Trimble R1
GNSS RECEIVER

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 polemounted, 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.

Key Features

- Small, rugged, lightweight GNSS receiver for great mobility
- Compact, cable free solution with integrated antenna
- 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

*RTX available through Trimble applications
Trimble R1 GNSS RECEIVER

GNSS
Sensor type .............................................. L1/G1 GNSS receiver and antenna
Systems ..................................................... GPS, GLONASS, Galileo, Beidou, QZSS
Channel capacity ........................................ 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 .......................................... < 45 s typically
Reacquisition .............................................. < 2 s
Real time correction protocols ...................... CMR, CMR+, CMRx, RTCM 2.1, 2.2, 2.3, 3.0, 3.1
SBAS accuracy* ........................................... < 100 cm
ViewPoint RTX .......................................... 50 cm HRMS
Code DGNSSS accuracy (real-time) ............... 75 cm + 1 ppm HRMS
Code DGNSSS accuracy (post-processed) ....... 50 cm + 1 ppm HRMS
Maximum speed ........................................ 1,880 kph / 1,150 mph / 999 knots
Maximum altitude ....................................... 9,000 m

INTERFACES
Port .......................................................... Bluetooth 2.1 + EDR, USB 2.0 (charge/firmware update)
Bluetooth transmission ............................... Class 2 (10 m) AP2 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
Raw measurement data ................................ Trimble GSOF, Binary

BATTERY AND POWER
Battery type .............................................. Integrated Lithium-Ion
Battery capacity ........................................ 3.7 V 15 Wh
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) ....................... –20 ºC to +55 ºC
Storage ..................................................... –30 ºC to +70 ºC
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
Relational humidity ...................................... MIL-STD-810G Method 514.5 Procedure I Category 24
Relative humidity ...................................... MIL-STD-810G Method 514.5 Procedure I Category 24
Relative humidity ...................................... MIL-STD-810G Method 514.5 Procedure I Category 24
Altitude rating ........................................... MIL-STD-810G Method 500.5
Maximum storage altitude ......................... 12,192 m
Maximum operational altitude ...................... 9,000 m

MECHANICAL
Enclosure dimensions .................................. 11.2 x 6.8 x 2.6 cm
Weight ..................................................... 187 g
Power connector ....................................... Micro-B USB female
External antenna connector ....................... SMB female

INTERNAL ANTENNA
Frequency range ....................................... GPS L1 and GLONASS L1

SUPPORTED PLATFORMS
iOS (7x or greater), 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)

Contact your local Trimble Authorized Distribution Partner for more information