Trimble R1 GNSS Receiver

Key Features

Small, rugged, lightweight GNSS receiver for great mobility

Flexibility to **choose your data collection device**

Bluetooth connection to Trimble handhelds or consumer-grade smart devices

Provides **higher-accuracy** location data

Flexible, professional **data collection in more places**

MAKE ACCURACY PERSONAL

The Trimble® R1 is a rugged, compact, lightweight GNSS receiver that provides professional-grade positioning information to any connected mobile device using Bluetooth® connectivity. Purpose-built for mapping and GIS professionals in a variety of organizations, including environmental agencies, government departments, and utility companies, the standalone Trimble R1 receiver enables you to collect higher-accuracy location data with the device you already use—whether it is a modern smart device, such as a mobile phone or tablet, or traditional integrated data collection handheld or tablet.

Improved GNSS Positioning—On Any Device

For users challenged with collecting high-accuracy location data using their existing consumer-grade devices, the Trimble R1 receiver is the solution. No matter what smart device you choose—from iOS to Android—for collecting GIS data, inspecting, or managing assets, the Trimble R1 lets you achieve a greater level of reliable spatial accuracy than your current smart phone or tablet is able to provide on its own.

Because the Trimble R1 is compatible with a variety of devices, your current technology investments are maximized, all while ensuring you collect reliable higher accuracy data. In addition, the investment made in your Trimble R1 GNSS receiver allows you to upgrade to the latest smart device or share the R1 between multiple devices whenever needed, saving you money and keeping you productive and efficient.

Professional Data Collection in More Places

Capable of supporting multiple satellite constellations, including GPS, GLONASS, Galileo and BeiDou, the Trimble R1 provides a truly global solution. Delivering GNSS positions in real-time without the need for postprocessing, correction sources such as SBAS, VRS, or RTX networks can be applied to suit your location and desired accuracy—giving you confidence in achieving reliable GNSS information anywhere in the world.

Obtain submeter accuracy by using the Trimble R1 with the optional Trimble ViewPoint RTX service. Trimble ViewPoint RTX service* offered with the Trimble R1 provides internet-delivered submeter accuracy wherever cellular communications are available or over satellite L-band, even in remote locations.

Support your Daily GIS Workflows

The Trimble R1 integrates with the flexible and robust workflows of Trimble Mapping & GIS software—including Trimble TerraFlex™, Trimble TerraSync™, and Trimble Positions™ software—or third-party applications. No matter what mobile device you use, Trimble's professional data collection software means you can be certain your GIS is populated with quality data you can trust.

Built to Work the Way You Do

Weighing just 187 g and measuring at 11.2 cm x 6.8 cm x 2.6 cm, the Trimble R1 can go wherever you go. Easily carry around the Trimble R1 as you perform all of your data collection and asset management tasks. The receiver can be pole-mounted, carried in a vest pocket, or attached to a belt using the optional belt pouch—giving you the flexibility to choose how you use it while keeping you streamlined and cable-free, thanks to wireless Bluetooth connectivity. Plus the all-day battery life means it will keep going as long as you do. Built to last with certified MIL-STD-810 ruggedness and IP65 rating, the Trimble R1 receiver won't quit when the going gets tough.

Flexible and practical, accurate and rugged—the innovative Trimble R1 GNSS receiver delivers professional-level positions to everyone.

*RTX available through Trimble applications

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Trimble

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GNSS

Sensor type	L1/G1 GNSS receiver and antenna
Systems	GPS, GLONASS, Galileo, Beidou, QZSS
Channels	44-channel, parallel tracking
Correction sources	SBAS, ViewPoint RTX, QZSS, VRS
SBAS	4-channel, parallel tracking WAAS, EGNOS, MSAS, GAGAN, SBAS ranging
Receiver protocols	NMEA 0183 v4.00, Binary
Update rate	1 Hz
Time to first fix	45s typically
Reacquisition	< 2s
Real time correction protocols	CMR, CMR+, CMRx RTCM 2.1, 2.2, 2.3, 3.0, 3.1
SBAS accuracy[1]	< 100 cm
ViewPoint RTX[1]	50 cm HRMS
Code DGNSS accuracy (real-time)[1]	75 cm + 1 ppm HRMS
Maximum speed	1,850 kph / 1,150 mph / 999 knots
Maximum altitude	9,000 m (29,520 ft)

INTERFACES

Port	Bluetooth 2.1 + EDR, USB 2.0 (charge/firmware update)
Bluetooth transmission	Class 2 (10 m) iAP2 and 2.1 EDR
Bluetooth frequency	2.400 - 2.485 GHz
Raw measurement data	Trimble GSOF, Binary
Communication status LED	Bluetooth status, GNSS, corrected GNSS
Power status LED	Charging, charging (full), 3 stage battery status (> 50%, 15 – 50%, < 15%)

BATTERY AND POWER

Battery type	Integrated Lithium-Ion
Battery capacity	3.7v 15Wh
Battery life	10+ hours
Charging time	5 hours (typical, with supplied charger)
External antenna voltage output	3 VDC
External antenna input impedance	50 Ohms

ENVIRONMENTAL

Water/Dust Ingress	IP65
Temperature (MIL-STD-810G)	
Operation	–20 °C to +60 °C (–4 °F to +140 °F)
Storage	–30 °C to +70 °C (–22 °F to +158 °F)
Drop shock (non-operating)	MIL-STD-810G Method 516.5 Procedure IV 1.2 m (4 ft) to plywood over concrete
Vibration	MIL-STD-810G Method 514.5 Procedure I Category 24
Relative humidity	MIL-STD-810G Method 507.6 95% non-condensing
Altitude rating	MIL-STD-810G Method 500.5
Maximum storage altitude	12,192 m (40,000 ft)
Maximum operational altitude	9,000 m (29,520 ft)

MECHANICAL

Enclosure dimensions	11.2 x 6.8 x 2.6 cm (4.4 x 2.7 x 1.0 in.)
Weight	187 g (0.4 lb)
Power connector	Micro-B USB female
External antenna connector	SMB female

INTERNAL ANTENNA

Frequency range . . . . . GPS L1 and GLONASS L1

SUPPORTED PLATFORMS

iOS 7, iOS 8, Android (4.1 or greater), Windows (7 or greater), WEHH (6.5x)

COMPLIANCE

FCC Part 15 (Class B device), CE Mark, RoHS

IN THE BOX

- Trimble R1 GNSS receiver
- AC Power adaptor/charger
- USB data cable
- Belt pouch/clip
- Documentation

SOFTWARE COMPATIBILITY

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

"Made for iPhone" and "Made for iPad" mean that an electronic accessory has been designed to connect specifically to iPhone or iPad respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPhone or iPad may affect wireless performance.

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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 ViewPoint RTX accuracy is typically achieved within 10 minutes and accuracy levels range from submeter to 50 cm depending on conditions.

Specifications subject to change without notice.

Made for iPhone iPad

Bluetooth

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