

Release Notes ViewPoint 1.2

Date: 2021-04-1

Current Release Version: ViewPoint 1.200

Previous Release Version: ViewPoint 1.101

Minimum Android version required: Android 6.0 (Marshmallow) (SDK 23)

New Features

New Core

The core of the App, which handles all graphics, has been rebuilt. The App now performs much better and is more stable on all devices, especially older ones. Users will notice changes to on-screen icons and objects such as scales, hyperbolas, markers, crosshair etc., as a result of the redesign.

Floating Zoom

A new floating zoom function replaces the old five-step (x5) version, which works more intuitively on touchscreen devices. The main difference is that the focus is set where your finger is. During measurement, the focus is set on the last collected trace and the sample where your finger is placed. During file reading, the focus is set on the trace and sample where your fingers is placed.

Dual View

The "Dual View" function previously located in the Multi-Line Project mode is now available in all project modes.

To activate Dual View, press the DV button located in the data acquisition screen's header toolbar. When enabled, the previous profile is displayed above the current profile, and the horizontal scroll is locked to the current profile.

By default, the previous profile's direction is reversed to match that of the current profile. To flip the directions, double-tap the profile number of the previous profile. If there is an "R" after the profile number of the previous profile (top), that profile is "Reversed".

New Background Removal

A new background removal filter updates itself in real-time when new traces are collected.

An adjustable slider controls the size of the filter mask (the number of previous traces used to calculate the average trace value).

When the trigger source is a wheel, then the mask size is set in meters or feet and converted into the number of traces to be used. When the trigger source is time, the mask size is set in the number of traces.

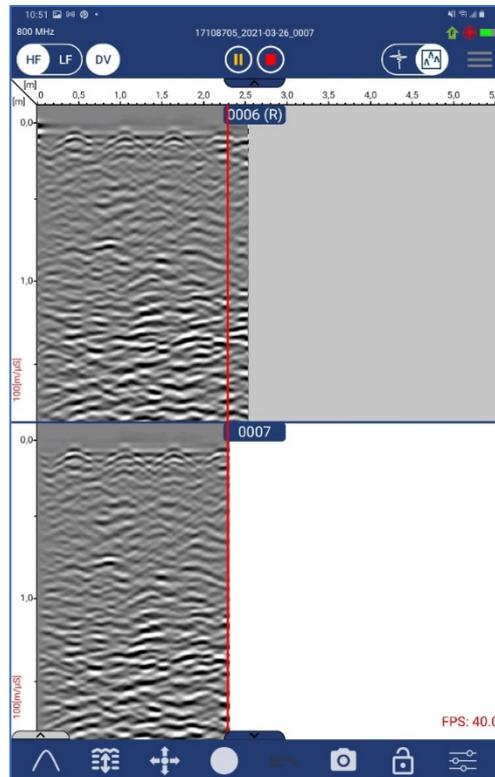


Figure 1 Dual View Mode

Automatic Measurement Direction

When this function is active, the measurement direction is set automatically. Consequently, you can collect data by moving forward or backward (pushing or pulling) regardless of the project type selected.

When starting a measurement, the measurement direction is set when the wheel has moved 5cm completely in one direction. Although data collection starts immediately, data will not be presented on-screen before the system determines the measurement direction. Therefore there will be a slight delay in presenting the first 5 cm of collected data.

As soon as the measuring wheel moves in any direction, the antenna starts to collect data; however, if the direction is changed before the direction has been set, then data collection will restart from the turning point.

The sensitivity for detecting a change in direction is 1 cm. Therefore, the antenna must move at least 1 cm in the opposite direction before the App detects that the direction has changed.

This function can be enabled/disabled in the Antenna Settings menu. By default, this function is enabled for the PinPointR and CrossOver systems but disabled for PLT and RQT antennas.

The current measurement direction is displayed in the status field of the top toolbar.

Function Tabs

To utilise the entire screen during measurement and make the UI more dynamic, you can now hide functionality based on your measurement needs. Click the function tab to show/hide functionality.



Figure 2 Function Tab

Horizontal Scroll Bar

A new horizontal scroll bar makes it possible to navigate data more effectively. You can only use the slider in file reading mode.

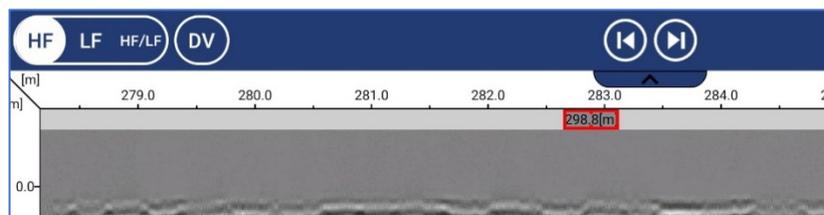


Figure 3 Horizontal Scroll Bar

Data navigation through the map

A new function allows you to navigate in the data with the help of any markers/tracks in the radargram. When you click on a marker in the map, you will see an info window with the text "display in radargram". If you click on that text, the App will open the corresponding profile, and the related marker will be displayed in the radargram.



Figure 4 Marker Info Window

Connect Button

This button appears if there is a connectivity issue between the Android device and the system (Wi-Fi SSID) to which it was connected.

The App will stop sending commands over Wi-Fi, to prevent any disturbance to the system, on the assumption that it is connected and collecting data from another Android device.

If this button appears, check the following:

1. The Antenna has already established a connection to another Android device.
2. The Antenna does not answer.
3. The connected Wi-Fi is not an Antenna.

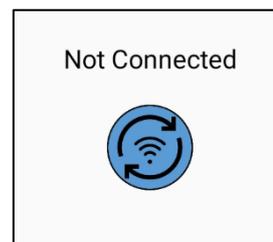


Figure 5 Connect Button

Click on the connect button, to make a new attempt to communicate with and connect to the Antenna associated with the connected Wi-Fi.

New Zero Level Adjustment Function

A long press on the vertical scale activates the adjustment mode. When the background colour of the scale changes to green, you can adjust the zero level. Tap outside the scale to confirm the new zero level.

Dual Frequency Mode

The Dual Frequency mode now allows all functionality available in the single frequency modes. For example, you can set markers, change soil velocity, take screenshots etc., as you would in the LF or HF modes.

Battery Indicator

For antennas with firmware \geq 49000109, a battery indicator is displayed in the status field of the top toolbar.



Figure 6 Status Field

Updated Information/Help Screen

The old help text has been replaced with links to ImpulseRadar's website and social media channels and version information for the App.

GPS Status Symbol – Antenna Settings Menu

A GPS status symbol has been added to the Antenna Settings Menu so that you now can see the status when you set up the GPS.

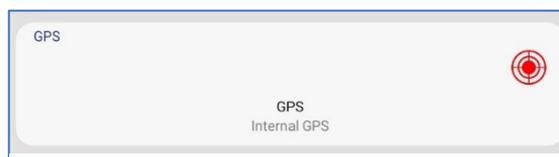


Figure 7 GPS Status Symbol in the Antenna Settings menu.

Multi-Line – Reference line project

The forward/backward arrow buttons and the Reference Line Left/Right buttons are now only displayed when necessary and moved to a draggable pop-up window.

When you set the reference line, the line will be represented by a red marker called "RL" placed on the zero level. The marker can be removed during data measurement, but it is not possible to stop the measurement until the RL marker has been set.



Updated file associations and file content

**.mrk file*

The marker file now also includes coordinates for each marker and a precision mark flag. When clicking on a marker in the data acquisition screen, you can also see if it is a "Precision Marker". As before, each marker is defined by a tab-separated row in the .mrk file. For example...

```
Trace<tab>Sample<tab>Marker Standard<tab>RGB Color Code<tab>Marker Type<tab>User  
Comment<tab>Latitude<tab>North/South<tab>Longitude<tab>East/West<tab>Altitude<tab>Altitude  
Unit<tab>GPS Status<tab>Precision Mark Flag<CRLF>
```

```
3798<tab>348<tab>APWA<tab>#007BC3<tab>5<tab>comment<tab>63.8374790000<tab>N<tab>20.27331683  
33<tab>E<tab>28.90<tab>M<tab>4<tab>Y<CRLF>
```

**.hdr file*

The *.hdr file now includes the following fields:

- Antenna name
- Start temperature
- Stop temperature

Updated Field Summary PDF

The following changes have been made to the PDF field summary report

- Antenna name has been added to the header
- Status Field has been added to the marker tables, showing the quality of the GPS signal
- Channel frequency, e.g., 400 MHz / 800 MHz, is shown on the radargram screenshots

Bug Fixes

All bugs that have been reported since the last release version has been fixed!

Previous Version History

ViewPoint 1.101

- Non-save mode added
- Improved storage stability
- Data folder renamed to 'ViewPoint Data'
- New function to allow clearing of the ViewPoint Data folder
- Automatic storage capacity check (>500 MB)
- Option to add date and time extension to project name
- New file explorer functionality to manage saved data folders, files, and individual profiles
- Open picture feature added to file explorer
- Improved cursor lock control
- Bug fixes:
 - Fixed screen orientation and loading of default language
 - Fixed various WiFi connectivity issues and App freezes/ crashes
 - Fixed performance issues with the Map View mode, which was affecting App speed
 - GPS mode "External + Time Pulse" now uses "Windows CRLF" to improve the interpretation of saved coordinate data.

- Fixed speed issues associated with opening large projects with hundreds of profiles

ViewPoint 1.008

- Fixed a bug that could impair the GPS accuracy when using the GPS mode "External + Time Pulse".

ViewPoint 1.004

- Fixed a bug that caused the App to crash under special conditions when using the GPS mode "External + Time Pulse".

ViewPoint 1.0

- Renamed the App from IPR App to ViewPoint.
- New App icon to support the name change
- New feature added called MapView with supporting functionality:
 - User preference activation
 - Tracks and markers
 - Current position
 - Map screenshot
 - Map type and filter
 - Markers and marker management
- New feature added called Project Overview with support to show all project locations (with GPS data) on a map.
- Renamed PDF Report to PDF Summary Report
- Added disclaimer text to the PDF Summary Report
- New feature allows the user to upload their company logo for inclusion in the ODF Summary Report.
- Auto screenshots of the map added to the PDF Summary Report.
- Operator initiated screenshots are now automatically added to the PDF Summary Report.
- Markers can now be grouped according to type or by ID in the PDF Summary Report
- Compression added to reduce the size of the PDF Summary report with a factor of >10.
- KMZ export function is added to create automatic kmz files including tracks, markers and auto screenshots of the markers in the radargram. The KMZ follows the KML standard and can be opened in Google Earth.
- Redesign of header toolbar:
 - New channel selection buttons
 - Navigation buttons for profiles within the same project
- New option to choose whether to generate a PDF/KMZ file when existing a project.
- Redesign of the 'upgrade Firmware/FGPA' function
- Bug fixes:
 - When changing the screen orientation, the default language was loaded. This is now fixed.
 - Sometimes when the Android back navigation button was pressed, the App did close when it was supposed to go back to the previous screen.
 - Sometimes data was written to the time file when it was not supposed to. From now, data will only be written to the time file when the GPS mode is set to "External + Time Pulse".
 - The .cor file was not written to in real time. Which could have the impact that the GPS data could be lost if the App crashed. From now the *.cor file will be written in real time.

- The vertical scale for the LF-channel had incorrect position in HF/LF mode.
- The Reference Line Marker did not adjust its position correctly when the radiogram was zoomed.
- The red backup cursor was "jumping" when you had scrolled back more than a screen width in the data, with help of the wheel, and was going forward again.
- The millisecond field in the .time file could in some rare situations be >999. When that happened the .cor file could be corrupted.

IPR 1.130

- User Preferences updated to include an option to select the language.
 - English (Default)
 - French (Google Translated)
 - Swedish

Note: the PDF-field report and the help window is always in English.
- User Preferences updated to include an option to activate Auto Zoom.
 - When starting a new measurement (pushing the play button), the zoom will automatically be adjusted to fill the screen. But it will not over scan. The current zoom factor will also be kept when you stop the measurement.
- New feature added to select the default marker standard from User Preferences.
- Malaysian JUPEM standard added to the list of default marker standards.
- Button added to the header toolbar to change the channel selection. This replaces the previous screen gesture (double-tap).
- Manual control popup window added and includes directional buttons for controlling the cursor, scroll, set marker and zoom.
- Hyperbola and Depth to Target Popup Window now allows the user to adjust the position of the cross-hairs without closing the window.
- The positioning of all Popup Widows is now saved so the last position becomes the default placement position when reopening.
- Screenshots in Dual Frequency Mode are now possible and will also be saved to the PDF Report.
- A new Wi-Fi Connection Warning dialogue is added to warn the user if the Wi-Fi connection is lost during an ongoing measurement.
- Update to marker indexing in old projects so that the marker indexing will now start from the last marker index in the project rather than 1.
- Fixed a bug to restore the gain and contrast parameters when starting a new profile.

IPR 1.120

- Redesign of the multi-project mode.
- The App now prompts for default wheel type when connecting to an Antenna for the first time after installation/upgrade.
- Custom wheels will no longer be deleted after a factory restore.
- A new Direct Drive Cart option is added to the default wheel list, while the older style cart and wheel encoder is renamed Belt Drive Cart.
- Bug fixes:
 - The built-in file browser sometimes showed doublets of profiles.

- The App could crash when adding a new wheel.
- The Field Report always showed APWA standard.
- Default and custom wheels were not saved properly in the antenna, which caused that there sometimes was doublets of the same wheels or that some wheels were missing in the list.
- When you changed the "sample" (max depth) parameter in the settings menu, the App and the antenna could "freeze" when a new measurement was started with this new parameter.

IPR 1.116

- Single Line Project is now handled more like a project, so files are saved in subfolders, following the same logic for Multi Line Project.
- New options added when starting a project – start a new project, resume the latest project, or resume an old project.
- The Settings menu is renamed to Antenna Settings and has been redesigned to be more user friendly.
Note – there is a switch called "Show Advanced Settings". When its deactivated, just the most necessary settings are displayed.
- A project folder can now be zipped from the App's file explorer. Do a long press on the project folder that you want to zip, and select "Zip Project".
- The GPS symbol will now always be displayed. If there is no GPS signal, the GPS symbol is red.
- The PDF Rreport function is adjusted to the new project structure, so one report is created for each project.
- From the file explore in the App you can now see the size and type of the project.
- The filter window can now also be displayed and used when showing both channels at the same time. And you can also have it opened, and on the same time use other UI.
- After a new installation/upgrade of the App, its necessary to make a factory reset after you have connected the antenna. This is now done automatically.
- Bug fixes:
 - Problems regarding zoom tilt and scrolling are fixed.
 - .cor file was not created if the GPS didn't have signal when pushing play button.
 - The sec time field showed "-1" instead of 0 in the .time file, when flipping over from 59.
 - Not possible anymore to set a marker outside the radiogram.
 - PinPonintR antennas will now be identified correctly.
 - The App couldn't open projects that only contained LF profiles.
 - The thumbs of the gain/contrast seekbar in the filter menu looked very strange in Multi Line Dual View mode.
 - When opening a profile with markers in CrossPoint, "user comment" was printed out for all markers.

IPR 1.104

- Improved performance on all devices.

IPR 1.103

- The App has a new zoom functionality. The new function will zoom in both horizontal and vertically direction, and the zoom factor is displayed in the left bottom corner (x5 max).

- Both the horizontal and vertical scroll is now controlled with just one finger, instead of three! And the horizontal scroll is much smoother than before.
- Some of the settings in the old Settings screen is moved to the new Preference screen, and some new preferences regarding the PDF field report is added.
Note – the Preference Screen is always available even when the antenna is disconnected.
- The PDF report is now adapted to also be useful for Multiline projects. When a Multiline project is finished, a report will be generated including all markers and screenshots from the entire project. When starting a new line, the indexing of the markers will continue from its last position.
 - To reduce the number of pages in the report, Markers are now grouped by color – one table for each color and channel.
 - Screenshots of all markers will automatically be printed out in the report (exactly as many screenshots as needed to show all markers are printed). Operators screenshot will also be printed as before.
 - The field report can now be opened directly from the file window in the App. The pdf will be opened in an external pdf reader.
- Bug fixes:
 - The Imperial measurement system now works as expected in all places in the App. You can switch between Metric and Imperial from the new Preference Screen.