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Geo 7 Series

HANDHELD

READY FOR ANYTHING

The Trimble® Geo 7X handheld is from the Trimble GeoExplorer® series family of integrated, rugged, and high-accuracy GNSS handhelds. As a streamlined solution that enables faster and more productive data collection, the Geo 7X is ideal for organizations, such as utility companies, municipalities, and environmental agencies, requiring mobile data collection and asset management solutions.

Eliminate Physical Barriers to Field Success

When physically occupying a position is not possible due to dangerous conditions or right-of-way challenges, turn to Trimble Flightwave™ technology integrated in the Geo 7X. Utilizing the detachable Geo 7 rangefinder accessory, Flightwave workflows enable scale and location measurement of field assets at distances up to 120 m without a reflector. Flightwave measurements integrate directly into Trimble data collection software—simply point and shoot to get the position—even where there are obstacles such as traffic or private land access limitations.

Trimble Floodlight™ satellite shadow reduction technology keeps you working when heavy overhead cover, such as trees and buildings, obstruct GNSS satellite reception. Now you can work with fewer disruptions and obtain high quality data faster and at less cost.

Smart Data Collection, Smart Investment

By providing compatibility with existing and currently planned GNSS constellations, the Geo 7X delivers reliable GNSS tracking today and for years to come—ensuring your investment continues to provide value long into the future.

Achieve better accuracy in real-time without the reliance of a traditional reference station-based infrastructure or VRS network through Trimble RTX™ correction service options available with the Trimble Geo 7X. Trimble RTX correction services leverage real-time data from an established tracking station network to compute and deliver high-accuracy positions to the GNSS handheld nearly anywhere on the globe. A range of Trimble RTX correction services offered with the Trimble Geo 7X provide internet-delivered, high-accuracy GNSS positioning wherever cellular communications are available so you can obtain the accuracy you need—from submeter to centimeter level.

Compatible with the breadth of Trimble GIS field and office software, the Geo 7X gives you flexible end-to-end data collection solutions and workflow choices: from the field-proven Trimble TerraSync™ and Positions™ software to the customizable data collection workflows of Trimble TerraFlex™ software.

Everything You Need to Work

With a powerful 1.0 GHz processor, 256 MB RAM, 4 GB of onboard storage, IP65 rating, and sunlight-optimized display, the Geo 7X is a high performance device designed to work hard in the environments that you do. The built-in 5 MP camera with enhanced zoom operation, and geo-tagging capability enables information about an asset, event, or site to be easily captured. And with the integrated dual-mode cellular modem, you can stay connected for continuous network and Internet access to real-time map data, web-based services, Trimble VRS™ and RTX corrections, and live update of field information.

Be truly productive with the Trimble Geo 7 series. No matter what gets in your way.

Key Features

- Easy and productive asset data capture with remote mapping and measurement
- Capture more positions and increased accuracy in tough GNSS environments
- Compatible with existing and planned GNSS constellations to maximize investment
- Flexible software options to collect, process, and manage data with simple, connected workflows

Geo 7 Series HANDHELD

PHYSICAL DIMENSIONS

Geo 7X handheld (H x W x D)	234 mm x 99 mm x 56 mm (9.2 in x 3.9 in x 2.2 in)
Geo 7X handheld with rangefinder	1080 g

GNSS, ORIENTATION, AND DISTANCE[1]

GNSS sensor	L1/L2 GNSS receiver and antenna
Chipset	Trimble Maxwell™ 6 (up to 220 channels)
Systems[2]	GPS, GLONASS, Galileo, BeiDou, QZSS
SBAS	WAAS, EGNOS, MSAS, GAGAN, SBAS+
Floodlight	Yes
Receiver protocols	NMEA, TSIP2
Update rate	1 Hz
Time to first fix	< 45 seconds (typically)
Real-time correction protocols	RTCM2.x/RTCM3.x/CMR+/CMRx
Real-time Centimeter mode accuracy[3]	
Horizontal	1 cm + 1 ppm HRMS
Vertical	1.5 cm + 2 ppm VRMS
Postprocessed Centimeter mode accuracy[3]	
Horizontal	1 cm + 1 ppm HRMS
Vertical	1.5 cm + 1 ppm VRMS
H-Star™ accuracy (real-time or postprocessed)	10 cm + 1 ppm HRMS
Code DGNSS accuracy (real-time)	75 cm + 1 ppm HRMS
Code DGNSS accuracy (postprocessed)	50 cm + 1 ppm HRMS
SBAS accuracy	<100 cm
CenterPoint® RTX (via cellular)[1,2,4]	
Horizontal	4 cm HRMS
Vertical	10 cm VRMS
FieldPoint RTX™ (via cellular)[1,5]	10 cm HRMS
RangePoint™ RTX (via cellular)[1]	30 cm HRMS
ViewPoint RTX™ (via cellular)[1]	50 cm HRMS
Orientation sensors[8]	3-axis gyro, magnetometer, accelerometer
Heading accuracy	±1.5°
Inclination accuracy	±0.5°
Roll accuracy	±0.5°
Distance sensor	Laser rangefinder module
Communication protocols	NMEA or Trimble proprietary
Passive range	Up to 120 m
Reflective range	Up to 200 m
Accuracy[6]	±0.05 m
Range precision	0.01 m

NETWORK AND WIRELESS CONNECTIVITY

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)

POWER AND BATTERY[7]

Type	Rechargeable, removable Li-Ion
Capacity	11.1V 2,500 mAH
Charge time	< 4 hours (typical)
Real time DGNSS usage (via integrated 3G/3.5G)	Up to 7 hours
Real time DGNSS usage (via Bluetooth)	Up to 9.5 hours
Autonomous GNSS usage	Up to 10.5 hours
Non-GNSS use	Up to 24 hours
Standby	Up to 50 days

SYSTEM CPU, MEMORY, AND CAMERA

CPU	Texas Instruments DM3730 1 GHz + GPU
Memory	4 GB user memory + SD slot (up to 32 GB), 256 MB RAM
Camera	5 MP

DISPLAY AND TOUCH PANEL

Display	4.2" VGA (640 x 480) LED transflective
Touch panel	Resistive touch panel with polarized light filter
Brightness	280 cd/m²

OS

Microsoft® Windows® Embedded Handheld version 6.5 Professional.
English (U.S.), Chinese (Simplified), Chinese (Traditional), French, German, Italian, Japanese, Korean, Spanish, Portuguese (Brazil), Russian.

SYSTEM REQUIREMENTS

Syncing with a PC requires Windows 7; Windows Vista; or Windows XP Home or Professional with Service Pack 3 or later. Some field applications and services require mobile internet access.

ENVIRONMENTAL USE

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/dust ingress	IP65
Functional shock	MIL-STD 810G Method 516.6 Procedure I
Drop	4 ft (1.22 m)
Vibration	MIL-STD 810 G Method 514.6 Procedure I

SOFTWARE COMPATIBILITY

Please refer to the **Product Compatibility** list.
(www.trimble.com/mappingGIS/productcompatibility)

1 Accuracy and reliability may be subject to anomalies due to multipath, obstructions, satellite geometry, and atmospheric conditions. Always follow recommended GNSS data collection practices. Specified Centimeter accuracy can normally be achieved for baselines of 30 km or less. Specified H-Star accuracy can normally be achieved for baseline lengths of 100 km or less. Centimeter and H-Star accuracy is typically achieved within 2 minutes. CenterPoint RTX accuracy is typically achieved within 5 minutes in select regions, and within 30 minutes worldwide. FieldPoint RTX is accuracy is typically achieved within 5 minutes in select regions, and within 15 minutes worldwide. ViewPoint RTX accuracy is typically achieved within 5 minutes. RangePoint RTX accuracy is typically achieved within 5 minutes using external antenna and 10 minutes using internal antenna.
2 Galileo and BeiDou single-frequency, not used for RTK .
3 Stated accuracy is with Trimble Zephyr™ Model 2 / 3 GNSS antenna. Requires the Geo 7 series Centimeter Option.
4 Requires Zephyr 2 or 3 antenna and CM option.
5 Stated accuracy is only with Tornado or Zephyr 2 or 3 antennas.
6 1-sigma, @ 20 C, to Kodak Grey card at 50 m.
7 Actual run time will vary with conditions and environment of use.
8 1-sigma. Accuracy and reliability may be subject to anomalies due to sensor calibration quality, temperature, and presence of local magnetic disturbances. Always follow recommended sensor calibration and operation practices.

Specifications subject to change without notice.

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