

SOKKIA

GRX2
GNSS RECEIVER



Ultimate in Versatility

Scalable – Affordable – Triple Wireless Technologies



- **Fully Scalable**
- **226-channel GPS+GLONASS**
- **Integrated Radio+Cellular+Bluetooth®**
- **Voice Feedback**
- **Compact, Watertight and Rugged**

The Sokkia GRX2 has been enhanced with the latest GNSS chipset technology, providing 226 channels and superior antenna quality. Both RTK and static operations will be completed with increased productivity. The GRX2 provides unmatched usability and versatility that guarantees to improve performance.

GRX2 GNSS Receiver

The GRX2 receiver is a fully integrated dual constellation receiver, antenna, radio, and optional cellular modem. In addition, the integrated Bluetooth® module, now enhanced for better performance, is designed into a rugged magnesium alloy body.

Fully Scalable Architecture

The GRX2 can be purchased as a single frequency GPS only receiver at a low cost and later upgraded to dual frequency. Add a radio or cellular modem for additional signal capability for GLONASS.

226 Channels for GPS and GLONASS Signals

- 226 tracking channels with Universal Tracking Technology
- Programmable channels for tracking available signals
- Supports SBAS, QZSS, and GLL

Triple Wireless Technologies Inside

Three commonly-used wireless technologies can be integrated into the GRX2 receiver.

- Digital UHF or FH915 SS modem (receiver/transmitter): for RTK base and rover
- GSM/HSPA modem: for network RTK, and MAGNET® Relay
- Bluetooth® modem: for controller and other PC

Maximum Versatility in RTK Applications

Utilizing full wireless connectivity and voice feedback system, the GRX2 facilitates the use of both RTK and network RTK technologies.

- Built-in GSM/HSPA modem makes the GRX2 an ideal rover receiver for network RTK positioning.
- Can be used for both private RTK base and RTK rover using an internal digital UHF or FH915 spread spectrum without any extra devices.
- MAGNET Relay ready - cellular to cellular base/rover RTK.
- Voice messages notify the users when RTK is fixed or lost, or if other problems occur.





Additional Hardware Features

- 22 status LED displays are exceptionally readable even under bright sunlight.
- Data storage on popular SD/SDHC cards.
- IP67 dust/water protection.
- One removable battery powers the receiver for up to 6 hours in RTK usage with UHF radio communication.
- The BDC70 Li-ion battery can be used in other Sokkia total stations and digital levels.



Field Controllers

The GRX2 has built-in internal Bluetooth® capability that allows the user to choose their field controller model and software. The broad capability design allows users more choices for their preferred style of field controller. Whether it is a small palm-sized screen device, a larger screen handheld, or even a field laptop, the GRX2 is ready to connect.

MAGNET® Field

MAGNET Field provides a bright, graphical user interface with large touch icons and bright readable text. Select your color scheme black, gold, blue, or silver, for your best visibility.



Software

MAGNET software is tailored for use with Sokkia GNSS receivers in both field and office functions.

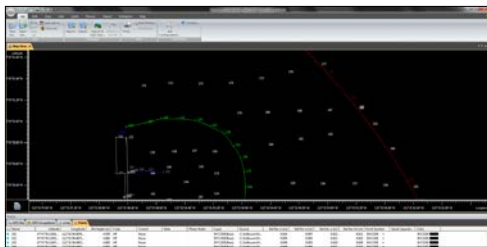
MAGNET Enterprise

A managers dream of tracking all field and office data in one simple to access web interface. Store and exchange your field data in the Enterprise cloud. Save time by sending your field and office updates to the cloud rather than driving back to the office.



MAGNET Office

Get full CAD functionality with MAGNET Office Site and Topo, or process field data with MAGNET Office Tools inside AutoCAD® products, like Civil3D®. Choose the MAGNET Office solution module that best fits your needs.



GRX2

226 CHANNEL GNSS RECEIVER

SPECIFICATIONS

Tracking Capability	
Number of Channels ^{*1}	226 channels with optimized satellite tracking technology
Tracked Signals	
GPS	L1, L2, L2C
GLONASS	L1, L2
SBAS	L1 C/A WAAS/MSAS/EGNOS/GAGAN
QZSS	L1 C/A
Antenna	Integrated
Positioning Accuracy ^{*2}	
Static/Fast Static	H: 3.0 mm + 0.4 ppm, V: 5.0 mm + 0.5 ppm
Precision Static ^{**}	H: 3.0 mm + 0.1 ppm, V: 3.5 mm + 0.4 ppm
RTK (L1 + L2)	H: 5 mm + 0.5 ppm, V: 10 mm + 0.8 ppm
DGPS	< 0.5 m
User Interface	
Operation	Single-button operation for power, receiver reset, memory initialization
Display panel	22 LED status indicators
Voice navigation	Multi-lingual voice messages for receiver status information
Data Management	
Update/output rate ^{*3}	1 Hz, 5 Hz, 10 Hz, 20 Hz (10 Hz RTK Standard)
Communication Ports	RS-232C (4,800 to 115,200 bps)
Real Time Data Output	TPS, RTCM SC104 v2.x, 3.x and MSM, CMR/CMR+
ASCII Output	NMEA 0183 version 2.x, 3.x and 4.x
Wireless Communication	
Bluetooth® modem	V2.1 + EDR, Class 2, 115,200 bps ^{*4}
Digital UHF II modem ^{*4}	Internal, receiver (RX) and transmitter (TX), 410 to 470 MHz
Cellular	Integrated HSPA+/CDMA
FH915 spread spectrum radio	Internal, receiver (RX) and transmitter (TX), 902 to 928 MHz
Environmental	
Dust/Water Protection	IP67 (IEC 60529:2001) at closing all connector caps. Protected against temporary immersion up to 1 m (3.3 ft.) depth.
Shock	2 m (6.56 ft.) pole drop
Operating Temperature	
GRX2 receiver	-40 to 65°C (-40 to 149°F)
BDC70 battery	-20 to 65°C (-4 to 149°F)
Radio/GSM modems	-20 to 55°C (-4 to 131°F)
Storage Temperature	-45 to 70°C (-49 to 158°F)
Humidity	100%, condensing
Physical	
Enclosure	Magnesium alloy housing
Size (w x h)	184 x 95 mm (7.24 x 3.74 in.)
Weight (GRX2 receiver / BDC70 battery)	1.0 kg (2.20 lb.) / 195 g (6.9 oz.)
Power supply	
Standard battery BDC70	Detachable, Li-ion battery, 7.2V, 5240 mAh
Operating time at 20°C (68°F)	>7.5 hours in static mode with Bluetooth® connection
Charger CDC68	
Recharging time	Approx. 4 hours at 25°C (77°F)
Input voltage	100 to 240V AC (50/60 Hz) ^{*5}
External power	6.7 to 18V DC

^{**} Under nominal observing conditions and strict processing methods, including use of dual frequency GPS, precise ephemerides, calm ionospheric conditions, approved antenna calibration, unobstructed visibility above 10 degrees and an observation duration of at least 3 hours (dependent on baseline length).

^{*1} Number of channels and tracked signals vary according to receiver configurations.

^{*2} Accuracy depends on the number of satellites used, obstructions, satellite geometry (DOP), occupation time, multipath effects, atmospheric conditions, baseline length, survey procedures and data quality.

^{*3} 1 Hz standard. Higher rates available as options.

^{*4} Internal "FH915 modem" or "FH915+Cellular modem" available as factory options. Bluetooth® Class 1 when used with a Class 1 field controller.

^{*5} Use with an appropriate AC power cable.

^{*6} Under nominal observing conditions and strict processing methods, including use of dual frequency GPS, precise ephemerides, calm ionospheric conditions, approved antenna calibration, unobstructed visibility above 10 degrees and an observation duration of at least 3 hours (dependent on baseline length).

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