the geotag on the image, or *Both*. You can also set the font, size, color, location and format of the image-embedded geotag. The GPS Power settings determine when the GPS is turned on; select *Always On* to have GPS on whenever the camera app is in use; or select *Auto Power Off* to conserve battery power.
- **Effects** - Select a *Flip/Rotate* option to change the direction in which the photo is taken. Select the required *Sound* options to mute the shutter and / or auto-focus sounds.
- **Autofocus:** To capture photos of things that are close to you, set Autofocus to *Macro*; to capture photos of things that are far away, set Autofocus to *Infinite*.
- If you are in *Video* mode:
  - **Still** - Tap *Still* to switch to *Still* mode.
  - **Brightness** - Tap the required brightness level for your photos (+3 - to -3).
  - **Quality** - Tap the required quality setting for your videos. The higher the quality, the larger the file size.
  - **White Balance** - Instead of using the default automatic mode, you can correct videos using *Incandescent*, *Sunny*, or *Fluorescent*.
  - **Full Screen** - Tap to make the picture full screen. To turn off *Full Screen*, tap the screen to return to the menu, then tap *Full Screen* again.
  - **Options:** These are the same as the options in *Still* mode. See [above](#).


**Note** – Focus is assigned to the  button; when pressed it focuses the camera before taking a picture.



## Working with the scanner

- [Configure the barcode scanner using Scanner Setup](#)
- [Using the scanner](#)

Depending upon the configuration of the Nomad 1050 handheld device, it may have an integrated laser 1D barcode scanner. To check if your device has an integrated barcode scanner:

- Tap  / *Settings / System / System Information / CardPort* to see if Barcode Scanner is listed under the Cardport devices.
- The cap will have a clear window with a laser warning label.

If you do not have your own barcode scanner software to install, there is a basic application called ScanAgent pre-installed on the device. There is also a pre-installed app, Scanner Setup, that you can use to configure the barcode scanner.

**Note** – *The ScanAgent app can also be downloaded from [www.trimble.com](http://www.trimble.com)*



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**WARNING** - Do not stare into the beam or point directly at eyes.

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## Configure the barcode scanner using Scanner Setup

To set up ScanAgent and test scanning, tap  / *Settings* / *Setup Scanner*. The *Scanner Setup* dialogue displays. From here you can:

- Test the functionality of the integrated barcode imager. Tap **Scan Now** to activate the laser and start scanning immediately. If the scan fails to decode, try moving closer to or farther away from the barcode you are trying to scan.
- Edit scan codes and scan parameters. Tap **Edit Config**. You can:
  - select the barcode symbologies you want to scan. Tap **Scan Codes...** You can then change the code parameters or UPC EAN parameters for each symbology; select the code from the list, then tap **Code Params**. You can also restore default settings if required. Tap **Restore Defaults**. Choosing fewer barcode symbologies results in faster scan times.
  - change the parameters of the scan, such as the duration, the barcode symbology, the sounds to play when a scan starts or ends (you can select different .WAV files for sounds), or add a prefix and / or a suffix to the barcode. Tap **Scan Parameters**. Select the parameter that you want to change, then make the required changes. Tap **OK** when you are done.

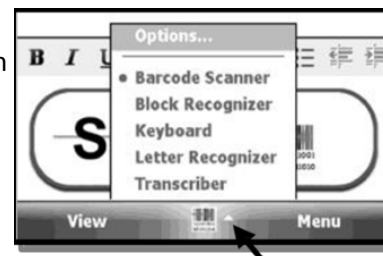
For detailed information on these and other settings, refer to the Software Development Kit available at [www.trimble.com/Outdoor-Rugged-Computers/nomad.aspx?dtID=support](http://www.trimble.com/Outdoor-Rugged-Computers/nomad.aspx?dtID=support).

## Using the scanner

The device uses the ScanAgent app to scan barcodes.

There are two options for scanning barcodes into applications that use text input, such as Microsoft Word or Excel®:

- Press the right soft key.
- Use the Scanner SIP (Soft Input Panel): Tap the arrow next to the SIP. Select Barcode Scanner. Tap the scan SIP on the screen to activate the scanner.



## Using the GPS receiver

- [Overview](#)
- [GPS settings](#)
- [Using SatViewer](#)

To check if your device has built-in GPS, tap



*/ Settings / System / System Information / Wireless*. COM2 is the dedicated hardware port for the built-in GPS (COM1 is dedicated to the external 9-pin). The GPS is compatible with applications that accept the NMEA position information using a default setting of 9600 bps.

## Overview

The integrated receiver is a 20-channel SiRFstar IV GPS receiver. The typical expected accuracy for this GPS receiver, in an open sky, is 2 to 4 meters, SBAS-corrected (Satellite-Based Augmentation System). SBAS correction signals may not be consistently available in all locations).

The best GPS performance is obtained when the device is in the vertical position.

The GPS receiver updates its position once every second. It may take several minutes to start tracking the first time you try to use it because it needs time to update its position and download current satellite information from the GPS satellites. This process will occur faster in a location with open sky.

Your device may have SatViewer™ installed. SatViewer provides a way to quickly start using the GPS functionality of the Nomad handheld device, but it is not a stand-alone mapping, GIS or navigation program by itself. SatViewer is useful for checking the GPS configuration and enabling advanced features of the GPS receiver when these settings are not made available in other applications. When you change any GPS or other settings, it is important to wait a few moments to allow time for the GPS receiver to implement the requested change.

SatViewer communicates with the GPS receiver to compute your current position, speed, direction (azimuth) and height. This information is displayed at the top of the screen along with other information about the satellite signals. Speed and direction measurements are only useful when the Nomad handheld device is in motion. Standing in one position with the device may result in inaccurate readings in direction and speed. If you are not moving, direction is reported as ? and speed is reported as —0. Height calculations from a GPS receiver are typically not very accurate. Units of measurement are only displayed in U.S. feet and heights are only displayed in height above mean sea level (MSL).

## GPS settings

If you are using only one GPS-aware application, the GPS settings do not need to be changed.

If you use multiple GPS-aware applications, tap  / *Settings* / *System* / *GPS* and select the following tabs:

- **Access:** The GPS Intermediate Driver allows multiple applications to access the GPS receiver (disabled by default). To enable the GPS Intermediate Driver, select the *Manage GPS Automatically* check box.
- **Hardware:** COM2 is the hardware port dedicated for the built-in GPS. Make sure COM2 is selected. The internal GPS communicates at 9600 baud by default. If it has been modified by a third party program, adjust to match the receiver baud rate.
- **Programs:** Programs that use GPS need to know which port to use to access GPS data. Make sure that the COM port set here is the same as the port set on the GPS-aware application. The


*Programs* port must be a different port than the *Hardware* port. Note: Some GPS-aware applications may not communicate over GPD ports.

If you are unable to connect to the GPS using the default GPS settings, you can restore it to factory default settings by shutting down the handheld, and leaving it shut down for approximately 5 minutes.

## Using SatViewer

SatViewer is for use only on devices with built-in GPS. External GPS receivers, Bluetooth GPS receivers, GPS CF cards or other external GPS devices (including other SiRF II or SiRF III GPS receivers) are not supported and may not work correctly with SatViewer.

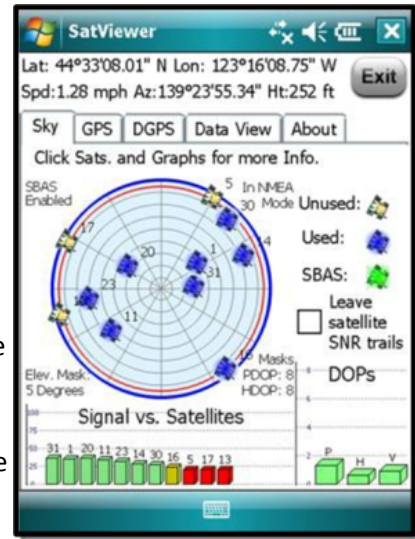
To quickly connect to the GPS with default settings:

1. Tap  / *SatViewer*.
2. Select the *GPS* tab.
3. Make sure the COM setting is set to COM2.
4. Tap **Connect to GPS**. The fields Lat, Lon, Spd, Az and Ht will all read ? until SatViewer connects to the GPS and obtains a satellite fix. If you are attempting to get a satellite fix for the first time, it may take several minutes. For best results, position your Nomad device in the vertical position, outside with no overhead obstructions.
5. Select the *Sky* tab to see the satellites in view. Lat and Lon will change to current latitude and longitude when a satellite fix has been completed.

## Sky tab

The Sky tab shows:

- A Sky plot:** The Sky plot is a graphical representation of where the satellites are positioned in the sky.
  - The top of the circle represents north, the center is straight up, and the farthest right point is east. The outer blue circle represents the horizon and the red circle represents the elevation mask. The light gray circles radiating out from the center are the zenith angles in ten degree increments. The lines bisecting the light gray circles divide the circle into thirty degree azimuths.
  - The satellite icons are color coded to indicate if they are used, unused, or SBAS satellites. Each icon is labeled with the corresponding satellite's ID number (PRN). If the option *Leave satellite SNR trails* is selected, the path of each satellites is also marked by a dotted line as each satellite moves across the sky.
- Status indicators:** The following messages are displayed around the sky plot to indicate the current settings (configured on other tabs):
  - Corrections Disabled / SBAS Enabled: indicates whether Satellite Based Augmentation System (SBAS) is enabled or disabled. When SBAS is enabled, the GPS receiver attempts to locate, track and use correctional data supplied from an SBAS satellite in order to improve accuracy. There are a limited number of SBAS satellites available, so they may not be readily accessible in your area. This setting is configured in the *Type* field on the [DGPS tab](#).
  - In SiRF Bin. Mode / In NMEA Mode: indicates which mode you are running in. Some applications may require GPS data to be sent to the application in the form of a NMEA message, where other applications require the GPS data be sent as a SiRF Binary message. Most mapping and navigation applications can use the NMEA message. This setting is configured with the NMEA/SiRF Binary radio buttons on the [GPS tab](#).
  - Elev. Mask: displays the current elevation mask. This is the minimum angle above the horizon that a satellite must be located before it is used; it is represented on the sky plot by a red circle. This setting is useful when using the GPS in areas where there might be obstructions to the view of low flying satellites (for example, around buildings or trees). A typical elevation mask setting is between 5 and 15 degrees to eliminate those satellites from being used to calculate a position. The purpose for this setting is to eliminate satellites that may degrade the accuracy of the GPS. However, by using this setting, you are reducing the total number of satellites that can be tracked and used by the GPS receiver. This is configured in the *Masks* section of the [GPS tab](#).



- **Masks:** Displays the current PDOP and HDOP mask values as configured in the *Masks* section of the [GPS tab](#). If the measured Dilution of Precision (DOP) value exceeds the value set for the corresponding mask, the resulting calculated position will be ignored. In general, as the value of the DOP decreases, the accuracy of the GPS position increases. DOP values greater than six usually indicate the GPS position data is of poor quality (due to poor satellite geometry) and the resulting positions are less accurate. Note: DOPs cannot be displayed in Binary Mode, however, the DOP masks are still in effect.
- **Satellite icons.**
  - **Unused:** A GPS satellite whose signal is being received, but not being used for position calculations.
  - **Used:** A GPS satellite that is being used to calculate your current position.
  - **SBAS:** A Satellite Based Augmentation System (SBAS) satellite, which can be used for error corrections. (See the [DGPS tab](#), page 86 for more information.)
- **Leave SNR trails:** Creates a dot on the screen for all previous satellite positions that form a trail on the sky plot over time as the satellite moves across the sky.
- **DOPs bar graph:** displays the various Dilution of Precision (DOP) values as explained below. DOPs are not displayed when SIRF Binary is selected on the [GPS tab](#).
  - **PDOP:** displays the Position Dilution of Precision, which is a combination of HDOP, VDOP and Time Dilution of Precision. It will always be larger than HDOP and VDOP.
  - **HDOP:** displays the Horizontal Dilution of Precision, which is a measure of the calculated accuracy of the solution. DOP has no units and lower numbers indicate better solution geometry. In general, the lower the DOP value, the better confidence you have in the position reading from the GPS receiver.
  - **VDOP:** displays the Vertical Dilution of Precision, which is a measure of the calculated elevation.
 

Each DOP bar is color coded to indicate the DOP quality as follows:


    - **Green:** The DOP is less than three (best).
    - **Yellow:** The DOP is greater than three, but less than six.
    - **Orange:** The DOP is greater than or equal to six, but less than twenty.
    - **Red:** The DOP is greater than or equal to twenty (worst).
- **Signal vs. Satellite bar graph:** shows all the visible satellites and their corresponding ID numbers (PRN) ranging from 1 to 32. Also, the PRN for any currently tracked SBAS satellite (ranging from 122 to 138) is displayed in this graph. Tapping any bar will also display the signal to noise ratio (SNR) value for that satellite. The color of each bar indicates the following:
  - **Green:** Good satellite signal strength. Satellite is used with an SNR greater than or equal to thirty dB.
  - **Yellow:** Fair satellite signal strength. Satellite is used with an SNR less than thirty dB.
  - **Red:** No signal or the signal strength is below the minimum allowable threshold. Satellite is not used.

## GPS tab

- **Connect to GPS / Disconnect from GPS:** Tap to establish a connection with the GPS receiver chip, or to disconnect the connection.
- **COM:** used to select the COM port for communication between SatViewer and the GPS receiver. The Nomad GPS receiver port is set to COM2 and a baud rate of 9600. The default SatViewer settings shouldn't need to be changed to connect.

**Note** – Before changing COM port or baud rate settings, you must first disconnect from the GPS receiver. When you have made the required COM settings, tap **Connect to GPS** to reconnect to the GPS receiver.

- **Enabling the Microsoft GPS driver:** If you want to connect two or more programs (such as SatViewer and a navigation program) to the GPS receiver at the same time, turn on the Microsoft GPS driver:

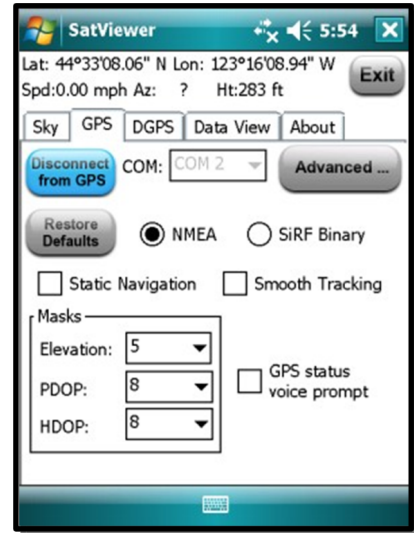
- Tap  / Settings / System / GPS.
- Select the *Access* tab.
- Tap *Manage GPS automatically*. This turns on the Microsoft GPS driver. Tap the *Programs* tab and make sure that the GPS program port is COM3 (or any other port available in the Microsoft GPS driver screen). Tap the *Hardware* tab and make sure the GPS hardware port is COM2, with a baud rate of 9600.

The Microsoft GPS driver will now allow multiple applications to connect to the GPS receiver at the same time. This allows the GPS receiver to be controlled with SatViewer while other applications also use the GPS receiver.

- In SatViewer and any other application using the GPS receiver, change the COM port to COM3 (or the COM port specified in step c. above). Both applications will connect to the GPS receiver through the Microsoft GPS driver.

- **Restore defaults:**

- When connected to the GPS receiver, tapping **Restore Defaults** results in the following settings being changed:
  - GPS receiver output will be set to NMEA mode
  - Static Navigation will be turned OFF
  - Smooth Tracking will be turned OFF





- Elevation mask is set to five
- PDOP mask is set to eight
- HDOP mask is set to eight
- GPS status voice prompt is turned OFF
- NMEA message settings under the Advanced page are changed as follows:
  - GGA – 1 sec
  - GSA – 1 sec
  - GLL – off
  - VTG – off
  - GSV – 1 sec
  - RMC – off
- DGPS settings under the DGPS tab are set back to their defaults of Usage: Auto, Type: SBAS ON and SBAS Sat. PRN: Auto
- No change to any COM settings
- Each of the above settings (except for the GPS status voice prompt) are sent and applied to your Nomad GPS receiver.
- When disconnected from the GPS receiver, tapping **Restore Defaults** results in the following settings being changed:
  - GPS receiver output will be set to NMEA mode
  - Static Navigation will be turned OFF
  - Smooth Tracking will be turned OFF
  - Elevation mask is set to five
  - PDOP mask is set to eight
  - HDOP mask is set to eight
  - GPS status voice prompt is turned OFF
  - NMEA message settings under the Advanced page are changed as follows:
    - GGA – 1 sec
    - GSA – 1 sec
    - GLL – off
    - VTG – off
    - GSV – 1 sec
    - RMC – off

NMEA message settings (set to default or otherwise) will be sent to the GPS receiver and applied the next time you connect to the GPS receiver (with output set to NMEA).

- DGPS settings under the [DGPS tab](#) are set back to their defaults of Usage: Auto, Type: SBAS ON and SBAS Sat. PRN: Auto

Since you are not connected to the GPS receiver, none of the above changes are actually applied to the GPS receiver. To apply these settings, connect to the GPS receiver and then tap **Restore Defaults**.

- If the Microsoft GPS driver is not used, the COM port gets set to COM2.
- If the Microsoft GPS driver is used, the COM port gets changed to its assigned program port.
- Baud rate is set to 9600
- Data bits are set to 8
- Flow is set to None
- Parity is set to None
- Stop bit is set to 1

To completely restore the GPS receiver back to the factory settings, shut down the Nomad handheld device for a minimum of five minutes before turning the device back on and attempting to reconnect to the GPS receiver in SatViewer. Press and hold the **Power** button for a few seconds and then release. On the *Power menu*, tap **Shutdown**. This procedure is beneficial when you are unable to connect the GPS receiver to SatViewer due to a change in the communications settings caused by another software application.

**Note** – *In most cases, the factory-reset procedure only needs to be used when another application has changed the settings of the GPS receiver and you would like to set them back to their original configuration. See [Resetting the device, page 29](#).*

- **NMEA / SiRF Binary:** Select to set the GPS receiver to NMEA mode or SiRF Binary mode. When in SiRF Binary mode, DOP values are not available in the [Sky tab](#). The mode you select here will also determine the format for the information that can be viewed from the [Data View tab](#). Most GPS applications require that the PS receiver be set to output NMEA messages. There are some specialized GPS applications which require the SiRF Binary output mode. Consult the documentation of your GPS application to see which output format you should use and then choose that option via this setting.
- **Static Navigation:** This feature prevents the GPS receiver from showing the normal erratic positions when standing still. When selected, small changes in your position are interpreted as GPS error and your computed position will remain unchanged. For applications where you will be mapping or navigating at walking speed or slower, Trimble recommends that you disable this feature, so even small changes in position will be shown.
- **Smooth Tracking:** This feature smoothes the track generated by the GPS receiver. When selected, movement is smoothed mathematically to reduce the seemingly jagged movement resulting from GPS error. For unfiltered, raw GPS readings, leave this un-selected. However, if

you want to see a smoother overall position (for example, while navigating), then turn this feature.

**Note** – *Both the Static Navigation and Smooth Tracking features modify your true GPS positions mathematically so these features should not be used when you need the most accurate GPS positions available.*

- **Masks:** These define limits that determine when a satellite will be used or not used.
  - **Elevation:** This is the minimum angle above the horizon that a satellite must be located before it is used. A value of zero would turn off the elevation mask. A value of ninety would mask all satellites. A typical elevation mask setting is between five and fifteen degrees to block tracking of those satellites potentially affected by multipath error due to obstructions (for example, buildings or trees). Multipath error is an error caused by the satellite signal bouncing off of objects before reaching the GPS receiver.
  - **PDOP:** This is the maximum allowable Position Dilution of Precision (PDOP), which is a combination of HDOP, VDOP and Time Dilution of Precision. When exceeded, the GPS data will not be used for position calculations. This setting is advantageous when quality and reliability of your position are of concern. Typically, PDOP values of six or greater are considered suspect and therefore resulting positions are less reliable.
  - **HDOP:** This is the maximum allowable Horizontal Dilution of Precision (PDOP), which is a measure of the geometrical quality of the solution. When exceeded, the GPS data will not be used for position calculations.

**Note** – *DOPs can not be displayed in Binary Mode, however, the DOP masks are still in effect.*

- **GPS status voice prompt:** When selected, changes in GPS quality will result in an audible message indicating the change.
- **Advanced:** Tap to open the [Advanced GPS screen, page 84](#).

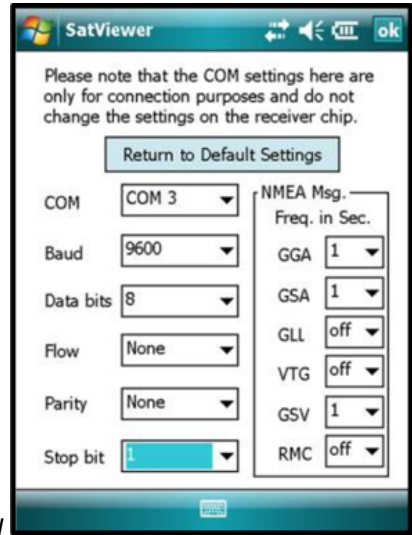
## Advanced GPS screen

- **Return to Default Settings:**

- When connected to the GPS receiver, tapping **Return to Default Settings** changes the following settings and applies them to the GPS receiver:

- Resets NMEA strings to defaults of:
  - GGA – 1 sec o GSA – 1 sec
  - GLL – off
  - VTG – off
  - GSV – 1 sec
  - RMC – off

**Note** – The COM settings are grayed out and cannot be changed until you disconnect from the GPS receiver.



- When disconnected from the GPS receiver, tapping **Return to Default Settings** changes the following settings:

- Resets NMEA strings to defaults of:
  - GGA – 1 sec
  - GSA – 1 sec
  - GLL – off
  - VTG – off
  - GSV – 1 sec
  - RMC – off

NMEA message settings (set to default or otherwise) are sent to the GPS receiver and applied the next time you connect to the GPS receiver (with output set to NMEA).

- If the Microsoft GPS driver is not used, the COM port is set to COM2.
- If the Microsoft GPS driver is used, the COM port is changed to its assigned program port.
- Baud rate is set to 9600
- Data bits are set to 8
- Flow is set to None

- Parity is set to None
- Stop bit is set to 1

Since you are not connected to the GPS receiver, none of the changes are actually applied to the GPS receiver.

- **COM:** used to select the COM port for communication between SatViewer and the GPS receiver. This field is also available on the [GPS tab](#) for convenience ; changing it in on the *Advanced GPS* screen automatically changes it on the *GPS* tab, and vice-versa.
- **Baud:** sets the speed for communications between the GPS receiver and SatViewer. The baud rate of the GPS receiver is 9600 by default. Note that if you have used another application to change the baud rate of the GPS receiver to 4800, it will take longer for the GPS receiver to respond to changes made within SatViewer. During this period, you may see menu items grayed out while SatViewer sends the new settings to the GPS receiver.
- **Data Bits:** should match the data bit rate set in the device you are communicating with.
- **Flow:** should match the flow control set in the device you are communicating with.
- **Parity:** should match the parity set in the device you are communicating with.
- **Stop bit:** should match the stop bit set in the device you are communicating with.
- **NMEA Msg:** This section allows you to control which NMEA messages are output by the GPS receiver, and the rate at which they are output.

The GGA NMEA message is automatically enabled by default and cannot be disabled; you can change the frequency of output for the GGA NMEA message, if required.

You can disable any of the other listed NMEA messages, and change the frequency of output.

The ability to change the frequency of output and to disable certain messages is useful when communicating at a very low baud rate, to prioritize which NMEA messages are sent. Each field allows you to select a value from one to five (measured in seconds), or to select OFF.

For example:

- selecting three instructs the receiver to output the corresponding NMEA message once every three seconds.
- Selecting OFF instructs the receiver to never output the corresponding message.

This setting is only applicable when you need to specify which NMEA messages are sent at what times for your GPS application. Most users will not need to change this as the default NMEA settings will work for most GPS applications trying to display common GPS information (for example, position, velocity, direction).

## DGPS tab

Differential GPS (DGPS) positioning involves subtracting a combination of ranges measured to various satellites from two or more receivers measuring the same satellites simultaneously. When the signals are subtracted, the major error sources cancel each other out.

The GPS receiver used with SatViewer can provide DGPS through the Satellite Based Augmentation System (SBAS), which uses multiple ground stations and then broadcasts corrections to the end users via SBAS satellites.

- **Usage:** configures the DGPS requirements as follows:
  - Auto: will use DGPS when available, but continue to provide autonomous (uncorrected) positions when DGPS is not available.
  - DGPS Required: will only provide positions when DGPS is available. Autonomous positions will not be available. When DGPS data is available, it can be applied to your GPS position to increase the accuracy of your position reading.
  - Ignored: will not provide DGPS positions even when available.

***Note** – Due to the limited number and availability of SBAS satellites in the sky, DGPS coverage from SBAS satellites may not always be available. Therefore, it is recommended that you use the Auto setting where the GPS will use and apply DGPS data when available, but will continue providing positions even when DGPS is not available.*

- **Type:** allows you to select SBAS ON or SBAS OFF. (Currently SBAS is the only DGPS service available, but other DGPS systems may be available in the future.)
- **SBAS Sat. PRN:** configures which SBAS satellite to use. Selecting *Auto* instructs the GPS receiver to automatically make the selection.
- **Return to Default Settings:**
  - If connected to the GPS receiver, tapping **Return to Default Settings** restores DGPS settings back to default state:
    - Usage: Auto
    - Type: SBAS ON
  - If disconnected from the GPS receiver, tapping **Return to Default Settings** has no effect on DGPS settings.



## Data View tab

The *Data View* tab allows you to capture and view the GPS data being sent to SatViewer by the GPS receiver over the COM port. This is useful if you need to view or store the raw GPS messages as they are sent from the GPS receiver in a textual format. This feature is for advanced GPS users who need the ability to store the raw GPS information as ASCII text in one large LOG file. This feature is intended to collect up to several minutes of data. It is not intended for extended data collection sessions.

There are two formats for data that can be viewed on this tab; one for NMEA mode, and one for SiRF Binary mode, as configured in the [GPS tab](#).

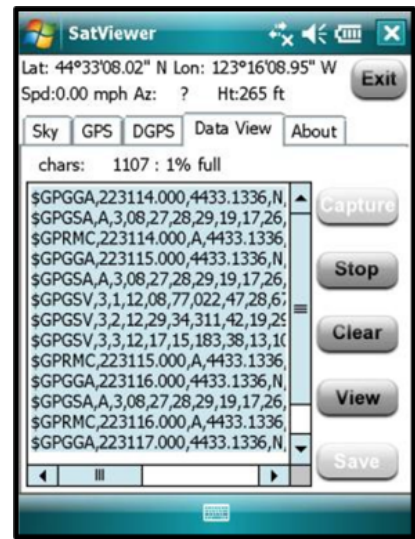
- When in NMEA mode, the data displayed is simply the raw NMEA codes being sent over the COM port, which are displayed in their original ASCII format.
- When in SiRF Binary mode, the data being sent over the COM port is in binary format and therefore must be converted to ASCII text before it can be displayed in a useable format. This involves converting each binary message to hexadecimal text and adding a text tag to each message that explains what type of message it is.

This tab shows:

- **Chars:** Lists the number of characters captured to the buffer. The maximum amount of characters that can be stored to the buffer is approximately 64,000 characters. A % full indicator for the used buffer is provided for your convenience.

You can:

- **Capture:** Begin capturing the data passing over the COM port and storing it to a buffer.
- **Stop:** Stop capturing data and outputs the contents of the buffer to the screen.
- **Clear:** Clear the buffer and any data listed on the screen.
- **View:** Output the contents of the buffer to the screen while capturing data.
- **Save:** Open a new screen where the contents of the *Data View* tab can be saved to a file.



# Troubleshooting

Following are answers to some frequently asked questions.



## How do I to keep my battery from failing during a job?

Consider carrying a fully charged spare battery in the field. The device is designed so that battery replacement can be easily done.

## How do I delete files?

Open File Explorer and browse to the file to be deleted. Touch and hold on the file and tap *Delete* from the menu that appears.

Unlike desktop computers, the Windows Embedded Handheld operating system does not support a Recycle Bin. Once you delete a file, it cannot be recovered.

## How can I see file extensions or file attributes?

Windows Embedded Handheld File Explorer does not support viewing file extensions like Windows Explorer on a desktop computer. You can connect the device to your computer and browse from there to view file extensions; see [Connecting and syncing to an office computer, page 57](#).

Third-party file management programs are available for Windows Embedded Handheld devices that may support a Recycle Bin, viewing file extensions, and more.

## How can I tell how much memory is available?

- Tap *Start / Settings / System / Memory* to view available free storage and program memory.
- Tap *Storage Card* to view available memory on memory cards that may be installed. If there is more than one card installed, tap the dropdown arrow to select the different cards.

## How can I make the display more viewable?

- Tap *Start / Settings / System / Backlight / Brightness* to adjust the display brightness; note however that this will reduce battery life. You can also change the background theme (under *Start / Settings / Personal / Today*).
- Confirm that you have only one screen protector in place.

## Can I use my SDIO device with my device?

SDIO devices work as long as they are supported with Windows 6 drivers. An Extended Cap, sold as an accessory, can be used for oversized SD cards if your device does not have the camera or barcode scanner.

## Can I work with Microsoft Office files in Word Mobile and Excel Mobile?

Office Mobile applications are trimmed-down versions of the Microsoft Office desktop applications and do not support all of the features that are supported by the desktop applications. You can view simple documents and make simple changes on the device.

### **Can I use my USB memory stick (or mouse, keyboard, cell phone or other USB device) with my device?**

Connecting peripheral devices via USB requires the USB I/O Boot. Many USB devices may work. Check with the device manufacturer to see if the device is supported with the Windows Embedded Handheld operating system. Special drivers may need to be installed.