USER GUIDE

GeoExplorer® 6000 series
GeoXR Handheld

⊕ Trimble®

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USER GUIDE

GeoExplorer® 6000 Series: GeoXR Handheld

Version 1.00
Revision A
September 2011

⊕ Trimble

Legal Notices

Copyright and Trademarks

Release Notice

This is the September 2011 release (Revision A) of the *GeoExplorer 6000 Series GeoXR Handheld User Guide*. The GeoExplorer 6000 series GeoXR handheld's operating system is based on the Microsoft Windows Mobile version 6.5 operating system.

Limited Warranty Terms and Conditions

Product Limited Warranty

Subject to the terms and conditions set forth herein, 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: 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 NONINFRINGEMENT. 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.

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 radios in this device have been designed and manufactured to not exceed stipulated emission limits for exposure to radio frequency (RF) energy as required by the Federal Communications Commission of the U.S. Government 47 C.F.R. § 2.1091 and 2.1093.

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

Canada

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

Antenna Statement

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

Licence exempt

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:
(1) this device may not cause interference, and
(2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le onctionnement.

Europe

This product has been tested and found to comply with all requirements for CE Marking and sale within the European Economic Area (EEA). It is classified and marked as being Class 2 Radio Equipment under 2000/299/EC, as Bluetooth and wireless LAN approvals are country specific. Please consult your local distributor for more information.

EU – Restrictions for Use in the 2.4GHz band

This device may be operated indoors or outdoors in all countries of the European Community using the 2.4GHz band: Channels 1 – 13, except where noted below.

– In France outdoor operation is only permitted using the 2.4 – 2.454 GHz band: Channels 1 – 7.
– In Italy the end-user must apply for a license from the national spectrum authority to operate this device outdoors.
– In Norway, this unit may not be operated within 20 km of Ny Alesund

The Trimble GeoExplorer 6000 series GeoXR handheld has Bluetooth and wireless LAN approval in most EU countries and satisfies the requirements for Radio and Telecommunication Terminal Equipment specified by European Council Directive 1999/5/EC. These requirements provide reasonable protection against harmful interference when the equipment is operated appropriately in a residential or commercial environment.

GeoExplorer 6000 series GeoXR handhelds are equipped with wireless cellular modem radios intended for connection to European Networks operating with GSM 900, or GSM 1800.

Australia and New Zealand

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

Additionally, GeoExplorer 6000 3.5G products that incorporate a modem also comply with the requirements for A-Tick Marking and sale in Australia.

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

Japan

This device has been granted two designation numbers by Ministry of Internal Affairs and Communications: according:

Ordinance concerning Technical Regulations Conformity Certification etc. of Specified Radio Equipment (特定無線設備の技術基準適合証明等に関する規則)

Article 2 clause 1 item 19

Approval nos: 202WWSM11568841 and 202WWSM115688411

This device should not be modified (otherwise the granted designation numbers will be invalid).

Korean Communications Commission (KCC)

This product conforms with the regulatory requirements of the Korean Communications Commission (KCC), thus satisfying the requirements for KCC Marking and sale within Korea.

방송통신위원

이 제품은 한국 방송통신위원회 (KCC) 의 규제요건에 부합하므로 KCC 마크 표시 및 한국내 판매 요건을 충족합니다

1. 인증받은자의 상호 : Trimble Navigation Ltd.
2. 모델명 :GeoXR
3. 제조사 : Flextronics
4. 송신주파수 :B/T 2402~2480 MHz, WLAN : 2412~2472 MHz
5. 수신주파수 :B/T 2402~2480 MHz, WLAN : 2412~2472 MHz
6. 출력 : B/T 0.02 mW, WLAN 10mW
7. 사용자 안내문구
8. 당해무선설비기기는 운용중 전파혼신 가능성이 있으므로 인명안

전과 관련된 서비스는 할수 없음 .

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
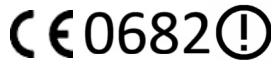
EC Declaration of Conformity

GeoExplorer 6000 series Handheld & Accessories

We, the undersigned

Manufacturer	**Trimble Navigation Limited**
Address	935 Stewart Drive, Sunnyvale , CA94088-3642 US
Country	United States

Certify and declare under our sole responsibility that the following products:

GeoExplorer 6000 Series Handhelds
Model 88950 (GeoXT and GeoXH)
Model 88951 (GeoXR, GeoXT 3.5G and GeoXH 3.5G)

and associated accessories listed below :

Accessory	Accessory Model Number
AC Adaptor	88014-00
Li-Ion Battery	88004-00
USB Serial Clip	88409-03

comply with applicable standards as defined in Table 1 and Table 2 of this document. Used in accordance with instructions these products fulfil the essential requirements for Class II radio products as specified under Article 3 of RTTE 1999/5/EC, and associated EMC Directives 2004/108/EC and Low Voltage Directive 73/23/EEC.

All the reports of the applied standards have the Positive Opinion of Notified Body: CETECOM Services GmbH, Unterteuerkheimer Str. 6-10, 66117 Saarbruecken, Germany with their Expert Opinion registration numbers E816220Y-EO and E816221Y-EO. The product is marked accordingly with the required CE markings of the above directive resulting the in the CE mark and Notified Body number combination given below:

$C \in 0682$ ①

This document is maintained under part number 88951-XX-DC, and the technical file is maintained under part number 88951-XX-CE.

Signed

21st September 2011

Bruce Maule
GIS Data Collection Compliance, Trimble Navigation limited.

Table 1: Applicable standards for GeoExplorer 6000 series Handhelds:

RTTE Article	EU Regulation /Directive	Description	Test Standard(s)	Version	Test Report	GeoXT, GeoXH	GeoXR GeoXT 3.5G GeoXH 3.5G
3.1 b	1999/5/EC	Radio & Telecommunications Terminal Equipment	EN 301 489-24	V 1.4.1	EMC301489-24 _TRIM2_001_0900 1_489_1.pdf	•	•
			EN 301 489-17	V 2.1.1			
			EN 301 489-7	V 1.3.1			
			EN 301 489-3	V 1.4.1			
			EN 301 489-1	V 1.8.1			
3.2	1999/5/EC	Radio & Telecommunications Terminal Equipment Directive (effective use of 2.4GHz	EN 300 328	V 1.7.1	EN300328 WiFI EMC_TRIM2_001_ 09001_328WLAN. pdf	•	•
					EN300328 BT EMC_TRIM2_001_ 09001_EN_328BT. pdf	•	•
3.2	1999/5/EC	Radio & Telecommunications Terminal Equipment Directive (effective use of cellular	EN 301 511	V 9.0.2	EN301908 EN 301511 RSE EMC_TRIM2_001_ 09001_RSE.pdf		•
			EN 301 908-1	V 3.2.1	EN301908 EN 301511 RSE EMC_TRIM2_001_ 09001_RSE.pdf		•
3.1a	2006/95/EC	w Voltage Direct	EN 60950-1	2005 (2nd Ed)/A1:2009	1-3034-01-02-11.pdf	•	•
				2006 /A11			
				2009/ A10			
				2010			
3.1a	1999/519/EC	Health ,SAR	IEC 62209-2	2008	SAR_TRIM2_001_0 9001_EU.pdf	•	•

Table 2: Applicable standards for GeoExplorer 6000 Accessories:

EU Regulation /Directive	Description	Test Standard (s)	Version	Test Report(s)	Battery	AC adapter	USB Serial Converter
2004/108/EC	Electromagnetic Compatibility Directive	EN 55022	2006:+A1 2007	EMC 3A-183WPxx 3A-163WPxx (CE Report - CP980702A05).pdf		O	
		EN 61204-3					
2006/95/EC	Low Voltage Directive	EN 60950-1	2006+A11 2009	3A-183WPxx 3A-163WPxx (ITS GS Cert - 09TWO1796-02).pdf		O	
2004/108/EC	Electromagnetic Compatibility Directive	EN55022	2006+A11 10/2007	E237850_20100817_10CA37803_Microsun Tech_Battery.pdf	O		
		EN55024	1998 +A1 2001 +A2 2003				
2006/95/EC	Low Voltage Directive	IEC 62133	2002: 1st Ed	E237850-Dxx-CB-1-Original.pdf	O		
		IEC 60950-1	2005	E237850-A31-CB-1-Original.pdf			
2004/108/EC	Electromagnetic Compatibility Directive	EN55022	2006	101119_1 EN 55022 trimble.pdf			O
		EN55024	1998 +A1 2001 +A2 2003	101119_2 EN 55024 trimble.pdf			
2006/95/EC	Low Voltage Directive	EN 60950-1	2006 +A1	5012 _Trimble USB to Serial converter.pdf			O
		IEC 60950-1	Ed 2				

European Union Regulatory Compliance Information

EC Directive 1999/5/EC

UK	Hereby, Trimble Navigation Limited, declares that this GeoExplorer 6000 series handheld is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC for Class 2 equipment. For information relating to the European Union Declaration of Conformity and the regions where the device is intended for use, please contact your Trimble distributor or go to the Trimble Support website at www.trimble.com/support.shtml, then click *GeoXR* and then click *Compliance Information*.
SF	Trimble Navigation Limited vakuuttaa täten että tämä GeoExplorer 6000 -sarjan käsikäyt-töinen laite on direktiivin 1999/5/EY luokan 2 laitteita koskevien oleellisten vaatimusten ja sen muiden asiaan kuuluvien ehtojen mukainen. Euroopan Unionin vaatimustenmukaisuus-vakuutusta ja laitteen käyttöalueita koskevaa tietoa saa ottamalla yhteyttä Trimble-jälleenmyyjään tai mene Trimblen tuen verkkosivulle osoitteessa www.trimble.com/sup-port.shtml, napsauta ensin *GeoXR* ja napsauta sitten hyväksyntätietoja.
NL	Hierbij verklaart Trimble Navigation Limited dat het toestel GeoExplorer 6000-serie handheld in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van rich-tlijn 1999/5/EG voor klasse 2 apparatuur. Voor informatie over de Conformiteitverklaring van de Europese Unie en de gebieden waar het apparaat voor gebruik bedoeld is, kunt u contact opnemen met uw Trimble dealer, of bezoek de Trimble Support website op www.trimble.com/support.shtml, klik op *GeoXR* en vervolgens op *Compliance Information*.
	Bij dezen verklaart Trimble Navigation Limited dat deze GeoExplorer 6000-serie handheld voldoet aan de essentiële eisen en aan de overige relevante bepalingen van Richtlijn 1999/5/EG voor klasse 2 apparatuur. Voor informatie over de Conformiteitverklaring van de Europese Unie en de gebieden waar het apparaat voor gebruik bedoeld is, kunt u contact opnemen met uw Trimble dealer, of bezoek de Trimble Support website op www.trimble.com/support.shtml, klik op *GeoXR* en vervolgens op *Compliance Information*.
FR	Par la présente, Trimble Navigation Limited déclare que le terminal de la série GeoExplorer 6000 est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE pour les équipements de Classe 2. Pour obtenir des renseignements concernant la Déclaration de conformité de l'Union européenne et concernant les régions où l'appareil sera utilisé, contactez votre revendeur Trimble ou allez sur le site Web de l'assistance technique de Trimble à www.trimble.com/support.shtml, cliquez sur *GeoXR*, puis cliquez sur *Compliance Information* (Informations de conformité).
SE	Härmed intygar Trimble Navigation Limited att denna GeoExplorer-handdator i 6000-serien står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG för klass 2-utrustning. Information om EU-försäkran om överensstämmelse och om de regioner där enheten är avsedd att användas kan fås via Trimbles återförsäljare eller på Trimbles supportwebbplats www.trimble.com/support.shtml; klicka på *GeoXR* och klicka sedan på *Compliance Information*.
DK	Undertegnede Trimble Navigation Limited erklærer herved, at GeoExplorer 6000 series handheld overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF for klasse 2 udstyr. Oplysninger i relation til EU's overensstemmelseserklæring og de områder, hvor enheden er beregnet til, brug fås ved at kontakte Trimble-forhandleren eller gå til Trimble Support-webstedet på www.trimble.com/support.shtml, derefter klikke på *GeoXR* og derefter klikke på *Compliance Information*.

DE	Hiermit erklärt Trimble Navigation Limited, dass sich die GeoExplorer-6000-Handheldmodelle in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG für Geräte der Klasse 2 befinden. Einzelheiten zur EU-Konformitätserklärung und den Gebieten, in denen der Einsatz des Gerätes vorgesehen ist, erhalten Sie bei Ihrem Trimble-Händler oder auf der Trimble-Support-Website www.trimble.com/support.shtml. Klicken Sie auf der Website auf *GeoXR* und anschließend auf *Compliance Information* (Konformitätsinformationen).
GR	Με το παρόν η Trimble Navigation Limited δηλώνει ότι αυτή η συσκευή GeoExplorer 6000, φορητή σειρά, συμμορφώνεται με απαραίτητες απαιτήσεις και τις λοιπές σχετικές διατάξεις της Οδηγίας 1999/5/ΕΚ για εξοπλισμό Κατηγορίας 2. Για πληροφορίες σχετικά με τη Δήλωση Συμμόρφωσης της Ευρωπαϊκής Ένωσης και τις περιοχές, όπου προορίζεται να χρησιμοποιηθεί η συσκευή, παρακαλούμε επικοινωνήστε με το μεταπωλητή της Trimble ή μεταβείτε στο δικτυακό τόπο Υποστήριξης της Trimble στη διεύθυνση: www.trimble.com/support.shtml, στη συνέχεια κάντε κλικ σε GeoXH ή GeoXT και κατόπιν στην επιλογή *Compliance Information* (Πληροφορίες συμμόρφωσης).
IT	Con la presente Trimble Navigation Limited dichiara che questo palmare della serie GeoExplorer 6000 è conforme ai requisiti essenziali e alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE per le apparecchiature di Classe 2. Per informazioni sulla Dichiarazione di conformità UE e sulle zone a cui l'uso del dispositivo è destinato, contattare il rivenditore Trimble o visitare il sito web dell'assistenza Trimble all'indirizzo www.trimble.com/support.shtml, e fare clic su *GeoXR*, quindi su *Compliance Information* (Informazioni sulla conformità).
ES	Trimble Navigation Limited declara que el dispositivo de mano GeoExplorer 6000 cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE sobre equipos de Clase 2. Para obtener información relativa a la Declaración de Conformidad de la Unión Europea y las regiones donde se vaya a utilizar el dispositivo, póngase en contacto con su distribuidor Trimble o visite la página web de soporte de Trimble en www.trimble.com/support.shtml, y seleccione *GeoXR* y luego *Compliance Information* (Información de conformidad).
PT	A Trimble Navigation Limited declara que este dispositivo portátil da série GeoExplorer 6000 está em conformidade com os requisitos essenciais e outras disposições da Directiva 1999/5/CE para equipamentos da Classe 2. Para obter mais informações sobre a Declaração de Conformidade da União Europeia e sobre as regiões onde o dispositivo se destina a ser utilizado, contacte o seu revendedor Trimble ou aceda ao Web site de assistência em www.trimble.com/support.shtml, clique em *GeoXR* e, de seguida, clique em *Compliance Information* (Informações de Conformidade).

Safety Information

Radio use

The Trimble® GeoExplorer® 6000 series GeoXR™ handheld (***the handheld***) contains a Bluetooth® radio, Wi-Fi radio, and a cellular modem radio. In some situations, you may be required to turn off the radios. For example, aviation authority regulations restrict the use of wireless transmission devices on board aircraft.

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

- To turn off the handheld, press the **Power** button to display the Power menu then tap Shutdown.

- To turn off the Bluetooth, Wi-Fi, and wireless cellular modem radios only:

    a. Tap the title bar on the *Home* or *Start* screen, and then on the pull-down list, tap the ![icon] or ![icon] icon.

    b. In the *Connectivity* or the *Phone* dialog, select *Wireless Manager*.

    c. Tap **All** to turn off all radios. The status fields below the Wi-Fi, Bluetooth, and Phone buttons change to *Off*.

Exposure to radio frequency radiation from Bluetooth and Wi-Fi transmitters

This device is approved as a portable device with respect to Radio Frequency (RF) exposure compliance. The radiated output power of the internal wireless radio transmitters is less than 100 milliwatt, which results in exposure levels far below the FCC radio frequency exposure limits, even when operated in close proximity to the body. The internal wireless radios operate within guidelines found in international radio frequency safety standards and recommendations, which reflect the consensus of the international scientific community. Trimble therefore believes the internal wireless radios are safe for use by users. The level of electromagnetic energy emitted is hundreds of times lower than the electromagnetic energy emitted by wireless devices such as mobile phones. However, the use of wireless radios may be restricted in some situations or environments, such as on aircraft. If you are unsure of restrictions, you are encouraged to ask for authorization before turning on the wireless radios.

Exposure to radio frequency radiation from cellular wireless transmitters

The handheld is equipped with a wireless cellular modem radio and is designed and manufactured to meet safety requirements for limiting exposure to radio waves. When used in accordance with the instructions set forth in this manual, the equipment has

been independently verified to not exceed the emission limits for safe exposure to radio frequency (RF) energy as specified by the Federal Communications Commission of the U.S. Government in 47 CFR §2.1093.

These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on standards that were developed by independent scientific organization through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

AC adaptor safety

To charge the handheld's battery, use the international adaptor kit (two are included in the kit), provided with the handheld (see Powering the handheld, page 25).

WARNING – To use AC adaptors safely:
– Use only the AC adaptor intended for the GeoExplorer 6000 series GeoXR 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.

Electrostatic discharge

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.

The handheld is designed for outdoor conditions; however, under conditions of low humidity, extremely high voltage discharge events are possible. Users are advised that the risk of causing discharge to sensitive electronics can be minimised by avoiding finger contact to the recessed connectors at the sides of the unit.

Battery safety

The removable rechargeable Lithium-ion batteries are supplied partially charged. Charge the battery completely before using it for the first time (see Powering the handheld, page 25). 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.
- Do not open the battery or short-circuit its contacts.

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.

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

CAUTION – In Swap Battery mode, the battery LED shows as a red warning. When the device is ready, the red LED turns off, and the battery can be safely swapped. Generally the red LED will only display for half a second or less, but it may display for three seconds or so. Do not remove the existing battery until the red LED turns off. Removing the battery when the red LED warning light is still on will make the device reboot when the battery is swapped. Do not remove the existing battery until the red LED turns off.

⚠ **CAUTION –** The handheld is not sealed from water and dust when the batteries are removed. Trimble recommends only removing the batteries for short periods of time and only removing the batteries indoors or from inside the protection of a vehicle.

⚠ **CAUTION –** The handheld has enough power to keep the device running for approximately 30 seconds with the battery removed. If the power drains before the battery is restored, the device will shut down. Trimble recommends saving open files before swapping the battery.

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

⚠ **CAUTION –** Removing the batteries when the red LED warning light is still on will make the device reboot when the batteries are swapped. Do not remove the existing batteries until the red LED turns off.

Storage card use

The GeoXR handheld provides a storage 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 storage card slot may adversely affect the device and void your Trimble warranty. To prevent dust or moisture entering the storage card slot:
– Make certain that the storage card slot door is attached correctly when you are using the handheld outdoors.
– When inserting or removing a storage card, place the handheld on a dust-free indoor surface.

Touch screen care

⚠ **CAUTION –** Screen damage associated with failure to use a screen protector or failure to follow instructions for installation may void product warranty.

Contents

Introduction

In this chapter:

- About the GeoExplorer 6000 series GeoXR handheld
- What's in the box?
- Accessories
- Use and care of the handheld
- Technical assistance

This *User Guide* describes how to set up and use the Trimble® GeoExplorer® 6000 series GeoXR handheld (*the handheld*). The information in this guide supplements the information in the *GeoExplorer 6000 Series GeoXR Handheld Quick Start Guide*, which you received with the handheld.

This guide describes how to:

- use the Microsoft® Windows Mobile® version 6.5 operating system.
- 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.
- use the integrated camera.

About the GeoExplorer 6000 series GeoXR handheld

The GeoExplorer 6000 series includes the GeoXR™ handheld, which combines a Trimble GNSS receiver with a field computer powered by the Microsoft Windows Mobile version 6.5 operating system.

The handheld has built-in Bluetooth® wireless technology for cable-free connection to other devices, and Wi-Fi connectivity for connections to networks. In addition, the handheld is equipped with a wireless cellular modem for downloading and transmitting data over the Internet.

Supported GNSS field software

To collect GNSS data with this handheld, you must install Trimble Access™ field software onto the handheld.

For more information, refer to the *Trimble Access Field System Help*.

What's in the box?

When you unpack the handheld, check that you have received all the components:

- GeoExplorer 6000 series GeoXR handheld
- GNSS antenna and 1.5m antenna cable
- Range pole bracket
- Transport case
- AC power supply and international adapter kit (x2)

- Screen protectors (x15)
- USB data cable
- Hand strap kit
- Spare stylus and lanyard
- A sheet of device ID labels
- Rechargeable battery pack (x2)

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:

• USB to serial converter cable	• Stylus kit
• Transport case	• Replacement battery pack
• Range pole	• Carry pouch
• Range pole bracket	• Replacement hand strap kit
• External GNSS antenna	• Replacement door kit
• 12V vehicle charging cable	• GNSS Antenna Cable (1.5m or 5.0m)
• Antenna port dust covers (x2)	• Device ID label kit
• USB data cable	• Replacement international power supply kit
• Screen protectors (x15)	

For more information, go to www.trimble.com.

Use and care of the handheld

To protect the GeoXR handheld when not in use, Trimble recommends storing the handheld in the transport case provided or the carry pouch accessory.

When using the handheld:

- To protect the touch screen from pressure and abrasive objects, always use the ScreenGuardz static-cling screen protector on your handheld. Your handheld comes with a screen protector applied, and with replacements. Replace the screen protector every four weeks even if it does not appear to be worn out. For more information, refer to the Display and Touchscreen Care Tips that came with your handheld kit.

- Protect the touch screen by using the stylus provided, and avoid using excessive pressure and sharp or abrasive objects.

- Keep the outer surface free of dirt and dust.

- Ensure that protective covers and doors are appropriately fitted to the external antenna port, SIM, and storage card areas, so that they are kept free from dirt, dust, fluid ingress & electrostatic discharge (see Storage cards, page 35).

- Protect the handheld from extreme temperatures. For example, do not leave the handheld on the dashboard of a vehicle.

- When the battery is removed, the handheld is not waterproof. Avoid exposing the internals of the handheld to dust and moisture when removing the battery. Trimble recommends that you only swap the battery indoors or from inside a vehicle.

- Use the handstrap provided with the handheld.

To clean the handheld, wipe it with a clean dry cloth. Do ***not*** immerse the handheld in water. Do not use glass cleaner to clean the touchscreen display.

⚠ **CAUTION –** Screen damage associated with failure to use a screen protector or failure to follow instructions for installation may void product warranty.

Storing the handheld

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 31). Instead, partially charge the battery and then turn off the handheld.

To prepare the handheld for storage:

1. Transfer any data that you need to an office computer.
2. Charge the battery to approximately 30%.
3. Press the **Power** key for one second until the *Power* menu appears and then tap **Shutdown**.
4. Store the handheld at room temperature.

To use the handheld after storage:

1. Press the **Power** key to turn on the handheld.
2. Recharge the battery (see Charging the battery, page 27).

Technical assistance

Technical support

Go to the Trimble technical support page (www.trimble.com/support) for the latest support information about the software, including:

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

Additional help

For assistance with Trimble Access software, refer to the *Trimble Access General Survey Help*. To view this help, go to https://www.myconnectedsite.com/site/surveyadministration/TrimbleAccessHelp.

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

Getting Started

In this chapter:

This chapter describes the main features of the GeoExplorer 6000 series GeoXR handheld, and provides the information you need to get up and running with the handheld.

Parts of the GeoXR handheld

The following diagrams show the main parts of the handheld.

Figure 2.1   Parts of the GeoXR handheld

Keypad buttons

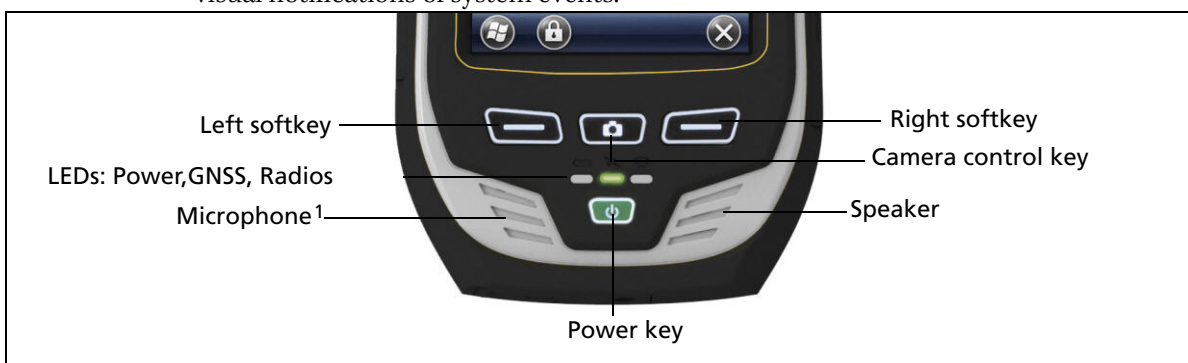The handheld has a keypad for fast, easy access to common actions. LEDs provide visual notifications of system events.

Figure 2.2   GeoXR handheld keypad area

1. Microphone not available on configurations for sale in China.

The function of each key is described below:

Key	Description
Power key	Press briefly (less than one second) to turn on the handeld, or to turn off the handheld (put it into Suspend mode).
	To access other power options, or to reset the handheld, press and hold for one second until the *Power* menu appears (see Turning on and turning off the handheld, page 30, or see Resetting the handheld, page 33).
Left and right soft keys	By default these keys perform the same action as the left and right softkeys in the tile bar.
	Alternatively, program these keys to perform a selected action. To program the keys, use the Buttons control (see Buttons, page 46).
Camera Control key	Press to activate and operate the camera (see Chapter 6, Using the Camera).

Tip – To lock the screen and handheld keys without turning off the handheld, use the device lock option (see Device lock, page 49).

The function of each LED is described below:

Key	LED	Description
🔋 Battery status	🟩	Battery charging is complete
	🟧	Battery is charging
	🟥...🟥...	Battery level is critically low (<5% remaining)
	🟥	Battery fault
🛰 GNSS receiver status	🟩...🟩...	Receiver is on, and GNSS positions are available
	🟧...🟧...	Receiver is on, but GNSS positions are not available
📶 Wireless radio status	🟩...🟩...	A wireless radio is turned on

Powering the handheld

The handheld comes with two rechargeable Lithium-ion batteries.

Note – Charge both batteries completely before using the handheld for the first time. If the batteries have been stored for longer than six months, charge them before use. Trimble recommends charging the batteries for five hours to recharge them fully.

When fully charged, both handheld batteries provide enough power for a full working day using the internal GNSS antenna and with the backlight on at the default settings.

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

AC adaptor safety

⚠ **WARNING –** To use AC adaptors safely:
– Use only the AC adaptor intended for the GeoExplorer 6000 series GeoXR 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.

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

⚠ **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.

Inserting the battery

To insert the battery into the handheld:

1. Slide the battery into the cavity with the label facing upwards (as shown in Figure 2.3).

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

⚠ **CAUTION –** Make sure that the battery is fully inserted and that both the left and right latches are fully engaged. If the battery is not properly inserted, it may fall out if the device is dropped.
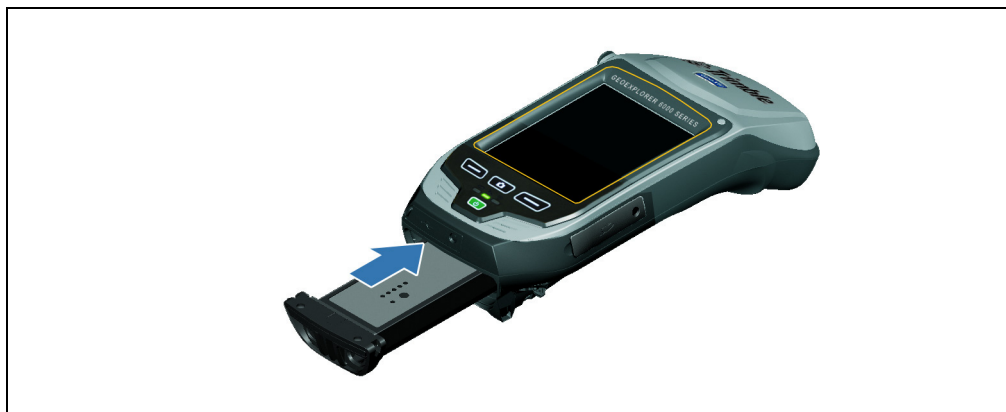
Figure 2.3   Inserting the battery

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 five hours to recharge it fully.

Charging the battery

Charge the battery in the handheld, or you can charge your spare battery outside the handheld.

To charge the battery:

1. Connect one end of the AC adaptor cable to the battery and the other to an AC power outlet. Two international adaptor kits are provided with the handheld.

2. Turn off the handheld or put the handheld in Suspend mode (see page 30).
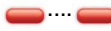
Note – Trimble recommends that you charge the handheld at or below normal room temperature (0 to 30 °C / 32 to 86 °F).

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

   When the handheld is charging, the Power LED on the handheld is solid orange. If the Power LED changes to red, a battery charging fault has occured. For more information, see page 28.

   When fully charged, the Power LED is green.

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

Power source	LED state	Handheld/battery state
Battery power	Off	Handheld is turned off or is in Suspend mode
	Off	Handheld is turned on and battery level is good
	Flashing red	Flashing red: Handheld is turned on and battery level is critically low (<5%)
External power	Solid orange	Solid orange: Battery is charging
	Solid red	Solid red: Charging fault - for example, there is a problem with the battery, or the temperature of the battery has exceeded the acceptable temperature range
	Solid green	Solid green: Charging is complete

Note – During normal charging, the battery may become hotter than the maximum temperature allowed (40 °C or 104 °F). If this happens, charging is automatically suspended until the battery cools and then charging automatically restarts. During this time the battery icon in the title bar shows ▣ *, to indicate that the handheld is running on external power. It may take about one hour for the battery to cool.*

Avoid keeping batteries at full charge at high temperatures. For more information, see Storing the handheld, page 22.

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

Checking the level of battery power

To check the level of battery power remaining at any time while the device is running, tap the battery icon in the title bar of the *Home* screen and then tap 🛈 in the pull-down list.

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

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

To check the level of battery power remaining on a spare battery or one that is not inside the handheld, press the battery icon [icon] on the battery pack label. The level of charge indicator will light up with the approximate level of battery power remaining on the battery. Each LED represents a 20% increment in battery capacity.
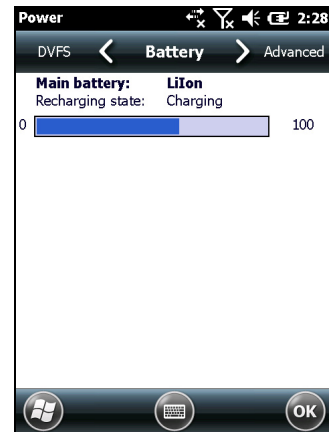
Low battery indicators

When the battery level reaches:

- 15%, the battery icon in the title bar of the *Home* screen changes to [icon] .

- 10%, the Power LED on the handheld flashes red and the Main battery low message appears on the handheld.

- 5%, the Main battery very low message appears on the handheld.

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

Swapping the batteries

If the batteries run low while you are working, you can swap the batteries and resume working straight away.

1. Save any open files.

2. Ensure that you have a spare battery close by with sufficient charge to keep working (see Checking the level of battery power, page 28).

3. Turn off the handheld or put the handheld in *Swap Battery* mode (see page 32).

⚠ **CAUTION –** In Swap Battery mode, the battery LED shows as a red warning. When the device is ready, the red LED turns off, and the battery can be safely swapped. Generally the red LED will only display for half a second or less, but it may display for three seconds or so. Do not remove the existing battery until the red LED turns off. Removing the battery when the red LED warning light is still on will make the device reboot when the battery is swapped. Do not remove the existing battery until the red LED turns off.

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

⚠️ **CAUTION –** The handheld is not sealed from water and dust when the batteries are removed. Trimble recommends only removing the batteries for short periods of time and only removing the batteries indoors or from inside the protection of a vehicle.

5. Insert the new battery (see Inserting the battery, page 27).

⚠️ **CAUTION –** The handheld has enough power to keep the device running for approximately 30 seconds with the battery removed. If the power drains before the battery is restored, the device will shut down. Trimble recommends saving open files before swapping the battery.

6. Press the **Power** key to resume your session.

Conserving power

Although the handheld battery can operate for a full day without recharging, 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 31.

- Set the backlight to automatically turn off when the handheld is idle for a specified time. For more information, see Backlight, page 51.

- Turn off the integrated Bluetooth, Wi-Fi, and wireless cellular modem radios whenever you are not using them. For more information, see Turning on and turning off the integrated radios, page 62.

Turning on and turning off the handheld

If the screen on the handheld is blank, the handheld is in Suspend mode or *Battery Change* mode (see page 31) or has been shut down. To turn on the handheld, press the **Power** key briefly (less than one second).

To turn off the handheld and put the handheld into Suspend mode, press the **Power** key briefly (less than one second). The handheld is placed in a very low power state, but the Bluetooth and wireless cellular modem radios may remain active (see Suspend mode, page 31)

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

The options available from the *Power* menu are as follows:

Button	Used to...
Power Settings	quickly access the Power Settings menus.
Backlight Settings	quickly access the Backlight Settings menus.
Swap Battery	put the handheld into *Swap Battery* mode. This is a low-power mode. The handheld, the integrated receiver, and all wireless radios are turned off, and you cannot operate the handheld.
Shutdown	put the handheld into Shutdown mode. Applications are shut down and the handheld is completely turned off.
Reset	restart the handheld. If the handheld stops responding to the stylus, or if it does not respond when you press any of the keypad buttons, try a soft reset. For more information, see Resetting the handheld, page 33.
	access the Align Screen Sequence. You can also press the left application key to access the Align Screen Sequence. If at any time the touch screen does not respond correctly to stylus taps, start the screen alignment sequence and follow the on-screen instructions.

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 and keeps applications running but does not allow you to operate any of the handheld's functions. The handheld appears to be turned off. The integrated GNSS receiver is turned off and any application using GNSS is disconnected.

If a wireless radio is turned on (the 📶 LED is flashing), the Wi-Fi radio will be turned off, and the Bluetooth and wireless cellular modem radios will remain turned on. The handheld is capable of receiving data via Bluetooth or the cellular modem radio while it is in Suspend mode. The handheld is able to automatically wake up to calendar alarms if it is in Suspend mode.

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

To turn on the handheld when it is in 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 GNSS receiver and the Wi-Fi radio automatically reactivate.

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 one minute.

To change the time before the handheld enters Suspend mode:

1. Tap the title bar of the *Home* or the *Start* screen and then tap ⬜ . The Power control appears, displaying the *Battery* tab.

2. Tap the *Advanced* tab.

3. From the *On battery power* option, select the *Turn off screen if device not used for* check box and then select the idle time from the drop-down list.

4. Tap **OK**.
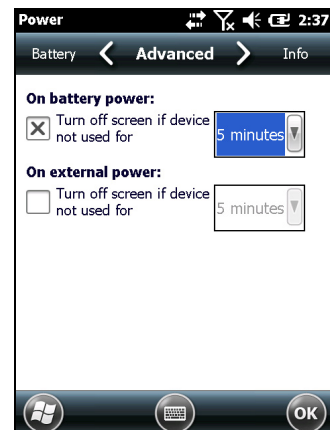
Swap Battery mode

Swap Battery mode is a low power mode that allows you to remove empty batteries and replace them with fresh batteries without closing files and applications; it maintains the main memory contents and keeps applications running but does not allow you to operate any of the handheld's functions. The handheld appears to be turned off. The integrated GNSS receiver is turned off and any application using GNSS is disconnected. All wireless radios are powered down and the device is unable to be automatically woken up.

When in Swap Battery mode, the handheld operates on backup power with the batteries removed. From the time that the batteries are removed, you have approximately 45 seconds to replace the batteries before the backup power supply is consumed and the handheld shuts down.

To switch to Swap Battery mode, press and hold the **Power** key and then tap **Swap Battery** on the *Power* menu. The battery LED shows as a red warning. When the device is ready, the red LED turns off, and the batteries can be safely swapped. Generally the red LED will only display for half a second or less, but it may display for three seconds or so. Do not remove the existing battery until the red LED turns off.

⚠ **CAUTION –** Removing the batteries when the red LED warning light is still on will make the device reboot when the batteries are swapped. Do not remove the existing batteries until the red LED turns off.

To turn on the handheld when it is in Swap Battery mode, ensure that the batteries are correctly installed and then press the **Power** key. The handheld is immediately ready for operation. There may be a delay of up to 30 seconds while the integrated GNSS receiver automatically reactivates.

The wireless radios will not automatically reactivate; use the Wireless Manager to manually turn on the wireless radios.

Resetting the handheld

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

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

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

Performing a soft reset

A soft reset is similar to restarting a computer. A soft reset retains all settings and device data that you have previously saved on the handheld. The handheld saves any unsaved data, closes all open applications, and then restarts.

To perform a soft reset, press the **Power** key for one second until the *Power* menu appears and then tap 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** key until the boot screen appears and then release the **Power** key.

Resetting to factory default settings

Reset the handheld to factory default settings to restore the handheld to it's 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 storage card. It does not change the language of the operating system used on the handheld.

⚠ **CAUTION –** If you have encrypted files on a storage card and you reset the handheld to factory default settings, the encryption key on the handheld is deleted. This means that any files you have encrypted on a storage card are permanently locked and unreadable by any device. For more information, see Encrypting files on storage cards, page 36.

☼ **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 then resynchronize the handheld with the computer.

To reset the handheld to the factory default settings:

1. Press and hold the two application keys on the handheld.

2. While holding the application keys, press and hold the **Power** key until the device reboots.
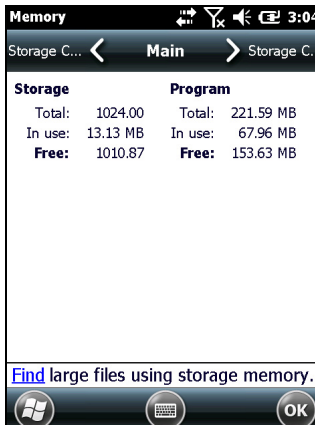
3. Keep holding the two application keys until the factory reset screen appears.

4. Follow the on-screen instructions to continue the factory reset.

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 storage 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.

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

Trimble recommends that you regularly copy important data to an office computer. For more information, see Connecting to an Office Computer, page 55.

Note – The Trimble Access software allows storage of files only to the internal storage memory.

Storage cards

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

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

⚠ **WARNING –** The presence of any dust or moisture in the storage card slot may adversely affect the device and void your Trimble warranty. To prevent dust or moisture entering the storage card slot:
– Make certain that the storage card slot door is attached correctly when you are using the handheld outdoors.
– When inserting or removing a storage card, place the handheld on a dust-free indoor surface.

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

To insert an SD or SDHC card:

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

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

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

4. Close the storage card slot door.

When you select the *Save As* option in some applications, the storage card appears in the list of available storage locations. The Trimble Access software allows storage of files only to the internal memory; it does not let you save files to the storage card.

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

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

Encrypting files on storage cards

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

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

Note – Because the encryption key is stored on the handheld, encrypted files are only readable on the handheld on which they are initially encrypted. It is not possible to read encrypted files on the storage card with any other device, including another GeoExplorer 6000 series GeoXR 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 storage card. This means that any files you have encrypted are permanently locked and unreadable by any device. To avoid being unable to read previously encrypted files, 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 storage card:

1. Tap 🏁 / *Settings* / *System* / *Encryption*.

2. Select the *Encrypt files when placed on a storage cards* check-box.

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

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

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

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

1. Copy the files to the handheld's internal storage or to an office computer.

2. Ensure encryption is enabled on the handheld.

3. Copy the files back to the storage card. The files are encrypted as they are written to the storage card.

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

1. Insert the storage card in the handheld and then connect the handheld to an office computer using Microsoft ActiveSync® technology or the WMDC.

2. Copy the encrypted files from the storage 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 internal storage.

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

Installing and removing a SIM card

The GeoExplorer 6000 series GeoXR handheld is equipped with a cellular modem. To use the integrated modem, the handheld requires a SIM card.

CAUTION – The SIM card and its contents can be easily damaged by scratches or bending.

CAUTION – The presence of any dust or moisture in the SIM card slot may adversely affect the device and void your Trimble warranty. To prevent dust or moisture entering the SIM card slot:
- Make certain that the SIM card slot door is attached correctly when you are using the handheld outdoors.
- When inserting or removing a SIM card, place the handheld on a dust-free indoor surface.

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 SIM card:

1. Turn off the handheld.

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

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

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

5. Close the SIM card slot door.

To remove the SIM card:

1. Follow steps 1 to 3 above.

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

3. Gently slide the card out of the slot.

Fitting the hand strap

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

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

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

Using the Windows Mobile Operating System

In this chapter:

- Parts of the screen
- Interacting with the handheld
- Status indicators
- Pre-installed programs
- Entering information
- Personalizing the handheld
- Messaging

The GeoExplorer 6000 series GeoXR handheld is powered by the Windows Mobile 6.5 operating system.

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

Parts of the screen

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

Title bar
Contains status icons for important system functions.

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

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

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

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

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

Connectivity icons
Tap either icon to access the Wireless Manager.

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

Status indicators

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

Battery status indicators

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

The battery status icon on the title bar of the *Home* screen or the *Start* screen shows the status of the battery charge. Tap the title bar and then on the pull-down list tap the icon to access the Power control dialog. See Checking the level of battery power, page 28.

Speaker status indicators

Icon	Description
	Speaker is on
	Speaker is off

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

Network and modem status indicators

Icon	
	Connected to ActiveSync or the Windows Mobile Device Center (WMDC) on a computer
	Connected to a Bluetooth-enabled phone
	Disconnected from ActiveSync or WMDC
	Disconnected from a Bluetooth-enabled phone
	Wi-Fi radio is on
	Wi-Fi is detected
	Connected to a wireless network
	Maximum cellular modem signal strength
	No cellular modem signal
	Cellular modem is turned off
	No cellular service
	Searching for cellular modem service
	Data is transferring using the cellular modem
	No SIM card
	UMTS network is available
	UMTS network is connecting
	UMTS connection is active
	3G+ network is available
	Analog network is available
	EDGE network is available
	EDGE network is connecting
	EDGE connection is active
	GPRS network is available
	GPRS network is connecting
	GPRS connection is active
	HSDPA network is available
	HSDPA network is connecting
	HSDPA connection is active

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

Pre-installed programs

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

Program	Function
ActiveSync	Synchronize information between the handheld and a computer.
Adobe Reader LE	Read PDF documents.
Alarms	Set alarms.
Calculator	Perform basic arithmetic functions.
Calendar	Keep track of appointments and arrange meetings.
Contacts	Keep track of your friends and colleagues.
File Explorer	View and manage files.
Internet Explorer	Browse the World Wide Web.
Email	Write, send, and receive email messages.
Messenger	Send instant messages using Windows Live™ Messenger.
Notes	Create handwritten, typed, or recorded notes.
Office Mobile 2010	Provides access to these Office Mobile applications: Excel® Mobile 2010, PowerPoint® Mobile 2010, OneNote® Mobile 2010, SharePoint WorkSpace Mobile 2010, and Word Mobile.
Pictures and Videos	Take, view, and edit pictures, or record and launch video clips.
Search Device	Search for a file or item stored on the handheld.
Tasks	Keep track of your tasks.
Text	Send, receive, and organize text messages
Windows Live	Access Windows Live services, including email, instant messenger and Internet search.
Windows Media	Play Windows Media® or MP3 audio and video files.

Interacting with the handheld

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

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

If at any time the touch screen does not respond correctly to stylus taps or your finger, realign it. For more information, see Screen, page 50.

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

To attach a tether to the stylus:

1.   Hold the stylus with the Trimble logo facing upwards and insert the end of the tether down through one of the two holes in the top of the stylus and then back up through the other hole.
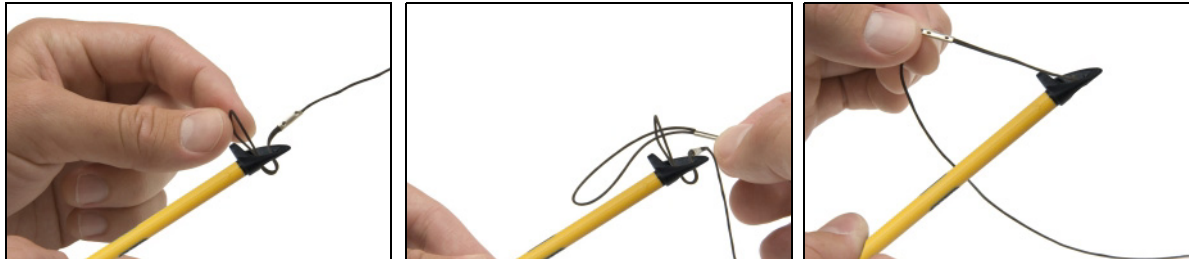
2.   Insert the other end of the tether through the loop and pull until the knot in the tether is tight.

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

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

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.
Drawing	Use the stylus like a pen to draw (or write) directly on the screen.
Recording	Create a stand-alone recording or embed a recording into a note.

Using the on-screen keyboard

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

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

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

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

To hide the keyboard, tap the keyboard icon again.
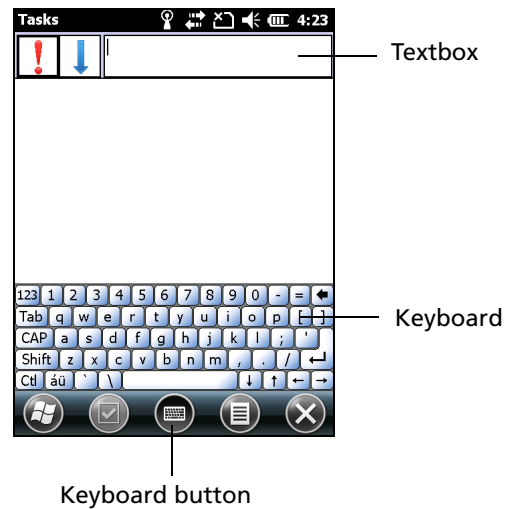
Tip – To make the keys larger, tap / Settings / Personal / Input. In the *Input method* list, select Keyboard and then tap **Large Keys**.

Drawing and writing directly on screen

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

1. Tap and then tap the Notes icon.

2. Tap the Menu icon.

3. Select Draw.

4. Use the stylus to write or draw on the screen.
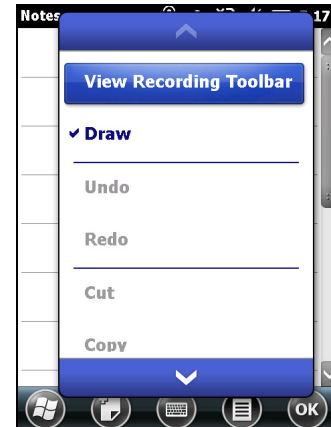
Making a recording

If the handheld is equipped with an integrated microphone, you can create a stand-alone voice note or you can add a recording to a note. Then you can work with voice notes in the same way that you work with notes.

To make a recording:

1. Tap ⊞ and then tap the Notes icon.

2. Tap the Menu 🗐 icon.

3. Do one of the following:

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

   – To add a recording to a note, create or open a note and then tap the Record button ● to begin recording.
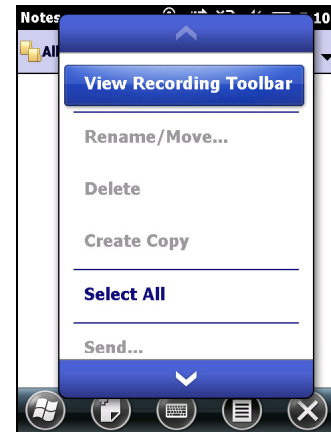
Note – If the handheld is equipped with an integrated microphone, the microphone is on the front of the handheld, in the keypad area. The microphone will capture voice notes when you are holding the handheld in front of you. In noisy environments, you may need to move the handheld closer to you or to the source of the sounds you want to record. Handhelds available for sale in China are not equipped with an integrated microphone.

4. 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.
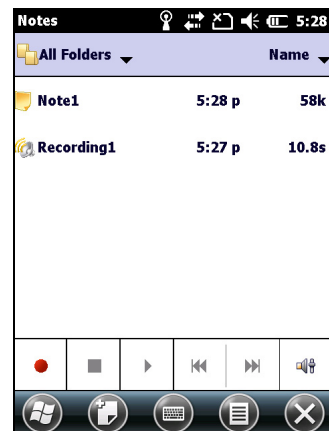
Personalizing the handheld

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

Buttons

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

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

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

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

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

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

To open the *Buttons* control:

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

To specify an action for the button:

1. Tap the *Program Buttons* tab.

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

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

4. Tap **OK.**
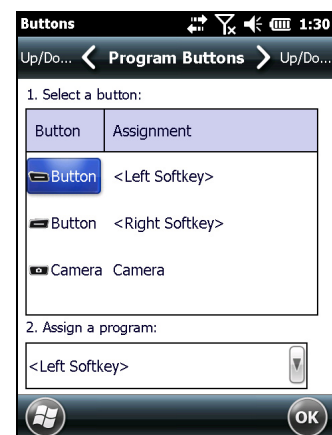
Home

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

Appearance

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

To change the display theme:

1. Tap [icon] / *Settings* / *Home*.

2. Tap the *Appearance* tab.

3. Do one of the following:

    –   To use a predefined theme, select it from the list.

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

4. Tap **OK**.
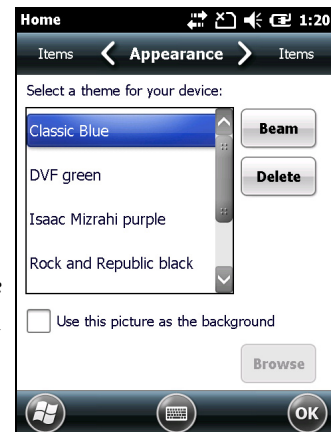
Items

You can choose between:

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

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

To use the default *Home* screen view:

1. Tap [icon] / *Settings* / *Home*.

2. Tap the *Items* tab.

3. Select the *Windows Default* check box.

4. Tap **OK**.

To customize the items that appear on the *Home* screen:

1. Tap [icon] / *Settings* / *Home*.

2. Tap the *Items* tab.

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

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

5. Tap **OK**.
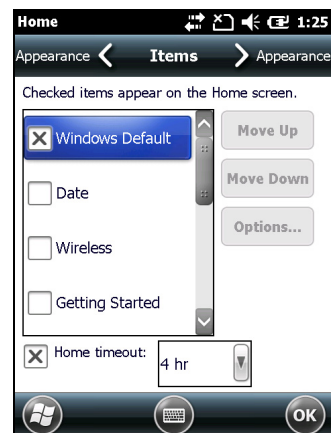
Set the time and date

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

2. Tap the *Time* tab.

3. In the *Time Zone* field, select the required time zone from the dropdown list.

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

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

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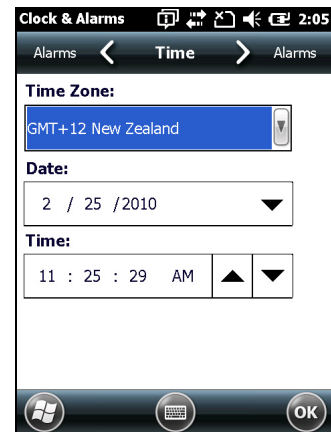
Device lock

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

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

Communication with external sensors such as laser range finders or echo sounders used by the Trimble Access software is not interrupted by locking the handheld. This means that you can keep using the Trimble Access 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 external sensor.

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

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

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

Power

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

• Tap the title bar of the *Home* screen or the *Start* screen, and then tap .

• Tap / *Settings* / *Power*.

Tap the *Battery* tab to check the battery level (see Checking the level of battery power, page 28).

Tap the *Advanced* tab to set the time before the handheld turns off when idle (see Suspend mode, page 31).

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* / *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.**
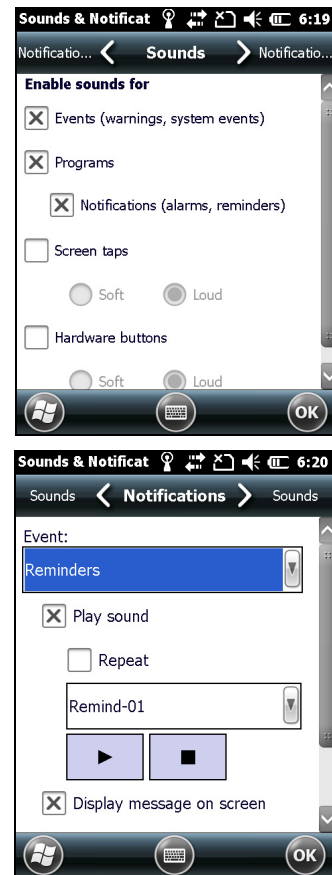
Screen

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 [icon] **Align Screen**.

4. Tap **OK.**

Note – *To align the screen at any time, press and hold the* ***Power*** *button for one second until the Power menu appears and then tap* [icon].

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.**
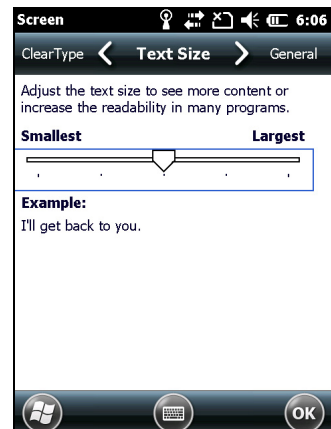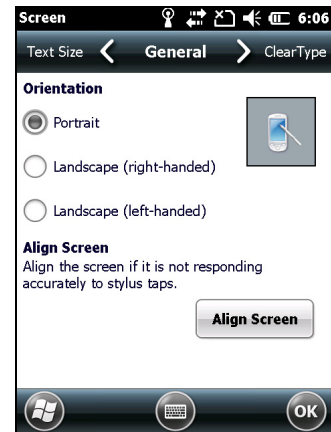
Backlight

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 [icon] / *Settings* / *System* / *Backlight.*

To set the backlight to automatically turn off:

1. To automatically turn off the backlight when the handheld is idle and is using **_battery power_**, tap the _Battery Power_ tab. Select the _Turn off backlight_ check box and then select a time from the drop-down list.

2. To automatically turn off the backlight when the handheld is idle and is using **_external power_**, tap the _External Power_ tab. Select the _Turn off backlight_ check box and then select a time from the drop-down list.

3. Tap **OK**.
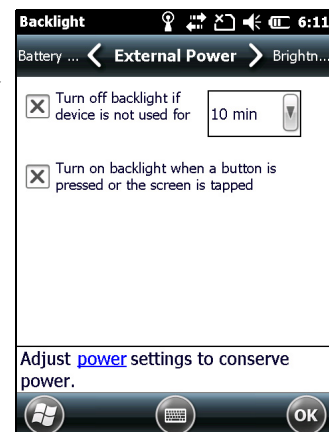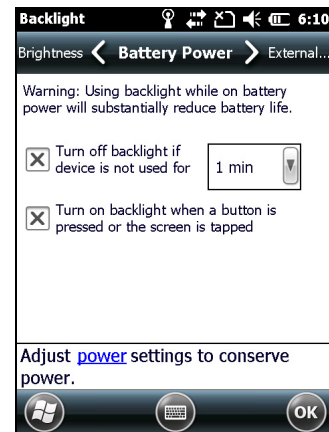
To change the brightness:

1. Tap the _Brightness_ tab.

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

3. Tap **OK**.
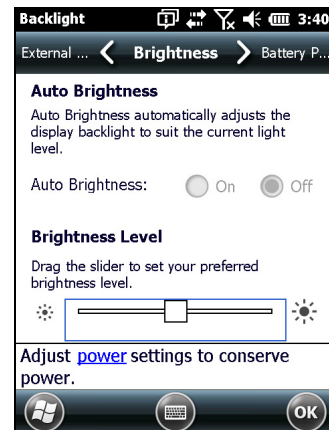
Messaging

Use Messaging to send and receive email messages using the GeoXR 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.

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 the Microsoft ActiveSync technology (for Windows XP) or the WMDC (for Windows Vista or Windows 7). For more information, refer to the *ActiveSync Help* or the *WMDC Help* on the office computer.

During synchronization:

- Messages are copied from the mail folders of Exchange or Outlook on the office computer to the Messaging folder on the handheld. By default, you will receive messages from the past 3 days only, the first 100 lines of each message, and file attachments of less than 100 KB in size.

- 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 (using ActiveSync technology or the WMDC).

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.
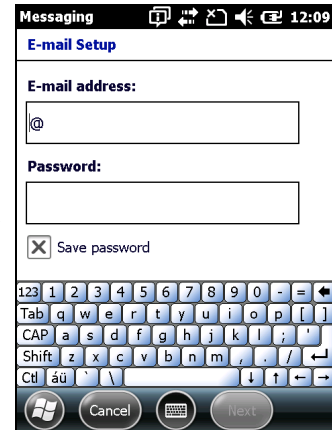
Note – You must set up an Internet connection on the handheld before you can set up and use your email account. For more information, see Connecting to a Wi-Fi access point, page 67, Connecting to a Bluetooth-enabled device, page 69, or Connecting to a Bluetooth-enabled phone for Internet access or real-time corrections (including VRS networks), page 75.

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

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

To set up a mail service:

1. Tap 🔲 / *E-mail*.

2. Tap *Setup E-mail*.

3. Enter the email address for your account.

4. Enter a password. Select *Save password* if you want the device to remember your password.

5. Tap **Next**.

6. To automatically get connection settings for your email account from the Internet, select the check box.

7. Tap **Next**.

8. Follow the steps in the Setup wizard. If the connection settings are not automatically downloaded from the Internet, you must enter them using the connection details supplied by your ISP or network administrator.

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

9. Tap **Finish**.

10. Tap **OK** to download mail immediately.

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 online or offline. When working online, 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.

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.

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 GeoExplorer 6000 series GeoXR 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 or a Bluetooth wireless link.

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 the 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 (WMDC) 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 57

- Managing the connection using ActiveSync technology, page 59.

Installing the Windows Mobile Device Center

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

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

To download the latest version of Windows Mobile Device Center from the Microsoft website, go to www.microsoft.com/windowsmobile/devicecenter.mspx.

Installing ActiveSync technology

To download the latest version of ActiveSync technology from the Microsoft website, go to www.microsoft.com/windowsmobile/activesync/default.mspx.

Connecting the handheld to a computer

To connect the GeoXR 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 56).

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

    –   Use the handheld's integrated Bluetooth radio to establish a wireless serial link to a Bluetooth-enabled computer. For more information, see Connecting to an office computer using Bluetooth wireless technology, page 76.

    –   Use a USB connection:

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

        b. Connect the other end of the USB data cable to a USB port on the 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 57

    –   Managing the connection using ActiveSync technology, page 59

Managing the connection using the Windows Mobile Device Center

1. Connect the handheld to the computer (see page 57).

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

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

Note – *If the connection is not made automatically, check that the connection is enabled in the Windows Mobile Device Center software and on the handheld. For more information, see* Troubleshooting, page 89.

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 60.

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*.

Managing the connection using ActiveSync technology

1. Connect the handheld to the computer (see page 57). The *Synchronization Setup Wizard* appears:

Note – *If the connection is not made automatically, check that the connection is enabled in the ActiveSync technology and on the handheld. For more information, see* *Troubleshooting, page 89.*
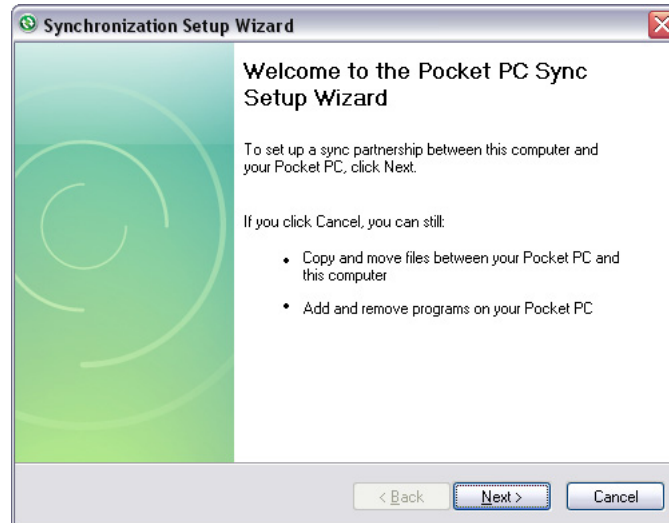
2. Do one of the following:

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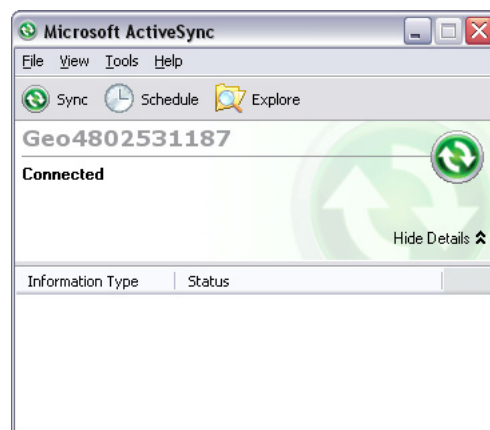
4. To transfer files between the computer and the handheld, click **Explore**. A Windows Explorer-type window appears, displaying files stored on the handheld. Copy and paste files to other locations on the computer, or from the computer to the handheld.

5. To install software onto the handheld, see Installing software onto the handheld, page 60.

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*.

Installing software onto the handheld

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

To get started:

1. Insert the battery in the handheld and then charge it fully.

2. Turn on the handheld.

3. Connect the handheld to the office computer and then run Trimble Access Installation Manager to install your Trimble Access applications, updates, and licenses.

    To install Trimble Access Installation Manager on your office computer, go to www.trimble.com/taim and then click the link to download and install the software.

4. In the field, use the handheld's integrated GNSS receiver with the Trimble Access software to collect GNSS data.

Getting Connected

In this chapter:

- Wireless connection information
- Connecting to a cellular network from the modem
- Connecting to a Wi-Fi access point
- Connecting to a Bluetooth-enabled device

The GeoExplorer 6000 series GeoXR handheld includes a number of options for connecting to other devices. For wireless connections to networks or other devices, the options are:

- a 3.5G capable cellular modem
- an 802.11 b/g compatible Wi-Fi radio
- a Bluetooth radio

You can also connect to other devices using the USB to serial converter.

This chapter describes how to enable the wireless radios, and the main connectivity options available.

Use the table on page 65 to identify the wireless connection type you want to make and then follow the steps provided to connect to that device.

Wireless connection information

The GeoXR handheld has an integrated Wi-Fi radio compliant with IEEE 802.11 b/g, an integrated Bluetooth radio, and is equipped with an integrated cellular modem. The controller is shipped with Wi-Fi and Bluetooth wireless technology activated. To use Wi-Fi, the Bluetooth radio, or the cellular modem you need to turn it on (see Turning on and turning off the integrated radios below).

Using a data connection from your local cellular provider, the GeoXR handheld's integrated cellular modem can be used to connect to the Internet to receive real-time corrections from a VRS network, send and receive messages (including email, SMS, or instant messages), or to send and receive files and other data to and from the office directly in the field.

You can also use the handheld's integrated Wi-Fi radio to connect to the Internet or a corporate network using a Wi-Fi connection.

Alternatively, you can use Bluetooth wireless technology to connect to the Internet using a cellular phone. You can also connect directly to other Bluetooth-enabled devices such as a laser rangefinder or a barcode scanner.

You can also use the optional USB to serial converter to connect to a range of external devices using a cabled serial connection.

Turning on and turning off the integrated radios

You can use the Wireless Manager application to turn on and turn off the GeoXR handheld's Wi-Fi, Bluetooth, and / or cellular modem radio (see Using the Wireless Manager, page 62).

You can also turn on or turn off the Bluetooth radio from within the Bluetooth application (see Turning on and turning off the Bluetooth radio from within the Bluetooth application, page 64).

To make the GeoXR handheld visible to other Bluetooth-enabled devices and enable them to connect, see Making the handheld visible (discoverable) to other Bluetooth devices, page 64.

Using the Wireless Manager

You can use the Wireless Manager application to turn on and turn off the GeoXR handheld's Wi-Fi, Bluetooth, and / or cellular modem radio. You can turn on and turn off all radios at the same time, or control each radio individually.

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

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

- Tap ⊞ / *Settings* / *Connections* / *Wireless Manager*.

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

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

Tip – To conserve power, turn off the Wi-Fi, Bluetooth, and / or cellular modem radio when not in use.

CAUTION – The Bluetooth and cellular modem radios remain active even when the device is in Suspend mode. Turn off the radios when they are not in use.

To turn on or turn off the radios using the Wireless Manager

1. Open the Wireless Manager (see above).

2. Do one of the following:

   – Tap **All** at the top of the screen to turn on all radios, or to turn off all radios if they are already on.

   – Tap **Wi-Fi**, **Bluetooth,** or **Phone** to turn on the radio that you want to use, or to turn off the radio if it is already on.

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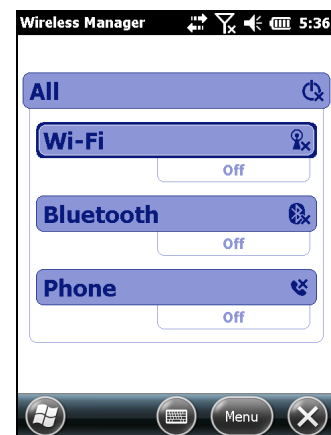
3. Tap ⊠ to exit the Wireless Manager.

After you turn on the Wi-Fi radio, the Wi-Fi icon 🔲 appears in the title bar to indicate that the Wi-Fi radio is enabled. A second icon 🔲 appears if a Wi-Fi network is detected, and a notification for the detected network may appear in the left softkey.

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

1. Tap [icon] / *Settings* / *Bluetooth.*

2. Tap the *Mode* tab.

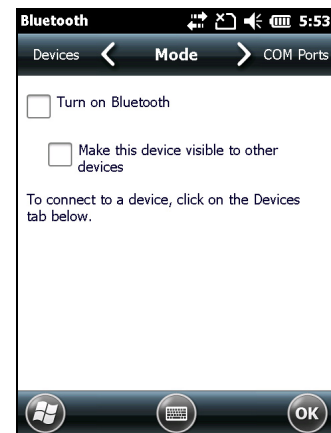3. Select the *Turn on Bluetooth* check box to turn on the radio, or clear this check box to turn off the radio.

4. Tap **OK**.

Making the handheld visible (discoverable) to other Bluetooth devices

To allow other Bluetooth-enabled devices to connect to the handheld, or if the handheld will not connect to or pair with another device you are attempting to connect to, you must make the handheld visible (this is sometimes referred to as "discoverable").

To make the handheld *visible* to other devices:

1. Tap [icon] / *Settings* / *Bluetooth.*

2. Tap the *Mode* tab.

3. Select the *Turn on Bluetooth* check box, if it is not already selected. This enables the integrated Bluetooth radio.

4. Select the *Make this device visible to other devices* check box.

5. Tap **OK**.

Connecting wirelessly to other devices and networks

You can use a connection to a cellular network using the integrated cellular modem, or a connection to a Wi-Fi access point using the integrated Wi-Fi radio, to connect to the Internet (at broadband speeds) or a corporate network to:

- browse the Internet or an Intranet and send and receive data (for example, to obtain real-time corrections from a VRS network)

- send and receive messages (for example, email, instant messages, or SMS messages)

- access files on the network

Wi-Fi access points are also known as "hotspots".

You can use Bluetooth wireless technology to connect to other Bluetooth-enabled devices that are within range (typically within 5 m to 10 m of the handheld). You can connect to:

- Bluetooth-enabled devices such as cellular phones to access the Internet and receive data (for example, to obtain real-time corrections from a VRS network)

- computers and other handheld devices to exchange files

- other devices such as a laser rangefinder or barcode scanner

The following table lists devices you can connect to using the handheld, and where to find detailed information on how to achieve these connections.

Connection method	To...	See...
Cellular modem	Connect to a cellular network	page 66
Wi-Fi	Connect to a Wi-Fi access point	page 67
Bluetooth wireless technology	Connect to another Bluetooth-enabled device (paired and non-paired connections)	page 69
	Connect to a Bluetooth-enabled phone for Internet access or real-time corrections (including VRS networks)	page 75
	Connect to a Bluetooth-enabled serial device	page 75
	Connect to an office computer to use ActiveSync technology / WMDC	page 76
	Enable other devices to transfer files using Bluetooth wireless technology	page 79
	Beam files to or from another device	page 80
Wi-Fi, Bluetooth wireless technology, or cellular modem	Access a corporate network through your Internet connection	page 80

Connecting to a cellular network from the modem

Your handheld is equipped with a cellular modem that you can use to establish a connection to a cellular network.

Use this type of connection to browse the Internet or an Intranet and send and receive data (for example, to obtain real-time corrections from a VRS network), send and receive messages (for example, email, instant messages, or SMS messages), or access files on a corporate network.

Note – The GeoXR handheld's cellular modem can only be used to send and receive data or text SMS messages. It does not support voice call functionality or sending and receiving MMS messages. Trimble recommends that you request a data-only plan from your cellular service provider and have a 'voice-restriction' placed on your line.

To connect to a cellular network:

1. Configure the connection to the network. This can be Automatic or Manual.

2. Connect to the cellular network.

Before you begin the steps below, Trimble recommends that you:

- make sure that a SIM card is inserted in the handheld. See Installing and removing a SIM card, page 37.

- confirm that the modem can access the Internet directly. If necessary, contact your service provider and confirm whether you must enter a user name, password, and domain details when connecting.

- make sure that you have the correct APN (Access Point Name) from your cellular provider.

Step 1: Configure the connection

To set up an automatic configuration

1. Tap ⊞ / *Settings* / *Connections* / *Wireless Manager*. If the Phone is Off, tap Phone to turn it on.

2. Tap ⊞ / *Settings* / *Connections* / *Connections*.

3. On the Connections screen, on the Tasks tab, tap *Automatically configure connection*.

   The device holds a database of the most common cellular providers and the correct connection settings. The handheld will attempt to identify the SIM vendor.

4. If the SIM vendor is recognized correctly, tap **Next** to continue. The connection settings are set up automatically. The process takes about 30 seconds.

   If the SIM is not automatically detected, or the vendor settings are not known you will need to set up the configuration manually. Go to To set up a manual configuration below.

To set up a manual configuration

1. Tap ⊞ / *Settings* / *Connections* / *Wireless Manager*. If the Phone is Off, tap Phone to turn it on.

2. Tap ⊞ / *Settings* / *Connections* / *Connections*.

3. Under Tasks, tap *Add a new modem connection*.

4. Enter a name for the connection, for example **My Connection.**

5. In the *Select a modem* field, select **Cellular Line (WWAN)** and then tap **Next**.

6. Enter the APN provided by your cellular provider (check with your provider first for correct settings, some providers have multiple APN settings).

7. Tap **Next**.

8. Enter a username password and domain if required (check with your provider, these are often not required). If not required, leave these fields empty.

9. Tap **Finished**.

Step 2: Connect to the cellular network

1. Tap ⊞ / *Settings* / *Connections* / *Wireless Manager*. If the Phone is Off, tap Phone to turn it on.

2. Tap ⊞ / *Settings* / *Connections* / *Connections*.

3. Under Tasks, tap *Manage existing connections*. The configured connections are listed.

4. Tap and hold the connection that you want to use. Tap *Connect* from the pop-up menu.

    The task bar shows the "connecting" icon, for example ▦ . When the connection is open/established, the task bar shows the "connected" icon, for example ▦ . The icons shown depend on the network—see for full details.

Once connected, open an application, for example, Internet Explorer, to test the connection. Some applications automatically launch the connection when you start the application, if a current connection is not already established.

Connecting to a Wi-Fi access point

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

1. Set up the Wi-Fi connection.

2. Connect to the Wi-Fi network or access point.

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

Step 1: Setting up the Wi-Fi connection

1. Make sure that the handheld's Wi-Fi radio is enabled (see).

2. Tap ⊞ / *Settings* / *Connections* / *Wireless Manager*.

3. Tap **Menu** and then select *Wi-Fi Settings.*.

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

4. To add a new network, tap *Add New*. To change the settings for an existing network, tap the network.

5. Enter the name of the network and other connection details and then tap **Next**.

6. Do one of the following

   – To use authentication, select the authentication method from the *Authentication* list.

   – To use data encryption, select an encryption method from the *Data encryption* list.

   – To automatically use a network key, select the check box for *The key is automatically provided*. Otherwise, enter the *Network key* and the *Key index*.

7. Tap **Next**.

8. For increased security, select the *Use IEEE 802.1x network access control* check box and then configure additional authentication information.

9. Tap **Finish**.
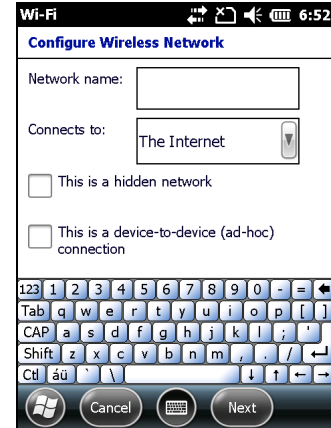
Step 2: Connecting to the network or access point

1. Disconnect the USB data cable, as the handheld prioritizes a USB connection over a Wi-Fi connection.

2. Bring the handheld within range of the network or access point.

   When a Wi-Fi connection is detected, the access point icon ⊡ appears on the title bar, and a notification message appears on the left softkey.

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

3. Tap the access point icon on the title bar or tap **Notification** on the left softkey.

   A popup message shows the available networks.

4. Select the network you want to connect to and then tap **OK** on the left softkey.

5. Select *The Internet (or work via a VPN)* or *Work* and then tap **Connect** on the left
    softkey.

6. If a *Network Log On* screen appears, enter your user name, password, and
    domain information and then tap **OK** on the left softkey.

    When the handheld is connected to the network or access point, the Wi-Fi
    connected icon ⬛ appears in the title bar.

7. Start using the program you want to use, for example Windows Explorer Mobile
    or Internet Explorer.

*Note – To disconnect from the network or an access point at any time, turn off the
handheld's wireless radio. To do this, tap title bar, tap the Connectivity icon ⬛ on the pull-
down list, select **Wireless Manager** and then tap the **Wi-Fi** button.*

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

Connecting to a Bluetooth-enabled device

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

Using a Bluetooth connection, you can communicate with devices such as cellular
phones, office computers, other handhelds, and Bluetooth-enabled laser rangefinders
and barcode scanners. You can also communicate with peripheral devices that use
Bluetooth adaptors instead of serial or USB connections.

The handheld can act as a Bluetooth client device or a Bluetooth host device, and can
act as both at the same time. The concepts of client and host devices are explained in
detail below.

Connecting to a Bluetooth device as a client

You can use the handheld as a ***client*** device, which uses ***services*** offered by Bluetooth
host devices that are within range. In general the ***host*** device provides information to
the client device, but in some cases the client initiates the connection and also
provides information to the host device.

The services used by a GeoXR handheld when connecting as a Bluetooth client are:

Service	Description
Dialup Networking (DUN)	Connects the handheld to a cellular phone or modem for dial-up network or Internet access.
Personal Area Networking (PAN)	Connects to Bluetooth network access points or phones that support the Personal Area Network/Network Access (PAN) profile.
Serial Port	Emulates an RS-232 serial (COM) port on the handheld.
ActiveSync	Enables an ActiveSync connection to a computer. This service is also used for office computers which have the WMDC installed.

Service	Description
Input Device (HID)	Connects the handheld to a physical input device, such as a keyboard.
Wireless Stereo	Connects to Bluetooth A2DP (Advanced Audio Distribution Profile) headphones.

A client can connect to a number of different services provided by different hosts. The number of active connections at any one time affects the speed of the connections. Figure 5.1 shows the handheld connected to different types of host devices using Bluetooth wireless technology.
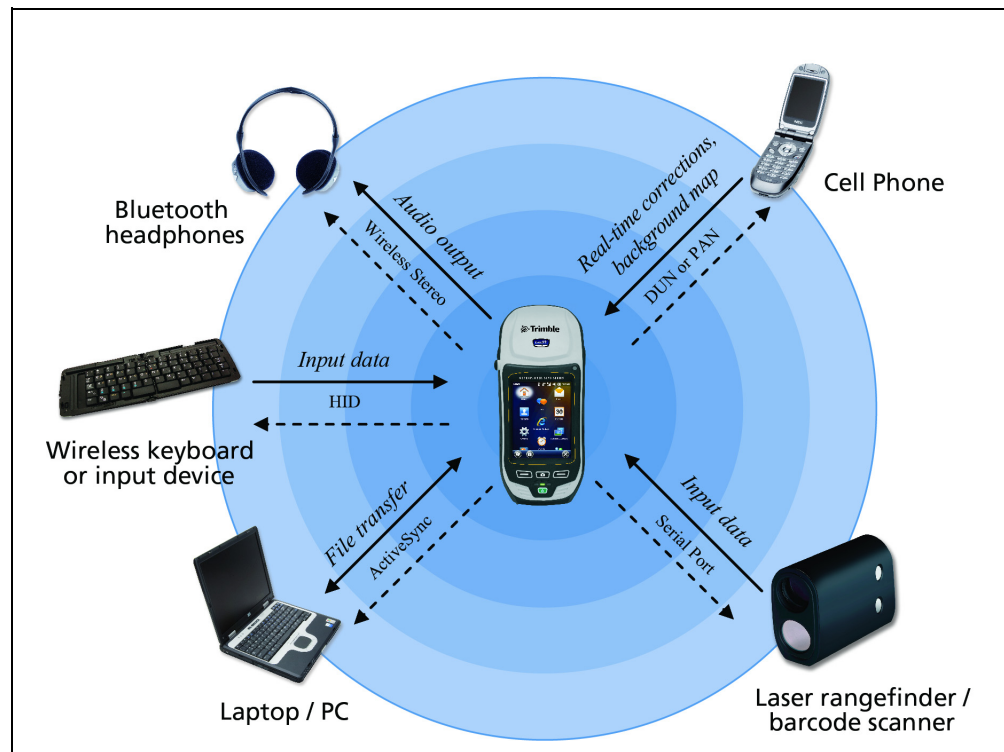
Figure 5.1   GeoXR handheld Bluetooth client connections

In Figure 6.1, the dashed arrows indicate the client device—that is, the GeoXR handheld—connecting to host devices. The Bluetooth profile (or service) used for the connection is shown between the arrows, for example, the **DUN** service is used for a connection to a cell phone, and the **Serial Port** service is used for a serial connection to a laser rangefinder.

The solid arrows indicate the flow of information between devices. For example, when the handheld connects as a client to:

- a cellphone, the handheld uses the DUN or PAN host service provided by the phone to access the Internet and receive real-time differential corrections or background map data.

- a laptop computer or office computer, the devices use the ActiveSync technology to exchange information to and from either device.

- Bluetooth headphones, the handheld uses the Wireless Stereo host service provided by the headphones to play audio files and system sounds.

Providing Bluetooth services as a host

You can use the handheld as a Bluetooth host device, which provides services to Bluetooth client devices that are within range.

Host services provided by the GeoXR handheld are:

Service	Description
Serial Port	Emulates an RS-232 serial (COM) port on the handheld.
File Transfer	Allows a client to browse, copy, paste, and delete files and folders on the handheld.
Note – *You cannot transfer files between two GeoExplorer 6000 series handhelds, as the client file transfer profile is not supported. The handheld supports file transfers as a host device only. To transfer files between handhelds, you can beam them (see page 80).*	

To provide a host service, you must turn on the Bluetooth radio and make both devices visible to other devices (see page 62 and page 64).

Figure 5.2 shows different client devices connecting to the handheld using Bluetooth wireless technology.
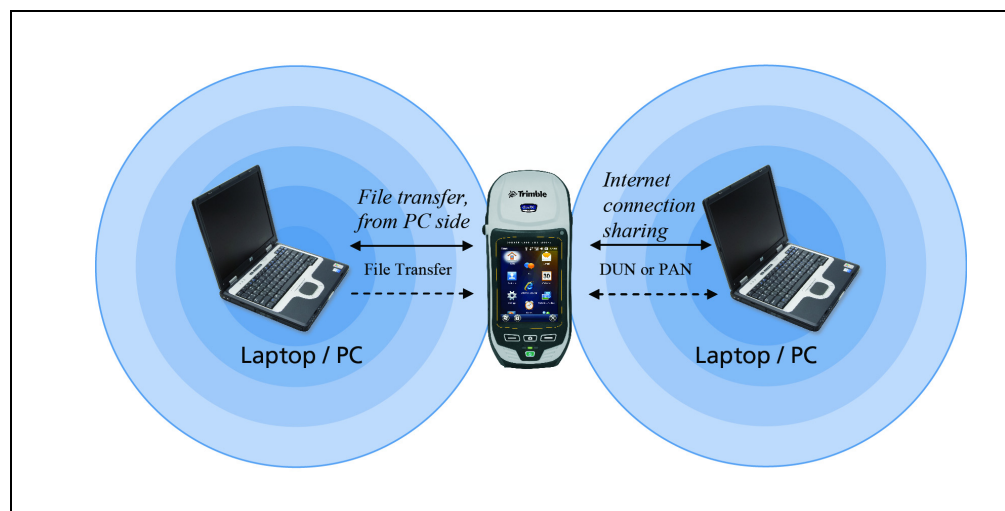
Figure 5.2   GeoXR handheld Bluetooth host connections

In Figure 6.2 the dashed arrows indicate the client devices—for example, the laptop or PDA—connecting to the handheld, which is the host device. The Bluetooth profile (or service) used for the connection is shown between the arrows, for example *File Transfer*.

The solid arrows indicate the flow of information between devices. When a laptop computer or office computer connects to the handheld and selects the File Transfer service, files and information can be exchanged to and from either device.

When a client device connects to the Serial Port service provided by the handheld, applications on the handheld can use the pre-defined host serial port on COM9 to provide host services to the client device.

Setting up a Bluetooth connection

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

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

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

Note – If you are connecting to a phone, skip this section and go to Connecting to a Bluetooth-enabled phone for Internet access or real-time corrections (including VRS networks) on page 75, where the pairing step is described as part of the procedure for connecting to a phone.

Trimble recommends using a paired connection, if pairing is supported by the other device, as a paired connection creates a more secure connection and makes reconnecting to the device easier. For more information, see Pairing with a Bluetooth-enabled device below.

Some devices do not support paired connections. Use a non-paired connection if the device does not have a keyboard, and if you know that the device does not automatically exchange a pre-programmed passkey during pairing. For more information, see Setting up a connection to a non-paired device, page 74.

Pairing with a Bluetooth-enabled device

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

To pair with a Bluetooth device:

1. Make sure that the handheld and the Bluetooth device you want to pair with are within five meters of each other, and that the Bluetooth radio in each device is turned on.

2. On the handheld, tap 🔲 / *Settings* / *Bluetooth*.

3. In the *Devices* tab, tap *Add new device*. The handheld searches for other Bluetooth devices and displays them in the list.

    If the device you are trying to connect is not displayed in the list, ensure that the device is on and within range and then tap **Retry** to search for devices again.

4. Tap the name of the device you want to pair with and then tap **Next**.

5. In the *Passcode* field, enter a passcode of between 1 and 16 characters. If you are connecting to:

    –   a device with a keypad, enter a passcode of your choice.

    –   a device without a keypad, but you know that the device has a pre-programmed passcode that will be exchanged, enter that passcode on the handheld.
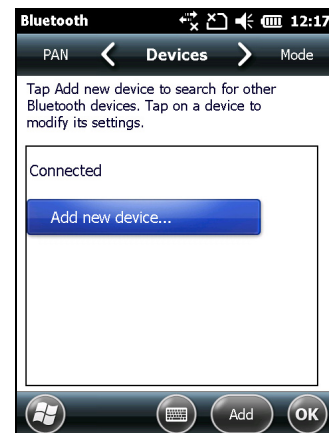
Note – Trimble recommends that you enter only numbers, as some devices do not support passcodes that include letters.

6. Tap **Next**.

7. When prompted, enter the same passcode on the other device.

8. On the handheld, tap the name of other device. The *Partnership Settings* screen appears.

9. If required, change the name of the device in the *Display Name* field.

10. Select the service(s) you want to use with this device. For example, if you are connecting to:

    –   a Bluetooth-enabled phone to connect to the Internet and receive real-time corrections or download background maps, select ***Dialup Networking (DUN)***.

    –   a serial device, such as a laser rangefinder, select ***Serial Port***.

    –   a computer to access ActiveSync technology (or WMDC), select ***ActiveSync***.

*Note – Only **ActiveSync** shows on the Windows Mobile device. Select **ActiveSync** even if you use the WMDC on the desktop computer.*

Note – For more information on the types of devices that the handheld can connect to, and the supported Bluetooth services, see Connecting to a Bluetooth device as a client, page 69.

11. Tap **Save**.

12. Tap **OK** to close the Bluetooth application.

13. Tap ❎ to close the *Settings* screen.

You have now created a partnership between the handheld and the other Bluetooth-enabled device so that they can communicate. To start using the connection, you must complete the configuration steps for that type of connection and then connect to the device. For more information, see:

- Connecting to a Bluetooth-enabled phone for Internet access or real-time corrections (including VRS networks), page 75

- Connecting to a Bluetooth-enabled serial device, page 75

- Connecting to an office computer using Bluetooth wireless technology, page 76

Tip – You only need to pair the handheld with a device before you connect to the device for the *first* time.

Setting up a connection to a non-paired device

Setting up a connection to a non-paired device enables you to connect to a device that does not allow you to enter a passcode on the device, or that does not automatically exchange a pre-programmed passkey during pairing.

To set up a non-paired connection to a Bluetooth-enabled device:

1. Make sure that the handheld and the Bluetooth device you want to connect to are within five meters of each other, and that the Bluetooth radio in each device is turned on.

2. Tap ⊞ / *Settings* / *Bluetooth*.

3. In the *Devices* tab, tap *Add new device*. The handheld searches for other Bluetooth devices and displays them in the list.

4. Tap the name of the device you want to connect to and then tap **Next**.

    The *Enter Passcode* screen appears.

5. Tap **Next** without entering a passcode.

6. If prompted to add the device to your device list, tap **No**.

7. On the handheld, tap the name of the other device. The *Partnership Settings* screen appears.

8. If required, change the name of the device in the *Display Name* field.

9. Select the service(s) you want to use with this device. For example, if you are connecting to:

    – a Bluetooth-enabled phone to connect to the Internet and receive real-time corrections or download background maps, select ***Dialup Networking (DUN)***.

    – a serial device, such as a laser rangefinder, select ***Serial Port***.

    – a computer to access ActiveSync (or WMDC), select ***ActiveSync***.

Note – *Only **ActiveSync** shows on the Windows Mobile device. Select **ActiveSync** even if you use the WMDC on the desktop computer.*

Note – *For more information on the types of devices that the handheld can connect to, and the supported Bluetooth services, see* Connecting to a Bluetooth device as a client, page 69.

10. Tap **Finish**.

11. Tap **OK** to close the Bluetooth application.

12. Tap ⊠ to close the *Settings* screen.

You have now created a partnership between the handheld and the other Bluetooth-enabled device so that they can communicate. To start using the connection, you must complete the configuration steps for that type of connection and then connect to the device. For more information, see:

- Connecting to a Bluetooth-enabled phone for Internet access or real-time corrections (including VRS networks), page 75

- Connecting to a Bluetooth-enabled serial device, page 75

- Connecting to an office computer using Bluetooth wireless technology, page 76

Connecting to a Bluetooth-enabled phone for Internet access or real-time corrections (including VRS networks)

For instructions on connecting to a Bluetooth-enabled phone, refer to the *Trimble Access Field System Help* located at
https://www.myconnectedsite.com/site/surveyadministration/TrimbleAccessHelp.

Connecting to a Bluetooth-enabled serial device

Use Bluetooth wireless technology to receive data from a Bluetooth-enabled serial device, such as a laser rangefinder.

To connect to a Bluetooth-enabled serial device, you must:

1. Connect to the Bluetooth-enabled serial device.

2. Configure the COM port on the handheld to use for the connection.

3. If necessary, configure the Trimble Access software to use data received from the serial device.

Step 1: Connecting to the Bluetooth-enabled serial device

Connect the handheld to the Bluetooth-enabled device, selecting the ***Serial Port*** service if it is not already selected (see Connecting to a Bluetooth-enabled device, page 69).

Step 2: Configuring the COM port to use on the handheld

1. On the handheld, tap [icon] / *Settings* / *Bluetooth*.

2. Tap the *COM Ports* tab.

3. Tap *New Outgoing Port*.

4. Select the device you want to set up the connection to and then tap **Next**.

5. Select the COM port on the GeoExplorer handheld to use for the connection.

    The handheld has three COM ports (COM5, COM6, and COM7) available for connections out to Bluetooth-enabled serial devices.

6. Do one of the following:

    –   To communicate with any device, for example if you have formed this connection without pairing to a device, clear the *Secure Connection* check box.

    –   To communicate only with devices with which the handheld has a Bluetooth partnership, select the *Secure Connection* check box.

7. Tap **Finish**.

8. Tap **OK** to close the Bluetooth application.

9. Tap [icon] to close the *Settings* screen.

Step 3: Configuring the Trimble Access software to use data from the serial device

Once you configure the connection between the GeoXR handheld and the Bluetooth-enabled serial device, you must configure the Trimble Access software to use the connection to receive data. For more information, refer to the *Trimble Access General Help*.

Connecting to an office computer using Bluetooth wireless technology

Instead of using a USB or serial cable to physically connect to an office computer, you can use Bluetooth wireless technology to connect to ActiveSync technology or the Windows Mobile Device Center (WMDC) on a Bluetooth-enabled office computer.

Note – Not all Bluetooth devices and Bluetooth management software support ActiveSync technology or WMDC connections. Check with the manufacturer of the office computer for compatibility.

*Note – The exact steps required may vary depending on the office computer.*

To connect to an office computer to use ActiveSync technology or WMDC with a Bluetooth connection, you must:

1. Set up the connection to the computer.

2. Connect to ActiveSync technology or WMDC using Bluetooth wireless technology.

## Step 1: Setting up the connection to the computer

1. From the Bluetooth user interface on the office computer, make sure that the computer allows itself to be discovered by other Bluetooth devices.

2. Configure ActiveSync technology or WMDC on the office computer to connect to the correct Bluetooth port. The steps required depend on the operating system installed on the office computer. If the office computer is using:

- the Windows 7 or Windows Vista operating system:

    a. From the *Start* menu on the office computer, select *Control Panel / Windows Mobile Device Center*.

       The *Connection Settings* dialog appears:
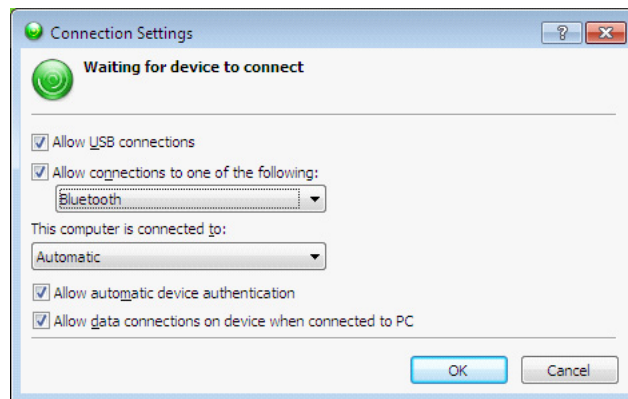
    b. Select the *Allow connections to one of the following* check box.

    c. From the list, select Bluetooth and then click **OK**.

- the Windows XP operating system:

    a. From the Bluetooth user interface on the office computer, identify the virtual COM port of the of the host Bluetooth Serial Port or Local Service and ensure that this is enabled. In this example, the virtual COM port is COM5.

    b. Start the ActiveSync technology on the office computer.

    c. Select *File / Connection Settings*.

The *Connection Settings* dialog appears:
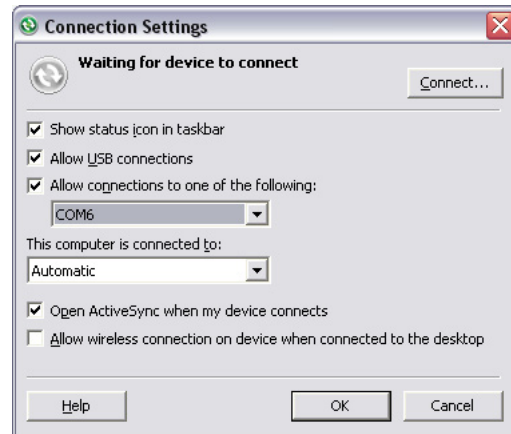
d. Select the *Allow connections to one of the following* check box.

e. From the list, select the COM port that you selected in Step a and then click **OK**.

Note – Before you try to form a Bluetooth connection from the handheld to the office computer, you must correctly configure the Bluetooth host serial port and ActiveSync technology on the office computer.

3. On the handheld, tap 🔲 / *Settings* / *Bluetooth*.

4. In the *Devices* tab, tap *Add new device*. The handheld searches for other Bluetooth devices and displays them in the list.

5. Tap the name of the computer you want to connect to and then tap **Next**.

6. When prompted, enter a passcode of your choice that you will easily remember on the handheld.

7. Enter the same passcode on the office computer.

8. On the handheld, select the ***ActiveSync*** check box in the list of services provided by the computer and then tap **Finish**.

*Note – The checkbox on the handheld still shows **ActiveSync**, even if the office computer is running the Windows 7 or Windows Vista operating system and you are using the WMDC.*

You have now created a partnership between the handheld and the office computer so that they can communicate.

9. Tap **OK** to close the Bluetooth application.

10. Tap ☒ to close the *Settings* screen.

11. To connect, go to Step 2 below. Note that the check box on the handheld shows ***ActiveSync*** even if the office computer is running the Windows 7 or Windows Vista operating system and you are using the WMDC.

Step 2: Connecting to ActiveSync using Bluetooth wireless technology

1. On the handheld, tap ⊞ / *ActiveSync*.

*Note – Only **ActiveSync** shows on the Windows Mobile device. Select **ActiveSync** even if you use the WMDC on the desktop computer.*

2. Tap **Menu** and then select *Connect via Bluetooth*.

    On the GeoExplorer handheld, a message box shows the status of the connection as it is made.

3. When the connection to the office computer is successful, you are returned to the ActiveSync application on the handheld.

4. Tap ☒ to close.

    The connectivity icon in the status bar shows ▦ , or ▦ if WLAN is connected.

    To check the status of the connection, tap the title bar and then tap the connectivity icon on the pull-down list.

    To disconnect, tap ⊞ / *ActiveSync* on the handheld and then select *Menu* / *Disconnect*.

Enabling other devices to transfer files using Bluetooth wireless technology

To transfer files to and from another device without connecting using ActiveSync technology or the WMDC, follow the general steps below:

Note – The exact steps for transferring files will depend on the Bluetooth file management software that is installed on the other device.

1. Turn on the handheld's Bluetooth radio and make the handheld ***visible*** to other devices (see page 64).

2. On the other device, turn on the Bluetooth radio.

3. On the other device, make sure that Bluetooth file transfer is enabled.

4. Use the Bluetooth management software on the other device to scan for devices and then set up a connection to the handheld.

5. Use the Bluetooth management software on the other device to locate the file and transfer it to the \My Documents folder on the handheld.

Beaming files to or from another device

You can beam files, contacts, tasks, and appointments between the handheld and another device.

To *receive* beamed files from another device:

1. Make sure that the handheld's integrated Bluetooth radio is turned on (see page 64).

2. Tap   / *Settings* / *Connections*/ *Beam*.

3. Select the *Receive all incoming beams* check box and then tap **OK**.

4. When another device attempts to beam a file, you are prompted to accept the file. To receive the file, tap **Yes**.

Note – All incoming files are automatically saved in the My Documents folder on the handheld.

To *send* beamed files to another device:

1. Make sure that the handheld's integrated Bluetooth radio is turned on (see page 64).

2. On the handheld, open File Explorer and go to the file you want to send.

3. Tap and hold the file and then select *Beam File.* The handheld scans for nearby devices.

4. Tap the device you want to send the file to. The file is sent to the device.

   A message reports **Done** or **Failed**, depending on the outcome of the file transfer.
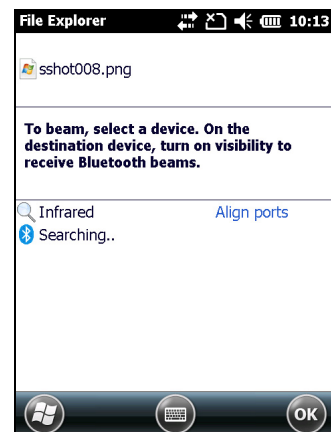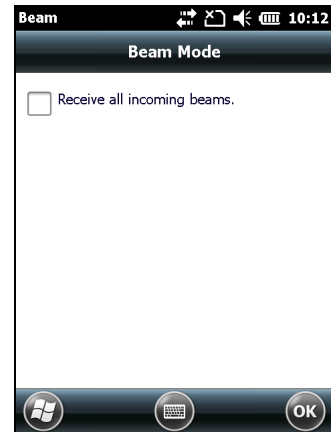
Accessing a corporate network through your Internet connection

Use a Virtual Private Network (VPN) connection to access a corporate network or Intranet.

Before you begin, obtain the following information from your network administrator:

- user name and password

- domain name

- host name or IP address of the VPN server

To access a corporate network through your Internet connection, you must:

1. Set up an Internet connection on the handheld.

2. Set up a VPN connection.
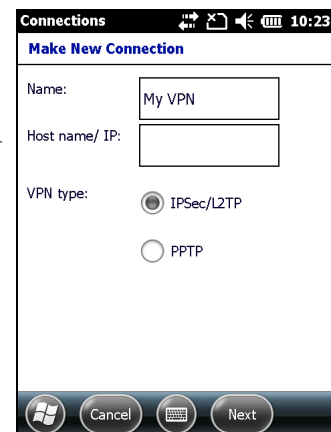
3.   Connect to the corporate network or Intranet.

Step 1: Setting up an Internet connection on the handheld

Do one of the following:

*   Set up a Wi-Fi connection to an access point. For more information, see page 67.

*   Connect to the Internet using the internal cellular modem. For more information, see page 69

*   Connect to the Internet using a Bluetooth-enabled phone. For more information, see page 75.

Step 2: Setting up a VPN connection

1.   On the handheld, tap 🔲 / *Settings* / *Connections* / *Connections*.

2.   From the *My Work Network* list, tap *Add a new VPN server connection*.

3.   Follow the instructions in the *Make New Connection* wizard.

4.   Tap **Finish**.

Step 3: Connecting to the corporate network or Intranet

To connect to the corporate network or Intranet, simply start using Internet Explorer.

The Windows Mobile operating system automatically controls whether the VPN connection is used, depending on whether the URL contains a period. For example, the URL www.trimble.com contains periods, and so the connection to this web site is made without using the VPN connection. However, an address to a network computer or file server that does not contain periods automatically starts the VPN connection.

If you need to use the VPN connection to access URL addresses that contain periods, specify exceptions for the addresses that are within the corporate network. To do this:

1.   Tap 🔲 / *Settings* / *Connections* / *Connections*.

2.   Tap the *Advanced* tab.

3. Tap **Exceptions**. The *Work URL Exceptions* screen appears.

4. Tap *Add new URL*.

5. Enter the URL and then tap **OK**.

6. Repeat Step 4 and Step 5 as required.

7. Tap **OK** to return to the *Advanced* tab of the *Connections* screen.

8. Tap **OK** to close the *Connections* screen.

9. Tap ⊠ to close the *Settings* screen.
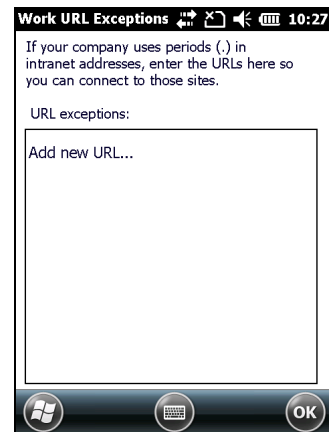
Connecting to external devices

You can use the USB to serial converter to connect to an external device that has a serial port, such as a computer.

Note – *When connecting to an office computer, you cannot use ActiveSync technology (or the WMDC) to establish the connection or synchronize data. To use ActiveSync (or the WMDC), you must use a USB cable or a Bluetooth connection (see Connecting the handheld to a computer, page 57) .*

To connect to an external device that has a serial port:

1. Attach the USB to serial converter to the handheld.

2. Plug the null modem cable into the serial (COM) port on the USB to serial converter.

3. Connect the other end of the cable to the serial port on the external device.

To connect to a serial device that does not have a standard 9-pin serial port, use a cable that has a DE9 connector on one end, and the appropriate connector for the other device on the other end. A suitable cable may be supplied with the external device.

Using the Camera

In this chapter:

■ Parts of the camera

■ Starting the camera application and capturing photos or video

■ Adjusting camera settings

The GeoExplorer 6000 series GeoXR handheld contains an integrated digital camera to capture photos or video.

Parts of the camera

Figure 6.1   GeoXR handheld camera controls

Use the **Camera** button to:

- Start the camera application

- Lock focus (press and hold the button)

- Capture photos (release the button)

- Start and stop recording a video (in *Video* mode, press the button)

Starting the camera application and capturing photos or video

To start the camera, do one of the following:

1. Press the **Camera** button in the center of the keypad.

2. Tap [icon] / *Pictures & Videos* / *Camera*.

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

3. Do one of the following:

    a. To capture a photo:

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

    – To focus, press the **Camera** button down and hold. Focus and exposure are set and locked while the camera button is held in this position.

    – To capture the photo, release the **Camera** button and hold the camera steady until the review photo is shown.

    b. To capture a video:

    – Tap the menu **Menu** button and then select *Video*.

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

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

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

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

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

Adjusting camera settings

To access the camera settings:

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

    The available camera settings are displayed in a list.

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

    Table 6.1   Camera settings

Mode	Setting	Options
Still & Video	Brightness	+3, +2, +1, 0*, -1, -2, -3
Video	Audio	On, Off
Video	Resolution	640x480, 320x240, 176x144
Still	Resolution	5MP, 3.2MP, 2MP, 1.3MP, 640x480, 320x240
Still & Video	Compression	Low quality, Medium quality, High quality
Still & Video	White Balance	Automatic*, Incandescent, Sunlight, Fluorescent
Still	DateStamp	On, Off
Still	Location	Off (no Geotagging), EXIF (Geotag in EXIF header of the file), WaterMark (Geotag on image), EXIF/WaterMark (both)
Still	Zoom	Varies according to resolution
Still & Video	Full Screen	Hides the tile bar
Still & Video	Options	Launches Camera and Video options

* = default setting

Note – *The larger the resolution, the larger the file size. Taking a photo with a larger resolution may take longer to capture; continue to hold the camera still until you see the photo review image (in Still mode) or until the preview screen reappears (in Video mode).*

Camera and Video options

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

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

- Save files to: If you have a storage card installed you can choose to save photos in either the main memory of the device or to a folder on the storage card. Photos saved to the main memory are saved in the My Pictures folder.

- Still filename prefix: Use this option to give still photos a customized filename prefix.

- Video filename prefix: Use this option to give videos a customized filename prefix.

- Time limit for videos: To set the automatic time limit for videos, choose a suitable time limit from the list of options.

Note – *Please refer to the Trimble Access Field System Help to learn how to use the camera within the Trimble Access software.*

Troubleshooting

In this chapter:

- Power issues
- Backlight issues
- Touch screen issues
- Storage card issues
- Keypad issues
- Connection issues
- Trimble Access software issues

Use this section to identify and solve common problems that may occur when using the GeoExplorer 6000 series GeoXR 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 or swap the battery (see page 27 or page 29).
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 33).
The handheld is not charging.	The internal temperature has risen above the allowed maximum (40 °C or 104 °F) for charging the battery.	Do one or all of the following: • Turn off the integrated radios before charging the handheld. • Suspend the handheld before charging. • Remove the handheld from any external heat sources (for example, sunlight). The handheld will automatically start charging again when the internal temperature has dropped below the range for charging the battery.
The battery power percentage bar does not appear in the Power control.	The battery has 0% power.	Recharge the battery (see page 25). Once the battery level is above 0%, the battery power percentage bar reappears. Tap ⊞ / *Settings* / *System* / *Power* / *Battery* to view the level of power remaining in the battery.
Under some circumstances the AC adapter may be faintly audible at close proximity.	The AC adapter is a highly efficient Energy Star V adapter which is required to operate at very low audible duty cycles when unloaded so as not to waste energy.	There is no safety issue related to the faint noise. In the event of a disconcerting noise, disconnect the mains adapter from the mains as soon as a battery charge is complete.
The charge level of the battery drops when the handheld is turned off.	The handheld was left in 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 30). Then store the handheld as recommended (see Storing the handheld, page 22).
	The handheld was left in suspend mode with a wireless radio turned on.	Before suspending the handheld, use the Wireless Manager to turn off all wireless radios. Make sure that all the radios are turned off after suspending the handheld. If a radio is still active, the Wireless LED will flash once every four seconds.

Backlight issues

Problem	Cause	Solution
The backlight does not come on when you tap the screen or press a button.	The backlight is not set to turn on in the Backlight control.	Tap 🏁 / *Settings* / *System* / *Backlight* to view the Backlight control, and make sure that: • the *Turn on backlight when a button is pressed or the screen is tapped* check box is selected. • the brightness is not set to *Dark* in the *Brightness* 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 🏁 / *Settings* / *System* / *Backlight* to view the Backlight control and then adjust the slider in the *Brightness* tab.

Touch screen issues

Problem	Cause	Solution
The touch screen does not respond to finger or stylus taps.	The touch screen is incorrectly aligned.	Realign the screen (see page 50).
	The touch screen is locked.	To unlock the touch screen, slide the **Unlock** icon.
	The handheld has locked up.	Reset the handheld (see Resetting the handheld, page 33).
The screen is blank.	The handheld is turned off.	Press the **Power** button to turn on the handheld.
	The battery is flat.	Recharge or swap the battery (see page 27 or page 29).
	The handheld has locked up.	Reset the handheld (see Resetting the handheld, page 33).
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 51).
	The backlight is off.	Tap the screen to turn on the backlight.
	You are unable to see parts of an application windows when the screen is in landscape orientation.	Some applications are designed for portrait orientation only. To view the entire application window, change the screen display to portrait. See Screen, page 50
	The selected display theme does not have enough contrast.	Select the High-Contrast display theme. Tap 🏁 / *Settings* / *Personal* / *Home*, select the High-Contrast theme and then tap **OK**.

Storage card issues

| Problem	Cause	Solution
The handheld does not recognize a storage card.	The handheld does not support SDIO (SD input/output) cards.	Use an SD or SDHC card.
Files on the storage card are not visible or are not able to be opened.	Files have been encrypted on another device and have a .menc file extension.	Remove encryption from the files (see Encrypting files on storage cards, page 36).

Keypad issues

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

Connection issues

ActiveSync technology

Problem	Cause	Solution
ActiveSync technology will not connect to the handheld.	The connection is not initiated automatically.	In the ActiveSync technology dialog on the office computer, select *File* / *Connection Settings* and then tap **Connect**.
	ActiveSync does not recognize the handheld.	Disconnect the handheld from the office computer. Restart the office computer. Reset the handheld (see Resetting the handheld, page 33) and then reconnect the handheld to the office computer.
	An incompatible version of ActiveSync technology is installed.	ActiveSync version 4.5 and later is compatible with the GeoExplorer 6000 series GeoXR handheld. If version 4.5 or later of the ActiveSync software is not installed on the office computer, you can download the latest version from the Microsoft website at www.microsoft.com/windowsmobile/activesync/default.mspx.
	The connection is not enabled in ActiveSync on the computer.	In the ActiveSync technology dialog on the office computer, click *File* / *Connection Settings*. If you are using: • a USB cable, make sure that the *Allow USB connections* check box is selected from the drop-down list. • a Bluetooth connection, make sure that the correct port for Bluetooth is selected. Then open the Bluetooth control on the handheld. In the *Devices* tab, tap the partnership and in the services list make sure that the *ActiveSync* check box is selected.
	The connection is not enabled in ActiveSync on the handheld.	On the handheld, tap 🔲 / *ActiveSync* / *Menu* / *Connections*. Make sure that the *Synchronize all PCs using this connection* check box is selected, and that the correct option is selected.
	The handheld connection settings conflict with network settings or VPN client software.	If you are using a USB cable, use the USB to PC utility to change the connection method the handheld uses to connect to ActiveSync on the computer. Tap 🔲 / *Settings* / *Connections* / *USB to PC Utility*. Clear the *Enable advanced network functionality* check box. The handheld stops using the default RNDIS method to connect to the ActiveSync technology.

Windows Mobile Device Center

Problem	Cause	Solution
Windows Mobile Device Center will not connect to the handheld.	The connection is not initiated automatically.	In the Windows Mobile Device Center software on the office computer, select *Mobile Device Settings* / *Connection Settings*.
	The Windows Mobile Device Center software does not recognize the handheld.	Restart the office computer. Disconnect the handheld from the office computer, reset it (see Resetting the handheld, page 33) and then reconnect it to the office computer.
	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 *Mobile Device Settings* / *Connection Settings*. If you are using: • a USB cable, make sure that the *Allow USB connection* check box is selected from the drop-down list. • a Bluetooth connection, make sure that the correct port for Bluetooth is selected. Then open the Bluetooth control on the handheld. In the *Devices* tab, tap the partnership and in the services list make sure that the *ActiveSync* check box is selected.
	The connection is not enabled on the handheld.	On the handheld, tap 🔲 / *ActiveSync* / *Menu* / *Connections*. Make sure that the *Synchronize all PCs using this connection* check box is selected, and that the correct option is selected.
	The handheld connection settings conflict with network settings or VPN client software.	If you are using a USB cable, use the USB to PC utility to change the connection method the handheld uses to connect to the Windows Mobile Device Center on the computer. Tap 🔲 / *Settings* / *Connections* / *USB to PC Utility*. Clear the *Enable advanced network functionality* check box. The handheld stops using the default RNDIS method to connect to the Windows Mobile Device Center.

Network connections

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

Internal cellular modem connections

Problem	Cause	Solution
Can't download data.	Your account has no remaining credit.	Contact your cellular provider to ensure that your account has sufficient credit.
Can't connect.	The phone is turned off.	Turn on the phone using the Wireless Manager.
	The connection is incorrectly configured.	Check your APN and connection settings with your provider.
	Cellular service is unavailable.	Check that the phone is within range of receiving strong enough signals to connect. Move to a location with stronger cellular reception. Check with your cellular provider that coverage is available in your region.
Can't set up a connection.	SIM card is missing.	Insert SIM card.
	SIM card is locked.	Check the PIN security: tap 🔲 / *Settings* / *Personal* / *Phone,* and select the Security tab.
	3G/GSM selection is incorrect for your cellular provider.	Check your settings: tap 🔲 / *Settings* / *Personal* / *Phone,* and select the 3G tab. Set the 3G/GSM Selection to Auto.

Bluetooth wireless technology

Problem	Cause	Solution
The handheld cannot discover a nearby Bluetooth device.	The device is out of range.	Move the devices closer to each other and then scan again.
	Bluetooth wireless technology is not enabled on one or both devices.	Make sure that the Bluetooth radio is turned on, on both the handheld (see page 82) and the other Bluetooth device.
	The device has not been made Discoverable.	Make sure that the Bluetooth device has been made Discoverable.
The COM port that you assigned to a serial port service is not available in your application.	The application cannot recognize ports if they are added after the application opens.	Exit from the application, add the port and then run the application again.
The Bluetooth connection fails while in use.	The Bluetooth device has moved out of range.	Move the devices closer to each other. The devices should reconnect automatically. If they do not, select the Bluetooth device in the *Devices* tab. Tap and hold the device name and then select *Delete*. Tap *New* to discover the device again.
	The Bluetooth radio has lost the connection.	Turn off the Bluetooth radio on the handheld and then turn on the Bluetooth radio (see page 82).
	Bluetooth file transfer interrupts the connection.	When you transfer large image or data files, other Bluetooth connections may stop responding. To avoid problems, close other Bluetooth connections before transferring large files.

Wi-Fi connections

Problem	Cause	Solution
The "New Network Detected" notification does not appear automatically.	The Wi-Fi radio is off.	Tap the wireless icon in the *Home* screen or go to the Wireless Manager and make sure Wi-Fi is on.
	The handheld is out of range of the network.	Move to within range of the network, then tap 🔲 / *Settings* /*Connections* /*Network Cards* and then set up the connection.
The handheld cannot connect to a secure site.	The date on the handheld is incorrect.	Check that the handheld has the date set correctly on the *Home* screen. If the date is incorrect, tap the clock icon on the *Home* screen and then adjust the date and time.
You cannot configure an Internet connection.		
Within range of more than one network, you are not connecting to the network you would prefer to use.	The radio is connecting to the first network signal it has received.	Tap 🔲 / *Settings* /*Connections* /*Network Cards*. Tap and hold the network you would prefer to use and then select *Connect*.
The "New Network Detected" notification appears but the tile bar and tile options are not displayed.	Some applications are not fully compatible with all features of the Windows Mobile 6.5 operating system.	Use the application buttons on the keypad, as they map to the tiles in the tile bar: • To dismiss the notification, press the right application button on the keypad. • To connect to the network, press the left application button. Alternatively, select a Windows Mobile application from the *Start* screen, such as the *Home* screen or File Explorer, and the tile bar and soft keys will be displayed correctly.

Trimble Access software issues

For troubleshooting issues with Trimble Access, refer to the *Trimble Access Field System Help* located at
https://www.myconnectedsite.com/site/surveyadministration/TrimbleAccessHelp.