

GeoExplorer® CE Series

Getting Started Guide

The word "Geodesical" is written in a light blue, sans-serif font. A thin, light blue oval line loops around the letter "G" from the top-left to the bottom-right.



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This is the October 2003 release (Revision A) of the *GeoExplorer CE Series Getting Started Guide*, part number 46506-20-ENG. It applies to revision 2.00 of the GeoExplorer[®] CE operating system and firmware. The GeoExplorer CE operating system is based on the Microsoft[®] Windows[®] CE version 4.2 (Windows CE .NET) operating system, build 1088.

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About this manual

Welcome to the *GeoExplorer CE Series Getting Started Guide*. This manual describes how to use a GeoExplorer® CE series handheld.

The GeoExplorer CE series includes the GeoXT™ and GeoXM™ handhelds. These handhelds combine a Trimble GPS receiver with a field computer that is running the Microsoft® Windows® CE .NET operating system.

Other references

For more information on ...	refer to...
ESRI® ArcPad™	www.esri.com/arcpad , or ArcPad documentation
GPS	www.trimble.com/gps
GPS Connector	GPS Connector help
GPS Controller	GPS Controller help
GPScorrect™ for ESRI ArcPad	GPScorrect help, or www.trimble.com/gpsccorrect.html
Inbox	Windows CE help
Internet Explorer	Windows CE help
Microsoft ActiveSync	ActiveSync help
Specifications and accessories for GeoExplorer CE series handhelds	www.trimble.com/geoexplorerce.html
TerraSync™	www.trimble.com/terrasync.html , or <i>TerraSync Operation Guide</i>

Parts and components

This section lists the parts and components of the GeoExplorer CE system.

What's in the box?

When you receive the GeoExplorer CE series handheld, check that you have received all the components, as detailed on the packing list. The following diagram shows the standard components. Depending on the system that you have purchased, you may have received additional components:

















Inspecting the system

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.

What software is supplied with the GeoExplorer CE handheld?

The following software is pre-installed on every GeoExplorer CE handheld:

Software	Function
 Calculator	Perform basic arithmetic functions.
 Device Lock	Lock the touch screen and buttons.
 GPS Connector	Configure communications between the GeoExplorer CE handheld's integrated GPS receiver and external devices.
 GPS Controller	Configure and view status information for the integrated GPS receiver.
Note — If TerraSync or GPScorrect is installed, it replaces GPS Controller.	
 Inbox	Compose, send, and receive e-mail messages.
 Internet Explorer	Browse the World Wide Web.
 Microsoft Excel Viewer	View Excel spreadsheets.
 Microsoft Image Viewer	View graphics files.
 Microsoft PDF Viewer	View PDF files.
 Microsoft PowerPoint Viewer	View PowerPoint slideshows.
 Microsoft WordPad	Create and edit text files.
 Transcriber	Convert handwriting into text.
 Voice Recorder	Record and play back .wav audio files.
 Windows Explorer	List and manage files.

Accessories

The following optional accessories are available:

- Power/serial clip
- Vehicle power adaptor*
- Portable power kit*
- External antenna
- Pole-mountable ground plane
- Baseball cap with antenna sleeve
- Backpack kit
- Hard carry case
- Null modem cable*
- Beacon-on-a-Belt (BoB™) differential correction receiver*

For more information, visit the Trimble website at www.trimble.com/geoexplorerce.html.

* Requires power/serial clip (sold separately).

Parts of the GeoExplorer CE handheld

The following diagrams show the main hardware features of the GeoExplorer CE handheld.



Windows CE device

H/PC 2000 field computer with an operating system based on the Microsoft Windows CE .NET (Windows CE version 4.2) operating system.

Integrated GPS receiver

- High-performance
- Integrated WAAS/EGNOS receiver
- EVEREST™ multipath rejection technology (GeoXT only)

Advanced TFT color display

- 16-bit color (65,536 colors)
- Anti-glare touch screen
- ¼ VGA display
- Multi-stage backlight

Configurable touch buttons

Tap to open assigned program.

Default programs:

F1 GPS Controller

F2 Voice Recorder

F3 Volume control

F4 Bluetooth Manager

Backlight touch buttons

Tap Backlight Up to turn on the backlight, or to increase the backlight level. Tap Backlight Down to decrease the backlight level.

Integrated Bluetooth radio

Connect to external devices using wireless Bluetooth™ connectivity.

Power button

Press to turn the handheld on, or to put it into Suspend mode.

Microphone

Tap F2 to run Voice Recorder.

Display button

Press to turn the backlight on or off. Hold down to adjust the backlight level.

Press both the Power button and the Display button to recalibrate the touch screen.

External antenna connector

Connect to optional external antenna.

GPS COM ports

NMEA, TSIP, and real-time communication with integrated GPS receiver.

CPU

206 MHz Intel StrongARM 1110 processor.

Main memory

64 MB RAM.

Disk

- Internal flash memory
- Non-volatile
- 512 MB

Handstrap

Internal battery

All-day operation with GPS.

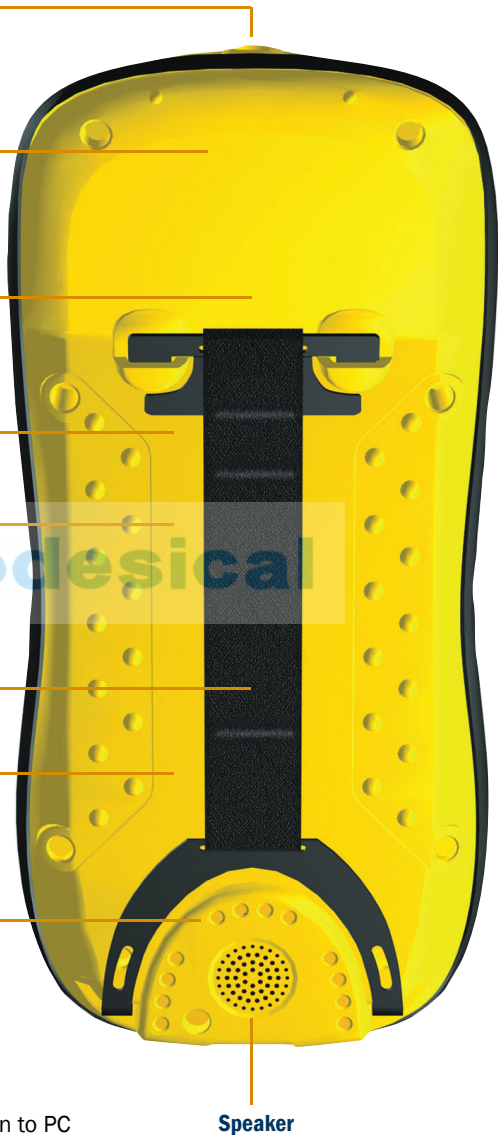
Communication swipes

Place in support module to:

- charge battery
- provide USB connection to PC

Attach optional serial clip to:

- charge battery
- provide external power
- provide serial (COM) port connection to PC
- connect to external device such as BoB receiver or mobile phone



Speaker

Getting started

Follow the steps below to get started with the GeoExplorer CE handheld. For information on using Windows CE, see [Windows CE basics, page 8](#).

1 Charge the battery

Before using the GeoExplorer CE handheld for the first time, you must charge the battery.



Put the GeoExplorer CE handheld in the support module as shown above, connect one end of the AC adaptor cable to the support module and the other to an AC power outlet, and leave to charge for up to five hours.




To remove the GeoExplorer CE handheld from the support module, press the release button on the support module, then lift the bottom of the GeoExplorer CE handheld upward.

2 Turn on the GeoExplorer CE handheld




Press the Power button to turn the handheld on.

The level of charge in the battery is indicated by the icon  in the system tray.




3 Adjust the screen display and calibration

The touch screen is visible in all conditions from bright sunlight to night viewing. If necessary, adjust the screen display and calibration:

- To turn the backlight on or off, press the Display button. When the backlight is on, its icon  appears in the system tray.
- To adjust the backlight level, hold down the Display button until the required setting is reached. To fine-tune, tap the Backlight Up or Backlight Down touch button.
- If the touch screen does not respond properly to stylus taps (for example, if you have to tap an area next to an icon, not directly over it, to select it), recalibrate it. Press the Display button and the Power button at the same time, then follow the instructions on the screen.



4 Set the time zone

To set its clock to your local time, the GeoExplorer CE handheld uses the GPS time reported by the integrated GPS receiver, and the time zone that you specify. Double-tap the clock icon  in the system tray to open the Date/Time control, and then select the correct option from the *Time Zone* list.



5 Install and activate software

Connect the GeoExplorer CE handheld to a desktop computer and use ActiveSync to install or activate any software you need. For more information, see [Installing software, page 13](#).

6 Use GPS



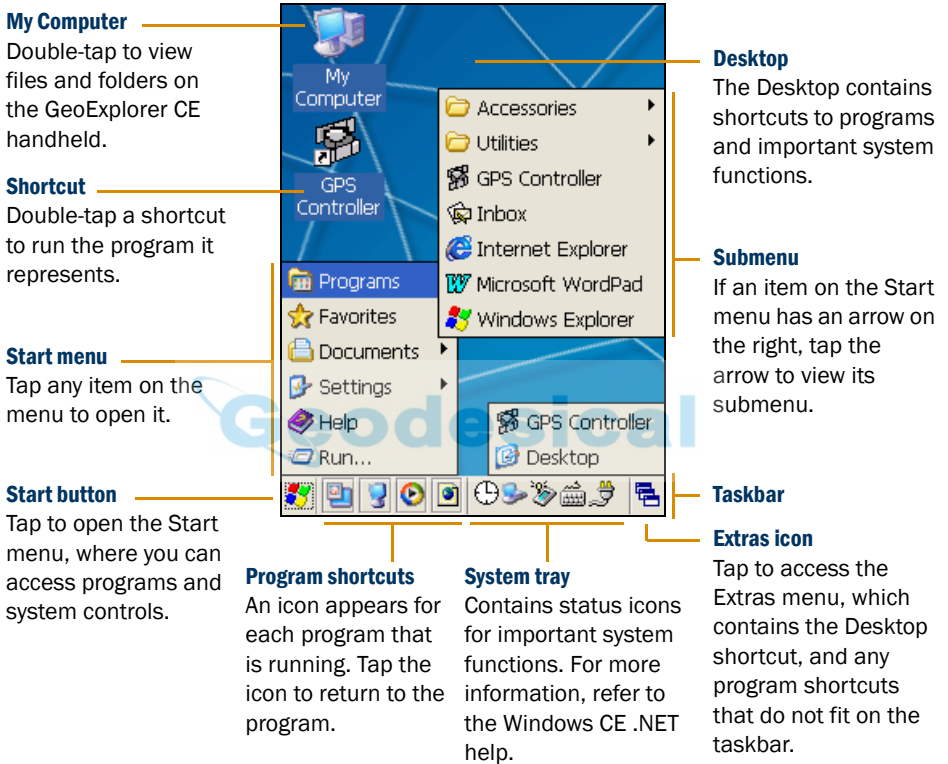
The integrated GPS receiver is switched off until an application opens one of the GPS COM ports. To use GPS, take the GeoExplorer CE handheld outside to a location with a clear view of the sky. Then tap the F1 GPS touch button. The skyplot of the default GPS software (GPS Controller, GPScorrect, or TerraSync, depending on the software you have installed) appears. For more information, see [Using GPS, page 14](#).

Windows CE basics


The Windows CE .NET operating system used by the GeoExplorer CE handheld is similar to desktop Windows operating systems.

Parts of the screen

The following figure shows the main parts of the Windows CE .NET screen:



Accessing help

To access help, tap  / *Help*. If there is an application running, context-sensitive help for the current screen appears. Otherwise the main Help Contents page appears.

Online help on the GeoExplorer CE handheld works in the same way as a Web page. Tap hyperlinks to navigate around the help. You can also tap **Back** to retrace your steps, **Contents** to return to the Contents page for the application, and **All Topics** to return to the main Contents page.

Interacting with Windows CE


Like most Windows CE devices, the GeoExplorer CE handheld has no mouse or keyboard. To interact with a GeoExplorer CE handheld, use the stylus to tap on the touch screen. There are four types of action you can perform with the stylus:


Action	Definition
Tap	Touch the screen once with the stylus to open items and select options.
Double-tap	Touch the same location on the screen with the stylus twice in quick succession to open an item such as a desktop shortcut.
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.

Entering text

The GeoExplorer CE handheld does not have a physical keyboard. To enter text, use an on-screen keyboard or handwriting recognition software.

Using on-screen keyboards

To activate an on-screen keyboard, tap the keyboard icon  in the taskbar. You can drag and drop the keyboard to any location on the screen.

To enter text, tap the appropriate keys on the on-screen keyboard. When you have finished entering text in a field, tap Enter  to accept the text you have entered and move to the next field. To hide the keyboard, tap the keyboard icon in the taskbar again.



You can install different on-screen keyboards on the GeoExplorer CE handheld and switch between them as required.


To change the selected keyboard:


1. In the taskbar, double-tap the keyboard icon. A list of installed keyboards pops up. The currently selected keyboard is indicated by a check mark.
2. Tap the name of a keyboard to select it.

Using Transcriber



The Microsoft Transcriber software converts your handwriting to text. You can use it to enter notes in a text editor such as Microsoft WordPad, or to type text in fields.

To start Transcriber:

1. Tap  / *Programs* / *Transcriber*. The *Transcriber Intro* dialog appears.
2. Tap **OK** to close the *Transcriber Intro* dialog.

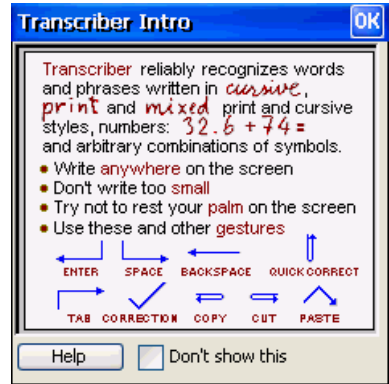
The Transcriber icon  appears in the system tray.

By default, Transcriber is enabled.

When Transcriber is enabled, the background of the Transcriber icon is dark gray , and Transcriber attempts to convert anything that you write on the touch screen to text. When Transcriber is disabled, the background of the Transcriber icon is transparent , and Transcriber does not convert your handwriting to text. To enable or disable Transcriber, tap the Transcriber icon in the system tray.

Transcriber has a number of tools and modes that allow you to customize how it works. These tools and modes are controlled from the optional Transcriber iconbar. To enable or disable the iconbar, or to close the Transcriber, tap and hold the Transcriber icon, and then select an option from the menu that appears select.

For more information, refer to the Transcriber Help.



Connecting to a desktop computer

To transfer files to or from a GeoExplorer CE handheld, or to install software, you must connect it to a desktop computer using Microsoft ActiveSync. ActiveSync is a program that lets you exchange information between a desktop computer and a CE device. You use it whenever you:

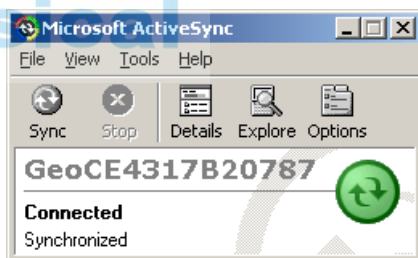
- install software on the GeoExplorer CE handheld
- move or copy files to or from the GeoExplorer CE handheld

If you do not have ActiveSync, or you want to use a translated version of ActiveSync, you can download it from the Microsoft website at www.microsoft.com/windowsmobile.

To connect to a desktop computer:

1. If necessary, install ActiveSync on the desktop computer.
2. Use the support module (see [page 12](#)), Bluetooth (see [page 12](#)), or the serial clip (see [page 12](#)) to connect the GeoExplorer CE handheld to the desktop computer.
3. If ActiveSync does not connect automatically, check that connection has been enabled in ActiveSync and on the GeoExplorer CE handheld. For more information, see [Troubleshooting, page 42](#).

4. Follow the instructions on the screen to connect to the desktop computer. You can establish two types of connections with ActiveSync: a **partnership** or a **guest** relationship.



Information about a partnership

is stored permanently on the desktop computer. You can use a partnership to synchronize files between the GeoExplorer CE handheld and a desktop computer. A guest relationship lasts only as long as the two computers are connected.

5. Use ActiveSync to install software and exchange data.

For more information, refer to the ActiveSync Help.

Tip — You can configure the GPS Pathfinder® Office software to automatically detect when you connect a GeoExplorer CE handheld to the desktop computer, transfer data from TerraSync, differentially correct the data, and then export it to a GIS. For more information, refer to the GPS Pathfinder Office Help.

USB connection

The support module provides a fast, simple USB connection between the GeoExplorer CE handheld and a desktop computer.

To connect using the support module:

1. Place the GeoExplorer CE handheld in the support module. For more information, see [Getting started, page 6](#).
2. Connect the USB data cable to the USB port on the support module.
3. Connect the other end of the USB data cable to a USB port on the desktop computer.



Bluetooth connection

You can use the GeoExplorer CE handheld's integrated Bluetooth radio to establish a wireless serial connection to a Bluetooth-enabled desktop computer. For more information, see [Using Bluetooth, page 24](#).

Serial clip connection

If you have purchased the optional serial clip, you can use it instead of the support module to establish a serial connection to the desktop computer. For more information, see [Using the optional serial clip, page 30](#).

Installing software

To install software, first establish an ActiveSync connection to a desktop computer (see [page 11](#)). Then follow the instructions provided with the software to install it. If no instructions are provided with the software, run the program file (.exe file) on a desktop computer:

- If the file is an installer, the installation wizard will begin. Follow the instructions on the screen. Once the software has been installed on a desktop computer, the installer will automatically transfer the software to the GeoExplorer CE handheld.
- If the file is not an installer, an error message appears, stating that the program is valid but it is designed for a different type of computer. Use ActiveSync to copy the file to the Program Files folder on the GeoExplorer CE handheld.

Note — The GeoExplorer CE handheld supports software that is designed for a Handheld PC 2000 device with a StrongARM processor running the Windows CE .NET (Windows CE 4.2) operating system. Depending on the software, you may also be able to install and run some software designed for other platforms, processors, or Windows CE versions.

Installing TerraSync

To install TerraSync, either insert the *TerraSync Software and Operation Guide CD* in the CD-ROM drive of a desktop computer and use the menus provided, or run the downloaded setup file. To obtain a serial number for installation, you must register your copy of TerraSync online. Detailed installation instructions are provided in the *TerraSync Release Notes*.

Installing ArcPad

You can install version 6.0.2 or later of the ESRI ArcPad software on a GeoExplorer CE handheld. Detailed installation instructions for ESRI ArcPad are provided in the ArcPad documentation. You can also download installation instructions from the ESRI website at www.esri.com/arcpad.

Installing GPSCorrect

Before you install GPSCorrect, install version 6.0.2 or later of ArcPad.

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

Using GPS

To use GPS in an application, you need to:

- configure the application to connect to GPS (see [page 15](#))
- get a clear view of the sky (see [page 16](#))
- configure GPS quality control settings to suit your requirements and the current GPS conditions (see [page 16](#))

You may also want to:

- use mission planning to identify the best times of the day for working with GPS (see [page 17](#))
- use real-time differential corrections for better accuracy (see [page 18](#))
- use GPS data collection and navigation features. For more information, refer to the documentation for the GPS application.

GPS COM ports





The integrated GPS receiver has three COM ports for communicating with software on the GeoExplorer CE handheld and with external devices. Using GPS is as simple as opening the appropriate GPS COM port. Each port is used for a particular type of communication:

Port	Function	Description
COM2	NMEA	Outputs NMEA-0183 messages. NMEA is a standard GPS communication protocol used by most GPS applications. The GeoExplorer CE handheld outputs the following NMEA messages: GGA, GLL, GSA, GSV, RMC, VTG, ZDA. All messages are output at a 1-second interval.
COM3	TSIP	Outputs and receives TSIP messages. TSIP (Trimble Standard Interface Protocol) is used by Trimble GPS applications, and is also supported by some other GPS applications.
COM4	Real-time	Receives RTCM real-time correction messages. If you are using an external correction source connected to COM1 or a Bluetooth port, the corrections must be redirected to COM4. For more information, see Using real-time corrections from other sources, page 18 .

Note — COM1 is a standard serial port that connects to external devices. For more information, see [Using the optional serial clip, page 30](#).

Configuring a GPS application

The first time you use GPS software on the GeoExplorer CE handheld, you may need to specify which GPS COM port to connect to (COM2 if the software uses NMEA, or COM3 if the software uses TSIP). If you are not sure which protocol to use, check the documentation for the software.

If you are using ...	do this ...
GPS Controller	Tap the F1 GPS touch button to run GPS Controller. The software automatically activates the integrated GPS receiver on COM3.
TerraSync	Tap the F1 GPS touch button to run TerraSync. The software automatically activates the integrated GPS receiver on COM3.
ArcPad with the GPSCorrect extension	<ol style="list-style-type: none"> 1. Tap the GPS button . The software activates the integrated GPS receiver on COM3. 2. If you want to configure GPS and real-time, or view status information, run GPSCorrect. In the Trimble toolbar, tap the GPSCorrect button .
ArcPad	<ol style="list-style-type: none"> 1. In ArcPad, tap the Tools button . 2. In the <i>Protocol</i> field select NMEA 0183. 3. Select the <i>GPS</i> tab and from the <i>Port</i> field select COM2. 4. Tap OK. 5. Tap the GPS button . The software activates the integrated GPS receiver.
<p>Tip — ArcPad can also connect using the TSIP protocol. However, if you use the NMEA protocol, you can run GPS Controller at the same time for advanced GPS and real-time configuration and status information.</p>	
NMEA application	Configure the software to connect to GPS on COM2, then use the Connect or Activate GPS command.
TSIP application	Configure the software to connect to GPS on COM3, then use the Connect or Activate GPS command.

Tip — Only software that is running on the GeoExplorer CE handheld can connect directly to a GPS COM port. To supply GPS or RTCM data to an **external** device, use GPS Connector to redirect the output from the appropriate GPS COM port to a serial port or to a Bluetooth port. Then configure the external device to connect to that serial or Bluetooth port.

Getting a clear view of the sky

To receive signals from GPS satellites, you must be in a location with a clear view of the sky. **GPS does not work indoors.** Hold the GeoExplorer CE handheld with the screen toward you. The internal antenna is located above the screen under the Trimble logo. You do not have to hold the GeoExplorer CE handheld perfectly level, but keep the antenna facing upward, not downward or sideways.

Anything that blocks light also blocks signals. Satellite signals can be blocked by people, buildings, heavy tree cover, large vehicles, or powerful transmitters. GPS signals can go through leaves, plastic, and glass, but these all weaken the signal.

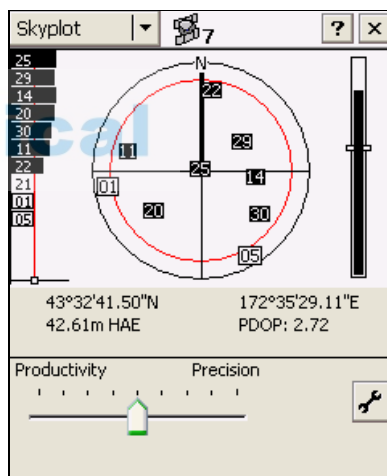
GPS quality control

By default, the GeoExplorer CE handheld is configured to receive satellite signals in most conditions. To check the current GPS status, or to configure the integrated GPS receiver, tap the F1 GPS touch button. The Skyplot section of the GPS Controller software appears.

The GPS Controller software is pre-installed on all GeoExplorer CE handhelds to give you access to advanced GPS settings and status details.

Use the graphical Skyplot section or the Satellite Info section to view detailed GPS information, and to adjust the quality and yield of the GPS positions you are receiving. Use the GPS slider to select pre-defined settings, or configure customized settings.

GPS Controller also includes a Plan section for mission planning (see [page 17](#)) and a Real-time section for configuring and monitoring real-time correction sources (see [page 18](#)). For more information on any GPS Controller section or function, refer to the GPS Controller Help.

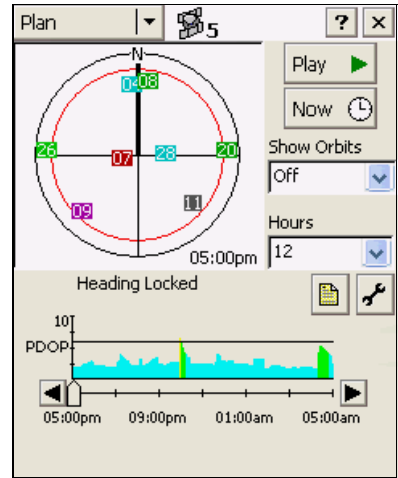


Note — GPS Controller duplicates the status and setup features of TerraSync and the GPScorrect extension for ArcPad. If one of these applications is installed, it runs instead of GPS Controller when you tap the F1 GPS touch button. For more information on TerraSync or GPScorrect, refer to the documentation for that application.

Planning a data collection session

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

In the Plan section, you can check the planning skyplot as you play a session, then use the timeline to zoom in on times when geometry is poor. As you adjust GPS settings, the Plan section is updated, so you can see the effect of different quality control settings.




Note — If TerraSync or the GPSCorrect extension for ArcPad is installed, use the planning feature in that application instead of GPS Controller.

Using WAAS/EGNOS corrections

The GeoExplorer CE handheld has an integrated receiver that uses WAAS (Wide Area Augmentation System) or EGNOS (European Geostationary Navigation Overlay System) correction messages to improve GPS accuracy. The receiver tracks WAAS satellites between 30° West and 180° West, and tracks EGNOS satellites between 30° West and 90° East.

To use WAAS/EGNOS corrections:

1. In GPS Controller, open the Real-time section and tap the Setup button .
2. In the *Choice 1* field, select Integrated WAAS. In the *Choice 2* field, specify whether to use uncorrected positions, or to stop using GPS positions, if corrections are not available.
3. Tap **OK**.

Note — If TerraSync or the GPSCorrect extension for ArcPad is installed, configure real-time settings in that application instead of GPS Controller.

Using real-time corrections from other sources

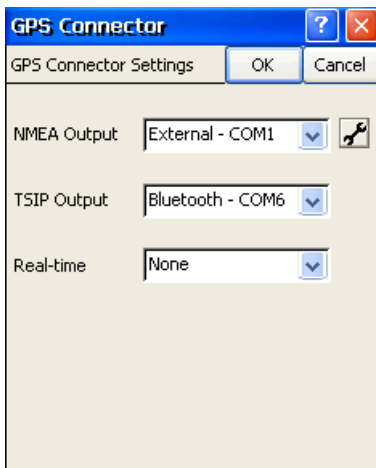
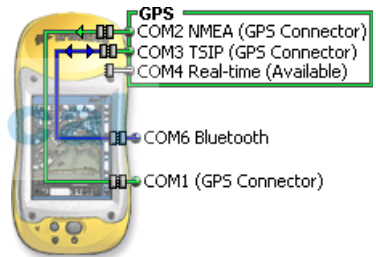
You can use corrections from an external correction source, such as a Beacon-on-a-Belt (BoB) receiver, a DGPS radio, or a mobile phone. The external correction source can be connected to a Bluetooth port, or to the optional serial clip (COM1). Use GPS Controller to set up and monitor the real-time input source that you want to use.

Note — If TerraSync or the GPScorrect extension for ArcPad is installed, configure real-time settings in that application instead of GPS Controller.

The integrated GPS receiver only communicates through its GPS COM ports (COM2, COM3, and COM4). Input from an external correction source connected to COM1 or a Bluetooth port must be redirected to the real-time GPS COM port (COM4). Trimble applications, such as GPS Controller, handle the redirection automatically. If you are using any other application to set up and monitor real-time sources, use GPS Connector to redirect the input to COM4. For more information, see [GPS Connector, page 18](#).

GPS Connector

The GPS Connector software is pre-installed on all GeoExplorer CE handhelds. GPS Connector lets you connect the GPS COM ports to COM1 or Bluetooth ports. It also lets you configure port settings such as the baud rate. GPS Connector has a graphical display that shows all active connections, and a text display that shows connection messages.



Use GPS Connector to output NMEA or TSIP messages from the integrated GPS receiver to another device, such as an external data collector. If you are using a Bluetooth port, enable and configure the Bluetooth Serial Port service *before* you connect to the port.

The connections that you create in GPS Connector are only active while the software is running. Connections created by GPS Connector (labeled GPS Connector in the status screen) are ended when you exit the software.

For more information, refer to the GPS Connector Help.

Power

When the GeoExplorer CE handheld's internal battery is fully charged, it provides enough power for a full working day using GPS. To extend the time between charges, use the optional vehicle power adaptor or portable power kit.

Using the support module recharges the internal battery. In the office, leave the GeoExplorer CE handheld in the support module to conserve the GeoExplorer CE handheld's internal battery.


Suspend mode

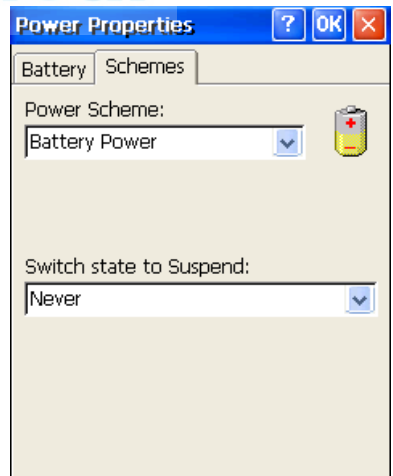
When you press the Power button to turn the GeoExplorer CE handheld off, it goes into Suspend mode. This is a low-power mode that maintains the main memory contents but does not allow you to operate any of the GeoExplorer CE handheld's functions; the GeoExplorer CE handheld appears to be turned off. The integrated GPS receiver is switched off and any application using GPS is disconnected.

When the GeoExplorer CE handheld is in Suspend mode, pressing the Power button again turns the GeoExplorer CE handheld on and it is instantly ready for operation. There may be a delay of up to 30 seconds to reactivate the integrated GPS receiver.

You can configure the GeoExplorer CE handheld to automatically enter Suspend mode when it has been idle for a specified time. By default, this option is disabled, so the GeoExplorer CE handheld only enters Suspend mode when you press the Power button.

To change the idle time:

1. Tap  / *Settings* / *Control Panel* / *Power*.
2. Select the *Schemes* tab.
3. From the *Power Scheme* list, select *Battery Power*.
4. From the *Switch state to Suspend* list, select the idle time.
5. From the *Power Scheme* list, select *AC Power*.
6. From the *Switch state to Suspend* list, select the idle time.
7. Tap **OK**.



Charging the battery

Use the support module to charge the GeoExplorer CE handheld's internal battery. The battery takes approximately five hours to recharge fully.

Tip — If you are not going to use the GeoExplorer CE handheld for some time (for example, over winter), either keep the GeoExplorer CE handheld connected to mains power to continually charge it, or fully charge the handheld and then switch it off. For more information, see [Storage, page 46](#).

To charge the internal battery using the support module:

1. If the GeoExplorer CE handheld is in Suspend mode, press the Power button to turn it on.
2. Use the AC power adaptor to connect the support module to mains power.
3. Place the GeoExplorer CE handheld in the support module.
4. Leave for up to five hours to recharge.



You can also use the optional serial clip to provide external power to the GeoExplorer CE handheld, and to recharge the internal battery. For more information, see [Using the optional serial clip, page 30](#).

Conserving power **Geodesical**

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

- Disconnect from the integrated GPS receiver whenever it is not in use. When you disconnect from GPS, the integrated GPS receiver switches off and stops drawing power. Whenever GPS data is not required, use the application's Disconnect or Deactivate GPS option. Exiting the application also disconnects from the integrated GPS receiver.

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

- Disable the integrated Bluetooth radio whenever you are not using it. For more information, see [Using Bluetooth, page 24](#).
- Do not use the backlight. To turn the backlight off, press the Display button. You can also configure the backlight to automatically turn off if the GeoExplorer CE handheld has been idle for a specified time. For more information, see [Backlight, page 35](#).
- Set the GeoExplorer CE handheld to go into Suspend mode when idle. For more information, see [Suspend mode, page 19](#).


Memory

The GeoExplorer CE handheld has two types of memory, which are similar to the RAM and hard disk in a desktop PC.

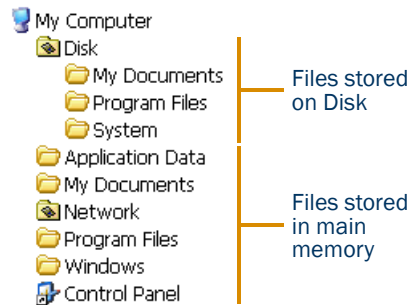
The GeoExplorer CE handheld's *main memory* (RAM) is used mainly for running programs, but it also stores essential files for the Windows CE operating system. As with other CE devices (which usually only have RAM), you can adjust how much of the main memory is allocated to running programs and storing data. For more information, see [Memory management, page 23](#).



The *Disk* is like a PC's hard disk. It is used for storing programs and data. The Disk is a non-volatile storage location, so files stored on the Disk are much safer than files stored in the main memory.

To check the memory capacity on the GeoExplorer CE handheld, select  / *Settings / Control Panel / System*, and then select the *General* tab. The *Main Memory* field and the *Disk* field show the total memory in each location, as well as the amount of memory in each location that is reserved by the operating system.

Some applications require program and data files to be stored in main memory (RAM). To allow such software to operate correctly, some folders on the Disk are duplicated in main memory. You can store files and install software in either location. However, unless using the Disk causes problems in the applications you want to run, Trimble recommends that you store programs and data on the Disk.




Backing up data

To protect your data, back up the main memory and the Disk regularly.

Backing up the main memory

The GeoExplorer CE handheld features a main memory backup to the Disk. If the GeoExplorer CE handheld loses power, or you perform a hard reset, the main memory is cleared. Any unsaved data and any changes in the main memory since the last backup are lost. When the handheld restarts, the main memory is automatically restored from the last backup.

To back up the main memory:

1. On the Windows CE taskbar, tap .
2. Select *Programs / Utilities / Back Up Main Memory*.

There is no software control for restoring the main memory. To restore the last backup of the main memory, hard reset the GeoExplorer CE handheld. For more information, see [Resetting, page 23](#).

Backing up the Disk

The Disk is non-volatile memory, so documents and program files that are stored on the Disk are not affected by power loss or resetting. However, you can still lose data if you accidentally delete or overwrite it.

Warning — When you delete files from the Disk, they are deleted permanently. The GeoExplorer CE handheld does not have a Recycle Bin.

To protect your data, Trimble recommends that you use ActiveSync to regularly back up the Disk to a desktop computer.

Note — The Backup/Restore command in ActiveSync's Tools menu backs up only the main memory (RAM). It **does not** back up the Disk.

To back up files from the GeoExplorer CE handheld's Disk:

1. Connect the GeoExplorer CE handheld to the desktop computer using ActiveSync.
2. In ActiveSync, click **Explore**. Windows Explorer opens, showing the contents of the GeoExplorer CE handheld.
3. Browse to the location of the files that you want to back up.
4. Select the files that you want to back up, and then copy them to the desktop computer.

To restore files to the Disk from a backup on a desktop computer:

1. Connect the handheld to the desktop computer using ActiveSync.
2. Copy files from the backup on the desktop computer to the GeoExplorer CE handheld, overwriting the existing files.

Resetting

If the GeoExplorer CE handheld stops responding to the stylus, or the screen goes blank, you may need to reset it.

To reset the GeoExplorer CE handheld:

1. If the screen is still responding to stylus taps, back up the main memory. For more information, see [Backing up data, page 22](#).
2. Do one of the following:
 - **Soft reset.** If an application has stopped responding, hold down the Power button until the screen goes blank (about 5 seconds). The GeoExplorer CE handheld restarts automatically.
 - **Hard reset.** If a soft reset does not work, hold down the Power button for 15 seconds to turn the GeoExplorer CE handheld off, then press the Power button to turn it on again.
The main memory is cleared and then restored from the backup on the Disk. You will lose any unsaved data (for example, any unsaved changes to documents), and any data in the main memory that has changed since the last main memory backup.

Note — Files stored on the Disk are *not* affected by resetting.


Memory management

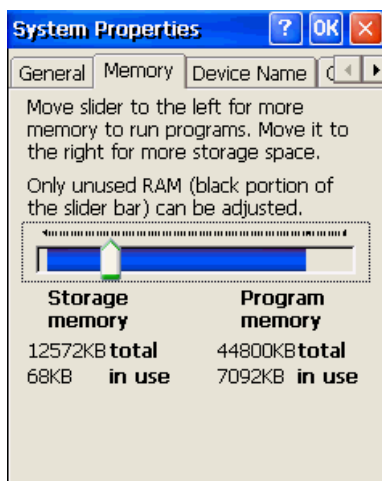
To protect your data, Trimble recommends that you install all programs to the Disk, and store all documents on the Disk. This also improves performance, because more memory can be allocated to running programs.

If programs are running slowly, or messages warning you that program memory is low appear, you can increase the amount of main memory that is allocated to running programs.

Note — You can only change the allocation of memory that is not in use.

To adjust memory allocation:

1. Select  / *Settings* / *Control Panel* / *System*.
2. Select the *Memory* tab.
3. Drag the slider to the right to increase storage memory, or to the left to increase program memory.
4. Tap **OK**.



Using Bluetooth

If your GeoExplorer CE handheld has an integrated Bluetooth™ radio, you can use it to connect wirelessly to other Bluetooth-enabled devices within range. Using a Bluetooth connection, you can communicate with devices such as mobile phones, desktop computers, handhelds, and digital cameras. You can also communicate with peripheral devices that use Bluetooth adaptors to replace a serial or USB connection.

To communicate using Bluetooth, a *client* device scans the Bluetooth radio frequency to “discover” other Bluetooth devices. Once it has discovered a *host*, the client selects the *service* that it will use. A service defines what type of information can be transferred to or from the host, and how.

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





This section provides information on:

- the Bluetooth Manager application (see [page 25](#))
- enabling the integrated Bluetooth radio (see [page 25](#))
- connecting to a Bluetooth service as a client (see [page 26](#))
- providing Bluetooth services as a host (see [page 28](#))


Bluetooth Manager

Use the Bluetooth Manager application to enable or disable the integrated Bluetooth radio, scan for and connect to other Bluetooth devices, and configure host services on the GeoExplorer CE handheld.

To start the Bluetooth Manager, do one of the following:

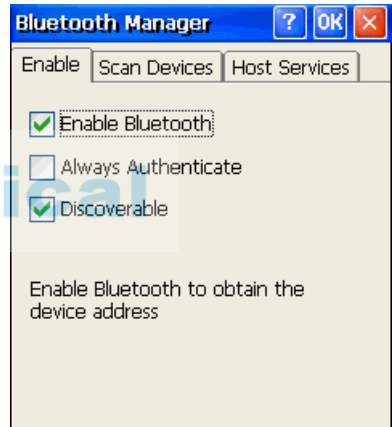
- Tap the F4 touch button.
- Select  / *Settings* / *Control Panel* / *Bluetooth Device Properties*.
- Tap the Bluetooth icon  in the system tray. This icon only appears when the integrated Bluetooth radio is enabled.

Enabling the Bluetooth radio

To use the GeoExplorer CE handheld as a Bluetooth host or client, you must enable the Bluetooth radio. When the Bluetooth radio is enabled, the Bluetooth icon  appears in the system tray on the Windows CE taskbar.

To enable the Bluetooth radio:

1. Start the Bluetooth Manager (see [page 25](#)).
2. In the *Enable* tab, select the *Enable Bluetooth* check box. The integrated Bluetooth radio is enabled, and the handheld's Bluetooth address appears.
3. To initiate the authentication process every time the GeoExplorer CE handheld discovers a device, select the *Always Authenticate* check box.



Normally the host device can be configured to initiate authentication. You do not need to select this check box unless you are having trouble connecting to a particular device, or the device cannot be configured to authenticate the client.

4. If you want to use the GeoExplorer CE handheld as a host, select the *Discoverable* check box. A discoverable device can be detected by other Bluetooth devices when they scan.









Tip — To conserve power, disable the Bluetooth radio when it is not in use.

Connecting to a Bluetooth service as a client

This section provides information on using the GeoExplorer CE handheld as a Bluetooth client. A Bluetooth client uses services offered by Bluetooth host devices that are within range.

For example, you can connect the GeoExplorer CE handheld to a mobile phone that has an internal modem, so that you can access the Internet. The mobile phone is the host (because it is providing the Dial-up Networking (DUN) service) and the GeoExplorer CE handheld is a client using that service.

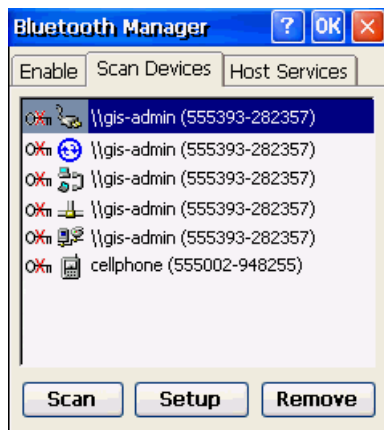
The GeoExplorer CE handheld can connect to the following services:

Service	Description
 ActiveSync	Enables an ActiveSync connection to a desktop computer. To use an ActiveSync service, enable the Bluetooth port on the desktop computer and then configure ActiveSync to use this port. On the handheld, connect to the ActiveSync service (see page 27). Select  / <i>Settings / Control Panel / PC Connection</i> . Tap Change Connection and then select the Bluetooth option from the list.
 DUN	Connects the handheld to a mobile phone or modem for dial-up network (DUN) or Internet access. After you connect to a DUN service (see page 27), select  / <i>Settings / Network and Dial-up Connections</i> , add a new dial-up connection, and from the list of modems select the Bluetooth mobile phone or modem that you connected to.
 File Transfer	Allows the handheld to view, copy, add, and delete folders and files on the host. After you have connected to a File Transfer service (see page 27), select  / <i>Programs / Accessories / Bluetooth File Transfer</i> . From the <i>File</i> menu, select <i>Connect</i> , and then select the host device. The host's transfer folder and its contents appear in a Windows Explorer-style window.
 Object Push	Allows the handheld and host to exchange data objects such as virtual calendars.
 Serial Port	Emulates a RS-232 serial (COM) port on the handheld.

To connect to a Bluetooth service:

1. Enable the Bluetooth radio (see [page 25](#)).
2. Select the *Scan Devices* tab.

3. Tap **Scan** to detect any other Bluetooth devices that are in range. A list of services offered by the discovered devices appears. For each service, a key icon, a service icon (see the table on [page 26](#)), the device name, and its Bluetooth address are displayed. The key icon shows whether the service is trusted (o-m) or not (o-x). If a check mark appears over the service icon, the service has been activated.

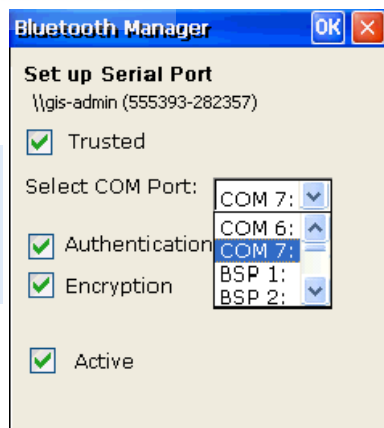


4. Highlight the service that you want to connect to, and then tap **Setup**.
5. Select the *Trusted* check box to make a pairing with the selected service. When two devices pair (or “bond”), they exchange PINs. When the two devices re-connect, they use the PINs for authentication.
6. A message box appears, asking you if you need to authenticate this device. Normally, the host device initiates authentication, so tap **No**.

7. If you selected a Serial Port service, the *Select COM Port* list appears. Select a virtual serial (COM) port or a Bluetooth serial port (BSP).

Tip – To use this service, an application must be configured to connect to this port. If the application cannot recognize BSP ports, select a serial (COM) port.

8. Normally, the host device handles authentication and encryption. If you require these options, but the host cannot be configured, select the *Authentication* and *Encryption* check boxes.
9. Select the *Active* check box to make this connection active. Even if you have made a service trusted, you cannot use it until you make it active.
10. Tap **OK**. The GeoExplorer CE handheld connects to the service. If the host requires authentication, you must enter a PIN to connect.







Providing Bluetooth services as a host

This section provides information on configuring and using the pre-defined Bluetooth host services on the GeoExplorer CE handheld, and on creating additional Serial Port services.

To provide a host service, enable the Bluetooth radio (see [page 25](#)) and make the device discoverable. If the service is a Serial Port service, you may need to add or configure the service (see [page 29](#)). The other host services do not require any configuration.

The GeoExplorer CE handheld provides the following host services:

Service	Description
 Basic Imaging	Allows the client to preview, browse, and copy JPEG image files, and to send JPEG files to the handheld.
 File Transfer	Allows a client to browse, copy, paste, and delete files and folders on the handheld.
 Object Push	Allows the handheld and the client to exchange data objects, such as virtual business cards, or virtual calendars.
 Serial Port	Emulates a RS-232 serial (COM) port on the handheld. For more information, see Serial Port services, page 28 .

Only **Serial Port services** can be configured. The other services use pre-assigned ports, use the `\Disk\My Documents\File Transfer` folder for file transfers, and have authentication and encryption enabled.

Serial Port services

A Serial Port service creates a virtual serial (COM) port on the GeoExplorer CE handheld. You can use this port to connect to another Bluetooth-enabled device, just as you would use a physical COM port and a cable to connect to a physical serial port. Like a physical port, the virtual serial port sends and receives data using the RS-232 serial communication protocol.

Tip – Trimble applications, such as GPS Controller and TerraSync, can connect to BSP ports as well as to virtual serial ports. However, some other applications do not recognize BSP ports. If a client device is unable to connect to a Serial Port service that uses a BSP port, configure the service to use a virtual serial port instead.

A Serial Port service is already set up on the GeoExplorer CE handheld. By default, this service uses the virtual serial port COM6. You can change the COM port and the service name. You can also add new Serial Port services that use other COM ports or BSP ports.

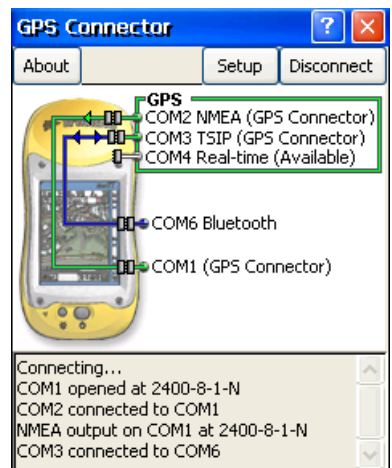
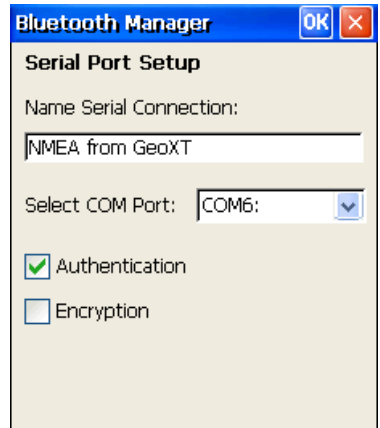
To add or configure a Serial Port service:

1. Start the Bluetooth Manager (see [page 25](#)) and select the *Host Services* tab.
2. To configure an existing Serial Port service, select it from the list and then tap **Setup**. To add a new service, tap **Add Serial**. The *Add Serial Port Service* dialog appears.
3. In the *Name Serial Connection* field, enter a unique name. If the client displays service names, this name is used to identify this service.
4. From the *Select COM Port* list, select an available virtual serial or BSP port on the handheld.
5. To authenticate the client, select the *Authentication* check box. When the client connects to this service, the *Enter PIN* dialog appears. Enter a PIN in this dialog, and then enter the same PIN on the client.

Note — Requiring authentication helps to ensure that your data remains secure. However, if you enable authentication, only client devices that support PIN entry will be able to connect to the service.

6. To encrypt data that is transferred using this service, select the *Encryption* check box.
7. Tap **OK**.
8. To use the service immediately, enable the Bluetooth radio (see [page 25](#)) and make the GeoExplorer CE handheld discoverable.

Applications on the GeoExplorer CE handheld can now use the virtual serial or BSP port that you selected for this service. For example, to provide NMEA messages to a Bluetooth client, use GPS Connector to output NMEA from the integrated GPS receiver to the selected serial or BSP port.



Using the optional serial clip

The optional serial clip attaches to the communication swipes on the back of the GeoExplorer CE handheld. When the serial clip is attached, it adds a serial port (COM1) to the GeoExplorer CE handheld.

You can use the serial clip to:

- supply external power from a camcorder battery or a vehicle's battery (see [page 32](#))
- recharge the internal battery from an external power source (see [page 33](#))
- connect to a desktop computer to transfer data, back up the Disk, or install software (see [page 31](#))
- receive differential corrections from an external real-time correction source such as a Beacon-on-a-Belt receiver or DGPS radio
- receive GPS data from a Trimble GPS Pathfinder® receiver
- connect to an external modem or mobile phone for wireless Internet access
- connect to other external devices (for example, a digital camera or laser rangefinder)

Attaching the serial clip

The serial clip must be screwed onto the GeoExplorer CE handheld. When the serial clip is attached, you cannot place the GeoExplorer CE handheld in the support module.

To attach the serial clip to the GeoExplorer CE handheld:

1. Line up the communication swipes on the GeoExplorer CE handheld with the pins on the serial clip.
2. Lower the GeoExplorer CE handheld onto the serial clip.
3. Use the screws supplied with the serial clip to secure it to the GeoExplorer CE handheld.



Connecting to external devices

You can use the serial clip instead of the support module to connect to a desktop computer. It also provides a serial port to connect to other devices.

To connect to an external device:

1. Attach the serial clip to the GeoExplorer CE handheld.
2. Plug the appropriate cable into the serial (COM) port on the serial clip.
3. Connect the other end of the cable to the external device.

To connect to a serial (COM) port on another device (for example, a serial port on a desktop computer) use the optional null modem cable.

For more information about transferring data between a GeoExplorer CE handheld and a desktop computer, see [Connecting to a desktop computer, page 11](#).



To connect to a device that does not have a serial port, such as an external modem or mobile phone, 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.

For more information about using an external modem or mobile phone to access the Internet, see [Internet and network connection, page 38](#).

Using external power

The serial clip lets you connect the GeoExplorer CE handheld to an external power source. Depending on the optional accessories that you have purchased, you can use mains power, a camcorder battery, or a vehicle's battery to supply power to the GeoExplorer CE handheld.

To connect to an external power source:

1. Attach the serial clip to the GeoExplorer CE handheld.
2. Plug the appropriate cable into the power port on the serial clip.
3. Connect the other end of the cable to the external power source.



To use power from ...	connect this cable ...	to ...
AC power source (mains power)	AC power adaptor supplied with the GeoExplorer CE handheld	AC power outlet
camcorder battery	camcorder power adaptor cable from optional portable power kit	camcorder battery from optional portable power kit
vehicle battery	optional vehicle power adaptor	vehicle's cigarette lighter socket


Recharging from an external power source

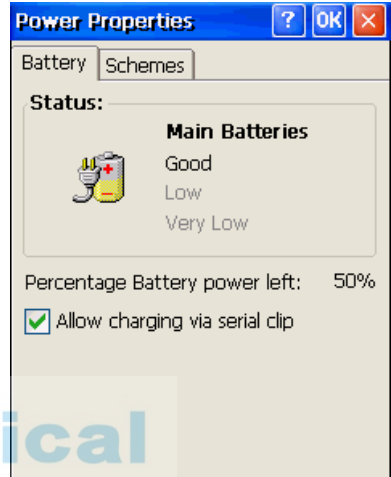
By default, the GeoExplorer CE handheld recharges its internal battery from any external power source that is connected. This draws more power from the external source than using it only to power the GeoExplorer CE handheld.

Recharging the internal battery from a power source that can itself be drained (such as a camcorder battery) can be inefficient if you are using external power to extend your working time.

To get the maximum life out of an expendable external power source, you can disable recharging from the serial clip. When recharging is disabled, any power source connected to the serial clip is used only to provide power to the GeoExplorer CE handheld.

To disable charging via the serial clip:

1. Select  / *Settings* / *Control Panel* / *Power*.
2. Select the *Battery* tab.
3. Clear the *Allow charging via serial clip* check box.
4. Tap **OK**.



Note — When the GeoExplorer CE handheld is in the support module, the internal battery is always recharged. You cannot disable support module charging.

Preferences

Use the Control Panel to customize the GeoExplorer CE handheld. This section outlines some of the controls that are available.



Power


Use the Battery tab to check the battery level and specify whether the battery can be charged from the serial clip. Use the Schemes tab to set the idle time before Suspend mode is activated. For more information, see [Using the optional serial clip, page 30](#), and [Conserving power, page 20](#).



Display

Use the Display control to customize the appearance and behavior of Windows CE.

To change display settings:

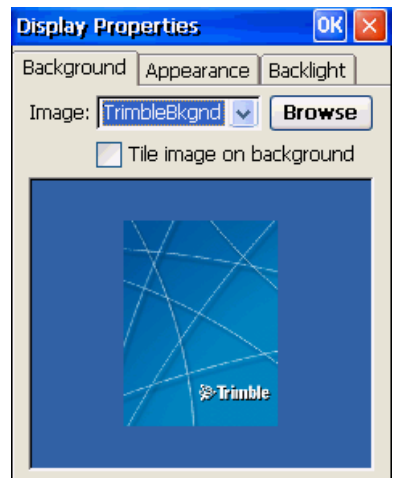
1. Select  / *Settings* / *Control Panel* / *Display*. The *Display Properties* dialog appears.
2. Change the background image, window appearance, and backlight settings. For more information, see below.
3. Tap **OK** to confirm the changes and close the dialog.

Background

Use the *Background* tab to change the bitmap that is displayed on the desktop.

To change the background:

1. In the *Display Properties* dialog, select the *Background* tab.
2. Select a file from the *Image* list, or tap **Browse** to search for a file on the GeoExplorer CE handheld.
3. Select the *Tile image on background* check box to repeat the image until it fills the screen. Clear this check box to center the image on the screen.
4. Tap **OK**.

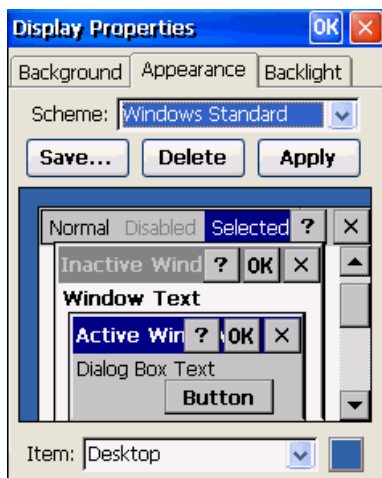


Appearance

Use the *Appearance* tab to change the colors and fonts in the windows on the screen.

To change the Windows CE appearance:

1. In the *Display Properties* dialog, select the *Appearance* tab.
2. From the *Scheme* list, select a predefined color scheme. Alternatively, to create a custom scheme, select a feature from the *Item* list and use the button on the right to change its color.
3. Tap **Apply** to preview the scheme.
4. If you have created a custom scheme, tap **Save**. Enter a name for the scheme and tap **OK**.
5. Tap **OK**.

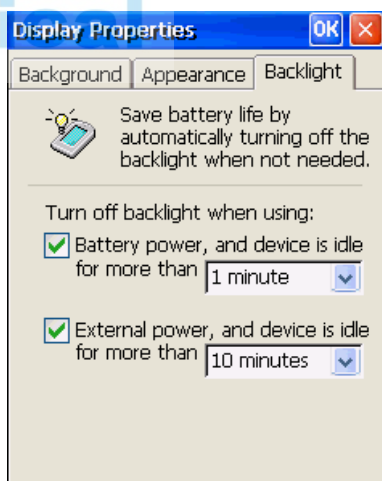


Backlight

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

To change backlight settings:

1. In the *Display Properties* dialog, select the *Backlight* tab.
2. To automatically turn the backlight off when the GeoExplorer CE handheld is idle and is using battery power, select the *Battery Power* check box and select a time from the list.
3. To automatically turn the backlight off when the GeoExplorer CE handheld is idle and is using external power, select the *External Power* check box and select a time from the list.
4. Tap **OK** to confirm the changes and close the dialog.




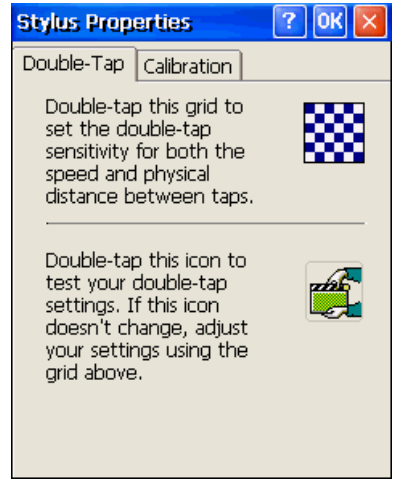


Stylus

Tapping the touch screen with the stylus is the main method of interacting with the GeoExplorer CE handheld. Use the Stylus control to customize the way the screen responds to stylus taps.

To adjust the double-tap rate:

1. Select  / *Settings* / *Control Panel* / *Stylus*.
2. Make sure that the *Double-Tap* tab is selected.
3. Follow the instructions on the screen.
4. When you have set the double-tap rate, tap **OK**.




Use the *Calibration* tab to start the recalibration sequence. For more information, see [Adjust the screen display and calibration, page 7](#).



Touch buttons

The touch screen has a panel of six buttons on the right. The first four buttons are like shortcuts. Use this control to change the program or control that each of these four buttons is assigned to.

To configure a touch button:

1. Select  / *Settings* / *Control Panel* / *Touch Buttons*.
2. From the appropriate list (for example, the *F1* list for the *F1* touch button), select the application or control that you want to assign to that button.
3. Tap **OK**.




Note — The remaining two buttons adjust the backlight level. You cannot change the function of these buttons.



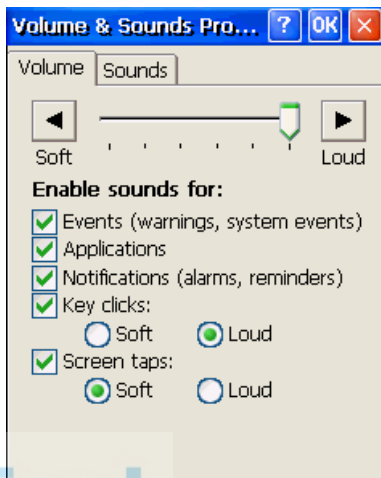
Volume and sounds

Use the Volume and Sounds control to set preferences for the speaker volume and system sounds. To open the Volume and Sounds control, do one of the following:

- Tap the F3 touch button on the GeoExplorer CE handheld's screen.
- Select  / *Settings* / *Control Panel* / *Volume and Sounds*.

To adjust the volume:

1. Select the *Volume* tab.
2. Drag the slider bar to the left to decrease the volume, or to the right to increase the volume. Alternatively, press the left or right arrow buttons.
3. Tap **OK**.



To turn sounds on or off:

1. Select the *Volume* tab.
2. In the *Enable sounds for* group, select or clear the check boxes to enable or disable categories of sounds.
3. If you select the *Key clicks* or *Screen taps* 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. Select the *Sounds* tab.
2. From the *Event* list, select an event.
3. From the *Sound* list, select the sound to play for the selected event.
4. To save the sound scheme, tap **Save As** and enter a name for the scheme.
5. Tap **OK**.

Internet and network connection

You can connect an external modem to the GeoExplorer CE handheld to make a dial-up connection to an Internet Service Provider (ISP) or network.

When you connect to an ISP, you can access the Internet, including e-mail and Web pages. When you connect to a network, you can access the Internet, files on the network, and the network's intranet if there is one.

To connect to the Internet or a network you need to:

- get all the connection information you need (see [page 38](#))
- set up a remote connection (see [page 39](#))
- set up a mail service if you want to use e-mail (see [page 40](#))
- connect an external modem or mobile phone to the GeoExplorer CE handheld (see [page 41](#))
- connect to your ISP or network (see [page 41](#))

Before you begin

Before you can create a connection, you need to set up a Point-to-Point Protocol (PPP) account with an ISP, or ask your network administrator to set up a Remote Access Server (RAS) account for you. Make sure you have the following information from the ISP or network administrator:

- your username
- your password
- the dial-up phone number for the ISP or network

If you want to connect to a mail server, you will also need:

- POP3 or IMAP4 server name
- SMTP host name
- domain name

If you cannot connect with the default TCP/IP settings, you may also need:


- the names or IP addresses of the primary and secondary Domain Name Servers (DNS) (for example, [dns.seaview.gov](#), or [255.1.255.1](#))
- details of TCP/IP settings

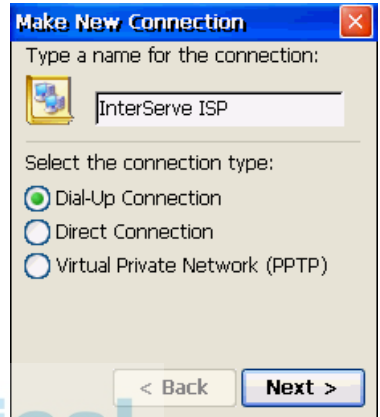
Setting up a remote connection

A remote connection stores all the configuration details for connecting to a particular computer or network, so that you do not have to enter these details each time you connect. The icons in the Remote Networking folder represent the remote connections that you have set up.

Set up a new connection for each computer or network that you want to access remotely.

To set up a dial-up connection to an ISP or network:


1. Tap  / *Settings* / *Network and Dial-up Connections*.
2. Double-tap the Make New Connection icon.
3. Enter a name for the connection.
4. Select the *Dial-Up Connection* option, and then tap **Next**.
5. From the *Select a modem* list, select the external modem or mobile phone.
6. Tap **TCP/IP Settings**.
7. In the *General* tab, make sure that the *Use server-assigned IP address* check box is selected.
8. In the *Name Servers* tab, make sure that the *Use server-assigned addresses* check box is selected, and then tap **OK**.




Tip — If you cannot connect with the default configuration or TCP/IP settings, contact your ISP or network administrator.

9. Tap **Next** and enter the dial-up phone number.
10. Tap **Finish**.

To set up a direct connection to a network:

1. Tap  / *Settings* / *Network and Dial-up Connections*, double-tap the Make New Connection icon, and then enter a name for the connection.
2. Select the *Direct Connection* option, and then tap **Next**.
3. From the *Device* list, select the connection method or port.
4. Follow steps 6 through 8 above to configure TCP/IP settings.
5. Tap **Finish**.

To set up a Virtual Private Network (VPN):


1. Tap  / *Settings / Network and Dial-up Connections*, double-tap the Make New Connection icon, and then enter a name for the connection.
2. Select the *Virtual Private Network (PPTP)* option, and then tap **Next**.
3. In the *Host name or IP address* field, enter the address of the VPN host server.
4. Follow steps 6 through 8 above to configure TCP/IP settings.
5. Tap **Finish**.

Setting up a mail service

To connect to a mail server for sending and receiving e-mail, you need to create a mail service in the Inbox software. If you need to connect to different mailboxes, set up and name a different service for each connection.

Note — Only the POP3 and IMAP4 protocols for incoming mail, and SMTP for outgoing mail, are supported.

To set up a mail service:

1. Tap  / *Programs / Inbox*.
2. Tap *Services / Options*, select the *Services* tab, and then tap **Add**.
3. From the *Service type* list, select either POP3 Mail or IMAP4 Mail.
4. In the *Service name* field, enter a unique name for the service.

Note — You cannot change the service name later.

5. Tap **OK**.
6. From the *Connection* list, select the remote connection that you have set up (see [page 39](#)).
7. Follow the steps in the Setup wizard, using the connection details supplied by your ISP or network administrator.

Tip — To receive TerraSync data files by e-mail, select the *Get full copy of messages* option and the *Get file attachments* check box in the last step.



IMAP4 Mail Service Def...	
Required	
Connection:	InterServe ISP
Server:	pop3.seaview.gov
User ID:	seaviewGIS
Password:	*****
	<input type="checkbox"/> Save Password
Optional	
Domain (NT)	
SMTP	
Return Addr:	
<Back Next> Finish	


Connecting to an external modem or mobile phone

To connect an external modem or mobile phone to the GeoExplorer CE handheld, use a Bluetooth connection (see [page 24](#)), or the optional serial clip (see [page 30](#)).

Connecting to an ISP or network

Once you have set up a remote connection and physically connected to an external modem or mobile phone, you can connect to your ISP or network.

To connect to an ISP or network:

1. Tap  / *Settings / Network and Dial-up Connections*.
2. Double-tap the icon for the remote connection that you have created.
3. If required, enter your user name, password, and domain, and then tap **Connect**.
4. Use Internet Explorer to browse the Web or an intranet. Use **Inbox** to send and receive e-mail. For more information, refer to the Help.
5. When you have finished using the connection, tap **Disconnect**.



Tip — To connect automatically whenever you use Internet Explorer, select *View / Internet Options*, select the *Connection* tab, and from the *Autodial name* list select the remote connection that you have set up.

Troubleshooting

Problem	Cause and Solution
Touch screen does not respond to stylus taps	Touch screen is incorrectly calibrated Hold down both the Display button and the Power button for two seconds to start the recalibration sequence.
	GeoExplorer CE handheld has locked up Reset the handheld (see page 23).
Screen is blank or hard to see	GeoExplorer CE handheld is turned off or is in Suspend mode Press the Power button to turn on the handheld.
	Backlight level needs to be adjusted Tap the Backlight Up touch button to increase the backlight level, or the Backlight Down touch button to decrease the backlight level. Alternatively, hold down the Display button until the backlight level is suitable.
	Backlight is off Press the Display button to turn the backlight on.
	GeoExplorer CE handheld has locked up Reset the handheld (see page 23).
Battery icon in system tray shown with ?	GeoExplorer CE handheld has been left in a hot location or near a heat source Move the handheld to a cooler location, place in a powered support module, and then leave for up to five hours to charge.
	GeoExplorer CE handheld is not reporting battery status correctly Perform a 60-second hard reset. To do this, hold down the Power button for 60 seconds. The main memory is cleared and then restored from the backup on the Disk. You will lose any unsaved data, and any data in the main memory that has changed since the last main memory backup. If the battery icon still shows ? after resetting, place the handheld in a powered support module and leave for up to five hours to charge.
GeoExplorer CE handheld does not turn on	Battery is flat Recharge the internal battery (see page 20)

Problem	Cause and Solution
No GPS position	<p>The integrated GPS receiver is not activated</p> <p>Use the application's Connect or Activate GPS command to open the GPS COM port and activate the integrated GPS receiver. For more information, see Using GPS, page 14.</p>
	<p>GPS COM port is already in use</p> <p>Only one application at a time can have the port open. Exit the program that is using the GPS COM port, and retry in your program.</p>
	<p>Using wrong GPS COM port</p> <p>Connect to COM2 if the application uses NMEA messages, and COM3 for TSIP messages. For information on which protocol to use, check the documentation for the application.</p>
	<p>Not enough satellites are visible</p> <p>Move to a location where you have a clear view of the sky and ensure the antenna is not obstructed.</p> <p>Alternatively, adjust the GPS settings to increase productivity. For more information, refer to the GPS Controller help, or the TerraSync or GPSCorrect help if it is installed.</p>
Not receiving WAAS/EGNOS real-time corrections	<p>WAAS/EGNOS satellite is obstructed from view</p> <p>Check the location of the WAAS/EGNOS satellite in the GPS Controller, TerraSync, or GPSCorrect Skyplot section, and move to a different location if possible.</p>
	<p>You are outside the WAAS and EGNOS coverage areas</p> <p>WAAS corrections are available in the Northern hemisphere between 30° West and 180° West. EGNOS corrections are available in the Northern hemisphere between 30° West and 90° East. If you are outside these areas, you cannot use WAAS or EGNOS corrections.</p>
Not receiving real-time corrections from external source	<p>No physical connection</p> <p>Connect the external real-time source to COM1 or a Bluetooth port on the GeoExplorer CE handheld.</p>
	<p>Not connected to GPS COM port correctly</p> <p>In the Real-time section in GPS Controller, TerraSync, or GPSCorrect, select the serial (COM) or Bluetooth (BSP) port that the real-time source is connected to.</p> <p>If you are using a non-Trimble application, use GPS Connector to create a connection between the COM or BSP port and the integrated GPS receiver's real-time GPS COM port (COM4).</p>
	<p>Incorrect baud rate</p> <p>Change the port settings to match those used by the external source.</p>

Problem	Cause and Solution
Not receiving real-time corrections from external source (Continued)	<p>No GPS positions You cannot use real-time corrections until the GPS receiver is computing positions. In the application, make sure that the integrated GPS receiver is activated, enough satellites are available, and the satellite geometry (PDOP) is good enough to compute positions.</p>
	<p>No Bluetooth connection to external correction source The Bluetooth external correction source is more than ten meters from the GeoExplorer CE handheld, or is obstructed. Move the devices closer together, in a direct line of sight, to re-connect.</p>
Cannot discover a nearby Bluetooth device	<p>The device is out of range Move the devices closer to each other and then scan again.</p>
	<p>Bluetooth is not enabled on one or both devices Make sure that the Bluetooth radio is enabled on both the GeoExplorer CE handheld (see page 25) and the other Bluetooth device.</p>
	<p>The device has not been made discoverable Make sure that the Bluetooth device has been made discoverable.</p>
	<p>Bluetooth radio has lost the connection Disable the Bluetooth radio on the GeoExplorer CE handheld, and then re-enable it (see page 25).</p>
Bluetooth connection fails while in use	<p>The Bluetooth device has moved out of range Move the devices closer to each other. The devices should reconnect automatically. If they do not, select the Bluetooth device in the <i>Scan Devices</i> tab, tap Remove, tap Yes to confirm that you want to remove the device, and then tap Scan to discover the device again.</p>
	<p>Bluetooth radio has lost the connection Disable the Bluetooth radio on the GeoExplorer CE handheld, and then re-enable it (see page 25).</p>
The virtual serial or Bluetooth port that you assigned to a Serial Port service is not available in your application	<p>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.</p>
	<p>The application cannot recognize BSP ports Use a virtual serial (COM) port instead of a BSP port for this service.</p>

Problem	Cause and Solution
Bluetooth service is listed in Scan tab as Unnamed, and  icon appears instead of service icon	<p>Bluetooth device has been detected, but not enough information was received to fully discover it</p> <p>Scan for devices again. If the service still appears as Unnamed, move the devices closer to each other, and then scan again. If the service still appears as Unnamed, disable the Bluetooth radio on the GeoExplorer CE handheld, and then re-enable it (see page 25).</p>
Cannot connect to desktop computer using ActiveSync	<p>No physical connection</p> <p>Use the support module, Bluetooth, or the serial clip to connect the GeoExplorer CE handheld to the desktop computer. For more information, see Connecting to a desktop computer, page 11.</p>
	<p>Connection not initiated automatically</p> <p>Remove the GeoExplorer CE handheld from the support module, and then place it in the support module again.</p> <p>If the handheld still does not connect automatically, on the GeoExplorer CE handheld tap  / <i>Programs / Communications / Connect to Desktop</i>. Alternatively, in ActiveSync, select <i>File / Get Connected</i>.</p>
	<p>Connection not enabled in ActiveSync</p> <p>In ActiveSync, select <i>File / Connection Settings</i>. If you are using the support module, make sure that the <i>Allow USB connection</i> check box is selected. If you are using a Bluetooth connection or the serial clip, make sure that the <i>Allow serial cable connection</i> check box is selected and that the correct port is selected in the list.</p>
	<p>Connection not enabled in Control Panel</p> <p>On the GeoExplorer CE handheld, tap  / <i>Control Panel / Communications / PC Connection</i>. Check that the Allow connection with desktop computer check box is selected, and that the correct option (USB for the support module, or serial for Bluetooth or the serial clip) is selected.</p>
	<p>ActiveSync does not recognize the GeoExplorer CE handheld</p> <p>Restart the desktop computer. Remove the GeoExplorer CE handheld from the support module, reset it (see page 23), then replace it in the support module.</p>

Use and care

Maintenance and care

To maintain and care for the GeoExplorer CE handheld:

- keep the outer surface free of dirt and dust
- keep the communication swipes and the external antenna port free of dirt and dust
- protect the touch screen from pressure and sharp or abrasive objects

If the GeoExplorer CE handheld requires servicing, contact your support provider.

Cleaning

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

Storage

If you are not going to use the GeoExplorer CE handheld for three months or more, Trimble recommends that you turn the handheld off instead of leaving it in Suspend mode.

To prepare the GeoExplorer CE handheld for storage:

1. Transfer any data that you need to a desktop computer.
2. Back up the main memory (see [page 22](#)).
3. Hold down the Power button until the GeoExplorer CE handheld turns off (about 15 seconds).

To use the GeoExplorer CE handheld after storage:

1. Press the Power button to turn the GeoExplorer CE handheld on.
2. Place the GeoExplorer CE handheld in a powered support module.
3. Recharge the internal battery (see [page 20](#)).

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