

SSP



Sub Surface Profiler

Innovative Safety Equipment for Underground Mining

Our goal to improve safety and productivity of underground mining operations through the implementation of innovative radar technology. The Sub Surface Profiler (SSP) is a ground penetrating radar (GPR) that was developed with this in mind, whilst also taking into account the harsh underground mining environment and the challenges faced there-in.

Simplicity meets efficiency

The SSP allows for real time capture, observation and analysis of geological structures at the 'working face'. This information provides the user with the opportunity to make informed decisions quickly that can enhance the safety and productivity of mining personnel.

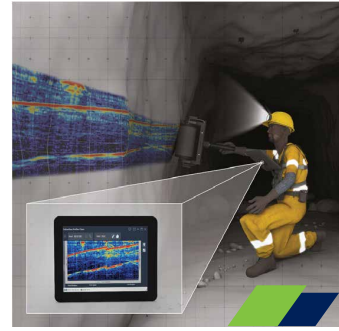
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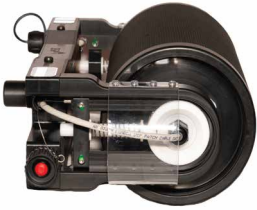
Application of the SSP

- Verification of numerical modelling input parameters
- Identify geological structures in the rock mass
- Quality assessment of preconditioning
- Mapping of fracture profile
- Assessment of face fragmentation
- Face advance cover



Efficiency

The SSP is the lightest GPR designed for underground mining. A single operator can use the SSP to assess multiple survey sites in a day. Its broad frequency band makes the SSP versatile enough for a single system to be used in all underground GPR applications.



The unique technology used in the SSP has a low power requirement and therefore uses smaller and lighter batteries that still last an entire shift.

Due to its versatile accessories, the SSP system is well adapted for use in confined spaces as well as in larger tunnels. Using the sensor simulates a paint roller motion, with inbuilt independent suspension, which allows for good contact over uneven surfaces. This results in quality data sets scan after scan.



Real time data acquisition and analysis

Data is transferred in real time from the radar sensor to the tablet and can be analysed directly in the field after a scan has been completed. The radar sensor communicates via Wi-Fi with the tablet, eliminating the need for cables which creates a tripping hazard. Users are able to make rapid decisions to optimise support and safety.

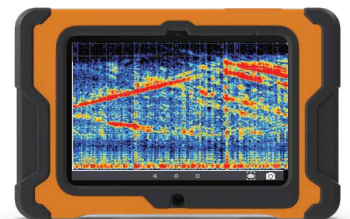
Data can be collected over the following surface:

- In proximity of bolts
- Uneven surfaces
- Geological structure
- Mesh and screen
- Shotcrete
- Mesh and screen behind shotcrete
- Fibrecrete
- Wet surfaces



Intuitive Software

The SSP software follows for an intuitive process where data can be analysed in less than two minutes. By using a few simple steps, an operator can interpret scanned data at the work face and make informed decisions. Data is displayed on the SSP software emulating the real world scenario for easier interpretation. Analysed results can be exported to a report format or E57 file format which seamlessly integrates with various software packages for efficient data exchange.



Features and Certification

➤ Bandwidth: 300 MHz - 1 GHz

📁 Data acquisitions: real time

⚡ Intrinsic safe certification: Ex ia I Ma

↕ Scan depth: up to 10m

🕒 Operating time: up to 4 hours

FC FCC certified

👤 Operator's required: 1

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