1. You will find the following components in your RD1500 box. Some of these may already be assembled.

- Handle pin
- Cart base
- Cart handle
- Display unit tray
- Battery
- Odometer cable
- Display cable
- GPR sensor
- Display unit
- Sensor support straps
- Battery charger

2. Attach the Cart Handle to Cart Base using the Handle Pins. Ensure the Display Unit Tray is facing the operator.

3. Attach the GPR Sensor to the Cart using the Sensor Support Straps. Ensure the Sensor is oriented the correct way with the connections toward the back of the Cart. Using the Sensor Support Straps, adjust the height of the Sensor so it is 1-2 cm (½ – ¾ inch) above the ground.

4. Attach the Display Unit onto the Display Unit Tray on the Cart. The Display unit slides down into the tray, catching on both sides of the mount and is held in place with the pull pin. When a click is heard, the Display Unit is firmly in place.

5. Attach the Display Cable to the back of the Display Unit with the jackscrews. Connect the other end of the cable to the Sensor. Ensure the cable is routed as shown below.

6. Attach the Odometer and Battery Cables. The Odometer Cable connects to the closest receptacle on the Sensor. Attach the Battery Cable to the Sensor and the Battery. The system is now ready to use.
**Start**

To start the system, press the power button on the display unit.

Once the system boots up, you will see the main screen.

LED light

Power button

Swipe your finger from the top of the screen towards the bottom. This will show a drop-down menu displaying date, battery level, GPS status and Wi-Fi status. To close the drop-down menu, touch anywhere on the screen below the menu.

**Line Scan Mode**

Line Scan enables the operator to locate a feature and easily back-up and mark the location of that object on the ground. From the main screen, press the Line Scan button; you will see the screen shown below.

Press the **Start** button to begin collecting data. The screen will change to the data acquisition screen. As the system is pushed along a straight line, the collected GPR data scrolls onto the screen from the right and moves to the left.

Position Axis

Depth Axis

**Grid Scan Mode**

Grid scans are conducted to generate depth slices over a given area. From the main menu press the **Grid Scan** button to enter the Grid setup menu. From here you can set the grid number grid size and grid resolution (also known as Line Spacing).

Press Start to enter Grid Acquisition.

Align the system so that the longitudinal axis is centered on the first line. Then line up the middle of the sensor with the starting line and press **Start**. Push the system in a straight line towards the end of the line. Data acquisition will automatically stop once you reach the end of the line. The Line Scan image of the data just collected will appear on the left side of the screen.

The grid picture on the right shows the collected lines (red), current line (white) and remaining lines to be collected (green). Move to the next line, and repeat until all X lines and Y lines are collected. When you have finished, press the Slice View button.

**Slice View**

Slice View displays data collected in a grid as a series of depth slices moving deeper into the subsurface.

Pressing the + and - buttons on the Depth button will increase or decrease the depth of the depth slice currently displayed. This allows the user to "slice through" the ground, and locate features that appear at different depths.