

Efficient Ground Penetrating Radar for Concrete

Until now, there's always been a trade-off between penetration depth and resolution when working with ground penetrating radar for concrete. Conventional GPR units are pulsed, which means that you 'ping' the concrete around a defined center frequency.

A low frequency, say 1500 MHz, means deeper penetration but lower resolution. A higher frequency, for example 2500 MHz, results in a higher resolution but much more shallow depth penetration.

How to get both high resolution and deeper radar penetration?

We use what is called 'stepped-frequency continuous wave', which means that we consciously sweep through all relevant frequencies for concrete, ranging from below 500 MHz to well over 3500 MHz. This means maximum penetration, maximum resolution and the lowest signal to noise ratio for <u>every single scan</u>.



This is made possible with world's most advanced concrete GPR scanners, the Proceq GPR Family.

For large concrete areas, the <u>GP8100</u> achieves a very dense GPR data collection with 25cm effective scan width and high scan rate of 1'200 scans/s, in just one superline scan.

For concrete areas with great ground clearance and a penetration depth of 80cm in dry concrete, there's the <u>GP8000</u>, our 4-wheel drive unit.

Have closely spaced targets? The GP8800 will take care of your needs. The <u>GP8800</u> is the most advanced concrete GPR ever developed, that lets you access even the most congested spaces.



All three devices are powered by conventional AA batteries, so you're flight safe and will never have to wait for a shipment of custom batteries. With the GP8800, you can also connect a conventional power-bank and keep scanning for hours and hours.



How to collect and report the data and observations?

These devices connect wirelessly to any off-the-shelf iPad, so you benefit from the intuitiveness of a tablet. No more dials, knobs and buttons - just simple gestures.

Leveraging the ever-increasing computational power of the iPad allows us to provide instant non-migrated, migrated, timeslice, full 3D visualisation, and full augmented reality data projection into the real world. All this without post-processing back at your desk.

Further leveraging the connectivity of the iPad, you can instantly share the data with your colleagues in their offices or do a live screen-share using applications like Zoom.



The end-to-end software platform, <u>INSPECT</u>, allows you to capture all data and observations with the iPad in real-time, storing everything securely on the cloud. All the data is then available to team members and stake holders anywhere in the world, at any time.

Together, we can **protect the built world**.



Explore our Tech Hub for more information on ground penetrating radar for concrete and many other related topics.



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