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GeoExplorer 2005 series FAQ for Customers

What is the GeoExplorer 2005 series?

The GeoExplorer 2005 series is a range of GPS handhelds from Trimble that are powered by Microsoft® Windows Mobile® version 5.0 software. These handhelds integrate the power of Windows Mobile software, with a high-performance Trimble GPS receiver, Bluetooth® and wireless LAN technology, and an SD memory slot—all in a rugged, portable handheld.

The GeoExplorer 2005 series consists of:

- The GeoXH™ handheld, providing subfoot (30 cm) accuracy, or even 8-inch (20 cm) accuracy with the optional Zephyr™ antenna.
- The GeoXT™ handheld offering submeter accuracy for GIS data collection and data maintenance.
- The GeoXM™ handheld with 1–3 meter GPS accuracy for mobile GIS applications.

The GeoExplorer 2005 series represents a breakthrough in GPS handheld technology—providing GIS professionals and mobile GIS users with the ultimate platform for all applications.

What are the key features of the GeoExplorer 2005 series?

GeoExplorer 2005 series handhelds have a rich feature set, designed around the needs of GIS professionals. While the three models—GeoXH, GeoXT, and GeoXM handhelds—have different GPS characteristics (as noted above), they all offer the following functionality:

- GeoExplorer 2005 series handhelds run the Microsoft Windows Mobile 5.0 software. Along with the range of standard Microsoft software, including Pocket Word, Pocket Excel, and Pocket Outlook®, Windows Mobile software also offers advanced security features, and persistent storage memory so your programs and data will always be kept safe.
- Built-in Bluetooth and wireless LAN radios allow cable-free connection to other devices, and to the Internet or your organization's secure network, so you can access information on-the-go.
- 512 MB of onboard memory, plus a Secure Digital (SD) memory slot allowing you to add gigabytes of additional memory.

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- Use the integrated SBAS (Satellite Based Augmentation Systems) support, including WAAS for the U.S. and EGNOS for Europe, or connect wirelessly to an optional Trimble GeoBeacon receiver for reliable real-time corrections.
- Rugged, water-resistant design built for use in all field conditions.
- Advanced TFT outdoor color touch screen with backlight.
- An Ethernet connection in the support module allows the GeoExplorer 2005 series handhelds to be connected directly to your network.
- Optional Trimble Navigator Sample Application software for real-time maps and driving directions.

What is H-Star technology?

Trimble's new H-Star™ technology is a combination of GPS receiver and software improvements that allow you to achieve subfoot (30 cm) accuracy. In the field, collect H-Star data using Trimble software. Using the Postprocessed Accuracy (PPA) indicator in the field software, you can see at a glance what accuracy you are likely to achieve when you postprocess the H-Star data back in the office. H-Star processing is designed to need no more than two minutes of data at any point, and can achieve the accuracy even faster if a lock on satellites is continuously maintained. Back in the office, with GPS Pathfinder® Office software or the Trimble® GPS Analyst™ extension for ESRI ArcGIS software, simply select the H-Star processing option. H-Star processing gives you the choice of selecting multiple base stations to process data against, providing a multi-baseline solution. Using this combination of receiver technology, field data collection techniques, and multi-baseline processing in the office, H-Star processing with a GeoXH handheld can provide subfoot (30 cm) accuracy and 8 inch (20 cm) accuracy when used together with an external Zephyr™ antenna.

What is the Microsoft Windows Mobile 5.0 software?

Windows Mobile is Microsoft's premier operating system for mobile devices. With a familiar Microsoft user interface, it provides a wide range of standard software applications that work seamlessly with your desktop operating system. Windows Mobile software supports a host of communication options so you can be mobile and still have access to your enterprise data, e-mail, and the Internet. The GeoExplorer 2005 series runs Windows Mobile 5.0 software, allowing you to choose from the most comprehensive range of software available to meet your field requirements. In addition, Windows Mobile software features new security enhancements, for more robust use when connected to a network, and persistent storage memory so your data is protected from unexpected power loss.

What software is available for my field requirements?

A range of software is available for the GeoExplorer 2005 series including:

- Trimble TerraSync™ software version 2.52 or later, for powerful data collection and data maintenance. Use TerraSync to populate and update your GIS with quality data and ensure accurate and up-to-date information for decision-making. For more information, go to www.trimble.com/terrasync.html.
- ESRI ArcPad version 6.0.3 or later with Trimble GPScorrect™ extension for ESRI ArcGIS version 1.11 or later, to ensure high quality position data for ESRI mobile GIS applications. The

GPSCorrect extension provides full GPS data control within ArcPad, and also collects data for postprocessing. For more information on the GPSCorrect extension, go to www.trimble.com/gpsccorrect.html.

- Custom software developed with the GPS Pathfinder Tools Software Development Kit (SDK) version 2.02 or later, to meet your organization's unique requirements. For more information on how Trimble GPS Pathfinder Tools SDK makes it easy to add GPS capabilities to your field software, go to www.trimble.com/pathfindertools.shtml. Software applications incorporating GPS Pathfinder Tools technology are available for a wide variety of industry-specific needs from Trimble Business Partners. For more information on Trimble Business Partners, go to www.trimble.com/bp_mgis.shtml.
- GPS data collection applications using the industry-standard NMEA protocol, designed for the Windows Mobile 5.0 software and compiled for Intel X-Scale processors. Software applications using the NMEA protocol are available for a wide variety of industry-specific needs. For more information on the NMEA standard, go to www.nmea.org/pub/index.html.
- Any software designed for Windows Mobile 5.0 software and compiled for Intel X-Scale processors that supports your field requirements.

What software is standard with the GeoExplorer 2005 series?

- GPS Controller and GPS Connector for full GPS control, comprehensive status information, and in-field mission planning.
- Microsoft Pocket Outlook software for Personal Information Management (PIM). PIM applications include Today, Inbox, Calendar, Contacts, Tasks and Notes.
- Microsoft ActiveSync[®] software for seamless synchronization of PIM databases so that you are always up to date, whether in the office or the field.
- Microsoft standard productivity tools for mobile applications including Pocket Word, Pocket Excel, PowerPoint Mobile, Internet Explorer, and calculator for day-to-day tasks.
- Transcriber handwriting recognition software.
- Bluetooth settings for configuring and controlling Bluetooth connections.
- Windows Media[®] player to allow playback of sound and video files.
- Optional Trimble Navigator Sample Application software for real-time maps and driving directions.

What are the base station requirements for H-Star processing with a GeoXH handheld?

H-Star processing requires three high-quality dual frequency base stations within 200 kilometers (125 miles), or one within 80 kilometers (50 miles), to achieve subfoot (30 cm) accuracy with a GeoXH receiver, or 8 inch (20 cm) accuracy with a GeoXH receiver with external Zephyr antenna.

Does the GeoXH handheld have a dual frequency GPS receiver inside?

Using its internal antenna, the GeoXH handheld is a single frequency receiver with 12 channels for tracking L1 code and carrier signals. When used with the optional external Zephyr antenna the GeoXH handheld operates as a dual frequency receiver, tracking up to 12 L2 carrier signals. Note that the GeoXH handheld is not RTK capable.

What can I use the GeoExplorer 2005 series handheld's wireless LAN capabilities for?

The GeoExplorer 2005 series handheld has an integrated 802.11b wireless Local Area Network (WLAN) radio that you can use to receive data anywhere within the range of a wireless LAN access point. Wireless LAN is sometimes referred to as wireless Ethernet. A wireless LAN connection can be used to connect to the Internet (at broadband speeds) via an 802.11b or 802.11g wireless LAN access point. 802.11b has a maximum speed of 11 Mbps. Security options such as 802.1x, WEP and WPA are supported.

There are many publicly available wireless LAN access points (also known as “hotspots”) available. To find publicly available access points use locator Internet sites such as www.jiwire.com and www.wifizone.org.

Using the wireless LAN radio in a GeoExplorer 2005 series handheld has no impact on GPS performance, but note that battery life will be consumed faster when there is an active connection to a wireless LAN access point.

What can I use the GeoExplorer 2005 series handheld's Bluetooth capabilities for?

The GeoExplorer 2005 series handheld has an integrated Bluetooth radio that you can use to establish cable-free connections to other Bluetooth devices that are within 10 meters.

Using a Bluetooth connection, you can communicate with Bluetooth-enabled devices such as mobile phones, desktop computers, Trimble's GeoBeacon receiver, and many more. You can also communicate with peripheral devices that use Bluetooth adaptors instead of serial or USB connections.

Using the Bluetooth radio in a GeoExplorer 2005 series handheld has no impact on GPS performance, but note that battery life will be consumed faster when there is an active connection to another Bluetooth device.

How can I activate or deactivate the Bluetooth and wireless LAN radios in the GeoExplorer 2005 series handhelds?

To ensure simple out of the box operation, both Bluetooth and wireless LAN are activated by default in the GeoXH, GeoXT, and GeoXM handhelds when they are shipped from Trimble.

The Bluetooth radio is off by default, but can be powered on by configuring it in the Bluetooth settings.

The wireless LAN radio is on by default and is ready to use.

If wireless LAN and Bluetooth connectivity is not required, both radios can be powered off together to conserve battery power by tapping the Connectivity icon in the Title bar and selecting “Turn on flight mode”.

If you require that the Bluetooth or wireless LAN radios be deactivated so that they can not be turned on, run the Radio Activation Manager, which can be downloaded from the Support Downloads page for the GeoXH, GeoXT, or GeoXM handheld at www.trimble.com/support.shtml. If, at some later stage, you wish to reactivate the Bluetooth radio, you can use the same application to do so.

What external antenna options are available for the GeoExplorer 2005 series handhelds?

GeoExplorer 2005 series handhelds have a robust antenna connection, allowing a number of different external antennas to be connected.

- When using a GeoExplorer 2005 series handheld in a vehicle, mount an External Patch antenna or Hurricane antenna magnetically to the roof of your vehicle. The Hurricane antenna is recommended for best yield and performance, while the External Patch antenna offers a low-cost solution.
- For improved yield under canopy, where holding the unit in front of your body may block already weakened satellite signals, mount a Patch Antenna with ground plane or Hurricane antenna on a range pole or backpack to elevate the antenna above your head.
- For best possible accuracy with a GeoXH handheld, connect an external Zephyr antenna for eight inch (20 cm) accuracy with H-Star processing.

What real-time options are available for GeoExplorer 2005 series?

GeoExplorer 2005 series handhelds come standard with SBAS capability—WAAS for the U.S. and EGNOS for Europe. With Bluetooth wireless technology, a Trimble GeoBeacon™ receiver can easily be added to provide real-time beacon corrections to GeoExplorer 2005 series handhelds. Standard RTCM corrections, including VRS corrections from a radio or cell phone, can also be added to a GeoExplorer 2005 series handheld to provide accuracy in real-time.

What GPS protocols are supported by the GeoExplorer 2005 series handhelds?

GeoExplorer 2005 series handhelds support the NMEA and TSIP GPS data communication protocols.

How are the GeoExplorer 2005 series handhelds powered?

GeoExplorer 2005 series handhelds are powered by an internal rechargeable Lithium-ion battery. When fully charged, the internal battery of the handheld provides enough power for a full working day using GPS. Use the support module and AC adaptor provided to recharge the internal battery. To extend the time between charges, Trimble offers an optional external power kit or vehicle power adaptor.

Can I use a GeoExplorer 2005 series handheld as a reference station?

The GeoXH and GeoXT handhelds can be used with the TerraSync software as a temporary base station solution. The GeoXM handheld does not support base station functionality. The GeoExplorer 2005 series handhelds are not supported as base receivers in the TRS™ software, GPSBase software or other Trimble reference station software.

What trade-in programs are available for the GeoExplorer 2005 series?

Trimble is offering a range of trade-in options on new GeoExplorer 2005 series GeoXH and GeoXT handhelds. Please contact your local Trimble Distributor for further information.

What is standard out of the box?

GeoExplorer 2005 series GeoXH, GeoXT, and GeoXM handhelds are provided as standard with the following components and accessories:

- Pouch
- Stylus kit (2 stylus and a lanyard)
- Support module
- AC power adaptor
- Getting Started Guide
- Getting Started Disc (includes ActiveSync software)
- USB data cable
- Screen protectors (pack of 10)

What optional accessories are available for the GeoExplorer 2005 series?

The following optional accessories are available for GeoExplorer 2005 series handhelds:

- Power/serial clip
- Vehicle power adaptor
- External power kit
- Zephyr antenna kit for use with GeoXH handheld
- Hurricane antenna kit
- External Patch antenna
- Pole-mountable ground plane for use with External Patch antenna
- Baseball cap with antenna sleeve for use with External Patch Antenna
- Backpack kit
- Hard carry case
- Null modem cable
- GeoBeacon receiver (receives differential corrections from a beacon network)
- Two meter carbon fiber range pole

- Range pole bracket

Where can I get more information?

Visit the Trimble website at www.trimble.com for further information or contact your local Trimble Distributor.