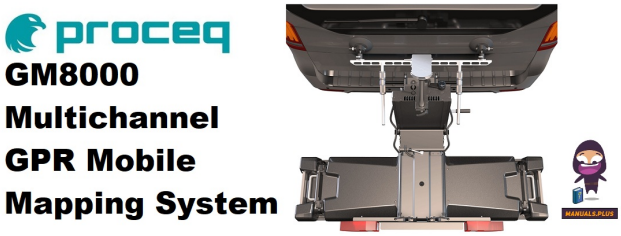

proceq GM8000 Multichannel GPR Mobile Mapping System User Guide

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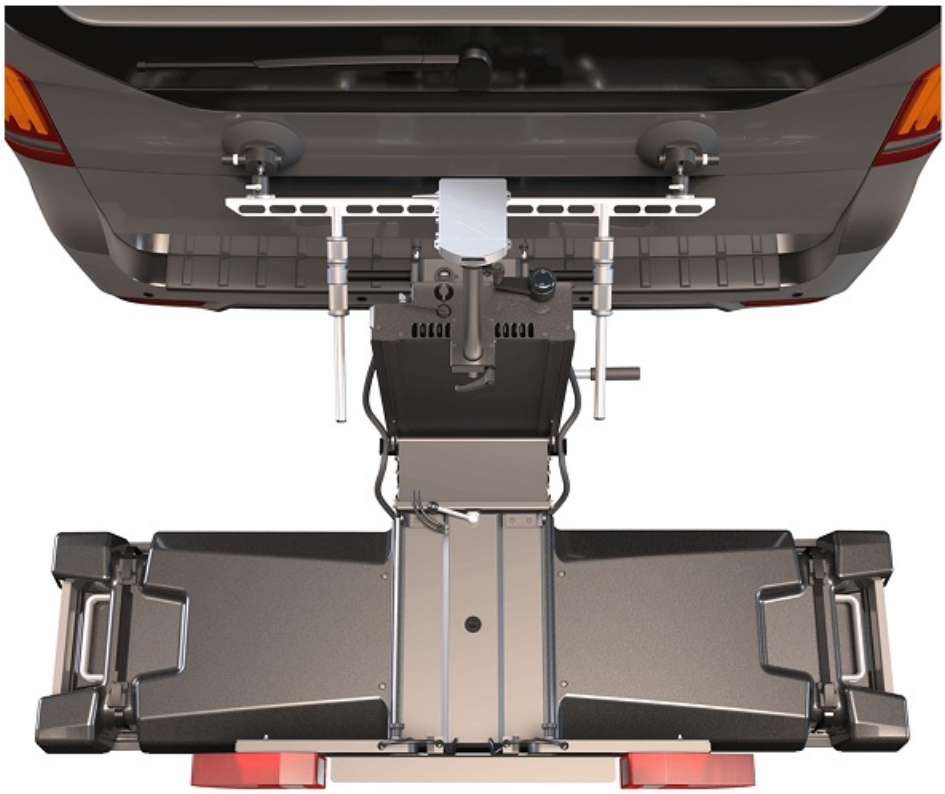

Product Usage Instructions

The GM8000 is a versatile product designed for ground- and wall-probing radar applications. Follow these steps to effectively use the product:

- **A. Setup**
  - Ensure the device is fully charged before use. Connect any required accessories according to the user manual.
- **B. Calibration**
  - Perform calibration as per the guidelines provided in the manual to ensure accurate readings.
- **C. Operation**
  - Turn on the GM8000 and select the desired mode of operation. Follow the on-screen instructions to start scanning.
- **D. Data Collection**
  - Collect data by moving the device over the area of interest systematically. Ensure proper contact with the surface for accurate results.
- **E. Analysis**
  - Review the collected data using the software provided or compatible applications for detailed analysis.
- **F. Interpretation**
  - Interpret the results based on the data collected and use them for decision-making or further investigations.
- **G. Maintenance**
  - After each use, clean the device following the maintenance instructions in the manual. Store it in a safe and dry place.

FEATURE

Modular multichannel GPR mobile mapping system for the subsurface

- **Versatility**
  - Interchangeable GPR arrays for near-surface and deep detection to scale your solution easily and approach new applications.
- **Accuracy**
  - The highest density of information in all three dimensions, is accurately mapped even in challenging conditions.
- **Efficiency**
  - Easy to set up, operate, and get insights from. Data collection at high speed and direct path into the office.

SPECIFICATION

Instrument Tech Specs

- **Radar technology** Stepped-frequency GPR
- **Modulated frequency range** 500 – 3000 MHz [2] | 30 – 750 MHz [3]
- **Number of channels** 71 (VV) + 31 (HH) [2] | 23 (VV) [3]
- **Channel spacing** 2.5 cm (VV), 5.5 cm (HH) [2] | 7.5 cm [3]
- **Scan width** 1.75 m [2] | 1.67 m [3]
- **Scan rate** 27500 scans/s [2] | 22000 scans/s [3]
- **Time window** 45 ns [2] | 130 ns [3]
- **Acquisition speed** Up to 80 Km/h [2] [4] | Up to 180 Km/h [3] [5]
- **Spatial interval Up** to 100 scans/m
- **Dimensions Total length**: 923 mm | Total width: 1882 mm
- **Weight** 87 – 93 Kg [10]
- **Odometry** Doppler radar or wheel speed sensor
- **Ingress protection (IP)** / **sealing** IP65
- **Towing system** Rear hitch, 50 mm ball
- **Shock absorption system** Hydraulic, optional anti-bump wheels
- **Power supply** Power-over-Ethernet / External 12V
- **Operating temperature** -10° to 50°C | 14° to 122° F
- **Operating humidity** <95% RH, non-condensing
- **Connectivity** USB-C, USB-A, 2x Ethernet + Power, 2x Lemo [6], 2x ODU Antenna connector, Universal I/O (UART, CAN-Bus)
- **GNSS satellites** Multiband GPS + Glonass + Galileo + Beidou
- **GNSS real-time** corrections NTRIP RTK compatible [7]

- **RTK accuracy** Typ. 1 – 5 cm | 0.5 – 2 in [8]
- **RTK outage accuracy** <0.1% drift/distance [9]
- **Sensor fusion** GNSS + IMU + Camera imaging + Wheel speed
- **Feature tracking** Yes

OVERVIEW

1. Running an up-to-date iOS version; recommended models: MacBook Pro® 2022 model or superior
2. In combination with 2x GX1 array modules
3. In combination with 2x GX2 array modules
4. At 100mm spacing
5. At 50mm spacing
6. For terrestrial positioning systems, an intermediate serial adapter to DB9 might be needed to output Pseudo NMEA GGA positions
7. Needs an active Internet connection on the iPad; NTRIP corrections in RTCM3 format
8. The achieved accuracy is subject to atmospheric conditions, satellite geometry, observation time, etc.
9. By bundle adjustment between fixed RTK positions. Estimated max. error: 0.3 m in floating RTK sections./
10. Depending on configuration and accessories, cables included

Our Accessories

Image	PartNumber	Description
	39367260	GX1GPR array module (500-3000 MHz) for road & bridge mapping. Compatible with: GM8000, GS9000
	39367250	GX2 GPR array module (30-750 MHz) for utility & geophysical mapping. Compatible with: GM8000, GS9000
	39360467	
	39360474	
	39360488	
	39360340	
	39360150	
	39360277	Skid plate for GX1 array module
	39360281	Skid plate for GX2 array module
	39350676	Connects to RS232 DB9 port to receive NMEA sentences from external positioning devices.

Standards & Guidelines	Description
AS 5488-2013 (Australia)	
NF_S70-003 (France)	
UNI/PdR 26.01:2017 (Italy)	
ASCE 38-02 (United States)	
CSA S250 (Canada)	
HSG47 (United Kingdom)	
PAS128 (United Kingdom)	
ASTM D6432-11	
NCHRP Synesis 255	
SHRP H-672	
SHRP S-300	
SHRP S-325	

MORE INFORMATION

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range of InspectionTech solutions, combining intuitive software and Swiss-manufactured sensors.

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FAQs

- **Q: Where can I find the GM8000 manual for more detailed information?**
  - A: The GM8000 manual is available for download at https://www.screeningeagle.com/en/products/proceq-gm8000
- **Q: What compliance standards does the GM8000 adhere to?**
  - A: The GM8000 complies with RoHS, WEEE, Low Voltage Directive, EMC Directive, and Radio Equipment Directive.
- **Q: How do I know if my GM8000 is authentic Swiss-made?**
  - A: The Swiss-Made declaration confirms that the product was developed and manufactured in Switzerland, meeting all necessary requirements.

Documents / Resources

	proceq GM8000 Multichannel GPR Mobile Mapping System [pdf] User Guide GM8000, GM8000 Multichannel GPR Mobile Mapping System, Multichannel GPR Mobile Mapping System, GPR Mobile Mapping System, Mobile Mapping System, Mapping System

References

- Screening Eagle Technologies - Protect The Built World - Protect The Built World
- Download - Protect The Built World
- Screening Eagle Technologies - Protect The Built World - Protect The Built World
- User Manual