Software

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

Spectrum Survey Field

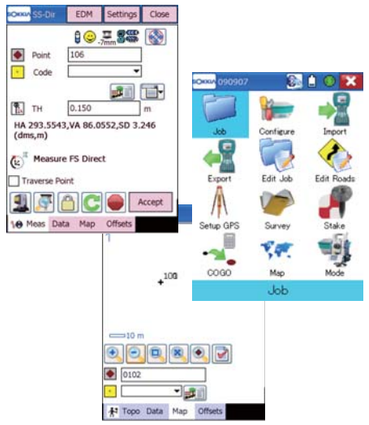
Fast, powerful, yet user-friendly data collection software.

- Leveraging a large graphical display, the Spectrum Survey Field provides easy-to-use intuitive user interface that minimizes the learning curve.
- Maximizes the productivity in all kinds of GPS/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.

- The 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.



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: 3mm + 0.5ppm	V: 5mm + 0.5ppm
	L1 only	H: 3mm + 0.8ppm	V: 4mm + 1ppm
Fast static	L1+L2	H: 3mm + 0.5ppm	V: 5mm + 0.5ppm
Kinematic	L1+L2	H: 10mm + 1ppm	V: 15mm + 1ppm
RTK	L1+L2	H: 10mm + 1ppm	V: 15mm + 1ppm
DGPS		<0.5m	
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			
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		1Hz, 5Hz, 10Hz, 20Hz	
Communication port		RS-232C (4,800 to 115,200bps)	
Wireless communication			
Bluetooth modem		V.1.1, Class 1, 115,200bps	
Digital UHF modem*4		Internal, receiver (RX) and transmitter (TX), 410 to 470MHz	
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 1m (3.3ft.) depth.	
Shock		2m (6.56ft.) pole drop	
Operating temprature	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 95mm (dia. 7.24 x H 3.74 in.)	
Weight	GRX1 receiver	1.1kg (2.43 lb.)	
	BDC58 battery	195g (6.9 oz.)	
	Internal modems	115 to 230g (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 1Hz 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.

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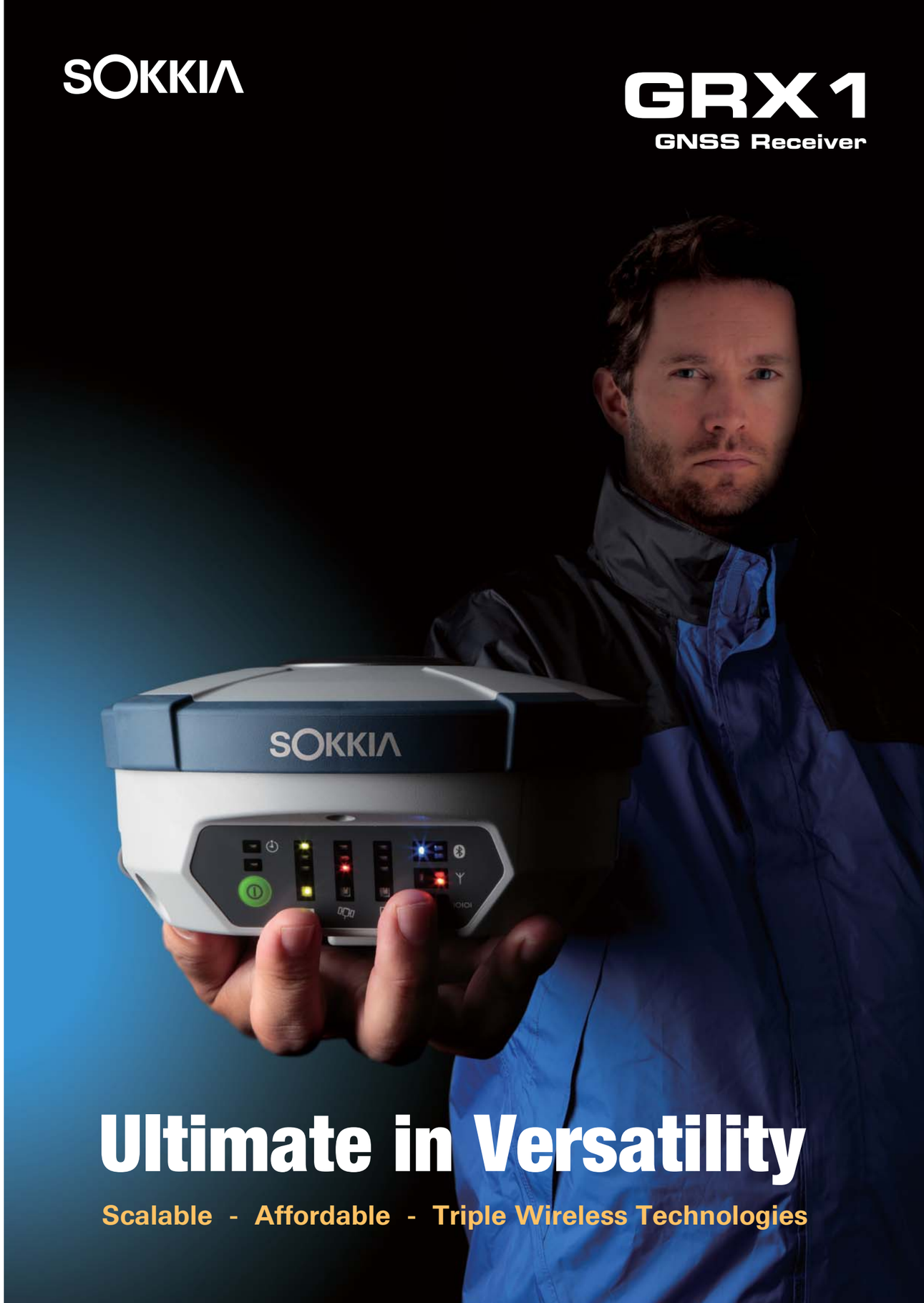
SOKKIA

GRX1
GNSS Receiver



Ultimate in Versatility

Scalable - Affordable - Triple Wireless Technologies

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

Sokkia GRX1 brings a new level of versatility and flexibility into precision GNSS positioning applications. Whether it's used for RTK base or rover, for network RTK rover or even as a static receiver, the GRX1 provides unmatched usability and convenience that increases field work efficiency on every job site.

GRX1 GNSS Receiver

The GRX1 GNSS receiver fully integrates GPS+GLONASS receiver and antenna, digital UHF modem, GSM/GPRS module, *Bluetooth*® module and detachable battery into a compact and rugged magnesium alloy body.

Fully Scalable Architecture

GRX1's scalable architecture maximizes your return on investment.
It allows you to start with an L1 GPS receiver with a minimal initial cost, which can be upgraded to L1 GPS+GLONASS, to L1/L2 GPS, up to 72-channel L1/L2 GPS+GLONASS receiver at any time you need.

72 Channels for GPS + GLONASS + SBAS

- 72 universal channels are available for GPS, GLONASS and SBAS signals tracking.
- Supports GPS L2C signals.

Triple Wireless Technologies Inside

Three commonly-used wireless technologies can be integrated into GRX1 receiver.

1) Digital UHF Modem (receiver/transmitter): for RTK base and rover
2) GSM/GPRS Modem: for network RTK
3) Bluetooth Modem: for controller and other PC (Class 1 long-range specifications)

Internal "UHF modem" and "UHF+GSM/GPRS modem" are available as factory options.

Maximum Versatility in RTK Applications

Utilizing full wireless connectivity and the Sokkia-invented voice navigation system, the GRX1 dramatically facilitates the use of both RTK and network RTK technologies.

- Built-in GSM/GPRS modem makes the GRX1 an ideal rover receiver for network RTK positioning.
- The GRX1 can be used for both private RTK base and RTK rover using internal digital UHF modem without any extra device.
- It also supports network RTK where the correction data is broadcasted by UHF radio.
- Voice messages notify the users when RTK is fixed or lost, or other problems occur. This feature dramatically increases work efficiency by eliminating a need for repeated checks with the controller display.

Other Hardware Features

- 22 status LED displays are exceptionally viewable even under bright sunlight.
- Data storage in popular SD cards. Large capacity SDHC cards are also supported.
- IP67 dust-/water protection
- One detachable battery powers the receiver for up to 6 hours in RTK usage with UHF radio communication kept. The BDC58 Li-ion battery is commonly used for Sokkia total stations and digital levels.

Data Collectors

The SHC series data collector incorporates the Spectrum Survey Field software that fully controls the GRX1 receiver with unsurpassed ease and speed.

SHC250

The compact data collector SHC250 features quick and easy operation fully utilizing the latest Windows Mobile® 6.5, high-speed processor and large touch screen display.

Hardware Features

- Windows Mobile Version 6.5
- 806MHz XScale processor
- 3.7" VGA touch screen display
- Built-in Bluetooth modem
- IP66 dust-/water protection

SHC2500

The advanced data collector SHC2500 integrates full alphanumeric keyboard and a wide array of features in a rugged waterproof body.

- Windows CE.NET 5.0
- 624MHz XScale processor
- 3.5" QVGA touch screen display
- Built-in Bluetooth modem
- IP67 dust-/water protection
- 5MP digital camera