



Leica Utility Detection GPR Comparison

	DSX	DS2000
		
PRICE	Starting at \$21,260 CONFIGURE	Starting at \$23,575 CONFIGURE
Antenna Frequency	Single / 650MHz	Dual / 250MHz and 700MHz
Onboard Tutorial Videos	✓	
Dual Encoders	✓	✓
Acquisition	Forward only	Forward and backwards
GPS/TPS Integration	✓	✓
Grid Scan with optional GPS	✓	
Quick Scan Tomography View	✓	
Intuitive Software	✓	✓
Auto Power Off	✓	✓

Antenna Frequency: The frequency range of a GPR determines how deep a unit can detect objects underground and the resolution of the radar gram.

In general, lower frequencies penetrate farther to locate targets that are more deeply buried, while higher frequencies provide higher resolution for objects that are closer to the surface.

It is important to note that the ground gets a vote: As density increases (think clay or other wet soils) the depth and resolution GPR can achieve decreases. This is why we recommend a combined workflow that also includes EM utility detection using a cable locator.

Tutorial Videos: The DSX features on-board training videos that guide new users through setup and basic data collection.

Dual Encoders: Encoders are sensors that GPRs use measure wheel rotation. As the GPR is pushed a signal is sent from the encoders to the control unit to let the software know that data collection has begun and to provide location data as targets are discovered. Dual encoders ensure accuracy and provide a backup should one of them fail.

The encoders on the DSX and DS2000 are mounted internally on both rear wheels to protect them from dirt or damage.

Acquisition: The DSX must be pushed forward while collecting data. The DS2000 can also acquire data while being pulled backward.

GPS/TPS Integration: Geo-located underground utility maps to a coordinate system by attaching a GPS/GNSS antenna with a pole and mounting hardware. These are sold separately or can be purchased with the GPR unit in a package.

Grid Scan with optional GPS: The DXplore software that comes with the DSX uses a grid-based workflow to create an automated tomography (a 3D image of underground targets). This enables any operator to map out a grid, walk it, and create a deliverable that identifies the nature and depth of buried utilities.

The best practice is to complete a grid scan with each line scan offset by 18 inches. With the addition of a survey grade GPS like the [FLX100](#), the DSX utilizes GPS to help the operator locate the best starting point for a grid scan and then to ensure that the tracking lines are spaced properly.

Quick Scan Tomography View: Sometimes you just need to hit a spot right in front of the bucket to see if there's anything right there, right now. In Quick Scan mode, the DXplore software onboard the DSX switches from a grid-based workflow and opens up a traditional radargram view that is useful for these kinds of spot checks.

Intuitive Software: Both the DSX and the DS2000 feature a user interface that has been designed to be intuitive for the intended users. Novice operators will find that the DSX software helps them make practical use of the technology while more experienced operators will appreciate the DS2000's user-friendly UI.

Auto power off: If the GPR isn't moved within 15 minutes, the unit will switch off to save battery life.