



VibLinq

User Manual

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1 Introduction

The VibLinq Android App provides navigation and quality control for vibroseis sources using Seismic Source Force Three and INOVA VibPro HD decoders. Simplicity and ease of use was the focus of this product. The setup of the prospect, survey, background images and shape files are done in the SourceLink application and exported to a USB stick, which can be used to import the information into VibLinq. The same way, the production and QC information from VibLinq can be exported to the USB drive and import them into SourceLink.

2 Survey Setup and Export from SourceLink

2.1 Exporting Survey and Production Parameters

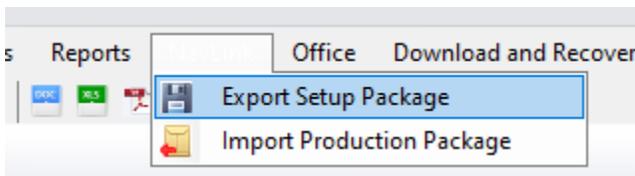
This document assumes that the reader is familiar with the SourceLink application and can import the survey SPS or SEG-P1 files, background images and KML/KMZ or ESRI shape files.

In SourceLink, find the NavLink option in the Main Menu:



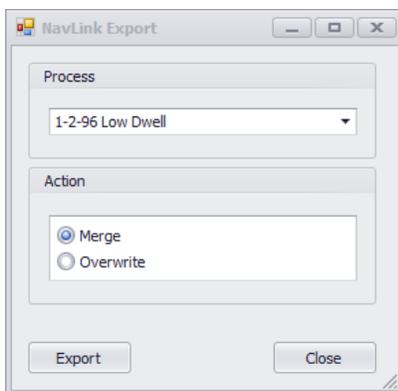
2.1.1 Export

Select the Export Setup Package option.



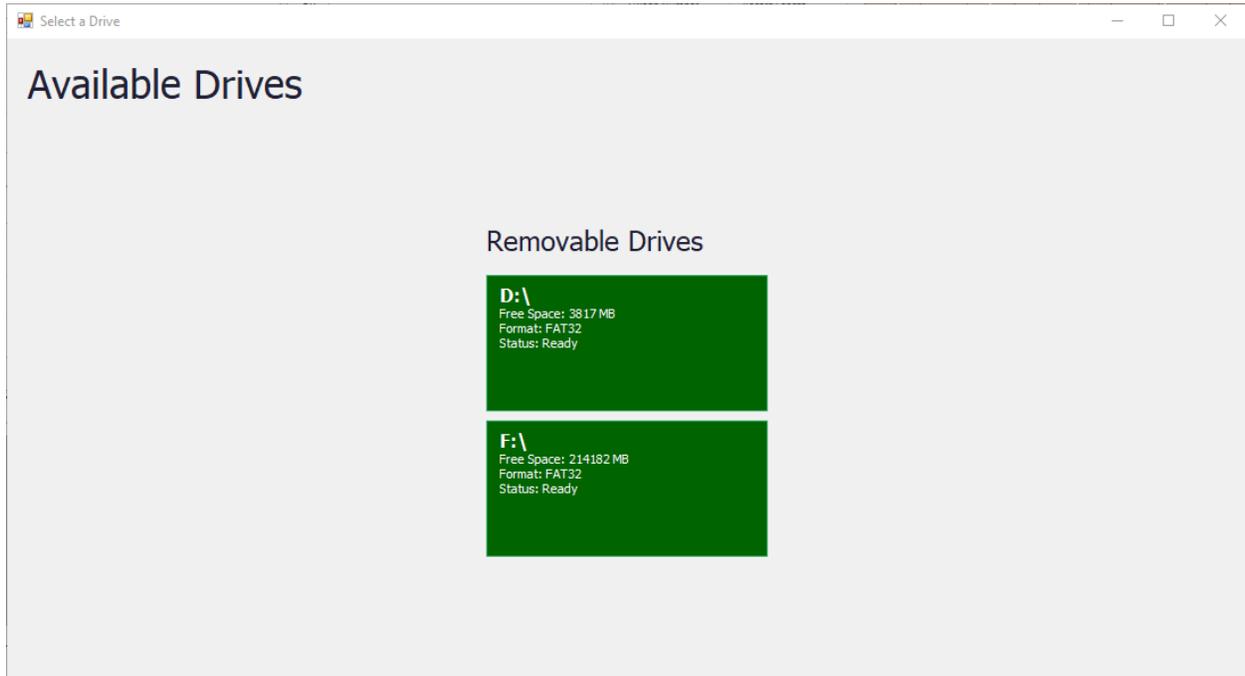
The NavLink export dialog will appear, where the user can choose if this new package should be merged or overwrite existing survey data in NavLink. The process is only used if NavLink is used in autonomous mode and it defines the record length, sweep number and number of sweeps per source point.

Please note that the current version of VibLinq does not support starting sweeps from the application. The sweeps should be started from the recorder via radio or in case of ISS, by the driver by hitting the Start button on the decoder.



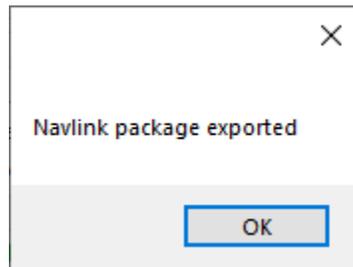
Plug in a USB flash drive and click Export.

If there is only a single USB flash drive, the export will continue automatically. If there are more than one, a drive selection dialog will pop up.



Click on the desired drive to export the package.

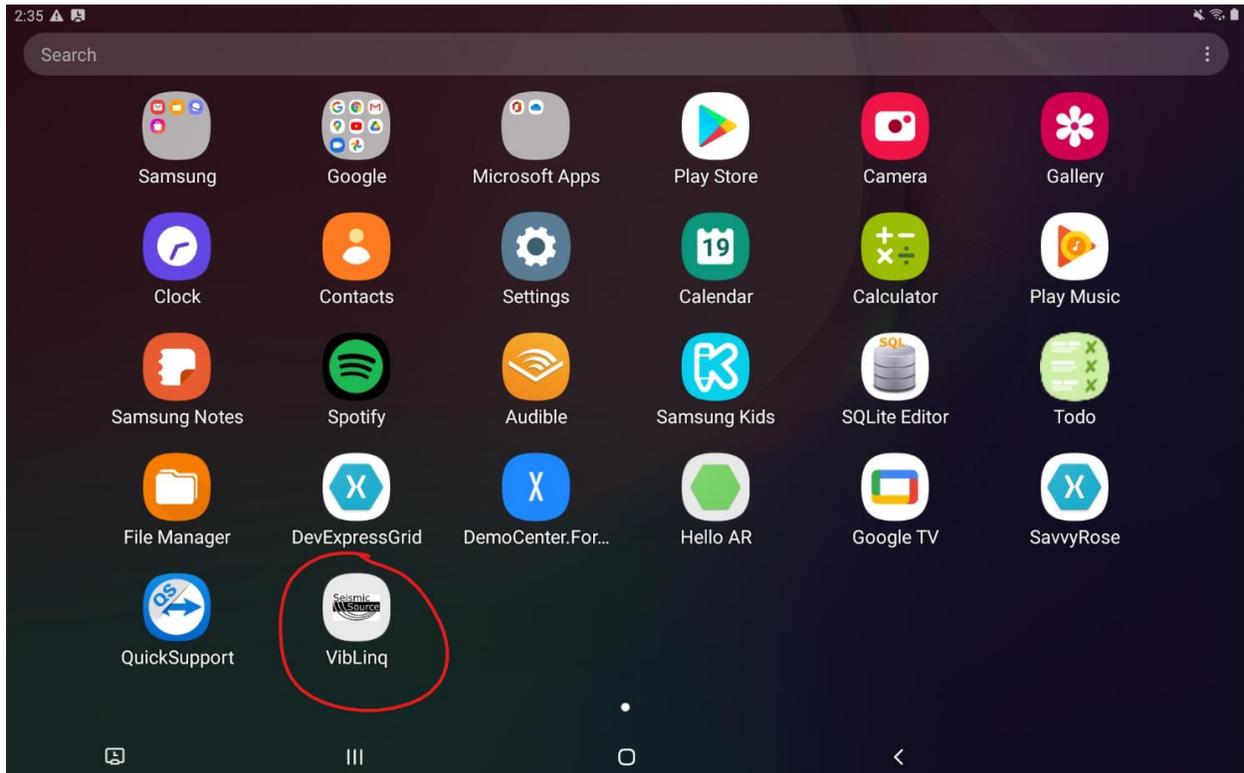
An export completed message will show after the operation is done.



3 VibLinq

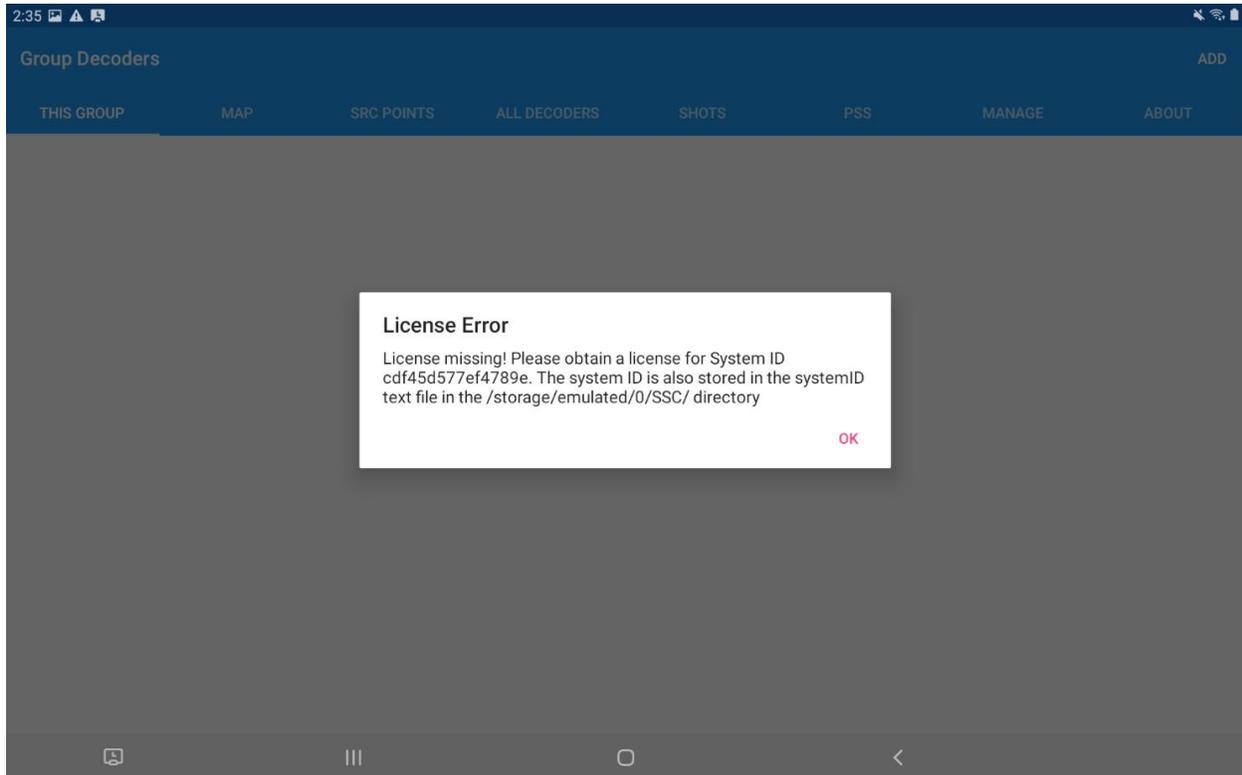
3.1 Starting VibLinq

Find the VibLinq icon on the tablet and click it to start the App.



3.2 License Error

If no license was issued and transferred to this tablet, you will receive a warning about the missing license. If the license has expired, is incorrect or there is any other license related issue, it will be displayed right after the App started.

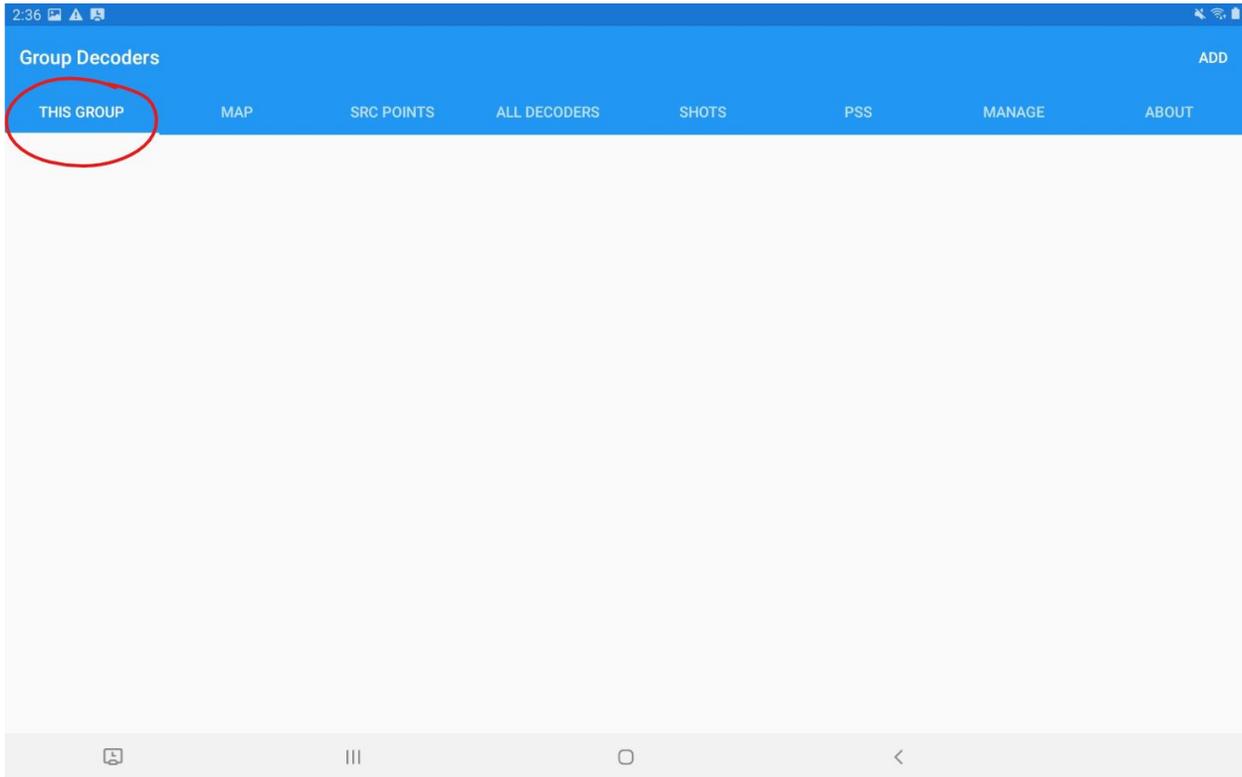


Please follow the [Seismic Source Android Setup](#) and [Seismic Source Support Application](#) documentation on how to obtain and transfer the license.

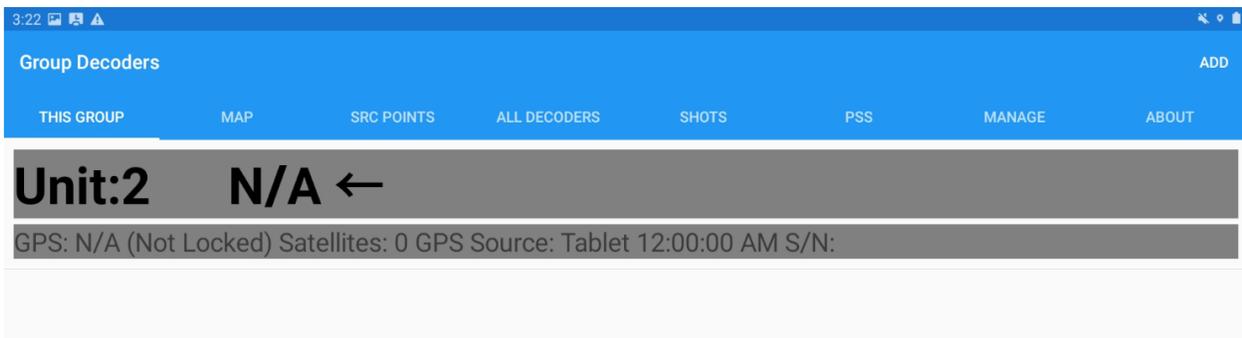
3.3 VibLinq User Interface Overview

3.3.1 "THIS GROUP"

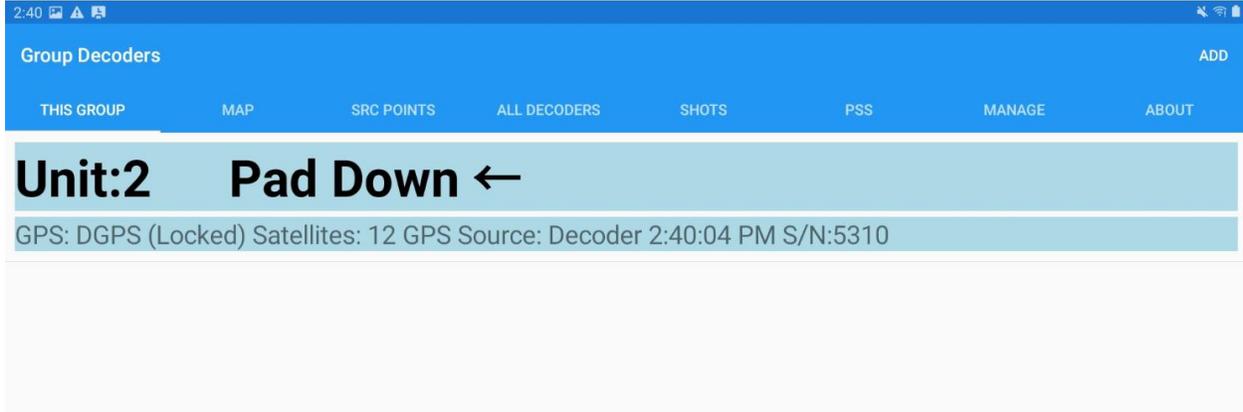
In this grid, we list the decoders that is connected and assigned to this tablet. If there were no decoders assigned to this tablet, this list will be empty.



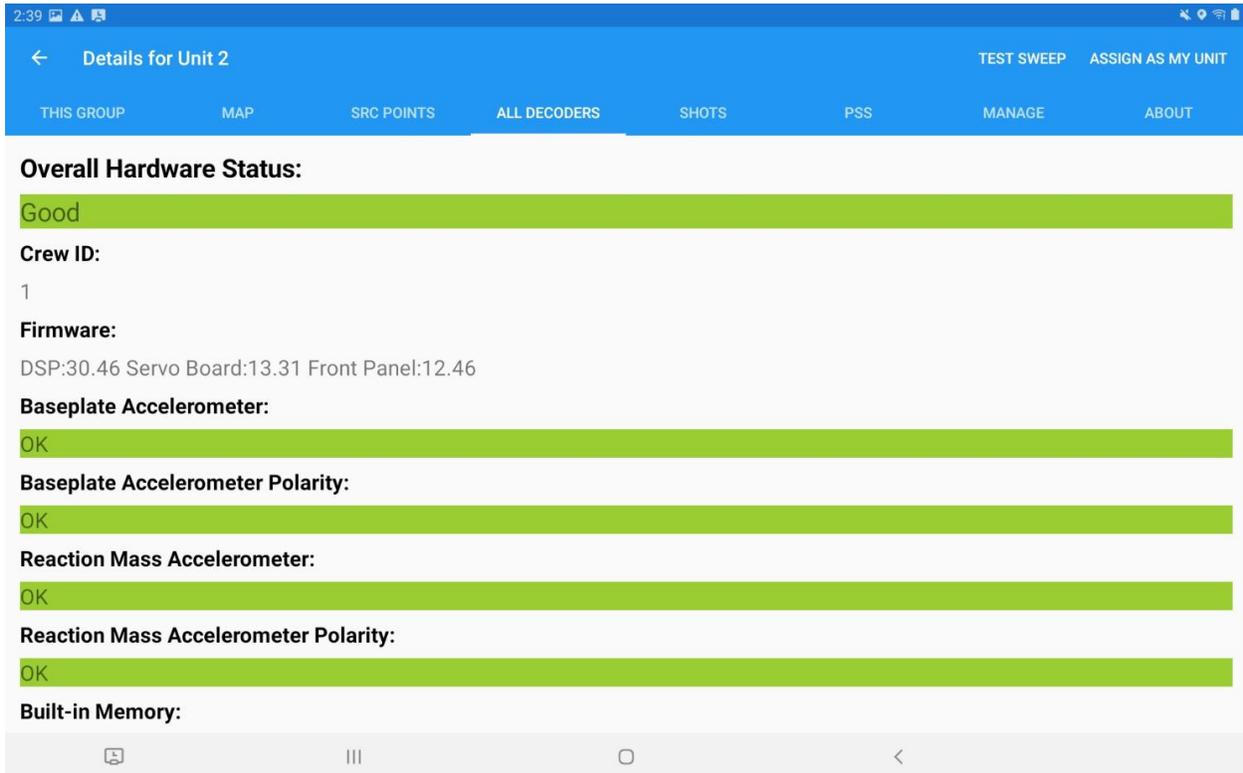
See section [3.3.4](#) for directions on how to assign a decoder to this tablet. Once a decoder assigned, it will be listed here even if there is no current connection to it. (Decoder is off for example)



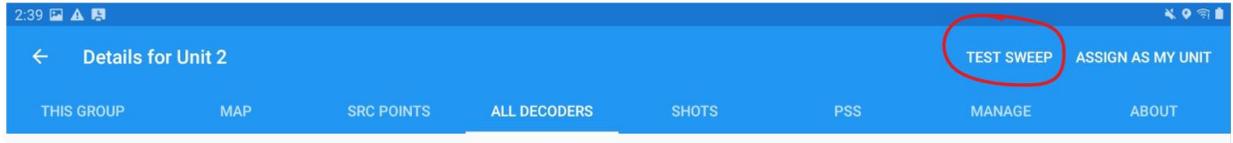
When the decoder gets connected, the row will be updated to indicate the unit's status.



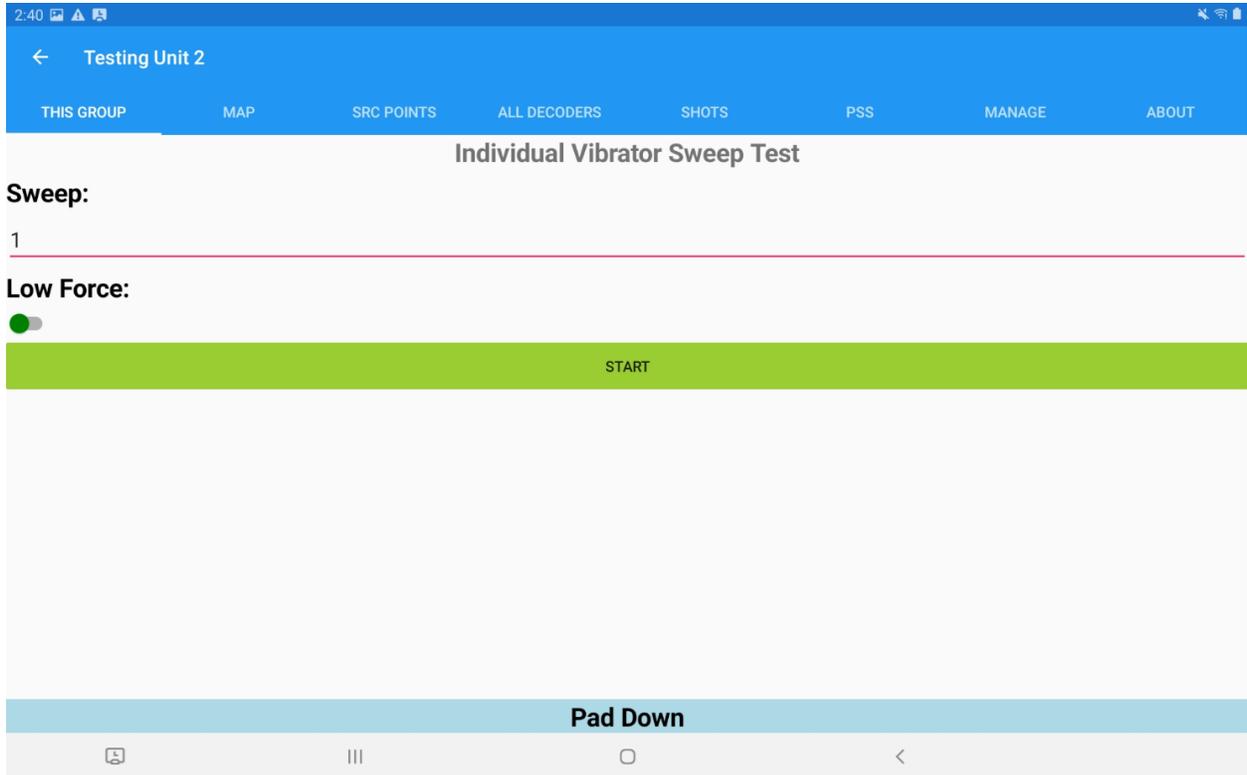
Click on the unit to see the detailed status:



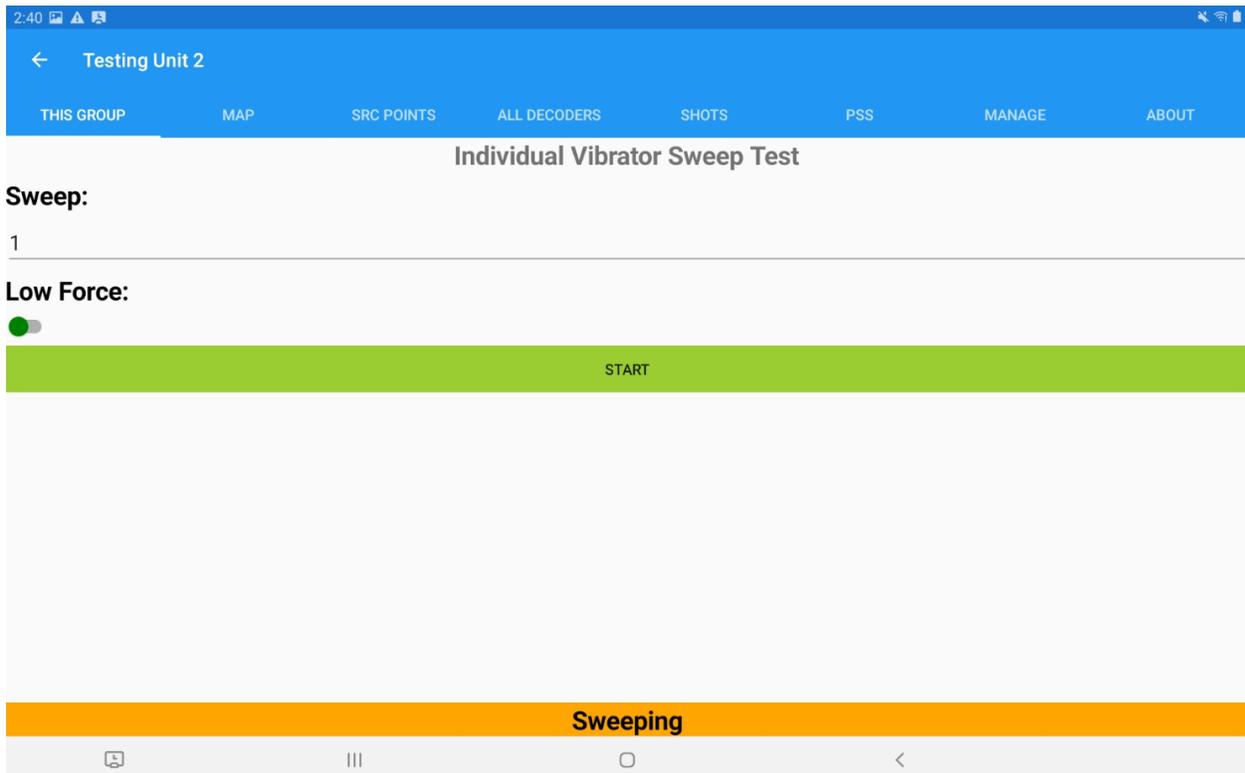
From this screen you can perform a test sweep by clicking on the Test Sweep button in the banner



Select the sweep from the list and adjust the force level by selecting or deselecting the low force switch. Click the Start button when ready.



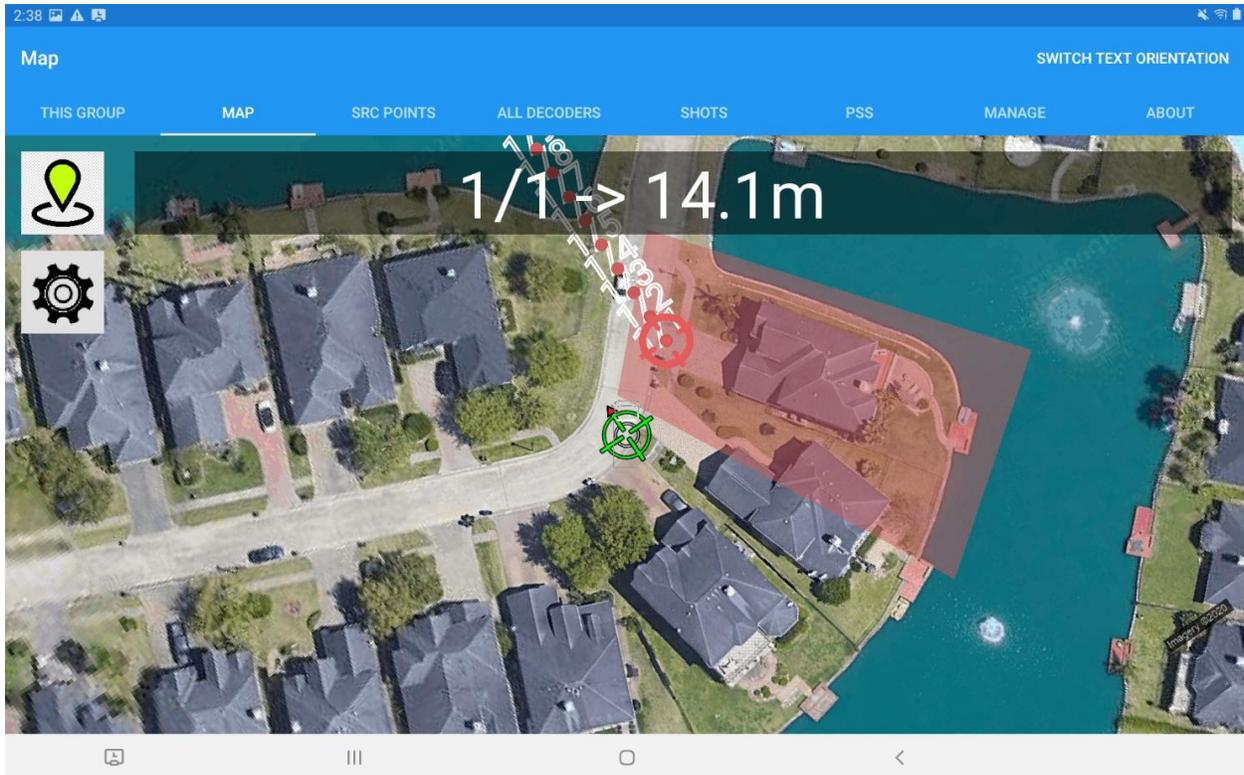
The status of the decoder is displayed on the bottom of the display:



3.3.2 “MAP” Tab

The map displays source and receiver points, background images and shape files. These are imported into VibLinq via a single file generated by SourceLink.

The map works with or without a connected decoder. If there is a decoder, the map will use its GPS information, which is based on the precision of the GPS receiver connected to the decoder. If there is no decoder, the map will use the tablet’s built-in GPS.



The map centers on the GPS position when the button on the top left corner is green. The user can only zoom in or out, but panning is disabled.



To enable panning, click the button, which will turn red, indicating that the auto center functionality is turned off.



To enter the map settings, click on the settings button:



After selecting it, the setting options appear:



The first button relates to the text settings, the second to the flags.

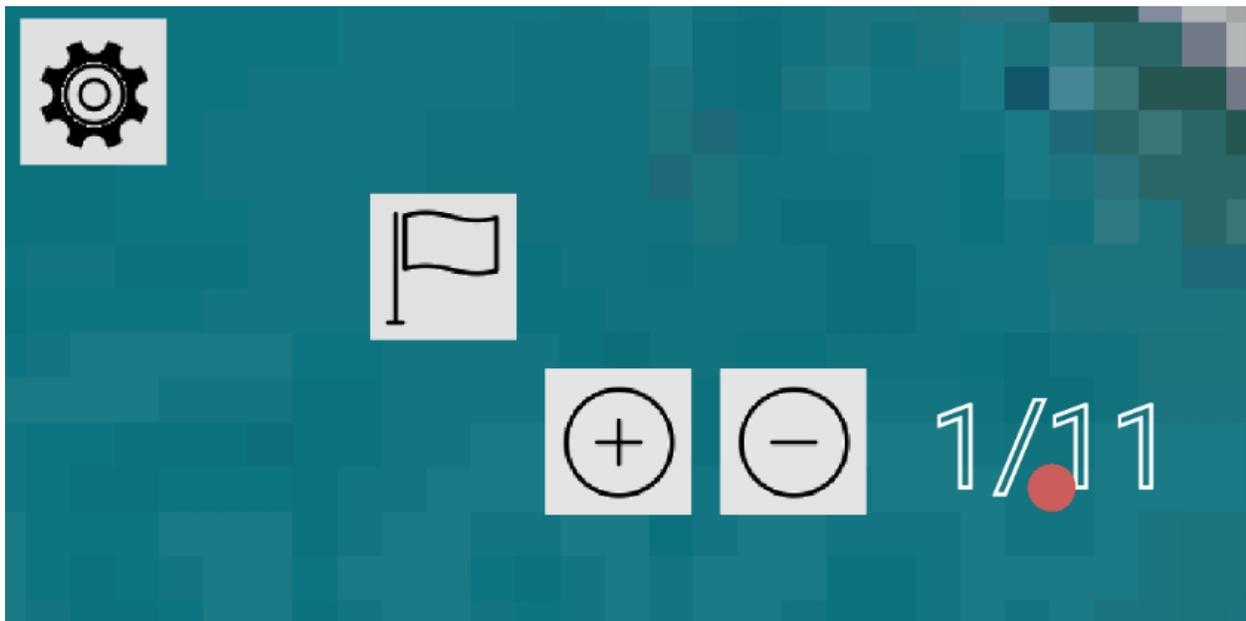
Clicking on the font setting, more options will appear:



The first button can be used to show or hide the text on the map. When the button is green, the text is showing.

The second and third buttons allow the user to make the text larger or smaller, while the last two buttons move the text up or down from the original location.

For the flag, you have the option to change the size.



The location is shown with a green target icon, which has a small but visible red tip that always points to North. The map turns automatically to the direction of travel, similar to the navigation systems used in cars.



The nearest source point is automatically selected, and a red target icon is placed over it:



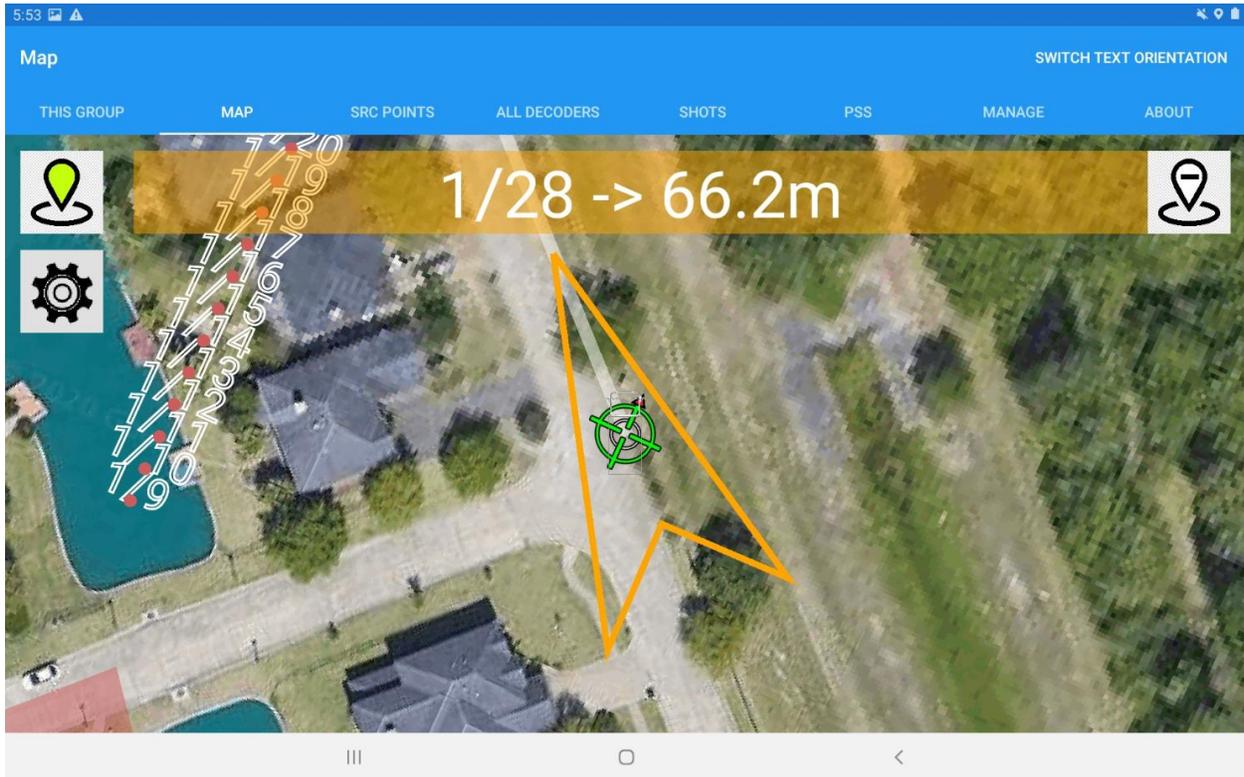
The line and station number of the near source point and the distance to it is shown on the top of the map:



If there are no drive zone shapes defined, the map will detect if it is inside one and notifies the user with spoken words as well as visually:



To navigate to a given source point, click on it on the map.



An arrow appears in the middle of the screen indicating the direction that will lead to the selected point. When this arrow points up, the point is directly ahead.

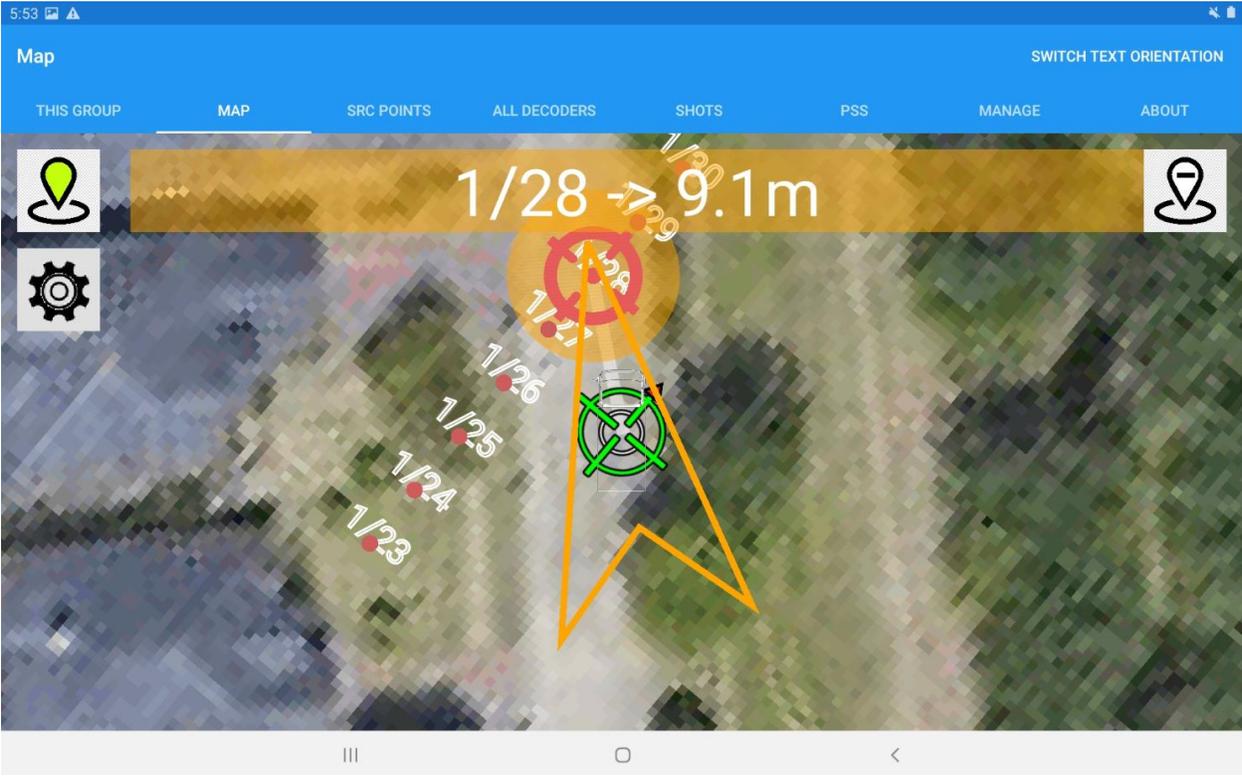
The top banner at this point shows the line and station of the selected point and the distance to it. You will not be able to change the point to navigate to until you cancel this current navigation by clicking on the button on the top right.



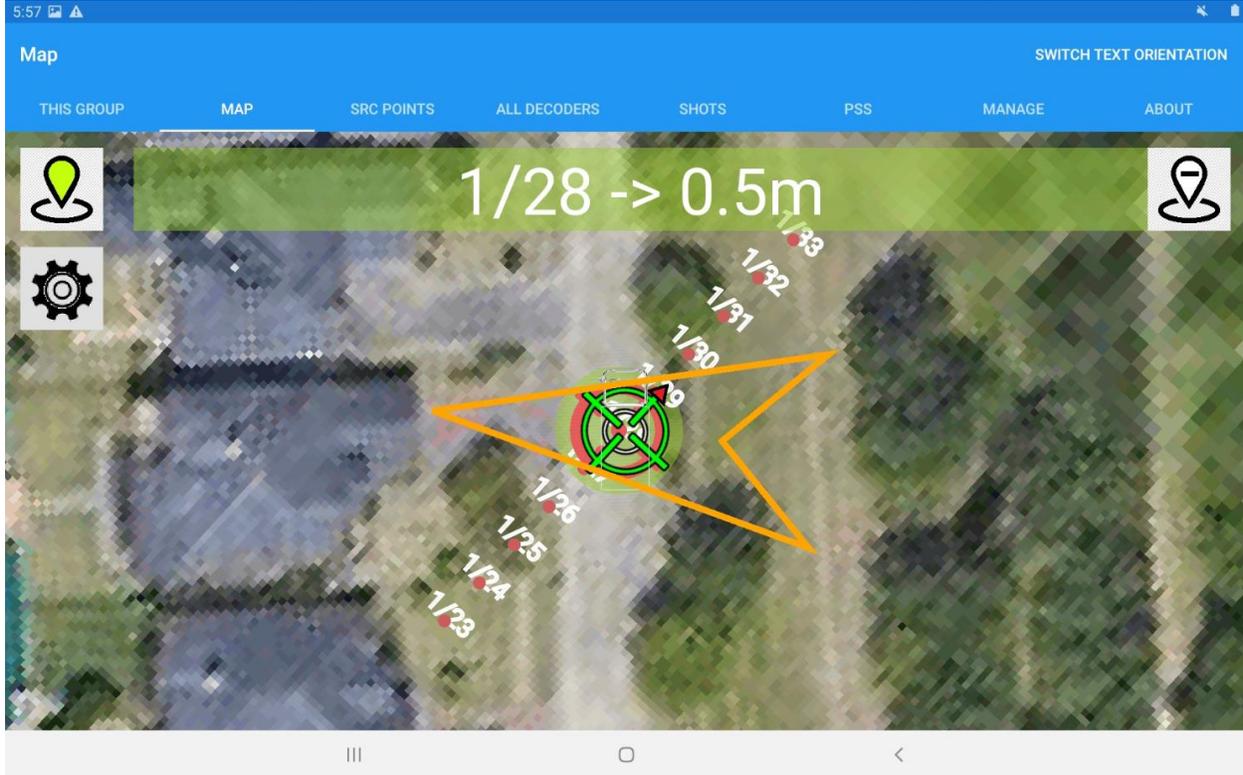
The color of the banner is orange if the distance to the source point is greater than the minimum distance defined in SourceLink.



As we get closer you can see a circle around the selected point, which also represents the minimum distance to the source point before we can shake.



When we are close enough, the color of both the banner and the circle changes to green:



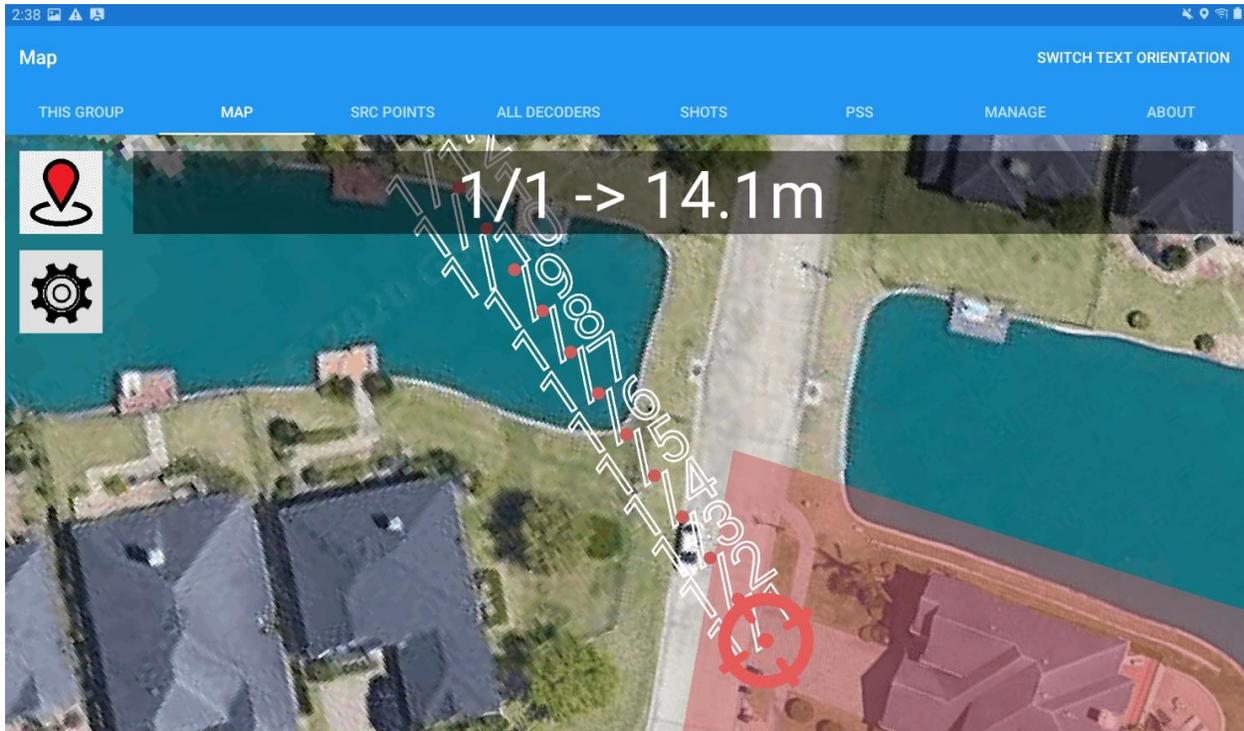
3.3.3 "SRC POINTS" Tab

This grid lists the source points that were imported into VibLinq. It shows the line and station number and whether the source point was acquired already.

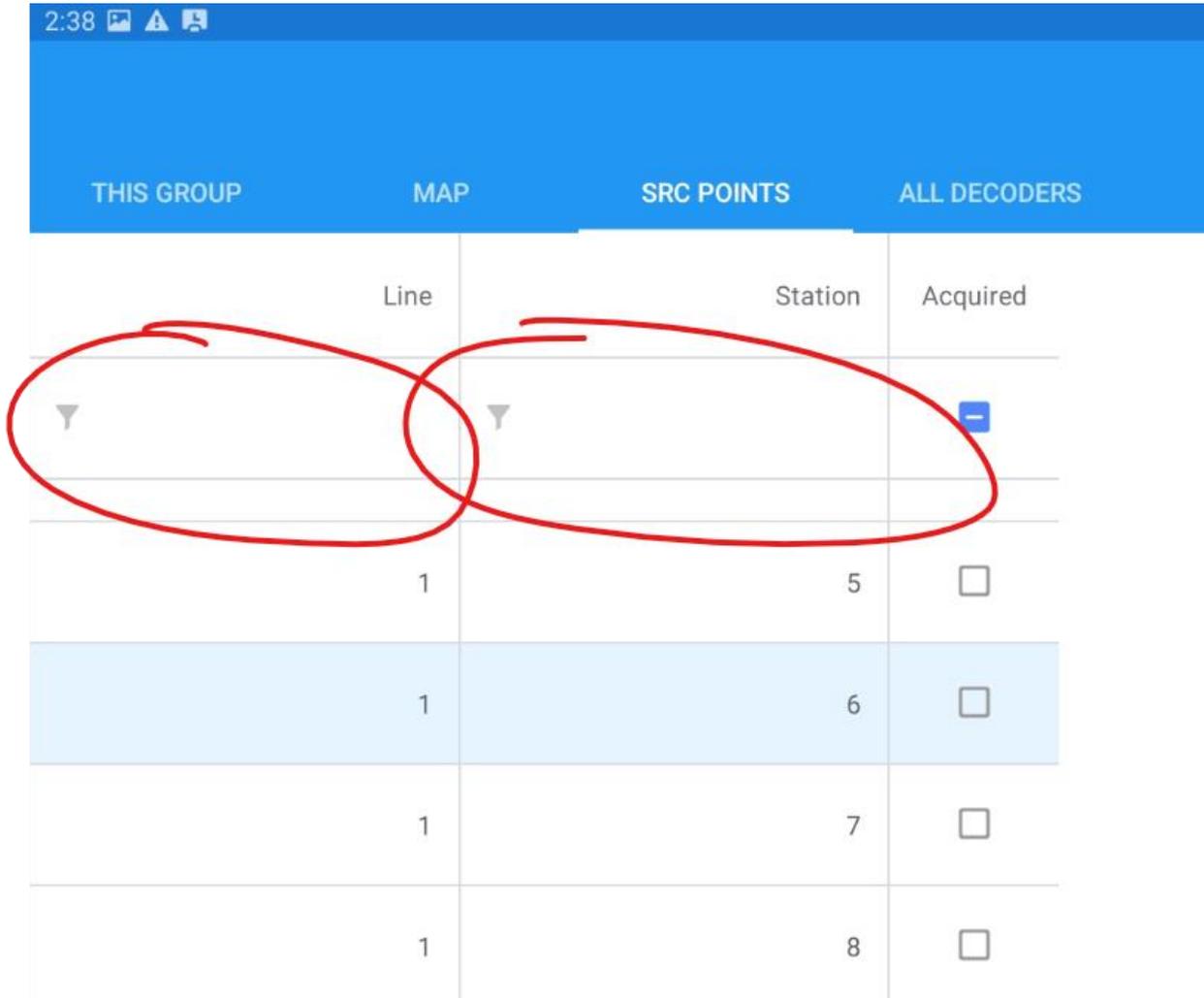
Double clicking on any of the source points in the grid will center the map on it. This is the easiest way to select a remote source point to navigate to.

Line	Station	Acquired
▼	▼	☑
1	5	☐
1	6	☐
1	7	☐
1	8	☐
1	9	☐
1	10	☐

After double clicking the point in the SRC POINTS grid, switch back to the map. You will see that the map is centered on the point and the auto recenter on the current location is off. Click on the point to start the navigation and click on the top right red icon to re-enable auto centering.



The source points can be filtered in the grid by entering a line or station number in the filter fields:



The screenshot shows a mobile application interface with a blue header bar. The header bar contains four tabs: "THIS GROUP", "MAP", "SRC POINTS", and "ALL DECODERS". Below the header is a table with three columns: "Line", "Station", and "Acquired". The table contains four rows of data. The first two rows are circled in red, highlighting filter icons (downward arrows) in the "Line" and "Station" columns, and a minus sign icon in the "Acquired" column. The third row is highlighted in light blue. The data in the table is as follows:

Line	Station	Acquired
1	5	<input type="checkbox"/>
1	6	<input type="checkbox"/>
1	7	<input type="checkbox"/>
1	8	<input type="checkbox"/>

To sort by a column, click on the top of the column. A little arrow on the left hand side indicates the order of the sorting.

8:08

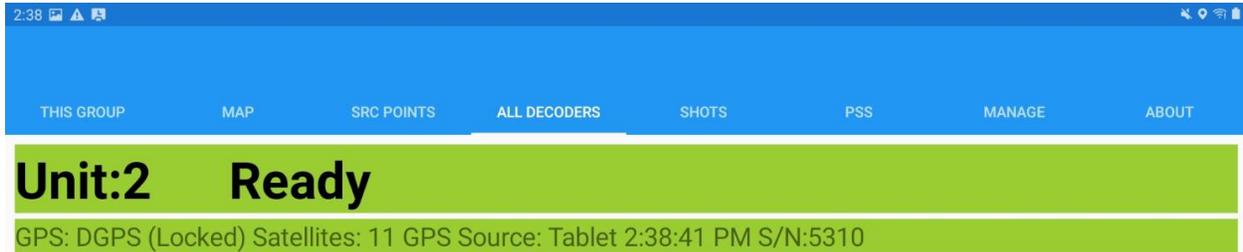
THIS GROUP MAP SRC POINTS ALL DECODERS

Line	↓	Station	Acquired
▼	▼		—
1		300	<input type="checkbox"/>
1		299	<input type="checkbox"/>
1		298	<input type="checkbox"/>
1		297	<input type="checkbox"/>
1		296	<input type="checkbox"/>
1		295	<input type="checkbox"/>
1		294	<input type="checkbox"/>

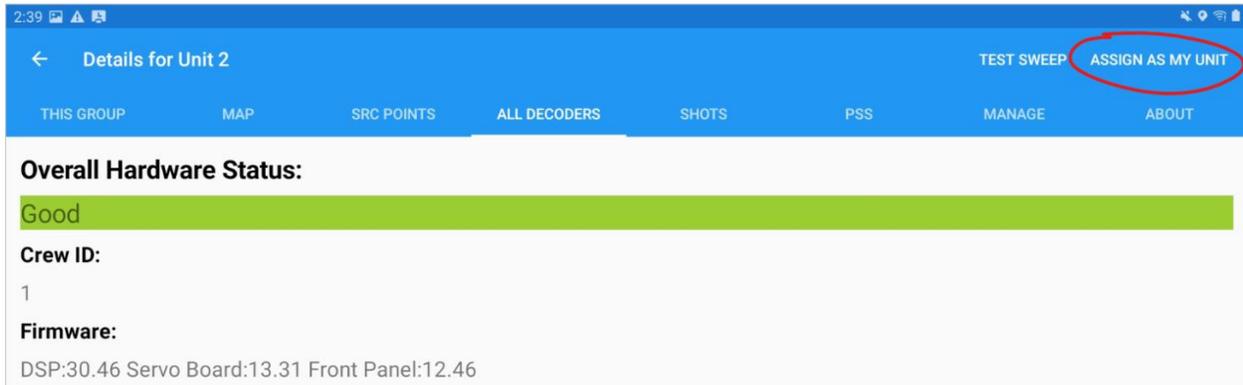
☰

3.3.4 "ALL DECODERS" Tab

This grid lists all decoders from which this tablet receives messages. If the tablet is connected to the decoder via a direct cable, only that decoder will appear in this grid. If the tablet connects to the Seismic Source Mesh Wi-Fi network, it will pick up all decoders that are part of the network.



The user needs to select the decoder that he is connected to from this list and assign it as his/her own unit. To achieve this, click on the unit in the list to pull up the detailed status and click on the **Assign as My Unit** button in the top right corner.



3.3.5 "SHOTS" Tab

This grid lists of sweeps that were performed by the decoder while the tablet was connected to it.

ID	Void	Time	Shot ID	Line	Station	EP	Comments
1	<input type="checkbox"/>	1/19/2021 20:40:30.824000	103	0	0	0 of 0	
2	<input type="checkbox"/>	1/19/2021 20:41:22.448000	105	0	0	1 of 0	

You can click on the checkbox to void the shot. In the comments section you can type additional comments that might be relevant.

Click on any of the rows to pull up details of the shot:

Latitude:
29.96960833333333

Longitude:
-95.61074363333333

Elevation:
12.6

Sweep Length [ms]:
8000

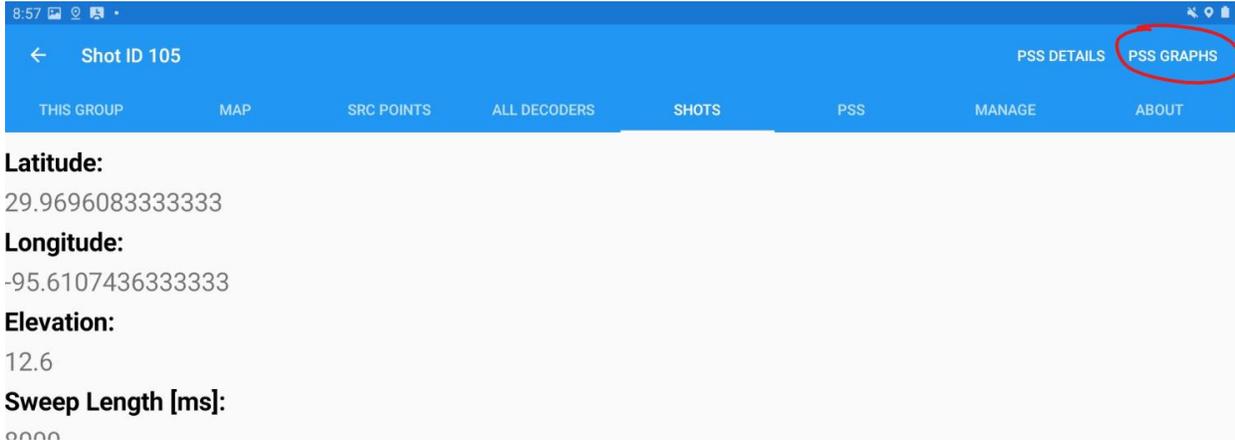
Start Frequency [Hz]:
10

End Frequency [Hz]:
80

Sweep Type:
Linear

Taper Type:

On the top right corner, you can click on the PSS Graphs button to pull up the QC displays for this shot. Please see section [3.3.6](#) for PSS QC displays.



3.3.6 "PSS" Tab

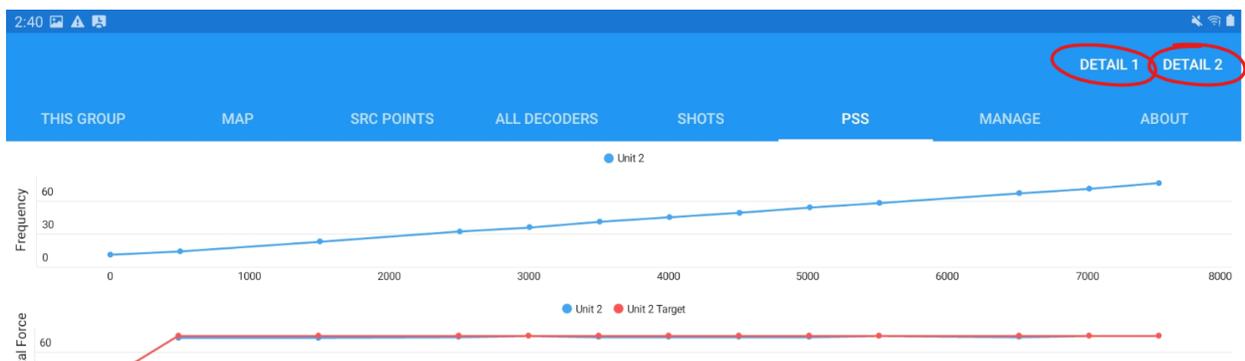
This window will show the vibrator's instantaneous PSS values as the data is streaming in during the sweep.



On the main screen we show:

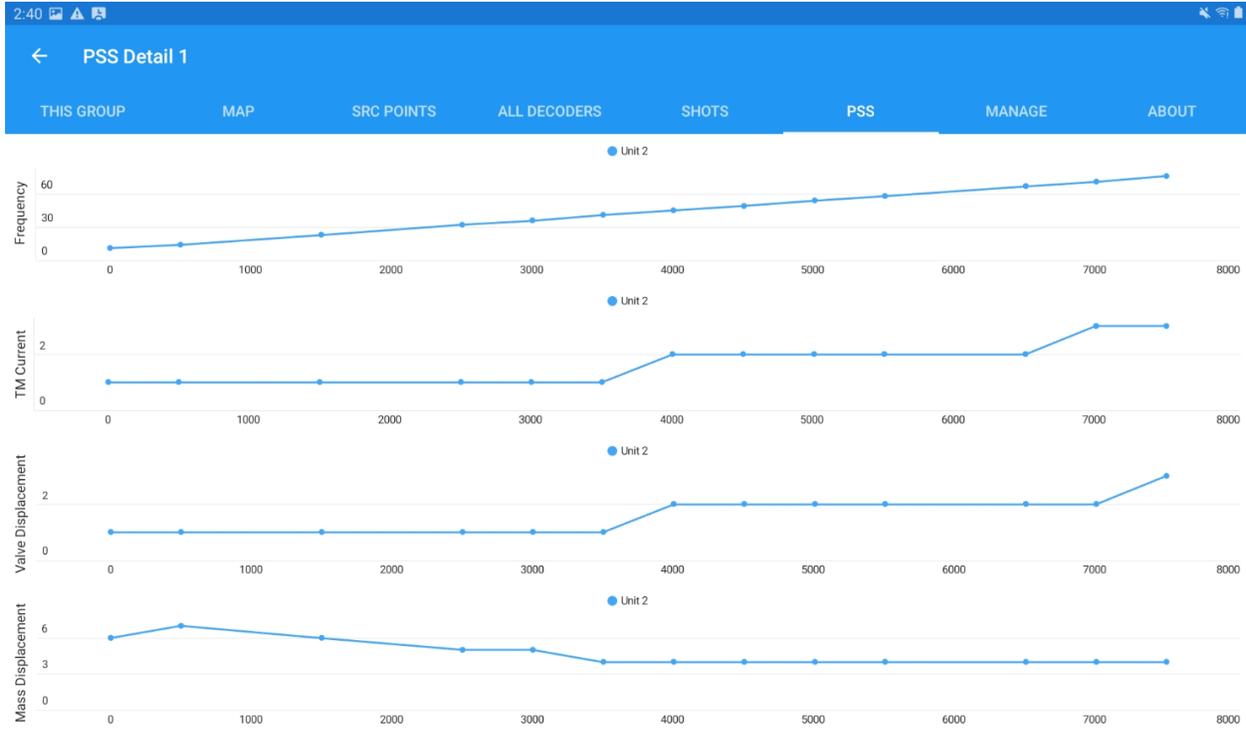
- Frequency
- Fundamental Force (actual in blue and target in red)
- Phase
- THD

Additional views can be opened by selecting the Detail 1 or Detail 2 buttons on the top right corner.



In the PSS Detail 1 page, we are showing:

- Frequency
- Torque Motor Current
- Valve Displacement
- Mass Displacement



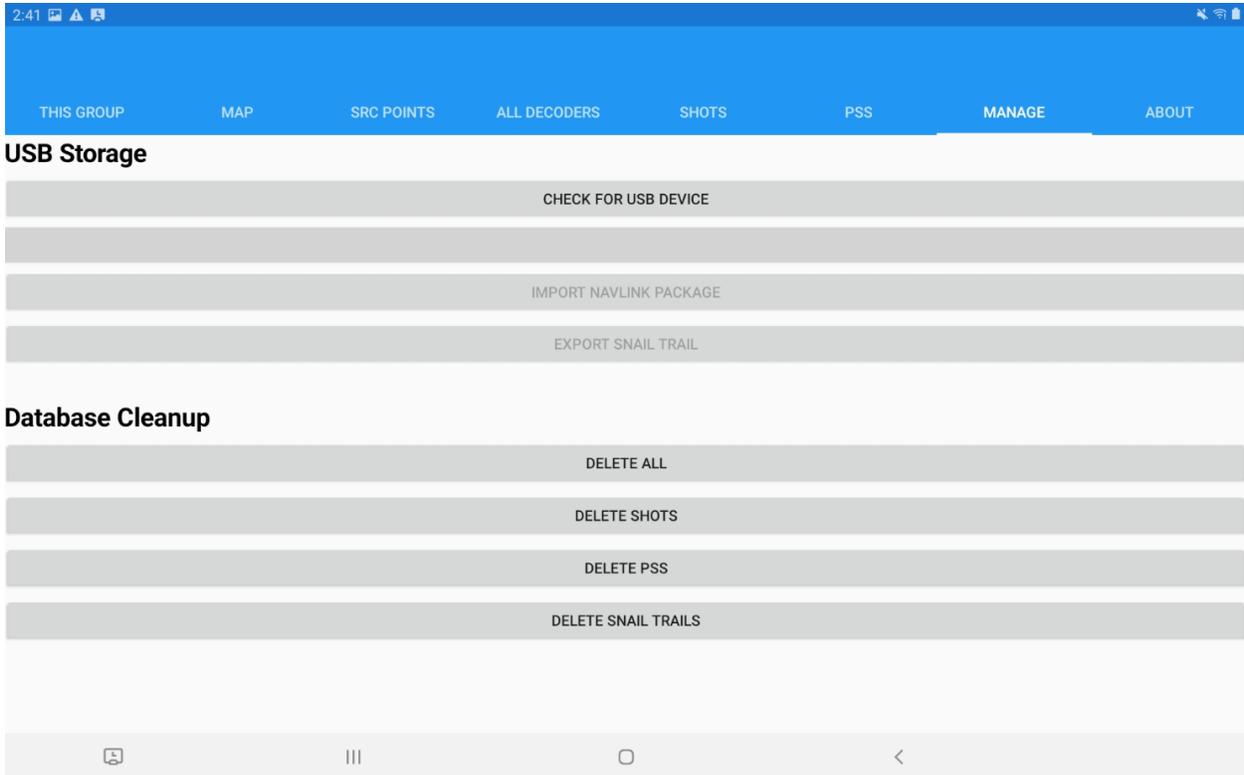
In the PSS Detail 2 page, we are showing:

- Peak Force
- Peak Reaction Mass Force
- Stiffness
- Viscosity

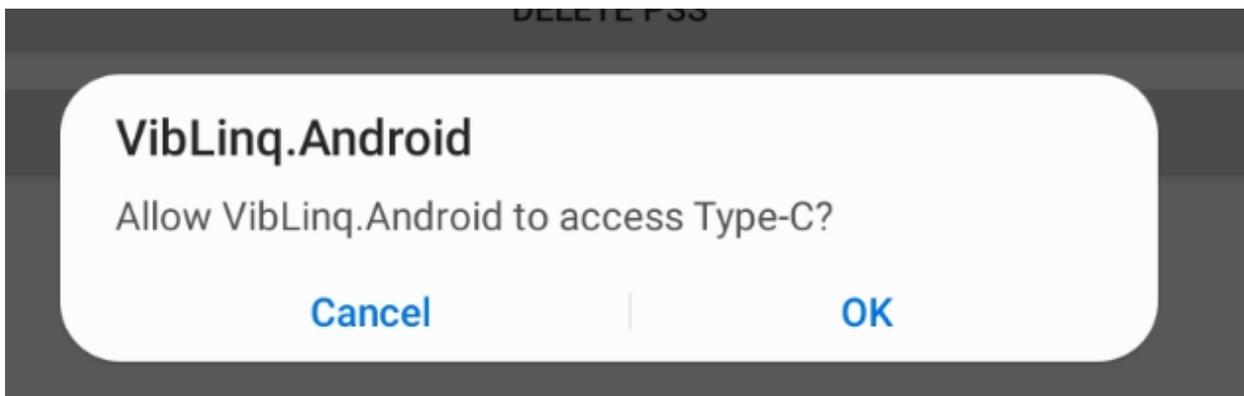


3.3.7 “Manage” Tab

This page allows the user to export and import data from a USB storage device, as well as to clean up the database.

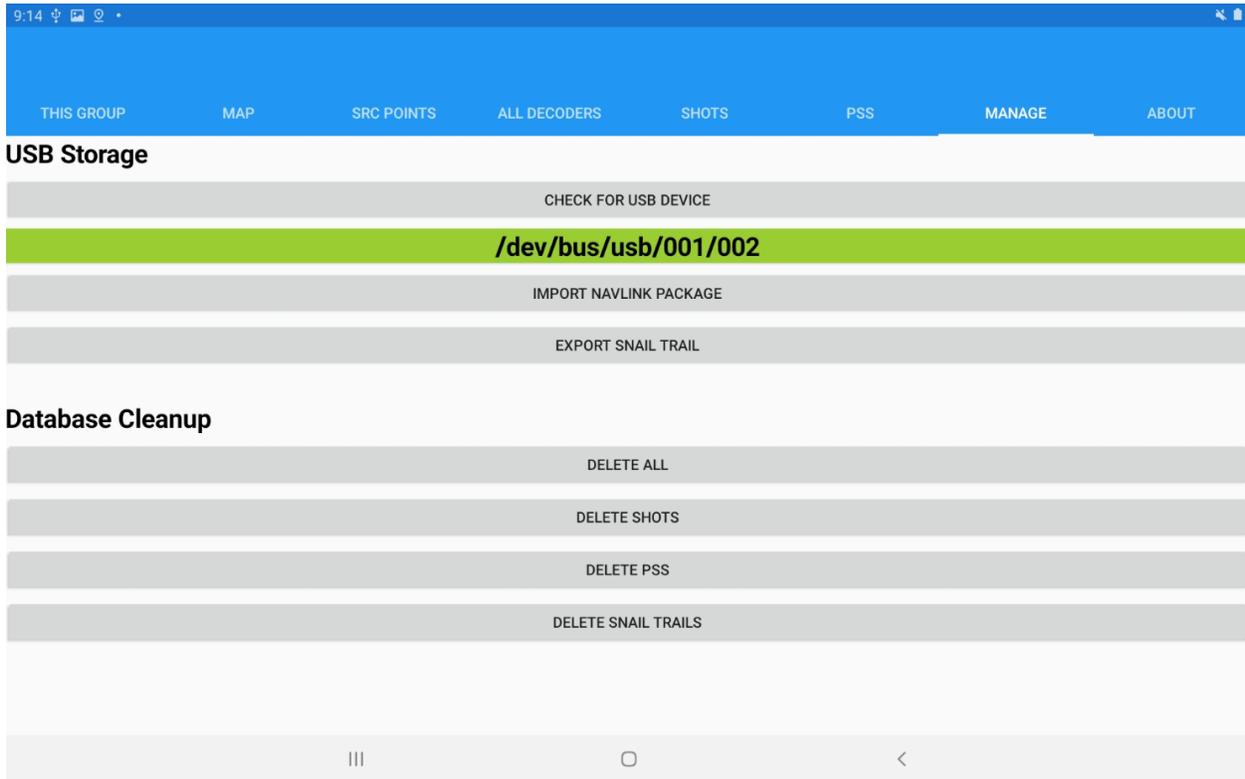


To connect to a USB mass storage device, first plug it into the tablet. Then click the **Check for USB Device** button.

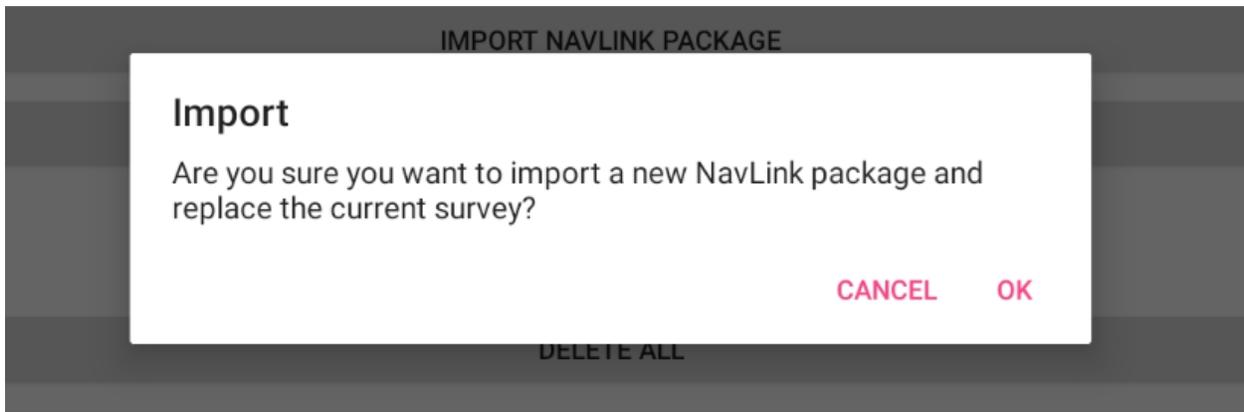


Allow the App to access the device by clicking OK on the pop-up message.

If everything is OK with the USB device, its name will appear in the second row:

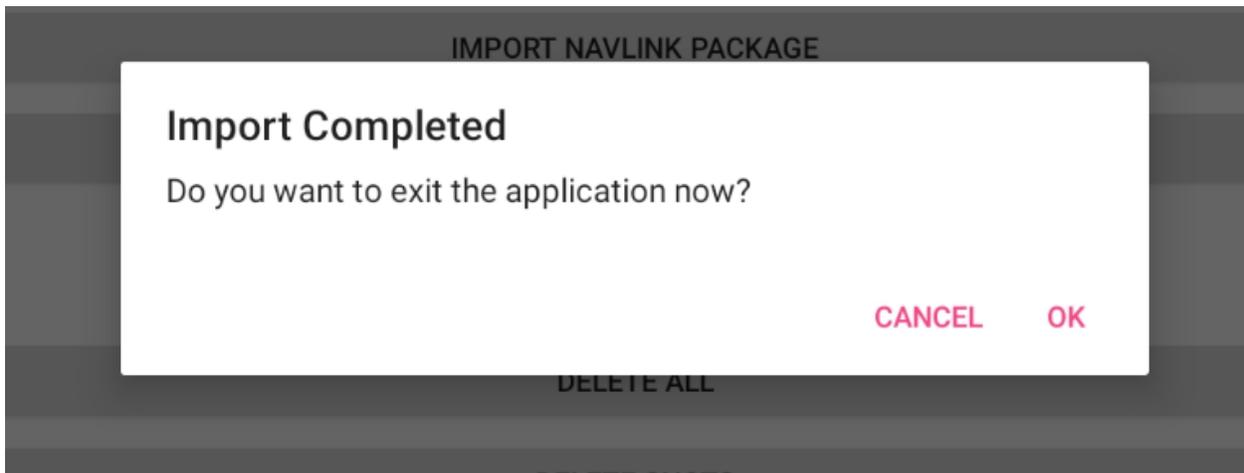


To import the NavLink package generated by SourceLink into the tablet, click on the **Import NavLink Package** button.



When the new Package is imported, the current source points, receiver points, background images and shapes will be replaced. The shots and snail trails in the database will be left untouched, so no production and QC data will be affected.

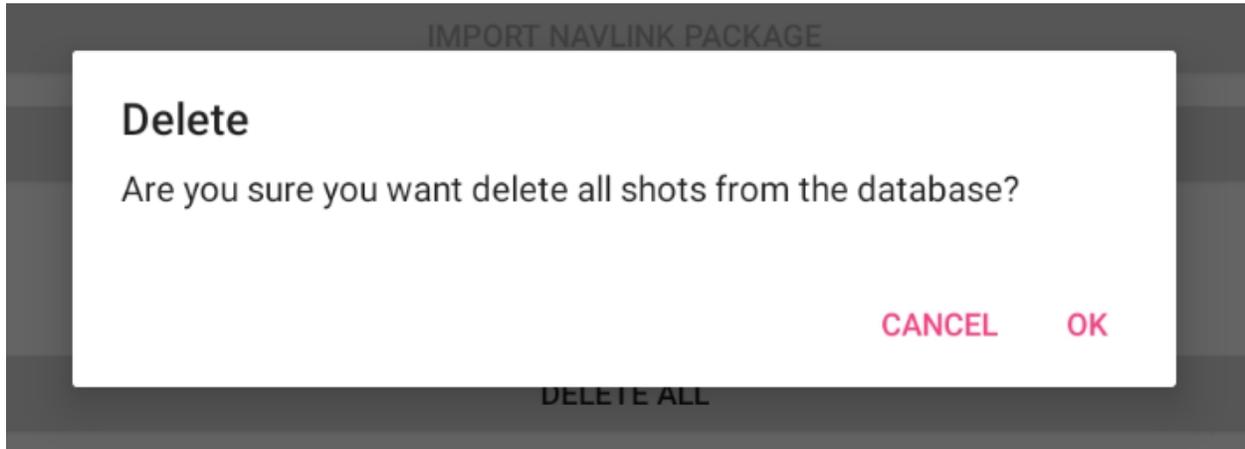
Click OK to start the import. When the import is completed the App needs to restart. Click on OK to exit VibLinq.



To clean the database, you have multiple options:

- Select **Delete All** to wipe all data clean
- Select **Delete Shots** if you only want the shot information to be wiped
- Select **Delete PSS** if you only want the PSS information to be deleted
- Select **Delete Snail Trails** if you only want the Snail Trail information to be cleared

You will need to confirm the intent to delete from the database:



3.3.8 "ABOUT" Tab

On this page you can find the current version and build number for the App. Please refer to this page when you report an issue to Seismic Source. It is very important to link the problem to a specific version.

