



USER GUIDE

Jun^o® SA handheld



USER GUIDE

Juno[®] SA handheld

Version 1.00
Revision A
January 2011



Trimble Navigation Limited
10355 Westmoor Drive
Suite #100
Westminster, CO 80021
USA
www.trimble.com

Legal Notices

Copyright and Trademarks

© 2011, Trimble Navigation Limited. All rights reserved.

Trimble, the Globe & Triangle logo, GPS Pathfinder, and Juno are trademarks of Trimble Navigation Limited, registered in the United States and in other countries. GPS Analyst, GPScorrect, and TerraSync are trademarks of Trimble Navigation Limited.

Microsoft, ActiveSync, Outlook, Windows, Windows Live, Windows Media, Windows Mobile, Windows Vista, and the Windows Start logo are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

All other trademarks are the property of their respective owners.

Release Notice

This is the January 2011 release (Revision A) of the *Juno SA handheld User Guide*. The Juno SA handheld's operating system is based on the Microsoft Windows Mobile version 6.1 Classic operating system (5.2.20269).

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. The terms of the end user license agreement, as included below, govern the use of the Product Software, including any differing limited warranty terms, exclusions and limitations, which shall control over the terms and conditions set forth in the limited Product warranty.

Warranty Remedies

If 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 email your request to 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.

Warranty Exclusions and Disclaimer

This Product limited warranty shall only apply in the event and to the extent that (i) the Product is properly and correctly installed, configured, interfaced, maintained, stored, and operated in accordance with 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 Software, or that software components will operate error free.

NOTICE REGARDING PRODUCTS EQUIPPED WITH TECHNOLOGY CAPABLE OF TRACKING SATELLITE SIGNALS FROM SATELLITE BASED AUGMENTATION SYSTEMS (SBAS) (WAAS/EGNOS, AND MSAS), OMNISTAR, GPS, MODERNIZED GPS OR GLONASS SATELLITES, OR FROM IALA BEACON SOURCES: TRIMBLE IS NOT RESPONSIBLE FOR THE OPERATION OR FAILURE OF OPERATION OF ANY SATELLITE BASED POSITIONING SYSTEM OR THE AVAILABILITY OF ANY SATELLITE BASED POSITIONING SIGNALS.

THE FOREGOING LIMITED WARRANTY TERMS STATE TRIMBLE'S ENTIRE LIABILITY, AND YOUR EXCLUSIVE REMEDIES, RELATING TO THE TRIMBLE PRODUCT. EXCEPT AS OTHERWISE EXPRESSLY PROVIDED HEREIN, THE PRODUCT, AND ACCOMPANYING DOCUMENTATION AND MATERIALS ARE PROVIDED "AS-IS" AND WITHOUT EXPRESS OR IMPLIED WARRANTY OF ANY KIND, BY EITHER TRIMBLE OR ANYONE WHO HAS BEEN INVOLVED IN ITS CREATION, PRODUCTION, INSTALLATION, OR DISTRIBUTION, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TITLE, AND NON-INFRINGEMENT. THE STATED EXPRESS WARRANTIES ARE IN LIEU OF ALL OBLIGATIONS OR LIABILITIES ON THE PART OF TRIMBLE ARISING OUT OF, OR IN CONNECTION WITH, ANY PRODUCT. BECAUSE SOME STATES AND JURISDICTIONS DO NOT ALLOW LIMITATIONS ON DURATION OR THE EXCLUSION OF AN IMPLIED WARRANTY, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

Limitation of Liability

TRIMBLE'S ENTIRE LIABILITY UNDER ANY PROVISION HEREIN SHALL BE LIMITED TO THE AMOUNT PAID BY YOU FOR THE PRODUCT. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL TRIMBLE OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGE WHATSOEVER UNDER ANY CIRCUMSTANCE OR LEGAL THEORY RELATING IN ANYWAY TO THE PRODUCTS, SOFTWARE AND ACCOMPANYING DOCUMENTATION AND MATERIALS, (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF DATA, OR ANY OTHER PECUNIARY LOSS), REGARDLESS OF WHETHER TRIMBLE HAS BEEN ADVISED OF THE POSSIBILITY OF ANY SUCH LOSS AND REGARDLESS OF THE COURSE OF DEALING WHICH DEVELOPS OR HAS DEVELOPED BETWEEN YOU AND TRIMBLE. BECAUSE SOME STATES AND JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

PLEASE NOTE: THE ABOVE TRIMBLE LIMITED WARRANTY PROVISIONS WILL NOT APPLY TO PRODUCTS PURCHASED IN THOSE JURISDICTIONS (E.G., MEMBER STATES OF THE EUROPEAN ECONOMIC AREA) IN WHICH PRODUCT WARRANTIES ARE THE RESPONSIBILITY OF THE LOCAL DEALER FROM WHOM THE PRODUCTS ARE ACQUIRED. IN SUCH A CASE, PLEASE CONTACT YOUR TRIMBLE DEALER FOR APPLICABLE WARRANTY INFORMATION.

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.

End User License Agreement for Product Software

IMPORTANT, READ CAREFULLY. THIS END USER LICENSE AGREEMENT ("EULA") IS A LEGAL AGREEMENT BETWEEN YOU AND Trimble Navigation Limited ("Trimble") and applies to the computer software provided with the Trimble product purchased by you (whether built into hardware circuitry as firmware, embedded in flash memory or a PCMCIA card, or stored on magnetic or other media), or provided as a stand-alone computer software product, and includes any accompanying written materials such as a user's guide or product manual, as well as any "online" or electronic documentation ("Software" or "Product Software"). This EULA will also apply to any Software error corrections, updates and upgrades subsequently furnished by Trimble, unless such are accompanied by different license terms and conditions, which will govern their use. You have acquired a Trimble Product ("Device") that includes Software, some of which was licensed by Trimble from Microsoft Corporation or its affiliates (collectively "Microsoft"). The Software licensed from Microsoft, as well as associated updates, supplements, internet-based services and support services, media, printed materials, and "online" or electronic documentation ("Microsoft Software"), are protected under this EULA. The Software is also protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties. The Software is licensed, not sold.

BY USING THE SOFTWARE, INCLUDING USE ON THIS DEVICE, YOU ACCEPT THESE TERMS. IF YOU DO NOT ACCEPT THEM, DO NOT USE THE DEVICE OR SOFTWARE. INSTEAD CONTACT TRIMBLE FOR A REFUND OR CREDIT. As described below, using some features also operates as your consent to the transmission of certain standard computer information for Internet-based services.

WARNING: If the Software contains voice operated technologies, then operating this Software requires user attention. Diverting attention away from the road while driving can possibly cause an accident or other serious consequence. Even occasional, short diversions of attention can be dangerous if your attention is diverted away from your driving task at a critical time. Trimble and Microsoft make no representations, warranties or other determinations that ANY use of this Software is legal, safe, or in any manner recommended or intended while driving or otherwise operating a motor vehicle.

This EULA does not grant you any rights with respect to the Windows Mobile Device Center, Microsoft ActiveSync or Microsoft Outlook 2007 Trial which are subject to the licenses accompanying those items.

1 SOFTWARE PRODUCT LICENSE

1.1 **License Grant.** Subject to the terms and conditions of this EULA, Trimble grants you a non-exclusive right to use one copy of the Software in a machine-readable form only as installed on the Device. Such use is limited to use with the Device for which it was intended, as set forth in the product documentation. The Device Software is licensed with the Device as a single integrated product. The Device Software installed in read only memory ("ROM") of the Device may only be used as part of the Device into which it was embedded. You may use the installation Software from a computer solely to download the Software to one Device. In no event shall the installation Software be used to download the Software onto more than one Device. A license for the Software may not be shared or used concurrently on different computers or Devices.

1.2 **Scope of License.** This EULA only gives you some rights to use the Software. Trimble and Microsoft reserve all other rights. Unless applicable law gives you more rights despite this limitation, you may use the Software only as expressly permitted in this EULA. In doing so, you must comply with any technical limitations in the Software that allow you to use it only in certain ways. Except as expressly provided in this EULA, rights to access the Software on this Device do not give you any right to implement Microsoft patents or other Microsoft intellectual property in software or devices that access this device. You may use remote access technologies in the software such as Remote Desktop Mobile to access the Software remotely from a computer or server. You are responsible for obtaining any licenses required for use of the protocols to access other software.

1.3 **Proof of License.** If you acquired the Software on the Device, or on a disc or other media, a genuine Certificate of Authenticity label with a genuine copy of the Software identifies licensed software. To be valid, this label must be affixed to the Device, or included on or in the software packaging. If you receive the label separately, it is not valid. You should keep the label on the device or packaging to prove that you are licensed to use the Software. To identify genuine Microsoft Software, see <http://www.howtotell.com>.

1.4 **Connectivity Software.** Your Device package may include Windows Mobile Device Center or Microsoft ActiveSync technology. If it is included, then you may install and use it in accordance with the license terms that are provided with it. If no license terms are provided, then you may install and use only one (1) copy of the Software on a single computer.

1.5 **Digital Certificates.** The Software uses digital certificates in X.509 format. These digital certificates are used for authentication.

1.6 **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 a wireless telecommunication carrier ("Mobile Operator"), or if the Mobile Operator's network is not operating or configured to operate with the Device.

1.7 **Upgrade Software.** In the event that any upgrades to the Software, including Microsoft Software, are provided under this EULA, then the following shall apply: 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 EULA indicates that this Software copy has been licensed for installation on multiple Devices). NO REPRESENTATION OR WARRANTY IS MADE BY TRIMBLE OR MICROSOFT 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 NEITHER TRIMBLE OR MICROSOFT SHALL 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.

1.8 **Internet-Based Services Components.** Microsoft provides Internet-based services with the software. Microsoft may change or cancel them at any time. The Microsoft Software features described below connect to Microsoft or service provider computer systems over the Internet. In some cases, you will not receive a separate notice when they connect. You may switch off some of these features or not use them. For more information about these features, visit <http://go.microsoft.com/fwlink/?LinkId=81931>. **By using these features, you consent to the transmission of this information.** Microsoft does not use the information to identify or contact you. You may not use these services in any way that could harm them or impair anyone else's use of them. You may not use the services to try to gain unauthorized access to any service, data, account or network by any means.

1.9 **Device Information.** The following features use Internet protocols, which send to the appropriate systems device information, such as your Internet protocol address, the type of operating system, browser and name and version of the Software you are using, and the language code of the Device where you installed the Software. Microsoft uses this information to make the Internet-based services available to you. a) Update Features: Windows Mobile Update feature provides you the ability to obtain and install Software updates on your Device if updates are available. You may choose not to use this feature. Trimble and/or your Mobile Operator may not support this feature or an update for your device. b) Security Updates/Digital Rights Management. Content owners use Windows Media digital rights management technology (WMDRM) to protect their intellectual property, including copyrights. This software and third party software use WMDRM to play and copy WMDRM-protected content. If the software fails to protect the content, content owners may ask Microsoft to revoke the software's ability to use WMDRM to play or copy protected content. Revocation does not affect other content. When you download licenses for protected content, you agree that Microsoft may include a revocation list with the licenses. Content owners may require you to upgrade WMDRM to access their content. Microsoft software that includes WMDRM will ask for your consent prior to the upgrade. If you decline an upgrade, you will not be able to access content that requires the upgrade.

1.10 **Additional Software/Services.** The Device Software may permit Trimble, Microsoft, 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").

1.10.1 If Trimble provides or makes available to you Supplemental Components and no other end user license agreement terms are provided along with the Supplemental Components, then the terms of this EULA shall apply.

1.10.2 If Microsoft, its affiliates and/or its designated agent makes available Supplemental Components, and no other end user license agreement terms are provided, then the terms of this EULA shall apply, except that the Microsoft entity or affiliate entity providing the Supplemental Component(s) shall be the licensor of the Supplemental Component(s).

1.10.3 Trimble, Microsoft and each of their affiliates and/or their designated agents reserve the right to discontinue any Internet-based services provided to you or made available to you through the use of the Device Software.

1.11 **Links to Third Party Sites.** If the Software provides links to third party websites, those links are provided to you only as a convenience, and the inclusion of any link does not imply an endorsement of the third party website by Microsoft or Trimble.

1.12 **Other Rights and Limitations.** (1) The Software contains valuable trade secrets proprietary to Trimble and its suppliers. To the extent permitted by relevant law, you shall not, nor allow any third party to copy, decompile, disassemble or otherwise reverse engineer the Software, or attempt to do so, provided, however, that to the extent any applicable mandatory laws (such as, for example, national laws implementing EC Directive 91/250 on the Legal Protection of Computer Programs) give you the right to perform any of the aforementioned activities without Trimble's consent in order to gain certain information about the Software for purposes specified in the respective statutes (i.e., interoperability), you hereby agree that, before exercising any such rights, you shall first request such information from Trimble in writing detailing the purpose for which you need the information. Only if and after Trimble, at its sole discretion, partly or completely denies your request, may you exercise such statutory rights. (2) This Software is licensed as a single product. You may not separate its component parts for use on more than one computer nor make more copies of the software than specified in this EULA. (3) You may not rent, lease, or lend the Software. (4) No service bureau work, multiple-user license or time-sharing arrangement is permitted. For purposes of this EULA "service bureau work" shall be deemed to include, without limitation, use of the Software to process or to generate output data for the benefit of, or for purposes of rendering services to any third party over the Internet or

other communications network. (5) You may make one backup copy of the Software. You may use it only to reinstall the Software on the Device. (6) You may transfer the Software only with the Device, the Certificate of Authenticity label, and these license terms directly to a third party. Before the transfer, that party must agree that these license terms apply to the transfer and use of the Software. You may not retain any copies of the Software including the backup copy. (7) The Software is subject to United States export laws and regulations. You must comply with all domestic and international export laws and regulations that apply to the Software. These laws include restrictions on destinations, end users, and end use. For additional information see <http://www.microsoft.com/exporting>. (8) Without prejudice as to any other rights, Trimble may terminate this EULA without notice if you fail to comply with the terms and conditions of this EULA. In such event, you must destroy all copies of the Software and all of its component parts. (9) If the Microsoft Software includes speech recognition component(s), you should understand that speech recognition is an inherently statistical process and that recognition errors are inherent in the process. Neither Trimble, Microsoft, nor any of their suppliers shall be liable for any damages arising out of errors in the speech recognition process. (10) You may not publish the Software for others to copy. (11) You may not use the Software for commercial software hosting services.

1.13 Notice Regarding the MPEG-4 Visual Standard. The Software may include MPEG-4 visual decoding technology. This technology is a format for data compression of video information. MPEG LA, L.L.C. requires this notice: USE OF THIS PRODUCT IN ANY MANNER THAT COMPLIES WITH THE MPEG-4 VISUAL STANDARD IS PROHIBITED, EXCEPT FOR USE DIRECTLY RELATED TO (A) DATA OR INFORMATION (i) GENERATED BY AND OBTAINED WITHOUT CHARGE FROM A CONSUMER NOT THEREBY ENGAGED IN A BUSINESS ENTERPRISE, AND (ii) FOR PERSONAL USE ONLY; AND (B) OTHER USES SPECIFICALLY AND SEPARATELY LICENSED BY MPEG LA, L.L.C. If you have questions about the MPEG-4 visual standard, please contact MPEG LA, L.L.C., 250 Steele Street, Suite 300, Denver, CO 80206; www.mpegla.com.

1.14 If the Device Software is provided by Trimble separate from the Device on media such as a ROM chip, CD ROM disk(s) or via web download or other means, and is labeled "For Upgrade Purposes Only" you may install one (1) copy of such Device Software onto the Device as a replacement copy for the existing Device Software and use it accordance with this EULA, including any additional end user license agreement terms accompanying the upgrade Device Software.

1.15 If any software component(s) is provided by Trimble separate from the Device on CD ROM disc(s) or via web download or other means, and labeled "For Upgrade Purposes Only," you may (i) install and use one (1) copy of such component(s) on the computer(s) you use to exchange data with the Device as a replacement copy for the existing Companion CD component(s).

1.16 **Copyright.** All title and copyrights in and to the Software (including but not limited to any images, photographs, animations, video, audio, music, text and "applets," incorporated into the Software), the accompanying printed materials, and any copies of the Software are owned by Trimble, or Microsoft (including Microsoft Corporation), and their respective suppliers. You may not copy the printed materials accompanying the Software. All title and intellectual property rights in and to the content which may be accessed through use of the Software is the property of the respective content owner and may be protected by applicable copyright or other intellectual property laws and treaties. This EULA grants you no rights to use such content. You shall not remove, cover or alter any of Trimble's patent, copyright or trademark notices placed upon, embedded in or displayed by the Software or on its packaging and related materials. All rights not specifically granted in this EULA are reserved by Trimble, Microsoft, and their respective suppliers.

1.17 **U.S. Government Restricted Rights.** The Software is provided with "RESTRICTED RIGHTS". Use, duplication, or disclosure by the United States Government is subject to restrictions as set forth in this EULA, and as provided in DFARS 227.7202-1(a) and 227.7202-3(a) (1995), DFARS 252.227-7013(c)(1)(ii) (OCT 1988), FAR 12.212(a) (1995), FAR 52.227-19, or FAR 52.227-14(ALT III), as applicable.

1.18 Microsoft has contractually obligated Trimble to include the following terms in this EULA:

Product Support. The Product support for the Software is not provided by Microsoft or its affiliates or subsidiaries. For product support, please refer to the Trimble support number provided in the documentation for the Device.

Not fault tolerant. The Software is not fault tolerant. Trimble installed the Software on the Device and is responsible for how it operates on the Device.

Restricted user. The Microsoft Software was designed for systems that do not require fail-safe performance. You may not use the Microsoft Software in any device or system in which a malfunction of the Microsoft Software would result in foreseeable risk of injury

or death to any person. This includes operation of nuclear facilities, aircraft navigation or communication systems and air traffic control.

No warranties for the software. Microsoft gives no express warranties, guarantees or conditions regarding the Microsoft Software. Any warranties you receive regarding the Device or the Software do not originate from, and are not binding on, Microsoft or its affiliates. When allowed by your local laws, Trimble and Microsoft exclude implied warranties of merchantability, fitness for a particular purpose and non-infringement.

LIABILITY LIMITATIONS. You can recover from Microsoft and its affiliates only direct damages up to fifty U.S. Dollars (U.S. \$50.00), or equivalent in local currency. You cannot recover any other damages, including consequential, lost profits, special, indirect or incidental damages. This limitation applies to:

- Anything related to the Software, services, content (including code) on third party internet sites, or third party programs, and
- claims for breach of contract, breach of warranty, guarantee or condition, strict liability, negligence, or other tort to the extent permitted by applicable law.

It also applies even if Microsoft should have been aware of the possibility of the damages. The above limitation may not apply to you because your country may not allow the exclusion or limitation of incidental, consequential or other damages.

2 LIMITED WARRANTY FOR TRIMBLE PRODUCT SOFTWARE.

2.1 **Limited Warranty.** Trimble warrants that the Software, exclusive of the Microsoft Software, will perform substantially in accordance with the accompanying written materials for a period of twelve (12) months from the date of purchase. This limited warranty gives you specific legal rights; you may have others, which vary from state/jurisdiction to state/jurisdiction. The above limited warranty does not apply to Fixes, Minor Updates, or Major Upgrades of the Software after expiration of the twelve (12) month limited warranty period, all of which are provided "AS IS" and without warranty unless otherwise specified in writing by Trimble. Because the Software is inherently complex and may not be completely free of nonconformities, defects or errors, you are advised to verify your work. Trimble does not warrant that the Software will operate error free or uninterrupted, will meet your needs or expectations, or that all nonconformities can or will be corrected.

2.2 Software Fixes. During the limited warranty period described in section 2.1 above, 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) "Fixes" 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.

2.3 **Customer Remedies.** Trimble's and its suppliers' entire liability, and your sole remedy, with respect to the Software shall be either, at Trimble's option, (a) repair or replacement of the Software, or (b) return of the license fee paid for any Software that does not meet Trimble's limited warranty. This limited warranty is void if failure of the Software has resulted from (1) accident, misuse, abuse, or misapplication; (2) alteration or modification of the Software without Trimble's authorization; (3) interaction with software or hardware not supplied or supported by Trimble; (4) your improper, inadequate or unauthorized installation, maintenance or storage; or (5) if you violate the terms of this EULA. Any replacement Software will be warranted for the remainder of the original warranty period or thirty (30) days, whichever is longer.

2.4 **NO OTHER WARRANTIES.** TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, TRIMBLE AND ITS SUPPLIERS DISCLAIM ALL OTHER WARRANTIES, TERMS AND CONDITIONS, EITHER EXPRESS OR IMPLIED, BY STATUTE, COMMON LAW OR OTHERWISE, INCLUDING BUT NOT LIMITED TO, IMPLIED WARRANTIES, TERMS AND CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TITLE, AND NON-INFRINGEMENT WITH REGARD TO THE SOFTWARE, ITS

SATISFACTORY QUALITY AND THE PROVISION OF OR FAILURE TO PROVIDE SUPPORT SERVICES, TO THE EXTENT ALLOWED BY APPLICABLE LAW, IMPLIED WARRANTIES, TERMS AND CONDITIONS ON THE SOFTWARE ARE LIMITED TO NINETY (90) DAYS. YOU MAY HAVE OTHER LEGAL RIGHTS WHICH VARY FROM STATE/JURISDICTION TO STATE/JURISDICTION.

NO WARRANTIES FOR THE MICROSOFT SOFTWARE. THE MICROSOFT SOFTWARE is provided "AS IS" and with all faults, AND TRIMBLE PROVIDES NO WARRANTY WITH RESPECT THERETO. THE ENTIRE RISK AS TO SATISFACTORY QUALITY, PERFORMANCE, ACCURACY AND EFFORT (INCLUDING LACK OF NEGLIGENCE) FOR THE MICROSOFT SOFTWARE IS WITH YOU. ALSO, THERE IS NO WARRANTY AGAINST INTERFERENCE WITH YOUR ENJOYMENT OF THE MICROSOFT SOFTWARE OR AGAINST INFRINGEMENT.

2.5 PLEASE NOTE: THE FOREGOING TRIMBLE LIMITED WARRANTY PROVISIONS MAY NOT APPLY TO SOFTWARE PRODUCT LICENSES PURCHASED IN THOSE JURISDICTIONS (SUCH AS COUNTRIES OF THE EUROPEAN UNION) IN WHICH PRODUCT WARRANTIES ARE OBTAINED FROM THE LOCAL DISTRIBUTOR. IN SUCH CASES, PLEASE CONTACT YOUR TRIMBLE DEALER FOR APPLICABLE WARRANTY INFORMATION.

3 TRIMBLE LIMITATION OF LIABILITY.

3.1 LIMITATION OF LIABILITY. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL TRIMBLE OR ITS SUPPLIERS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, CONSEQUENTIAL OR PUNITIVE DAMAGES HOWEVER CAUSED AND REGARDLESS OF THE THEORY OF LIABILITY (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, OR ANY OTHER PECUNIARY LOSS) ARISING OUT OF THE USE OR INABILITY TO USE THE SOFTWARE, OR THE PROVISION OF OR FAILURE TO PROVIDE SUPPORT SERVICES, EVEN IF TRIMBLE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES AND NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY EXCLUSIVE REMEDY PROVIDED IN THIS EULA.

IN NO EVENT SHALL THE TOTAL CUMULATIVE LIABILITY OF TRIMBLE AND ITS SUPPLIERS IN CONNECTION WITH THIS EULA OR THE SOFTWARE, WHETHER BASED ON CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE, EXCEED THE ACTUAL AMOUNT PAID TO TRIMBLE FOR THE SOFTWARE LICENSE GIVING RISE TO THE CLAIM. BECAUSE SOME STATES AND JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

4 GENERAL.

4.1 This EULA shall be governed by the laws of the State of California and applicable United States Federal law without reference to "conflict of laws" principles or provisions. The United Nations Convention on Contracts for the International Sale of Goods will not apply to this EULA. Jurisdiction and venue of any dispute or court action arising from or related to this EULA or the Software shall lie exclusively in or be transferred to the courts the County of Santa Clara, California, and/or the United States District Court for the Northern District of California. You hereby consent and agree not to contest, such jurisdiction, venue and governing law.

4.2 Section 4.1 notwithstanding, if you acquired this product in Canada, this EULA is governed by the laws of the Province of Ontario, Canada. In such case each of the parties to this EULA irrevocably attorns to the jurisdiction of the courts of the Province of Ontario and further agrees to commence any litigation that may arise under this EULA in the courts located in the Judicial District of York, Province of Ontario. If you acquired this product in the European Union, this EULA is governed by the laws of The Netherlands, excluding its rules governing conflicts of laws and excluding the United Nations Convention on the International Sale of Goods. In such case each of the parties to this EULA irrevocably attorns to the jurisdiction of the courts of The Netherlands and further agrees to commence any litigation that may arise under this EULA in the courts of The Hague, The Netherlands.

4.3 Trimble reserves all rights not expressly granted by this EULA.

4.4 Official Language. The official language of this EULA 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 EULA or related documents in any other language, the English language version shall be controlling.

Registration

To receive information regarding updates and new products, please contact your local dealer or visit the Trimble website at 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. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment 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.

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

Canada

This Class B digital apparatus complies with Canadian ICES-003.

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.

Cet appareil numérique de la classe B est conforme à la norme NNB-003 du Canada.

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 all requirements for CE Marking and sale within the European Economic Area (EEA).



Australia and New Zealand

This product conforms with the regulatory requirements of the Australian Communications and Media Authority (ACMA) EMC 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.

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

Safety Information

Charging the Juno SA handheld

The Juno SA handheld should be charged using the supplied USB cable, connected to a supported USB power supply, for example, a laptop. Only use a USB power source that has a Limited Power Source (LPS) output.

USB power sources must be IEC/EN60950-1 (EN 60335-series, EN 60065 or relevant) approved.

The Juno SA handheld can also be charged using the optional AC adaptor accessory, part number 70926-20, or a similarly approved Trimble Navigation Limited part. This will ensure that the safety certification remains valid.

The specifications for the power supply are:

- Rated Input: 100 - 240 VAC, 50 - 60 Hz, 0.6A.
- Rated Output: 5.0 VDC, 2.6A.
- DC Jack: Centre positive, length 12±0.5mm, OD 5.5±0.1mm, ID 2.5±0.1mm.
- Category: Class II, Limited Power Source(LPS)

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 26](#)). If the battery has been stored for longer than six months, charge it before use



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.
-

Note – Many administrations have regulations relating to the recycling or safe disposal of batteries. Please consult http://www.trimble.com/about_ev.shtml for more information.

AC adaptor safety

To charge the handheld's battery using the optional international adaptor kit (see [Powering the handheld, page 26](#)).



WARNING – To use AC adaptors safely:

- Use only the AC adaptor intended for the Juno SA handheld. Using any other AC adaptor can damage the handheld 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.
 - Do not use the AC adaptor in wet outdoor areas; it is designed for indoor use only.
 - Unplug the AC adaptor from power when not in use.
 - Do not short the output connector.
 - Be aware that there are no user-serviceable parts in this product.
 - If the AC adaptor becomes damaged, replace it with a new Trimble AC adaptor.
-

Memory card use

The Juno SA handheld provides a memory card slot, providing an alternative storage location to the storage memory in the handheld.



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

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



WARNING – The presence of any dust or moisture in the memory card slot may adversely affect the device and void your Trimble warranty. To prevent dust or moisture entering the memory card slot:

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

Contents

	Safety Information	9
	Charging the Juno SA handheld	9
	Battery safety.	9
	AC adaptor safety.	10
	Memory card use	10
1	Introduction	17
	About the Juno SA handheld	18
	Supported GPS field software	18
	What's in the box?	19
	Accessories	19
	Use and care of the handheld	19
	Storage	20
	Technical assistance	20
	Technical support	20
	Additional help	21
	Windows error reporting.	21
	Your comments	21
2	Getting Started.	23
	Parts of the Juno SA handheld	24
	Keypad buttons	25
	Powering the handheld	26
	Battery safety	26
	AC adaptor safety.	27
	Inserting the battery.	27
	Charging the battery.	28
	Checking the level of battery power	29
	Conserving power	29
	Turning on and turning off the handheld	29
	Suspend mode.	30
	Resetting the handheld	31
	Performing a soft reset	31
	Performing a hard reset	31
	Resetting to factory default settings	32
	Storing data	32
	Memory cards.	33
3	Using the Windows Mobile Operating System	35
	Parts of the screen	36
	Accessing help	36

Status indicators	37
Battery level indicators	37
Speaker status indicators	37
Network indicators	37
Pre-installed programs	37
Using the stylus	38
Entering information	39
Making a recording	40
Personalizing the handheld	41
Buttons	41
Today	42
Device lock	43
Power	44
Sounds and notifications	44
Screen	45
Backlight	46
Messaging	47
Synchronizing email messages	47
Connecting directly to an email server	47
4 Connecting to an Office Computer	49
Connection management software	50
Installing the Windows Mobile Device Center	50
Installing ActiveSync technology	50
Connecting the handheld to a computer	51
Managing the connection using the Windows Mobile Device Center	51
Managing the connection using ActiveSync technology	53
Installing software onto the handheld	55
5 Using the GPS Receiver	57
Supported GPS field software	58
TerraSync software	58
Esri ArcPad software and the Trimble GPSCorrect extension	58
GPS Controller software	58
Other GPS field applications	59
Configuring the GPS field software to connect to the receiver	59
Connecting to the COM port	59
Using the GPS field software	59
Starting the GPS field software	60
Viewing available GPS satellites	60
Resetting the GPS receiver	60
Ensuring the accuracy of your GPS data	60
Using accuracy-based logging	61
Connecting to a real-time differential correction source	62
Planning a data collection session	63

Differential GPS explained	63
Real-time DGPS.	63
Postprocessed DGPS.	64
Postprocessed real-time DGPS	64
Outputting NMEA data	64
6 Troubleshooting	67
Power issues	68
Backlight issues	68
Touch screen issues	69
Keypad issues	69
Memory card issues	69
Connection issues.	70
ActiveSync technology	70
Windows Mobile Device Center	71
GPS receiver issues	72
Real-time DGPS issues	73

Introduction

In this chapter:

- [About the Juno SA handheld](#)
- [What's in the box?](#)
- [Accessories](#)
- [Use and care of the handheld](#)
- [Technical assistance](#)
- [Your comments](#)

The *Juno SA Handheld User Guide* describes how to set up and use the Juno® SA handheld. The information in this guide supplements the information in the *Juno SA Quick Start Guide*, which is available on www.trimble.com/junosa.shtml.

This guide describes how to:

- use the Windows Mobile® version 6.1 operating system.
- 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) for an interactive look at Trimble and GPS.

About the Juno SA handheld

The Juno SA handheld combines a high sensitivity GPS receiver with a field computer powered by the Windows Mobile version 6.1 operating system.

The integrated GPS receiver provides accurate positioning information within 5 meters when using real-time differential correction or 3 meters when using postprocessed differential correction. For more information, see [Chapter 5, Using the GPS Receiver](#).



Supported GPS field software

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

- Trimble TerraSync™ software, for configuring real-time differential correction options and for productive GIS data collection and maintenance.
- The Trimble GPScorrect™ extension for Esri ArcPad software, for configuring real-time differential correction options and for productive GIS data collection and maintenance.
- Trimble GPS Controller software, for configuring real-time differential correction options and NMEA output settings.
- Other GPS field software that accepts NMEA messages.

For more information, see [Chapter 5, Using the GPS Receiver](#).

What's in the box?

When you unpack the Juno SA handheld, check that you have received all the components, as shown below.



Figure 1.1 Items included with the Juno SA 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

Accessories

The following optional accessories are available:

- International AC adaptor
- Otterbox Defender Series case
- Vehicle power adaptor
- Carry case
- External patch antennas
- Screen protectors (2 pack)
- Vehicle mount
- Replacement battery

For more information, go to www.trimble.com/junosa.shtml.

Use and care of the handheld

When using the handheld:

- Protect the touch screen by using the stylus provided, and avoid using excessive pressure and sharp or abrasive objects. To protect the touch screen from pressure and abrasive objects, Trimble recommends that you apply a screen protector.
- Keep the outer surface free of dirt and dust.

- Ensure that protective covers and doors are appropriately fitted to the external antenna port, headset jack, USB and power connectors, and memory card areas, so that they are kept free from dirt, dust, fluid ingress, and electrostatic discharge (see [Memory cards, page 33](#)).
- 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.
- Be careful not to drop the handheld or subject it to any strong impact.

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 do not leave the handheld in Suspend mode (see [page 30](#)). Instead, partially charge the battery and then turn off the handheld.

To prepare the Juno SA handheld for storage:

1. Transfer any data that you need to an office computer.
2. Charge the battery to approximately 30%.
3. Press and hold the **Power** key for five seconds to turn off the handheld.
4. Store the handheld at room temperature.

To use the Juno SA handheld after storage:

1. Press the **Power** key to turn on the handheld.
2. Recharge the battery (see [Charging the battery, page 28](#)).

Technical assistance

Technical support

Go to the Juno SA handheld technical support page (www.trimble.com/junosa_ts.asp) on the Trimble website for the latest support information about the software, including:

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

Additional help

If you still cannot find the information that you need, contact your Trimble reseller.

Windows error reporting

If for any reason a Microsoft Windows Error Reporting dialog appears, indicating that the handheld or Trimble GPS field software has encountered a problem and needs to close, you are prompted to send an error report to Microsoft.

Trimble recommends that you click **Send** and then click any subsequent links that are used to obtain additional information.

Trimble can access the report that is sent to Microsoft and use it to improve the Juno SA handheld.

Your comments

Your feedback about the supporting documentation helps Trimble to improve it with each revision. Email your comments to ReaderFeedback@trimble.com.

Getting Started

In this chapter:

- [Parts of the Juno SA handheld](#)
- [Keypad buttons](#)
- [Powering the handheld](#)
- [Turning on and turning off the handheld](#)
- [Resetting the handheld](#)
- [Storing data](#)

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

Parts of the Juno SA handheld

The following pages show the main parts of the handheld.



Figure 2.1 Juno SA handheld - front view

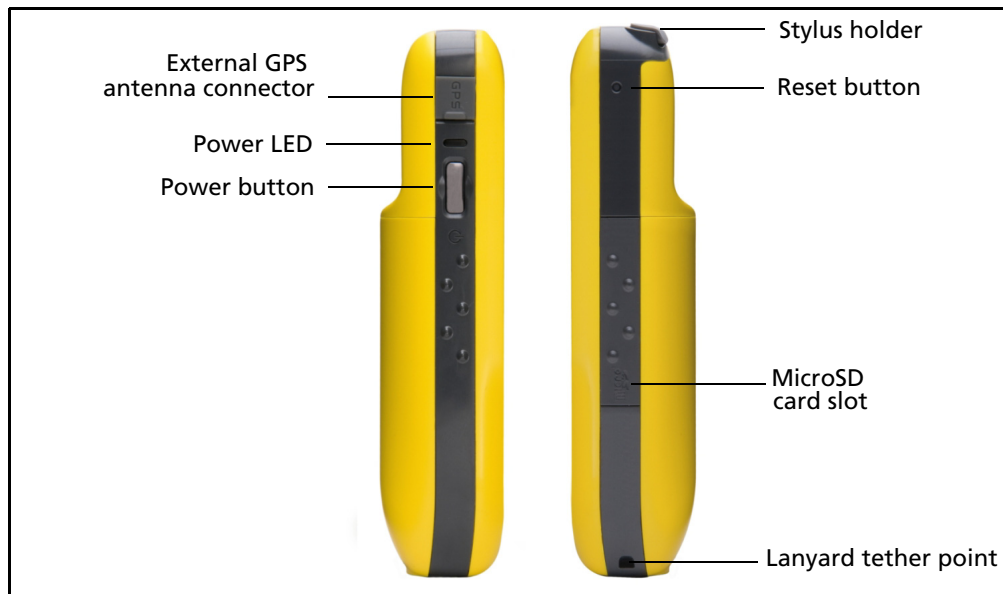


Figure 2.2 Juno SA handheld – left and right views



Figure 2.3 Juno SA handheld – bottom view

Keypad buttons

The Juno SA handheld keypad provides fast, easy access to common actions.



Figure 2.4 Juno SA handheld keypad buttons

The function of each key is described below:

Key	Description
Start	Press to display the Windows Mobile <i>Start</i> menu.
OK	Press to select OK or to close an application.
Today	Press to display the Today screen.
Inbox	Press to access the email Inbox.
Navigation keys	Use these keys to navigate around the screen, scroll through menus, or to tab through options on windows and forms. Use the: <ul style="list-style-type: none"> • arrow keys to move up, down, left, and right. • action key (the center key) to perform an application-specific action, which is usually Enter.
Soft keys	By default these keys perform the same action as the left and right softkeys in the menu bar. Alternatively, program these keys to perform a selected action. To program the keys, use the <i>Buttons</i> control (see Buttons, page 41).



Tip – To lock the screen and handheld keys without turning off the handheld, use the device lock option (see [Device lock](#), page 43).

Powering the handheld

The Juno SA handheld contains a rechargeable Lithium-ion battery.

***Note** – 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. Trimble recommends charging the battery for four hours to recharge it fully.*

***Note** – Cold temperatures consume additional battery power and so shortens battery life between charges.*

Battery safety



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 SA handheld. Using any other AC adaptor can damage the handheld 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.
- Do not use the AC adaptor in wet outdoor areas; it is designed for indoor use only.
- Unplug the AC adaptor from power when not in use.
- Do not short the output connector.
- Be aware that there are no user-serviceable parts in this product.
- If the AC adaptor becomes damaged, replace it with a new 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 Windows logo and then slide the back cover down to remove it.
2. To insert the battery, angle the top of the battery into the handheld, with the label facing upwards (as shown in [Figure 2.5](#)). Press the battery flat until it clicks into place.



Figure 2.5 Inserting the battery

3. To replace the back cover, slide it upwards until it snaps closed.




Tip – To remove the battery, remove the back cover of the handheld and then insert your finger or the stylus in the notch below the bottom left of the battery. Then pull the bottom of the battery towards you.

Charging the battery

Charge the battery in the handheld (see [page 26](#)). To charge the battery, do one of the following:

- Connect the handheld to the power source, for example an office computer, using the USB cable provided with the handheld. To efficiently charge the Juno SA handheld, ensure that the handheld is either turned off (see [Turning on and turning off the handheld, page 29](#)) or placed in Suspend mode (see [Suspend mode, page 30](#))
- Connect the optional AC power adaptor to the Power socket on the handheld and then connect the adaptor to mains power.
- Connect the optional vehicle power adaptor to the Power 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 seven hours, using the USB cable provided connected to a USB power supply. Fully charging the battery from empty using the optional AC power adaptor takes approximately four hours.

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


Power source	LED state	Handheld/battery state
Battery power	Off	Off (in Suspend mode or turned off).
	Off	On and battery level is good.
	Flashing red	On and battery is low (less than 5%).
External power	Flashing green	Charging.
	Solid green	Charging is complete.

Avoid keeping the battery at full charge at high temperatures. For more information, see [Storage, page 20](#).


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

Checking the level of battery power

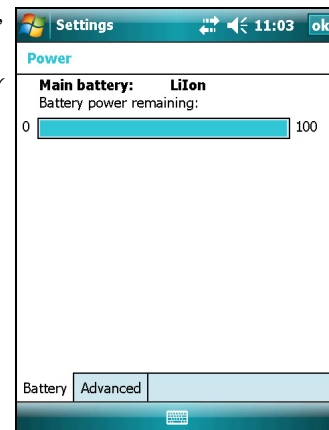
To check the level of battery power remaining at any time, tap the battery icon  in the title bar of the *Today* screen. The Power control appears, displaying the *Battery* tab.

When the handheld battery is recharging from an external 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.



Conserving power

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

- Set the handheld to automatically turn off when idle. For more information, see [Suspend mode, page 30](#).
- Set the backlight to automatically turn off when the handheld is idle for a specified time. For more information, see [Backlight, page 46](#).
- Reduce the brightness setting for the backlight. For more information, see [Backlight, page 46](#).
- Disconnect from the integrated GPS receiver when GPS data is not required, using the application's Disconnect or Deactivate GPS command. 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 and turning off the handheld

If the screen on the handheld is blank, the handheld is in Suspend mode (see [page 30](#)) or has been shut down. To turn on the handheld from Suspend mode, press the **Power** key briefly (less than two seconds). To turn on the handheld from Shutdown, press and hold the **Power** key for five seconds.

To turn off the handheld and put the handheld into Suspend mode, press the **Power** key briefly (less than one second).

To completely shut down the handheld, press and hold the **Power** key for five seconds. All running applications are shut down, and the handheld is completely turned off.


Suspend mode

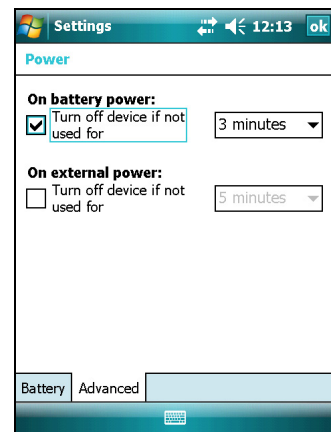
When you press the **Power** key to turn off the handheld, the handheld goes into Suspend mode. This is a low-power mode that maintains the main memory contents, stops applications running, and does not allow you to operate any of the handheld's functions. The handheld appears to be turned off. The integrated GPS receiver is turned off and any application using GPS is disconnected.

To turn on the handheld when it is in Suspend mode, press the **Power** key. The handheld is immediately ready for operation. There may be a delay of up to 30 seconds while the integrated GPS receiver automatically reactivates.

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

To change the time before the handheld enters Suspend mode:

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 then select the idle time from the drop-down list.
4. Tap **OK**.



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.

You can also reset the handheld to its factory default settings.

Performing a soft reset

A soft reset is similar to restarting 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.



Performing a hard reset

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

***Note** – Perform a hard reset only if a soft reset does not resolve the problem.*

To perform a hard reset, press and hold the **Power** button as you use the tip of the stylus to lightly press the **Reset** button.



Resetting to factory default settings

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



CAUTION – 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 a memory card. It does not change the language of the operating system used on the handheld.



CAUTION – If you have encrypted files on a memory card and you reset the handheld to factory default settings, the encryption key on the handheld is deleted. This means that any files you have encrypted on a memory card are permanently locked and unreadable by any device. For more information, see [Encrypting files on memory cards, page 34](#).



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

To reset the handheld to the factory default settings:


1. Power off the device completely by pressing and holding the Power button for 5 seconds.
2. Press and hold the two soft key buttons on the handheld.
3. While holding the buttons, press the **Power** button.



Storing data

The handheld has two types of memory:

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

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

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

Settings			
Memory			
	Storage		Program
Total:	61.38 MB	Total:	113.24 MB
In use:	49.67 MB	In use:	26.32 MB
Free:	11.72 MB	Free:	86.92 MB

Main Storage Card

[Find large files using storage memory.](#)



CAUTION – The Windows Mobile 6.1 operating system does not include a Recycle Bin. When you delete files from the handheld, they are deleted permanently.

Trimble recommends that you regularly copy important data to an office computer. For more information, see [Connecting to an Office Computer, page 49](#).

Memory cards

As an alternative to storage memory, you can save data to a memory card. Use either a microSD or microSDHC (high capacity) memory card to securely transfer data to and from another device that supports microSD or microSDHC memory cards.

Note – The Juno SA handheld does not support SDIO (SD input/output) cards.



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

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



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

To insert a microSD or microSDHC memory card:

1. Remove the battery cover door
2. Place the handheld face up on a dust-free indoor surface.
3. Remove the memory card slot door.
4. Insert the memory card into the memory card slot with the swipes facing down. Gently press the card until you hear a click and the card is locked into place.
5. Reattach the memory card slot door to the handheld.
6. Replace the battery cover door.

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

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

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

Encrypting files on memory cards

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


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

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



CAUTION – If you reset the handheld to the factory default settings, the encryption key is deleted and the handheld is no longer able to read any encrypted files on a memory card. This means that any files you have encrypted are permanently locked and unreadable by any device. To avoid being unable to read previously encrypted files, Trimble recommends that you use another device, such as an office computer, as the primary location for storing important data and to control the encryption of important files.

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

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

***Note** – Encrypted files appear as ordinary files on the handheld they were encrypted on. If the memory card is inserted in another device, the files appear with a .menc file extension and cannot be opened.*

To disable encryption, clear the *Encrypt files placed on storage cards* check box.

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

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

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

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

1. Insert the memory card in the handheld and then connect the handheld to an office computer using ActiveSync technology.
2. Copy the encrypted files from the memory card to the office computer.
3. To use the decrypted files on the handheld, copy the files from the office computer to the handheld's main memory.
4. To store the decrypted files on a memory card, ensure that encryption is not enabled on the handheld and then copy the decrypted files from the office computer to the memory card.

Using the Windows Mobile Operating System

In this chapter:

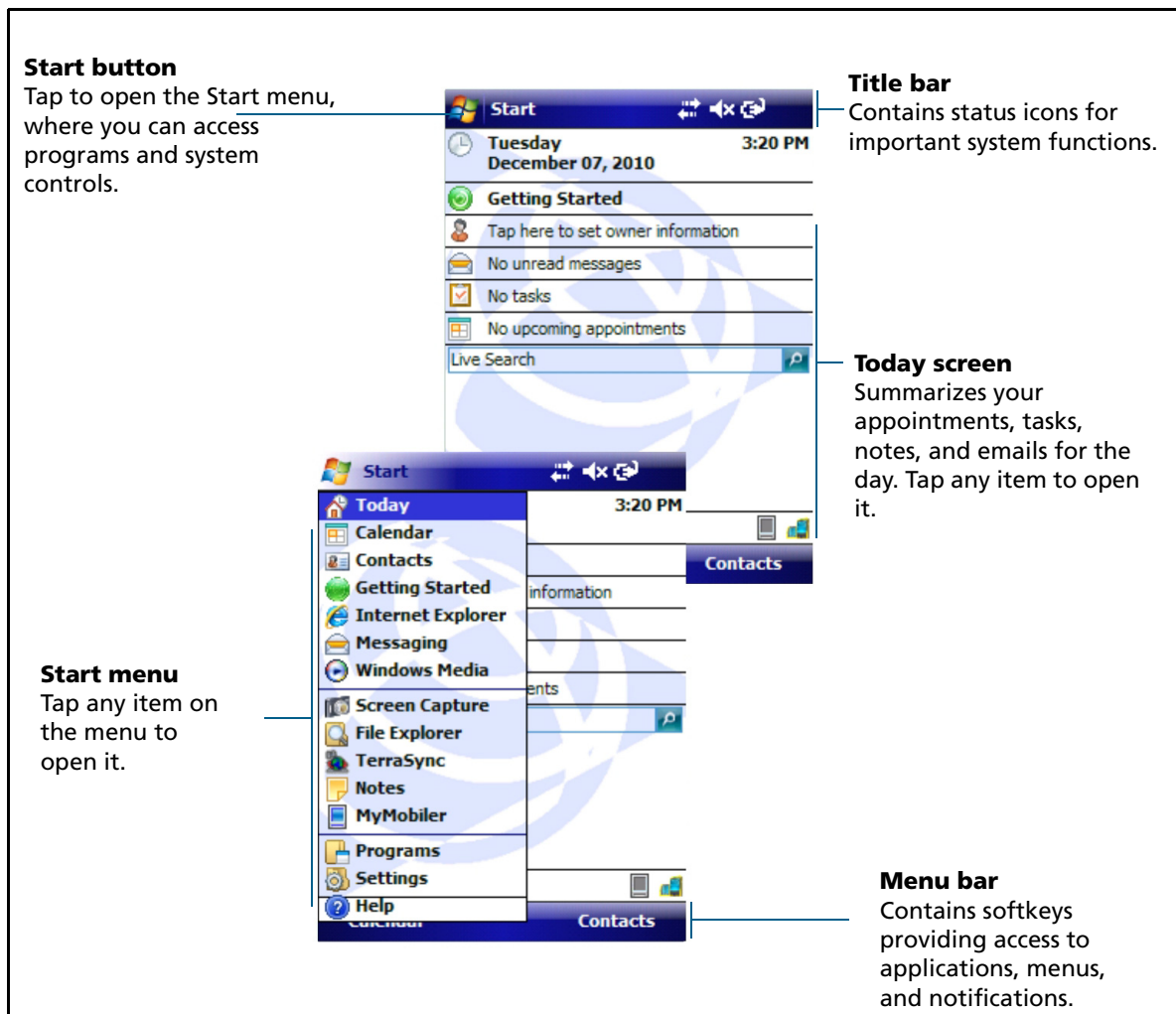
- [Parts of the screen](#)
- [Using the stylus](#)
- [Status indicators](#)
- [Pre-installed programs](#)
- [Accessing help](#)
- [Entering information](#)
- [Personalizing the handheld](#)
- [Messaging](#)

The Juno SA handheld is powered by the Windows Mobile 6.1 Classic operating system.



This chapter describes the main features of the Windows Mobile operating system.



Parts of the screen

The main parts of the screen are shown below.



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.



Status indicators

The following status indicators appear in the title bar at the top of the screen.



Battery level indicators

Icon	Tap icon to...
 Battery level	
 Low battery (10% or less remaining)	check battery level
 Battery charging/using external power	

Speaker status indicators











Icon	Tap icon to...
 Speaker is on	
 Speaker is off	change volume







Network indicators

Icon	Tap icon to...
 Connected to ActiveSync technology or the Windows Mobile Device Center (WMDC) on a computer	
 Disconnected from ActiveSync technology or WMDC	configure the connection

Pre-installed programs

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

Program	Function
 ActiveSync	Synchronize information between the handheld and a computer.
 Adobe Reader LE	View PDF files.
 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.
 Help	View help. 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
 Internet Explorer	Browse the World Wide Web.
 Messaging	Write, send, and receive email messages.
 Messenger	Send instant messages using Windows Live™ Messenger.

Program	Function
 Notes	Create handwritten, typed, or recorded notes.
 Pictures and Videos	Take, view, and edit pictures.
 Search	Search for a file or item stored on the handheld.
 Tasks	Keep track of your tasks.
 Windows Live	Access Windows Live services, including email, instant messenger and Internet search.
 Windows Media	Play Windows Media® or MP3 audio and video files.

For more information about using any of this software, refer to the Help for the software. See [Accessing help, page 36](#).

Using the stylus

To interact with the handheld, use the stylus to tap on the touch screen.

You can perform the following actions 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 correctly to stylus taps, realign it. For more information, see [Screen, page 45](#).

Entering information

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

Input method	Description
Synchronizing	Use Microsoft connection management software to exchange information between the handheld and an office computer. For more information, see Chapter 4, Connecting to an Office Computer .
Typing	Use the keyboard input panel to enter typed text by tapping keys on the on-screen keyboard.
Writing	Use the stylus like a pen to write directly on the screen.
Recording	Create a stand-alone recording or embed a recording into a note.

Selecting an input panel

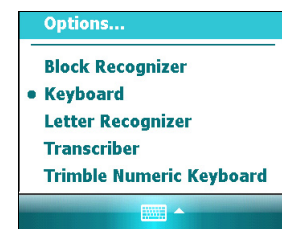
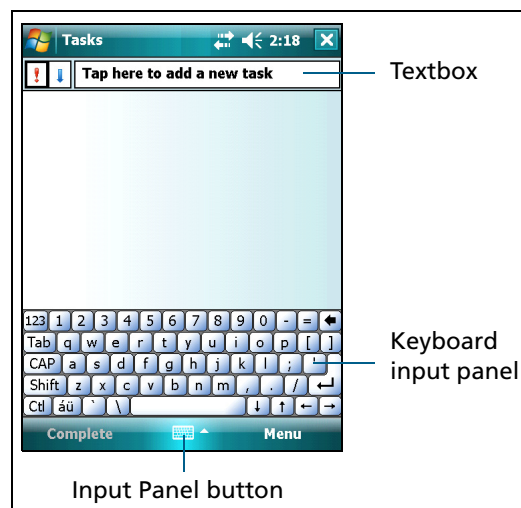
Use an input panel to type or to write on the screen.

The Input Panel button automatically appears in the menu bar of any application.

To display the currently selected input panel, tap a text box in the application, or tap the **Input Panel** button.

To select an input panel, tap the Input Selector arrow next to the Input Panel button and then tap the input panel you want to use:

- To use the on-screen keyboard, tap *Keyboard*.
- To write directly onto the screen and have the handwritten words and symbols converted into typed characters, tap *Letter Recognizer* or another input panel that supports writing on the screen.
- To configure options for the selected input panel, tap *Options*.



Using the on-screen keyboard

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

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

To hide the keyboard, tap the keyboard icon again.



Tip – To make the keys larger, tap the Input Selector arrow and then tap *Options*. In the *Input method* list, select Keyboard and then tap **Large Keys**.

Writing directly on screen

When you select Letter Recognizer, you can write individual letters, numbers, and punctuation in the Letter Recognizer input panel and have them converted into typed text.



Tip – For help with writing characters with Letter Recognizer, tap the question mark near the writing area.

When you select Transcriber, you can write anywhere on 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.




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*.

Making a recording

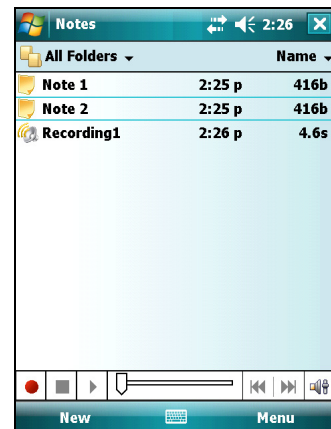
You can create a stand-alone voice note or you can add a recording to a note. Then you can work with voice notes in the same way that you work with notes.

To make a recording:


1. Tap  / *Programs* / *Notes*.
2. Do one of the following:
 - To create a stand-alone recording, tap the Record button  in the screen displaying the list of notes to begin recording.
 - To add a recording to a note, create or open a note and then tap the Record button  to begin recording.



Tip – If you do not see the Recording toolbar, tap *Menu* / *View Recording Toolbar*.




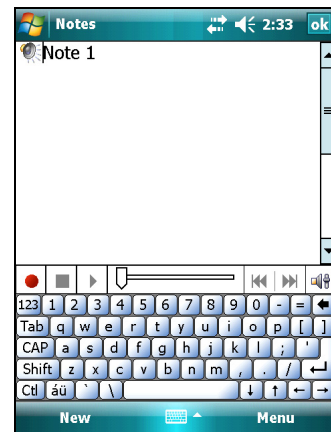
Note – The Juno SA handheld's microphone is on the front of the handheld, in the keypad area. The microphone will capture voice notes when you are holding the handheld in front of you. In noisy environments, you may need to move the handheld closer to you or to the source of the sounds you want to record.

3. When you finish recording, tap the **Stop** button .

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

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

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



Personalizing the handheld

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

Buttons


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

By default, these keys perform the same action as the left and right softkeys in the menu bar. Alternatively, program these keys to perform a selected action.

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

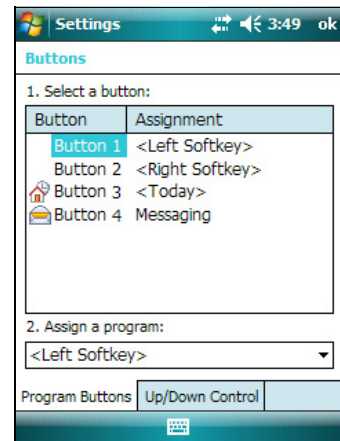
- Run a selected application, for example Messaging or Calendar.
- Act as a software button, for example an **OK/Close** button or a scroll button.
- View a selected screen, or part of a screen, for example return to the *Today* screen or launch the Context menu or Input panel.

To open the *Buttons* control:

- Tap  / *Settings* / *Personal* / *Buttons*.

To specify an action for the button:

1. Tap the *Program Buttons* tab.
2. Tap a button in the list to select it.
3. From the *Assign a program* drop-down list, select the action you want to occur when you press the button or tap the softkey.
4. Tap **OK**.




Today

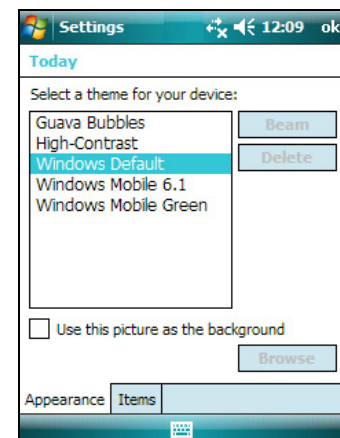
Use the *Today* control to change the display theme that controls the appearance of the *Today* screen, and to customize which items appear on the *Today* screen.

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**.

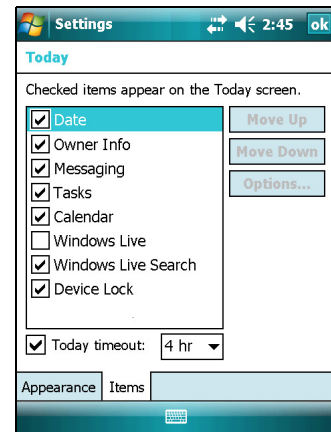


Items


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

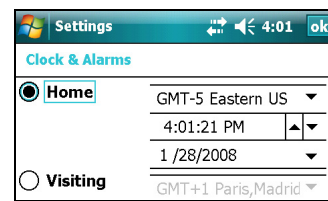
To change the items that appear on the *Today* screen:

1. Tap  / *Settings* / *Personal* / *Today*.
2. Tap the *Items* tab.
3. Select or clear the check boxes to show 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, tap *Device unlocked* in the *Today* screen. The *Today* screen shows *Device locked*, and *Unlock* appears in the left corner of the menu bar.

Once the handheld is locked, the screen and most of the keys do not respond until the handheld is unlocked. The exceptions are the **Power** key and the **Reset** button, which always respond when pressed.



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

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

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*.

Tap the *Battery* tab to check the battery level (see [Checking the level of battery power](#), page 29).

Tap the *Advanced* tab to set the time before the handheld turns off when idle (see [Suspend mode](#), page 30).

Sounds and notifications

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

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

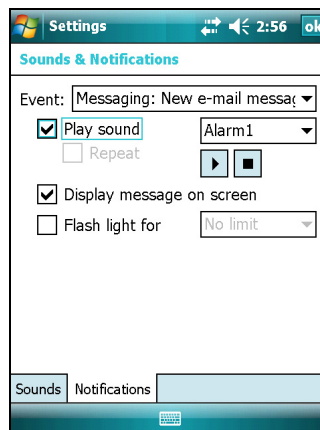
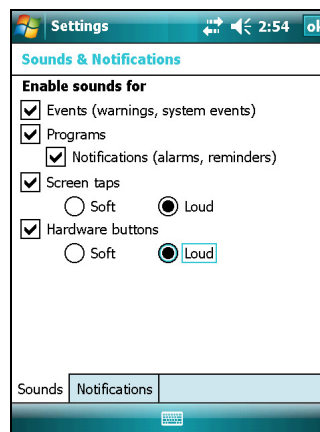
To turn on or turn off sounds:

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

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


To specify a sound scheme:

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



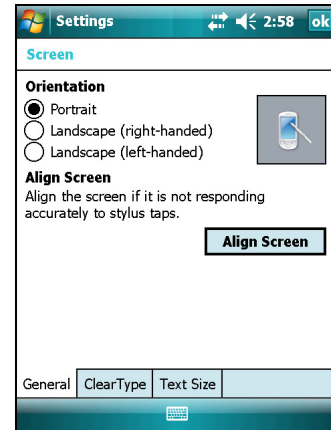
Screen

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**.



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

To enable ClearType:

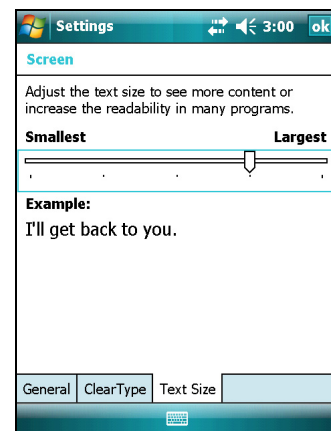
1. Tap the *ClearType* tab and then select the *Enable ClearType* check box.
2. Tap **OK**.

To change the size of text on screen:

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


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

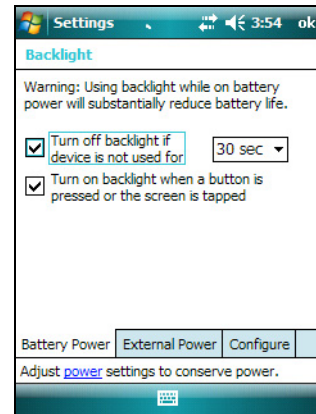
3. Tap **OK**.



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:

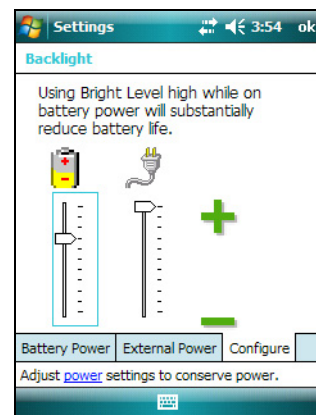
- Tap  / *Settings* / *System* / *Backlight*.
1. To set the backlight to automatically turn off, do one of the following:
 - To automatically turn off the backlight when the handheld is idle and is using **battery power**, tap the *Battery Power* tab. Select the *Turn off backlight* check box and then select a time from the drop-down list.
 - To automatically turn off the backlight when the handheld is idle and is using **external power**, tap the *External Power* tab. Select the *Turn off backlight* check box and then select a time from the drop-down list.
 2. 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**.



Messaging

Use Messaging to send and receive email messages using the Juno SA handheld. Messaging is the equivalent of your email Inbox.

To use email, you can do one of the following:

- Synchronize email messages with Microsoft Exchange or Microsoft Outlook® on an office computer.
- Send and receive email messages by connecting directly to an email server through an ISP or a network, whenever the handheld is connected to an office computer.

Synchronizing email messages

You can synchronize email messages on the handheld and the computer.



CAUTION – When you delete a message on the handheld, it is deleted from the office computer the next time you synchronize the devices.

To synchronize email, you must enable Inbox synchronization in ActiveSync technology. For more information, refer to the *ActiveSync Help* on the office computer.

During synchronization:

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

To send and receive email for a synchronized Exchange or Outlook account, connect the handheld to the office computer. Synchronization automatically begins, and the handheld sends and receives email.

Connecting directly to an email server

In addition to synchronizing email messages with an office computer, you can send and receive email messages by connecting to an email server.


Before you can send and receive email, you must create an email account in the Messaging software.

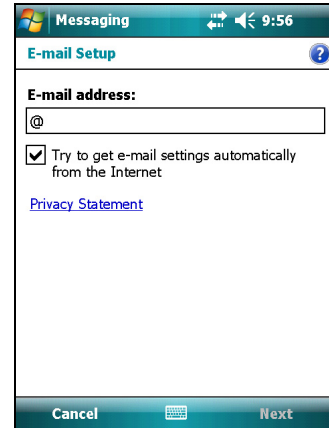
Note – *The handheld must be connected to an office computer (using the ActiveSync technology or the WMDC) which has an Internet connection before you can set up and use your email account.*

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 *New Email Account*.
3. Enter the email address for your account.
4. To automatically get connection settings for your email account from the Internet, select the check box.
5. Tap **Next**.
6. Follow the steps in the Setup wizard. If the connection settings are not automatically downloaded from the Internet, you must enter them using the connection details supplied by your ISP or network administrator.



Note – You cannot change the account name later.

7. Tap **Finish**.
8. Tap **OK** to download mail immediately.



Tip – To receive TerraSync data files by email, edit the settings for the email account you have set up. To do this, tap **Menu** and then select *Options*. In the *Accounts* tab, tap the e-mail account you want to use to receive TerraSync files. The *Email Setup* wizard appears. Tap **Next** until you reach the last page of the wizard. From the *Message download limit* drop-down list, select **Entire message**.

When you connect the handheld to the email server, new messages are downloaded to the Messaging folder, messages in the Outbox folder are sent, and messages that have been deleted on the email server are removed from the Messaging folder.

Messages received directly from an email server are linked to the email server rather than an office computer. When you delete a message on the handheld, it is also deleted from the email server the next time you connect the handheld to the email server.

You can work offline, or connected to an office computer (using the USB cable and the ActiveSync technology or WMDC):

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

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 onto the handheld](#)

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

You can connect the handheld to a computer using the USB cable.

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

Connection management software

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

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

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

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



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



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

For more information see one of the following:

- [Managing the connection using the Windows Mobile Device Center, page 51](#)
- [Managing the connection using ActiveSync technology, page 53.](#)

Installing the Windows Mobile Device Center

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

To install software onto a device powered by a Windows Mobile operating system, you must install Windows Mobile Device Center 6 onto an office computer.

The latest version of the Windows Mobile Device Center can be downloaded from the Microsoft website www.microsoft.com/windowsmobile/devicecenter.mspx.

Installing ActiveSync technology

The latest version of the ActiveSync technology can be downloaded from the Microsoft website www.microsoft.com/windowsmobile/activesync/default.mspx.

Connecting the handheld to a computer

To connect the Juno SA 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 50](#)).
3. Connect the USB data cable to the USB port on the handheld.
4. Connect the other end of the USB data cable to a USB port on the computer.



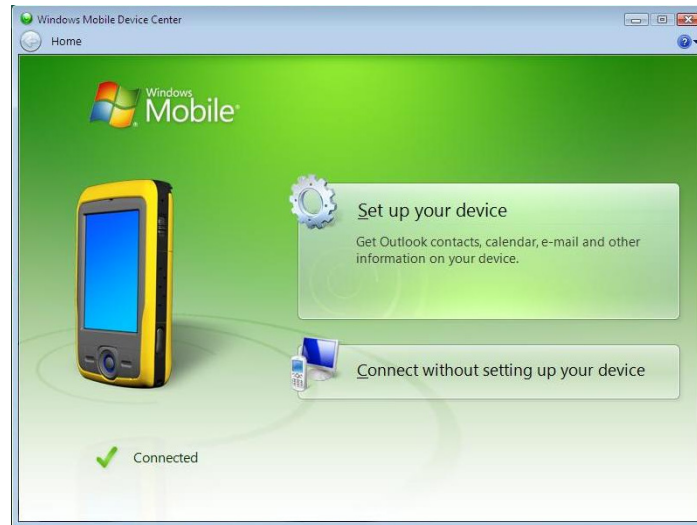
When the handheld and the computer are connected, you can manage the connection through a window that appears on the office computer. See one of the following:

- [Managing the connection using the Windows Mobile Device Center, page 51](#)
- [Managing the connection using ActiveSync technology, page 53](#)

Managing the connection using the Windows Mobile Device Center

1. Connect the handheld to the computer (see [page 51](#)).
2. If the Autoplay window appears, close the window.

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



Note – If the connection is not made automatically, check that the connection is enabled in the *Windows Mobile Device Center* software and on the handheld. For more information, see [Troubleshooting, page 67](#).

4. Do one of the following:
 - To synchronize files and data between the handheld and a computer, click *Set up your device* and then follow the instructions on screen.
 - To transfer data between the handheld and the computer without synchronizing the devices, 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 the computer, or from the computer to the handheld.
6. To install software onto the handheld, see [Installing software onto the handheld, page 55](#).
7. To uninstall software from the handheld, click *Programs and Services* and then click *Add/Remove Programs*.



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

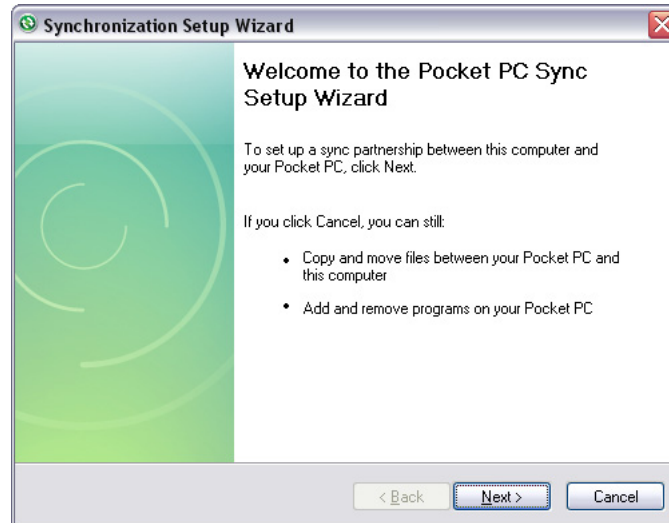
For more information, refer to the *Windows Mobile Device Center Help*.



Tip – If the GPS Pathfinder Office software is installed on the office computer, you can configure the Connection Manager utility in the GPS Pathfinder Office software to automatically detect when you connect a Juno SA handheld to the computer. This enables 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*.

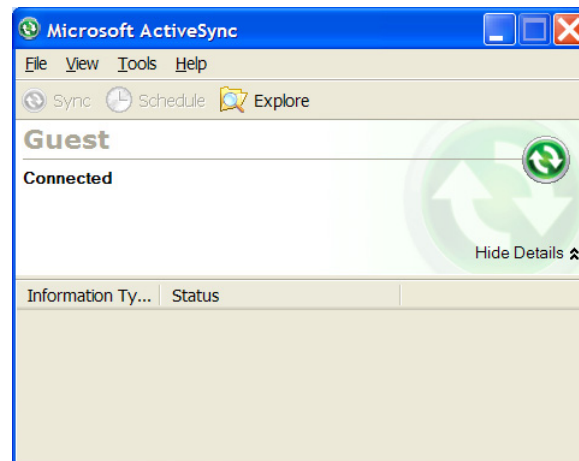
Managing the connection using ActiveSync technology

1. Connect the handheld to the computer (see [page 51](#)). The *Synchronization Setup Wizard* appears:



Note – If the connection is not made automatically, check that the connection is enabled in the ActiveSync technology and on the handheld. For more information, see [Troubleshooting, page 67](#).

2. Do one of the following:
 - To synchronize files and data between the handheld and a computer, click **Next** and then follow the instructions in the *Synchronization Setup Wizard*.
 - To transfer data between the handheld and the computer without synchronizing the devices, click **Cancel** to close the wizard.
3. The *Microsoft ActiveSync* window displays the message Connected:



4. To transfer files between the computer and the handheld, click **Explore**. A Windows Explorer-type window appears, displaying files stored on the handheld. Copy and paste files to other locations on the computer, or from the computer to the handheld.
5. To install software onto the handheld, see [Installing software onto the handheld, page 55](#).
6. To uninstall software from the handheld, select *Add/Remove Programs* from the *Tools* menu. Clear the check box beside the program you want to remove and then click **OK**.

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



Tip – If the GPS Pathfinder Office software is installed on the office computer, you can configure the Connection Manager utility in the GPS Pathfinder Office software to automatically detect when you connect a Juno SA handheld to the computer. This enables 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 onto the handheld

Before you begin, refer to the installation instructions provided with the software.

Some software installations are specifically designed to run on a Windows Mobile powered device. To install software that has a Windows Mobile installation setup:

1. Connect the handheld to a computer (see [page 51](#)).
2. Copy the installation files to a folder on the handheld.
3. Browse to the folder on the handheld. Tap and hold the installation setup file and then select Run.
4. If prompted after installation, perform a soft reset of the handheld (see [page 31](#)).

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

1. Connect the handheld to a computer (see [page 51](#)).
2. If the software is provided on a CD, insert the software CD into the office computer.
3. Run the installation setup.
4. If prompted, select the install option for a Windows Mobile powered device. Once the software is installed on the computer, it is automatically transferred to the handheld.

***Note** – If a 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 storage memory, not to a 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.*

5. If prompted after installation, perform a soft reset of the handheld (see [page 31](#)).

Using the GPS Receiver

In this chapter:

- Supported GPS field software
- Configuring the GPS field software to connect to the receiver
- Using the GPS field software
- Ensuring the accuracy of your GPS data
- Differential GPS explained
- Outputting NMEA data

The Juno SA handheld includes an integrated GPS receiver that enables you to collect GPS data for incorporating into a GIS or for managing assets.

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.*

Supported GPS field software

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

TerraSync software

You can install version 5.01 or later of the TerraSync software on a Juno SA handheld. Use the software to collect and maintain GIS and GPS data.

To install the TerraSync software, run the downloaded setup file. To obtain an installation code for installation, you must register the Proof-of-Purchase Number (POPEN) that you received when you purchased the software. Detailed installation instructions are provided in the *TerraSync Software Getting Started Guide*.

Esri ArcPad software and the Trimble GPSCorrect extension

You can install version 8 or later of the Esri ArcPad software on a Juno SA handheld. Use the software to collect and maintain GIS and GPS data. Detailed installation instructions for Esri ArcPad software are provided in the ArcPad documentation.

To be able to differentially correct ArcPad GPS data, install version 3.15 or later of the Trimble GPSCorrect extension for Esri ArcPad software on a Juno SA handheld.

You must install the ArcPad software **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, click Support Notes and then search for the Mapping and GIS Product Compatibility List Support Note.

To install the GPSCorrect extension, run the downloaded setup file. Detailed installation instructions are provided in the *Trimble GPSCorrect Extension Getting Started Guide*.

GPS Controller software

You can install version 2.30 or later of the GPS Controller software on a Juno SA handheld. Use the software to configure and monitor the status of the internal GPS receiver.

To install the GPS Controller software, go to www.trimble.com/support.shtml. Click GPS Controller and then click Downloads. Click the link for the version you want to install and then follow the instructions in the Installation wizard.

Other GPS field applications




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

Configuring the GPS field software to connect to the receiver

The first time you use GPS field software on the handheld, you may need to configure the software to connect to COM4, which is the GPS port on the handheld.

Connecting to the COM port


Details of how to configure different types of GPS field software to connect to the GPS COM port are as follows:

GPS field software	Configuration details
GPS Controller	Run GPS Controller. The software automatically activates the integrated GPS receiver on COM4.
TerraSync	Run Terrasync. The software automatically activates the integrated GPS receiver on COM4.
ArcPad with the GPScorrect extension	<p>When the Trimble GPScorrect extension is installed, the extension automatically configures the ArcPad software to use the integrated GPS receiver on COM4 using the Trimble GPScorrect protocol.</p> <ul style="list-style-type: none"> To connect to GPS, tap the GPS button  and then tap Yes. To configure a real-time DGPS source, or to view status information, run the GPScorrect extension. To do this, tap the GPScorrect button in the Trimble toolbar.
ArcPad without the GPScorrect extension	<ol style="list-style-type: none"> In ArcPad, tap the GPS drop-down menu  and then select <i>GPS Preferences</i> from the drop-down menu. Tap the <i>GPS</i> tab. In the <i>Protocol</i> field, select NMEA 0183. In the <i>Port</i> field, select COM4. Tap OK. Tap the GPS button  and then tap Yes.
NMEA application	Configure the software to connect to GPS on COM4 and then use the Connect or Activate GPS command.

Using the GPS field software

Depending on the GPS field software you have installed, you can use the software to view satellite reception, configure logging settings, and collect features. For more information, refer to the rest of this chapter and the documentation for the GPS field software.

Starting the GPS field software

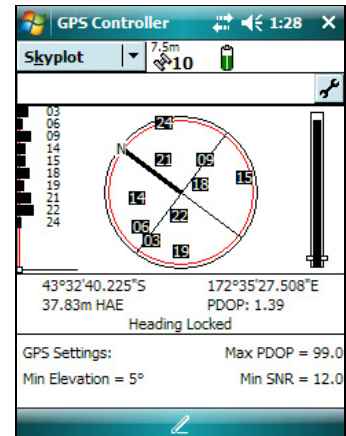
- Tap  / *Programs* and then select the GPS field software, for example *GPS Controller*.

When you first open any Trimble GPS field software, the Skyplot section is displayed.

Viewing available GPS satellites

Use the graphical Skyplot section or the Satellite Info section in the Trimble GPS field software to view detailed GPS 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.



Resetting the GPS receiver

Trimble GPS field applications all have options to reset the receiver to:

- delete the almanac
- delete information stored on the last known position
- restart the receiver
- reset the GPS receiver to factory default settings

Performing a reset to factory defaults or a hard reset on the Juno SA handheld will also reset the GPS receiver to factory default settings.

Ensuring the accuracy of your GPS data

The Juno SA handheld has an integrated GPS receiver that provides accurate positioning with real-time differential correction between two and five meters, or postprocessed accuracy between one and three meters.

The accuracy that you obtain from your Juno SA 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.

The list below identifies the most important settings and techniques that you can use in the field to improve the accuracy of your data:

1. If you are using TerraSync software to collect data, use accuracy-based logging. For more information, see [page 61](#).
2. Use real-time differential SBAS corrections. For more information, see [page 62](#).


3. Plan GPS data collection around the times of the day when satellite geometry is best. For more information, see [page 63](#).
4. Postprocess your data using Trimble postprocessing software, see [page 64](#). See also the *GPS Pathfinder Office Software Getting Started Guide* or the *GPS Analyst Extension Getting Started Guide*).

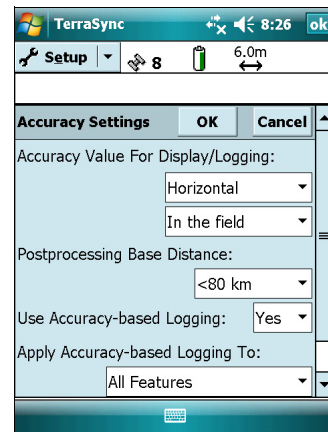
Using accuracy-based logging

If you are using the TerraSync software, use accuracy-based logging to ensure that only GPS positions that meet the specified estimated accuracy are logged. GPS positions that do not meet your accuracy requirements are not logged.

Note – *Accuracy estimates for streaming (dynamic) GPS positions may not be as good as those for static GPS positions.*

To configure accuracy-based logging in the TerraSync software:

1. In the Setup section of the TerraSync software, tap **Logging Settings**. The *Logging Settings* form appears.
2. Tap the **Setup** button  below the *Accuracy Settings* field. The *Accuracy Settings* form appears.
3. In the *Accuracy Value For Display/Logging* fields, select the parameters that will be used to determine the estimated accuracy:
 - Select whether to use the horizontal or vertical accuracy of the current GPS position.
 - Select *In the field* to use the current estimated accuracy (recommended if you are using a real-time correction source), or select *Postprocessed* to use the predicted estimated accuracy that will be achieved after the field data has been postprocessed.
4. If you selected *Postprocessed*, select the estimated distance to the base station that will be used for postprocessing from the *Postprocessing Base Distance* field. Set the *Use Accuracy-based Logging* field to *Yes*. The settings fields for accuracy-based logging appear.
5. In the *Apply Accuracy-based Logging To* field, select the feature types that you want to log only if the GPS positions meet your required accuracy.
6. In the *Required Accuracy* field, select the estimated accuracy that is required before GPS positions are logged.
7. Tap **OK**.



Note – *Accuracy settings do not affect GPS positions that are used for navigation. GPS positions are still calculated by the GPS receiver and are available for navigation.*

Connecting to a real-time differential correction source

Use a real-time differential GPS (DGPS) source to give you better accuracy as you collect data. For more information about how real-time differential GPS works, see [Differential GPS explained, page 63](#).

Using SBAS corrections


The Juno SA handheld has an integrated GPS receiver that uses Satellite Based Augmentation Systems (SBAS) correction messages to improve the accuracy and integrity of GPS data.

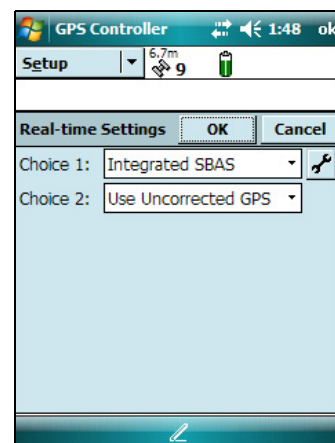
The SBAS tracking mode is Auto. In Auto mode, the receiver tracks or locks onto the most powerful satellite signal. The GPS receiver can track two SBAS satellites at the same time in Auto mode. It uses corrections from only one SBAS satellite at a time, but tracking two satellites can improve the availability of SBAS real-time corrections. For example, if you are working in environments where obstacles may block the direct line of sight to the SBAS satellite, there is less chance of signal loss if you are tracking more than one SBAS satellite. The receiver tracks SBAS satellites according to your geographical location:

- Wide Area Augmentation System (WAAS) satellites are tracked in the Continental United States including Alaska, and parts of Canada and Mexico.
- European Geostationary Navigation Overlay Service (EGNOS) satellites are tracked in Europe.
- MTSAT Satellite-based Augmentation System (MSAS) satellites are tracked in Japan.

Note – If you have other Trimble GPS field software installed, configure real-time correction settings in that application instead of the GPS Controller software.

To use SBAS corrections:

1. In the GPS field software, open the Real-time section and tap the **Setup** button .
2. In the *Choice 1* field, select Integrated SBAS.
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**.

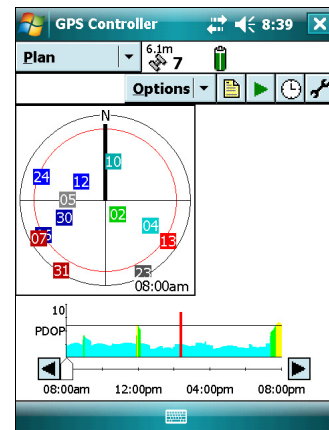


Planning a data collection session

To maximize productivity, plan GPS data collection around the times of the day when satellite geometry is best. The GPS Controller 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 poor.

Note – If you have other Trimble GPS field software installed, use the planning feature in that application instead of the GPS Controller software.



Differential GPS explained

Use differential GPS to correct errors in your collected data. Differential GPS (DGPS) requires one or more additional receivers, called **base stations** or reference stations, which are located at known points. Data collected at the base stations is used to determine 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 base station. Errors common at both the base station and the rover receiver are corrected with DGPS either in real time or during postprocessing.

Real-time DGPS

In real-time DGPS, the base station calculates and broadcasts the error for each satellite as each measurement is received, enabling you to apply corrections while in the field and collect accurate GPS data. DGPS corrections are available from a variety of public and commercial sources. They can be generated and broadcast in real-time by privately or self-owned GPS base stations, or by a wide range of government agencies.

Real-time DGPS corrections can be used on the Juno SA handheld from Satellite Based Augmentation Systems (SBAS) such as WAAS in the US and EGNOS in Europe. SBAS uses multiple base stations to calculate the DGPS corrections that are then delivered to the user from a Geostationary satellite.

Factors that affect real-time DGPS accuracy include how often the corrections are updated, how far you are from the base station, 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 base station are downloaded. You can postprocess GPS data collected with Trimble GPS field software using:

- the GPS Pathfinder Office software version 5.00 (with the latest updates) or later.
- the Trimble GPS Analyst extension for Esri ArcGIS software version 2.30 (with the latest updates) or later.

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

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

Postprocessed real-time DGPS

The accuracy of positions using the Juno SA handheld is within one to three meters postprocessed, or two to five meters with real-time differential correction. The accuracy of real-time SBAS corrected positions can be improved to one to three meters with postprocessing.

If your data files contain autonomous (uncorrected) positions as well as real-time corrected positions, Trimble recommends that you postprocess the data. During postprocessing, you can choose whether to correct only autonomous positions, or all positions.

For more information about GPS and DGPS, go to www.trimble.com/gps and review the All About GPS tutorial.


Outputting NMEA data

You can use the Juno SA handheld's integrated GPS receiver with any GPS field software that accepts NMEA messages.

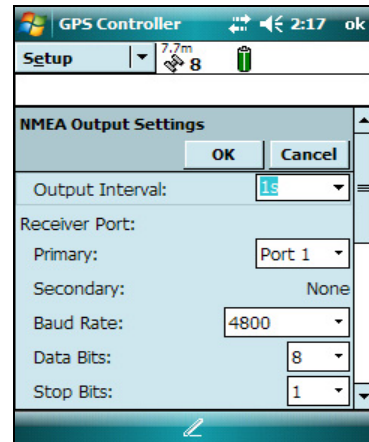
If you connect to the GPS receiver using Trimble GPS field software, by default the NMEA output is switched off.

Note – *You can only configure NMEA data output using the GPS Controller software. The software is provided free from the Trimble website. For more information, see [GPS Controller software, page 58](#).*

To enable NMEA data to be output:

1. In the *GPS Settings* form, set the *NMEA Output* field to **On**.
2. Tap the **Setup** button  that appears next to the *NMEA Output* field. The *NMEA Output Settings* appears.
3. Configure the NMEA message output settings.
4. Tap **OK**.

For more information, refer to the *GPS Controller Help*.



Note – NMEA data can only be used by applications installed on the handheld. There is no method to output NMEA data to an external device.


Troubleshooting

In this chapter:



- [Power issues](#)
- [Backlight issues](#)
- [Touch screen issues](#)
- [Keypad issues](#)
- [Memory card issues](#)
- [Connection issues](#)
- [GPS receiver issues](#)
- [Real-time DGPS issues](#)

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


Power issues

Problem	Cause	Solution
The handheld does not turn on.	The battery is flat.	Recharge the battery (see page 26).
The screen is blank.	The handheld is turned off.	Press the Power button to turn on the handheld.
	The handheld has locked up.	Reset the handheld (see Resetting the handheld, page 31).
The handheld is not charging.	The internal temperature has risen above the allowed maximum for charging the battery.	Do one or all of the following: <ul style="list-style-type: none"> • Turn off the integrated radios before charging the handheld. • Suspend the handheld before charging. • Remove the handheld from any external heat sources (for example, sunlight). The handheld will automatically start charging again when the internal temperature has dropped below the range for charging the battery.
The battery power percentage bar does not appear in the Power control.	The battery has 0% power.	Recharge the battery (see page 26). Once the battery level is above 0%, the battery power percentage bar reappears. Tap  / <i>Settings / System / Power / Battery</i> to view the level of power remaining in the battery.
The charge level of the battery drops when the handheld is turned off.	The handheld was left in Suspend mode or was left fully charged for a long duration.	Before storing the handheld, completely shut down the handheld (see Turning on and turning off the handheld, page 29). Then store the handheld as recommended (see Storage, page 20).


Backlight issues

Problem	Cause	Solution
The backlight does not come on when you tap the screen or press a button.	The backlight is not set to turn on in the Backlight control.	Tap  / <i>Settings / System / Backlight</i> to view the Backlight control, and make sure that: <ul style="list-style-type: none"> • the <i>Turn on backlight when a button is pressed or the screen is tapped</i> check box is selected. • the brightness is not set to <i>Dark</i> in the <i>Configure</i> tab.
The screen is blank or hard to see.	The backlight is off.	Tap the screen or press a button.
	The backlight level needs to be adjusted.	Tap  / <i>Settings / System / Backlight</i> to view the Backlight control and then adjust the slider in the <i>Configure</i> tab.

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 page 45).
	The touch screen is locked.	To unlock the touch screen, tap Unlock in the menu bar of the <i>Today</i> screen.
	The handheld has locked up.	Reset the handheld (see Resetting the handheld, page 31).
The screen is blank.	The handheld is turned off.	Press the Power button to turn on the handheld.
	The battery is flat.	Recharge the battery (see page 26).
	The handheld has locked up.	Reset the handheld (see Resetting the handheld, page 31).
The screen is hard to see.	The backlight level needs to be adjusted.	Open the Backlight control and then adjust the backlight level (see Backlight, page 46).
	The backlight is off.	Tap the screen to turn on the backlight.
	You are unable to see parts of an application windows when the screen is in landscape orientation.	Some applications are designed for portrait orientation only. To view the entire application window, change the screen display to portrait.
	The selected display theme does not have enough contrast.	Select the High-Contrast display theme. Tap  / <i>Settings / Personal / Today</i> , select the High-Contrast theme and then tap OK .

Keypad issues



Problem	Cause	Solution
Pressing the application key does not activate the function shown on the softkey above it.	The hardware application key has been programmed to run another program or to perform another action.	Do one of the following: <ul style="list-style-type: none"> Tap the touchscreen softkey to activate the function shown on the softkey. Re-program the application key to perform the same action as the touchscreen softkey. To do this, tap  / <i>Settings / Personal / Buttons</i>, select the button to reprogram and then select <Left Softkey> or <Right Softkey>.

Memory card issues



Problem	Cause	Solution
The handheld does not recognize a memory card.	The handheld does not support SDIO (SD input/output) cards.	Use a microSD or microSDHC memory card.
Files on the memory card are not visible or are not able to be opened.	Files have been encrypted on another device and have a .menc file extension.	Remove encryption from the files (see Encrypting files on memory cards, page 34).

Connection issues


ActiveSync technology

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 technology on the office computer, select <i>File / Connection Settings</i> and then tap Connect .
	ActiveSync does not recognize the Juno SA handheld.	Restart the office computer. Disconnect the USB cable from the handheld, reset it (see Resetting the handheld, page 31) and then reconnect the handheld to the computer.
	An incompatible version of ActiveSync technology is installed.	ActiveSync version 4.5 and later is compatible with the Juno SA handheld. If version 4.5 or later of the ActiveSync technology is not installed on the office computer, you can download the latest version from the Microsoft website at www.microsoft.com/windowsmobile/activesync/default.msp .
	The connection is not enabled in ActiveSync on the computer.	In the ActiveSync technology on the office computer, click <i>File / Connection Settings</i> . Make sure that the <i>Allow USB connections</i> check box is selected from the drop-down list.
	The connection is not enabled in ActiveSync on the handheld.	On the handheld, tap  / <i>Programs / ActiveSync / Menu / Connections</i> . Make sure that the <i>Synchronize all PCs using this connection</i> check box is selected, and that the correct option is selected.
	The handheld connection settings conflict with network settings or VPN client software.	If you are using 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. The handheld stops using the default RNDIS method to connect to the ActiveSync technology.

Windows Mobile Device Center

Problem	Cause	Solution
Windows Mobile Device Center 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 Windows Mobile Device Center software on the office computer, select <i>Mobile Device Settings / Connection Settings</i> .
	The Windows Mobile Device Center software does not recognize the Juno SA handheld.	Restart the office computer. Disconnect the USB cable from the handheld, reset it (see Resetting the handheld, page 31) and then reconnect the cable to the handheld.
	The connection is not enabled in Windows Mobile Device Center on the computer.	In the Windows Mobile Device Center software on the office computer, click <i>Mobile Device Settings / Connection Settings</i> . Make sure that the <i>Allow USB connection</i> check box is selected from the drop-down list.
	The connection is not enabled on the handheld.	On the handheld, tap  / <i>Programs / ActiveSync / Menu / Connections</i> . Make sure that the <i>Synchronize all PCs using this connection</i> check box is selected, and that the correct option is selected.
	The handheld connection settings conflict with network settings or VPN client software.	If you are using the USB data cable, use the USB to PC utility to change the connection method the handheld uses to connect to the Windows Mobile Device Center on the computer. Tap  / <i>Settings / Connections / USB to PC Utility</i> . Clear the <i>Enable advanced network functionality</i> check box. The handheld stops using the default RNDIS method to connect to the Windows Mobile Device Center.

GPS receiver 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 the GPS field software to open the GPS COM port and activate the integrated GPS receiver. For more information, see Using the GPS Receiver, page 57 .
	The GPS COM port is already in use. Only one application at a time can have the port open.	Do the following: <ul style="list-style-type: none"> Exit the software that is using the GPS COM port and then retry in your application. Check that a GPS application is not running in the background. Tap  / <i>Settings / Memory</i>, select Running Programs, and then select and close any GPS applications you are not using.
	The GPS field software is using the wrong GPS COM port.	Connect to COM4.
	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.
	<i>Wait for real-time</i> is selected in the GPS field software and the integrated receiver is waiting to receive real-time corrections.	If you are collecting data for postprocessing, clear the wait for real-time selection. Check that the real-time correction source is setup correctly (see Connecting to a real-time differential correction source, page 62).
Handheld is lying on a metal surface.		The design and location of the GPS antenna have been maximized for GPS reception in a typical user environment. Locating the handheld on a metal surface without being in contact with the user may cause a decrease or loss of satellite reception. Hold the handheld for optimum reception.
NMEA data includes autonomous positions.	The integrated GPS receiver outputs autonomous positions when real-time corrections are unavailable.	Configure the NMEA application to filter out non-DGPS positions.

Real-time DGPS issues

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



NORTH & SOUTH AMERICA

Trimble Navigation Limited
10355 Westmoor Drive
Suite #100
Westminster, CO 80021
USA

EUROPE & AFRICA

Trimble Germany GmbH
Am Prime Parc 11
65479 Raunheim
GERMANY

ASIA-PACIFIC & MIDDLE EAST

Trimble Navigation
Singapore PTE Limited
80 Marine Parade Road
#22-06 Parkway Parade
Singapore, 449269
SINGAPORE



www.trimble.com