

## KEY FEATURES

Real-time H-Star technology for decimeter to subfoot accuracy in the field

High-resolution VGA display for crisp and clear map viewing

Bluetooth and wireless LAN connectivity options

1 GB onboard storage plus SD slot for removable cards

Windows Mobile version 6 operating system

Rugged handheld with all-day battery



## YOUR ULTIMATE SOLUTION FOR HIGH-ACCURACY ASSET MANAGEMENT

For high-accuracy GIS data collection and asset relocation, the Trimble® GeoXH™ handheld is the ultimate integrated solution. Engineered with H-Star™ technology, the GeoXH handheld delivers decimeter (10 cm / 4 inch) to subfoot (<30 cm) accuracy when you need it, making it the ideal device for electric and gas utilities, water and wastewater services, land reform projects, and other applications where on-the-spot positioning is crucial.

The unique GeoExplorer® 2008 series combines a Trimble GPS receiver with a rugged handheld computer, built for all-day use and packed with connectivity options. Technology this clever has never been more convenient.

### Subfoot accuracy when you need it

When your GIS database requires the highest levels of accuracy, the GeoXH handheld is the answer. Using revolutionary Trimble H-Star technology, the GeoXH handheld delivers real-time subfoot accuracy with the internal antenna, and decimeter accuracy with an optional Tornado™ external antenna. Back-office data processing is eliminated, streamlining asset inventories and as-built mapping jobs.

Need to relocate assets in the field? The GeoXH handheld has you covered. Buried and hidden assets can be tracked down with ease, as the real-time high accuracy gets you straight to the point. Cables and pipes can be excavated without wasted effort or risk of damage to nearby assets. When you postprocess with Trimble office software you can be confident of achieving decimeter level accuracy with greater consistency at longer baselines, in tougher environments, and with shorter occupations.

### Packed full of power

With a powerful 520 MHz processor, 128 MB RAM, and 1 GB of onboard storage, the GeoXH handheld is a high performance device designed to work as hard as you do. The handheld gives you all the power you need to work with maps and large data sets in the field, and its high resolution VGA display allows for crisp and clear viewing of your data.

The GeoXH handheld is powered by the industry-standard Windows Mobile® version 6 operating system so you can choose a

software solution designed for your field requirements, whether off-the-shelf or purpose-built.

The Windows Mobile 6 operating system includes familiar Microsoft® software, including Word Mobile, Excel Mobile, and Outlook® Mobile, giving you all the tools you need for a seamless exchange of data between the field and the office.

### Get the data you need, when you need it

With the GeoXH handheld you have the flexibility to work exactly the way you want to. Use the built-in wireless LAN connection to access your organization's secure network and get the most up-to-date information. You can also wirelessly connect to other devices such as Bluetooth®-enabled laser rangefinders and barcode scanners for convenient cable-free solutions that keep you productive in the field. Cellular connectivity can be added to the GeoXH handheld via the TDL 3G cellular modem. Connecting via wireless LAN or Bluetooth, the TDL 3G provides continuous network/internet access to real-time map data, web-based services, VRS™ corrections, and live update of field information.

### Built for the field

The GeoXH handheld has an integrated battery, good for a full day's work; simply charge the battery overnight and you're ready to go again. The GeoXH handheld will last the distance, and its rugged design can take a lot of punishment. Rain, hail or shine, it's built to keep working, whatever the weather throws at you.

### When accuracy is critical

Rugged design and powerful functionality are the hallmarks of the GeoExplorer series. And now with H-Star technology providing decimeter to subfoot accuracy in real time, the 2008 series GeoXH handheld is your ultimate solution for high-accuracy asset management.

When accuracy is critical, the GeoXH handheld delivers—with unprecedented efficiency and reliability, when and where you need it.

# GeoXH handheld

## STANDARD FEATURES

### System

- Windows Mobile 6 (Classic edition)
- VGA display (480 x 640), sunlight-readable color touchscreen
- Integrated Bluetooth 1.2 wireless technology
- Integrated 802.11b/g wireless LAN
- Ergonomic cable-free handheld
- Rugged and water-resistant design
- All-day internally rechargeable Li-ion battery
- Marvell 520 MHz XScale processor
- 128 MB RAM
- 1 GB non-volatile Flash data storage
- Sealed SD/SDHC card slot
- Integrated speaker and microphone

### GPS

- Integrated high-performance GPS/SBAS<sup>1</sup> receiver and L1/L2 antenna
- H-Star technology for subfoot (<30 cm) real-time accuracy or decimeter (10 cm / 4 inch) accuracy after postprocessing
- Decimeter accuracy is also available in real-time with the optional external Tornado antenna
- RTCM and CMR real-time correction support
- TSIP and NMEA<sup>2</sup> protocol support
- EVEREST<sup>3</sup> multipath rejection technology

### Standard Software

- GPS Controller for control of integrated GPS and in-field mission planning
- GPS Connector for connecting integrated GPS to external ports
- Microsoft Office Mobile
- Transcriber (handwriting recognition)

### Standard Accessories

- Support module
- AC Power supply with International adapter kit
- USB data cable
- Stylus (x 2)
- Screen protectors (2-pack)
- Quick Start Guide
- Getting Started CD
- Hand strap
- Pouch

## OPTIONAL FEATURES

### Optional Software

- TerraSync<sup>™</sup> software
- Trimble GPSCorrect<sup>™</sup> extension for ESRI ArcPad software
- GPS Pathfinder<sup>®</sup> Tools Software Development Kit (SDK)
- GPS Pathfinder Office software
- Trimble GPS Analyst<sup>™</sup> extension for ESRI ArcGIS Desktop software
- TrimPix<sup>™</sup> Pro system

### Optional Accessories

- TDL 3G cellular modem accessory
- Power/serial clip (9-pin RS-232 serial connector and power input)
- Vehicle power adaptor<sup>3</sup>
- Null modem cable<sup>3</sup>
- Backpack kit
- Hard carry case
- Tornado antenna
- 2 meter range pole
- Range pole bracket
- GeoBeacon<sup>™</sup> receiver
- Anti-glare screen protectors (2-pack)

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## TECHNICAL SPECIFICATIONS

### Physical

Size . . . . . 21.5 cm x 9.9 cm x 7.7 cm (8.5 in x 3.9 in x 3.0 in)  
Weight . . . . . 0.81 kg (1.79 lbs) with battery  
Processor . . . . . 520 MHz Marvell PXA-270 XScale processor  
Memory . . . . . 128 MB RAM and 1 GB internal Flash storage  
Battery . . . . . Internal 7500 mAh lithium-ion  
27.8 Watt-hours, rechargeable in unit

### Power usage

Low (no GPS or backlight) . . . . . 1.8 Watts  
Normal (with GPS and backlight\*) . . . . . 3.2 Watts  
High (with GPS, backlight<sup>4</sup>, Bluetooth, and wireless LAN)<sup>5</sup> . . . . . 4.3 Watts

### Environmental

Operating temperature . . . . . -20 °C to +60 °C (-4 °F to 140 °F)  
Storage temperature . . . . . -30 °C to +70 °C (-22 °F to 158 °F)  
Casing . . . . . Dust-proof and resistant to heavy wind-driven rain per IP 65 standard  
Slip-resistant grip, shock and vibration resistant  
Drop . . . . . 1.2 m (4 ft) MIL-STD-810F, Method 516.5, Procedure IV

### Input/Output

Expansion . . . . . SD card slot (SD or SDHC storage cards)  
Display . . . . . 8.9 cm (3.5 in) VGA (480 x 640 pixel) TFT, 16 bit (65,536) colors  
LED backlight  
Interface . . . . . Touch screen, 10 hardware control keys, power status LED  
Audio system events, warnings, and notifications  
Soft Input Panel (SIP) virtual keyboard and handwriting recognition software  
Audio . . . . . Microphone and speaker, record and playback utilities  
I/O . . . . . USB 1.1 client via support module  
Serial via optional 9-pin RS-232 power/serial clip adaptor  
Radios<sup>6</sup> . . . . . Bluetooth 1.2, Wireless LAN 802.11b/g

### GPS

Channels . . . . . 26 (12 L1 code and carrier, 12 L2 carrier, 2 SBAS)  
Integrated real-time . . . . . SBAS<sup>1</sup> (dual-channel tracking)  
Update rate . . . . . 1 Hz  
Time to first fix . . . . . 30 seconds (typical)  
Protocols  
Data output . . . . . TSIP, NMEA-0183 v3.0 (GGA, VTG, GLL, GSA, ZDA, GSV, RMC)<sup>2</sup>  
Real-time corrections . . . . . RTCM 2.x, RTCM 3.0, CMR, CMR+

### Accuracy (HRMS)<sup>7</sup> after differential correction

Real-time positioning  
H-Star<sup>8</sup> with internal antenna (within a VRS network, or <80 km) . . Subfoot (<30 cm)  
H-Star<sup>8</sup> with optional Tornado antenna  
Short baseline (within a VRS network, or <30 km) . . . . . 10 cm  
Long baseline (30-80 km) . . . . . Subfoot (<30 cm)  
Code corrections (SBAS<sup>1</sup> or external correction source) . . . . . Submeter  
Postprocessed positioning  
H-Star horizontal accuracy . . . . . 10 cm + 1 ppm<sup>9</sup>  
Carrier postprocessed accuracy with 45 minutes tracking satellites . . 1 cm + 2 ppm<sup>10</sup>  
Code postprocessed . . . . . 50 cm

- 1 SBAS (Satellite Based Augmentation System). Includes WAAS available in North America only, EGNOS available in Europe only, and MSAS available in Japan only.
- 2 NMEA output of real-time H-Star corrected data is not supported.
- 3 Power/serial clip also required.
- 4 With backlight at default setting (50% brightness).
- 5 Power draw will vary depending on radio usage.
- 6 Bluetooth and wireless LAN type approvals are country specific. GeoExplorer 2008 series handhelds have Bluetooth and wireless LAN approval in the U.S. and in most European countries. For further information please consult your local reseller.
- 7 Horizontal Root Mean Squared accuracy, 1-sigma (68%). Except in conditions where most GPS signals are affected by trees, or buildings, or other objects. Except when using VRS corrections, accuracy varies with proximity to base station by +1 ppm for code postprocessing and real-time.
- 8 H-Star specified accuracy is typically achieved within 2 minutes. Requires data to be collected using Trimble field software.
- 9 The following factors increase the availability of decimeter (10 cm / 4 inch) accuracy after H-Star postprocessing: longer elapsed time tracking uninterrupted L1/L2 carrier phase data, use of the optional external Tornado antenna, tracking of more satellites with L2 measurements, shorter distance to the base station(s), and use of more (than one) base stations for postprocessing.
- 10 45 minute carrier capability applies only to the GPS Pathfinder Office software and is limited to 10 km from the base station.

Specifications subject to change without notice.



YOUR LOCAL TRIMBLE OFFICE OR REPRESENTATIVE

### NORTH & SOUTH AMERICA

Trimble Navigation Limited  
10355 Westmoor Drive  
Suite #100  
Westminster, CO 80021  
USA  
+1-720-587-4574 Phone  
+1-720-587-4878 Fax

### EUROPE & AFRICA

Trimble Germany GmbH  
Am Prime Parc 11  
65479 Raunheim  
GERMANY  
+49-6142-2100-0 Phone  
+49-6142-2100-550 Fax

### ASIA-PACIFIC & MIDDLE EAST

Trimble Navigation  
Singapore PTE Limited  
80 Marine Parade Road  
#22-06 Parkway Parade  
Singapore, 449269  
SINGAPORE  
+65-6348-2212 Phone  
+65-6348-2232 Fax



www.trimble.com  
store.trimble.com