
Appendix D

Field Equipment Specification Sheets

The total GPS platform for all your GIS field requirements

The GeoXT™ handheld, from the GeoExplorer® CE series, is an essential tool for maintaining your GIS. It's all you need to collect location data, keep existing GIS information up to date, and even mobilize your GIS.

The unique GeoExplorer CE series combines a Trimble GPS receiver with a handheld computer running the Microsoft® Windows® CE .NET operating system. Plus there's an internal battery that easily lasts for a whole day of GPS operation. The result is tightly integrated, tough, and incredibly powerful.

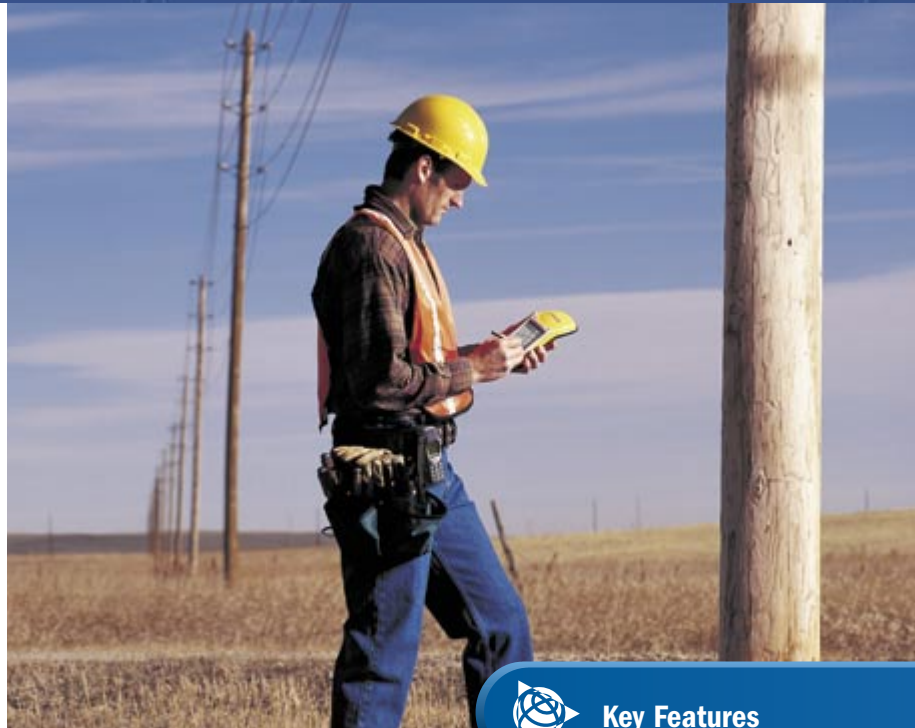
High-accuracy integrated GPS

The GeoXT is optimized to provide the reliable, high-accuracy location data you need.

Advanced features like EVEREST™ multipath rejection technology let you work under canopy, in urban canyons, or anywhere where accuracy is crucial.

Need submeter accuracy in real time? Use corrections from a satellite-based augmentation system (SBAS) like WAAS¹ or EGNOS². Want to get that extra edge in precision? Collect data with Trimble's TerraSync™ or GPSCorrect™ software, and then postprocess back in the office.

Because the GPS receiver and antenna are built into the handheld computer, it's never been easier to use GPS in your application. The system is more than just cable-free: it's a totally integrated solution.



Key Features

- High-performance submeter GPS with integrated WAAS/EGNOS
- Microsoft Windows CE .NET operating system, allowing choice of software to suit your needs
- Rugged handheld with all-day battery
- Advanced color TFT display with backlight
- Integrated Bluetooth for wireless connectivity

Industry Standards

With the industry-standard Windows CE .NET operating system, you have maximum flexibility. Choose popular off-the-shelf GIS field software, or software that's purpose built for your field application.

Go wireless with integrated Bluetooth®* for connection to other Bluetooth-enabled devices, including cell phones and PCs. You also have the option to use the USB support module to connect to a desktop computer, or use the optional serial clip for cabled connections in the field.

All the memory you need

There's plenty of storage space in the GeoXT for all your GIS data. The fast processor and large memory mean even big graphics files load quickly—and they're crisp and crystal-clear on the advanced TFT outdoor color screen.

From data collection to data maintenance, to mobile GIS and beyond...the GeoXT is the handheld of choice.

* Bluetooth type approvals are country specific. GeoExplorer CE series handhelds are approved for use with Bluetooth in the USA. For a complete list of other countries with Bluetooth approval please refer to www.trimble.com/geoxt_ts.asp.

The total GPS platform for all your GIS field requirements

Standard features

System

- Embedded Windows CE .NET version 4.2 operating system (H/PC 2000 compatible)
- 206 MHz Intel StrongARM processor
- 512 MB non-volatile Flash data storage
- Outdoor color display
- Ergonomic cable-free handheld
- Rugged and water-resistant design
- All-day internally rechargeable battery
- Bluetooth wireless

GPS

- Submeter accuracy
- Integrated WAAS¹/EGNOS²
- RTCM real-time correction support
- NMEA and TSIP protocol support
- EVEREST multipath rejection technology

Software

- GPS Controller for control of integrated GPS and in-field mission planning
- GPS Connector for connecting integrated GPS to external ports
- Windows Explorer, Internet Explorer, Inbox, WordPad, Transcriber (Handwriting Recognition), Microsoft File Viewers (Excel, Image, PDF, PowerPoint® and Word), Voice Recorder, Calculator, ActiveSync®, Connect to Desktop.

Accessories

- Support module with power supply and USB data cable
- Getting Started Guide
- Hand strap
- Pouch
- Stylus

Optional Features

Software

- TerraSync
- GPScorrect for ESRI® ArcPad™
- GPS Pathfinder® Tools Software Development Kit (SDK)
- GPS Pathfinder Office
- Subscription to GPS Pathfinder Express service

Accessories

- Serial clip for field data and power input
- Vehicle power adaptor³
- Portable power kit³
- External antenna
- Pole-mountable ground plane
- Baseball cap with antenna sleeve
- BoB™ (Beacon-on-a-Belt) differential correction receiver³
- Hard carry case
- Null modem cable³
- Backpack kit

Technical specifications

Physical

Size	21.5 cm × 9.9 cm × 7.7 cm (8.5 in × 3.9 in × 3.0 in)
Weight	0.72 kg (1.59 lb) with battery
Processor	206 MHz Intel StrongARM SA-1110
Memory	64 MB RAM and 512 MB internal Flash disk
Power	
Low (no GPS)	0.6 Watts
Normal (with GPS)	1.4 Watts
High (with GPS, backlight, and Bluetooth)	2.5 Watts
Battery	Internal lithium-ion, rapidly rechargeable in unit, 21 Watt-hours

Environmental

Temperature	
Operating	-10 °C to +50 °C (14 °F to 122 °F)
Storage	-20 °C to +70 °C (-4 °F to 158 °F)
Humidity	99% non-condensing
Casing	Wind-driven rain and dust-resistant per IP 54 standard
	Slip-resistant grip, shock- and vibration-resistant

Input/output

Communications	Bluetooth for wireless connectivity
	USB via support module, serial via optional DE9 serial clip adaptor

Bluetooth

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Profiles

Both client and server support	Serial Port , File Transfer (using OBEX)
Client support only	Dial-Up Networking
Server support only	Basic Imaging, Object Push
Display	Advanced outdoor TFT, 240 × 320 pixel, 65,536 colors, with backlight
Audio	Microphone and half duplex speaker, record and playback utilities
Interface	Anti-glare coated touch screen, Soft Input Panel (SIP) virtual keyboard
	2 hardware control keys plus 4 programmable permanent touch buttons
	Handwriting recognition software, Audio system events, warnings, and notifications

GPS

Channels	12
Integrated real-time	WAAS ¹ or EGNOS ²
Update rate	1 Hz
Time to first fix	30 sec (typical)
Protocols	NMEA (GGA, VTG, GLL, GSA, ZDA, GSV, RMC), TSIP (Trimble Standard Interface Protocol)

Accuracy (RMS)⁴ after differential correction

GPS Pathfinder postprocessing ⁵	Submeter
GPS Pathfinder carrier postprocessing ⁶	
With 10 minutes tracking satellites	30 cm
Real-time	Submeter

1 WAAS (Wide Area Augmentation System). Available in North America only.

For more information, see <http://gps.faa.gov/programs/waas/waas.html>.

2 EGNOS (European Geostationary Navigation Overlay System). Available in Europe only.

For more information, see <http://www.esa.int/export/esasa/navigation.html>.

3 Serial clip also required.

4 Horizontal accuracy. Requires data to be collected with minimum of 4 satellites, maximum PDOP of 6, minimum SNR of 4, minimum elevation of 15 degrees, and reasonable multipath conditions. Ionospheric conditions, multipath signals or obstruction of the sky by buildings or heavy tree canopy may degrade precision by interfering with signal reception. Accuracy varies with proximity to base station by + 1 ppm for postprocessing and real-time, and by + 5 ppm for carrier postprocessing.

5 Postprocessing with GPS Pathfinder Office software or GPS Pathfinder Express service.

6 Requires collection of carrier data. (Only available with the GPS Pathfinder Office software).

Specifications subject to change without notice.

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