ALIVEDRIVE DESKTOP USER GUIDE - WINDOWS	Revision	3.0
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REVISION HISTORY

Revision	Date	Description	Author
1.0	15-Dec-25	First version of user guide for AliveDrive Desktop Release R1.0 for Windows	A Nicholson
1.1	20-Jan-26	Added description of .NET requirement to installation section	A Nicholson
1.2	09-Apr-26	Revision for application release R1.1; addition of Playback menu and recently opened file history; ability to view/hide inlap/outlap; extended keyboard shortcuts for playback	A Nicholson
2.0	19-May-26	Revision for application release v2.0; dual outing playback, multilap playback, export clip, legacy outing support	A Nicholson
2.1	23-Jul-26	Revision for application release v2.1; dual-video distance-based comparison, track import; map display; improved check for updates	A Nicholson
2.2	20-Aug-26	Revision for application release v2.2; graphical analysis; interactive map; flexible layouts; statistics	A Nicholson
3.0	05-Oct-26	Revision for application release v3.0; track management, extended graphs; playback control via map; corner analysis – segment-based statistics; track map editing; panel display on/off controls	A Nicholson

Introduction

This user guide describes the functionality of the AliveDrive Desktop v3.0 application available for Windows 11. The application enables owners of vehicles equipped with Cosworth's AliveDrive system to view and analyse their outing recordings outside the vehicle, and provides a way to share the content with others.

Which vehicles are supported?

In release v3.0, recordings from vehicles equipped with ALL variants of the Performance Data Recorder (PDR) are supported:

First-generation PDR, also known as PDR1:

- Corvette C7 2015 to year 2019
- Chevrolet Camaro 2017 to 2024
- Cadillac ATS-V and CTS-V 2016 to 2019

Second-generation PDR, also known as PDR2:

- Corvette C8 2020 to year 2025
- Cadillac CT4 and CT5 2022 to 2025

The third-generation, Enhanced PDR (a.k.a. PDR 2.5) is available on the following models:

- Corvette C8 2026 and onwards
- Cadillac CT5 2025 and onwards

Getting Started

Download and Member Portal

The AliveDrive Desktop application is available for download via the Cosworth Member Portal. The portal, accessible via the main Cosworth homepage, is your gateway to the latest in software available from Cosworth. Here you can download and subscribe to Cosworth's data analysis applications, access product updates, software releases, and technical documentation, and stay informed with the latest development news. The Portal also provides a central location for support, ensuring you always have the tools and information needed to extract maximum performance from your Cosworth-equipped vehicle systems.

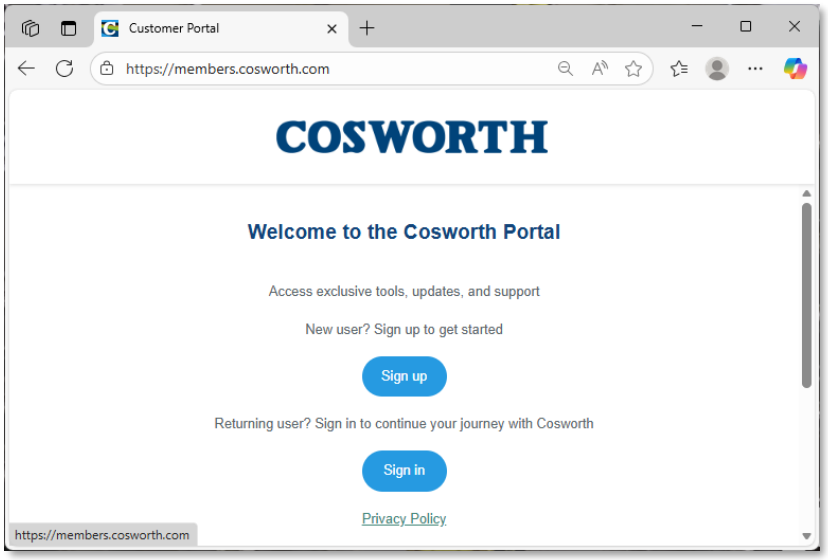


Figure 1 - Cosworth Member Portal

Once access to the portal is set up, the application download is available from the AliveDrive Desktop product page. The application can be downloaded for both Windows and macOS via dedicated download buttons.

Installation

The Windows application is designed and tested for deployment on Windows 11 target machines. The MSIX installer provides guidance on the installation steps.

Microsoft Windows Desktop Runtime

You will need to have the .NET desktop runtime version 10 installed in order to run the AliveDrive Desktop application.
You will be prompted, if necessary, during installation to either install the .NET runtime, or upgrade it to version 10.

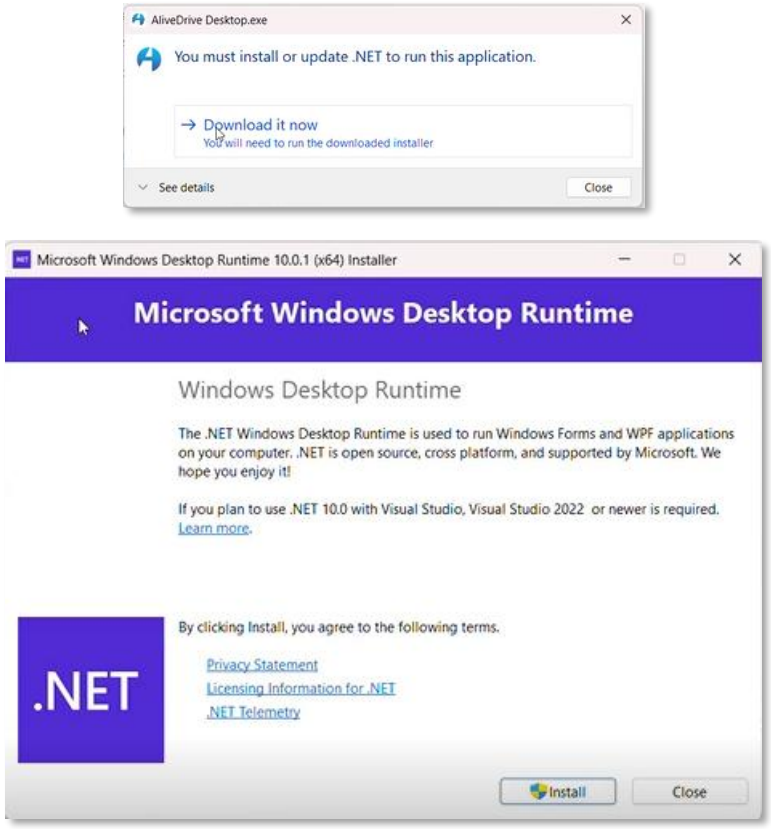


Figure 2 – Windows Desktop Runtime requirement

Once this is done, the AliveDrive Desktop application can be opened.

Licensing Agreement

The licensing agreement is presented during the installation; acceptance is required in order to proceed to use the application. The installation of a licence key is not required, and the application does not require a payment for use.

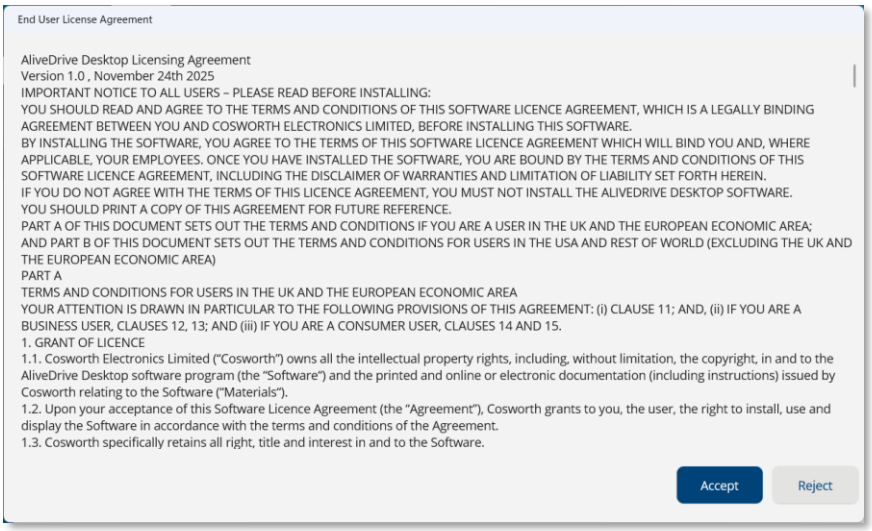


Figure 3 - Licence Agreement

Acceptance of the agreement is only required for the initial installation, and when the licensing terms get updated. Re-acceptance is not required each time the application is loaded or when the application is updated.

The Licensing Agreement is available here should reference to it be required at a later date.

Application Navigation and User Interface

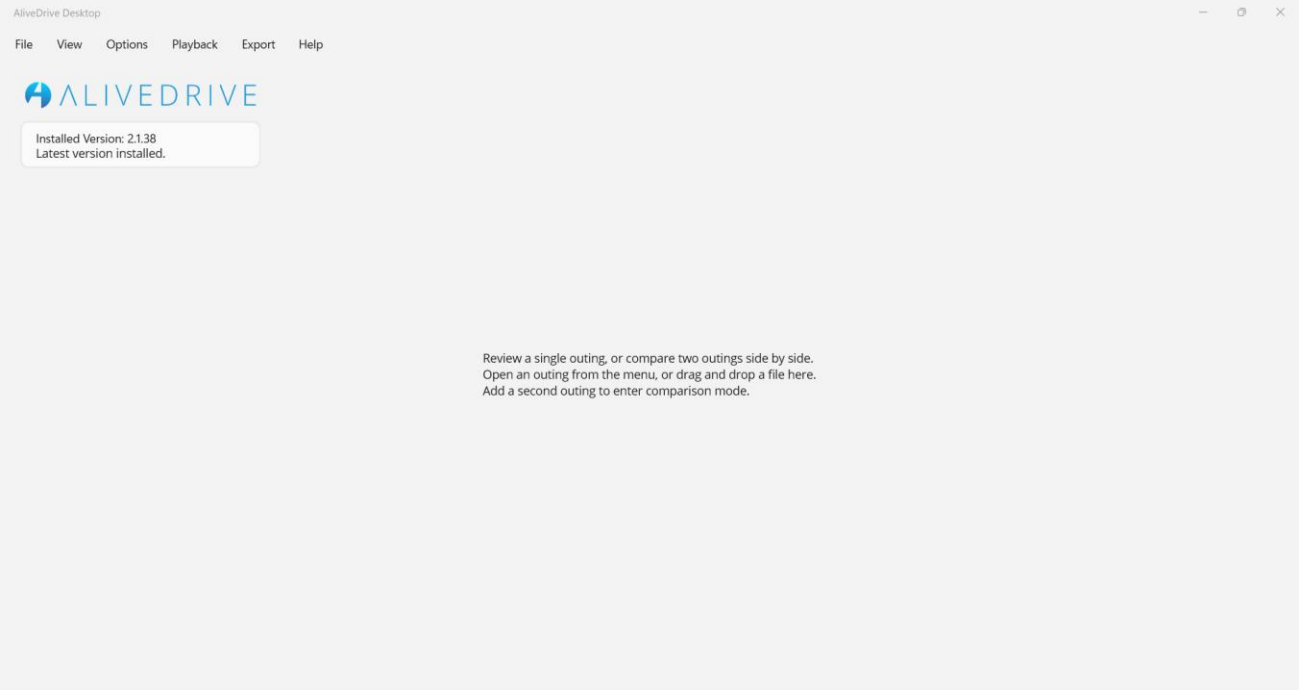


Figure 4 – Application Launch

The main menu provides centralized navigation for outing selection, playback, export, and application settings/information. A link to the help resources is also available via the menu.

Once an outing is opened, playback controls for play, pause and skip are provided via a scrubber bar., and a lap breakdown and lap selector is shown - time per lap plus indicators for fastest and selected laps.

Mouse Controls

Mouse actions are used for the majority of menu selection and button control of the application. Context-specific right-click actions are also used extensively based on which panel of the application the mouse is located.

In addition, a mouse drag-and-drop can be used to open an outing or import a track; refer to sections *File Management and Outing Operations* and *Track import* for details.

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Keyboard Shortcuts

Shortcut	Description
File management	
CTRL-O	File > Open Outing
CTRL-W	File > Close Outing
CTRL-I	Import Track
CTRL-T	Manage Tracks
Playback Controls	
CTRL-P	Toggle Play/Pause
CTRL-SHIFT-RIGHT	Step forward 10s during playback
CTRL-SHIFT-LEFT	Step backward 10s during playback
CTRL-LEFT	Go to Previous Lap
CTRL-RIGHT	Go to Next Lap
CTRL-SHIFT-DOWN	Mute audio
Appearance	
CTRL+1	Video Analysis mode
CTRL+2	Statistics display
CTRL+3	View/Hide Current Outing video
CTRL+4	View/Hide Reference Outing video
CTRL+5	View/Hide Track Map
CTRL+6	View/Hide Graphs
CTRL+7	View/Hide Segment Statistics

Settings and Appearance

The app has its own settings for speed, distance, time format and temperature units with three options:

- UK
- Metric
- US Customary

The app will default to the location based on the regional settings of the device hosting the app, but this default can be over-ridden via the menu.

Speed and distance values displayed within the app including those displayed on the outing overlays are adjusted according to the chosen setting.

Audio

The on/off control of audio playback is provided in the playback bar. The application utilises the device settings for choice of audio output device and volume.

Light/Dark mode

The appearance of the app can be adjusted according to light/dark mode settings of the device.

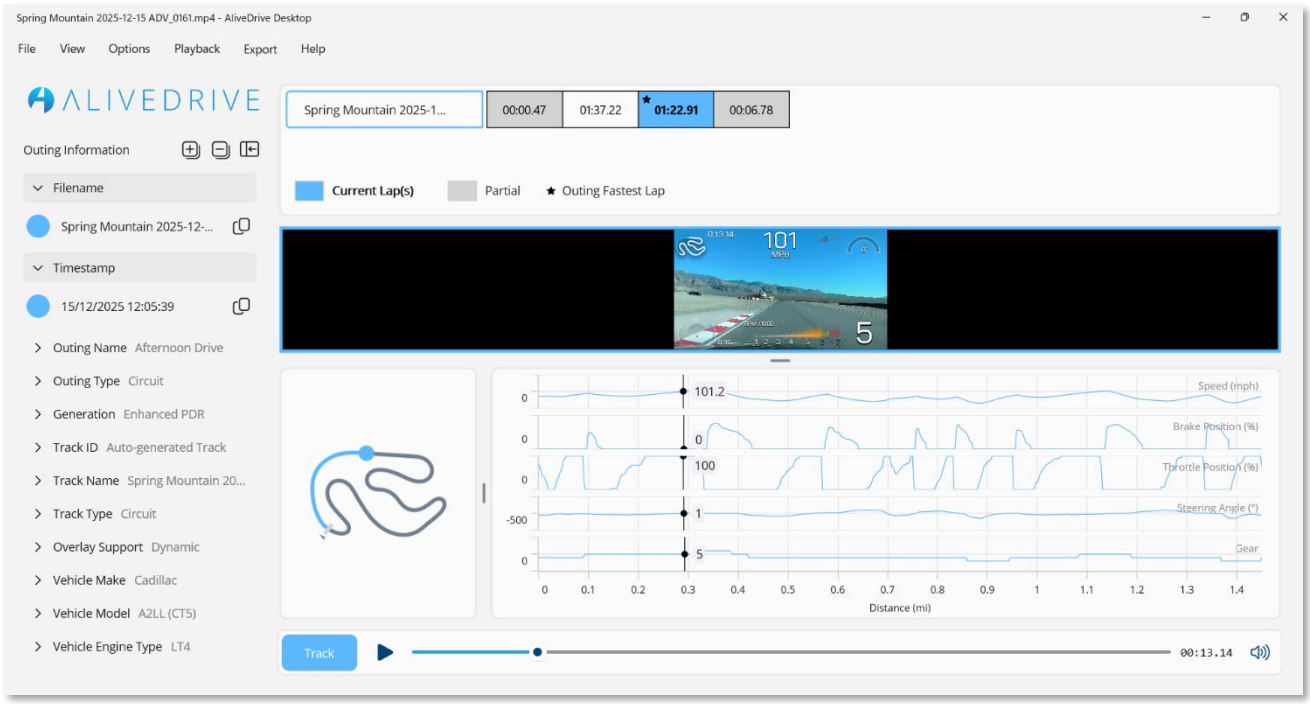


Figure 5 - Light Mode

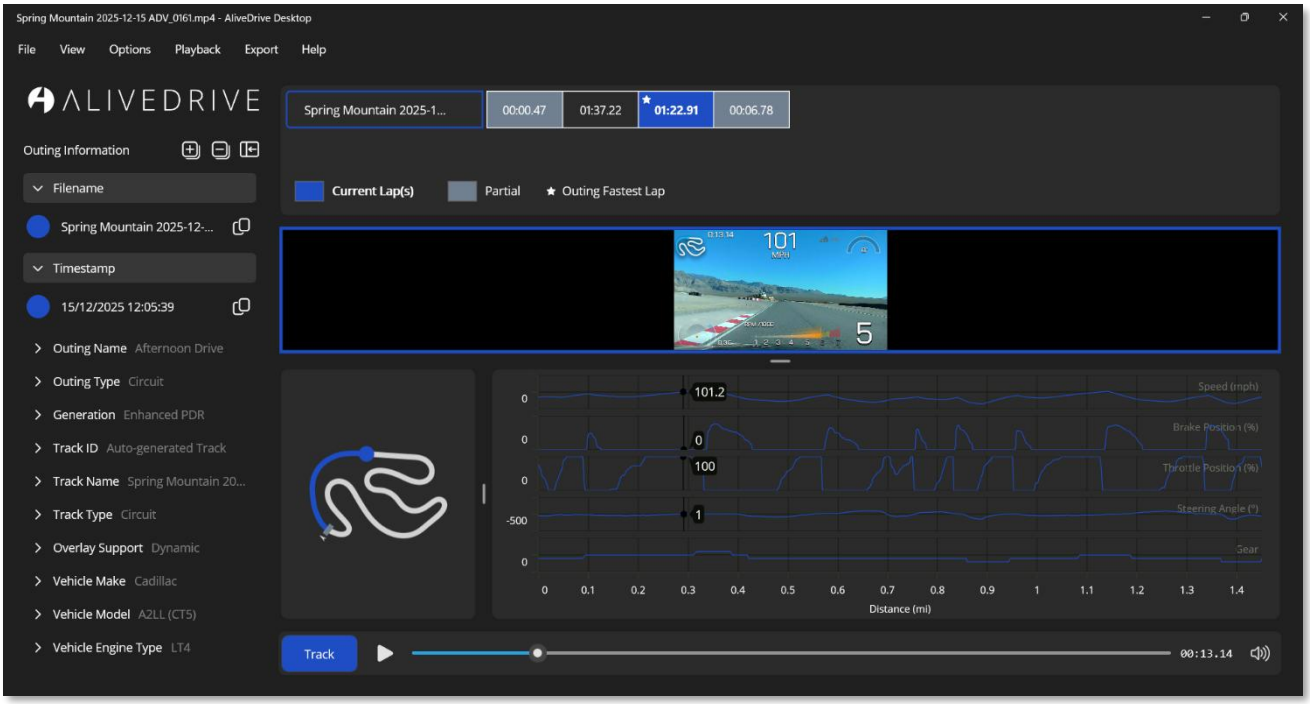


Figure 6 - Dark Mode

Appearance Personalisation

By default, when an outing is opened for analysis, the application will show the outing video, a track map, and a graph panel. In dual-video comparison mode there will be two video panels shown.
All of these panels can be turned on/off via the menus to tailor the experience, and the relative sizes of each panel can be adjusted by adjusting the borders of the panel containers.

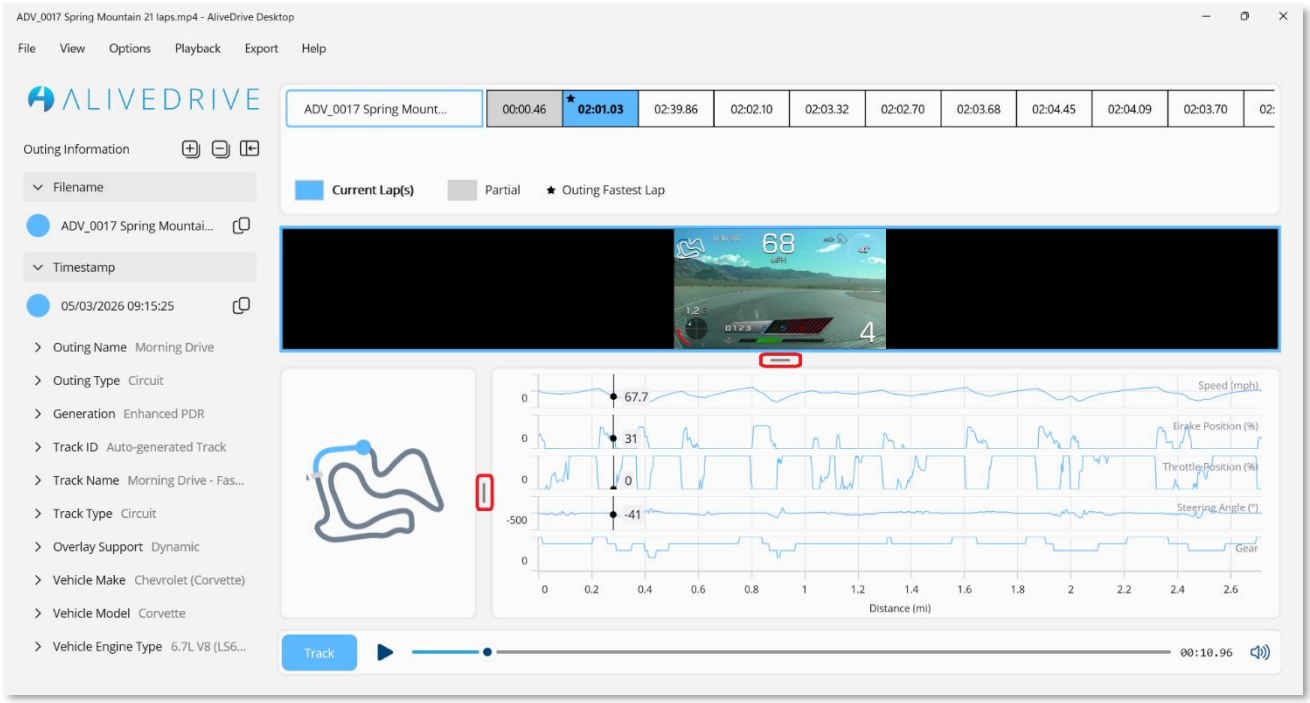


Figure 7 - Adjust relative panel sizes by moving container borders

Using the mouse, the size of each panel on display can be adjusted by dragging the border controls (marked red in Figure 7 above).

Show/Hide panels using menu control

Each panel can be turned on/off via the Appearance menu. The shortcuts also enable rapid toggling of each panel.

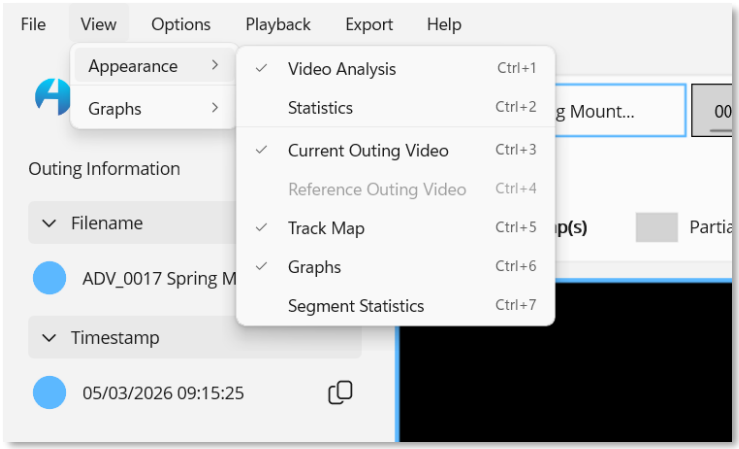


Figure 8 - Choose which panels to display via the Appearance menu

The choices made will persist between app launches and updates.

Show/Hide panels using mouse right-click action

An additional approach using mouse right-click on the video panel can be used to hide each video panel.



Figure 9 - right-click to hide video panel

To reverse the process, right click anywhere on the Explorer Bar row for the outing to show the video again, see Figure 10 below.

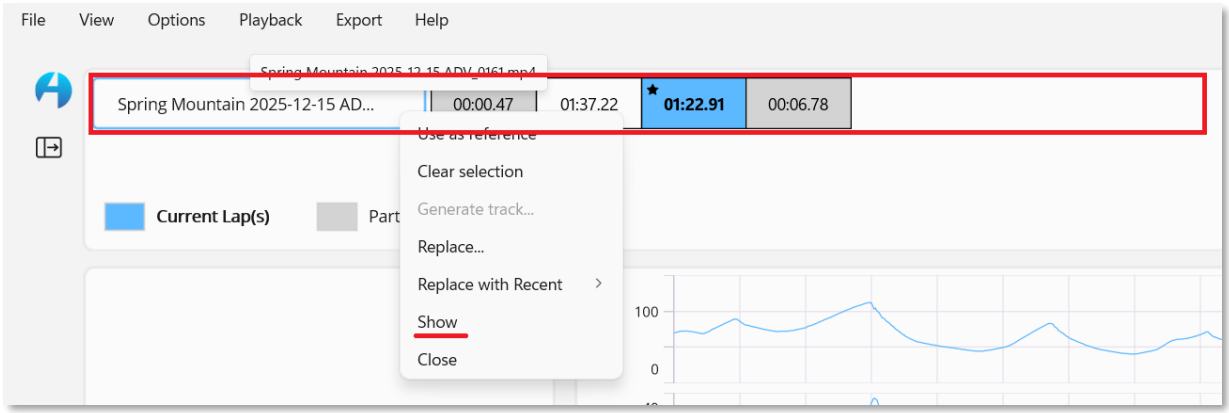


Figure 10 - Show video using right-click action on Explorer Bar

It is also possible to use right-click to hide graph, map and segment analysis panels. To subsequently show the map/graph/segment panels, the menu or keyboard shortcut approach should be used.

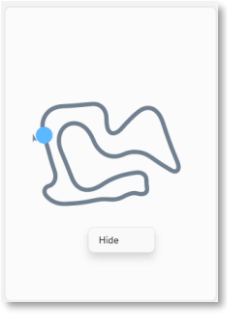


Figure 11 - Right-click on map to hide

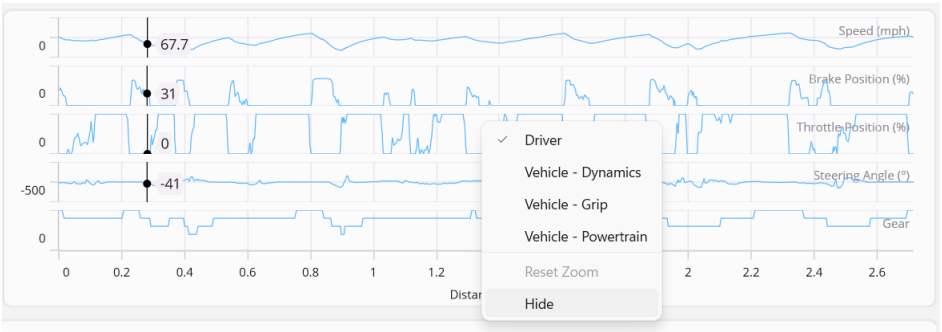


Figure 12 - Right-click on graph to hide

File Management and Outing Operations

The outing and track files from the vehicle need to be copied from the SD card to a suitable Windows device folder or personal cloud storage area.

Outing types supported

All types of outing can be opened for playback and export – circuit, autocross and dashcam.

Outings recorded with any generation of PDR (PDR1, PDR2 or Enhanced PDR - PDR 2.5) system are supported.

Free choice of outing can be made in dual-video mode. For example, a PDR2 outing can be compared with a PDR 2.5 outing.

Outings can be opened via the **menu**, via **keyboard shortcut** (Ctrl+O), via a **right-click** action within the window, or via a **drag and drop** action from Windows File Explorer into the application window.

Open via menu

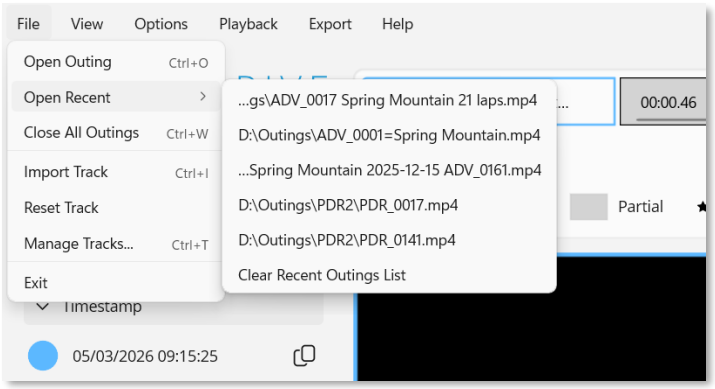


Figure 13 - Opening an outing using the menu

The application remembers the most recently opened outing files to enable easier access to recent outings. Recently opened outings can be re-opened via the menu. The recently opened outings list can contain a maximum of five entries, and can be cleared if required.

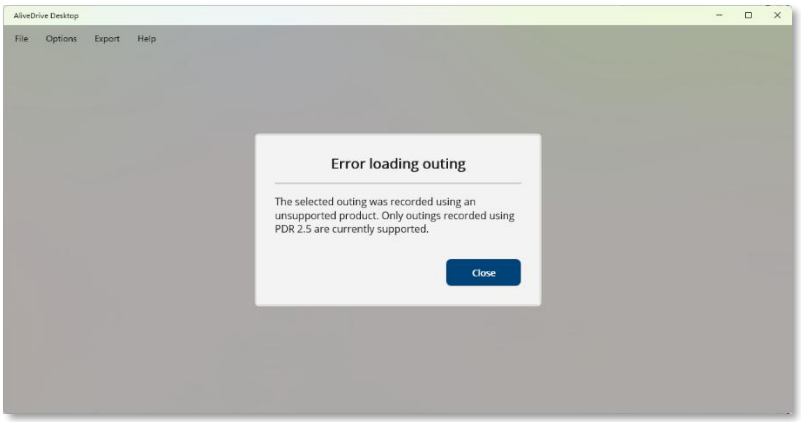


Figure 14 - Attempt to open an un-supported outing file

Switching to another outing via the menu

To switch between outings using the menu, first close the original outing then open the new outing.

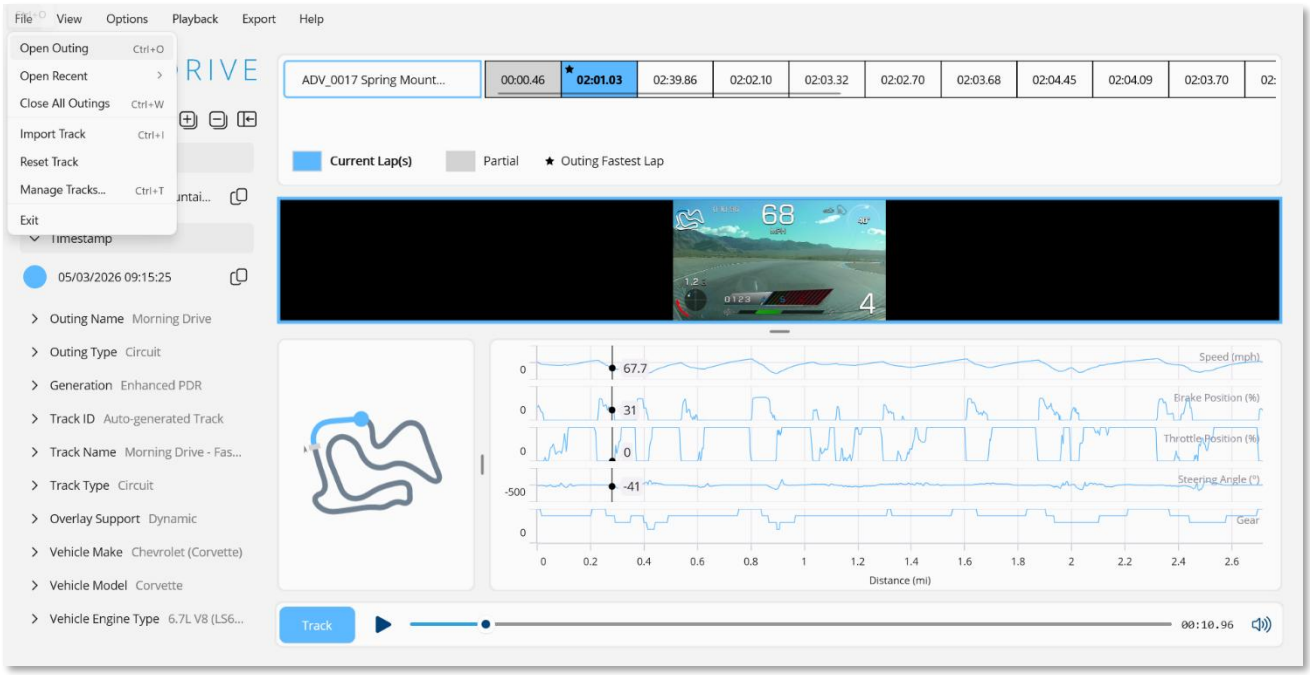


Figure 15 - Opening an outing via the menu to replace Current or become the Reference

Adding a Reference outing via the menu

Opening a second outing via the menu without first closing the existing outing has the effect of opening the second outing as a reference outing for comparison.

Right-click to open

A further way to open outings is via a right-click mouse action on the main application Window.

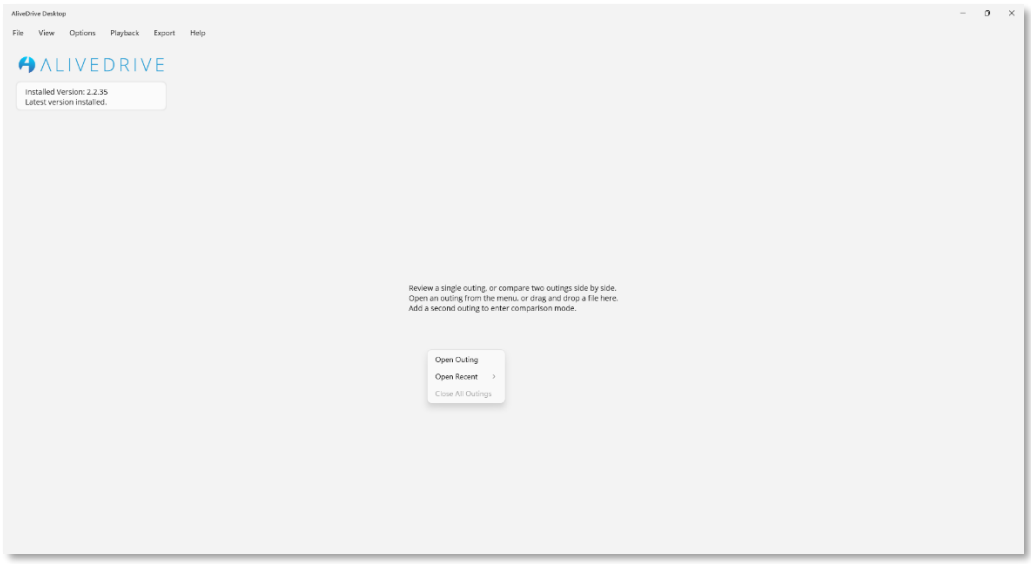


Figure 16 - Right-click to open outing

Drag and Drop

Outing file drag and drop is also available for opening outings. When the application is first opened, and an outing has not yet been selected, an outing can be selected using Windows File Explorer and dropped within the Application Window to open it.

In addition, drag&drop can be used to open a second outing whilst an outing is already open.

There are two variants of this procedure, based on where the file gets dropped in the application window:

- Open an outing that replaces the Current outing, remain in single-video mode
- Open an outing that becomes the Reference outing, view changes to dual-video mode



Figure 17 - Drag&drop new outing onto existing outing to replace it, or elsewhere to add the outing as a Reference

Opening an outing whilst two outings are already open

When an outing is opened either via the menu or via drag&drop and two outings are already opened, there is a choice given as to which outing should be replaced with the new one.

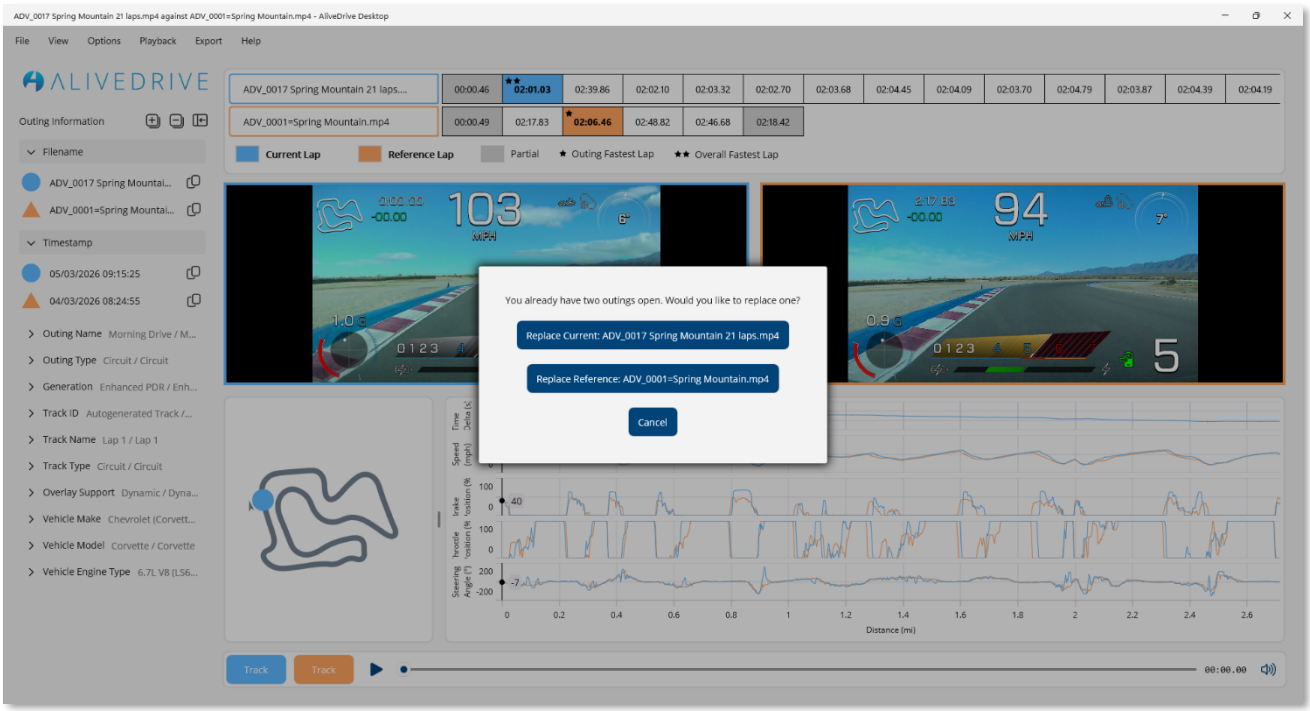


Figure 18 - Prompt to choose outing for replacement when menu used for opening new outing

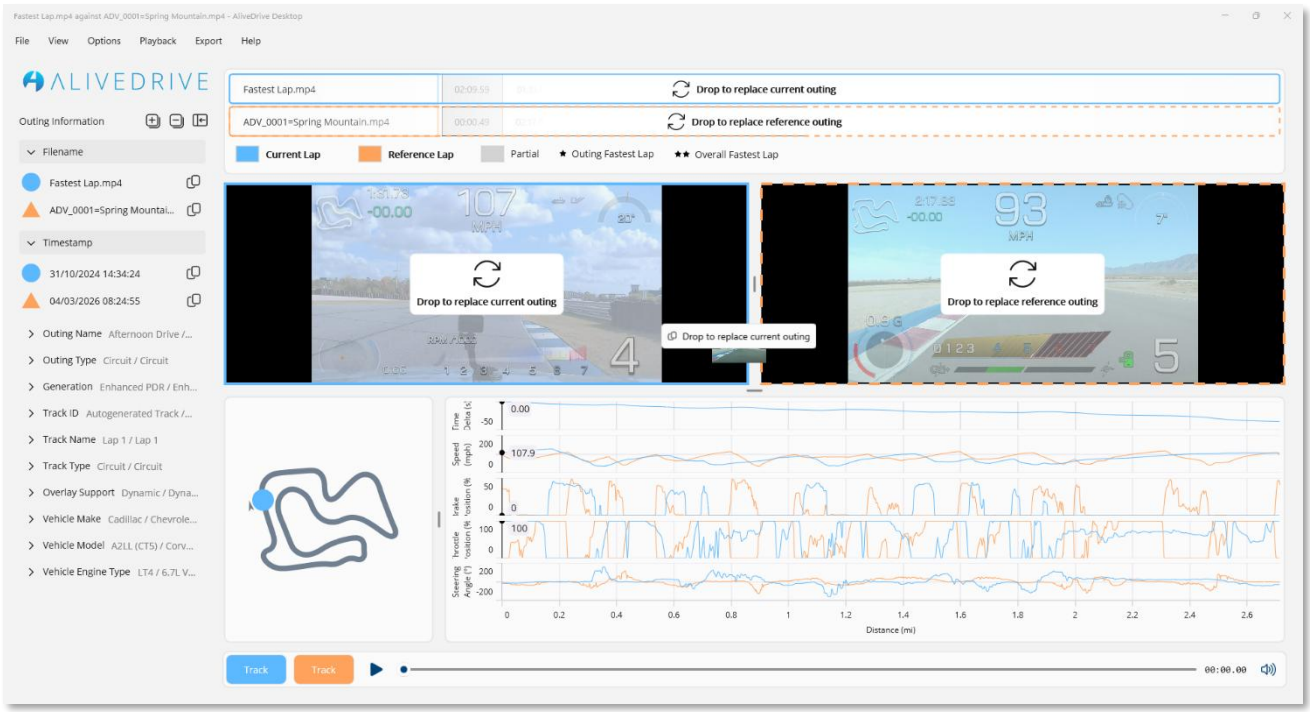


Figure 19 - Drag&drop zones provide choice of which outing to replace

A further way to open outings is via the Explorer Bar, as described below.

Explorer Bar description and use

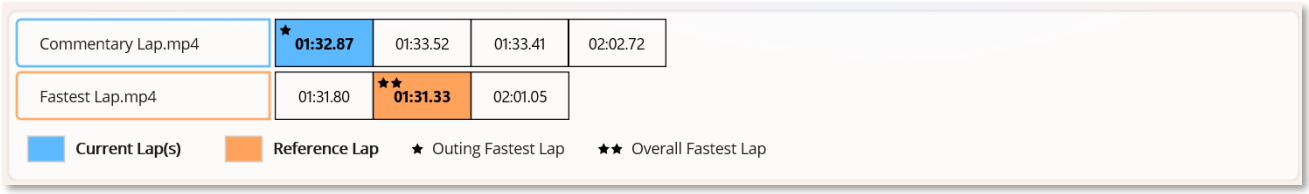


Figure 20 - Explorer Bar showing two outings

The Explorer Bar is the area above the video panel where the lap times are displayed. It is separated horizontally into zones to allow right-click actions with the mouse to act upon either the Current Outing (top row of Explorer Bar) or Reference Outing (bottom row of Explorer Bar).

The Explorer Bar makes use of colour coding to indicate the chosen lap or laps from the Current Outing, and the chosen Reference Lap. The Outing Fastest Lap indicates the fastest recorded lap within the Current Outing. The Overall Fastest Lap indicates the fastest lap for the two outings loaded.

A hover action over a particular lap time will show the relevant lap number.

In addition to displaying the lap choices and data, the Explorer Bar can also be used as a way to choose outings, and toggle from single to dual mode, as described below.

Opening outings using the Explorer Bar

Once an initial outing has been opened, the Explorer Bar can be used to choose alternative or additional (reference) outings.

Right-click on current outing

With a right-click within the Current Outing zone (anywhere in the top row), the already open outing can be replaced, and the view will remain in the single-video mode.

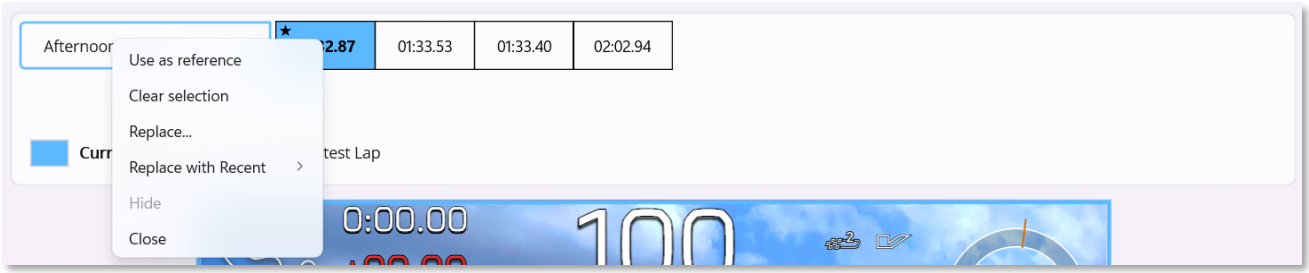


Figure 21 - Right-click on the currently open outing

Additionally, choosing the "*Use as Reference*" option as shown in Figure 21 above will toggle the display to dual-video mode. The current outing will be used as both Current and Reference outings, which facilitates a comparison of laps within the same outing.

The "*Clear Selection*" choice will clear the currently chosen lap within the outing.

Right-click beneath current outing

With a right-click within the zone beneath the current outing (anywhere but the top row), a second outing can be opened as a reference outing. The view switches to dual-video (comparison) mode). Figure 22 shows the menu that appears for the right mouse click action within this area.

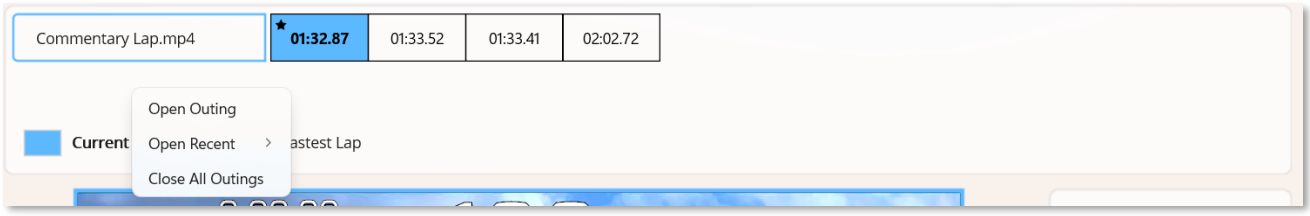


Figure 22 - Right-click beneath the currently open outing

Swap the Current and Reference

When two outings are open (Current and Reference), their position can be swapped using a right-click action. With a right-click of the Current outing, and choosing the "***Use as Reference***" option, the Current outing will become the Reference, and the Reference outing will become the Current.

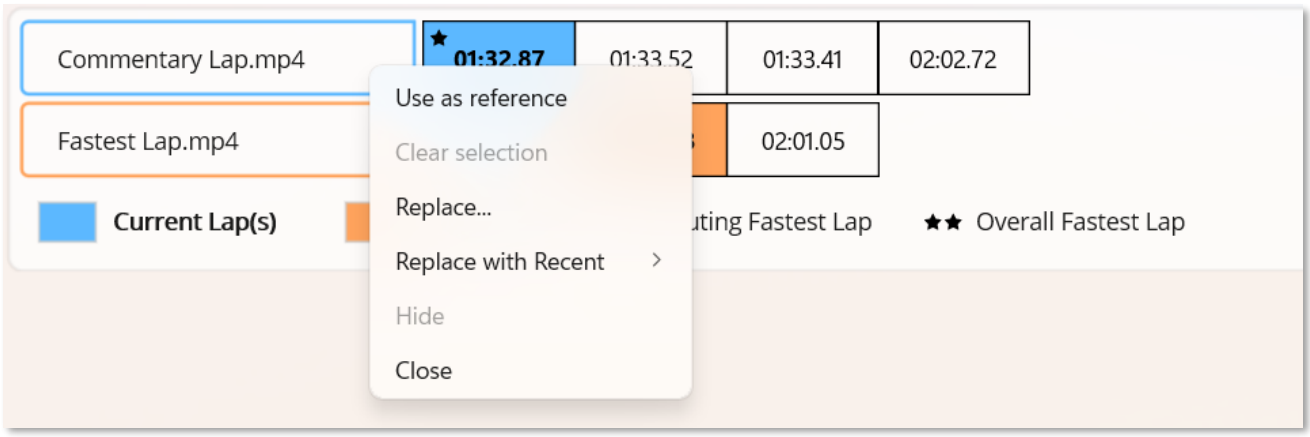


Figure 23 - Right-click on Current outing to toggle position of Current and Reference

Outing Properties Sidebar

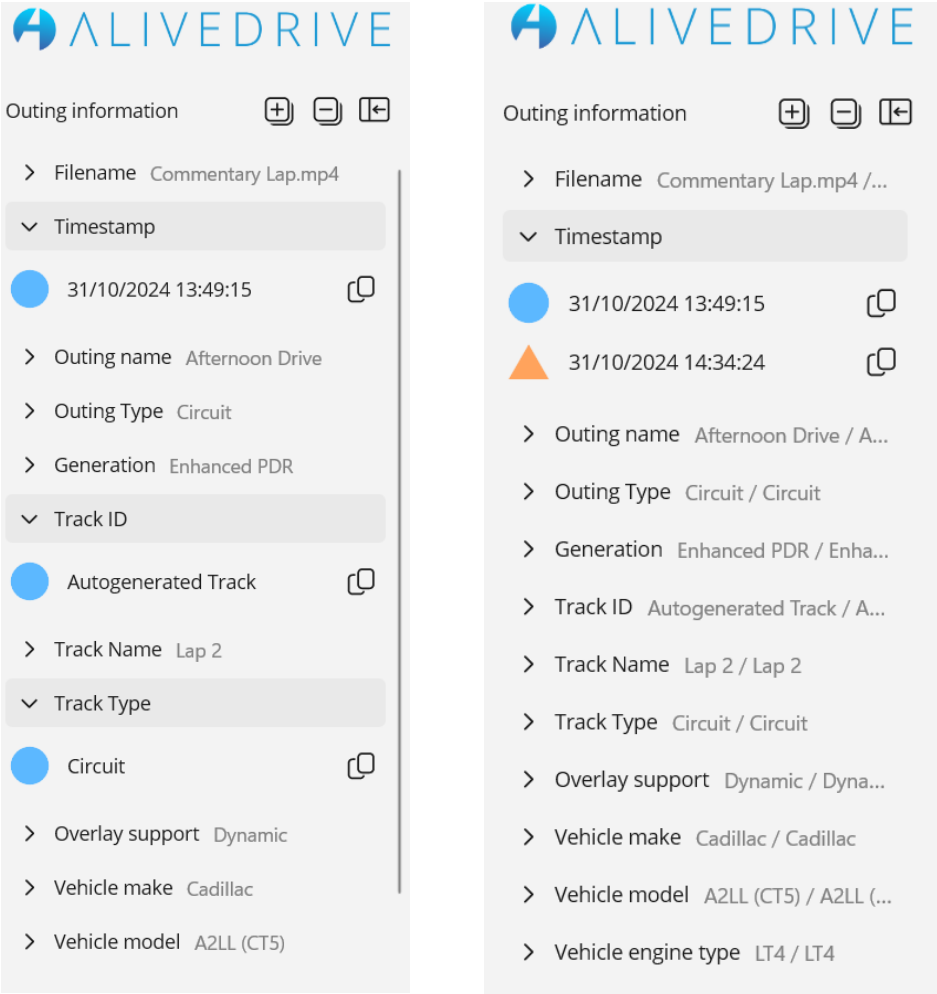


Figure 24 - Outing Properties sidebar – two views, different properties expanded

The outing properties sidebar provides information taken from the outing file for each open outing.

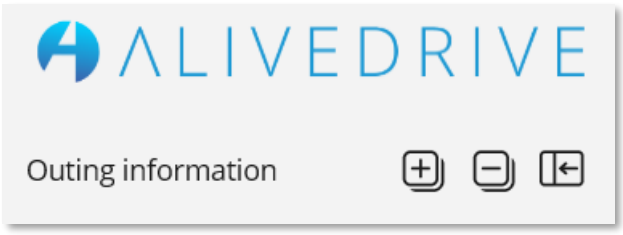


Figure 25 - Outing Properties control buttons

The sidebar can be toggled closed/opened so that focus on the video panels is made possible. Full expansion of all outing property details is achieved with the '**+**' button, and collapse with the '**-**' button.

Single Outing Playback

With a single outing file loaded, the outing video is presented along with outing properties (name, date, time, vehicle make/model) and a breakdown of the outing into laps (for circuit outings). By default, for a circuit outing, the playback position will be set to the beginning of the fastest lap (marked with *) within the outing. For autocross and dashcam outings, the outing will open with the lap selector showing a single lap – this 'lap' being the whole outing.

An interactive map panel is shown alongside a graphical analysis panel. The relative proportions of the video, map and graph can be adjusted by dragging the panel borders. For information regarding the Map Panel, see section *Map display*. For information regarding use of the graph panel, see the section *Graphical Analysis*.

The overlay toggle button can be used to switch between any available overlay if the outing file is from an Enhanced PDR (PDR 2.5) system. Overlay choices presented are determined by the vehicle type used to make the recording.

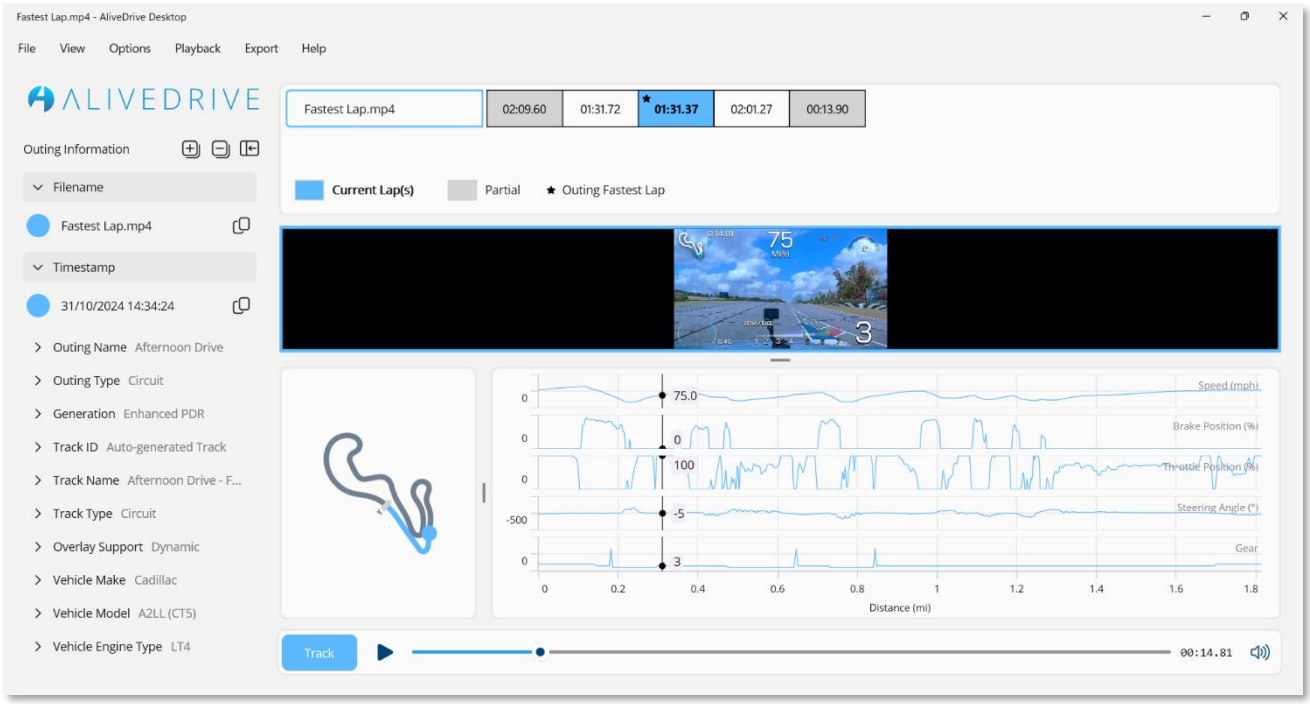


Figure 26 – Single outing playback, circuit outing example, fastest lap is lap 2, lap 2 selected

Lap Selection

Single lap, multilap, or full outing playback is supported. Lap choice is made using the Explorer Bar.

- Choose a single lap using mouse click – playback will be set to beginning of chosen lap, and extent of playback will be the single lap
- By holding the Shift key, multiple, sequential laps can be selected for playback – the extent of playback will be the chosen laps
- By holding the CTRL button and clicking the mouse, a chosen lap adjacent to an already selected lap can be chosen

- CTRL+click is similar to SHIFT+click but applies only to laps adjacent to each other whereas SHIFT+click can be used on a start lap and an end lap that are several laps apart, and the range of laps between start and end will be selected
- Un-select all laps – whole outing playback mode (all laps including Out Lap and In Lap)



Figure 27 – Explorer Bar, single outing, multiple laps selected using Shift-click or CTRL-click

Partial Laps (In lap/Out lap) Display

By default, the lap selector will only show the timed, full laps for selection in the lap selector. Using the Options menu, it is possible to toggle the display to show the partial laps in addition.

The Partial Laps are those where the timing does not include the full start line to finish line region:

- For circuit outings – the in lap and out lap, or the partial laps where the lap timing was incomplete due to the vehicle stopping or going off track.
- For autocross events – the staging and return to paddock regions

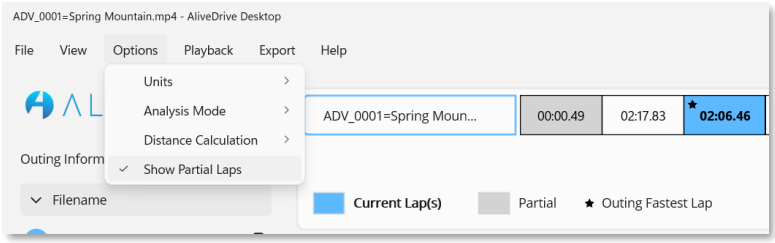


Figure 28 - Control the visibility of in lap/out lap

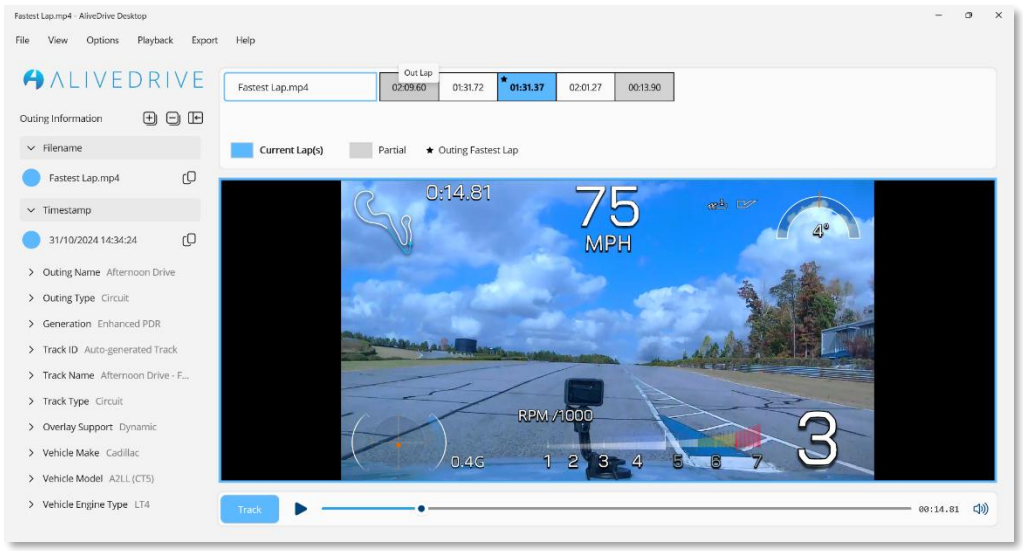


Figure 29 - Circuit Outing showing In lap/Out lap available for playback

Note: If you have Partial Laps set to 'On' then these laps can also be chosen for playback

Playback Control

Playback is controlled using the playback bar. A toggle button enables the adjustment of the displayed overlay. The playback bar is used as the common control for adjustments to the current position in video, map and graph panels.

By default, for Enhanced PDR (PDR 2.5) files, the overlay will be set according to the outing type opened:

- Circuit outing - defaults to ‘Track’ overlay
- Autocross outing - defaults to ‘Track’ overlay
- Dashcam outing defaults to ‘None’

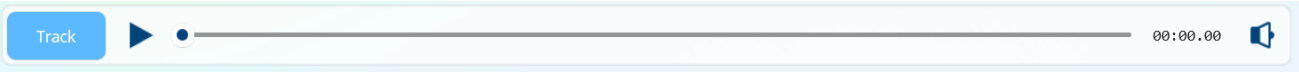


Figure 30 - Playback bar example, Track overlay selected, audio set to 'on'

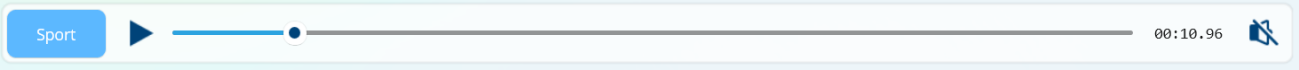


Figure 31 - Playback bar example, scrubber marker part way through lap, elapsed lap time shown, Sport overlay selected, audio set to 'off'

For PDR 1 and PDR 2 files, the overlays are not adjustable, and the button shows as ‘Static’

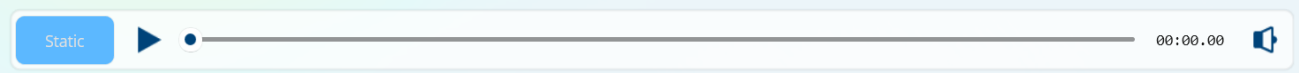


Figure 32 - Playback bar example, PDR1 or PDR2 file with Static overlays

Playback of audio from the outing can be toggled on/off within the app. Volume control of the audio is handled by the device settings, not within the app.

Menu Control of Playback

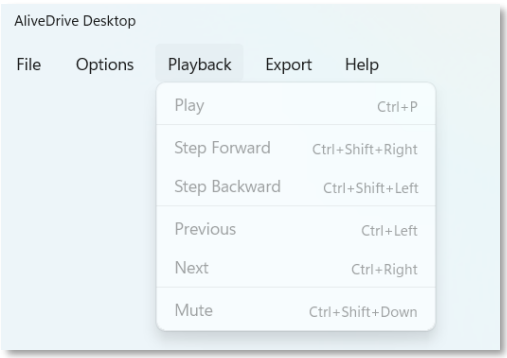


Figure 33 - Playback control via the menu

See section *Keyboard Shortcuts* for details of the above Playback menu item shortcuts.

Note: The Map Panel can also be used as a means of adjusting playback position. Refer to section *Control of Playback position via the map.*

Dual Outing Playback

With both a Current and a Reference outing opened (see section *File Management and Outing Operations* for instructions on how to open files), the outing videos are presented along with outing properties for both files (name, date, time, vehicle make/model,...), and a breakdown of the outings into laps.

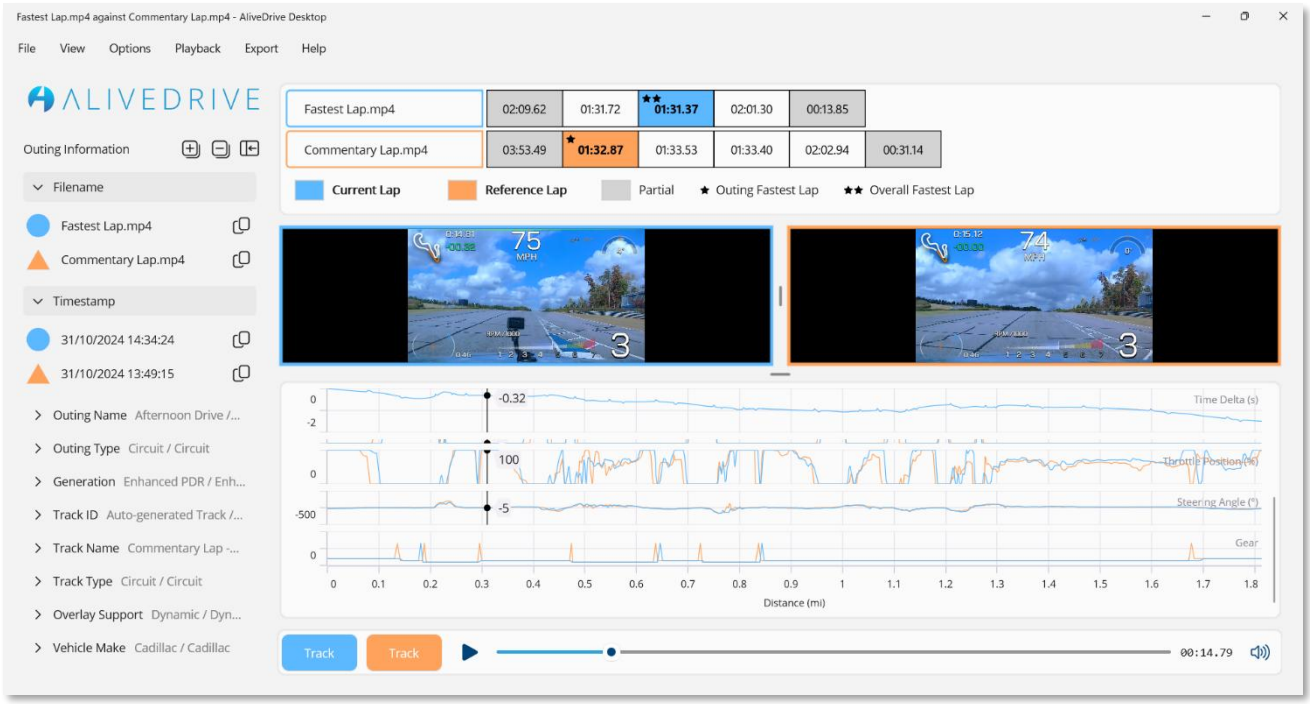


Figure 34 - Dual-video (comparison) playback mode

If the outing file is from an Enhanced PDR (PDR 2.5) system, the overlay toggle buttons can be used to switch overlays independently for each outing. If the outing file is from a PDR1 or PDR2 system, the overlay button is non-active and displays 'Static' to indicate that the overlay cannot be changed.

Lap Selection

The Explorer Bar is used to select (via mouse click) a lap from the Current outing to be compared with a lap from the Reference outing. Refer to *Explorer Bar description and use* for instructions.

Control of dual-outing playback

The single Playback Bar is used to play back the two outings. A time delta value is also added to the Current outing overlay to give a numeric value for the amount of time ahead/behind at any given point on the lap.

Setting the analysis mode

There are two analysis modes available, time-based and distance-based. The choice is made via the *Options* menu. The default is distance-based. Any adjustment to this setting will persist between app launches and updates until the setting is manually changed.

Note: the analysis mode setting also impacts the units for the x-axis of graphs displayed.

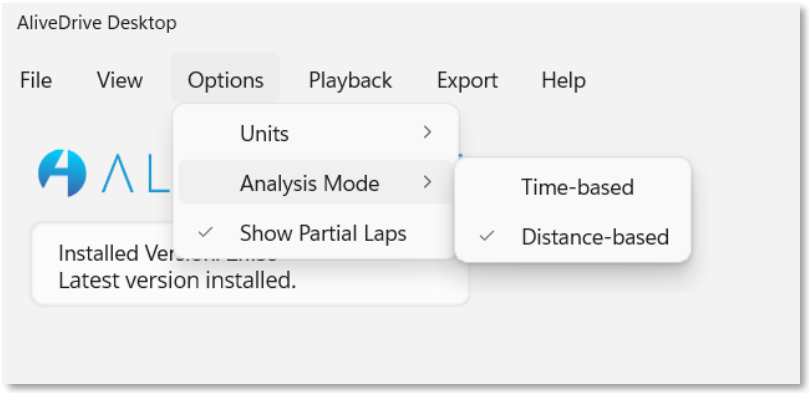


Figure 35 - Setting the analysis mode

Time-based comparison

The selected laps are both played back at normal speed. Video, graphs and map panels display vehicle position for both vehicles for the two laps (distance ahead/behind). This enables a visualisation of where time was gained or lost for the lap. Graph x-axis units set to seconds.

Distance-based comparison

The Current outing lap is played back at normal speed, the Reference lap is played back with playback speed adjusted so that a comparison of the two laps can be undertaken with the videos showing the same track position for each outing as the lap is played back. This enables an analysis on a corner-by-corner basis. Graph x-axis units set to mi/km.

Distance Calculation Options

Multiple approaches to distance calculation are available via the menu, which provide the best possible level of accuracy depending on the type of outing.

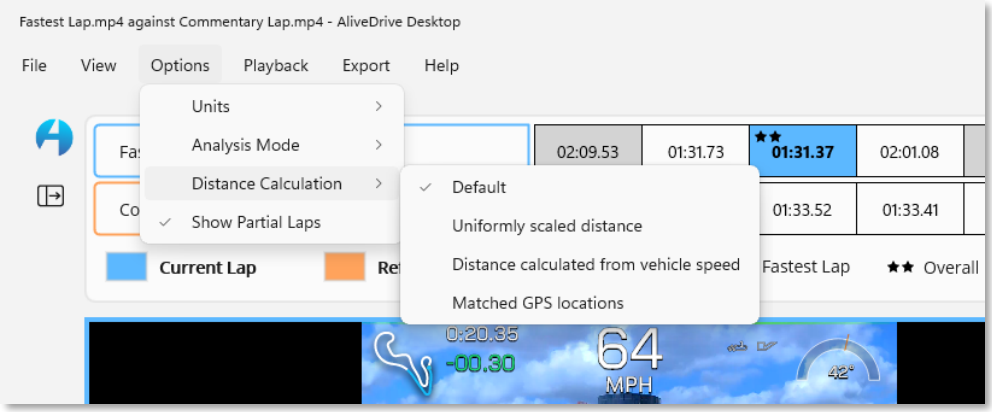


Figure 36 - Distance Calculation Options

Default

This option chooses a sensible default for the majority of outings, and provides the best compatibility but may result in slightly reduced accuracy for specific cases where one of the other modes is better suited. Default mode makes use of two of the options below - *Uniformly Scaled Distance* and *Distance calculated from vehicle speed*. Default mode prioritises *Uniformly Scaled DIstance* if a stable and accurate distance channel is available, otherwise it uses vehicle speed.

Uniformly Scaled Distance

Uniformly scales the distance to match the overall Reference lap length. This provides good distance comparison when comparing consistent laps.

Distance calculated from vehicle speed

Calculates distance from vehicle speed. This does not attempt to match distances, so is only useful for very similar laps.

Matched GPS locations

Matches each point to the equivalent on the Reference lap using GPS data. This provides the most accurate distance comparison, although it can struggle when laps are significantly different, and requires more processing power and time to calculate.

Map display

When an outing or outings is open for analysis in the application, an interactive track map panel is displayed alongside the video panel(s) enabling analysis of outing trajectories and vehicle positions synchronised to the video/data playback, and an ability to easily relate the track position shown on the video to the specific section of the track being driven at any given time.

Adjusting map size, zoom and displayed options

The map panel shows the outline of the track for the loaded outing in a panel alongside the outing video. By default, the map panel is a smaller size than the video and graph panels to enable the focus to remain on the video. The flexible layout containers allow the relative proportions of the video, graph and map to be adjusted (click and drag panel border using mouse).

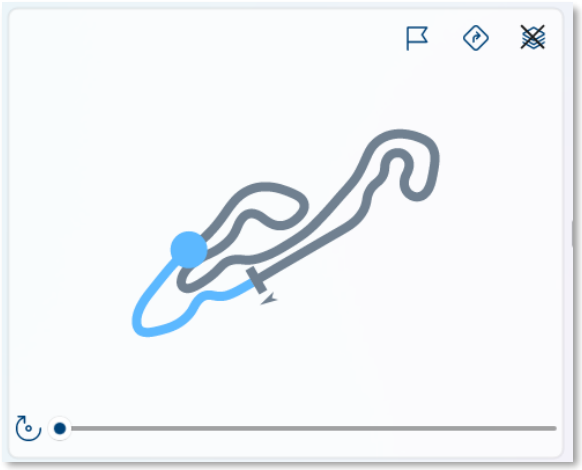


Figure 37 - map panel

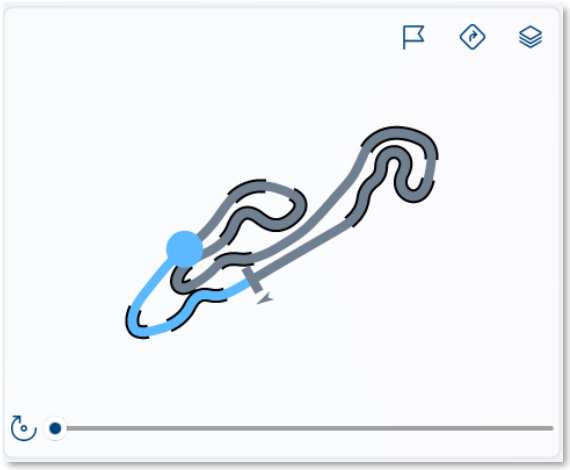


Figure 38 - map panel showing segments

The vehicle position adjusts in real time as the outing is played back. For dual video mode where time-based comparison is chosen, two vehicle indicators will be shown marking the respective positions of the vehicles around the track for the chosen comparison lap.

Using the map panel controls or mouse/trackpad actions, an area of the map can be zoomed in on, and the map display can be adjusted to show start/finish line, direction of travel and segments.

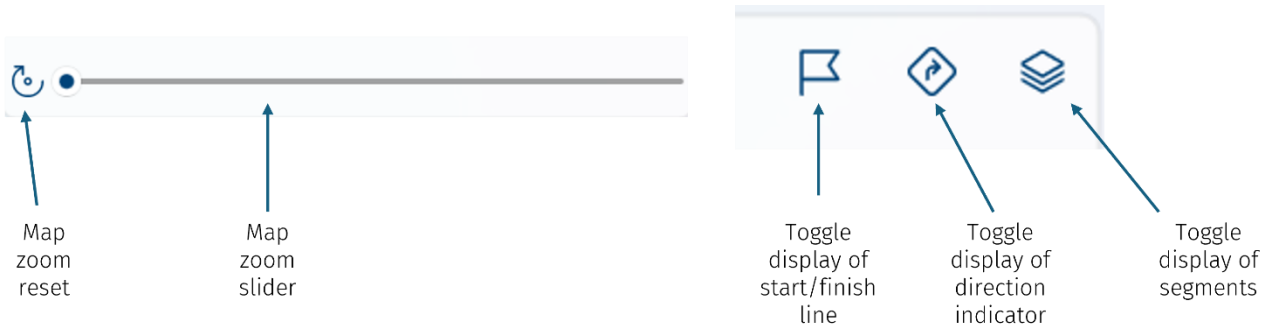


Figure 39 - Map Controls

Map for single outing playback

For single outing playback of a circuit or autocross outing, the map panel is displayed and populated with the track outline, the start/finish line, and a display of the real-time position of the vehicle corresponding to the playback position of the video. The AliveDrive system can also capture outing recordings without the need to learn a track first (dashcam and valet modes). For these outing types, a map will not be drawn.

In-vehicle, when an outing is recorded following a track learning phase, a track map is created as a separate file and stored along with the outing video (mp4) file. When viewing PDR outings, it is therefore possible that the outing file could already have an associated track map (gpx) file, or it may be absent. In order to use the track map files generated in-vehicle with the AliveDrive Desktop application, they first need to be imported. (Opening an outing does not automatically search for and import the track file for the outing).
See the section on Track import below for instructions on how to import tracks.

Video playback with map display of an outing that has an associated track map file will populate the map panel with the data from the gpx file.

If playback with map display is initiated for an outing that does not have an associated track map file, then the map panel will be populated with gps co-ordinate data taken from the fastest lap of the outing. This means that PDR recordings even where a track file is not available can be played back along with a map display. The track is identified in the outing properties sidebar as “autogenerated” in this instance. The auto-generated track will also be added to the Tracks list.

Map for dual outing playback

For dual-video playback, there are two possible track maps that could be used for populating the map display panel. Even though the track files are likely to be of the same track, they might have small variances. For the most accurate dual-outing comparison, a single track file needs using, and the track file for the Reference outing is the one that is used.

Setting visibility of map

By default the display of a map is set to ‘on’ when a circuit or autocross outing is opened. This can be adjusted if desired so the map does not show. See the section *Appearance Personalisation.*

Control of Playback position via the map

The playback position can be controlled via the map by adjusting the Current outing vehicle position with the mouse. Drag the vehicle icon on the map to advance/retard playback. The video and graph panels adjust in sync.

The grey circle shown in Figure 40 below shows the adjusted playback position selected via the mouse. A mouse click on this new position will advance the playback position, in this instance advancing to the next corner.

When dual-video time-based analysis mode is used, there are two vehicle icons shown on the map. The Current outing position indicator icon is used to adjust the playback position.

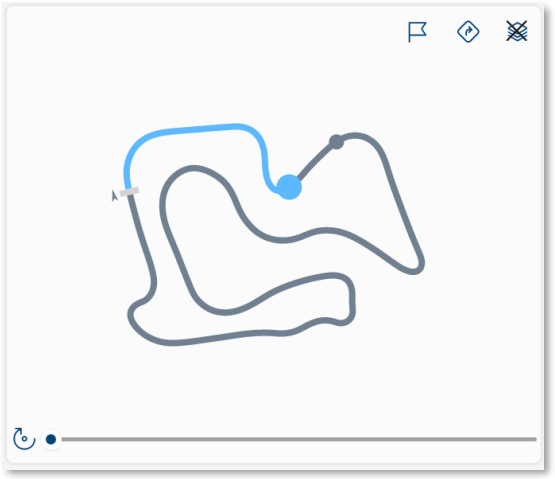


Figure 40 - Using the map panel to adjust playback position

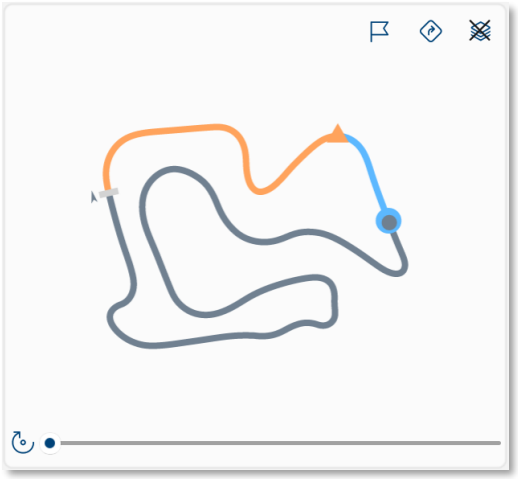


Figure 41 - Controlling playback position using map in dual-video, time-based analysis mode

Graphical Analysis

When an outing is opened for playback, a graph panel is displayed populated by default with key driver-performance channel data from the outing - Speed, Brake, Throttle, Steering Angle.

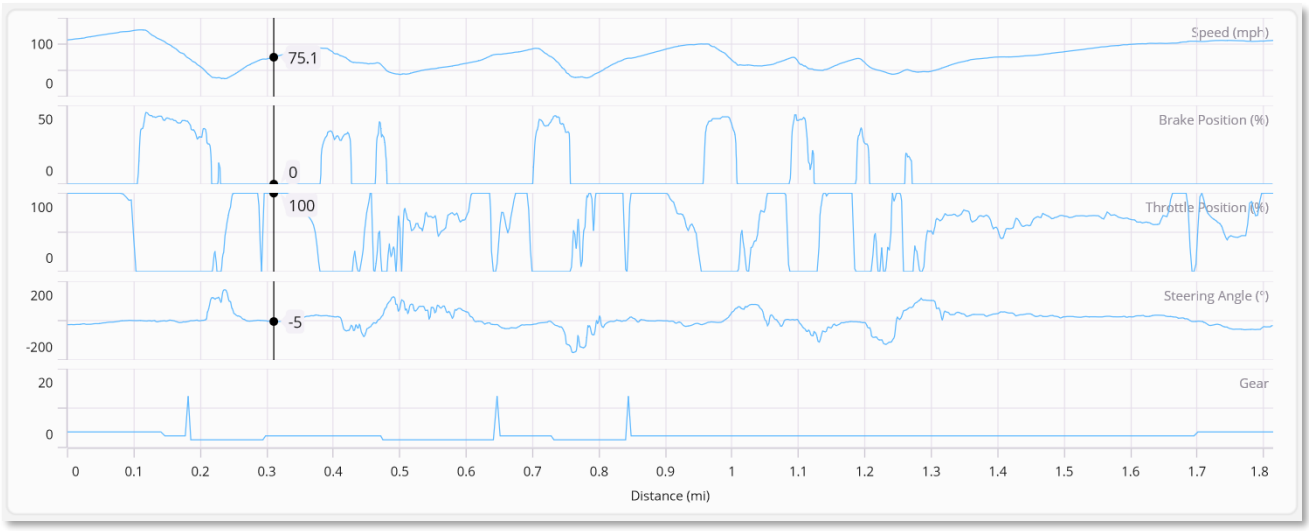


Figure 42 - Graph Panel for Single Outing Playback

Alternative groups of channels are available. Adjustment to the graphs displayed can be made via the menu, OR via right-click action on the graph panel itself.

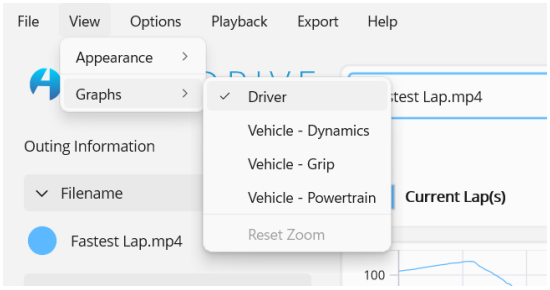


Figure 43 - graph display adjustment via menu



Figure 44 - graph display adjustment via right-click

Graph Channel Group	Description
Driver	Core driver-related metrics: Speed, Brake position, Throttle position, Steering Angle
Vehicle – Dynamics	Lateral acceleration, Longitudinal acceleration and Yaw
Vehicle – Grip	Damper positions (x4) (Dependant on vehicle-variant), wheel speeds (x4), eLSD coupling
Vehicle - Powertrain	RPM, Engine power AND where relevant: Hybrid-specific:- EV Motor power, EV Motor torque, EV Regen

Pick and mix graph channels

Whilst the data channels are grouped for convenience into preset groups, it is possible to freely choose which channels to display taken from all groups. This can be achieved through the menu or via mouse right-click action on the graph panel.

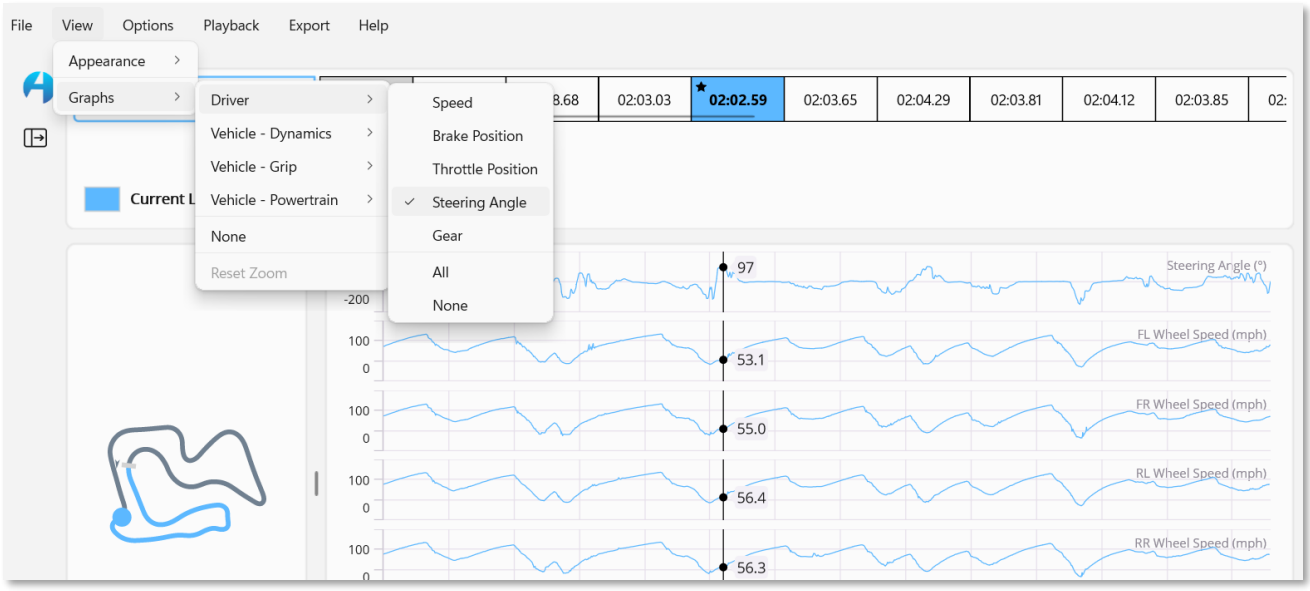


Figure 45 - Selecting channels to display via the menu

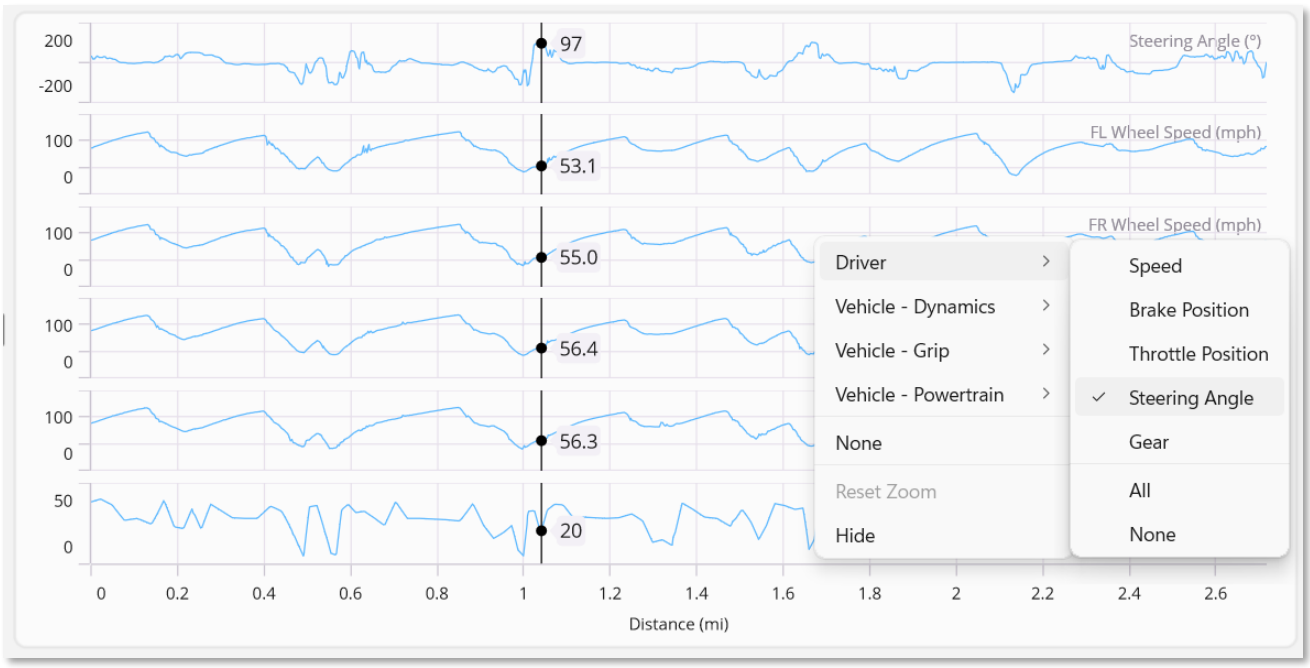


Figure 46 - selecting channels to display via mouse right-click

In the example above, the Steering Angle channel from the 'Driver' group has been added to the channels in the 'Vehicle-Grip' group.

The Playback Bar acts as the centralized control for scrubbing through the outing. When the scrubber bar position is adjusted, the video, graph and map all move in synchronisation.



Figure 47 - Playback Bar for all adjustments to playback position

Graph Zoom

By default, the x-axis scale will show the full extent of the chosen lap or region. An x-axis zoom is available, and is activated using a scroll action on a mouse/touchpad. With a mouse that has a rotary control, the rotary dial acts as the zoom. On a touchpad, a pinch/expand, two finger action provides the zoom capability.

A further zoom approach is via a double-click of the mouse on the chosen channel. The x-axis scale will adjust by a factor of 2 using this method.

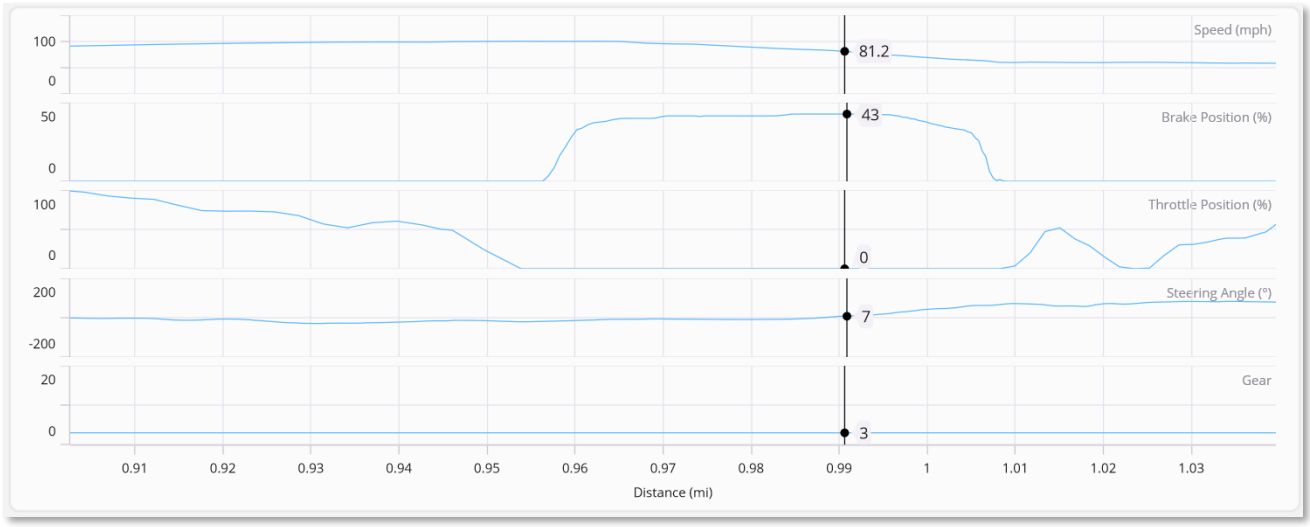


Figure 48 - Example of full zoom

Zoom reset

A further double click the graph panel will reset the zoom so that the full extent of the chosen lap or region is shown on the graph (no zoom applied).

Graph vertical scroll

A graph groups scrollbar is available on the right-hand side of the panel when graphs go beyond the panel size:

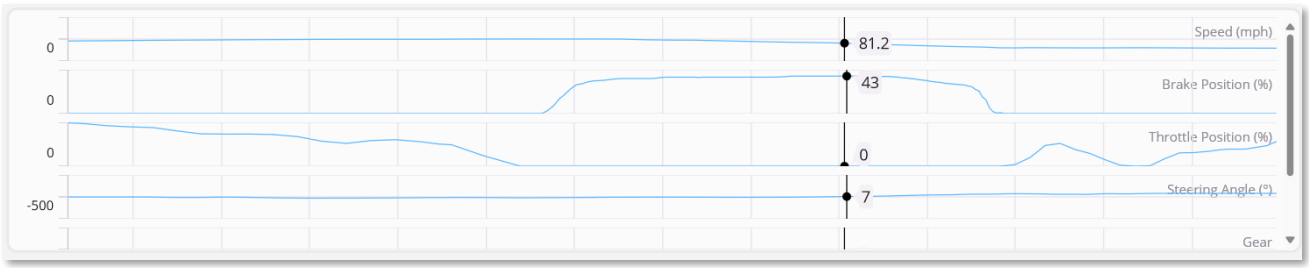


Figure 49 – Scroll bar to adjust vertical scroll of graph

Graph for dual outing playback

With two laps chosen for comparison, the graph panel will show the metrics for both channels with a delta channel added at the top of the panel.

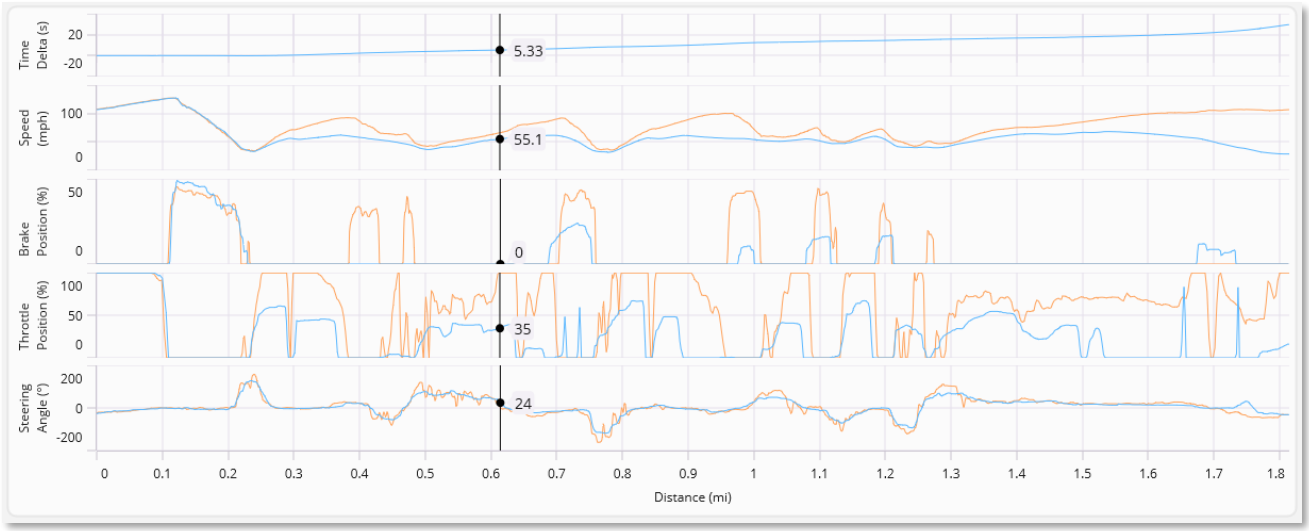


Figure 50 - Graph Panel for dual playback mode

Statistics

When an outing is captured, an extensive set of telemetry data for the outing is captured via the vehicle sensors, and stored within the outing file. Tables of statistics can be shown to complement the video and graphical analysis. A view of the statistics is achieved via the menu as shown in Figure 51 below.

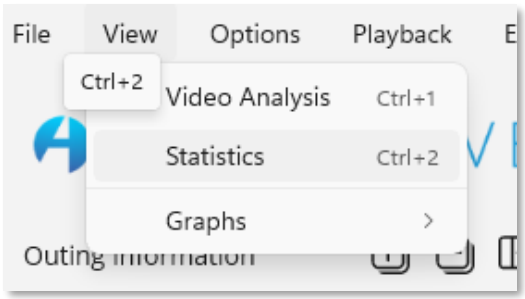


Figure 51 - Viewing the statistics tables

A toggle between video/graph/map and statistics views is achieved using CTRL+1 and CTRL+2 respectively.

Tables of data are presented in groups broken down on a per lap basis. For each parameter, the best in outing is highlighted.

Lap | Performance | Tire | Vehicle Health

Statistic	Extreme	Out Lap (Partial)	Lap 1	Lap 2	Lap 3	In Lap (Partial)
Lap Time	1:31.37	2:09.53	1:31.73	1:31.37	2:01.08	14.15
Average Speed mph	70.17	48.38	69.81	70.17	53.30	25.45
Max Speed mph	127.3	103.5	125.3	127.3	127.3	29.6
Max Lateral G G	2.16	1.69	2.16	2.08	1.79	0.14
Time on Accelerator %	34.4	3.4	34.4	29.5	2.9	0.0
Time on Brake %	15.4	3.8	15.4	15.4	3.7	0.0

Figure 52 - Lap Statistics for the Outing

Lap | Performance | Tire | Vehicle Health

Statistic	Current Outing
0-60 mph	42.20
0-100 mph	1:57.90
0-100-0 mph	--
Standing Eighth Mile	27.43
Standing Quarter Mile	40.50

Figure 53 – Performance Statistics for the Outing

Lap Performance Tire Vehicle Health

Statistic	Extreme	Out Lap (Partial)	Lap 1	Lap 2	Lap 3	In Lap (Partial)
Min FL Tire Temperature °C	59.0	62.0	59.0	59.0	62.0	69.0
Max FL Tire Temperature °C	69.0	69.0	62.0	62.0	69.0	69.0
Min FR Tire Temperature °C	60.0	62.0	60.0	60.0	64.0	71.0
Max FR Tire Temperature °C	71.0	72.0	62.0	64.0	71.0	72.0
Min RL Tire Temperature °C	61.0	64.0	61.0	61.0	62.0	67.0
Max RL Tire Temperature °C	67.0	70.0	64.0	62.0	67.0	67.0
Min RR Tire Temperature °C	66.0	69.0	66.0	66.0	68.0	73.0
Max RR Tire Temperature °C	73.0	75.0	69.0	68.0	73.0	73.0
Min FL Tire Pressure psi	30.7	30.7	30.7	31.3	33.1	33.6
Max FL Tire Pressure psi	34.2	33.6	33.6	33.6	34.2	33.6
Min FR Tire Pressure psi	30.2	30.2	30.2	31.9	33.1	33.6
Max FR Tire Pressure psi	34.2	31.9	33.6	33.6	34.2	33.6
Min RL Tire Pressure psi	30.7	30.7	30.7	31.9	31.9	33.1
Max RL Tire Pressure psi	33.6	32.5	33.1	33.6	33.1	33.1
Min RR Tire Pressure psi	31.3	31.9	31.3	31.9	32.5	33.6
Max RR Tire Pressure psi	34.2	33.1	33.1	34.2	34.2	33.6

Figure 54 - Tire Statistics for the Outing

Lap Performance Tire Vehicle Health

Statistic	Extreme	Out Lap (Partial)	Lap 1	Lap 2	Lap 3	In Lap (Partial)
Min Coolant Temperature °C	91.0	85.0	97.0	98.0	91.0	91.0
Max Coolant Temperature °C	103.0	99.0	103.0	102.0	100.0	92.0
Min Engine Oil Pressure psi	39.5	37.7	41.8	41.0	39.5	41.8
Max Engine Oil Pressure psi	59.8	60.3	59.8	56.9	52.8	42.9
Min Engine Oil Temperature °C	102.0	87.0	102.0	110.0	106.0	104.0
Max Engine Oil Temperature °C	115.0	102.0	110.0	114.0	115.0	106.0
Min Transmission Oil Temperature °C	78.0	78.0	78.0	80.0	82.0	82.0
Max Transmission Oil Temperature °C	84.0	79.0	80.3	83.0	84.0	82.0
Min HV Battery Temperature °C	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
Max HV Battery Temperature °C	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
Min Electric Motor Rotor Temperature °C	-40.0	-40.0	-40.0	-40.0	-40.0	-40.0
Max Electric Motor Rotor Temperature °C	-40.0	-40.0	-40.0	-40.0	-40.0	-40.0
Min Electric Motor Stator Temperature °C	-40.0	-40.0	-40.0	-40.0	-40.0	-40.0
Max Electric Motor Stator Temperature °C	-40.0	-40.0	-40.0	-40.0	-40.0	-40.0

Figure 55 – Vehicle Health Statistics for the Outing

If the outing was captured in a hybrid vehicle, then an additional data table is presented showing key statistics for the hybrid electrical system.

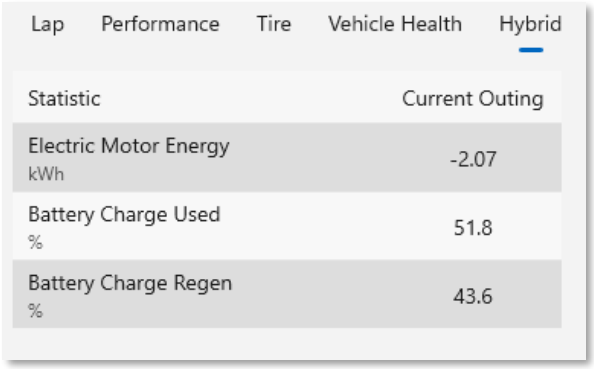


Figure 56 - Hybrid Statistics for the Outing (when applicable)

Segment Analysis – Corners and Straights

The data within AliveDrive outings can also be shown on a per segment basis. Segment definitions are determined automatically when an outing recording is captured, and categorised into corners and straights.

By using the Appearance Menu or CTRL+7 shortcut, the segment statistics view can be displayed alongside the other analysis panels (video, map, graph).

The metrics below can be compared (lap vs lap) for a chosen corner/straight:

- Time on Accelerator (%)
- Time on Brake (%)
- Max Lateral G (G)
- Min Speed (mph/kmh)

Additional metrics shown for hybrid vehicles:

- Electrical Energy Used (kWh)
- Battery Charge Used (%)

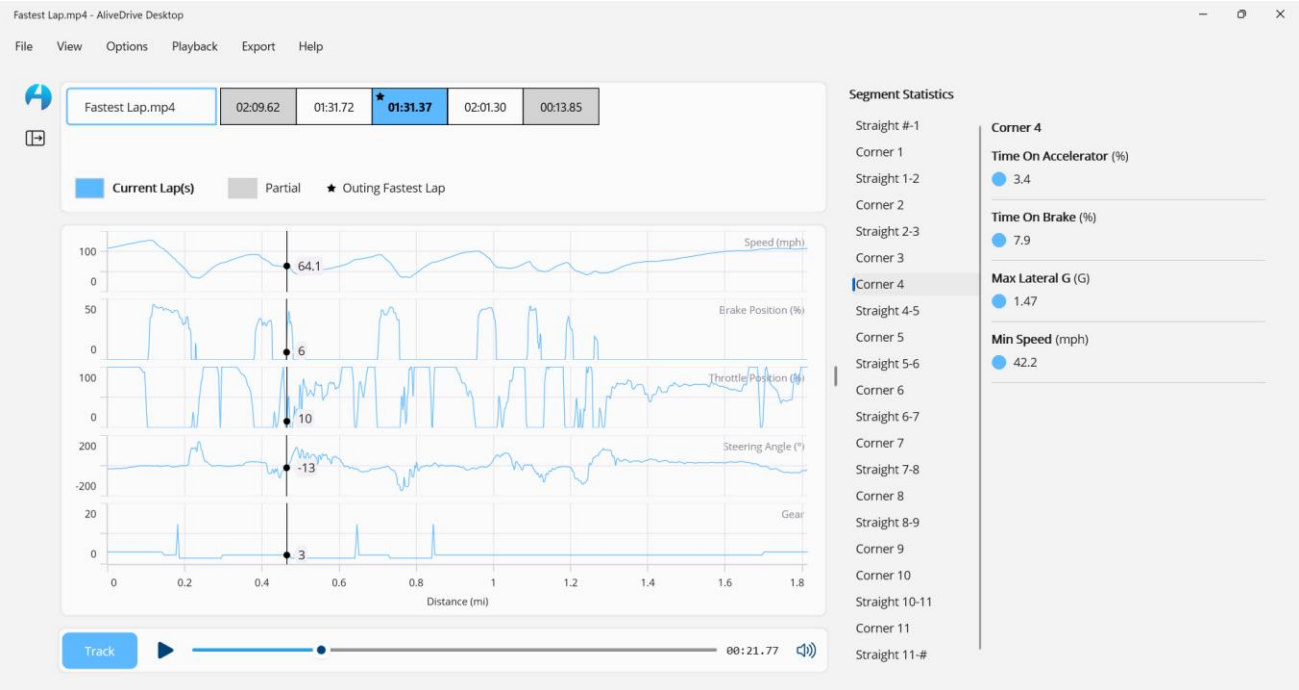


Figure 57 – Segment Analysis (wide segment panel)

When two laps are chosen for analysis, the segment analysis panel allows a comparison of the chosen laps on a per corner/straight basis.



Figure 58 - Segment Analysis (dual outing)

Track File management

The track management window can be reached via the File menu or **Ctrl+T** shortcut.

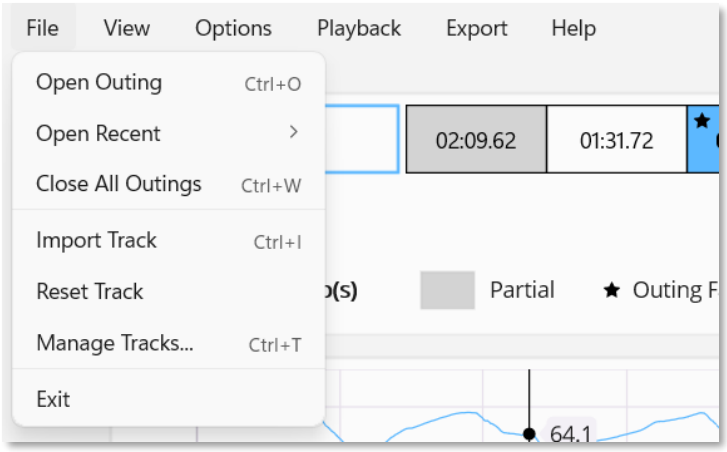


Figure 59 - Manage Tracks

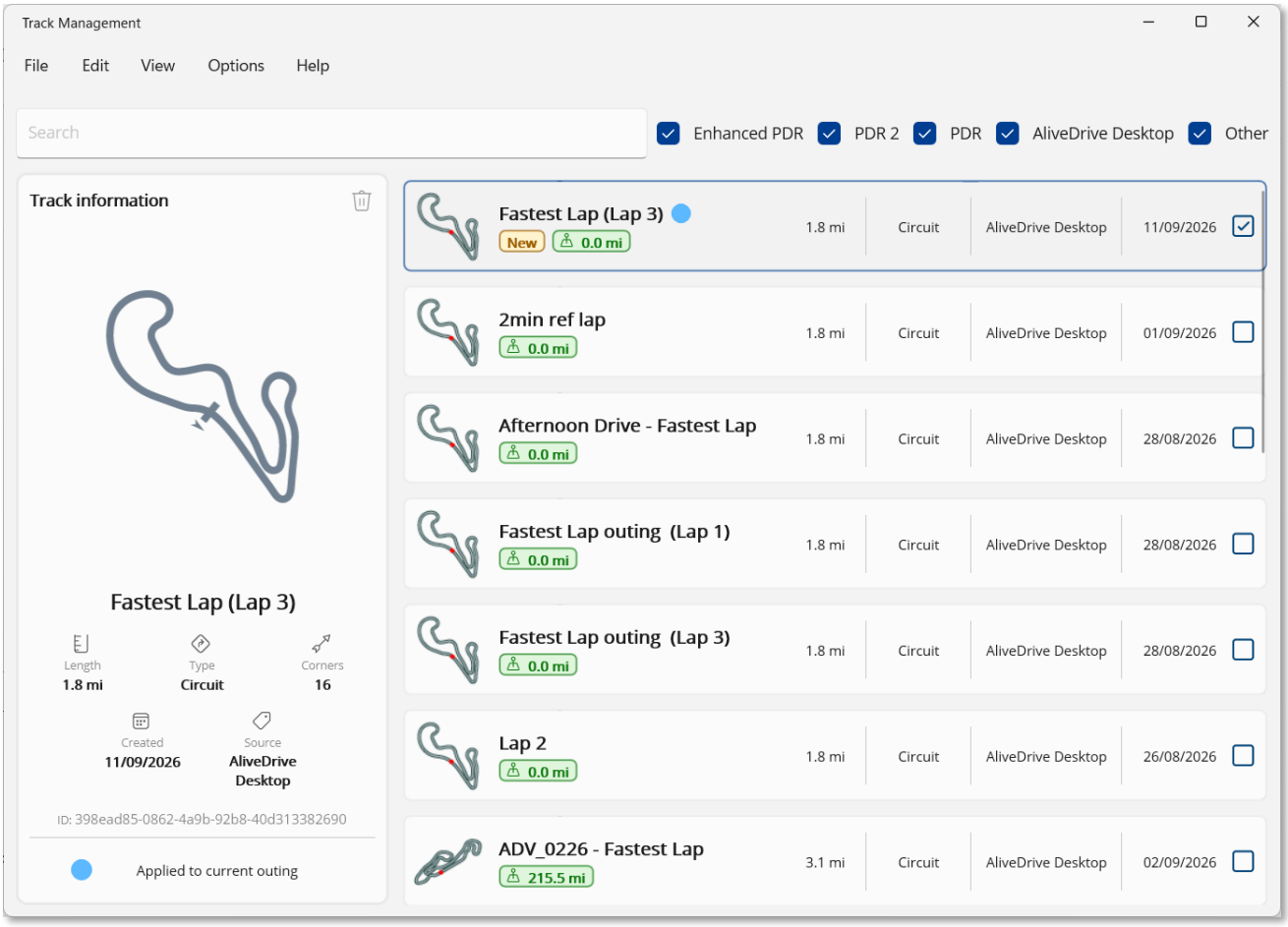


Figure 60 - Tracks List

The track management window opens up as a second window so that toggling the view between the main analysis Window and the Track Management window can be achieved. Selection of a track brings up an expanded set of track properties on the left.

The tracks list is populated both by auto-generated tracks created when a new outing is opened, and by tracks manually imported by the user. Any tracks auto-generated or imported in a session will be marked as “New” and can be optionally sorted to appear at the top of the tracks list.

The track associated with any outing is indicated (blue circle in the figure above), and distance of each track from the currently open outing is also shown to facilitate selection of an alternative appropriate track.

Filtering and sorting the tracks list

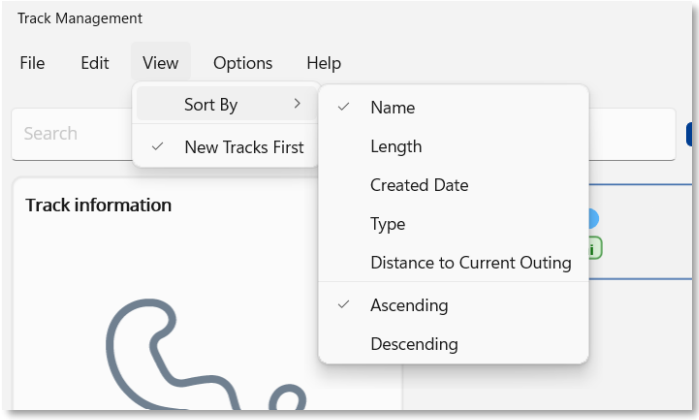


Figure 61 -Track list filter and sort options

The tick boxes shown in Figure 62 below enable tracks to be filtered based on the source for the track. Tracks created by a PDR system in a vehicle are labelled PDR, PDR2 and Enhanced PDR (PDR 2.5) depending on the model year for the vehicle. The other filter options are for tracks created by the AliveDrive Desktop app or Other applications such as AliveDrive Race.



Figure 62 - Filter tracks by source type

The search box shown alongside the outing source filters allows text-based filtering of the tracks list. The tick-box filters can also be combined with a text filter.

Track list sorting by distance from current outing is the default. – if no outing is open, however, the tracks will default to sort by name instead.

Toggling between Analysis and Track Management views

The analysis and track management Windows can both be open at the same time. To quickly toggle your view between the two windows, use ALT + Tab.

Generate Track from Chosen Lap

By default, when an outing is opened, an auto-generated track will be created in order to populate the Map panel. This track is always generated from the fastest lap in the outing.
In order to generate a track from a user-chosen lap, a right-click action when hovering over the chosen lap will bring up the menu to enable the track to be generated as shown in Figure 63 below.

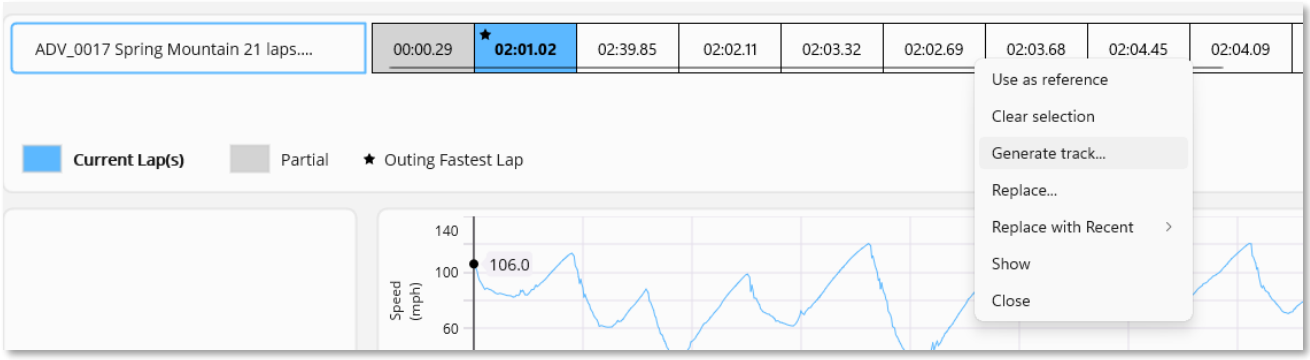


Figure 63 – Right-click on chosen lap to generate a track

The track is generated and added to the tracks list with a default name of format ***Outing Name (Lap X)*** where X is the number of the chosen lap. (The track name can be edited if required).

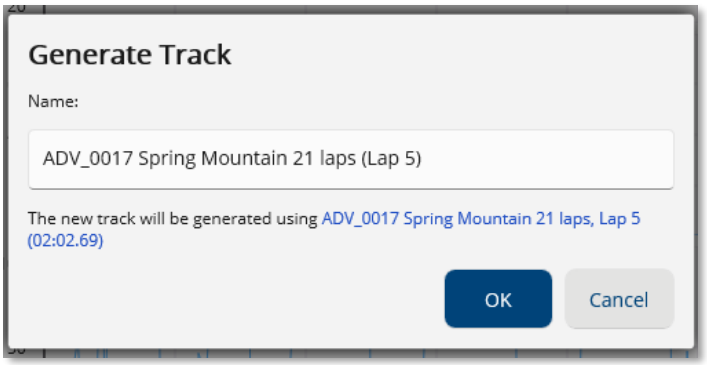


Figure 64 - Default track name provided, can be edited

Any full lap can be chosen (Partial Laps are excluded).

When OK is pressed, the track is generated, saved to the tracks list and will be associated to any currently loaded outings, replacing any existing track associations in place at the time.

Track import

Track import is used for importing the original track files captured in-vehicle along with the outing files, and for import of shared tracks from other users. Tracks form the foundation for advanced analysis features such as segment definitions, racing-line comparison, and time-loss mapping.

A track import can be initiated from the main menu; tracks imported to the app get stored as database entries (the list of tracks is viewable via the *Manage Tracks* menu item).

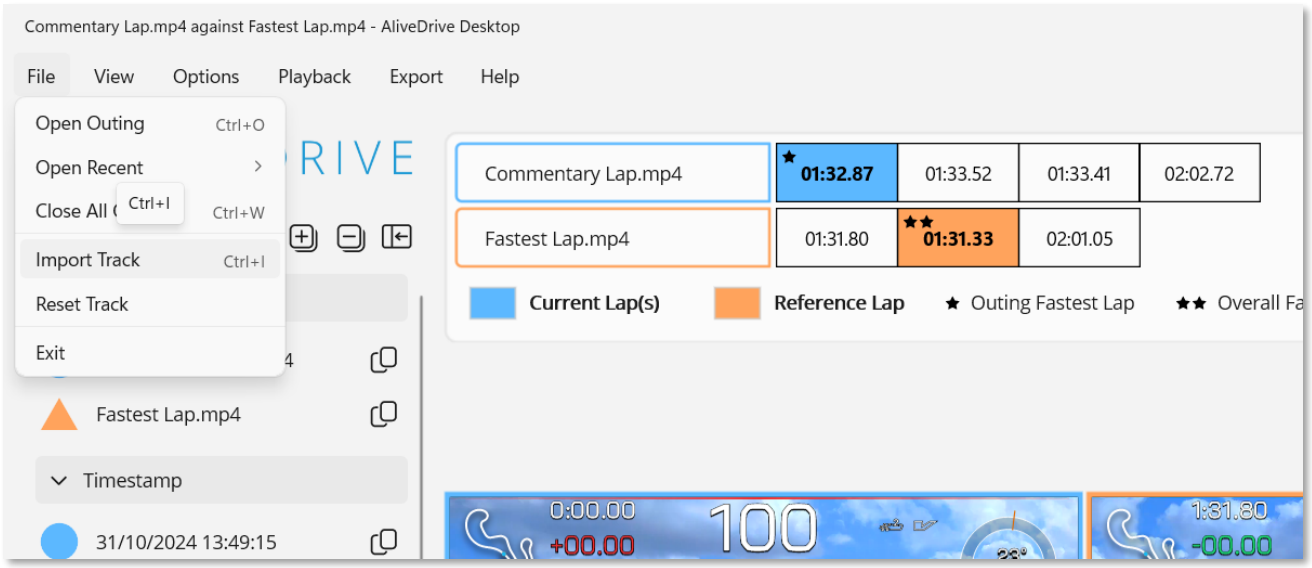


Figure 65 - Track Import

The File Manager window used during Track Import will filter the view to show just GPX files.

Track Import from the Track Management window

Track import is also possible using the menu associated with the Track Management window.

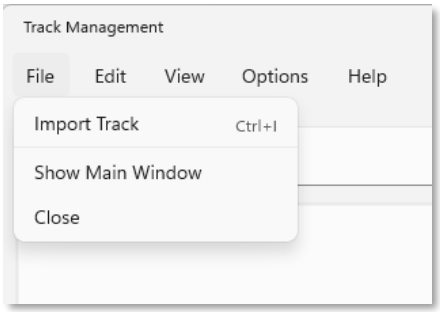


Figure 66 - Import from the Track Management window

Track Import via drag&drop action

Using a similar approach to outing import, tracks can also be imported via a drag and drop action from File Explorer.

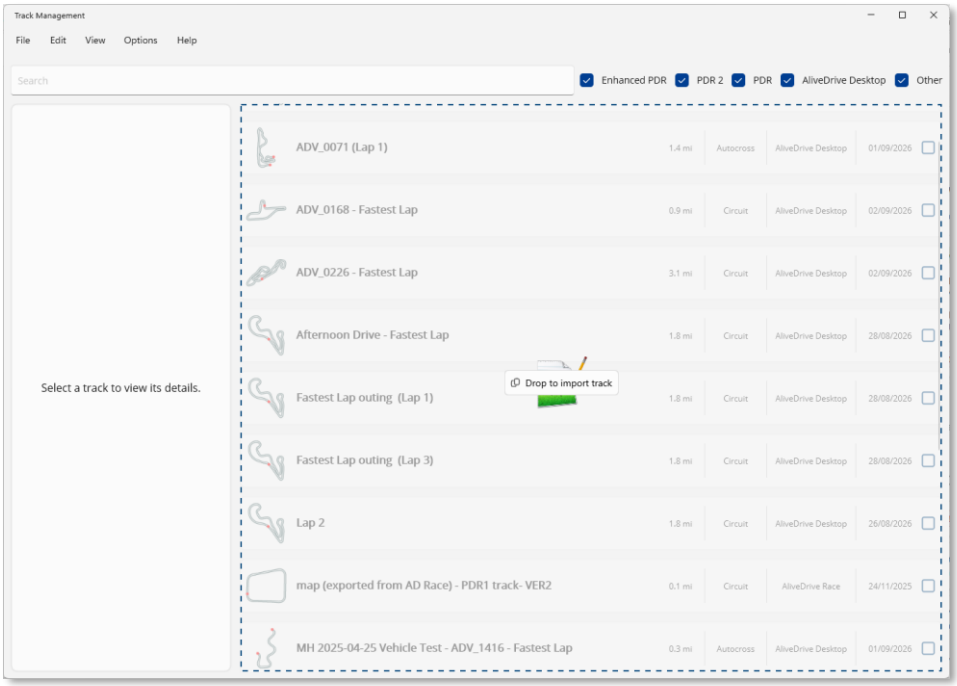


Figure 67 - Track import via drag and drop

Track Import checks

Multiple checks are undertaken when a track file is selected for import. If the import is undertaken from the launch screen (before an outing is opened) two checks are made:

- Gpx file is AliveDrive compatible
- File has not previously been imported

The following set of additional checks is undertaken when a track import is initiated and an outing is already open for playback:

- Track is not the original track for the outing
- Track type does not match the outing type
- Distance between the track and the outing's centre points is < 8 km (5mi)

Warning messages are used for each check to allow the user to proceed or cancel if appropriate.

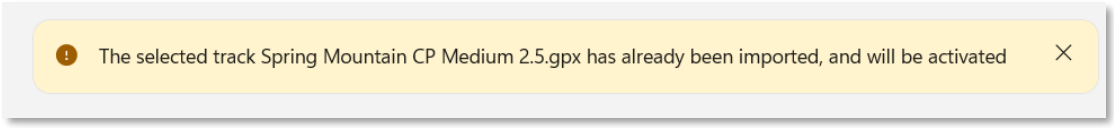


Figure 68 - Track already imported warning

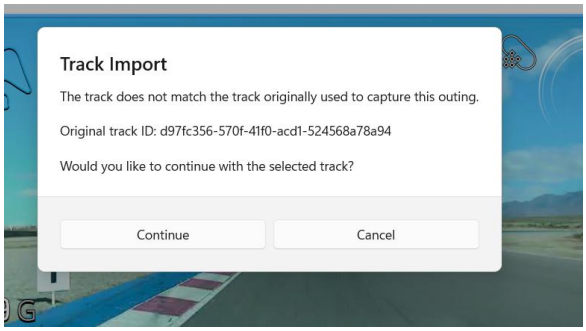


Figure 69 - Track is not the original warning

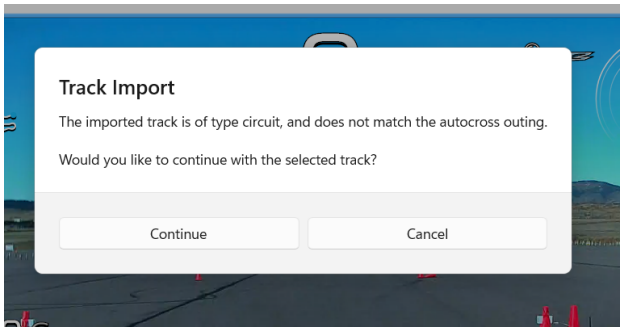


Figure 70 - Track type mismatch warning

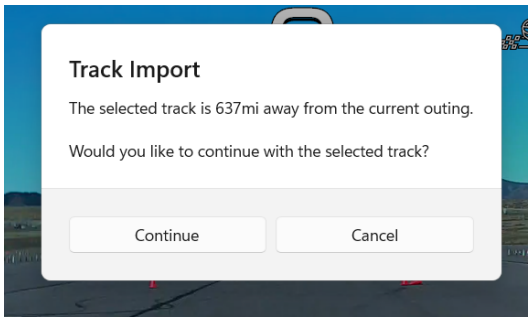


Figure 71 - Track is located far from outing location warning

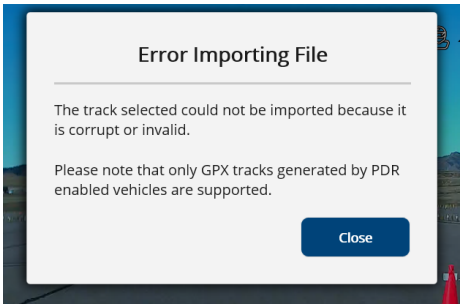


Figure 72 - invalid gpx file warning

The imported track definition is used both to render the track map that is displayed in the map panel and to calculate lap timings for the loaded outing or outings. The imported track may differ slightly in overall lap length to the auto-generated track created from the fastest lap of the outing, which would create small variations in displayed lap times. Use of a common track file between users enables the most accurate comparison of outings to be made.

Track Association with outings

When an outing is open for analysis, details of the autogenerated or associated track are shown in the sidebar. If a subsequent track import is undertaken, these details will be updated to reflect the new track now associated with the outing.

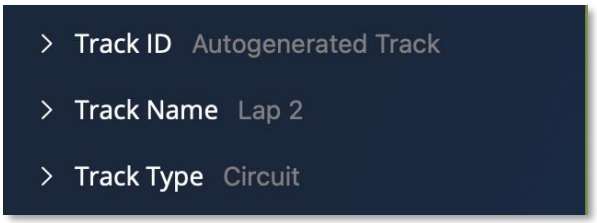


Figure 73 - Track properties in sidebar

A further track import action will over-ride the current track association.

Note: If two outings are open for analysis at the time of the track import, then the imported track file will be associated with BOTH outings.

Persistence of track associations

The track import function will allow the import and association of a track even if it is the wrong track for the outing or outings that are open at the time of import. If the imported track is the wrong type (e.g., autocross and not circuit) or is too far from the outing, then the association will NOT persist – the link between the outing and the track is removed when the outing is closed.

Track associations will only persist if the track is:

- The original track file captured with the outing, OR
- A track of the same type and with gps co-ordinates within 5mi (8km) of the outing

Via the File menu, it is possible to undo a track association and revert the outing back to using a track autogenerated from the fastest lap of the outing.

File > Reset Track

Track Editing

Via the Track Information properties panel, the following parameters for a track can be edited:

- Track Name
- Track Length (autocross only)
- Start/Finish line marker positions

The pencil icon on the Track Information panel is used to initiate the editing function.

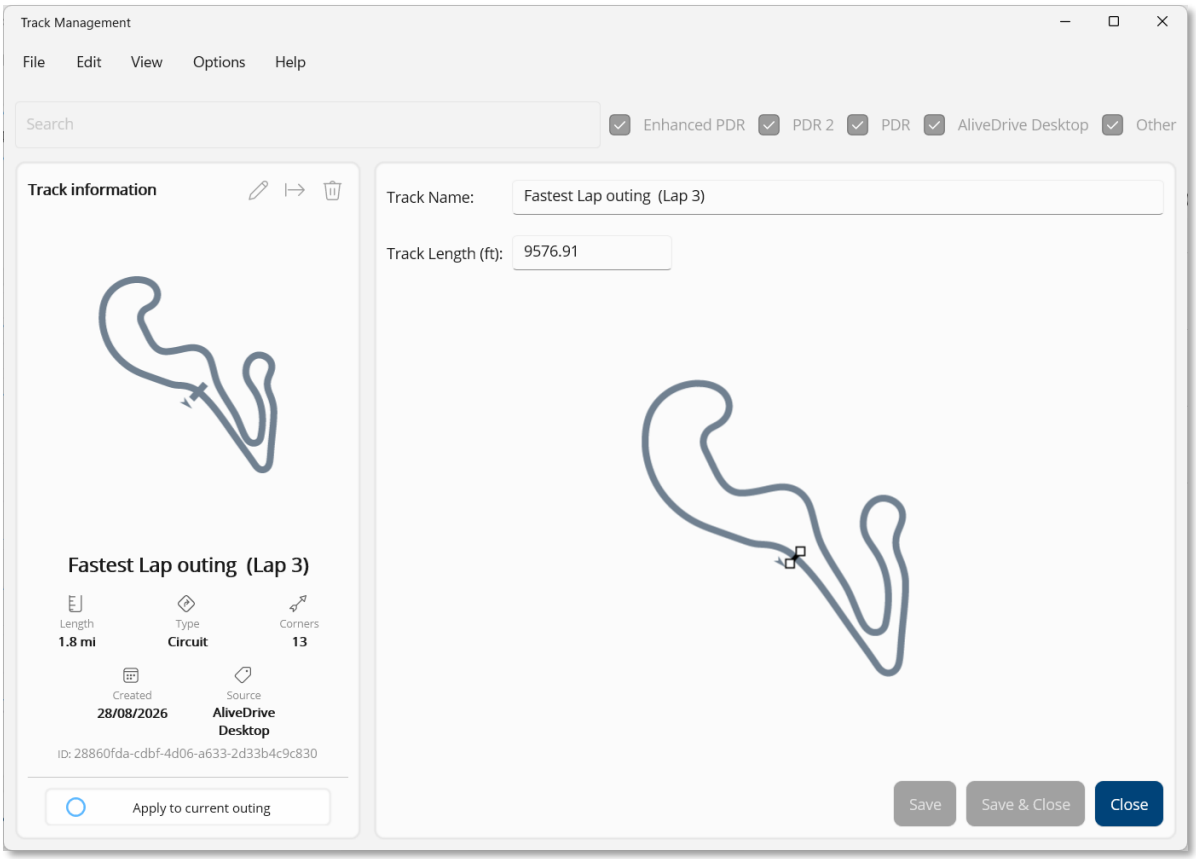


Figure 74 – Editing Track Properties

Note: Track Edits will overwrite the original track file. The following steps should be taken in order to preserve the original track.

Before edits are made: A clone of the track needs to be made first (Clone the track then edit the clone, leaving the original file unchanged). A track export should be used as a way to create an exact copy of the track that can then be imported back to the database. See section *Track Export*.

To reverse edits AFTER they have been made: With the outing associated with the track CLOSED, Go to the Track Management screen, select the edited track and DELETE it. Then re-import the original track.

If the track that was edited was the auto-generated track, then this track is by default the track that gets used when the outing is opened and no other user choice of track is made. The auto-generated track with edits is therefore used every time. The way to stop this happening is to delete this autogenerated track from the tracks list (requires the source outing to be closed). Then when the outing is opened again, a new auto-generated track will be created.

Edit Start/Finish line position(s)

A start/finish line (or separate Start and Finish lines for an autocross track) can be adjusted if desired. To assist with re-positioning fine control, the map panel can be zoomed using the mouse.

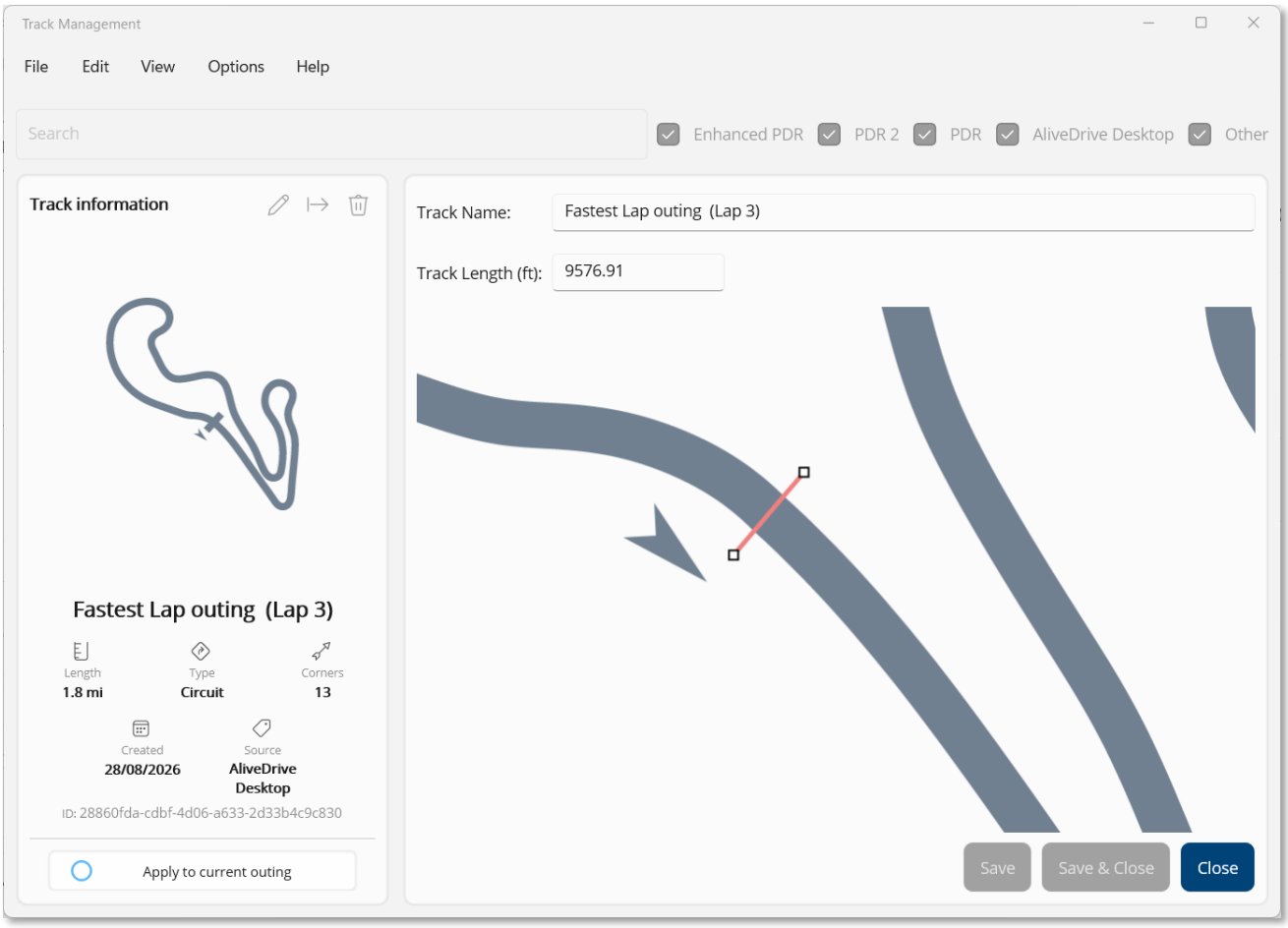


Figure 75 – Map at max zoom with S/F line selected

Note: For an autocross track, an edit to the start or finish lines will also adjust the track length value based on the new positions of the track start and end points.

Deleting Tracks

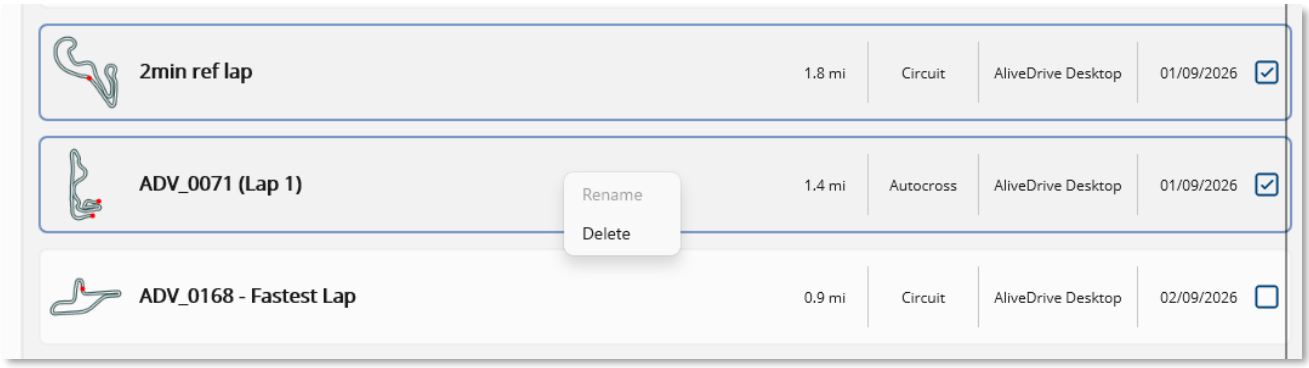


Figure 76 - Select from list to delete tracks (single or bulk)

When just a single track is selected, it can also be deleted from the Track Information sidebar using the wastebin icon.

By using SHIFT+click multiple tracks can be selected at a time. Then a mouse right-click will allow bulk deletion of the selected tracks.

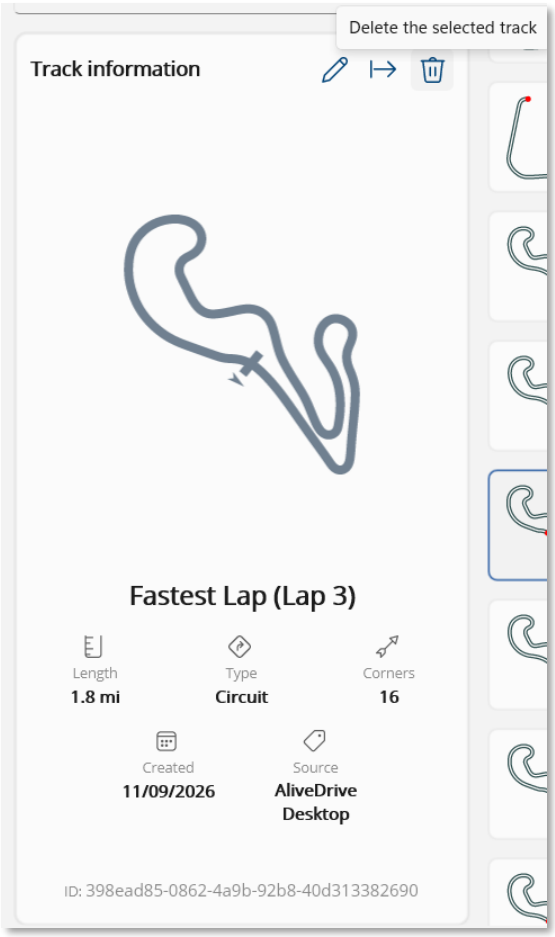


Figure 77 - Delete single track via Track Information panel

The Edit menu item in the Track Management window can also be used to select and delete ALL tracks (as shown in Figure 78 below).

Note: the deletion is instant, there is no “Confirm the deletion of ALL tracks” check message.

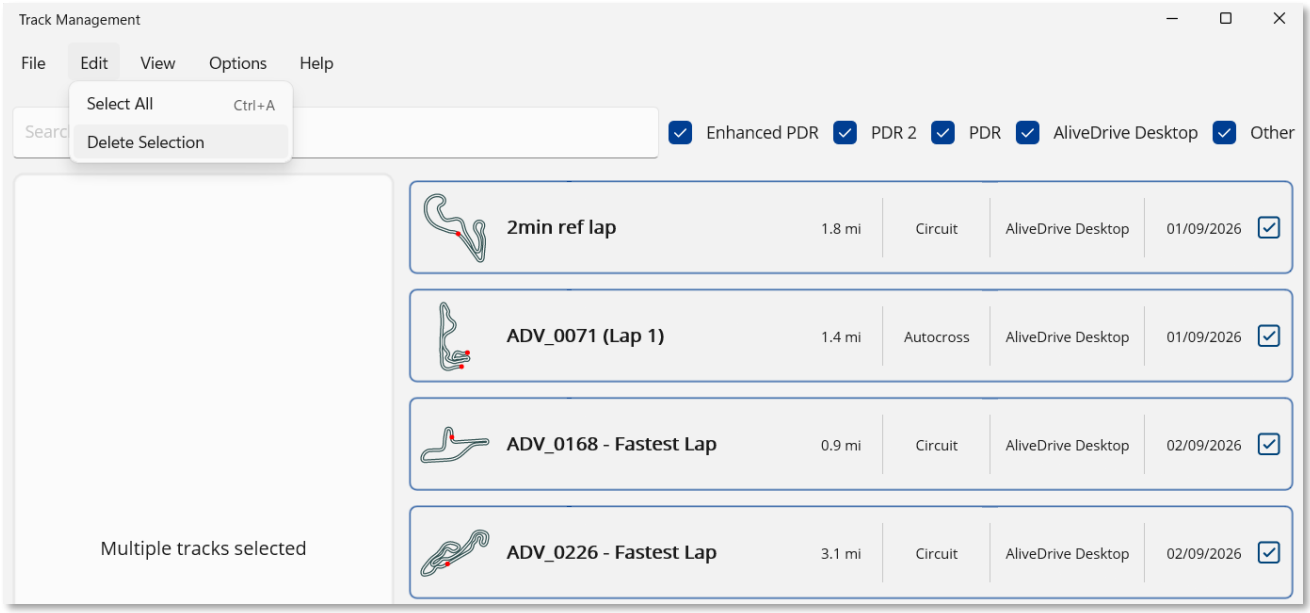


Figure 78 - Select and Delete ALL tracks via the Edit menu

Track Export

Track Export enables the sharing of track files with other users, and is used for multiple scenarios:

1. If edits to a track have been made in the application, and use of the modified track in-vehicle is used
2. If a user wishes to convert a track from one format to another
3. If a user wishes to share a track with another user so that a common track can be used for outing analysis between the two users
4. As a way to create a copy of a track in the database so that track edits do not impact the original track

A track export can be initiated using the controls in the track information panel.

A default export ***track name*** is given, but can be modified. Similarly, the export ***filename*** Is user selectable. Logically, the chosen default filename is set to be the same as the <track name> field, but it doesn't have to match. The filename can be chosen by the user so that management of track files on the computer is made simple. The track name field is a metadata field within the gpx file, and is used in the PDR system and the AliveDrive Desktop application for display of the track name.

The export type can be chosen (PDR1, PDR2, Enhanced PDR, in-vehicle or AliveDrive desktop app use) no matter what the track type of the source file selected. The in-vehicle choice forces the export destination to an inserted SD card. The AliveDrive app export option allows the user to save the GPX file to a chosen location on their machine.

The user can select the destination folder for the export (unless in-vehicle export type is chosen).

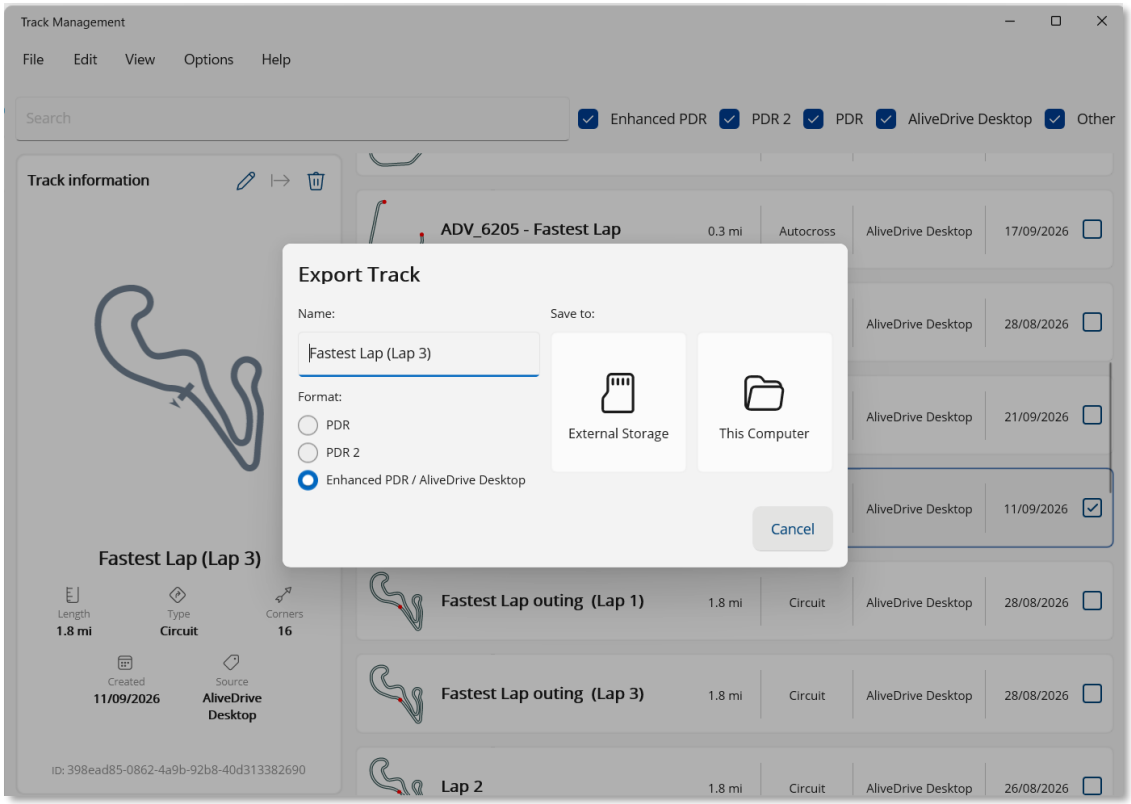


Figure 79 – Export Track

Outing Export

Outings from Enhanced PDR systems (PDR 2.5 outings) have dynamic overlays where the overlay data is held separately to the outing video/audio. This enables full control in the creation of videos for sharing with the overlay choice made at time of export, and not pre-set when the outing recording was captured.

The export function is a key facility for Enhanced PDR users to create videos with visible telemetry data for sharing with others.

Outings from PDR 1 and PDR 2 systems have static overlays. At the time of in-vehicle capture, the overlay chosen in the vehicle is embedded with the video and audio stream of the outing mp4 file. This means that the overlay cannot be adjusted with the AliveDrive Desktop application using the export function. The export of PDR1/PDR2 outings is still a useful function, however, as it enables a chosen lap or time-clip of the outing file to be created, meaning smaller files to share and quicker uploads to social sites.

Export Initiation

With an outing open for playback (or two outings if in dual video mode), an export function can be initiated from the menu. The export will always be of the Current outing (not the Reference).

If an outing has been under analysis in the application, and choices made as to lap and overlay choice, then these choices will be carried across to the export function to enable quick export of the part of the outing that was previously being analysed. The export function does however allow these defaults to be freely adjusted if required.

Export setup and preview is provided via a pop-up window.

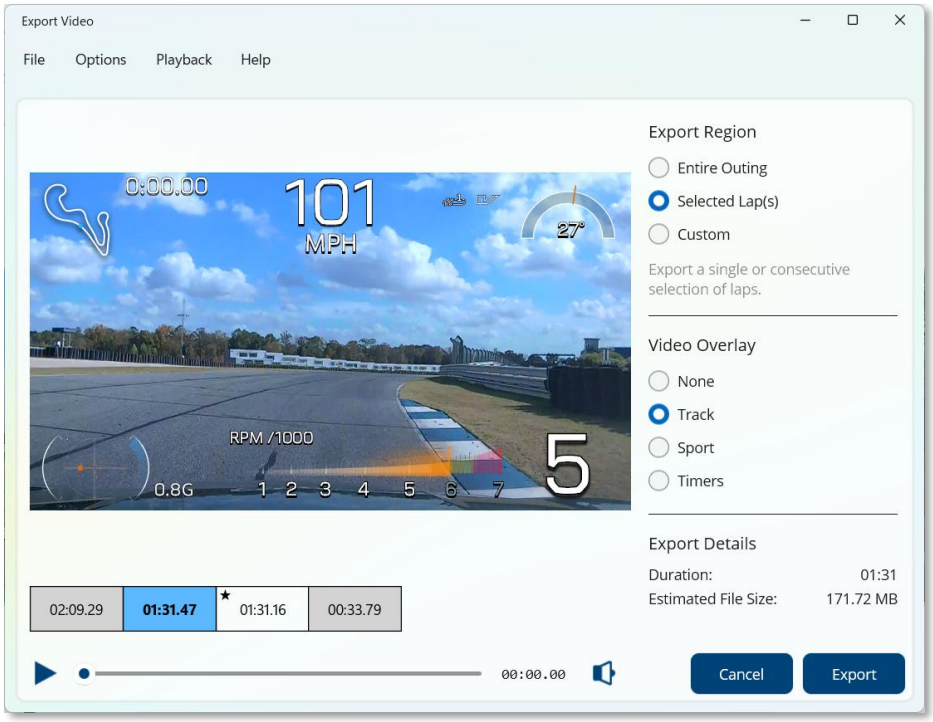


Figure 80 - Export opens up in a separate window

Types of export

Support for four types of export is provided:

- Whole Outing export
- Single Lap export
- Multi-lap export
- Time-based clip export

Laps for export are selected with the mouse.
A multi-lap choice (via CTRL+click or Shift+click) needs to be sequential laps.

Choice of overlay is possible for PDR2.5 outing exports.

Time-based clip export

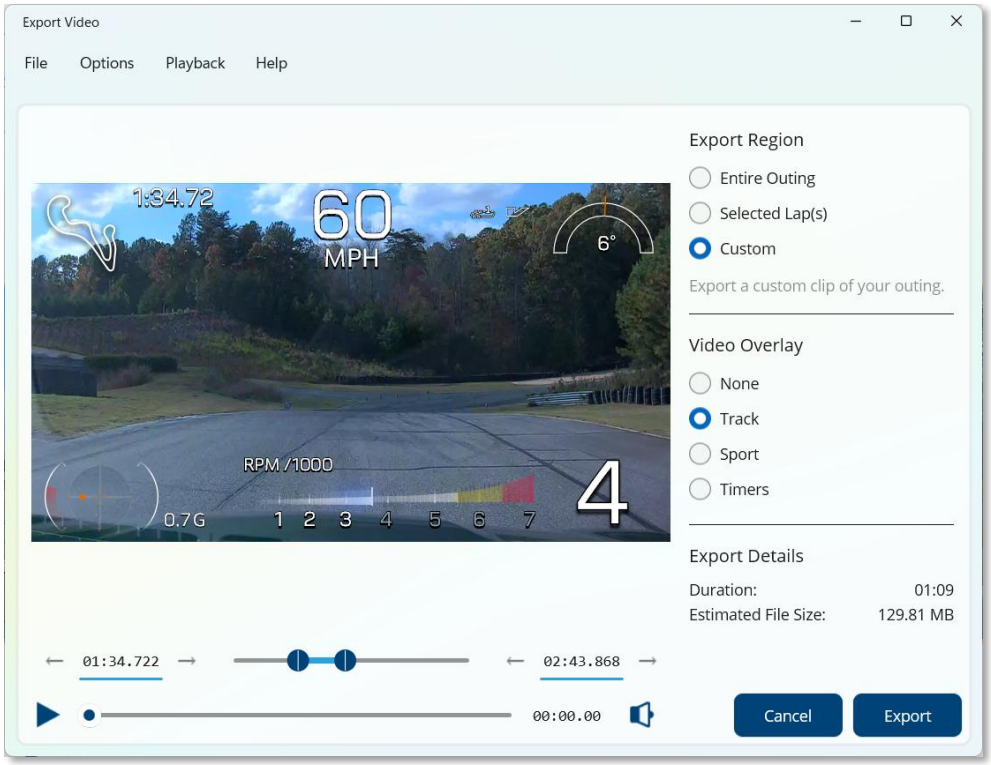


Figure 81 - Time-based clip export

For scenarios where the user does not want to be constrained to laps for the export (for example a dashcam recording), a time-based clip export is possible. Full control of start and endpoints is possible either by manually entering digits into the start/end time areas or using the two scrubber-bar markers as shown in Figure 82 below. Clip start point and endpoint are adjusted in 1s increments using the arrows.

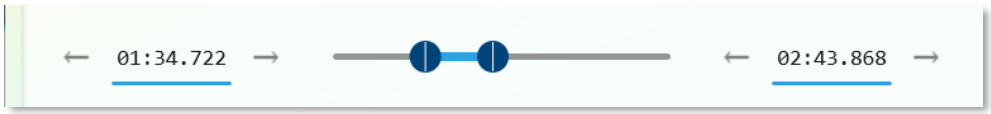


Figure 82 - Choose the start and end points

Export Preview

The Export Preview panel within the Export window enables the user to see the chosen export settings, and an estimate of export file size.

In addition, full and independent playback of the export is possible, without affecting the playback in the main application window.

Note that if silent export preview is chosen (audio = OFF in the preview window), this will **not** affect the inclusion of audio within the exported file. Exported files will always include audio.

Export Progress

With the export setting choices made, the 'Export' button will initiate the process.

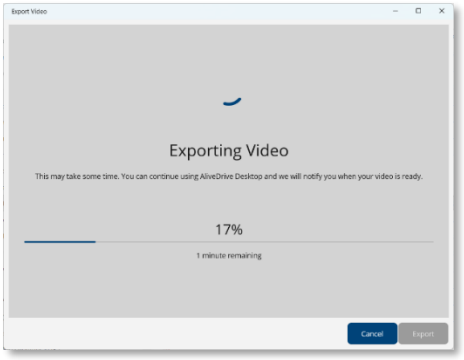


Figure 83 - Export Progress

The native file management application is then used to decide upon export location, and export filename. A default filename for the export is chosen, derived from the source outing name for clarity, but this name can be over-ridden.

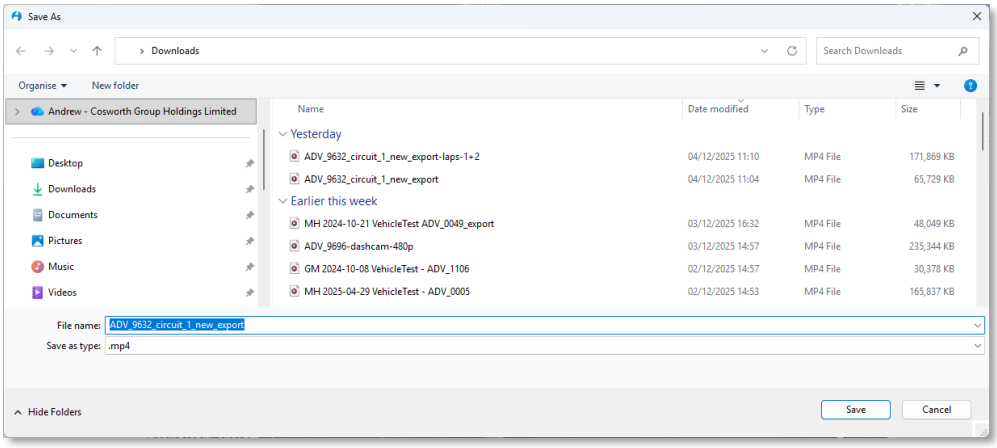


Figure 84 - Export location and filename choice

The application also has a built-in check for sufficient disk space and will provide warnings if the chosen location does not have sufficient space for the export.

The export file is of MP4 format and includes the selected video/audio and chosen overlay data. The file can be played on all mainstream video player apps and is suitable for upload for sharing to social sites.

Software Updates and Stability

A manual check for updates can be initiated via the 'Help' menu.

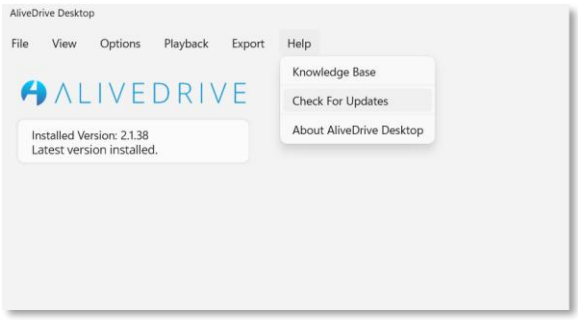


Figure 85 - Check for updates via the menu

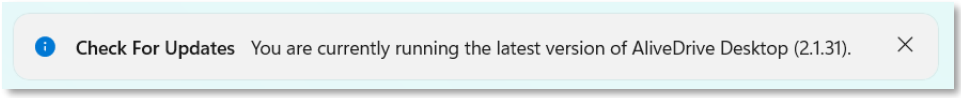


Figure 86 – Latest version message

The current version can be found via the main menu bar, and is also shown in the version information panel on the launch screen.

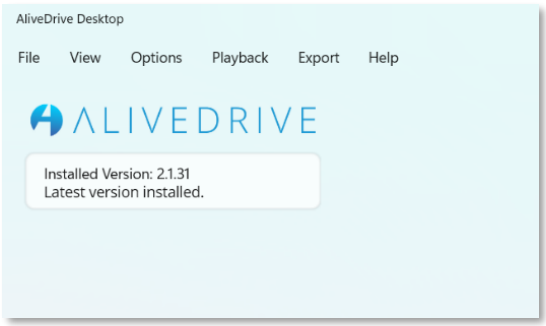


Figure 87 – Launch screen app. version panel

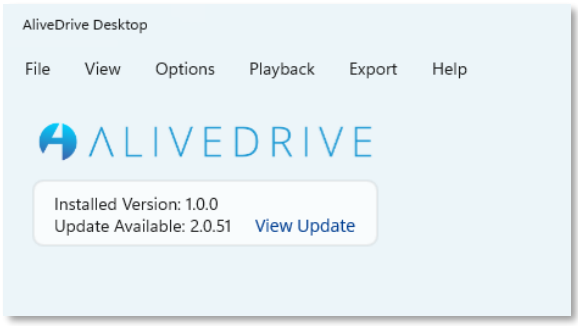


Figure 88 – Newer version available

The information regarding available app versions inclusive of release notes is available on the Cosworth website, on the AliveDrive Desktop product page.

The app has built-in stability monitoring that constantly captures analytical data. This data is anonymised and is solely used to provide feedback to aid diagnostic analysis and bug fixes in the case of app crashes. In the situation where an app crash is experienced, the app will send the data to Cosworth with the ability for the user to add any additional notes to the report.

Support

For further assistance in using the application or the in-vehicle AliveDrive system, please refer to the Cosworth Support Forum:

Customer Support