Inspecting Tunnels, Slabs, and Pavements up to 1.5 Meters Deep with GPR

See deeper than ever into concrete with GPR

This application note describes how the Proceq GP8000 GPR can be used for both shallow and deeper concrete scanning applications such as pavements, slabs and tunnels, due to the new adjustable time window capability.

Challenge

On traditional handheld GPRs, the time window is frozen, which only allows you to view objects clearly at a specific depth in the concrete.

A longer time window might capture deeper objects, but it can waste time on processing and miss the focus on shallow objects. On the other hand, a shorter time window could completely miss the deeper targets. Either way, you only see what you see. If you want to see something more, you would traditionally have to rescan.

And what about when you need to see what is behind the concrete, beyond the maximum 100cm depth? A fixed time window makes it almost impossible to see clearly objects at far deeper depths, especially in areas with high density rebars.

To put it simply, working on a fixed time window is limiting your results.

Solution

Luckily, with the Proceq GP8000 GPR, the limitations of a fixed time window are no longer an issue. Now, you can scan from **55 cm / 20-inch shallow layers, to 150 cm / 60-inch-deep** layers! And you only need to use **ONE antenna**. This is totally unheard of for handheld GPRs.

The beauty of the adjustable time window on the GP8000 GPR is that, without needing to buy another antenna, you can achieve both shallow focus on small objects AND high-resolution focus on deeper objects.

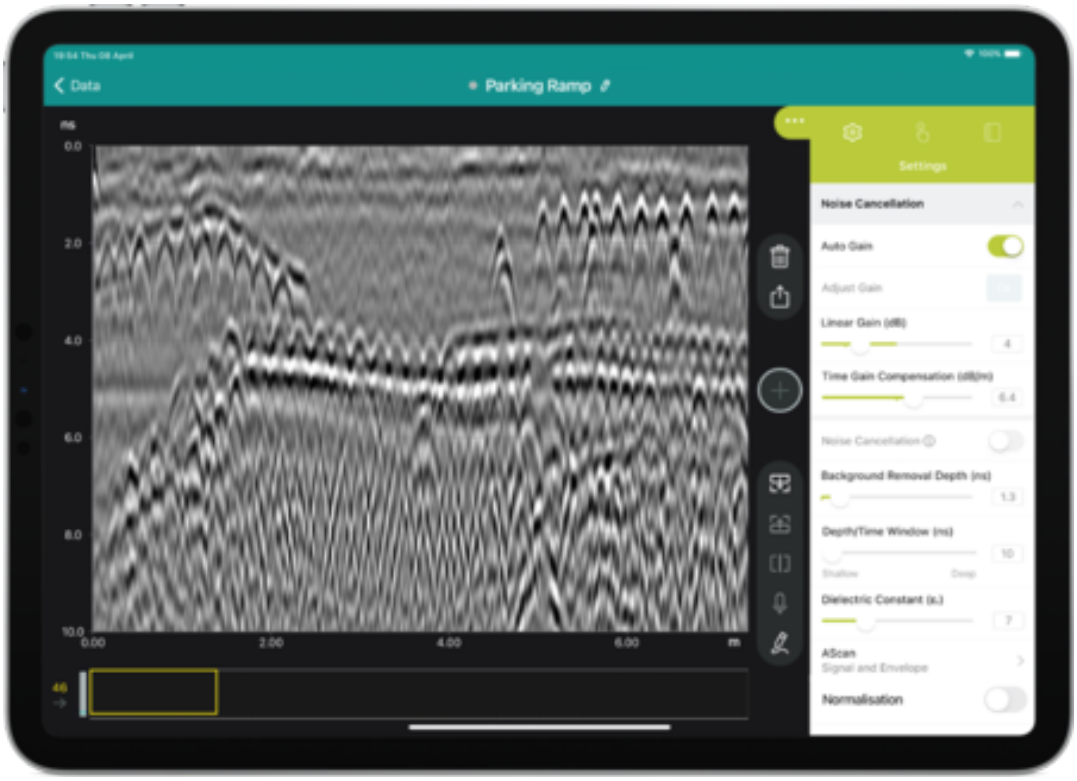
By detecting objects deeper, you unveil a new world for concrete inspection.

Marking jobs become better quality and faster as you can see everything clearly from the first scan with no need to rescan.

For structral assessment, the new capability helps you to deliver better results, with better quality control, and significant time saved by knowing what is behind the concrete immediately.

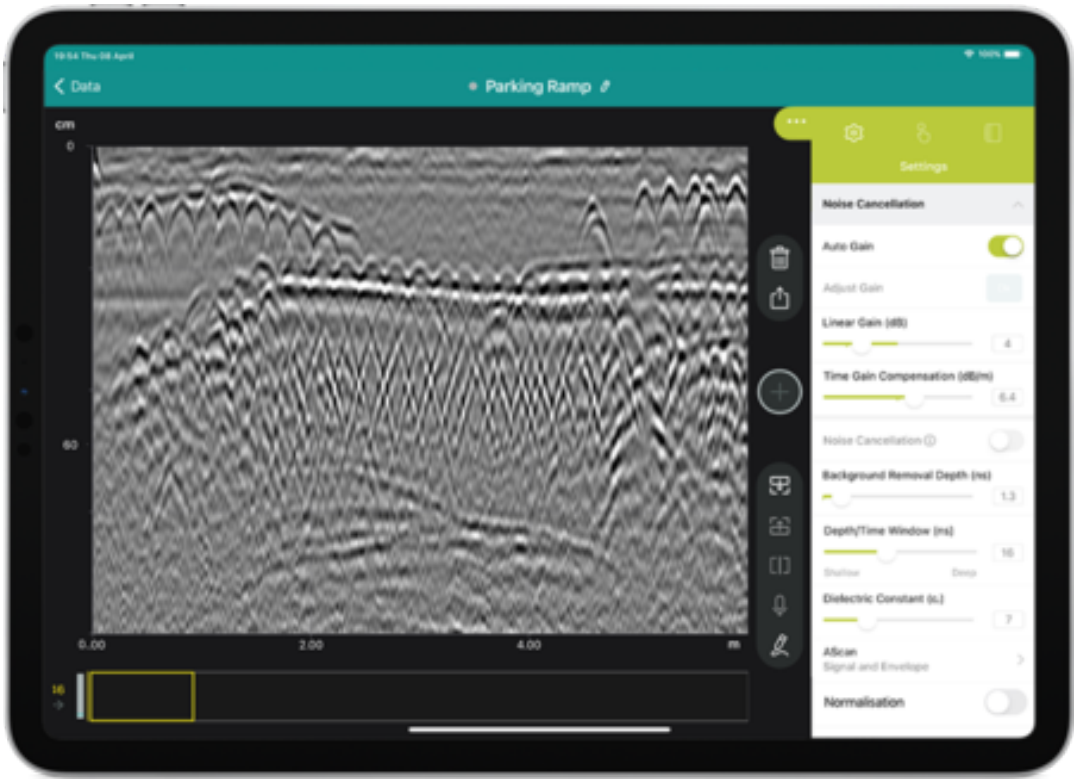
Recap

To see small, shallow objects in concrete, reduce the 'Depth/Time Window' as shown below.



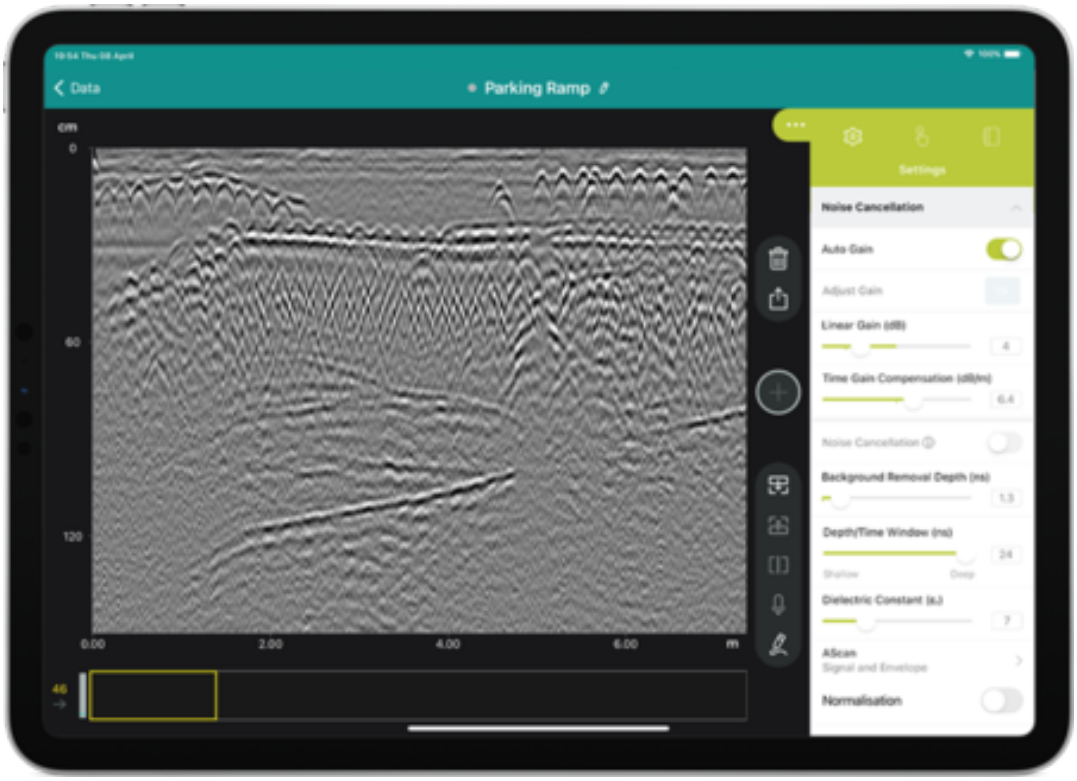
Depth/Time Window 10 (ns)

Increase the time/depth window to 16 ns to detect objects in the deeper layers of concrete.



Depth/Time Window 16 (ns)

To see the behind all the layers of concrete, and detect larger objects beyond the concrete, increase the 'Depth/Time Window' as shown below.



Deep visible targets appearing thanks to the larger Depth/Time Window 24 (ns)

With an adjustable time window, you can see SO MUCH MORE and investigate concrete slabs, tunnels and pavements with ease.

The Proceq GP8000 GPR scanning thick concrete

Intrigued to see how it works for yourself? Request a free demo today.

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