# DATASHEET

# GEOEXPLORER 6000 SERIES GEOXH HANDHELD

#### **KEY FEATURES**

## 220 channel GNSS receiver with real-time H-Star technology

Decimeter accuracy faster than ever before

## Floodlight satellite shadow reduction technology

More positions and increased accuracy in tough environments

#### Sunlight readable display

4.2" polarized screen for unmatched clarity in bright sunlight

#### 3.5G modem option

Integrated cellular for Internet connectivity in the field

#### 5 megapixel autofocus camera

Capture high quality photographs and link directly to features

#### High capacity removable battery

10 hours operation on a single charge and swap-and-go battery replacement in the field



#### DECIMETER ACCURACY, TRIMBLE PRODUCTIVITY, HANDHELD CONVENIENCE

The Trimble® GeoExplorer® 6000 series takes GNSS productivity to a whole new level. Bringing together the essential functionality for high-accuracy field work in one device, the Trimble GeoXH™ handheld delivers real-time decimeter (10 cm / 4 inch) accuracy positioning, high quality photo capture, and integrated Internet connectivity options.

Together with the latest field software enhancements and GNSS innovations—including Trimble Floodlight™ satellite shadow reduction technology—the GeoXH handheld establishes a new standard for GNSS system performance and handheld data capture.

#### **Decimeter accuracy without the wait**

For field workers recording the location of buried infrastructure, distinguishing between closely spaced assets, or relocating buried equipment, the GeoXH handheld delivers the accuracy and speed required to ensure that the work of recording new asset locations or navigating back to previously captured assets is fast and reliable.

The GeoXH handheld is equipped with a 220 channel GNSS receiver capable of tracking GPS and GLONASS satellites together with an integrated dual-frequency (L1/L2) GNSS antenna. In conjunction with Trimble field software, the GeoXH handheld uses Trimble H-Star™ technology to deliver decimeter accuracy in the field, eliminating the need for back-office processing and giving the confidence that the job is done right while still on site.

#### Floodlight satellite shadow reduction

Trees and buildings create satellite shadows, limiting the environments where reliable high-accuracy GNSS data collection can be performed. Using the innovative Trimble Floodlight satellite shadow reduction technology, the GeoXH handheld continues to deliver productive, usable positioning data in areas where legacy GNSS receiver systems cannot.

With Floodlight technology, the GeoXH receiver can compute positions even with very weak satellite signals. Floodlight technology increases the number of positions that are gathered in difficult locations, and boosts accuracy in those places where normally only low accuracy data is available. With the GeoXH handheld, field crews can now work with fewer disruptions, meaning better data, faster, at less cost.

#### Never-seen-before display performance

The GeoXH handheld includes a sunlight-optimized display designed specifically for outdoor operation. It maintains exceptional clarity in all outdoor conditions, including direct sunlight. Text is crisp and easy to read. Background maps and photos are rich and vibrant. At 4.2" (10.7 cm), the display is also big, so the touch panel is spacious and easy to control.

#### Work online, anywhere, cable-free

With the GeoXH handheld, wireless connectivity options including cellular, Wi-Fi and Bluetooth® technology ensure that field workers can remain in contact with the office and each other, even from remote locations.

An optional integrated 3.5G cellular modem allows continuous network and Internet access to real-time map data, web-based services, Trimble VRS™ corrections, and live update of field information.

Bluetooth technology also enables wireless connection to other external devices such as Bluetooth-enabled laser range finders, barcode scanners, or underground pipe locators.

#### High quality photo capture

A photograph is often the best way to capture information about an asset, event, or site. The GeoXH handheld includes a 5 megapixel autofocus camera with geo-tagging capability. The camera can be controlled by the Trimble TerraSync<sup>™</sup> software and other third-party applications, so photo capture and linking of images to GIS features is seamless and simple to integrate with existing data capture workflows.

#### **Designed for work**

The GeoExplorer 6000 series was designed with a single goal in mind—delivering a high-accuracy handheld GNSS system that works faster, longer, and in more places than any other.

The Lithium-Ion battery provides 10 hours of GNSS operation on a single charge, and can be swapped on-the-go without shutting down the device—enabling near-continuous operation and minimizing field worker downtime.

The GeoXH handheld is powered by a super-fast OMAP 3503 series processor and 256 MB RAM. With 2 GB of internal storage and the capacity to add an additional 32 GB via SDHC card, the GeoXH handheld has the capacity and power needed to work with high resolution maps and the most complex datasets.

The fully ruggedized IP65 construction is designed to withstand the harshest environments. Wherever field workers go, they can take the GeoXH handheld with the confidence that the equipment can handle the toughest conditions.

These smart design features combine with unprecedented accuracy and productivity to deliver the ultimate high performance handheld field solution.

The GeoXH handheld. Designed for work.



### **GEOEXPLORER 6000 SERIES GEOXH HANDHELD**

#### SYSTEM SUMMARY

- Dual-frequency GNSS receiver and antenna with Trimble Everest™ multipath rejection technology and Trimble Floodlight satellite shadow reduction technology
- Sunlight readable 4.2" polarized screen
- Optional integrated 3.5G cellular modem
- Integrated Wi-Fi and Bluetooth wireless technology
- 5 megapixel autofocus camera
- Windows Mobile® 6.5 (Professional edition)
- Rugged and water-resistant design

#### **SIZE AND WEIGHT**

Height	234 mm (9.2 in)
Width	. 99 mm (3.9 in)
Depth	. 56 mm (2.2 in)
Weight (inc. battery)	925 g (2.0 lb)

#### **GNSS**

Receiver Trimble Maxwell™ 6 GNSS chipset
Channels 220 channels
SystemsGPS, GLONASS, SBAS
GPS L1C/A, L2C, L2E
GLONASS L1C/A, L1P, L2C/A, L2P
SBAS <sup>1</sup> WAAS/EGNOS/MSAS
Update rate1 Hz
Time to first fix45 s (typical)
NMEA-0183 support Optional
RTCM support RTCM2.x/RTCM3.x
CMR support CMR/CMR+/CMRx

#### GNSS ACCURACY (HRMS) AFTER CORRECTION<sup>2</sup>

Real-time code corrected	
Local base	. 75 cm + 1 ppm
SBAS (WAAS/MSAS/EGNOS)	< 1 m
H-Star postprocessed	. 10 cm + 1 ppm
Code postprocessed	.50 cm + 1 ppm
Carrier postprocessed	
After 45 minutes	1 cm + 2 ppm

#### **TEMPERATURE**

Operation.	20 °C to +50 °C (-4 °F to	122 °F)
Storage	30 °C to +70 °C (-22 °F to	158 °F)
Charging	0 °C to +45 °C (32 °F to	113 °F)

#### **MECHANICAL SHOCK**

Drop	1.2 m (4 ft) plywood over concrete
Vibration	Method 514.5

#### **ALTITUDE & HUMIDITY RATINGS**

Relative humidity	95% non-condensing
Maximum operating altitude	e 3,658 m (12,000 ft)
Maximum storage altitude	5,000 m (16,400 ft)

#### **INGRESS PROTECTION**

#### **BATTERY**

Type	Rechargeable,	removable Li-Ion
Capacity		11.1V 2.5 AH
Charge time		. 4 hours (typical)

#### BATTERY RUN TIME<sup>3</sup>

GNSS only	. 10 hours
GNSS & VRS over BT	9.5 hours
GNSS & VRS over Wi-Fi	8.5 hours
GNSS & VRS over Cellular modem	5 hours
Standby time	50 days

#### **BUTTONS & CONTROLS**

- · Power key
- Left & right application keys
- · Camera key

#### **CONNECTORS & INPUTS**

- Internal microphone and speaker
- Mini USB connector
- DE-9 serial via optional USB to serial converter
- External power connector
- SIM socket
- SDHC card socket

#### **CAMFRA**

Still mode	Autofocus 5 MP
Still image format	JPG
Video mode	Up to VGA resolution
Video file format	WMV with audio

#### CELLULAR4 & WIRELESS5

850/900/2100 MHz
850/900/1800/1900 MHz
802.11 b/g
Version 2.1 + EDR

#### **DISPLAY**

Type	Transflective LED-backlit LCD
Size	
Resolution	
Luminance	

#### **HARDWARE**

#### **LANGUAGES**

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English (US), Spanish, French, German, Italian, Portuguese (Brazilian), Chinese (Simplified), Korean, Japanese, Russian

#### IN THE BOX

- GeoExplorer 6000 series handheld
- Pouch
- Hand strap
- USB data cable
- · Rechargeable battery pack
- AC Power adaptor
- Screen protector kit
- Spare stylus & tether
- Documentation

#### **OPTIONAL ACCESSORIES**

- Vehicle power supply
- Trimble Tornado™ external GNSS antenna
- 1.5 m & 5 m external antenna cable
- Range pole kit for external antenna
- Backpack kit for external antenna
- Vehicle mount
- · Hard carry case
- TDL 3G cellular modem
- Trimble GeoBeacon<sup>™</sup> receiver
- Null modem cable
- USB to serial converter cable

#### **SOFTWARE COMPATIBILITY**

- Trimble TerraSync™ software
- Trimble GPScorrect<sup>™</sup> extension for Esri ArcPad software
- Trimble GPS Controller software
- Trimble GNSS Connector software
- Trimble GPS Pathfinder® Office software
- Trimble GPS Analyst<sup>™</sup> extension for Esri ArcGIS Desktop software
- Trimble TrimPix™ Pro system
- Third party NMEA-based applications<sup>6</sup>

- 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 HRMS refers to Horizontal Root Mean Squared accuracy,
  1-sigma (68%). Except in conditions where most GNSS signals are affected by trees, or buildings, or other objects. The following factors increase the availability of specified H-Star accuracy: availability of GPS & GLONASS data at the base station(s) used for corrections, 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), 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. Specified H-Star accuracy can normally be achieved for baseline lengths of 100 km or less. H-Star accuracy is typically achieved within 2 minutes. 45 minute carrier postprocessed accuracy is limited to data collected within 10 km of the base station. Except when using VRS corrections, accuracy varies with proximity to base station by +1 ppm for code postprocessing and real-time. Carrier postprocessed accuracy varies with proximity to base station by +2 ppm.

  3 Tested by Trimble with default system settings at 21°C ambient. Actual run time will vary with conditions of use.

  4 3.5G edition handhelds only. The GeoXH 3.5G edition handheld is PTCRB certified and can operate on supported networks that do not require carrier certification. Consult
- networks that do not require carrier certification. Consult
- with your local reseller for more information.

  5 Bluetooth and Wi-Fi type approvals are country specific.

  GeoExplorer 6000 series handhelds have Bluetooth and Wi-Fi
  approval in the U.S. and in most European countries. For further information please consult your local reseller. 6 NMEA output is an optional upgrade.

Specifications subject to change without notice.







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