

# USER GUIDE

## Juno™ ST handheld

Draft

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Revision A  
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This product is covered by the following US patents: 5,187,450; 5,311,149; 5,402,450; 5,493,588; 5,815,539; 6,377,891; 6,587,788; and 6,807,485.

### Release Notice

This is the April 2007 release (Revision A) of the *Juno ST Handheld User Guide*. It applies to version 5.1.13 of the Juno ST handheld operating system and firmware. The Juno ST handheld's operating system is based on the Microsoft Windows Mobile version 5.0 software for Pocket PC (5.1.1702).

### Limited Warranty Terms and Conditions

#### Product Limited Warranty

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

#### Product Software

Product software, whether built into hardware circuitry as firmware, provided as a standalone computer software product, embedded in flash memory, or stored on magnetic or other media, is licensed solely for use with or as an integral part of the Product and is not sold. If accompanied by a separate end user license agreement ("EULA"), use of any such software will be subject to the terms of such end user license agreement (including any differing limited warranty terms, exclusions and limitations), which shall control over the terms and conditions set forth in this limited warranty.

#### Software Fixes

During the limited warranty period you will be entitled to receive such Fixes to the Product software that Trimble releases and makes commercially available and for which it does not charge separately, subject to the procedures for delivery to purchasers of Trimble products generally. If you have purchased the Product from an authorized Trimble dealer rather than from Trimble directly, Trimble may, at its option, forward the software Fix to the Trimble dealer for final distribution to you. Minor Updates, Major Upgrades, new products, or substantially new software releases, as identified by Trimble, are expressly excluded from this update process and limited warranty. Receipt of software Fixes or other enhancements shall not serve to extend the limited warranty period.

For purposes of this warranty the following definitions shall apply: (1) "Fix(es)" means an error correction or other update created to fix a previous software version that does not substantially conform to its Trimble specifications; (2) "Minor Update" occurs when enhancements are made to current features in a software program; and (3) "Major Upgrade" occurs when significant new features are added to software, or when a new product containing new features replaces the further development of a current product line. Trimble reserves the right to determine, in its sole discretion, what constitutes a Fix, Minor Update, or Major Upgrade.

#### Warranty Remedies

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

## How to Obtain Warranty Service

To obtain warranty service for the Product, please contact your Trimble dealer. Alternatively, you may contact Trimble to request warranty service at +1-408-481-6940 (24 hours a day) or e-mail your request to [trimble\\_support@trimble.com](mailto:trimble_support@trimble.com). Please be prepared to provide:

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

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

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

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## Official Language

THE OFFICIAL LANGUAGE OF THESE TERMS AND CONDITIONS IS ENGLISH. IN THE EVENT OF A CONFLICT BETWEEN ENGLISH AND OTHER LANGUAGE VERSIONS, THE ENGLISH LANGUAGE SHALL CONTROL.

## Registration

To receive information regarding updates and new products, please contact your local dealer or visit the Trimble website at [www.trimble.com/register](http://www.trimble.com/register). Upon registration you may select the newsletter, upgrade, or new product information you desire.

## Notices

Class B Statement – Notice to Users. 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 communication. 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 the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes and modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission rules.

This device contains Bluetooth and wireless LAN radios and has been evaluated under FCC Bulletin OET 65C and found compliant with the requirements as set forth in CFR 47 Section 2.1093 addressing RF Exposure from radio frequency devices. The radiated output power of this device is far below the FCC radio frequency exposure limits.

The maximum SAR values measured from the device is: 802.11b wireless LAN: 0.043mW/g.

The external antenna connector provided in this device is for GPS antennas only.

## 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.

## Europe

This product has been tested and found to comply with the requirements for a Class B device pursuant to European Council Directive 1999/5/EC on R&TTE, thereby satisfying the requirements for CE Marking and sale within the European Economic Area (EEA). Contains **Infineon radio module ROK 104001**. These requirements are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential or commercial environment.



## Australia and New Zealand

This product conforms with the regulatory requirements of the Australian Communications Authority (ACA) EMC and Radiocommunications framework, thus satisfying the requirements for C-Tick Marking and sale within Australia and New Zealand.



## Taiwan – Battery Recycling Requirements

The product contains an internal Lithium-ion battery. Taiwanese regulations require that waste batteries are recycled.



廢電池請回收

## Notice to Our European Union Customers

For product recycling instructions and more information, please go to [www.trimble.com/ev.shtml](http://www.trimble.com/ev.shtml).

Recycling in Europe: To recycle Trimble 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

## Declaration of Conformity

We, Trimble Navigation Limited,

935 Stewart Drive  
PO Box 3642  
Sunnyvale, CA 94088-3642  
United States  
+1-408-481-8000

declare under sole responsibility that the product:

Juno ST

complies with Part 15 of FCC Rules.

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

## End User License Agreement

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The MS Software includes software already installed on the Device ("Device Software") and MS software contained on the CD-ROM disk ("Companion CD").

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1.2 **Companion CD.** A Companion CD is included with your Device and you may install and use the Microsoft ActiveSync component on one (1) or more computers to exchange information with one (1) or more computing devices that contain a compatible version of the Microsoft Windows Mobile Version 5.0 operating system. For other software component(s) contained on the Companion CD, you may install and use such components only in accordance with the terms of the printed or

online end user license agreement(s) provided with such component(s). In the absence of an end user license agreement for particular component(s) of the Companion CD, you may install and use only one (1) copy of such component(s) on the Device or a single computer with which you use the Device.

**1.3 Phone Functionality.** If the Device Software includes phone functionality, all or certain portions of the Device Software may be inoperable if you do not have and maintain a service account with an appropriate wireless telecommunication carrier to whom Trimble may distribute its Devices ("Mobile Operator"), or if the Mobile Operator's network facilities are not operating or configured to operate with the Device.

**1.4 Microsoft Outlook 2002.** If Microsoft Outlook 2002 is included with your Device, the following terms apply to your use of the Microsoft Outlook 2002: (i) regardless of the information contained in the "Software Installation and Use" section of the online end user license agreement, you may install one (1) copy of Microsoft Outlook 2002 on one (1) computer to use, exchange data, share data, access and interact with the Device, and (ii) the EULA for Microsoft Outlook 2002 is between Trimble and the end user- not between the PC manufacturer and the end user.

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- 1 - Microsoft Windows Mobile 2003 Software for Pocket PC, Professional Edition with Microsoft Outlook 2002;
- 2 - Microsoft Windows Mobile 2003 Software for Pocket PC, Premium Edition with Microsoft Outlook 2002;
- 3 - Microsoft Windows Mobile 2003 Software for Pocket PC, Professional Edition;
- 4 - Microsoft Windows Mobile 2003 Software for Pocket PC, Premium Edition;
- 5 - Microsoft Windows Mobile 2003 Software for Pocket PC, Premium with Phone Edition (GSM/GPRS) with Microsoft Outlook 2002;
- 6 - Microsoft Windows Mobile 2003 Software for Pocket PC, Premium with Phone Edition (GSM/GPRS);
- 7 - Microsoft Windows Mobile 2003 Software for Pocket PC, Premium with Phone Edition (CDMA/1xRTT) with Microsoft Outlook 2002;
- 8 - Microsoft Windows Mobile 2003 Software for Pocket PC, Premium with Phone Edition (CDMA/1xRTT).

Accordingly, you may follow the applicable instructions accompanying this Software and install one (1) copy of the Software on one (1) Device presently containing a licensed copy of a predecessor version of the Software (unless this Agreement indicates that this Software copy has been licensed for installation on multiple Devices). **NO REPRESENTATION OR WARRANTY IS MADE BY MS WITH RESPECT TO THE COMPATIBILITY OF THIS SOFTWARE WITH ANY DEVICE OR ANY OTHER EXISTING SOFTWARE OR DATA OF ANY KIND CONTAINED ON SUCH DEVICES, AND MS SHALL NOT BE RESPONSIBLE IN ANY REGARD WITH RESPECT TO ANY LOSS, CORRUPTION, MODIFICATION OR INACCESSIBILITY OF ANY DATA, APPLICATIONS OR OTHER SOFTWARE RESULTING FROM THE INSTALLATION OF THE SOFTWARE ON ANY DEVICE.**

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**1.9 Internet-Based Services Components.** The Device Software may contain components that enable and facilitate the use of certain Internet-based services. You acknowledge and agree that MS, Microsoft Corporation, their affiliates and/or their designated agent may automatically check the version of the Device Software and/or its components that you are utilizing and may provide upgrades or supplements to the Device Software that may be automatically downloaded to your Device.

**1.10 Additional Software/Services.** The Device Software may permit Trimble, MS, Microsoft Corporation, their affiliates and/or their designated agent to provide or make available to you Software updates, supplements, add-on components, or Internet-based services components of the Software after the date you obtain your initial copy of the Software ("Supplemental Components").

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3.3 Trimble reserves all rights not expressly granted by this Agreement.

3.4 Official Language. The official language of this Agreement and of any documents relating thereto is English. For purposes of interpretation, or in the event of a conflict between English and versions of this Agreement or related documents in any other language, the English language version shall be controlling.

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## Safety Information

### Radio use

The Juno ST handheld contains a Bluetooth radio and a WLAN (wireless LAN) radio. In

some situations, you may be required to turn off the radios. For example, aviation authority regulations can restrict the use of radios on board aircraft.

To prevent the handheld from emitting radio signals, do one of the following:

To turn off the handheld, press the **Power** button.

To turn off the Bluetooth and WLAN radios only, tap the Connectivity icon in the title bar and then tap *Wireless Manager*. Tap **All** to turn off both radios.

### Exposure to Radio Frequency Radiation

The radiated output power of the internal radio wireless is far below the FCC radio frequency exposure limits. The level of energy emitted is far less than the

electromagnetic energy emitted by wireless devices such as mobile phones. However, the use of radio wireless may be restricted in some situations or environments, such

as on aircraft. If you are unsure of restrictions, you are encouraged to ask for authorization before turning on the radio wireless.

### AC adaptor safety

An international adaptor kit is provided with the Juno ST handheld. To charge the handheld's battery, use the international adaptor kit (see [Powering the handheld, page 14](#)).

#### **C** **WARNING** – To use AC adaptors safely:

- Use only the AC adaptor intended for the Juno ST handheld. Using any other AC adaptor can damage your product and may void your warranty. Do not use the AC adaptor with any other product.
- Make certain that the input voltage on the adaptor matches the voltage and frequency in your location.
- Make certain that the adaptor has prongs compatible with your outlets.
- AC adaptors are designed for indoor use only. Avoid using the AC adaptor in wet outdoor areas.
- Unplug the AC adaptor from power when not in use.
- Do not short the output connector.
- There are no user-serviceable parts in this product.
- Should damage to the AC adaptor occur, replace it with a new Trimble AC adaptor.

## Battery safety

The rechargeable Lithium-ion battery is supplied partially charged. Charge the battery completely before using it for the first time (see [Powering the handheld, page 14](#)). If the battery has been stored for longer than six months, charge it before use.



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**WARNING** – Do not damage the rechargeable Lithium-ion battery. A damaged battery can cause an explosion or fire, and can result in personal injury and/or property damage. To prevent injury or damage:

- Do not use or charge the battery if it appears to be damaged. Signs of damage include, but are not limited to, discoloration, warping, and leaking battery fluid.
  - Do not store or leave your device near a heat source such as near a fireplace or other heat-generating appliance, or otherwise expose it to temperatures in excess of 70°C (158°F) such as on a vehicle dashboard. When heated to excessive temperatures, battery cells could explode or vent, posing a risk of fire.
  - Do not immerse the battery in water.
  - Do not use or store the battery inside a vehicle during hot weather.
  - Do not drop or puncture the battery.
  - Do not open the battery or short-circuit its contacts.
- 



---

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

To prevent injury or damage:

- If the battery leaks, avoid contact with the battery fluid.
  - If battery fluid gets into your eyes, immediately rinse your eyes with clean water and seek medical attention. Do not rub your eyes!
  - If battery fluid gets onto your skin or clothing, immediately use clean water to wash off the battery fluid.
- 



---

**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.
-

## SD card use

The Juno ST handheld provides a Secure Digital (SD) memory card slot for data storage.



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**WARNING** – Static electricity can harm electronic components inside the handheld. To prevent static damage:

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



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**WARNING** – The presence of any dust or moisture in the SD slot may adversely affect the device and void your Trimble warranty. For this reason, the handheld is shipped with a plastic dummy installed in the SD memory card slot. To prevent dust or moisture entering the SD memory card slot:

- Retain the plastic dummy that is installed in the SD memory card slot, and reinsert the dummy when no SD memory card is installed in the slot.
  - When inserting or removing an SD card, place the handheld on a dust-free indoor surface.
- 

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# Introduction

## In this chapter:

- [About the Juno ST handheld](#)
- [What's in the box?](#)
- [Use and care of the handheld](#)
- [Pre-installed programs](#)
- [Finding additional information](#)

The *Juno ST Handheld User Guide* introduces the main features of the Trimble® Juno™ ST handheld and describes how to set up and use the handheld. The information provided in this guide supplements the information provided in the *Juno ST Handheld Quick Start Guide*, which you received with your handheld.

This guide describes how to:

- use Microsoft® Windows Mobile® version 5.0 software.
- use the handheld's integrated GPS receiver.
- synchronize information between a computer and the handheld.
- exchange information between the handheld and other devices.
- connect to the Internet or to a computer network.

Even if you have used other Global Positioning System (GPS) products before, Trimble recommends that you spend some time reading this guide to learn about the special features of the product. If you are not familiar with GPS, go to the Trimble website ([www.trimble.com](http://www.trimble.com)) for an interactive look at Trimble and GPS.

## About the Juno ST handheld

The Juno ST handheld is a small, lightweight field computer with an integrated GPS receiver.

The Juno ST handheld has built-in Bluetooth® wireless technology and wireless LAN (Local Area Network) connectivity for cable-free connection to other devices. Running the Microsoft® Windows Mobile® version 5.0 software for Pocket PC, the handheld provides mobility and flexibility between field and office.

The integrated GPS receiver provides accurate positioning information within 5 meters when using real-time or postprocessed differential correction. For more information, see [Using GPS, page 39](#).

### Supported GPS field software

To collect GPS data with the Juno ST handheld, you must install GPS field software onto the handheld. You can use the Juno ST handheld with the following GPS field software:

- Trimble TerraSync™ software, for configuring real-time (SBAS) options and NMEA output settings, and for productive GIS data collection and maintenance.
- The Trimble GPSCorrect™ extension for ESRI ArcPad software, for productive GIS data collection and maintenance.
- The Trimble GPS Pathfinder® Tools Software Development Kit (SDK), for integrating GPS data and adding value to an existing mapping and GIS field software application.
- Other GPS field software that accepts NMEA messages.

### What's in the box?

When you unpack your Juno ST handheld, check that you have received all the components, as detailed on the packing list and shown below.



Figure 1 Items included with the Juno ST handheld

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

## Use and care of the handheld

The Juno ST handheld is a non-rugged device and to protect it when not in use, Trimble recommends storing the handheld in the carry case provided.

When using the handheld:

- Keep the outer surface free of dirt and dust.
- Keep the external antenna port and the SD card slot free of dirt and dust (see [Using an SD memory card, page 20](#)).
- Protect the touch screen by using the stylus provided and avoid using excessive pressure and sharp or abrasive objects.
- Be careful not to drop the handheld or subject it to any strong impact. Do not place the handheld in your back pocket.
- Protect the handheld from extreme temperatures. For example, do not leave the handheld on the dashboard of a vehicle.

- The handheld is not waterproof. Do not expose the handheld to rain or moisture.

To clean the handheld, wipe it with a clean dry cloth. Do **not** immerse the handheld in water.

## Storage

If you are not going to use the handheld for three months or more, Trimble recommends that you:

1. Transfer any data that you need to a desktop computer (see [Connecting to an office computer, page 33](#)).
2. Press the **Power** button to turn off the handheld.
3. Store the handheld in a cool, dry place.

If the handheld has been stored for longer than six months, charge the battery before use (see [Powering the handheld, page 12](#)).

## Pre-installed programs

The following programs are pre-installed on the Juno ST handheld:

| Program   | Function   |
|---|--|
|  ActiveSync          | Synchronize information between the handheld and a computer.             |
|  Calculator          | Perform basic arithmetic functions.                                      |
|  Calendar            | Keep track of appointments and arrange meetings.                         |
|  Contacts            | Keep track of your friends and colleagues.                               |
|  File Explorer       | View and manage files.   |
|  Internet Explorer   | Browse the World Wide Web.   |
|  Messaging (Inbox)   | Write, send, and receive e-mail messages.                                |
|  Notes               | Create handwritten, typed, or recorded notes.                            |
|  Pictures and Videos | Take, view, and edit pictures, as well as record and launch video clips. |
|  PowerPoint Mobile   | View slide show presentations.   |
|  Excel Mobile        | Create and edit Excel spreadsheets.                                      |
|  Word Mobile         | Create and edit Word documents.  |
|  Tasks               | Keep track of your tasks.  |
|  Windows Media       | Play Windows Media or MP3 audio and video files.                         |

## Finding additional information

Sources of information in addition to the information provided in this guide include:

| For more information on...                            | refer to...   |
|---|---|
| GPS   | <a href="http://www.trimble.com/gps/">www.trimble.com/gps/</a>  |
| ESRI ArcPad software                                  | <a href="http://www.esri.com/arcpad">www.esri.com/arcpad</a> , or ArcPad documentation  |
| Trimble GPSCorrect extension for ESRI ArcPad software | GPSCorrect help, or <a href="http://www.trimble.com/gpsccorrect.shtml">www.trimble.com/gpsccorrect.shtml</a>                                  |
| Messaging (Inbox)                                     | Pocket PC help  |
| Internet Explorer                                     | Pocket PC help  |
| Windows Mobile Device Center                          | Windows Mobile Device Center help   |
| Microsoft ActiveSync® technology                      | ActiveSync help   |
| Specifications for the Juno ST handheld               | <a href="http://www.trimble.com/juno.shtml">www.trimble.com/juno.shtml</a>  |
| Trimble TerraSync software                            | <a href="http://www.trimble.com/terrasync.shtml">www.trimble.com/terrasync.shtml</a> , or the <i>TerraSync Software Getting Started Guide</i> |

## Technical assistance

If you have a problem and cannot find the information you need in the product documentation, **contact your Trimble reseller.**

### Technical support

Go to the Juno ST handheld technical support page ([www.trimble.com/juno\\_ts.asp](http://www.trimble.com/juno_ts.asp)) on the Trimble website for the latest support information about the software, including:

- FAQs
- support notes detailing the latest support issues
- documentation
- the latest files available for download

## Your comments

Your feedback about the supporting documentation helps us to improve it with each revision. E-mail your comments to [ReaderFeedback@trimble.com](mailto:ReaderFeedback@trimble.com).

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# Getting Started

## In this chapter:

- [Parts of the Juno ST handheld](#)
- [Powering the handheld](#)
- [Turning on the handheld](#)
- [Locking the handheld](#)
- [Handheld buttons](#)
- [Resetting the handheld](#)
- [Storing data](#)

This chapter describes the main features of the Juno ST, and provides the information you need to get up and running with the handheld.

## Parts of the Juno ST handheld

The following pages show the main parts of the handheld.



Figure 1 Juno ST handheld – Front view

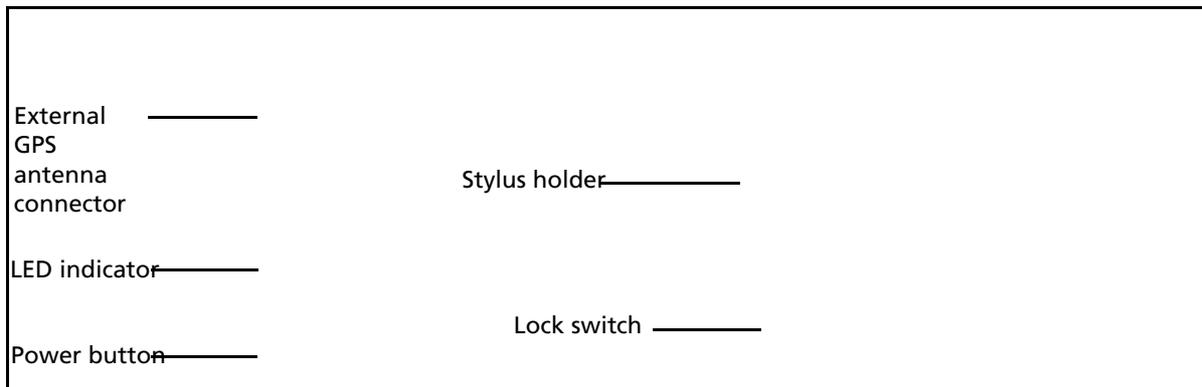


Figure 2 Juno ST handheld – Left view

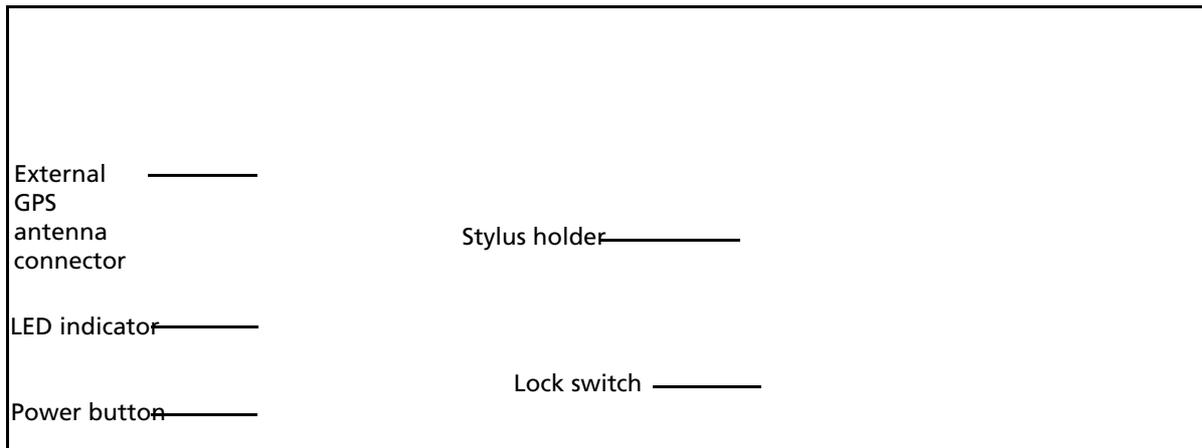


Figure 3 Juno ST handheld – Right view



Figure 4 Juno ST handheld – Back view

## Powering the handheld

A rechargeable Lithium-ion battery is provided with the Juno ST handheld.

*Note* – Insert the battery into the handheld and then charge the battery completely before using the handheld for the first time. If the battery has been stored for longer than six months, charge it before use.

### Battery safety



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

To prevent injury or damage:

- Do not use or charge the battery if it appears to be damaged. Signs of damage include, but are not limited to, discoloration, warping, and leaking battery fluid.
  - Do not store or leave your device near a heat source such as near a fireplace or other heat-generating appliance, or otherwise expose it to temperatures in excess of 70°C (158°F) such as on a vehicle dashboard. When heated to excessive temperatures, battery cells could explode or vent, posing a risk of fire.
  - Do not immerse the battery in water.
  - Do not use or store the battery inside a vehicle during hot weather.
  - Do not drop or puncture the battery.
  - Do not open the battery or short-circuit its contacts.
- 



---

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

To prevent injury or damage:

- If the battery leaks, avoid contact with the battery fluid.
  - If battery fluid gets into your eyes, immediately rinse your eyes with clean water and seek medical attention. Do not rub your eyes!
  - If battery fluid gets onto your skin or clothing, immediately use clean water to wash off the battery fluid.
- 



---

**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.
-

## AC adaptor safety



**WARNING** – To use AC adaptors safely:

- Use only the AC adaptor intended for the Juno ST handheld. Using any other AC adaptor can damage your product and may void your warranty. Do not use the AC adaptor with any other product.
- Make certain that the input voltage on the adaptor matches the voltage and frequency in your location.
- Make certain that the adaptor has prongs compatible with your outlets.
- AC adaptors are designed for indoor use only. Avoid using the AC adaptor in wet outdoor areas.
- Unplug the AC adaptor from power when not in use.
- Do not short the output connector.
- There are no user-serviceable parts in this product.
- Should damage to the AC adaptor occur, replace it with a new Trimble AC adaptor.

## Inserting the battery

To insert the battery into the handheld:

1. On the back of the handheld, use your thumb to press the gray button below the Microsoft Windows logo and slide the back cover down to remove it.
2. Insert the battery by first angling the bottom of the battery into the handheld, with the contacts towards the bottom and the label facing upwards (as shown in [Figure 5](#)). Press the battery flat until it clicks into place.

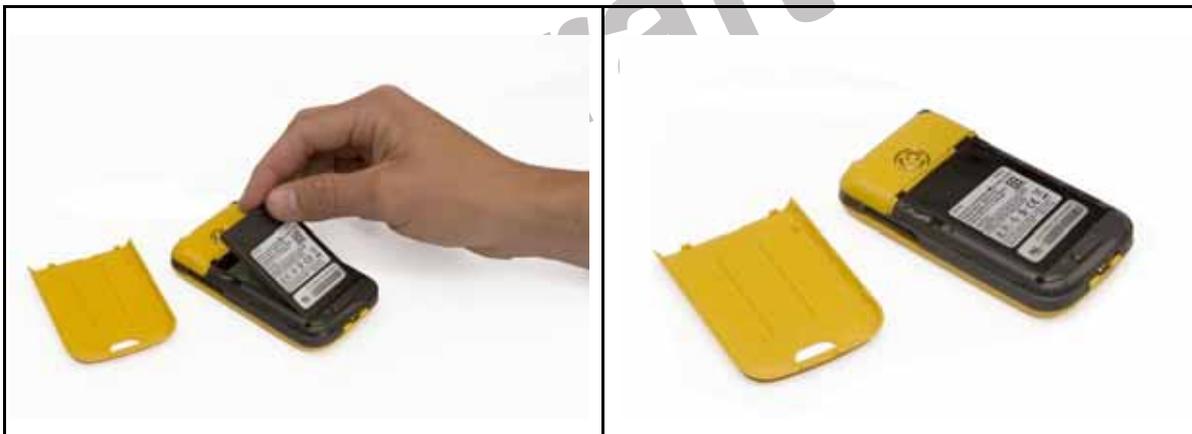


Figure 5 Inserting the battery

3. Replace the back cover by sliding the cover upwards until it snaps closed.



**Tip** – To remove the battery, remove the back cover of the handheld and insert your finger or a small screwdriver in the notch above the top right corner of the battery, and then pull the top of the battery towards you.

## Charging the battery

When fully charged, the handheld battery provides enough power for 6 hours using GPS and the backlight. When not using GPS, the battery provides enough power for up to 10 hours.

**Note** – *Using Bluetooth wireless technology or wireless LAN connectivity consumes additional battery power and so shortens battery life between charges.*

To charge the battery, do one of the following:

- Connect the AC power adaptor to the Power/USB socket on the handheld and then connect the adaptor to mains power. An international adaptor kit is provided with the handheld.
- Connect the USB cable to the Power/USB socket on the handheld and then connect the USB cable to a USB socket on an office computer.
- Connect the vehicle power adaptor to the Power/USB socket on the handheld and then connect the adaptor to the vehicle power source.

When the handheld is connected to a power source, the battery icon in the *Today* screen changes to .

Fully charging the battery from empty takes approximately 4 hours. You can use the handheld while it is charging.

When the battery is:

- low, the LED indicator flashes red.
- charging, the LED indicator flashes green.
- charged completely, the LED indicator is steady green.

## Checking the level of battery power

To check the level of battery power remaining at any time, tap the battery icon  in the title bar of the *Today* screen.

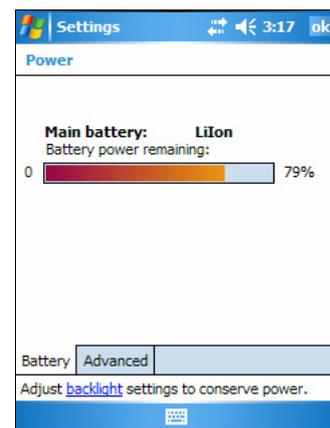
The Power control appears, displaying the *Battery* tab.

When the handheld is connected to a power source, the battery icon in the *Today* screen changes to . You can still tap the icon to view the level of battery power.

### Low battery indicators

If the battery level becomes low during normal use of the handheld, the LED indicator flashes red and the battery icon in the title bar of the *Today* screen changes to .

Back up your data and then recharge the battery.

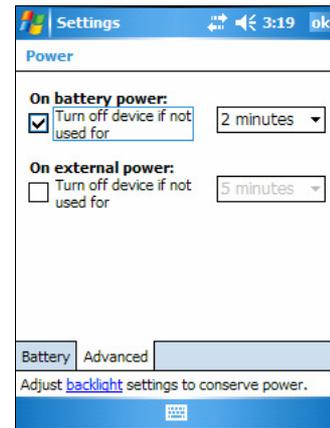


## Automatic power off settings

By default, the handheld is set to turn off automatically if the handheld is not used for two minutes.

To change the time before the handheld automatically turns off:

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



## Conserving power

Although the handheld battery can operate for a full day without recharging, you should try to conserve battery power as much as possible. Follow these tips to reduce power consumption:

- Set the handheld to automatically turn off when idle. For more information, see [Automatic power off settings](#), above.
- Set the backlight to automatically turn off when the handheld is idle for a specified time. For more information, see [Backlight](#), page 31.

**Note** – Trimble GPS field applications override any automatic settings and keep the backlight and the handheld turned on while connected to the GPS receiver.

- Turn off the integrated Bluetooth or WLAN radios whenever you are not using them. For more information, see [Using the Bluetooth radio](#), page 49 and [Using the WLAN radio](#), page 47.
- Disconnect from the integrated GPS receiver when GPS data is not required, using the application's Disconnect or Deactivate GPS option. When you disconnect from GPS, the integrated GPS receiver switches off and stops drawing power.

**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.

## Turning on the handheld

If the screen on the handheld is blank, the handheld is turned off. To turn on the handheld:

1. Make sure the handheld is not locked. The **Lock** switch should be in the up (Unlock) position.
2. Press the **Power** button briefly.

To turn off the handheld, press the **Power** button briefly again.

To turn off the backlight while the handheld is turned on, press and hold the **Power** button for approximately 2 seconds.

## Locking the handheld

To lock the handheld screen and buttons, move the Lock switch *down* to the **Lock** position. If the handheld is on, the handheld also turns off.

To unlock the handheld screen and buttons, move the Lock switch *up* to the **Unlock** position. The handheld is restored to the state it was in when locked. That is, if the handheld was:

- turned on when locked, unlocking the handheld turns it on.
- turned off when locked, unlocking the handheld unlocks the buttons only and leaves the handheld turned off.



**Tip** – To lock the handheld without turning it off, use the device lock option (see [Device lock, page 28](#)).

## Handheld buttons

The Juno ST handheld provides 4 buttons for fast, easy access to commonly used Windows Mobile applications. Use the Directional button to move around the screen easily or to perform the same action as an Enter key.

The table below provides information about each button.

| Button             | Icon | Function   |
|--------------------|------|--|
| Calendar           |      | Displays the Calendar application.   |
| Today              |      | Displays the Today screen.   |
| Contacts           |      | Displays the Contacts application.   |
| Messaging          |      | Displays the Messaging application.  |
| Directional button |      | Provides directional controls for moving around the screen and scrolling in various menus and applications.<br>To perform the same action as an Enter key, press the center of the button. |

## Resetting the handheld

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

If the handheld stops responding to the stylus, or if it does not respond when you press any of the keypad buttons, you may need to reset it. First, try a soft reset. If the handheld does not respond, perform a hard reset.

### Performing a soft reset

A soft reset is similar to rebooting a computer. A soft reset saves data and closes all open applications and then restarts the handheld. All data and settings are retained after a soft reset.

To perform a soft reset, use the tip of the stylus to lightly press the **Reset** button beside the SD card slot on the handheld.

### Performing a hard reset

A hard reset retains settings and data you have previously saved on the handheld, but any unsaved data may be lost.

*Note – Only perform a hard reset if performing a soft reset does not resolve the problem.*

To perform a hard reset, press and hold the **Power** button and then use the tip of the stylus to lightly press the **Reset** button beside the SD card slot on the handheld.

### Resetting to factory default settings

*Note – Only reset the handheld to factory default settings if performing a soft reset and then a hard reset does not resolve the problem.*




---

**WARNING** – Resetting the handheld to factory default settings erases **all** data, installed applications, and settings stored in the handheld, except for any data or applications that were pre-installed on the handheld or are stored on an SD memory card.

---



**Tip** – To quickly and easily restore lost data, synchronize the handheld with a computer **before** you reset the handheld to the factory default settings. Once the handheld is reset then resynchronize the handheld with the computer.

To reset the handheld to the factory default settings:

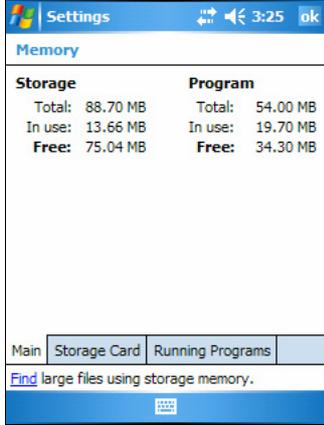
1. Press and hold the **Today** and **Messaging** buttons on the handheld.
2. While holding the buttons, use the tip of the stylus to lightly press the **Reset** button beside the SD card slot on the handheld.

## Storing data

The handheld has two types of memory:

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

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



| Memory           |                  |
|------------------|------------------|
| <b>Storage</b>   | <b>Program</b>   |
| Total: 88.70 MB  | Total: 54.00 MB  |
| In use: 13.66 MB | In use: 19.70 MB |
| Free: 75.04 MB   | Free: 34.30 MB   |

Main Storage Card Running Programs  
[Find large files using storage memory.](#)

Pre-installed documents and program files are not affected by power loss or resetting. However, you can still lose data if you accidentally delete or overwrite it.



**CAUTION** – Windows Mobile version 5.0 software does not include a Recycle Bin. When you delete files from the flash disk, they are deleted permanently.

To protect your data, Trimble recommends that you save data to an SD memory card (see below) or regularly copy important data to your office computer. For more information about transferring files to an office computer, see [Connecting to an office computer, page 33](#).

## Using an SD memory card

To save data in an alternative location to the flash disk, the handheld has a **Secure Digital (SD) Memory Card** slot. You can use SD memory cards to make copies of information and to securely transfer data to and from another device that has an SD memory card slot.

**Note** – *The Juno ST handheld does not support SDIO (SD input/output) memory cards or SDHC (high capacity SD) memory cards.*



**WARNING** – Static electricity can harm electronic components inside the handheld. To prevent static damage:

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



---

**WARNING** – The presence of any dust or moisture in the SD slot may adversely affect the device and void your Trimble warranty. For this reason, the handheld is shipped with a plastic dummy installed in the SD memory card slot. To prevent dust or moisture entering the SD memory card slot:

- Retain the plastic dummy that is installed in the SD memory card slot, and reinsert the dummy when no SD memory card is installed in the slot.
  - When inserting or removing an SD card, place the handheld on a dust-free indoor surface.
- 

To insert an SD memory card:

1. Place the handheld on a dust-free indoor surface.
2. Remove the plastic dummy from the SD memory card slot and insert the SD memory card into the slot.
3. Store the plastic dummy in a safe location for reuse after you have removed the SD card.

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

**Note** – Do not store required data or applications to an SD memory card if the card will be removed. Data saved to an SD memory card is only available when the card is inserted in the handheld.

To remove an SD memory card:

1. To eject the SD card from the SD card slot, push the card in.  
The card pops out.
2. Remove the card and, if you want to, insert a new SD memory card.  
Alternatively, reinsert the plastic dummy into the slot.

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# Windows Mobile Basics

## In this chapter:

- [Parts of the screen](#)
- [Using the stylus](#)
- [Accessing help](#)
- [Entering text](#)
- [Personalizing your handheld](#)

The Juno ST handheld's operating system is based on the Windows Mobile version 5.0 software for Pocket PC.

This chapter describes the main features of the Windows Mobile software.

## Parts of the screen

The main parts of the screen are shown below.

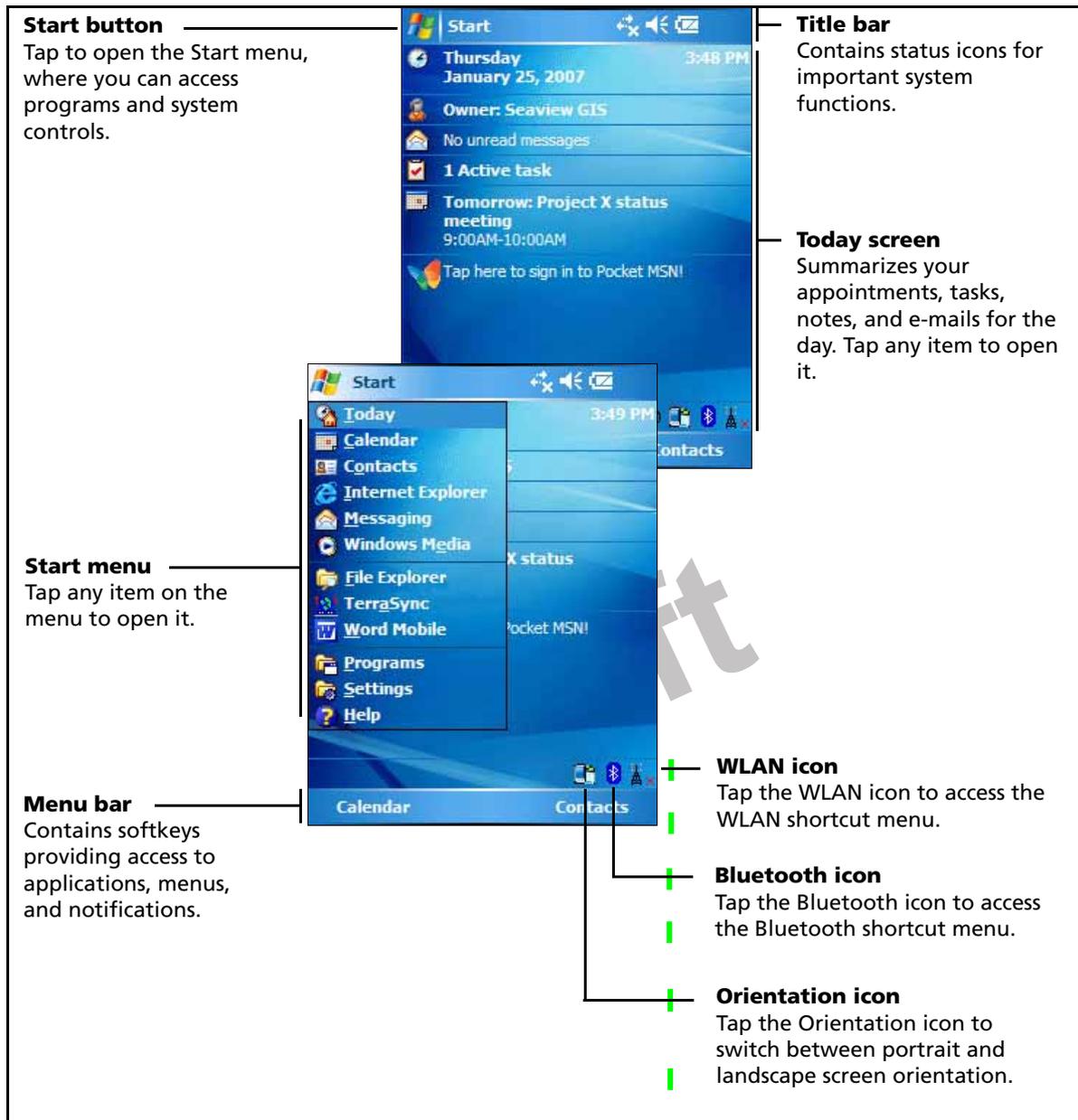


Figure 7 Parts of the screen

## Using the stylus

To interact with the handheld, use the stylus to tap on the touch screen. To use the stylus, remove it from its holder in the top left corner of the handheld, and hold the stylus as you would hold a pen or pencil.

There are three types of action you can perform with the stylus:

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

If at any time the touch screen does not respond properly to stylus taps, realign it. For more information, see [Screen, page 30](#).

## Accessing help

To access help, tap  / *Help* or, if available, tap  in the application window. If there is an application running, context-sensitive help for the current screen appears. To view the main Help Contents page, tap the *Contents* softkey in the menu bar.

Help files installed on the handheld work in the same way as a Web page. Tap hyperlinks to navigate around the help and use  to retrace your steps. Tap *View / Contents* to return to the Contents page for the application, and tap *View / All Installed Help* to return to the main Contents page.

## Entering text

The handheld does not have a physical keyboard. To enter text, use an on-screen keyboard. Alternatively, you can write directly onto the screen.

You can select how you want to enter text using the Input Panel. The Input Panel automatically appears in the menu bar of any application. The default selection is the on-screen keyboard.

To change the text input method:

1. In the menu bar, tap the arrow on the **Input Panel** button. (You may have to activate and then hide the keyboard for the arrow to appear.)

A list of input methods pops up. The currently selected method is indicated by a check mark.

2. Tap the method you want to use to select it.

## Using the on-screen keyboard

To activate the on-screen keyboard, tap the keyboard icon  on the Input Panel displayed in the menu bar. The on-screen keyboard appears.

To enter text, tap the appropriate keys on the on-screen keyboard. When you have finished entering text in a field, tap **Tab** to accept the text you have entered and move to the next field.

To hide the keyboard, tap the keyboard icon again.



Input panel showing keyboard icon

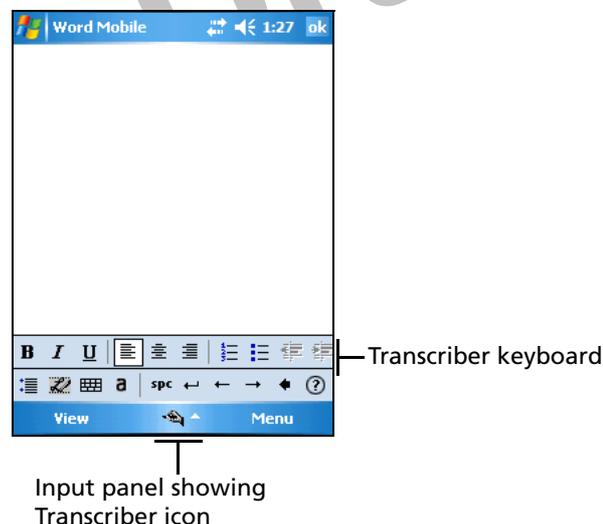
## Writing on screen

When you select Transcriber, you can write directly onto the screen using the stylus. The Microsoft Transcriber software converts your handwriting to text. You can use it to enter notes in a text editor such as Notes.

To select Transcriber:

1. Tap the arrow on the **Input Panel** button displayed in the menu bar. A list of input methods pops up.
2. Tap *Transcriber*. The *Transcriber Intro* dialog appears.
3. Tap **OK**.

The Transcriber icon  appears in the menu bar, and the Transcriber keyboard appears above the menu bar.



Input panel showing Transcriber icon

Transcriber has a number of tools and modes that allow you to customize how it works. These tools and modes are controlled from the Transcriber keyboard. For more information, refer to the Transcriber Help.

## Personalizing your handheld

Use the controls in the *Settings* screen to customize the handheld. The following are examples of the controls that are available.

### Today

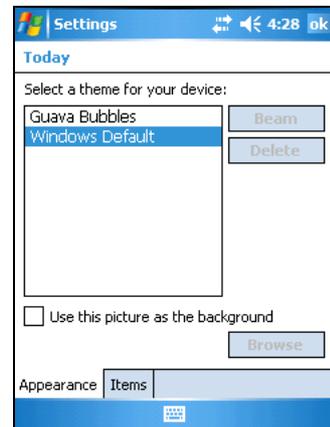
Use the Today control to change the display theme that controls the appearance of the *Today* screen, and to customize which items appear on the *Today* screen.

### Appearance

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

To change the display theme:

1. Tap  / *Settings* / *Personal* / *Today*.
2. Tap the *Appearance* tab.
3. Do one of the following:
  - To use a predefined theme, select it from the list.
  - To select the picture that you want to display in the *Today* screen background, select the *Use this picture as the background* check box. Then tap **Browse** to search for a file on the handheld.
4. Tap **OK**.

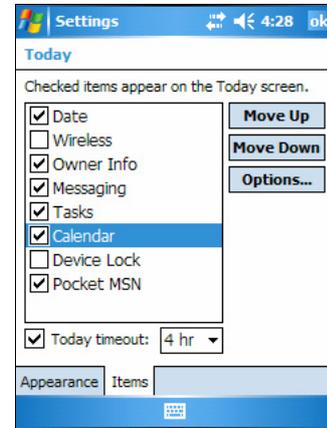


## Items

You can choose the items that appear on the *Today* screen, and the order that they appear in.

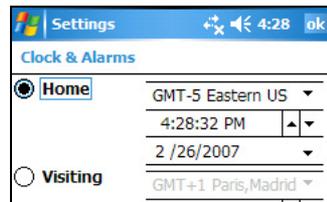
To change the items that appear on the *Today* screen:

1. Tap  / *Settings* / *Personal* / *Today*.
2. Tap the *Items* tab.
3. Select or clear the check boxes to display or hide the *Today* screen items.
4. Use the **Move Up** and **Move Down** buttons to change where the selected item appears on the *Today* screen.
5. Tap **OK**.



## Set the time zone

In the *Today* screen, tap the clock icon . The *Clock Settings* screen appears. Tap the *Time* tab, select the *Home* option and then select the correct time zone.



## Device lock

Use the Device Lock option on the *Today* screen to lock the screen and keypad while the handheld remains turned on.

To lock the device, from the *Today* screen tap *Device unlocked*. The *Today* screen shows *Device locked*, and the *Unlock* notification appears in the left corner of the menu bar.



**Tip** – If *Device unlocked* does not appear in the *Today* screen, you may need to add it to the items that appear in the *Today* screen. To do this, tap  / *Settings* / *Personal* / *Today*. Tap the *Items* tab and make sure that the checkbox next to *Device Lock* is selected.

Once the device is locked, the screen and keypad do not respond until the device 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 device. This means that you can keep using the GPS field software when the device is locked. For example, you could lock the device so that you can safely transport it between features, but keep the software connected to the GPS receiver so that you can continue collecting GPS positions.

To unlock the device, in the *Today* screen tap the *Unlock* notification in the left corner of the menu bar and then tap **Unlock**.

You can help to keep your data secure by requiring a password each time the handheld is turned on. Tap  / *Settings* / *Personal* / *Lock* to set a password or to change password settings.

Alternatively, use the **Lock** button to turn off the handheld and lock the keypad (see [Handheld buttons, page 18](#)).

## Sounds and notifications

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

- Tap  / *Settings* / *Personal* / *Sounds and Notifications*.

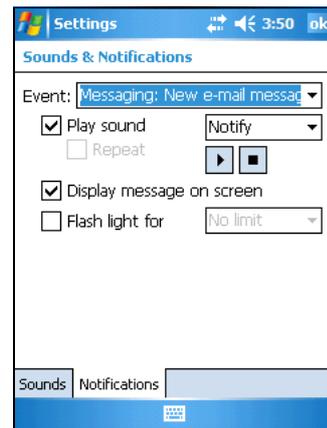
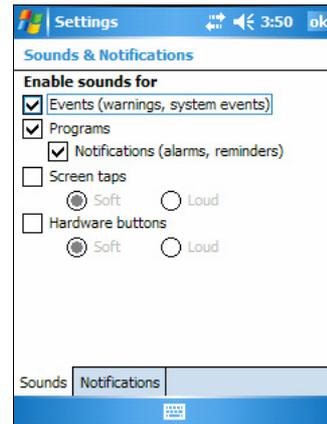
To turn sounds on or off:

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

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

To specify a sound scheme:

1. Tap the *Notifications* tab.
2. From the *Select an event* drop-down list, select an event.
3. Select from the available options the type of notification you want to receive for the selected event.
4. Tap **OK**.



## Screen

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

- Tap  / *Settings* / *System* / *Screen*.

To change the screen settings:

1. Tap the *General* tab.
2. To change the orientation of the screen, select an option in the Orientation group.
3. To start the alignment sequence for the touch screen, tap **Align Screen**.
4. Tap **OK**.

To enable ClearType:

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

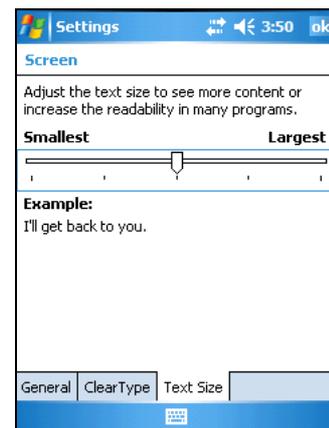
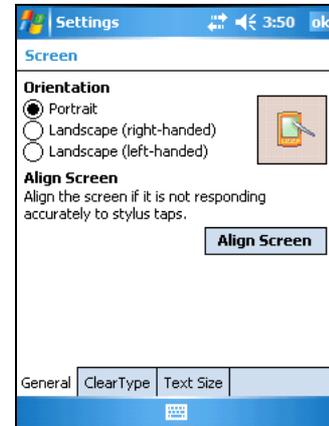
1. Tap the *ClearType* tab and select the *Enable ClearType* check box.
2. Tap **OK**.

To change the size of text on screen:

1. Tap the *Text Size* tab.
2. Tap and drag the slider control to the left to make text smaller, or to the right to make text larger.

The example text below the slider shows how the text will appear on screen.

3. Tap **OK**.



## Power

To open the Power control, do one of the following:

- Tap the battery icon  in the title bar of the *Today* screen.
- Tap  / *Settings* / *System* / *Power*.

Use the *Battery* tab to check the battery level (see [Checking the level of battery power, page 16](#)).

Use the *Advanced* tab to set the time before the handheld turns off when idle (see [Automatic power off settings, page 14](#)).

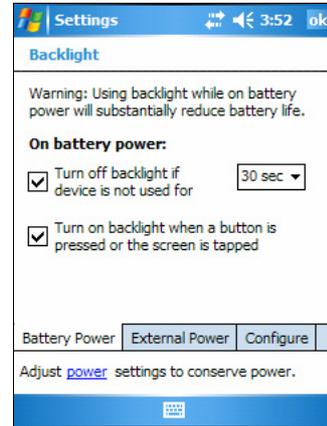
## Backlight

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

- Tap  / *Settings* / *System* / *Backlight*.

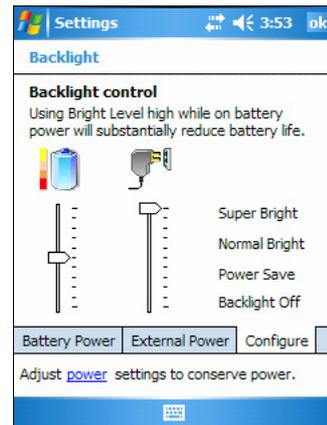
To turn off the backlight:

1. To automatically turn off the backlight when the handheld is idle and is using **battery power**, tap the *Battery Power* tab. Select the *Turn off backlight* check box and select a time from the drop-down list.
2. To automatically turn off the backlight when the handheld is idle and is using **external power**, tap the *External Power* tab. Select the *Turn off backlight* check box and select a time from the drop-down list.
3. Tap **OK**.



To change the brightness:

1. Tap the *Configure* tab.  
The brightness of the backlight can be configured independently for when the handheld is using battery or external power. Use the slider on the left for battery power, and the slider on the right for external power.
2. Tap and drag the slider control downwards to make the backlight darker, or upwards to make the backlight brighter.
3. Tap **OK**.



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## Connecting to an office computer

### In this chapter:

- [Connection management software](#)
- [Connecting the handheld to a computer](#)
- [Managing the connection using the Windows Mobile Device Center](#)
- [Managing the connection using ActiveSync technology](#)
- [Installing software](#)

Connect the Juno ST handheld to an office computer to transfer information, settings, and files from one device to the other, or to install software onto the handheld.

To protect your data, Trimble recommends that you regularly copy important data to your office computer, or save data to an SD memory card. For more information about SD cards, see [Using an SD memory card, page 20](#).

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

## Connection management software

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

- Windows Vista, use the Windows Mobile Device Center to manage the connection.
- Windows XP or 2000, use Microsoft 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 device.

This connection management software also enables you to synchronize office applications on your computer with your handheld.



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**CAUTION** – The available space on the handheld is small compared to an office computer. Synchronizing large amounts of data (for example, your entire e-mail application and your calendar) may overwhelm the handheld.

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To avoid accidentally synchronizing the handheld with a large amount of data on your office computer, Trimble recommends that you always connect to the handheld **without forming a partnership**. For more information see one of the following:

- [Managing the connection using the Windows Mobile Device Center, page 36](#)
- [Managing the connection using ActiveSync technology, page 37.](#)

## Installing the Windows Mobile Device Center

Windows Vista includes a basic connectivity driver for Windows Mobile devices. This driver allows you to transfer files from the device to your PC.

To install software onto a Windows Mobile-based device, you must install Windows Mobile Device Center 6 onto your office computer.

Go to [www.microsoft.com/windowsmobile/devicecenter.mspx](http://www.microsoft.com/windowsmobile/devicecenter.mspx) to download the Windows Mobile Device Center from the Microsoft website.

## Installing ActiveSync technology

A copy of ActiveSync technology is provided on the *Juno ST Handheld Companion CD*. Alternatively, go to [www.microsoft.com/windowsmobile](http://www.microsoft.com/windowsmobile) to download the latest version of ActiveSync from the Microsoft website.

## Connecting the handheld to a computer

To connect the Juno ST handheld to a computer:

1. Make sure that the handheld and the computer are switched on.
2. Make sure you have installed the appropriate connection management software onto the computer (see [Connection management software, page 34](#)).
3. To form a connection, do one of the following:
  - Connect one end of the USB data cable to the Power/USB socket on the handheld, and connect the other end of the USB data cable to a USB port on the computer.



Figure 4.1 Connecting the handheld to a computer using the USB data cable

- Use the handheld's integrated Bluetooth radio to establish a wireless serial link to a Bluetooth-enabled computer. For more information, see [Using the Bluetooth radio, page 49](#).

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

- [Managing the connection using the Windows Mobile Device Center, page 36](#)
- [Managing the connection using ActiveSync technology, page 37](#)

## Managing the connection using the Windows Mobile Device Center

To manage a connection between the handheld and a computer using the Windows Mobile Device Center:

1. Connect the handheld to the computer (see [page 35](#)).
2. If the Autoplay window appears, close the window.
3. The *Windows Mobile Device Center* window displays the message **Connected**:



4. Click *Connect without setting up your device*.
5. To transfer files between the computer and the handheld, click *File Management*. A Windows Explorer-type window appears, displaying files stored on the handheld. Copy and paste files to other locations on your computer, or from your computer to the handheld.
6. To install software onto the handheld, see [Installing software, page 38](#).
7. To uninstall software from the handheld, click *Programs and Services* and then click *Add/Remove Programs*.



**Tip** – If the *Add/Remove Programs* option is not displayed below *Programs and Services*, click *More*. The *Add/Remove Programs* option appears.

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



**Tip** – If you have the GPS Pathfinder Office software installed on your office computer, you can configure the Connection Manager utility in the GPS Pathfinder Office software to automatically detect when you connect a Juno ST handheld to the computer. This will enable you to automatically transfer data from the TerraSync software, differentially correct the data, and then export it to a GIS. For more information, refer to the *GPS Pathfinder Office Software Help*.

## Managing the connection using ActiveSync technology

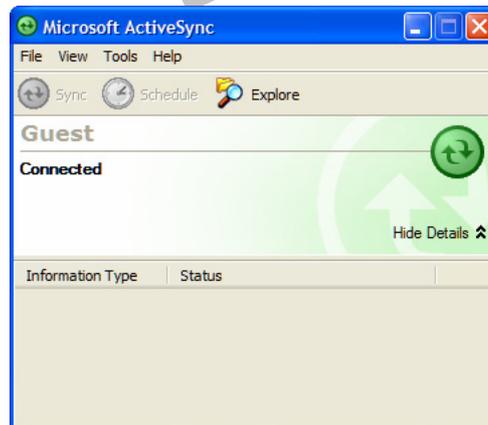
To manage a connection between the handheld and a computer using ActiveSync technology:

1. Connect the handheld to the computer (see [page 35](#)). The *Synchronization Setup Wizard* appears:



**Note** – If the connection is not made automatically, check that the connection has been enabled in the ActiveSync software and on the handheld. For more information, see [Troubleshooting, page 57](#).

2. 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, click **Explore**. A Windows Explorer-type window appears, displaying files stored on the handheld. Copy and paste files to other locations on your computer, or from your computer to the handheld.
5. To install software onto the handheld, see [Installing software, page 38](#).

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

For more information, refer to the *ActiveSync Help*.



**Tip** – If you have GPS Pathfinder Office software installed on your office computer, you can configure the Connection Manager utility in the GPS Pathfinder Office software to automatically detect when you connect a Juno ST handheld to the computer. This will enable you to automatically transfer data from the TerraSync software, differentially correct the data, and then export it to a GIS. For more information, refer to the *GPS Pathfinder Office Software Help*.

## Installing software

The Juno ST handheld supports software designed to run on Windows Mobile-based devices. You may also be able to install and run some software designed for other operating systems.

To install software on the handheld:

1. Connect the handheld to a computer (see [page 35](#)).
2. Insert the software CD into the office computer and run the installation setup. For more information, refer to the installation instructions for the software.
3. When prompted, select the install option for a Windows Mobile-based device. The software is installed to the handheld. Otherwise, once the software is installed on the computer, it is automatically transferred to the handheld.

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

4. If prompted after installation, perform a soft reset of the handheld (see [page 19](#)).

## Using GPS

### In this chapter:

- Factors that affect accuracy
- Supported GPS field software
- Configuring your GPS field software
- Using your GPS field software

The Juno ST handheld provides an integrated GPS receiver that enables you to use GPS data.

The Global Positioning System (GPS) is a satellite-based positioning system consisting of a constellation of operational NAVSTAR satellites that orbit the earth every 12 hours. This system provides worldwide, all-weather, 24-hour time and position information.

***Note** – To receive signals from GPS satellites, the handheld must have a clear view of the sky. GPS positions may not always be available, particularly in or near buildings, in vehicles, or under tree canopy.*

## Factors that affect accuracy

The Juno ST handheld has an integrated GPS receiver that provides accurate positioning with real-time or postprocessed differential correction of between 2 and 5 meters.

The accuracy that you obtain from your Juno ST handheld is affected by a number of factors, including whether the data is differentially corrected in real-time or after data collection, and the availability of GPS satellites in the sky when you collect the data.

## Differential GPS

Use differential GPS to correct errors in your collected data. Differential GPS (DGPS) requires two or more receivers. One receiver, called the **reference station**, is located at a known point to determine the GPS measurement errors and compute corrections to these errors. An unlimited number of mobile GPS receivers, called **rovers**, collect GPS data at unknown locations within the vicinity of the reference station. Errors common at both the reference and rover receivers are corrected with DGPS either in real time or during postprocessing.

### Real-time DGPS

Use a real-time differential GPS (DGPS) source to receive differential corrections in real-time and give you better accuracy as you collect data. In real-time DGPS, the reference station calculates and broadcasts the error for each satellite as each measurement is received, enabling you to immediately see differentially corrected data on the map displayed in the data collection software.

Real-time DGPS sources include Satellite Based Augmentation Systems (SBAS) such as WAAS in the US and EGNOS in Europe. An SBAS system uses multiple reference stations in a network to calculate the DGPS corrections which are then delivered to the user from a Geostationary satellite (SBAS).

Factors that affect real-time DGPS accuracy include how often the corrections are updated, and whether the coordinate system used by the correction source matches the coordinate system used by the GPS receiver.

### Postprocessed DGPS

In postprocessed DGPS, the collected GPS data is transferred to an office computer, and measurements from the reference station are downloaded. Postprocessing software such as the GPS Pathfinder Office software or the Trimble GPS Analyst™ extension for ESRI ArcGIS software is used to differentially correct the collected data.

Factors that affect the accuracy of postprocessed DGPS include the distance between the reference station and the location where the rover data was collected, the accuracy of the reference station position, and the logging interval at the reference station.

For more information, refer to the documentation provided with your postprocessing software.

## Postprocessed real-time DGPS

Postprocessed DGPS positions are generally more accurate than DGPS positions obtained in real time. You can postprocess your files using the GPS Pathfinder Office software or the Trimble GPS Analyst extension for ESRI ArcGIS software to improve the accuracy of your collected data if you collect GPS positions using any of the following:

- version 3.01 or later of the TerraSync software
- version 2.20 or later of the Trimble GPSCorrect extension for ESRI ArcPad software
- an application developed using version 2.20 or later of the GPS Pathfinder Tools SDK

*Note* – For more information about GPS and DGPS, go to [www.trimble.com/gps](http://www.trimble.com/gps) and review the *All About GPS* tutorial.

## Supported GPS field software

You can use the Juno ST handheld with any of the software products described below.

### TerraSync software

You can install version 3.00 or later of the TerraSync software on a Juno ST handheld. Use the software to collect and maintain GIS and GPS data.

To install the TerraSync software, either insert the *TerraSync Software CD* in the CD-ROM drive of a computer and use the menus provided, or run the downloaded setup file. To obtain an installation code for installation, you must register your copy of the software online. Detailed installation instructions are provided in the *TerraSync Software Getting Started Guide*.

### ESRI ArcPad software and the Trimble GPSCorrect extension

You can install version 7.0.1 or later of the ESRI ArcPad software on a Juno ST handheld. Use the software to collect and maintain GIS and GPS data. Detailed installation instructions for ESRI ArcPad are provided in the ArcPad documentation.

To be able to differentially correct your ArcPad GPS data, install version 2.20 or later of the Trimble GPSCorrect extension for ESRI ArcPad software on a Juno ST handheld. Make sure you install ArcPad **before** you install the GPSCorrect extension.

*Note* – Make sure your version of the GPSCorrect extension is compatible with the version of ArcPad software you are using. For more information, go to [www.trimble.com/gpsccorrect\\_ts.asp](http://www.trimble.com/gpsccorrect_ts.asp), click *Support Notes* and then search for the *Mapping and GIS Product Compatibility List Support Note*.

To install the GPSCorrect extension, either insert the *Trimble GPSCorrect Extension for ESRI ArcPad Software CD* in the CD-ROM drive of a computer and use the menus provided, or run the downloaded setup file. Detailed installation instructions are provided in the *Trimble GPSCorrect Extension Release Notes*.

## Other GPS field applications

You can use the Juno ST handheld with a custom application developed using version 2.20 or later of the Trimble GPS Pathfinder Tools Software Development Kit (SDK).

You can also use the Juno ST handheld with any GPS field software that accepts NMEA messages.

## Configuring your GPS field software

The first time you use your GPS field software on the handheld, you may need to configure the software to connect to COM7, which is the GPS port on the handheld.

**Note** – *Trimble recommends that you do not use the GPS program that is pre-installed on the handheld, and that you configure connection settings within your GPS field software.*

The table below outlines how to configure different types of GPS field software.

Table 5.1 Connecting to the GPS COM port

| If you are using ...                 | do this ...  |
|--------------------------------------|--|
| TerraSync                            | Run Terrasync. The software automatically activates the integrated GPS receiver on COM7.   |
| ArcPad with the GPSCorrect extension | <ol style="list-style-type: none"> <li>1. Within ArcPad, tap the <b>GPS button</b> . The software activates the integrated GPS receiver on COM7.</li> <li>2. To configure a real-time DGPS source, or to view status information, run the GPSCorrect extension. To do this, in the Trimble toolbar, tap the <b>GPSCorrect</b> button.</li> </ol>  |
| ArcPad                               | <ol style="list-style-type: none"> <li>1. In ArcPad, tap the <b>Tools</b> button .</li> <li>2. In the <i>Protocol</i> field select NMEA 0183.</li> <li>3. Tap the <i>GPS</i> tab and from the <i>Port</i> field select COM7.</li> <li>4. Tap <b>OK</b>.</li> <li>5. Tap the <b>GPS button</b> . The software activates the integrated GPS receiver.</li> </ol> |
| GPS Pathfinder Tools SDK application | Configure the software to connect to GPS on COM7, then use the Connect or Activate GPS command.  |
| NMEA application                     |  |

## Using your GPS field software

By default, the handheld is configured to receive satellite signals in most conditions. This section describes how to use your GPS field software to:

- view available GPS satellites
- plan the best time to collect data
- set up a connection to an SBAS real-time DGPS source

The steps and screens in this section describe the TerraSync software, the GPS user interface of which is similar to that of the Trimble GPScorrect extension for ESRI ArcPad software. The exact steps for your GPS field software may differ depending on the GPS field software you are using.

For more information, refer to the documentation for your GPS field software.

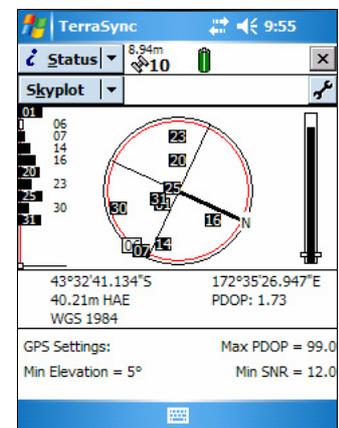
### Viewing available satellites

To run the TerraSync software, tap  / *Programs* / *Terrasync*.

The software opens, and by default displays the Skyplot screen.

Use the Skyplot screen or the Satellite Info section to view detailed GPS information about the GPS satellites currently being tracked.

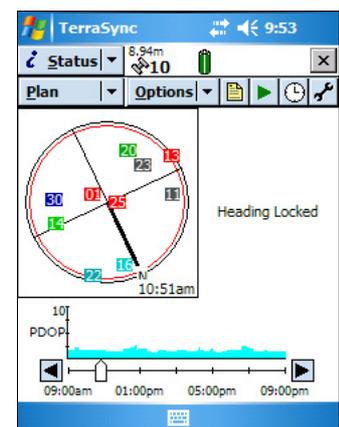
The area at the bottom of the screen shows the GPS settings for the handheld's GPS receiver.



### Planning a data collection session

To maximize productivity, plan GPS data collection around the times of the day when satellite geometry is best. The TerraSync software includes a Plan section with an animated skyplot and DOP (satellite geometry) graph for your position for the next 12 hours.

In the Plan section, you can check the planning skyplot as you play a session, then use the timeline to zoom in on times when geometry is good, and you will be able to collect plenty of GPS data.



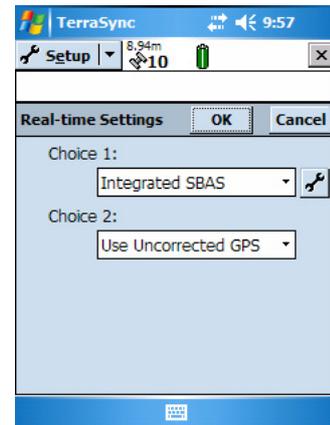
## Using SBAS differential corrections

The Juno ST handheld has an integrated receiver that uses Satellite Based Augmentation Systems (SBAS) correction messages to improve the accuracy and integrity of GPS data as you collect it. The receiver tracks SBAS satellites according to their geographical location.

For more information about how real-time differential GPS works, see [Differential GPS](#), page 40.

To use SBAS corrections:

1. In the TerraSync software, open the Real-time section and tap the **Setup** button .
2. In the *Choice 1* field, select Integrated SBAS. To select particular satellites, tap the **Setup** button  next to the *Choice 1* field.
3. In the *Choice 2* field, specify whether to use uncorrected positions, or to stop using GPS positions, if corrections are not available.
4. Tap **OK**.



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## Getting Connected

### In this chapter:

- [Setting up dial-up Internet and network connections](#)
- [Using the WLAN radio](#)
- [Using the Bluetooth radio](#)

The Juno ST handheld provides a number of options for connecting to networks and other devices.

Connect to the Internet and your corporate network to browse the Internet or intranet, send and receive e-mail and instant messages, and access files on the network.

Use the handheld's integrated WLAN radio to connect to the Internet or a network using a wireless LAN (Local Area Network) connection.

Alternatively, use the handheld's integrated Bluetooth radio to connect wirelessly to an external modem or mobile phone and connect to the Internet or a network using Bluetooth wireless technology.

You can also connect to a range of other Bluetooth-enabled devices to exchange information, or to create a personal network.

## Connecting to the Internet

Set up a connection to the Internet by doing one of the following:

- Set up a wireless LAN connection to an access point or network (see [page 48](#)).
- Set up a wireless connection to a mobile phone using Bluetooth wireless technology (see [page 52](#)).

To **automatically** connect to the Internet, start using the desired program, for example Internet Explorer Mobile. The handheld connects to the Internet using the connection you have identified as the default for an Internet connection.

**Note** – *If you have set up more than one wireless network connection, you may need to manually select the connection you want to use.*

To **manually** connect to the Internet using:

- the wireless LAN connection, see [Connecting to a network using wireless LAN connectivity, page 47](#)
- the Bluetooth wireless connection, see [Connecting to a Bluetooth-enabled device, page 52](#)

## Connecting to work

Set up a connection to a work network or Intranet by doing one of the following:

- Set up a wireless LAN connection to an access point or network (see [page 48](#)).
- Set up a wireless connection to a mobile phone using Bluetooth wireless technology (see [page 52](#)).
- Set up a VPN server connection to the network (see [page 53](#)).

To **automatically** connect to the network, start using the desired program, for example Windows Explorer Mobile. The handheld connects to the network using the connection you have identified as the default for an Internet connection.

**Note** – *If you have set up more than one wireless network connection, you may need to manually select the connection you want to use.*

To **manually** connect to the network using:

- the wireless LAN connection, see [Connecting to a network using wireless LAN connectivity, page 47](#)
- the Bluetooth wireless connection, see [Connecting to a Bluetooth-enabled device, page 52](#)

## Using the WLAN radio

The Juno ST handheld has an integrated Wireless Local Area Network (WLAN) radio that you can use to receive data anywhere within the range of a wireless LAN access point.

Access points are also known as “hotspots”. A wireless LAN connection can be used to connect to the Internet (at broadband speeds), and to connect to 802.11b/g standard Ethernet networks within range of an available wireless LAN access point.

Wireless LAN is sometimes referred to as *wireless Ethernet*.

### Turning on the WLAN radio

The Juno ST handheld is shipped with the integrated WLAN radio turned off.

To turn on the WLAN radio, tap the wireless LAN icon  in the bottom right corner of the *Today* screen and then tap *Wireless On/Off*.

The wireless LAN icon changes to  and if a wireless LAN is detected, a notification message appears.

### Turning off the WLAN radio

In some situations you may be required to turn off the WLAN radio. For example, aviation authority regulations can restrict the use of radios on board aircraft.



**Tip** – Turning off the WLAN radio when you are not using it conserves power.

To turn off the WLAN radio, tap the wireless LAN icon  in the bottom right corner of the *Today* screen and then tap *Wireless On/Off*.

The wireless LAN icon changes to  to indicate the handheld cannot send or receive WLAN signals.

### Connecting to a network using wireless LAN connectivity

To connect automatically to a network:

1. Bring the handheld within range of the network or access point.
2. When a wireless LAN is detected, the access point icon  appears on the title bar, and a notification message appears.
3. If more than one network is detected, select the network to connect to and then tap **OK**.
4. Select whether to connect to the Internet or to a Work network and then tap *Connect*.
5. If required, enter a network key (otherwise known as a WEP key or a WPA key) and then tap *Connect*. If a network key is not required, just tap *Connect*.

Alternatively, when the handheld is within range of the network or access point, start using the desired program, for example Internet Explorer Mobile.

If you are within range of more than one network or access point that you have set up wireless LAN connections to, you may need to select the connection you want to use (see [Connecting to the Internet](#), page 46 and [Connecting to work](#), page 46).

## Configuring settings for a wireless LAN connection

To configure settings for a wireless LAN connection to a network:

1. When the wireless network notification appears, select the network to connect to and then tap **OK**.
2. To configure settings for the connection, tap *Settings*. The *Configure Wireless Networks* page appears, displaying the *Wireless* tab.

Any networks that you have already configured are displayed in the list of preferred networks.

3. To add a new network, tap *Add New*. To change the settings for an existing network, tap the network.
4. Enter the name of the network and other connection details.
  - To use authentication, tap the *Network Key* tab and 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, tap *The key is automatically provided*. Otherwise, enter the network key.
  - For increased security, tap the *802.1x* tab and configure additional authentication information.
5. Tap **OK** to return to the *Configure Wireless Networks* page.
6. From the *Networks to access* drop-down list, select the types of network you want to connect to. Options are *All Available*, *Only access points* or *Only computer-to-computer*.
7. Tap **OK**.



To delete a wireless LAN connection, tap and hold the connection in the *Wireless* tab and then select *Delete*.

## Using the Bluetooth radio

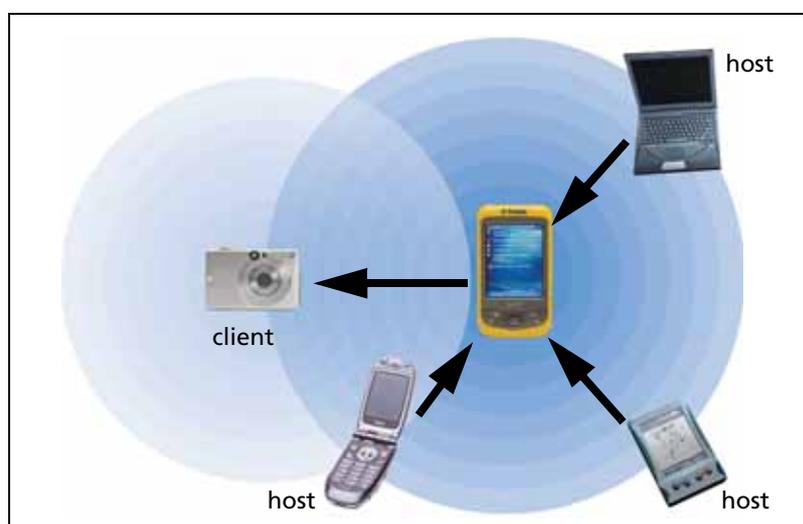
The Juno ST handheld has an integrated Bluetooth radio that you can use to establish a wireless connection to other Bluetooth devices that are within range.

Using a Bluetooth connection, you can communicate with devices such as mobile phones, desktop computers, handhelds, and digital cameras. You can also communicate with peripheral devices that use Bluetooth adaptors instead of serial or USB connections.

### Bluetooth hosts and clients

The handheld can be used as a client or as a host, and can act as both at the same time.

The following diagram shows the handheld connected to different types of devices using Bluetooth. The arrows indicate the direction of the flow of data from the host to the client device.



To communicate using a Bluetooth connection, a **client** device scans the Bluetooth radio frequency to “discover” other Bluetooth devices. Once it has discovered a **host**, the client selects the **service** that it will use. A service defines what type of information can be transferred to or from the host, and how. A client can connect to a number of different services provided by different hosts. The number of active connections at any one time affects the speed of the connections.

### Enabling Bluetooth wireless connections

The Juno ST handheld is shipped with Bluetooth wireless technology activated.

Use the Bluetooth control to turn on the integrated Bluetooth radio, enable the handheld to discover other Bluetooth devices, and configure host services on the Juno ST handheld.

To open the Bluetooth control, tap  / *Settings* / *Connections* / *Bluetooth*.

## Turning on the Bluetooth radio

To use the Juno ST handheld as a Bluetooth host or client, you must turn on the Bluetooth radio.

To turn on the Bluetooth radio:

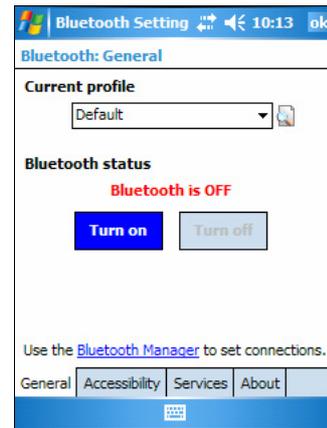
1. Tap  / *Settings* / *Connections* / *Bluetooth*.
2. In the *General* tab, tap **Turn on**. This enables the integrated Bluetooth radio.

**Note** – If the integrated Bluetooth radio is deactivated, the message *No Bluetooth hardware appears*.



**Tip** – To conserve power, turn off the Bluetooth radio when it is not in use.

The Bluetooth icon  appears in the bottom right corner of the *Today* screen, to indicate the handheld can send and receive Bluetooth wireless signals.



## Turning off the Bluetooth radio

In some situations you may be required to turn off the Bluetooth radio. For example, aviation authority regulations can restrict the use of radios on board aircraft.

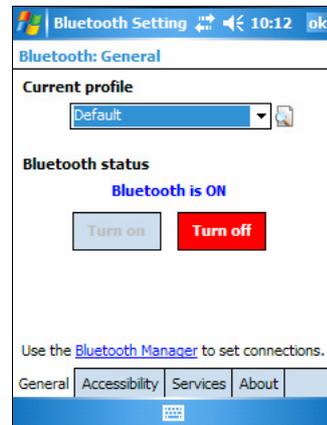


**Tip** – Turning off the Bluetooth radio when you are not using it conserves power.

To turn off the Bluetooth radio, do one of the following:

- Tap *Settings* / *Connections* / *Bluetooth*. In the *General* tab, tap **Turn off**.
- Tap the Bluetooth icon  in the *Today* screen and then tap *Turn Bluetooth OFF*.

The Bluetooth icon changes to  to indicate the handheld cannot send or receive Bluetooth wireless signals.

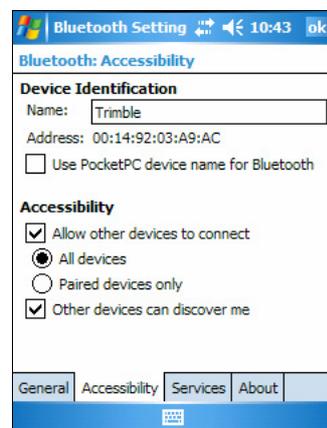


## Making the handheld discoverable

If you want to pair with another Bluetooth device, or if you want to use the handheld as a host device, you need to make the handheld Discoverable. A discoverable device can be detected by other devices when they scan.

To make the handheld discoverable:

1. Tap  / *Settings* / *Connections* / *Bluetooth*.
2. Tap the *Accessibility* tab.

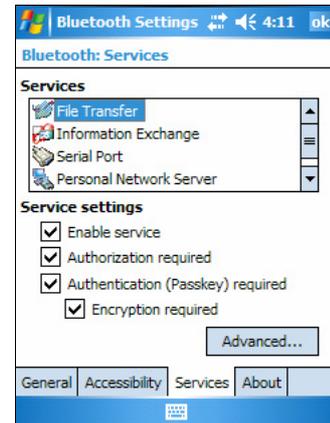


3. To enable other devices to connect to the handheld, select the *Allow other devices to connect* check box and then select the *All devices* option or the *Paired devices only* option.
4. To enable other devices to see the handheld when they scan for other Bluetooth devices, select the *Other devices can discover me* checkbox.

## Configuring host services

To provide a host service, turn on the Bluetooth radio (see [page 50](#)) and make the device Discoverable (see [page 50](#)). If the service is a serial port service, you may need to add or configure the service. Tap  / *Settings* / *Connections* / *Bluetooth* and then tap the *Services* tab.

Other host services such as File Transfer and Information Exchange do not require any configuration because they use either pre-assigned ports, or use the My Documents folder for file transfers. Other services already have authentication and encryption enabled.



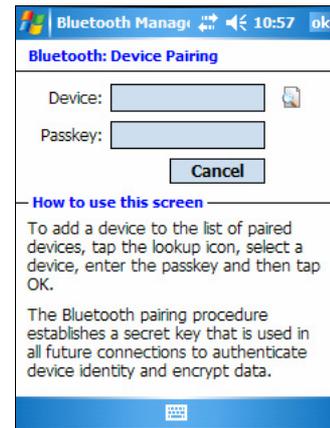
## Pairing with a Bluetooth-enabled device

Pairing the handheld with another Bluetooth-enabled device creates a permanent security bond between the devices, which helps to exchange information securely between the devices. The paired relationship is established when two devices create and exchange a link key. Once the relationship is established, the handheld and the other Bluetooth device only need to have their Bluetooth radios turned on to exchange information; they do not need to be in discoverable mode.

To pair with a Bluetooth device:

1. Make sure that the handheld and the Bluetooth device you want to pair with are within five meters of each other, and that Bluetooth is in Discoverable mode on both devices.
2. Tap the Bluetooth icon  in the *Today* screen and then tap *Bluetooth Manager*.
3. The *Bluetooth Manager* appears. Tap **Tools** and then select *Paired Devices*.
4. Tap **Add**.

5. To create a new pairing, tap the Lookup icon beside the Device field. The handheld searches for other Bluetooth devices and displays them in the Bluetooth Browser.
6. Tap the name of the device you want to pair with.
7. In the *Passkey* field, enter a passkey of between 1 and 16 characters and then tap the Enter key on the keyboard.
8. Enter the same PIN on the other device.
9. In the *Bluetooth Manager*, tap **OK**.



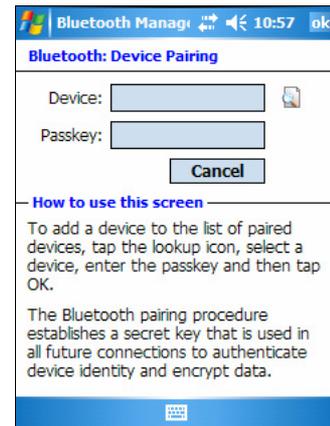
## Setting up a connection to a Bluetooth-enabled device

To connect the handheld as a client device to another a Bluetooth-enabled device, set up a connection to the device in the Bluetooth manager.

**Note** – Trimble recommends that you pair with a Bluetooth-enabled device before connecting to the device. For more information, see [Pairing with a Bluetooth-enabled device, page 51](#).

To set up the connection:

1. Tap the Bluetooth icon  in the *Today* screen and then tap *Bluetooth Manager*.
2. Tap **New**.
3. The *Bluetooth Connection* wizard displays a list of tasks that you may want to achieve using the host device. Tap the task you want to complete.
4. Complete the steps in the wizard to configure the connection to the host device.



## Connecting to a Bluetooth-enabled device

To connect to a Bluetooth-enabled device that you have set up a connection to:

1. On both devices, make sure the Bluetooth radio is turned on.
2. Tap the Bluetooth icon  in the *Today* screen and then tap *Bluetooth Manager*.
3. Tap the *My Shortcuts* tab.
4. Do one of the following:
  - Double-tap the icon for the connection you have set up.
  - Tap and hold the connection icon for the connection you have set up and then tap *Connect*.

Alternatively, when the handheld is within range of the Bluetooth-enabled device, start using the program that you usually use with the device, for example Internet Explorer Mobile.

## Setting up dial-up Internet and network connections

The Juno ST handheld has two groups of connection settings: My ISP and My Work Network. My ISP settings are used to connect your device to the Internet, and My Work Network settings can be used to connect to any other private network, such as a corporate intranet you use at work.

You can set up a connection to store the configuration details for connecting to a particular computer or network, so that you do not have to enter these details each time you connect.

Set up a Virtual Private Network (VPN) for each computer or network that you want to access remotely.

### Setting up a VPN server connection

A Virtual Private Network (VPN) connection helps you to securely connect to servers, such as a corporate network, using the Internet. Before you begin, obtain the following information from your network administrator:

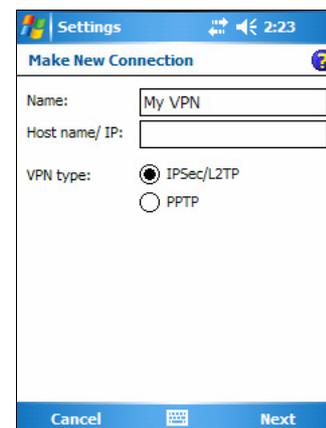
- user name and password
- domain name
- TCP/IP settings
- host name or IP address of the VPN server

To set up a VPN server connection to a network:

1. Tap  / *Settings* / *Connections* / *Connections*.
2. From the *My Work Network* list, tap *Add a new VPN server connection*.
3. Follow the instructions in the *Make New Connection* wizard.

To view additional information for any screen in the wizard, tap .

4. Tap **Finish**.



## Setting up a mail service

Before you can send and receive e-mail, you need to create an e-mail account in the Messaging software. 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:

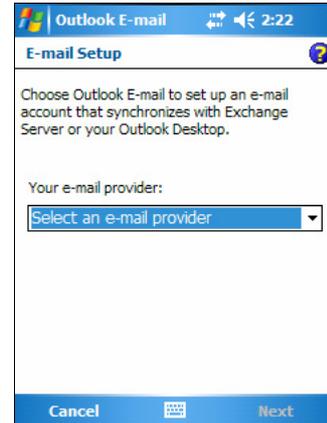
1. Tap  / *Messaging*.
2. Tap *Menu / Tools / New Account*.
3. Select an e-mail provider from the drop-down list and then tap **Next**.
4. Follow the steps in the Setup wizard, using the connection details supplied by your ISP or network administrator.

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



**Tip** – To receive TerraSync data files by e-mail, tap **Options** and in the last page select the *Get full copy of messages* option from the drop-down list, as well as the *Get attachments* option if it is displayed.

5. Tap **Finish**.
6. Tap **OK** to download mail immediately, using a previously configured dial-up or wireless network connection.



## Managing connections

You can change connection settings or remove existing connections. You can also end a connection at any time.

### Ending a connection

To minimize mobile phone or Internet provider connection charges and to free resources on the handheld, end a connection when you have finished using it.

To end a connection when connected using a modem or VPN, tap  on the title bar and then tap **Disconnect**.

### Changing connection settings

To change settings for a dial-up modem or VPN server connection:

1. Tap  / *Settings / Connections / Connections*.
2. From the *My Work Network* list, tap *Manage existing connections*.
3. Depending on the type of connection, tap either the *Modem* or *VPN* tab.
4. Select the connection and then tap **Edit**.

### Deleting a connection

To delete a dial-up modem or VPN server connection:

1. Tap  / *Settings* / *Connections* / *Connections*.
2. From either the *My ISP* or *My Work Network* list, tap *Manage existing connections*.
3. Depending on the type of connection, tap either the *Modem* or *VPN* tab.
4. Tap and hold the connection you want to remove, and tap *Delete*.

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# Troubleshooting

## In this chapter:

- [Backlight issues](#)
- [Connection issues](#)
- [GPS / real-time correction issues](#)
- [Power issues](#)
- [SD card issues](#)
- [Touch screen issues](#)

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

This section describes problems that can occur when using the Juno ST handheld and explains how to solve them. The following categories of problems are covered:

- Backlight issues
- Connection issues
  - ActiveSync connections (see [page 58](#))
  - Bluetooth wireless technology (see [page 59](#))
  - Network connections (see [page 59](#))
  - Wireless LAN connections (see [page 60](#))
- GPS/real-time correction issues (see [page 61](#))
- Power issues (see [page 61](#))
- SD card issues (see [page 62](#))
- Touch screen issues (see [page 62](#))

## Backlight issues

| Problem   | Cause   | Solution   |
|---|---|--|
| The backlight stays on, even though the handheld has been idle for some time. | Trimble GPS field applications keep the backlight on while connected to the GPS receiver. | Disconnect from GPS when you have finished using it. |

## Connection issues

### ActiveSync connections

| Problem   | Cause   | Solution   |
|---|---|--|
| ActiveSync technology will not connect to the handheld. | The connection is not initiated automatically.                                  | Disconnect the USB cable from the computer and then reconnect the handheld to the computer. Alternatively, in the ActiveSync software on your computer, select <i>File / Get Connected</i> .   |
|   | The connection is not enabled in ActiveSync on the computer.                    | If you are using the USB data cable, In the ActiveSync software on your computer, make sure that the <i>Allow USB connection</i> check box is selected from the drop-down list.<br><br>If you are using a Bluetooth connection, In the ActiveSync software on your computer, select <i>File / Connection Settings</i> and make sure that the correct port for Bluetooth is selected. Open the Bluetooth control on the handheld, view the partnership from the Devices tab, and in the services list make sure that the <i>ActiveSync</i> check box is selected. |
|   | The connection is not enabled in ActiveSync on the computer.                    | On the handheld, tap  / <i>Programs / ActiveSync / Tools / Options / PC</i> . Make sure that the <i>Enable PC sync using this connection</i> check box is selected, and that the correct options are selected.  |
|   | Your connection settings conflict with network settings or VPN client software. | If you are using the USB data cable, use the USB to PC utility to change the connection method the handheld uses to connect to ActiveSync on the computer. Tap  / <i>Settings / Connections / USB to PC Utility</i> . Clear the <i>Enable advanced network functionality</i> check box.<br><br>The handheld stops using the default RNDIS method to connect to ActiveSync.  |

## Network connections

| Problem   | Cause   | Solution  |
|---|---|---|
| The connection with the mobile phone suddenly ends. | If you change the proxy settings of the handheld while connected to a mobile phone, the mobile phone ends the connection. | Make any changes to proxy settings before connecting to a mobile device to maintain the connection.   |
| Unable to connect to another Juno handheld.         | Data encryption settings are set incorrectly.   | When setting up a peer-to-peer ad-hoc network with a WEP encryption, set a Network Key, rather than leaving the key blank to be provided automatically. |

## Bluetooth wireless technology

| Problem   | Cause   | Solution   |
|---|---|--|
| The handheld cannot discover a nearby Bluetooth device.   | The device is out of range.   | Move the devices closer to each other and then scan again.   |
|   | Bluetooth wireless technology is not enabled on one or both devices.                  | Make sure that the Bluetooth radio is turned on, on both the handheld (see <a href="#">Enabling Bluetooth wireless connections, page 49</a> ) and the other Bluetooth device.  |
|   | The device has not been made Discoverable.  | Make sure that the Bluetooth device has been made Discoverable.  |
| The handheld cannot detect the host serial port service you want to use.                        | The Juno handheld can only discover one host serial port service.                     | Although multiple host serial port services can be configured on a handheld, when another handheld is connected as a client, the client handheld can only detect the first serial port service configured on the host. To avoid this, make sure the host serial port service you want to use is the first host serial port service listed on the host. |
| The COM or BSP that you assigned to a serial port service is not available in your application. | The application cannot recognize ports if they are added after the application opens. | Exit from the application, add the port and then run the application again.  |
|   | The application cannot recognize BSP ports.   | Use a USB connection instead of a Bluetooth Serial Port (BSP) for this service.  |

| Problem                                      | Cause   | Solution  |
|--|---|---|
| The Bluetooth connection fails while in use. | The Bluetooth device has moved out of range.                      | Move the devices closer to each other. The devices should reconnect automatically. If they do not, select the Bluetooth device in the <i>Bonded Devices</i> tab. Tap and hold the device name and select <i>Delete</i> . Tap <i>New</i> to discover the device again.   |
|  | The Bluetooth radio has lost the connection.                      | Turn off the Bluetooth radio on the handheld and then turn on the Bluetooth radio (see <a href="#">Enabling Bluetooth wireless connections, page 49</a> ).  |
|  | Bluetooth file transfer interrupts the connection.                | When you transfer large image or data files, other Bluetooth connections may stop responding. To avoid problems, close other Bluetooth connections before transferring large files.   |
| The Bluetooth radio turns off unexpectedly.  | The handheld's Bluetooth radio has crashed and turned itself off. | Use the handheld's Bluetooth control to turn on the radio again and, if required, reinitiate the connection. If this does not resolve the issue, turn off the Bluetooth radio and then restart both the handheld and the connected Bluetooth device to reinitiate the connection with both radios in a fresh state. |

### Wireless LAN connections

| Problem  | Cause   | Solution   |
|--|---|--|
| The handheld cannot connect to a secure site.  | The date on the handheld is incorrect.  | Check that the handheld has the date set correctly on the <i>Today</i> screen. If the date is incorrect, tap the clock icon on the <i>Today</i> screen and adjust the date and time.   |
| You cannot configure an Internet connection.   |   |  |
| Within range of more than one network, you are not connecting to the network you would prefer to use.    | The radio is connecting to the first network signal it has received.                              | Tap  / <i>Settings</i> / <i>Connections</i> / <i>Network Cards</i> . Tap and hold the network you would prefer to use and then select <i>Connect</i> .  |
| The 'New Network Detected' notification appears but the menu bar and soft key options are not displayed. | Some applications are not fully compatible with all Windows Mobile version 5.0 software features. | Use the application buttons on the keypad, as they map to the soft keys in the menu bar. To dismiss the notification, press the right application button on the keypad. To connect to the network, press the left application button. Alternatively, select a Windows Mobile application from the <i>Start</i> menu, such as the <i>Today</i> screen or <i>File Explorer</i> , and the menu bar and soft keys will be displayed correctly. |

## GPS / real-time correction issues

| Problem   | Cause  | Solution  |
|---|--|---|
| The handheld is not receiving GPS positions.              | The integrated GPS receiver is not activated.  | Use the Connect or Activate GPS command in your GPS field software to activate the integrated GPS receiver. For more information, see <a href="#">Using GPS, page 39</a> .  |
|   | The GPS COM port is already in use.  | Only one application at a time can have the port open. Exit the software that is using the GPS COM port and then retry in your application.   |
|   | The GPS field software is using the wrong GPS COM port.  | Connect to COM7.  |
|   | Not enough satellites are visible.   | Move to a location where the receiver has a clear view of the sky and ensure the antenna is not obstructed. Alternatively, adjust the GPS settings to increase productivity. For more information, refer to the Help provided with your GPS field software. |
| The handheld is not receiving SBAS real-time corrections. | The SBAS satellite is obstructed from view.  | Check the location of the SBAS satellite in the Skyplot section of your GPS field software, and if possible move to a different location.   |
|   | You are outside the SBAS satellite coverage area.  | If you have selected satellites that are not available at your location, you cannot use SBAS corrections.   |
| NMEA data includes autonomous positions.                  | The integrated GPS receiver outputs autonomous positions when real-time corrections are unavailable. | Configure your NMEA application to filter out non-DGPS positions.   |

## Power issues

| Problem  | Cause  | Solution   |
|--|--|--|
| The handheld does not turn on.   | The battery is flat.   | Recharge the battery (see <a href="#">page 14</a> ).   |
| The handheld charge state is incorrectly reported.                     | The internal temperature has risen above the allowed range for charging the battery. | Remove the handheld from any external heat sources (for example, sunlight), and allow an hour for the internal temperature of the handheld to cool again before placing the handheld in the support module.  |
| The battery power percentage bar does not appear in the Power control. | The battery has 0% power.  | Recharge the internal battery (see <a href="#">page 14</a> ). Once the battery level is above 0%, the battery power percentage bar reappears. Tap  / Settings / System / Power / Battery to view the level of power remaining in the battery. |

## SD card issues

| Problem  | Cause  | Solution   |
|--|--|--|
| The handheld does not recognize an SD memory card.                         | Occasionally the handheld does not recognize a Secure Digital (SD) memory card when the card is inserted into the SD card slot, or it fails to recognize the SD card currently inserted. | To resolve this issue, close the application and then perform a soft reset (see <a href="#">Resetting the handheld, page 19</a> ). Then try again.                           |
| The handheld shuts down when you try to log GPS data to an SD memory card. | You are using an unsupported version of the TerraSync software.  | To resolve this issue, go to <a href="http://www.trimble.com/terrasync_ts.asp">www.trimble.com/terrasync_ts.asp</a> and download the v3.01 update of the TerraSync software. |

## Touch screen issues

| Problem   | Cause  | Solution  |
|---|--|---|
| The touch screen does not respond to stylus taps. | The touch screen is incorrectly aligned.   | Realign the screen (see <a href="#">page 30</a> ).  |
|   | The handheld has locked up.  | Reset the handheld (see <a href="#">Resetting the handheld, page 19</a> ).  |
| The screen is blank.                              | The handheld is turned off.  | Press the <b>Power</b> button to turn on the handheld.  |
|   | The handheld has locked up.  | Reset the handheld (see <a href="#">Resetting the handheld, page 19</a> ).  |
| The screen is hard to see.                        | The backlight level needs to be adjusted.  | Open the Backlight control and adjust the backlight level (see <a href="#">Backlight, page 31</a> ).  |
|   | The backlight is off.  | Tap the screen to turn on the backlight.  |
|   | You are unable to see parts of an application windows when the screen is in landscape orientation. | Some applications have been designed for portrait orientation only. To view the entire application window, change the screen display to portrait. |

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