

SENSORS & SOFTWARE
from RADIODETECTION



NOGGIN[®]

Adaptable, High-Performance GPR

Are you a GPR professional who performs multiple surveys daily?

Need a flexible GPR system for many applications in varied terrains?

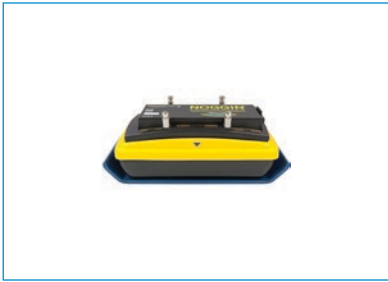
Do you need to scan large areas efficiently?

If so, Noggin[®] is the GPR for you!



NOGGIN® Sensors

1000



500



250



100



Ultra 100



Ultra technology supports higher stacking to help see weaker GPR signals at greater depths.

Applications



Concrete: Detect deterioration, voids, and structural components.



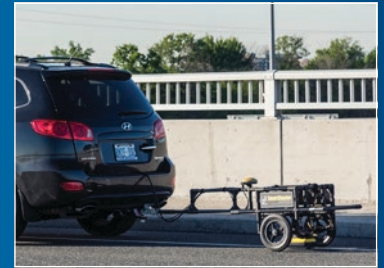
Archaeology: Assist in uncovering artefacts and ancient structures.



Mining: Detect fractures, voids, and geological features for mine safety.



Bathymetry: Conduct bathymetry and sub-bottom profiling.



Roads/Bridges: Assess bridge conditions and identify pavement layers.



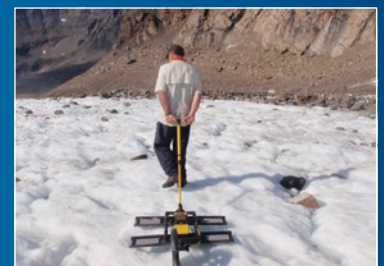
Forensics: Locate burials and buried evidence.



Utility Locating: Identify metallic and non-metallic pipes and cables.



Geology: Investigate bedrock, stratigraphy, and environmental impacts.



Glaciers/Ice Sheets: Measure snow and ice thickness and survey glaciers.

NOGGINs provide optimal flexibility and performance

5 Configurations



SmartCart®

Durable, 4-wheeled, folding cart; provides rapid data collection in open areas.

Compatible with Noggin 100, 250, 500 & 1000



SmartTow™

Light, compact hand-tow configuration; traverse rough or difficult terrain.

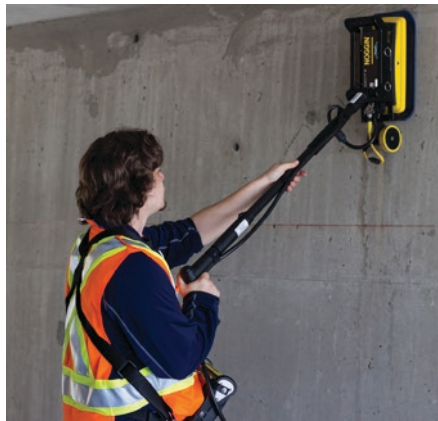
Compatible with Noggin 100, 250, 500 & 1000



SmartChariot™

Rugged, vehicle hitch-mounted; rapidly survey large, flat areas such as roads, parking lots and golf courses.

Compatible with Noggin 250, 500 & 1000



SmartHandle™

Versatile, compact handle; operates on vertical or overhead surfaces and in confined spaces.

Compatible with Noggin 500 & 1000



SmartSled™

Hand or vehicle tow over rough terrain or survey large areas quickly.

Compatible with Noggin 250, 500 & 100

Data Collection Trigger Options



Odometer

User sets distance interval between data traces



Free run – Speed

User sets distance interval between data traces and towing speed



Free run – Time

User sets time interval between data traces



Manual Button Press

User collects data traces when desired

NOGGIN Powerful data collection, quality & interpretation

Adjust data collection parameters and view data in the field using the DVL-502 touchscreen digital video logger for Noggin systems. The unit features a high-visibility display, multi-language support, and a USB port for data transfer.



SplitView™

Viewing cross-section data and the map together helps users interpret subsurface responses in relation to their location. Mark targets by touching the screen and tracking them in map view. The SplitView feature requires an external GNSS



Grid Scans

Provide in-field depth-slice views that visualize horizontal layers of the subsurface to support interpretation. Grid scans have flexible collection with different grid sizes, directions and line spacing.



DynaQ® – Dynamic Stacking

DynaQ adjusts stacking based on collection speed to optimize data quality. Up to 2048 stacks on Noggin 100/250/500/1000 systems and up to 65,536 stacks on the Noggin Ultra 100.

Number of Stacks	Color Code
0	White
1-3	Yellow
4-7	Blue
8-511	Dark Blue
512-2049	Purple
2050-8191	Light Green
8192-65536	Dark Green

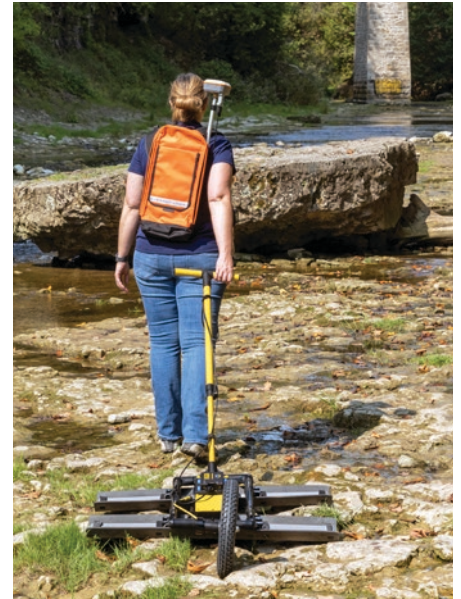

Higher quality



NOGGIN SG Packages

Noggin SG packages are designed to provide an out-of-the-box solution to integrate high-accuracy* GNSS positioning into your Noggin GPR data.

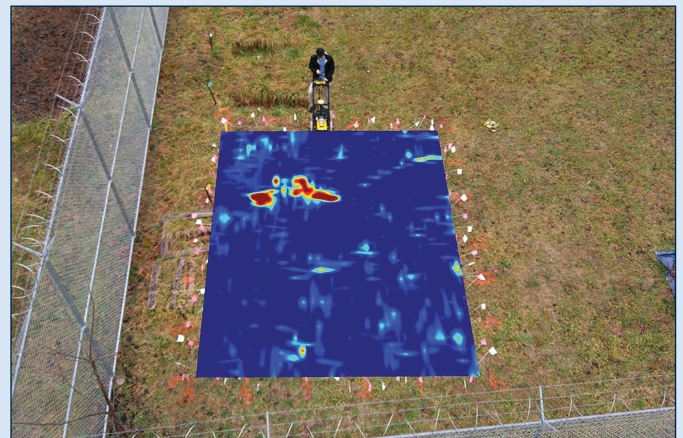
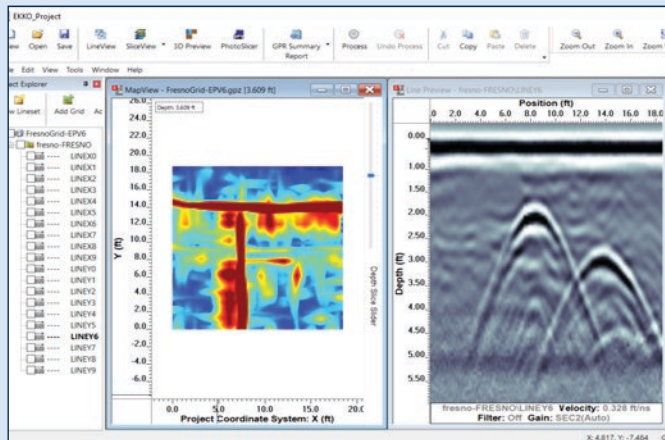
Using an external GNSS receiver enables additional data acquisition features (including SplitView), automated geo-referenced outputs, and post-processing workflows for locating and mapping underground assets.

Flexibility is at the heart of our mapping solutions, allowing customers to choose the solution that is most suitable for their business. With multiple file outputs, mapping experts can import GPR Data into their advanced systems.

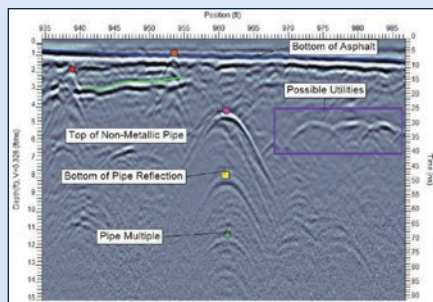
EKKO_Project™ Software

Visualize, Understand and Report your GPR results with the optional EKKO_Project PC Software.

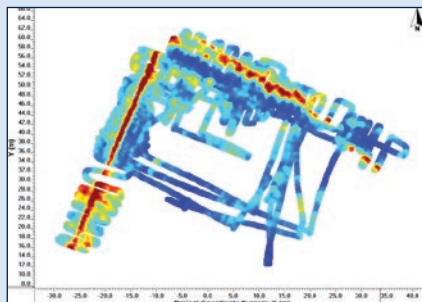


Core

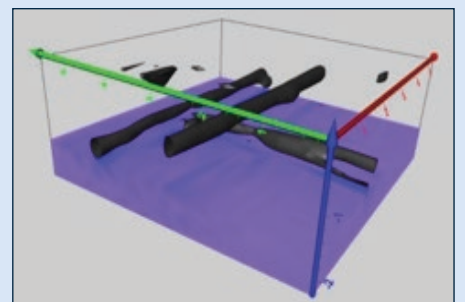
Organize your GPR data, photos and other files and save as a single project file. Easily create PDF reports of your findings.



Examine (Cross-sections)



Reveal (Depth Slices)



3D Reveal (3D Visualization)

Specifications – Hardware

Specifications	Noggin Ultra 100	Noggin 100	Noggin 250	Noggin 500	Noggin 1000
Size	91 x 76 x 17 cm (36 x 30 x 6.5 in)	91 x 76 x 17 cm (36 x 30 x 6.5 in)	63 x 41 x 23 cm (25 x 16 x 9 in)	38 x 23 x 15 cm (15 x 9 x 6 in)	30 x 15 x 11 cm (12 x 6 x 4.5 in)
Weight	9.5 kg (21 lbs)	9.5 kg (21 lbs)	7.5 kg (12.5 lbs)	3 kg (6.5 lbs)	2.3 kg (5 lbs)
Center Frequency -3dB Bandwidth	100 MHz 50 - 150 MHz	100 MHz 50 - 150 MHz	250 MHz 125 - 375 MHz	500 MHz 250 - 750 MHz	1000 MHz 500 - 1500 MHz
Max. Time Window	8000 ns @ 0.5 ns/pt	4000 ns @ 0.8 ns/pt	2000 ns @ 0.4 ns/pt	1000 ns @ 0.2 ns/pt	500 ns @ 0.1 ns/pt
Max. Depth Setting	200 m (656 ft)	200 m (656 ft)	100 m (328 ft)	50 m (164 ft)	25 m (82 ft)
Max. Stacks	65,536	2048	2048	2048	2048
Data output	32-bit	16-bit	16-bit	16-bit	16-bit
Max. points/trace	5,000				
Power	8 watts 12V @ 0.6A DC				
Performance factor	160 dB + 10 log10 stacks eg: for 193 dB for 2048 stacks				
Acquisition Rate	100,000 samples/second				
Operating Temp.	Noggin: -50 C to +50 C; Digital Video Logger (DVL): -20 C to +50 C; Environmental IP65				
Emission Regulations	Noggins comply with the Industry Canada (IC), United States Federal Communications Commission (FCC), and European Technical Standards Institute (ETSI) Regulations for ultra-wide bandwidth (UWB) devices.				



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