TRIMBLE GEO 7X HANDHELD WITH TRIMBLE ACCESS SOFTWARE

GEO 7X HANDHELD KEY FEATURES

Advanced Network Rover solution

Centimeter accuracy in a handheld form factor

Optimized for **Trimble Access** field software

Capture high quality photographs and link directly to measured points

Wireless connectivity options include cellular and Wi-Fi technology
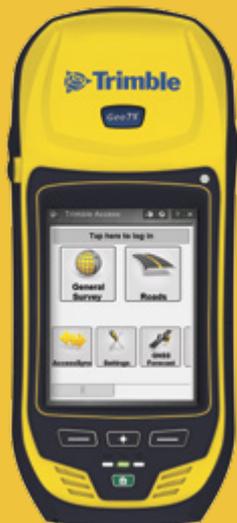
TRIMBLE ACCESS KEY FEATURES

Easy-to-use feature coding

Feature-rich graphical **COGO** routines for calculating points and features

Graphical staking of points, lines, arcs, and alignments from active maps

Real-time data sharing between field and office – move files, provide updates, deliver completed projects.

The rugged Trimble® Geo 7X handheld with Trimble Access™ software is a complete solution designed to make both high-accuracy surveying and handheld point measurement easier, more efficient, and more flexible.

TRIMBLE PRODUCTIVITY, HANDHELD CONVENIENCE

The Trimble Geo 7X combines the functionality of high-accuracy field work with the flexibility and convenience of handheld positioning in one device.

The Trimble Geo 7X can be used mounted on a survey rod with an external antenna for survey-grade accuracy and when connected to Trimble VRS™ technology, it serves as an advanced and highly productive network rover. Take it off the rod and seamlessly switch to its integrated antenna for handheld point measurement with easy access to features such as its integrated camera.

OPTIMIZED WITH TRIMBLE ACCESS SOFTWARE

Trimble Access field software features the power, functionality, and modularity that surveyors need today. It is designed to support everyday work – topographic surveys, staking, control, and more – through a familiar, easy-to-use interface that will ensure your instant productivity— and you'll experience less of the typical downtime associated with learning new software.

Its integrated 3G cellular modem allows continuous network and internet access for web-based services, Trimble VRS corrections, and live, secure synchronization of field and office files through Trimble AccessSync.

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

The Trimble Geo 7X comes with Microsoft® Windows® Embedded Handheld version 6.5 Professional operating system, making it easy to use standard office documents in the field.

CENTIMETER ACCURACY IN YOUR HAND

On the survey rod or in your hand, the Trimble Geo 7X delivers the accuracy and speed required to ensure that the work of recording survey points or staking-out is fast and reliable.

The Geo 7X supports signals from all existing and planned GNSS constellations and augmentation systems. In addition to being a complete network rover solution, when outside the network, the system can be used to collect GNSS data for postprocessing in Trimble Business Center software. Trimble delivers business confidence with a sound GNSS investment for today and long into the future.

PHOTOGRAPHS AND GEOTAGGING IN THE FIELD

Aiding in capturing information about an asset, event, or site, the Geo 7X includes a 5 megapixel autofocus camera with geotagging capability. The camera is controlled by the Trimble Access software, so photo capture and linking of images to survey data is seamless and simple to integrate with existing workflows.

Easily record the qualitative information that survey data alone can miss, such as site conditions or work progress. The benefits of including images as part of your workflow are almost limitless – from easy data handover to in-field quality assurance.

DESIGNED FOR HIGH EFFICIENCY WORK

The Trimble Geo 7X is fully rugged with an IP65 rating for dust and water, and MIL-STD-810F ratings for drops, shock, vibration, temperature, altitude and humidity.

The Trimble Geo 7X with Trimble Access software and services, together with Trimble VRS technology and Trimble Business Center software, is an optimal solution for surveyors facing a variety of work requirements.

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TRIMBLE GEO 7X HANDHELD
WITH TRIMBLE ACCESS SOFTWARE

SYSTEM CONFIGURATION

System Summary
- Dual-frequency GNSS receiver and antenna with Trimble R-Track™ technology
- Sunlight readable 4.2" polarized display
- Integrated 3.5G cellular modem
- Integrated Wi-Fi and Bluetooth® wireless technology
- 5 megapixel autofocus camera
- Microsoft® Windows® Embedded Handheld version 6.5 Professional.
- Rugged and water-resistant design

Shipment and Standard Accessories
- Geo 7X handheld with Trimble Access software with Microsoft® Windows® Embedded Handheld version 6.5 Professional.
- Rechargeable battery (x2)
- Range pole bracket
- Hand strap
- Screen Protectors (x15)
- Antenna port dust cover
- Quick Start Guide
- External GNSS antenna with 1.5 m antenna cable
- International AC charger (x2)
- USB Data Cable (mini USB)
- Stylus pen (x2) and stylus tether
- Device label pack
- Transport case

Optional Accessories
- 12 V vehicle charging cable
- Replacement door kit (SD, USB, SIM)
- GNSS Antenna Cable (TNC to SMB), 1.5 m and 5.0 m
- Soft pouch

All standard accessories are also available to order separately.

Trimble Field Software Solutions
Geo 7X handheld with Trimble Access software

PERFORMANCE SPECIFICATIONS

Measurements
- Trimble R-Track technology
- Advanced Trimble Maxwell™ 6 Custom Survey GNSS chip with 220 channels
- High precision multiple correlator for GNSS pseudorange measurements
- Unfiltered, unsmoothed pseudorange measurements data for low noise, low multipath error, low time domain correlation and high dynamic response
- Very low noise GNSS carrier phase measurements with <1 mm precision in a 1 Hz bandwidth
- Signal-to-Noise ratios reported in dB-Hz
- Proven Trimble low elevation tracking technology
- Satellite signals tracked simultaneously:
  – GPS: L1C/A, L2C, L2E (Trimble method for tracking L2P)
  – GLONASS: L1C/A, L1P, L2C/A (GLONASS M only), L2P
  – SBAS[1] (WAAS/EGNOS/MSAS): L1C/A
- 1 Hz (positioning), 5 Hz (stakeout)
- 1 Hz data storage
- CMR+, CMRx, RTCM 2.1, RTCM 2.3, RTCM 3.0, RTCM 3.1 Input via cellular modem

Code differential GNSS positioning[2, 3]
Horizontal. . . . . 0.25 m + 1 ppm RMS
Vertical . . . . 0.50 m + 1 ppm RMS
SBAS differential positioning accuracy[4] . . . . typically <5 m 3DRMS

Static and FastStatic GNSS surveying (external GNSS antenna)[2]
Horizontal. . . . . 3 mm + 0.5 ppm RMS
Vertical . . . . 3.5 mm + 0.5 ppm RMS

Real-Time Kinematic surveying[2, 3]
Single Baseline <30 km
    Horizontal (external GNSS antenna). . . . . 10 mm + 1 ppm RMS
    Vertical (external GNSS antenna) . . . . 15 mm + 1 ppm RMS
    Horizontal (internal GNSS antenna) . . . . 25 mm + 1.2 ppm RMS
    Vertical (internal GNSS antenna) . . . . 40 mm + 1.5 ppm RMS
Network RTK
    Horizontal (external GNSS antenna). . . . . 10 mm + 0.5 ppm RMS
    Vertical (external GNSS antenna) . . . . 15 mm + 0.5 ppm RMS
    Horizontal (internal GNSS antenna) . . . . 25 mm + 1 ppm RMS
    Vertical (internal GNSS antenna) . . . . 40 mm + 1 ppm RMS
Initialization time[5] . . . . typically <8 seconds
Initialization reliability[6] . . . . typically >99 9%

HARDWARE

Physical
Dimensions (WxHxD) . . . . .99 mm (3.9 in) x 234 mm (9.2 in) x 56 mm (2.2 in)
Weight . . . . 925 g (2.0 lb) with internal battery 2600 g (5.5 lb) entire RTK network rover including internal battery, external GNSS antenna, GNSS antenna cable, range pole and range pole bracket
Temperature[6]
    Operating ambient temperature. . . . . –4° to 140° F (–20° to 60° C)
    Storage temperature . . . . –22° to 158° F (–30° to 70° C)
Relative humidity . . . . 95% non-condensing
Maximum operating altitude. . . . . 29,000 ft (9,000 m)
Maximum storage altitude . . . . .40,000 ft (12,000 m)
Water and dust. IP65
Shock (non-operating) . . . . .1.2 m (4 ft) drop on plywood over concrete
Vibration. MIL-STD-810F, FIG.514.5C-1
Drop. . . . . 4 ft (1.22 m)

Electrical
CPU . . . . Texas Instruments DM3730 1 GHz + GPU
Memory . . . . .4 GB user memory + SD slot (up to 32 GB), 256 MB RAM
- External storage: SD/SDHC up to 32 GB
- Battery Type: Rechargeable, removable Li-Ion
  – Battery Capacity: 11.1 V, 2.5 AH
  – Charge time: 4 hours (typical)
- Battery run-time per battery (internal / external GNSS antenna)[7]
  – GNSS only: 9.5 / 8.0 hours
  – GNSS & VRS over Wi-Fi: 8.5 / 7.5 hours
  – GNSS & VRS over Cellular modem: 6.5 / 6.0 hours
  – Standby time (external GNSS antenna disconnected): 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
- Camera:
  – Still mode: Autofocus 5 MP   – Still image format: JPG
  – Video mode: Up to VGA resolution   – Video file format: WMV with audio
GSM/GPRS/EDGE . . . . 850 / 900 / 1800 / 1900 MHz
UMTS/HSPA+ . . . . .800 / 850 / 900 / 1900 / 2100 MHz
CDMA/EV-DO Rev. A . . . . 800 / 1900 MHz (Verizon certified)
Wi-Fi. 802.11b/g
Bluetooth profiles . . . . .BT 2.0 +EDR (SPP, OPP, FTP, PAN, A2DP, DUN, HID)
- Display:
  – Type: Transflective LED-backlit LCD   – Size: 4.2 in (diagonal)
  – Resolution: 480x640   – Luminance: 280 cd/m²

CERTIFICATIONS

Certification Class B Part 15, 22, 24 FCC certification (USA), IC approval (Canada), CE Mark approval, A-Tick approval (Australia, New Zealand), KC approval for handheld (Korea), ICASA approval (South Africa), GOST-R & DoC, Importer certifications, Cryptographic and Radop Import permissions (Russia). The Geo 7X handheld with Trimble Access software is PTCRB certified and can operate on supported networks that do not require carrier certification. Bluetooth and Wi-Fi type approvals are country specific. The Geo 7X handheld with Trimble Access software has Bluetooth and Wi-Fi approval in the U.S. and in most European countries.

RECYCLING INFORMATION

For product recycling instructions and more information, please go to www.trimble.com/environment/summary.html.

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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. Accuracy and reliability may be subject to anomalies due to multipath, obstructions, satellite geometry, and atmospheric conditions. Always follow recommended survey practices.
3. Hand-held point measurement accuracy depends on user workflow. For best positioning results, the use of an external GNSS antenna and survey-grade range pole is recommended.
4. Depends on WAAS/EGNOS/MSAS system performance
5. May be affected by atmospheric conditions, signal multipath, obstructions and satellite geometry.
6. May be affected by atmospheric conditions, signal multipath, and satellite geometry. Initialization reliability is continuously monitored to ensure highest quality.
7. Receiver will operate normally to –40° C, internal batteries are rated to –20° C. Actual run time will vary with conditions of use.

Specifications subject to change without notice.

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