

SOKKIA

GRX1
GNSS Receiver



**Precision &
Reliability**

ULTIMATE VERSATILITY

Scalable – Affordable – Triple Wireless Technologies



- Fully Scalable
- 72-channel
- GPS+GLONASS+SBAS
- Integrated
- UHF+GSM+Bluetooth®
- Voice Navigation
- Compact, Watertight and Rugged

GRX1
GNSS Receiver

Small, compact & lightweight GNSS receiver

The GRX1 weighs only 1.4 kg including battery and modem. This makes the GRX1 one of the lightest receivers on the market.

Benefit: Operator fatigue is reduced with light weight.

Key Points

- Small, compact & lightweight GNSS receiver
- Superior RTK performance
- IP67 Environment Proof rating
- Fully upgradeable
- Internal UHF Radio and GSM/GPRS modem
- Voice messages/alerts & LED panel display
- Easy access to Battery, SD and SIM cards
- Flexible battery options
- Supplied with new Sokkia Field & Office software

Superior RTK performance

The GRX1 features a new 72 channel GNSS board for tracking GPS, GLONASS and SBAS. The output measurement interval for position is up to 20Hz, baseline length for RTK fix up to 50km and initialization time can be as low as 5 seconds (depending on conditions). The GRX1 can receive all GNSS signals which are currently available.

Benefit: Reduced start up time to get working, and using all available signals, keeps you working longer in difficult areas.

IP67 Environment Proof rating

The GRX1 is a very rugged receiver. The enclosure is made from magnesium alloy which is light, strong and provides a shield against unwanted signal noise. The GRX1 is rated to IP67 which means that it is fully protected against dust and water; even against temporary immersion up to 1 m.



Benefit: Will not let you down in any conditions!

Fully upgradeable

The GRX1 is upgradeable from L1 GPS to L1/L2 GPS RTK to L1/L2 GPS+GLONASS RTK, no additional hardware is required. This means that the GRX1 is a safe investment for first time users that want to start with post-processing; they will be able to upgrade at a later stage to a complete GNSS RTK receiver without changing hardware.

Benefit: Safe investment, users only pay for what they need.

Complete new Sokkia Field & Office software

The GRX1 is introduced together with the new Sokkia Spectrum Field (SSF) and Sokkia Spectrum Office (SSO) software. Sokkia Spectrum Field is field controller software for GNSS receivers, Total Stations and Digital Levels. Sokkia Spectrum Office is a Windows PC software application for processing RTK, ETS data, and for post-processing raw data. Additionally, the new Sokkia Spectrum Link is a free of charge PC tool for data transfer and conversion.



Survey Software

Spectrum Survey series software is tailored to use with Sokkia GPS/GNSS receivers in both field and office works.

> Spectrum Survey Field

Fast, powerful, yet user-friendly data collection software.

- Large graphical display, Spectrum Survey Field provides an intuitive user interface that minimises the learning curve.
- Maximises the productivity in all kinds of GNSS surveying, construction setting out and GIS data collection tasks.
- Easily handles multiple surveying instruments using individual configuration files stored for each instrument.
- Superior data management and exchange capability in numerous file formats.

> Spectrum Survey Office

Comprehensive GPS/GNSS office software.

- Spectrum Survey Office offers all necessary functionality for GPS/GNSS surveying.
- Tool bars, reports and views can be easily customized for your specific needs.
- Data export in all industry-standard formats.

Internal UHF Radio and GSM / GPRS modem

The GRX1 has an internal radio and GSM/GPRS modem. There is no more hassle with external-radios or cell phone connections. Once again the GRX1 is a safe investment. Users that carry out surveys using a base and rover set up and radio data link, can turn their receivers into RTK network rovers when required. No extra cost involved.

Benefit:

Easy switch from UHF to GSM/GPRS in the field, easy for base-rover users to change to GNSS RTK network.

Voice messages & LED panel display

All basic information about the GRX1 status is announced by voice messages and is visible from the 22 LED panel display. The voice messages eliminate the need for repeated checks on the controller's display while the user is working. The panel display presents an easy-to-read status overview.

Benefit:

Seamless workflow and instant recognition of change in status.



SHC250 Field Controller

Ruggedised compact handheld controller.

- Windows Mobile 6.5 OS
- 806 MHz intel XScale processor
- Built-in Bluetooth® Class II
- Crystal clear high-resolution touch-screen
- Compact Flash & SD card slots
- USB, mini USB & serial ports



SHC250

SHC2500 Field controller

A full-featured ruggedized, handheld field controller with built-in 5 megapixel camera.

- CE.NET OS
- 624 MHz Xscale processor
- 55 key alphanumeric keyboard
- Built-in Bluetooth® & WiFi™
- 5.17 megapixel colour camera
- USB & serial ports



SHC2500

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SOKKIA

www.sokkia.eu

Your local authorised Sokkia distributor is:

GRX1 SPECIFICATIONS

Tracking capability

Number of channels ^{*1}	72 channels
Tracked signals ^{*1}	GPS: L1 CA, L1/L2 P-code, L2C GLONASS: L1/L2 CA, L1/L2 P-code SBAS: WAAS, EGNOS, MSAS

POSITIONING ACCURACY^{*2}

Static	L1+L2	H: 3 mm + 0.5 ppm	V: 5 mm + 0.5 ppm
	L1 only	H: 3 mm + 0.8 ppm	V: 4 mm + 1 ppm
Fast static	L1+L2	H: 3 mm + 0.5 ppm	V: 5 mm + 0.5 ppm
Kinematic	L1+L2	H: 10 mm + 1 ppm	V: 15 mm + 1 ppm
RTK	L1+L2	H: 10 mm + 1 ppm	V: 15 mm + 1 ppm
DGPS		<0.5 m	

USER INTERFACE

Operation	Single-button operation for power, receiver reset
Display panel	22 LED status indicators
Voice navigation	Multi-lingual voice messages for receiver status information

DATA MANAGEMENT

Memory	SD/SDHC card (FAT16/32 formats)
Data format	RTCM SC104 2.1/2.2/2.3/3.0/3.1, CMR, CMR+, NMEA, TPS
Update/output rate ^{*3}	1 Hz, 5 Hz, 10 Hz, 20 Hz
Communication port	RS-232C (4,800 to 115,200 bps)

WIRELESS COMMUNICATION

Bluetooth® modem	V.1.1, Class 1, 115, 200 bps
Digital UHF modem ^{*4}	Internal, receiver (RX) and transmitter (TX), 410 to 470 MHz
GSM/GPRS modem ^{*4}	Internal

ENVIRONMENTAL

Dust and 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	GRX1 receiver: -40 to +65°C (-40 to +149°F) BDC58 battery: -20 to +65°C (-4 to +149°F) UHF/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	Dia. 184 x H 95 mm (dia. 7.24 x H 3.74 in.)
Weight	GRX1 receiver: 1.1 kg (2.43 lb.) BDC58 battery: 195 g (6.9 oz.) Internal modems: 115 to 230 g (4.1 to 8.2 oz.), depending on modem specifications

POWER SUPPLY

Standard battery BDC58	Detachable, Li-ion rechargeable battery, 7.2V, 4.3Ah
Operating time at 20°C (68°F)	> 7.5 hours in static mode w/Bluetooth® connection
Charger CDC68	Recharging time: Approx. 4 hours at 25°C (77°F) Input voltage: 100 to 240V AC (50/60Hz) ^{*5}
External power	Input voltage: 6.7 to 18V DC

*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 "UHF modem" or "UHF+GSM modem" available as factory options.

*5 Use with an appropriate AC power cable.