RACE NAVIGATOR

RN ANALYZER FOR WINDOWS

QUICKSTARTER

RACE NAVIGATOR RN ANALYZER FOR WINDOWS

UPGRADE THE RACE DATA ANALYSIS CAPABILITIES OF YOUR RACE NAVIGATOR WITH THE RN ANALYZER APP

The **RN Analyzer app** is now available for **free** download from the **Race Navigator** website.

Visit the website for more info:
www.race-navigator.com/
Updated 23-11-2020

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1 GENERAL OVERVIEW

About the RN Analyzer app

The free Windows app **RN Analyzer** is an enhanced analysis tool for the data recording system **Race Navigator**.

Lap comparisons, data analysis and video evaluation made easy – with the RN Analyzer app you can transfer all race data recorded by the Race Navigator to your PC via Wi-Fi.

Manage all recordings of your race events, stints, and laps easily and comfortably on your PC.

RN Analyzer offers a wide range of analysis options:

- Analyze laps according to different criteria (speed, distance, time, lap times, g-forces, OBD-II/CAN-data),
- Get an aerial perspective of the racetrack based on Google Maps. Your driving lines are displayed with maximum precision from an overhead view,
- Compare two laps and see exactly where you are gaining or losing time,
- Play videos in the built-in video player,
- Compare up to 10 laps with four different data channels simultaneously, all synchronized with videos,
- Compare sector timing of selected laps, standard sectors can be used, or new sectors can be created,
- And many more.

RN Analyzer app layout

The application layout consists of two main parts:

- **The Main Menu** on the left,
- **The Main Dialog** in the middle,

The currently installed version of the app can be checked in the settings dialog.

All laps lists have the same color scheme:

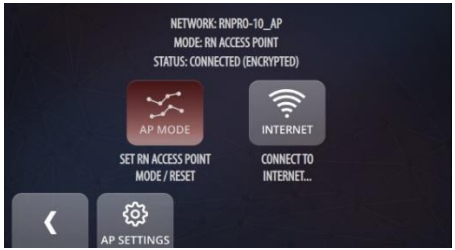
- Full laps are colored **white**,
- Incomplete laps are colored **grey**,
- The best lap of each driver is colored **yellow**.

The main application view is **the Analyzer**, which is vertically divided into three parts: Video area and two Chart/map areas. The height of each part can be adjusted.

2 CONNECTING TO DEVICES

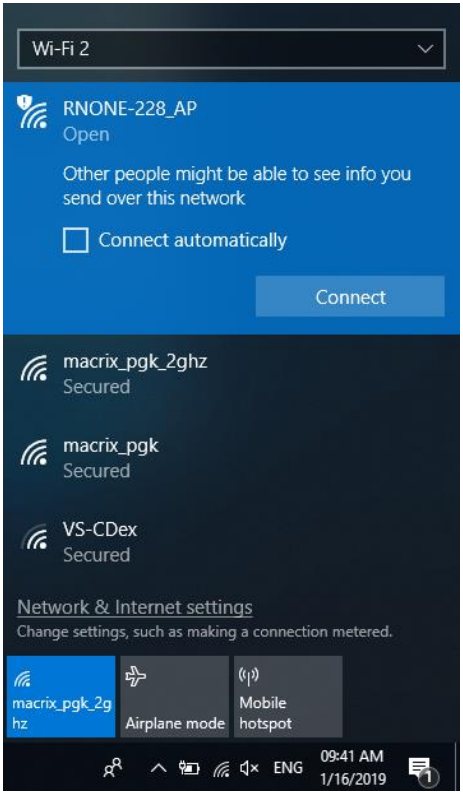
In the first step, the connection between the PC and Race Navigator ONE should be established by following the instructions below:

1. On the Race Navigator device, go to **SETTINGS > NETWORK > INTERNET** and choose **ANALYZER MODE**. An access point for RN Analyzer devices is created. The name of the network is device **name_AP**.



2. On the PC, click on the Wi-Fi icon on the task bar and **connect to the proper network (device name AP)**.

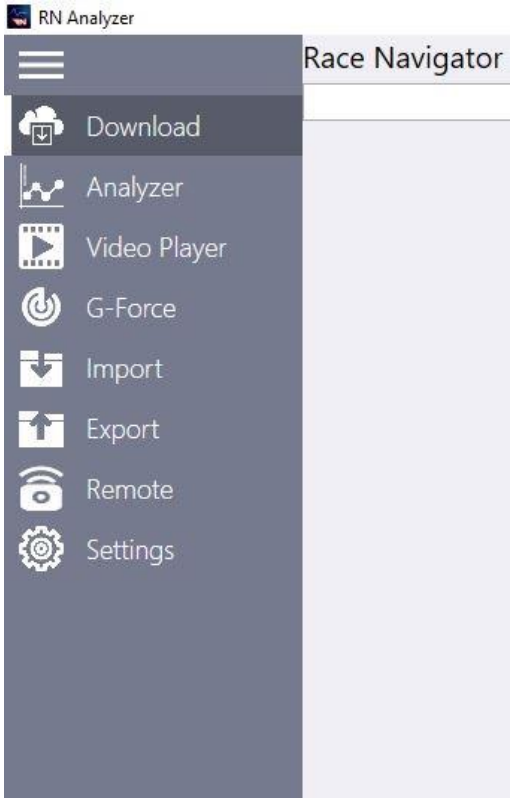
After these steps, the Race Navigator device will be available in the **Download dialog view**.



3 MAIN MENU

This is the main application menu. You can return to this view from any location by tapping the **Menu button** (3 lines icon/hamburger menu icon).

RN Download
This button opens the RN Devices view
Analyzer
This button opens the Analyzer view
(see 5 ANALYZER)
Video Player
This button opens the Video Player view
(see 6 VIDEO PLAYER)
G-Force
This button opens G-Force chart
Import
This button opens the Import file view
(see 8 IMPORT)
Export
This button opens the Export file view
(see 8 EXPORT)
Remote
This button opens the Remote-Control view
(see 9 REMOTE)
Settings
This button opens the Settings view
(see 10 SETTINGS)



4 DOWNLOAD

This view contains a list of all events that are stored on the connected device, from which you can transfer the data directly to the PC. Data are downloaded wirelessly, using Wi-Fi Network or RN Access Point.

Device name

The name of the device, which contains all recorded data.

Car name

The name of the current car.

Driver name

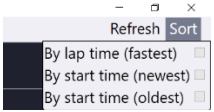
The name of the current driver.

This view contains a list of recorded all laps from one event. You can browse the list and select laps to download.

Laps list

The list displays all laps in a selected event. Full laps are colored white while the others are colored grey, except the best laps of each driver, which are colored yellow.

Laps can be sorted by **start time, driver** or **lap time**.



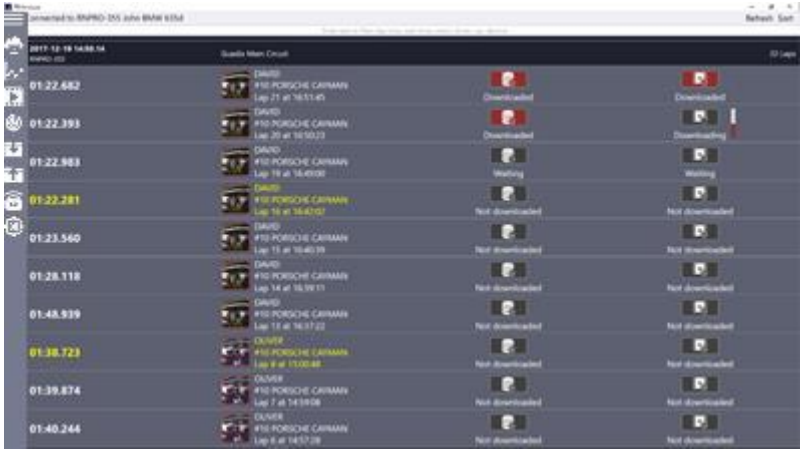
You can change the sorting method by tapping the proper checkbox.

Data/Video download button

You can select videos and data to download.

Refresh button

Press the button to refresh the list of events and its laps.



The download progress is displayed at the bottom of the screen. First, the data is downloaded and afterwards, the video file.

NOTE: In order to obtain the highest connection quality and download speed, place the devices close to each other.

Lap details

It contains all details (lap time, driver, car, track, device, start time, lap number) of the downloaded lap.

Status

You can check the status of particular laps (not downloaded, not available, downloading, waiting, or downloaded).

Progress bar

You can observe the download progress for particular laps.

5 ANALYZER

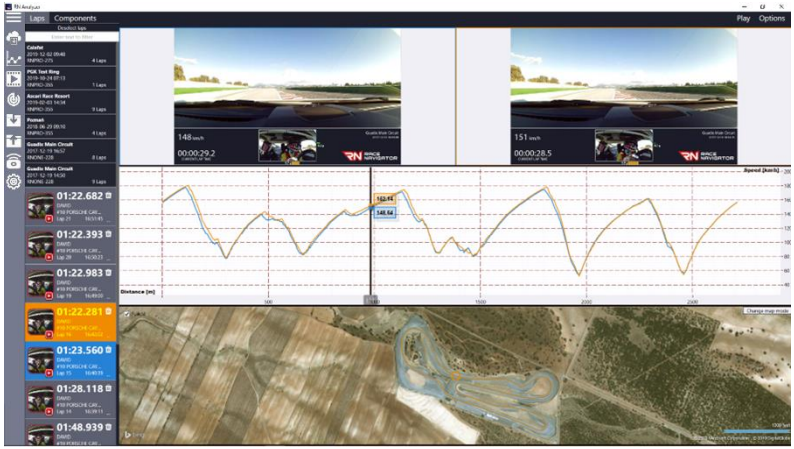
The analyzer view allows for the analysis of laps according to different data types (speed, time slip, g-forces as well as OBD II/CAN Bus data) synchronized with laps videos and positions of cars on the map.

You can compare up to 5 laps with videos and 10 laps without videos at the same time. You can select laps for comparison in the Laps list, on the left side of the screen.

The Analyzer view is vertically divided into parts: Each vertical part represents one data component. It is possible to choose components from: the videos list, charts, map area or table with lap details. The height of each part can be adjusted.

Chart/Map Area

It presents charts or the map from selected laps.



Laps List

It displays all laps grouped by events. Tap the Event name to open the Laps list. You can select a lap by tapping the lap details area.

Components

Press the button to open a list with available components (see 5.1 ANALYZER · Lap Analysis · Components).

Lap Details Area

It presents details for each lap (lap time, driver, car, start time, lap number). Full laps are colored white while the others are colored grey, except the best laps of each driver which are colored yellow.

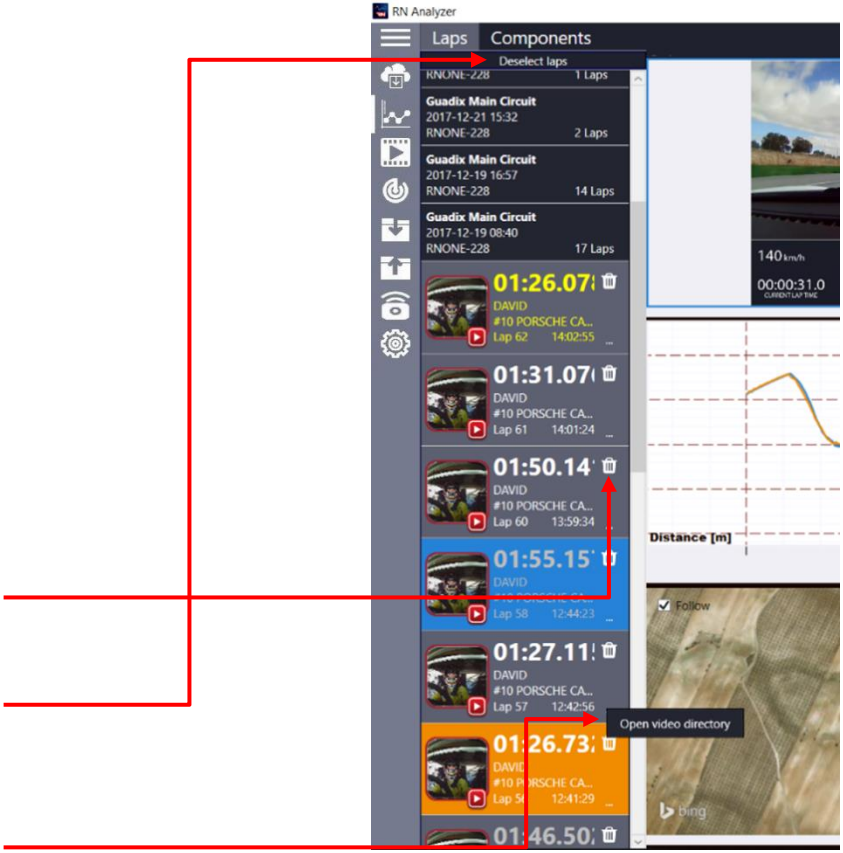
Delete Button

Click on the bin button to remove the video and the data from the PC.

Deselect laps Button

Click on this button to deselect all laps selected from all events.

You can also **view video of a lap in the Windows directory** by clicking on the three dots and choosing Open video directory option.

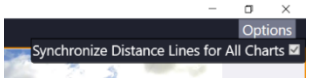


5.1 ANALYZER · Lap Analysis · Components

Here you can choose different data types (components) to display. You can choose from:

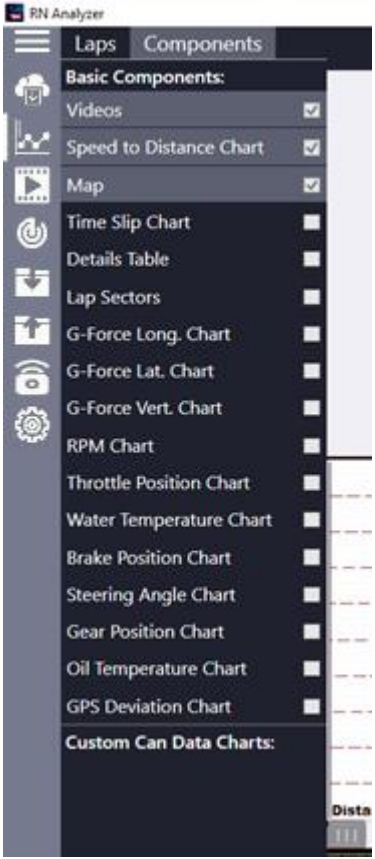
- Videos
- Maps
- Details
- Lap Sectors table
- Charts (all visible on the list)

Options Button This button shows all available options of the Analyzer view



Synchronize Distance Line for All Charts – when this option is selected, then every chart is using the same zoom on the distance (x axis). When zooming in/out one of the charts, the horizontal axis (distance) of the others will be automatically adjusted. If this option is deselected, then every chart can be adjusted separately.

Follow – the zoomed map will follow the cursor while it is moving.

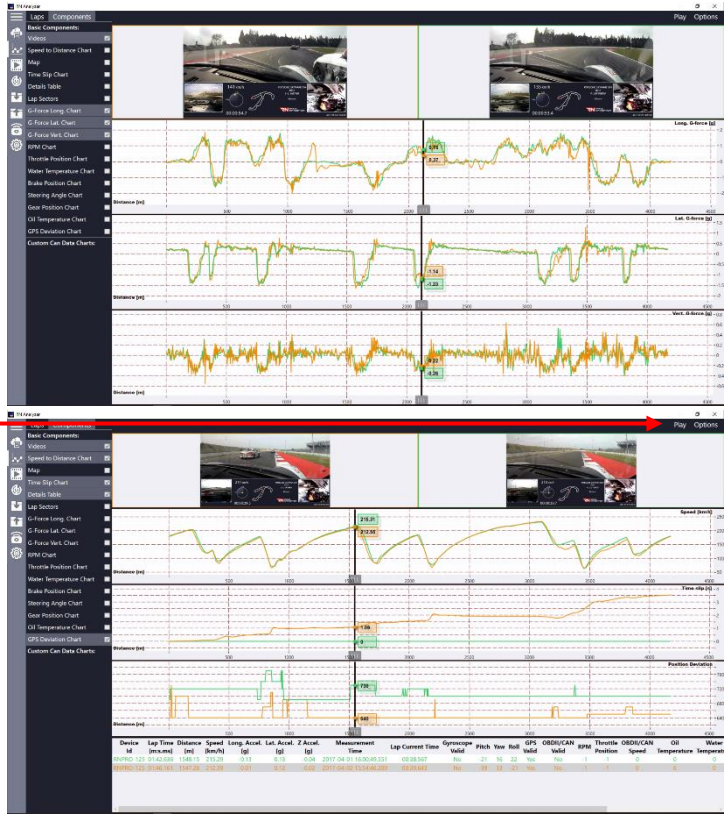


You can analyze the entire track, comparing selected laps step by step by using **the slider**.

The videos, charts and cursor on the map are immediately **synchronized** according to the slider's position.
You can choose any number of components to display.

Play Button Click to start playing lap.
(see: 5.3ANALYZER · Lap Analysis · Play)

Slider Position
You can set the slider position by clicking on the chart or by moving the slider right or left.



Charts Zooming and Panning

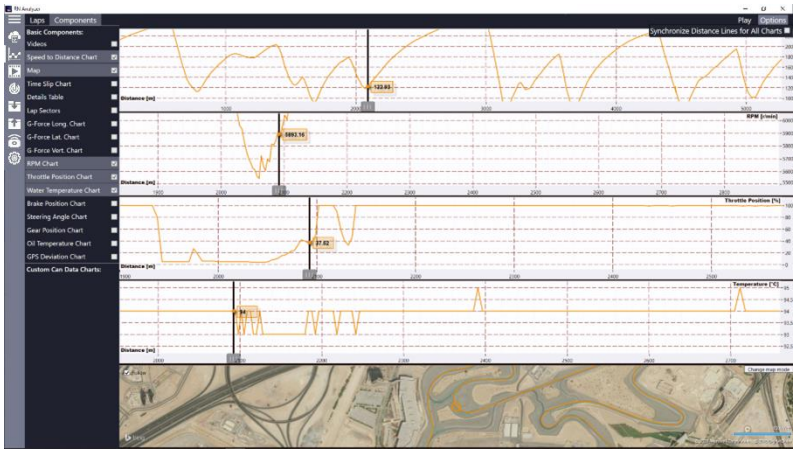
It is possible to zoom charts by using the mouse scroll wheel or the laptop's touch pad scrolling feature. If the mouse cursor is located in the chart area, a zoom is performed in both horizontal and vertical directions, if the mouse cursor is located on the horizontal (distance) or vertical axis, a zoom is performed separately in horizontal or vertical direction.

Chart panning is possible by clicking on a chart and moving the chart in any direction.

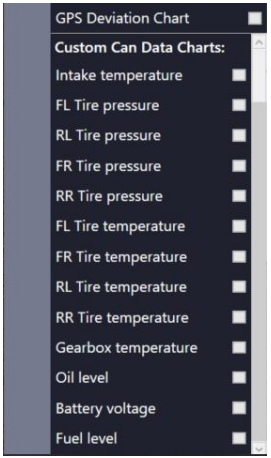
5.2 ANALYZER · Lap Analysis · CAN Data

If additional CAN bus data are recorded on the Race Navigator device, then it is possible to analyze them in the RN Analyzer app.

Note that the Race Navigator device has to be properly configured and connected to a car's CAN bus. Detailed instructions how to configure CAN bus can be found in the Race Navigator device manual (available on the Race Navigator website).

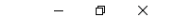


If additional, custom CAN Data channels are recorded by the system, they are available in the section Custom CAN Data Charts located below rest of components. Please note that only channels that contain data are visible for selection.

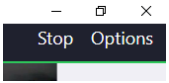


5.3 ANALYZER · Lap Analysis · Play

It is possible to play automatically selected laps. Video frames + sliders on the graphs with measurements + position marker on the map are changed automatically one by one.



Playing can be stopped and resumed at any moment until slider reach the last value.



5.4 ANALYZER · Lap Analysis · Lap sectors

Lap sectors component shows sector times of each selected lap and calculates theoretical lap times.

Best Theoretical Lap Time – the sum of the best times of each sector. The order of sectors is not important.

Best Continuous Lap Time – the best possible lap time, composed of the times of consecutive sectors

Best Theoretical Lap Time: **02:36.010** Best Continuous Lap Time: **02:36.033**

Lap No	Lap Time	Sector 1	Sector 2	Sector 3
6	02:36.681	00:43.799	00:54.284	00:58.598
7	02:40.041	00:45.321	00:55.287	00:59.433
8	02:37.894	00:44.207	00:54.406	00:59.281
9	02:36.033	00:43.527	00:54.307	00:58.199

6 VIDEO PLAYER

The Video Player view allows for displaying recorded movies. You can select the lap you wish to display in the Laps list, on the left side of the screen. The Laps list is displayed on the left side next to menu column.

Laps List

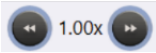
The list displays all laps grouped by events. Tapping the Event name opens the Laps list. You can select a lap by tapping the lap details area.

Lap Details Area

It presents details for each lap (lap time, driver, car, start time, lap number). Full laps are colored white while the others are grey, except the best laps of each driver which are yellow. Tapping the lap details area displays the movie of the selected lap.

Video playback speed

To increase/decrease speed of playback use buttons next to speed multiply value.



Recorded videos consist of camera views (up to 4 cameras in RN ONE and RN PRO devices) combined with an additional data overlay.

The data types presented on the overlay depend on the selected layout.

Note:
Only the RN ONE and RN PRO devices offer recordings of videos in the picture in picture mode with additional data. RN LITE devices record a single camera video without additional data.

7 G-FORCE

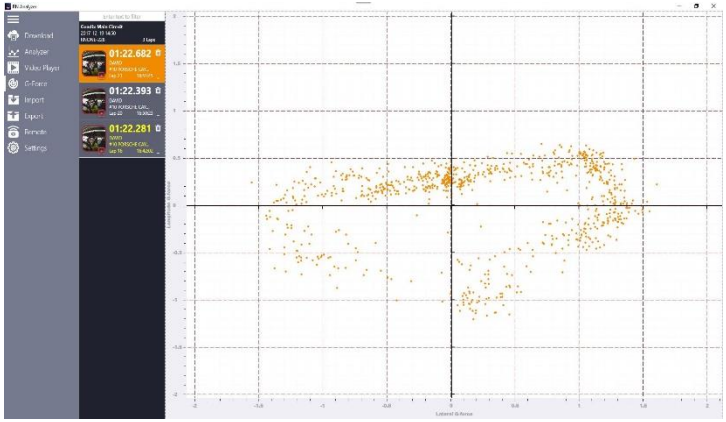
The G-Force Feature will display accelerometer values of selected tracks in form of a 2 dimension chart.

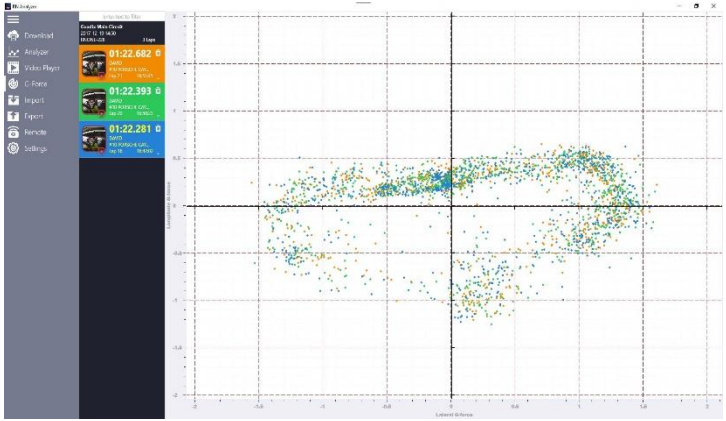
To display the chart go to G-Force section in menu:

And select which laps you want to analyze.

It is possible to compare up to 10 laps at the same time.

- Lateral value is displayed on: X axis.
- Longitude value is displayed on: Y axis.
- Chart can be zoom in and out with mouse scroll, just like other charts in Analyzer section.

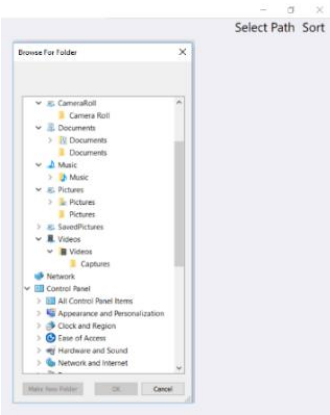




8 IMPORT

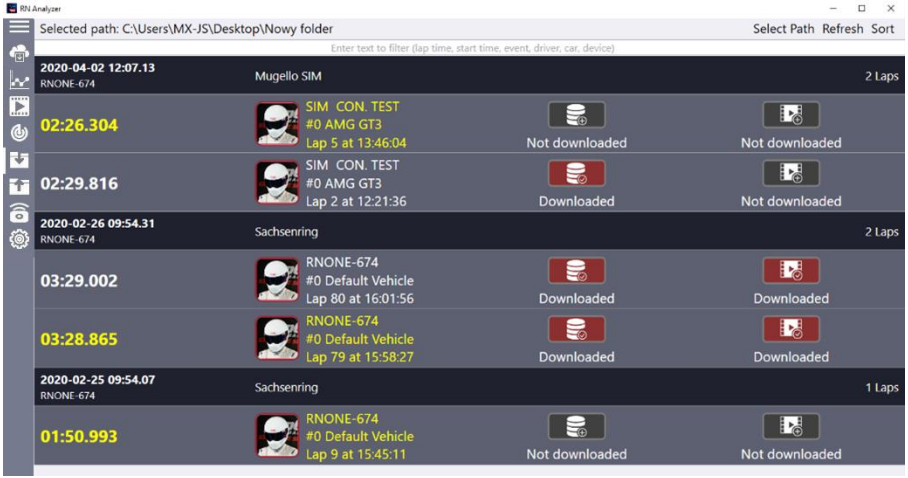
Select Path

This button opens the explorer window to choose a directory from where you want to import lap files. After selecting a directory, a list of laps grouped into events appears.



Importing

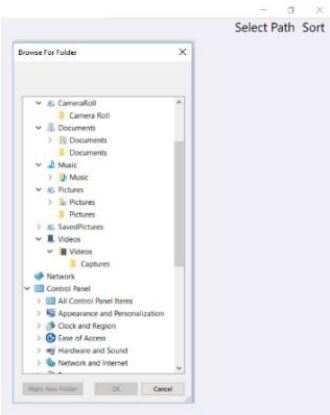
Import laps data and lap videos by pressing on data or video buttons. For more details see 4 DOWNLOAD.



9 EXPORT

Select Path

This button opens the explorer window to choose a directory where laps will be exported to. After selecting a directory, a list of laps grouped into events appears.



Exporting

Export laps data and lap videos by pressing on data or video buttons. For more details see 4 DOWNLOAD.

10 RN REMOTE CONTROL

The RN Remote Control feature allows to control your Race Navigator device remotely using your PC with RN Analyzer for Windows application. Please note, that this feature is only available when the device is not recording. Make sure that you use auto-start recording mode and connect only when the car is not driving or turn off the recording manually before connecting.

Connecting to RN

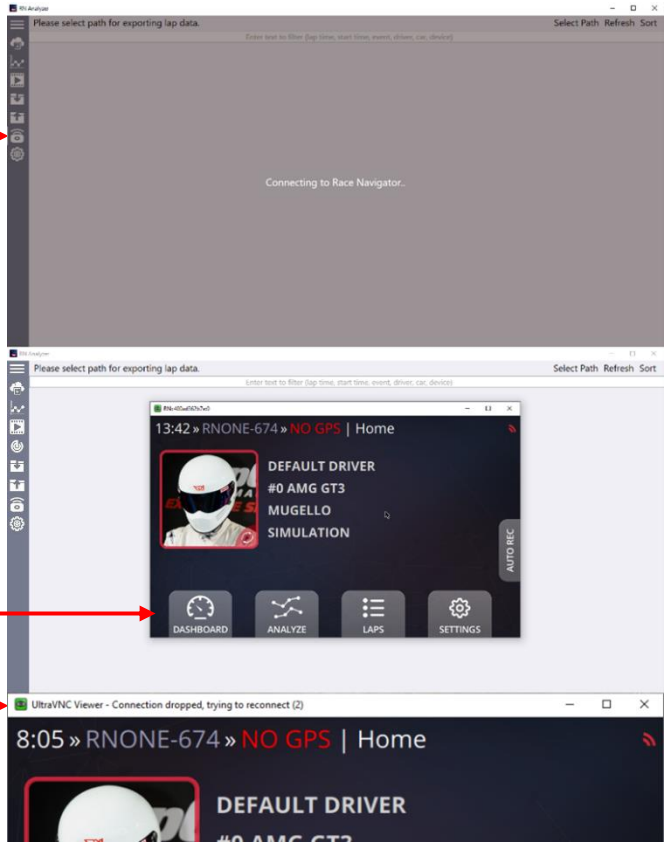
First connect to your RN Device by Wi-Fi. Afterwards press Remote Control button, connecting status will appear.

Using Remote Control

You can now navigate through your device by pressing on icons using your mouse.

Closing Connection

When you are ready with your setup, just close the window with the RN Display.
A connection will be closed automatically when recoding turns on.



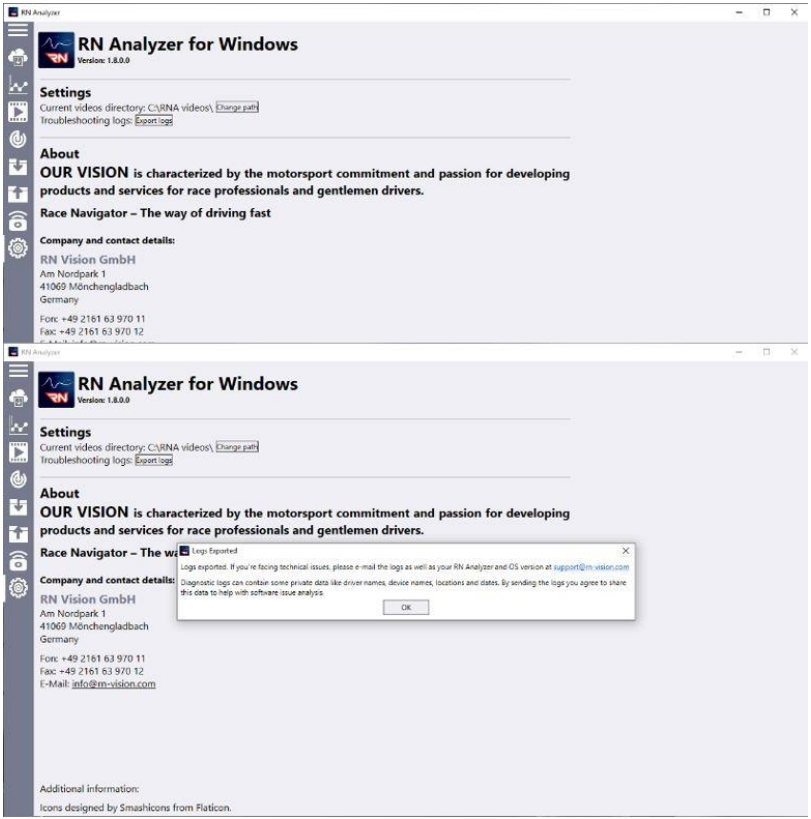
11 SETTINGS

The Settings view contains our address for correspondence, contact phone and fax numbers, official website address, e-mail address as well as information about the software version and software release date.

When you want to change video directory just click on the Change path button and select new path. All video files will be moved into new directory.

If you encounter any issue with the application, please export its logs and send to the RN Vision support. To export logs please click the Export logs button and choose a directory where the logs will be exported. The logs are exported to the file with a name like: DiagAndUsageData_RNAnalyzerForWindows_X_X_XXXXX.zip Please send logs by email to

support@rn-vision.com with a short description of encountered issues.



12 TOUCH CONTROL

RN Analyzer for Windows supports touch screen.

Charts/Maps:

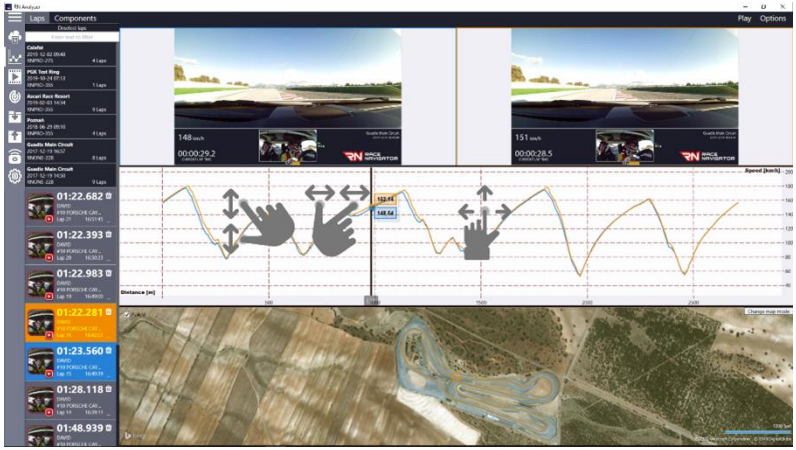
- Pinching to zoom in/out
- Slide to move charts

Videos

- Tap inside the video frame to start playing video from the stopped moment

Lap list

- Hold and move slider to scroll up/down
- Slide up/down to scroll up/down



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