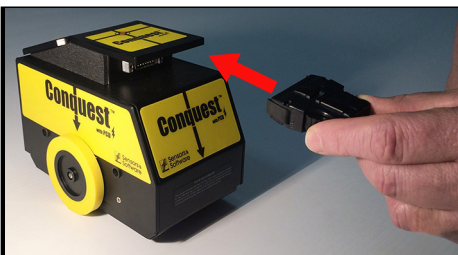# Conquest™ 100 with PCD

Assembly

Connect the female end of the yellow cable to the Sensor Head.

Attach the male end of the cable to the connector on the back of the Display Unit.

Insert Li-Ion battery into the battery compartment on the Display Unit

Features

Touch sensitive screen
Touch the icons on the screen

Display Unit

Sensor Head

Cable

Enter key
Start and Stop data collection

Star key
Add a flag

Function keys
Use the numbered 1-8 buttons that correspond to the function above it

Navigation Buttons

Power Button
Turn on/off the system

Star key
Add a flag

Camera
Save an image of the screen. This image can be transferred to a USB memory stick or embedded into a simple report and sent wirelessly to an e-mail address.

USB Port
Transfer images to PC with a memory stick

AC Power
System will run on AC Power

Note: New batteries are shipped in an inoperative "Transport" mode for safety. Batteries must be charged before they will function.
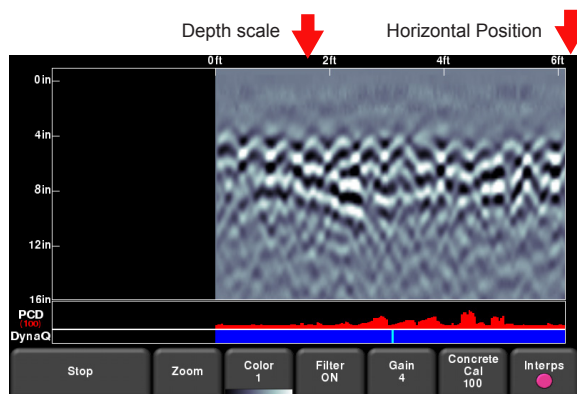
Battery can be charged while you use the system by plugging in the AC adapter.

Allow the battery to charge for 3-4 hours.

Battery Charger/AC Adapter

Li-Ion Battery

Line Scan
Displays Cross-Sectional GPR Data - Get a quick idea of what`s in the concrete, locate rebar and current-carrying cables.
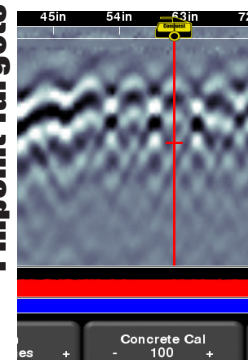
Scan

Depth scale — Horizontal Position

1. Place the Sensor Head on the surface and press Start key on the Display Unit or Enter key ⏎ on the Sensor Head.
2. Move the Sensor Head forward.
3. Data scrolls on the screen from right to left.
4. PCD (Power Cable Detector) data is displayed as a red line under the cross-section image.
5. DynaQ line is an indicator of data quality.
6. FINISH - Press Stop on the screen or the Enter key ⏎ on the Sensor Head.

ADJUST DISPLAY PARAMETERS - Use the menu options along the bottom of the screen to change: **Color, Filter, Gain, and Zoom**.

Pinpoint Targets

To pinpoint the location of an embedded object move the Sensor Head backwards.
A red vertical line (corresponding to the arrow at the center of the Sensor Head) will appear on the screen marking the position of the Sensor Head.
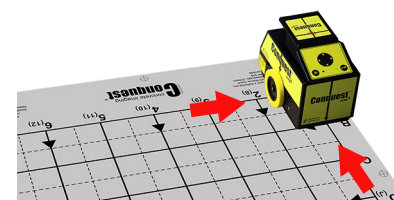
Grid Scan
Displays Depth Slices - Better visualize embedded objects in an area. High resolution grids provide the best image quality.

Start Up

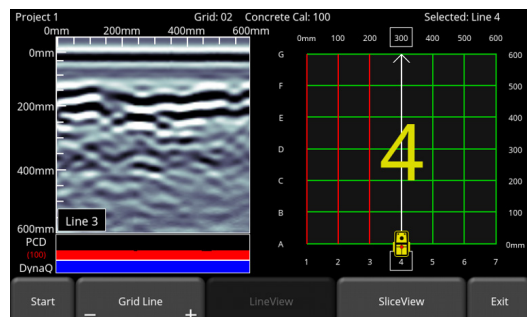Using tape, secure the plastic grid sheet at the survey location.
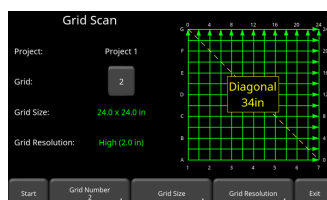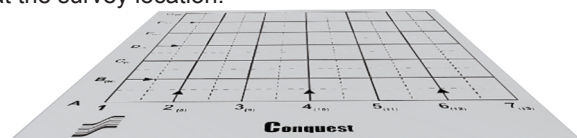
Set your grid parameters: grid number, size and resolution. Then press **Start**.

Align the Sensor Head so it is centered on Line 1 and the middle of the wheels line up with the start line on the grid.

Scan

1. Press **Start** on the Display Unit or **Enter** key ⏎ on the Sensor Head. The sensor will beep once to indicate the start of collection.
2. Move the Sensor Head at a steady pace in the direction of the arrows shown on the grid. Collection stops automatically at the end of a line.
3. The GPR line appears on the left side of the screen. Underneath it is the Power Cable Detector (PCD) image in red, indicating the possible presence of a current-carrying wire.
4. Collected line turns red on the grid image on the right side of the screen. The next line to collect is shown in white.
5. Normal resolution lines are collected every 4 inches (10 cm). For a high resolution grid, collect lines every 2 inches (5cm); these lines are denoted with an H.
6. Continue until all the numeric (X) and alpha (Y) lines in the grid are collected.
7. Press **Slice View** on the screen, to process the grid data and create the depth slices.

Viewing Results
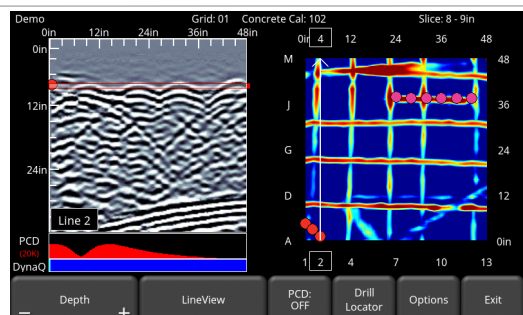
Depth slice images of the scanned area appear on the right side of the screen. Slice up and down through the depth slices by pressing the **Depth –/+** buttons. This increments 1 inch (25mm) at a time.

The left side of the screen displays one of the GPR grid lines. Use the 4-way Navigation buttons to change the alpha or numeric GPR line displayed.
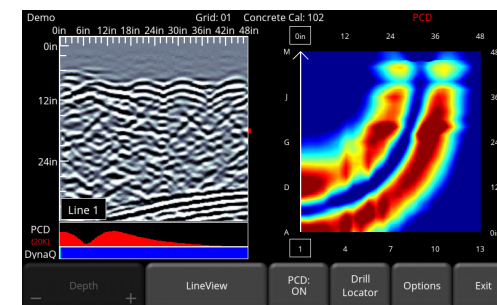
To view the PCD plan map image, press the **PCD** button.

Conquest™ 100
with PCD

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