

COMPASS^{NX™}

Quick Start Guide

MN74-123 Rev A



Compass NX™ Resources

Product Information
Training Videos
User Guides



NX Control™ App for Android

Scan to download from
the Google Play Store



NX Control™ App for iOS

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the Apple App Store



WE'VE GOT YOUR BACK

Our promise to you is to provide comprehensive training, unrivaled customer support and world class expertise. That's why your Compass NX system comes with our industry-leading two-year warranty, complimentary training, and technical support access. For more information, visit us at www.geophysical.com.

WE'RE COMMITTED TO YOUR SUCCESS

Our team of dedicated technical trainers is ready to work with users of all experience levels. GSSI Academy classes are offered on a revolving schedule throughout the year. Check out the GSSI Academy offerings at www.geophysical.com/gssi-academy.

WE WANT TO HEAR FROM YOU

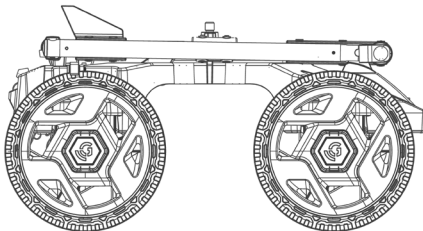
Our sole focus is to create easy-to-use scanning systems that tackle your jobsite challenges in new and innovative ways.

Please let us know your thoughts on any of our products by emailing us at [***productteam@geophysical.com***](mailto:productteam@geophysical.com).

We hope to hear from you soon!



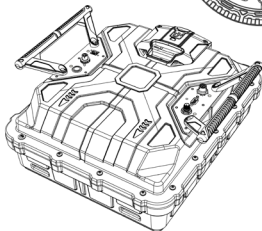
NX Control App



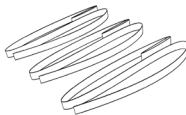
Model 661 Cart



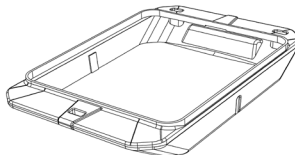
Quick Start Guide



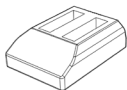
NX04/10 Antenna



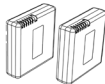
Sled Adjustment Straps (3x)



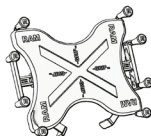
Antenna Sled



Battery Charger



4-Cell Li-ion
Batteries (2x)



RAM Tablet Cradle
for 9-10.5" Tablets



RAM
Socket Arm



RAM Tough-
Claw

Compass NX requires the **NX Control** app. Download and install NX Control from the Google Play Store or the Apple App Store using the QR codes below or your mobile device's app store app. Alternatively, visit the app store and search for ***NX Control***.



NX Control



NX Control App for Android

Scan to download from
the Google Play Store



NX Control App for iOS

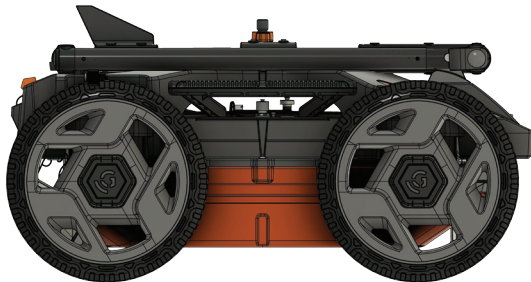
Scan to download from
the Apple App Store

NX Control is optimized for modern Android and Apple devices and can be installed on smartphones and tablets. We recommend using a tablet with a screen size of at least 8 inches, with 10-to-11 inches being the optimal choice for most scanning projects. We suggest also purchasing a rugged tablet case for additional protection.

Your **Compass NX** hardware will arrive completely assembled, with the sled straps cinched tight and the handle locked. There will not be a battery in the battery compartment and the encoder cable will not be connected to **NX04/10**. We recommend using this configuration any time you pack up **Compass NX** for transport.

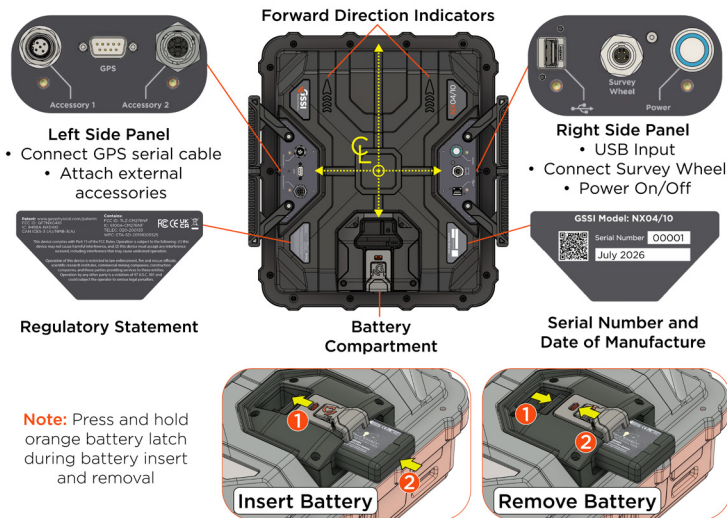
Suggested first steps:

- Congratulate yourself for purchasing an **amazing GPR system**
- Find a suitable location for your **2-bay battery charger**
- Charge both **4-cell batteries** until the charger LEDs are green
- Download and install the **NX Control app**
- Continue reading this **Quick Start Guide**

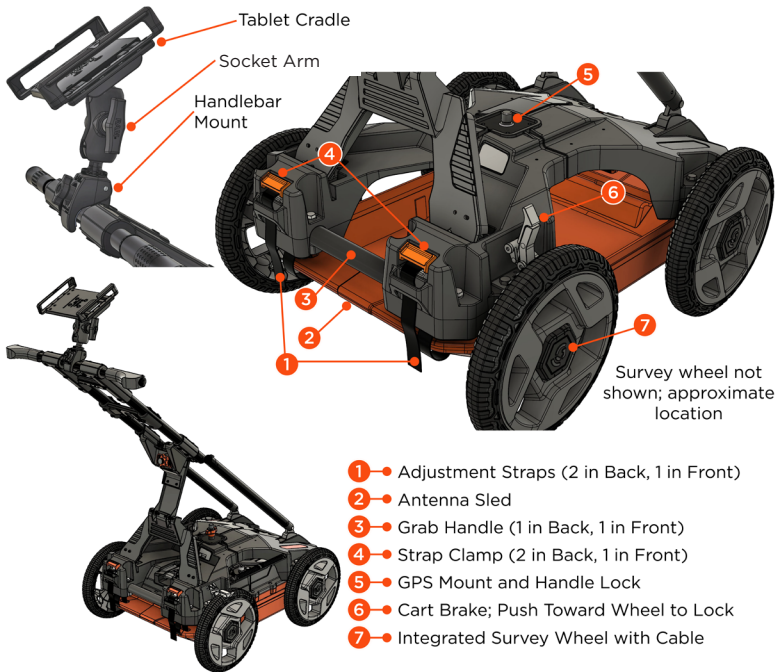


NX04/10 Antenna

The **NX04/10 antenna** houses two integrated antennas that share a center point, and the center of NX04/10 is clearly indicated on the top housing and on the top of the Model 661 Cart. When used with the Model 661 Cart the survey wheel cable must be connected to the antenna's Survey Wheel port.



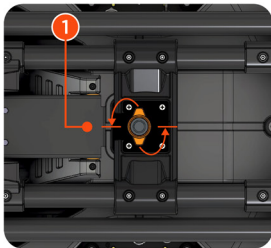
Compass NX Rugged Cart: Model 661



Compass NX Deployment: Cart Handle

We designed Compass NX to be quick to deploy and easy to use. Setting up your system requires a few simple steps. You'll be scanning in no time!

Release central handle lock by turning the orange knob.



Lift the rear legs until they lock in place.



Extend the upper handle, placing the handle support plate behind the orange locking mechanism.



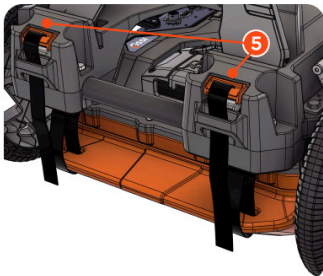
Ensure that the orange locking plate is oriented horizontally; turn the orange knob clockwise to tighten.



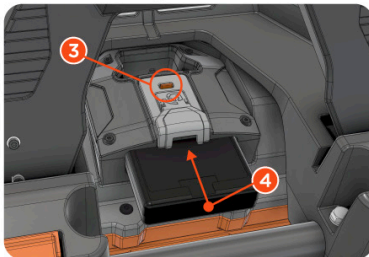
Attach the RAM Tough-Claw to the handlebar and tighten the knob. Adjust the Socket Arm and cradle for optimal viewing. Tighten the knob on the Socket Arm.



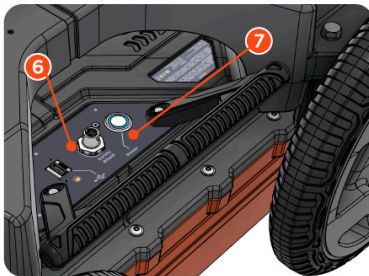
Press front (1x) and rear (2x) clips until sled rests on ground.



Insert a 4-cell battery. Press the orange locking tab forward, lift the locking latch with the battery, and insert the battery until the latch locks.

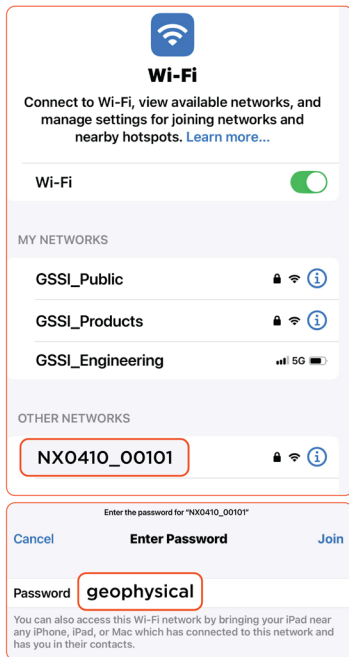


Connect Survey Wheel cable to Survey Wheel port. Press power button.



Just a few **quick steps** and you'll be scanning!

1. Insert a fully charged **4-cell battery** into NX04/10
2. Press the antenna's power button and wait for the LED to flash blue
3. Open Wi-Fi settings on your mobile device. Tap on the wireless network name that matches the antenna's model number and serial number (e.g. NX0410_00101).
 - If prompted to enter a password, type in **geophysical**
 - Android users may see a "network has no internet access" popup; tap "Yes" and "Don't ask again for this network".
4. Launch the **NX Control** app
 - On first launch, NX Control will prompt you to grant certain **permissions** such as allowing NX Control to access Bluetooth and Location Services. For maximum app performance please accept **all requested permissions**.



NX Control will start at the **Main Dashboard**. From here, you can:

- View the antenna type, serial number, and firmware version
- Start a QuickScan session (no file saving)
- Create a new project, view all saved projects, or resume a recent project
- View and configure system settings

The screenshot shows the NX Control Main Dashboard. At the top left is the 'NX CONTROL' logo. To its right is a location pin icon with a callout '5' and a settings gear icon with a callout '6'. Below the logo is a section for 'NX0410' with a battery status indicator. This section contains a table with headers 'System Type', 'Serial Number', and 'Software Version', and a large image of the NX0410 device. To the right of this is a 'Recent Projects' list with three entries: 'Project 2026-08-11 14:23', '40 Simon Street Loading Dock', and 'Garage'. Each entry has a '+' button to its right. At the bottom left is a large '+' button. At the bottom right is a callout '7' pointing to a '+' button.

1 Create new **file saving** Project

2 View list of all saved Projects

3 Open recently used Project

4 **Resume recently used Project**

5 View GPS Status

6 Open System Settings

7 **QuickScan:** Start Scanning with no file saving. Perfect for mark-and-go jobs.



Open **System Settings** from the Main Dashboard. Start by selecting your preferred measurement units (m, cm, ft, in) and language. Your choices are saved and will persist between sessions. Please refer to the full Compass NX User Guide for additional Settings information.

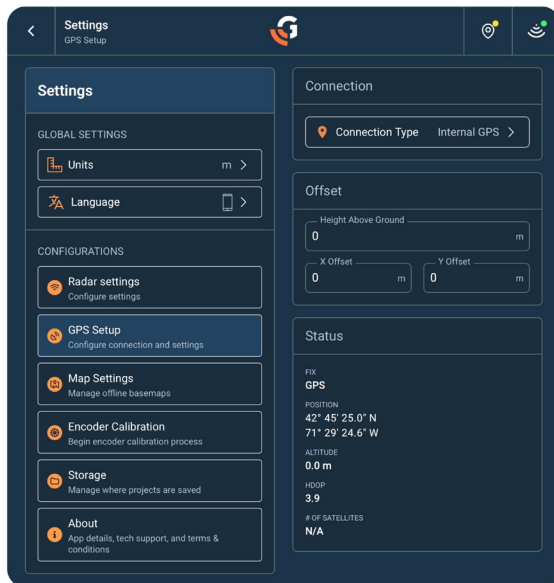
Tap **Radar Settings** to customize the data collection screen. Here you can select how scans are acquired, choose how to display horizontal and vertical scales, and experiment with more advanced display options.



We recommend starting with **these settings** while you learn the system.

- 1 • **Trigger Mode: Survey Wheel.** Uses the Compass Cart's survey wheel; the cable must be plugged into NX04/10.
- 2 • **2D Horiz. Scale: Distance.**
- 3 • **2D Vertical Scale: Depth.**
- 4 • **Auto Gain Mode: Static.**
- 5 • **Refine Targets: Off.**
Show Device Edges: Off.

Use **GPS Setup** to configure your GPS connection, apply offsets, and view GPS status. Start by selecting a connection type and choosing a device. NX Control will remember the last GPS connected, even across multiple sessions.



The GPS's **Height Above Ground** is measured from the ground to the base of the GPS. It should always be entered. **X & Y offsets** are not needed when using the Model 661 cart.

GPS Connection Types

Disabled: No GPS used, even if connected.

Serial cable: Connect GPS to NX04/10's serial port. Baud rate is automatically detected.

Bluetooth: Connect a GPS wirelessly to your mobile device. Select a Bluetooth device to automatically pair.

Internal GPS: Use your mobile device's internal GPS (if present).

Use **Map Settings** to download basemaps for offline use. Internet access is required for map download, but not needed once a basemap is downloaded.

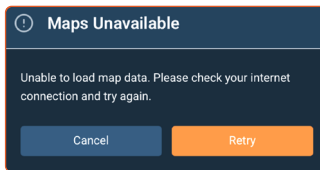


Downloading Offline Maps

1. Tap **Add Map**
2. Choose a **country**
3. Select a **subregion** if prompted
4. Tap **Download**
5. Downloaded maps will appear in the **Saved Maps** panel
6. Tap the circle arrow to update basemaps

Downloaded maps appear in the Collection Screen's Mapping Window when:

1. You are using a GPS; and
2. You are in a location covered by one of your saved maps.



Maps Unavailable: Disconnect your mobile device from the NX04/10 network, connect your mobile device to the internet, and try again.

The **About** panel is the information hub for NX Control app details and technical support.

We are happy to provide technical support and to answer any and all questions. Feel free to call our Technical Support or Customer Service teams, or visit the Compass NX Technical Support website.

Software Information

App Status	UP TO DATE
Version	1.0.0
1 Firmware Update Opens the device's web interface in your browser to update firmware	Open
Release Notes	▼
Terms & Conditions	▼
Licenses	▼

1 Update NX04/10 Firmware

Tech Support

GSSI Website	geophysical.com
Tech Support Phone Mon-Fri, 8:30am-5pm EST	603-864-0848
General Line Option 2 for Tech Support	603-893-1109
Tech Support Website	support.geophysical.com
2 Download System Logs from Antenna Opens the device's web interface in your browser	Open

2 Download NX04/10 System Logs

NX Control: Projects Panel



Open the Projects Portal from the Main Dashboard. Here you can open, share or delete a project, as well as create a new Project. Managing and interacting with projects does not require a connection to NX04/10; all files are stored on your mobile device.

1. Return to Main Dashboard

2. Create a new project with file saving

3. Tap a project card to open the project

4. Long-press for selection boxes

5. After long-press: Delete selected project(s)

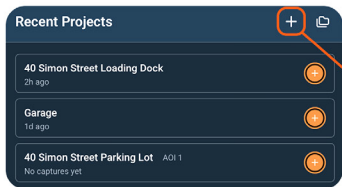
6. After long-press: Download selected project(s) to mobile device

7. After long-press: share selected project(s) to apps or external storage

Create a new project to save scan data for later use, such as report creation, post-processing in Geolix, or archiving. Scan Data and Results are stored on your mobile device. Please monitor device storage and remove old projects if needed, but be aware that deleted projects and files cannot be recovered.

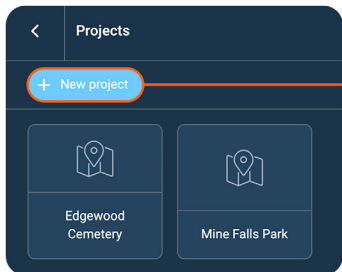
Create a new project from either the **Main Dashboard** or **Projects Portal**.

From the Main Dashboard



Use the default **Project Name** or enter a custom name and, if applicable, **client name** and **job code**. Tap Confirm to save the Project and open the **Project Profile**.

From the Projects Portal



☒

Create New Project

Project Name

Client Name

Job Code

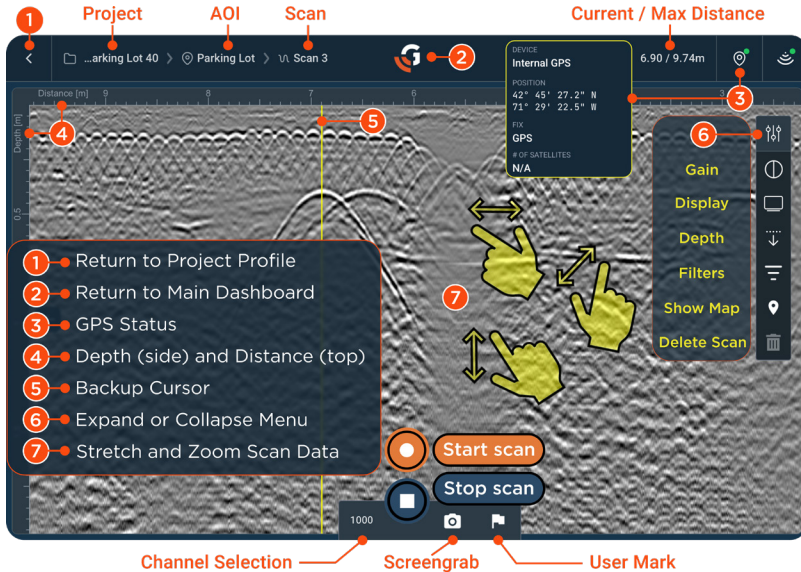
NX Control: Project Profile/Data Export

The Project Profile stores everything related to an individual Project, including editable Project Details, Areas of Interest, Results, and Scan Data. Export options are available, as is deletion of the project or one or more files.

The screenshot shows the 'Project Profile' screen in the NX Control app. The interface is divided into several sections: 'Details' (top left), 'RESULTS' (middle left), and 'SCAN DATA' (right). The 'Details' section shows project information like 'Project Name: 40 Simon Street', 'Client Name: GSSI', 'Job Code: GSSI-01', and 'Created: 6/2/2026, 10:42:01 AM'. A callout labeled 'Editable Fields' points to the 'Client Name' and 'Job Code' fields. The 'RESULTS' section shows a 'Details' tab for 'AOI 01' and a 'No results yet' message. The 'SCAN DATA' section shows a list of scans: 'Scan 001', 'Scan 002', and 'Scan 003'. A hand icon is shown tapping on 'Scan 001'. A callout labeled '1' points to a '+' button in the top right corner. A callout labeled '2' points to a square icon in the 'SCAN DATA' section. A callout labeled '3' points to a long-press gesture on the 'Scan 001' icon. A callout labeled '4' points to a '+' button in the bottom left corner. A callout labeled '5' points to a '+' button in the 'Details' section. A callout labeled '6' points to a menu in the top right corner containing 'Share Project', 'Save Project to Device', and 'Delete Project'.

1. Open collection screen and start a new scan
2. Tap to playback saved scan
3. Long-press for selection boxes; delete selected
4. Add image from mobile device
5. Create and name new AOI
6. Sharing options
 - Share Project .ZIP to an app or an external drive
 - Save Project .ZIP to device's downloads folder

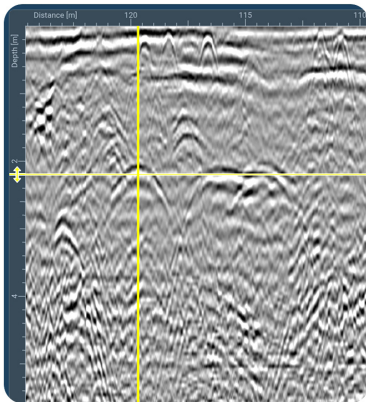
The collection screen displays live scans as you collect them, as well as files opened for playback. From here, you can start and stop scans, use gestural controls to zoom or compress scan data, and interact with menus to customize the display of Scan Data.



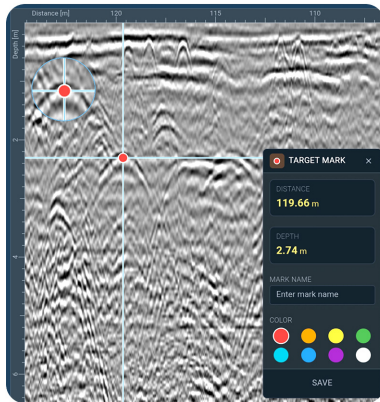
NX Control: Cursors and Target Marks

The **backup cursor** appears when the Compass Cart moves in reverse; it is referenced to the center of NX04/10. The Horizontal Cursor acts as a depth reference line. Long-press in the scan window to display **crosshairs**, a **magnifying lens** offset from your touch location, and the **Target Mark** controls.

Use the **backup cursor** to accurately relocate a target you already passed. Long-press on the vertical scale to display the **Horizontal Cursor**. Move it using the arrows, and long press on the arrows to hide it.



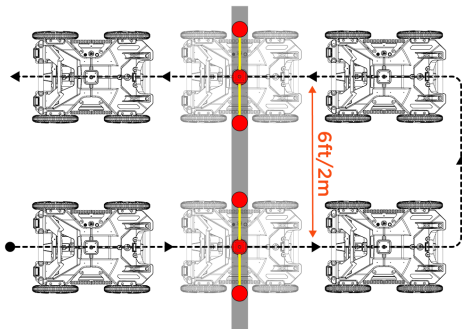
Place **Target Marks** on a target. Depth shown reflects current dielectric. Enter a name, pick a color, then tap Save. Tap the Target Mark again to access controls. Marks show in Mapping Window with GPS.



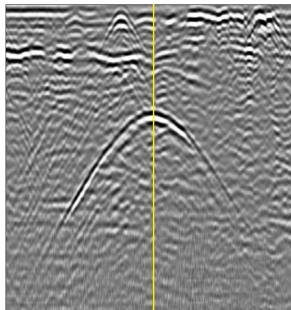
A Simple Method For Marking Targets

A simple looping search works well for utility locating. When a target appears, move Compass NX backward and use the backup cursor, centered on NX04/10, to pinpoint it.

Mark the ground, then move forward and loop back 6ft/2m from the first mark. If no target appears, try looping around the other side of your marks.



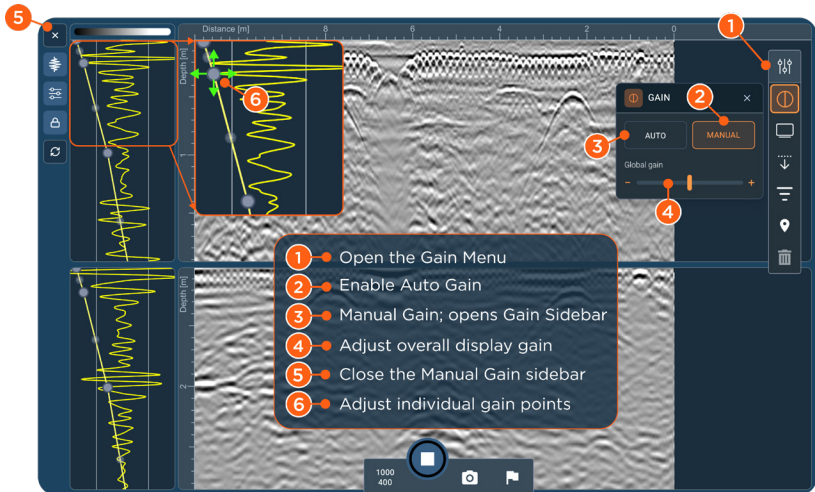
- 1 As you approach a buried target you'll start to see the target's tail.
- 2 Keep walking forward to cross the target's center; keep moving until you can see both target tails.
- 3 Move in reverse until the backup cursor is in the center of the target. Mark both sides of the antenna, then mark the antenna center by moving the system and placing a third mark between the first two.



NX Control provides Automatic and Manual Gain options. Gain affects the brightness and contrast of your scan data and is the most important setting to adjust. If Gain is too low, the targets won't "pop." Too high, and targets are lost in the background. You can adjust Gain for live data and in playback.

Auto Gain: Automatically sets the Gain for both NX04/10 antennas. **Best for new users.**

Manual Gain: Offers more customization to fine tune Gain for each NX04/10 channel.

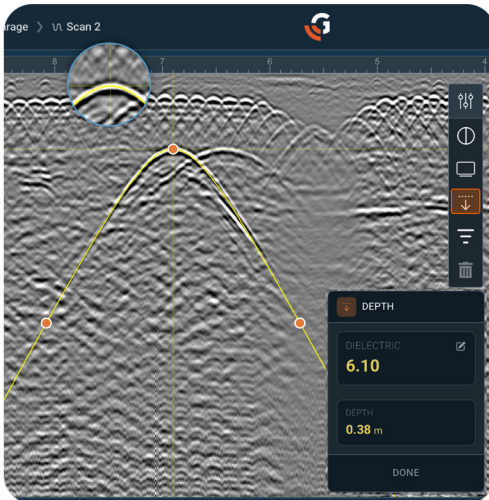
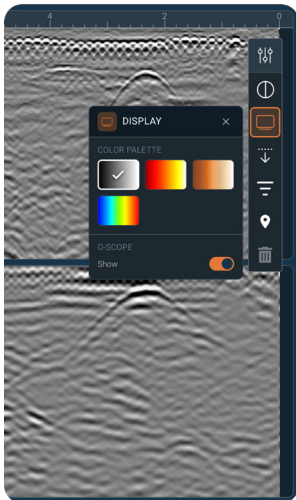




Use the **Display menu** to customize the color scale, and toggle the O-Scope.

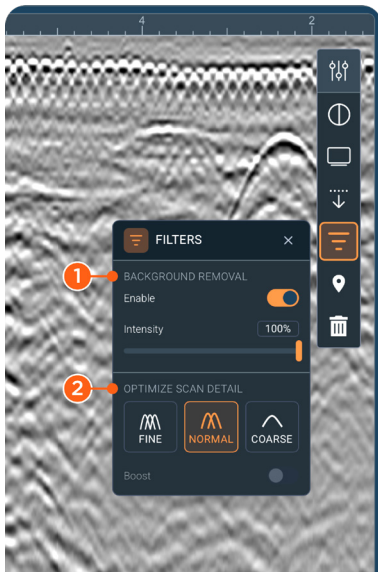


The **Depth menu** displays a Target Matching curve for depth scale calibration. Move the curve over the top of a target, use the magnifier to position the curve, then use the grab points to adjust the angle and match the target's tails. Tap “done” to exit.





Use the Filters menu to perform on-the-fly data adjustments. These include toggling Scan Detail options to reduce clutter or hone in on the specifics, as well as horizontal noise band suppression using Background Removal.



Background Removal removes flat, horizontal bands that are generated by external noise (such as radio station broadcasts). Only use this filter when noise bands become a problem.

- **Intensity Slider:** Use this slider when noise bands are present but you need to find flat-lying features too.

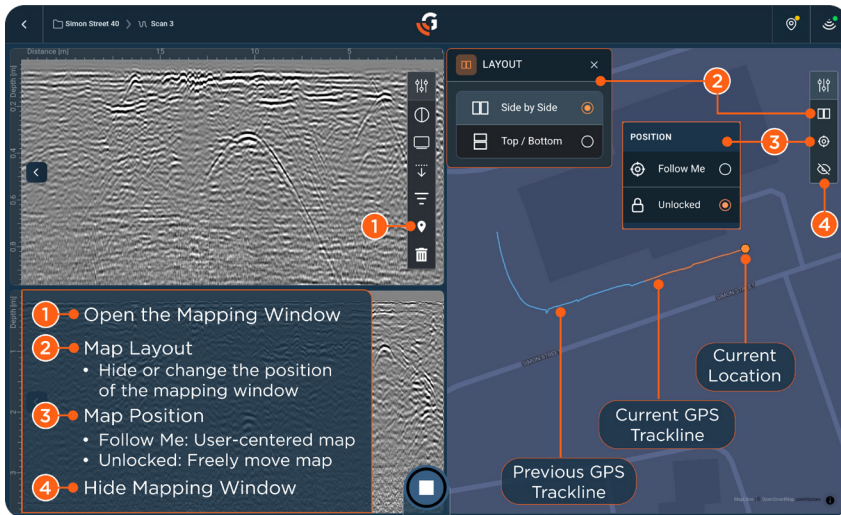
Scan Detail provides three easy choices for fine tuning your scan data. Quickly toggle through the options to see what you are missing!

- **Normal:** See the full range of depth and detail. Start here for most jobs.
- **Fine:** Focus on the fine details to see small and closely-spaced targets. Boost it to reveal even more fine detail.
- **Coarse:** Use this option to reduce clutter and focus on the big targets. Boost it to remove even more clutter.



Open the **Mapping Window** from the Scan Window's floating menu. The map displays location-based features and basemaps you've downloaded for your location. Use the map's floating menu to adjust the window layout, close the map window, and lock or unlock the map's location tracking.

Note: The map is always accessible, but location-based features require a GPS.



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Regulatory Information: <https://www.geophysical.com/regulatoryinformation>

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Compass NX Support

User Guides

Training Videos

Software Updates



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Patent www.geophysical.com/patents