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!

SPX TECHNOLOGIES

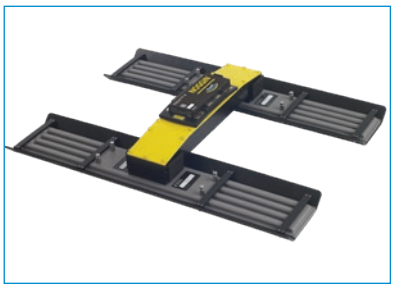
# NOGGIN® Sensors

1000

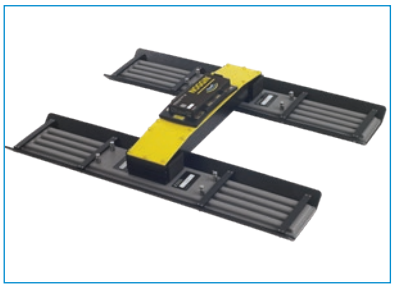
500


250


100



Ultra 100



SHALLOW, HIGHER RESOLUTION

DEEPER PENETRATION

**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™

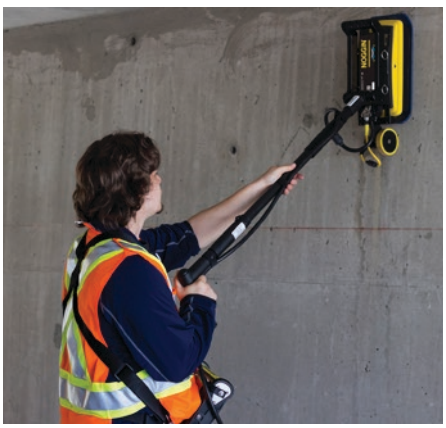
Light, compact hand-tow configuration; traverse rough or difficult terrain.

**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.

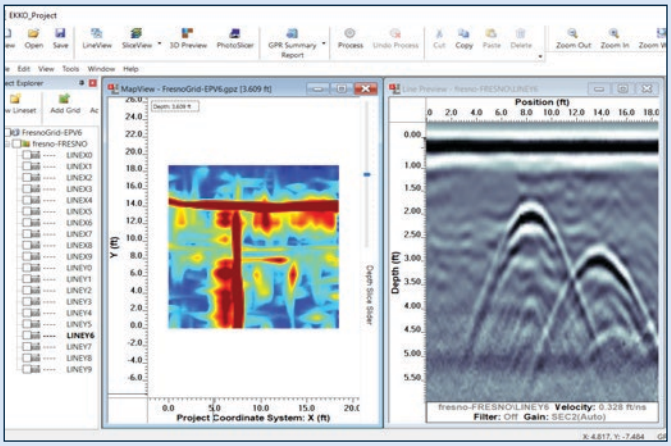
Using an external GNSS receiver enables additional data acquisition features (including SplitView), automated geo-referenced outputs, and post-processing workflows for locating and mapping underground assets.

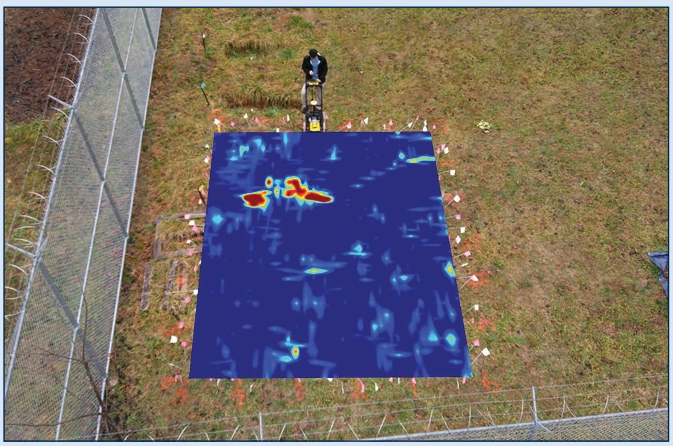
**MAP IT YOUR WAY**

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

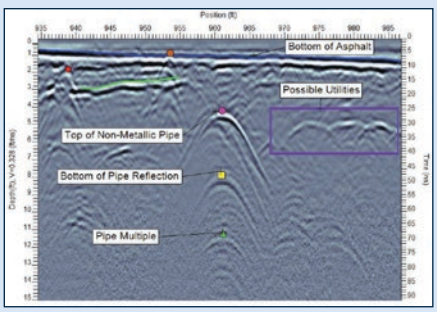
Visualize, Understand and Report your GPR results with the optional EKKO_Project PC Software.



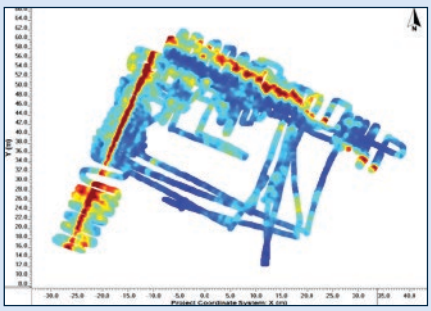


## Core

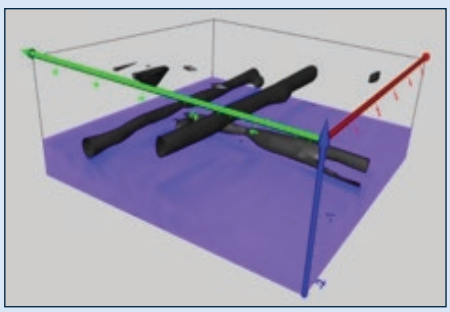
Organize your GPR data, photos and other files and save as a single project file. Easily create PDF reports of your findings.




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<br>(36 x 30 x 6.5 in) | 91 x 76 x 17 cm<br>(36 x 30 x 6.5 in) | 63 x 41 x 23 cm<br>(25 x 16 x 9 in) | 38 x 23 x 15 cm<br>(15 x 9 x 6 in) | 30 x 15 x 11 cm<br>(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<br>-3dB Bandwidth | 100 MHz<br>50 - 150 MHz | 100 MHz<br>50 - 150 MHz | 250 MHz<br>125 - 375 MHz | 500 MHz<br>250 - 750 MHz | 1000 MHz<br>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. | | | | |

**www.sensoft.ca**

**CONTACT US**



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