Subsurface Mapping GPR

GM8000

Modular multichannel GPR mobile mapping system for the subsurface

Versatility

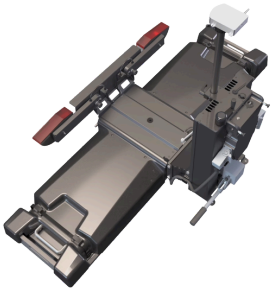
Interchangeable GPR arrays for near surface and deep detection to scale your solution easily and approach new applications.

Accuracy

The highest density of information in all three dimensions, 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.



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

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	