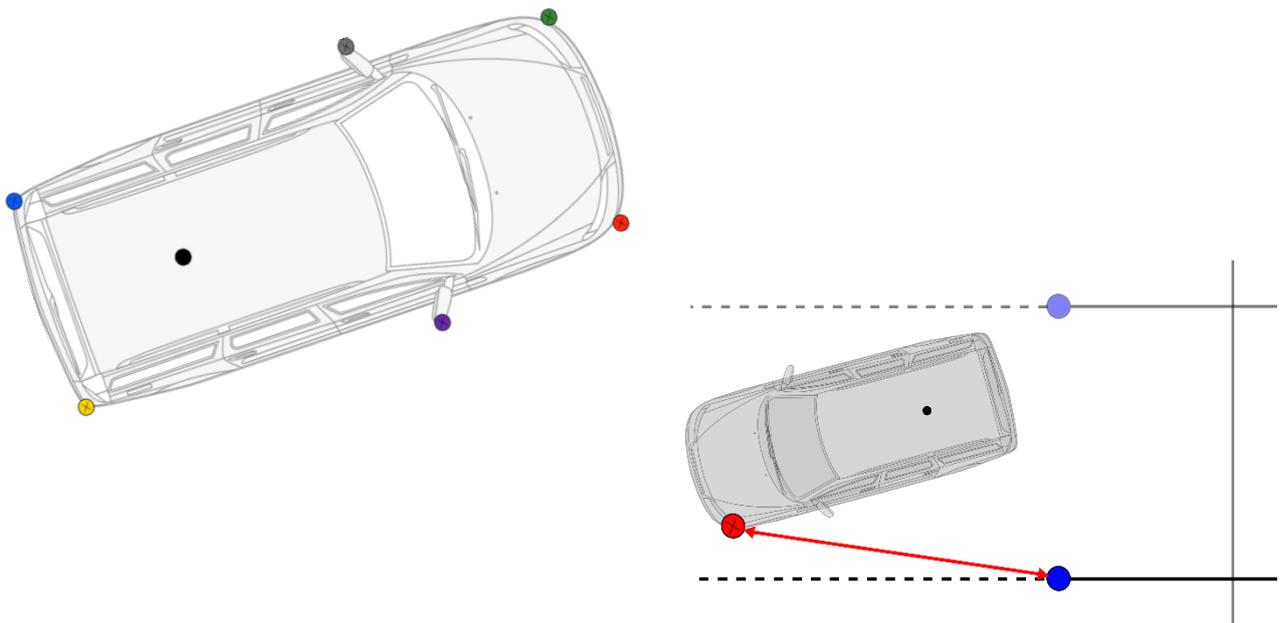


# VBOX File Processor Parking Assist Plugin



Parking Assist
✖

**Bay Sides**

File Name	Colour	Dashed	Thickness	Clear
Load Side 1 (s1)	B.VBC	<input checked="" type="checkbox"/>	1.0	<input checked="" type="checkbox"/>
Load Side 2 (s2)	L.VBC	<input checked="" type="checkbox"/>	1.0	<input checked="" type="checkbox"/>
Load Side 3 (s3)	R.VBC	<input checked="" type="checkbox"/>	1.0	<input checked="" type="checkbox"/>

**Entrance Points**

e1 X -0.991450732051608 Y 51.989428239517 ■

e2 X -0.991469321915346 Y 51.9894101451155 ■

**Vehicle Measurement Points**

Add

p1	X Offset	3.38 m	Y Offset	0.88 m	<span style="color: red;">■</span>
p2	X Offset	-1.60 m	Y Offset	-0.88 m	<span style="color: blue;">■</span>
p3	X Offset	3.38 m	Y Offset	-0.88 m	<span style="color: green;">■</span>
p4	X Offset	-1.60 m	Y Offset	0.88 m	<span style="color: orange;">■</span>
p5	X Offset	1.80 m	Y Offset	-1.15 m	<span style="color: blue;">■</span>

**Bay Sides and Entrance Points Map**

**Vehicle Measurement Points Map**

**Output**

True Heading Smoothing Level  ⓘ



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## Contents

<b>Introduction</b> .....	<b>4</b>
<b>Registration</b> .....	<b>4</b>
<b>Requirements</b> .....	<b>4</b>
<b>Bay Side Configuration</b> .....	<b>5</b>
<b>Vehicle Measurement Point Configuration</b> .....	<b>6</b>
<b>Results</b> .....	<b>7</b>

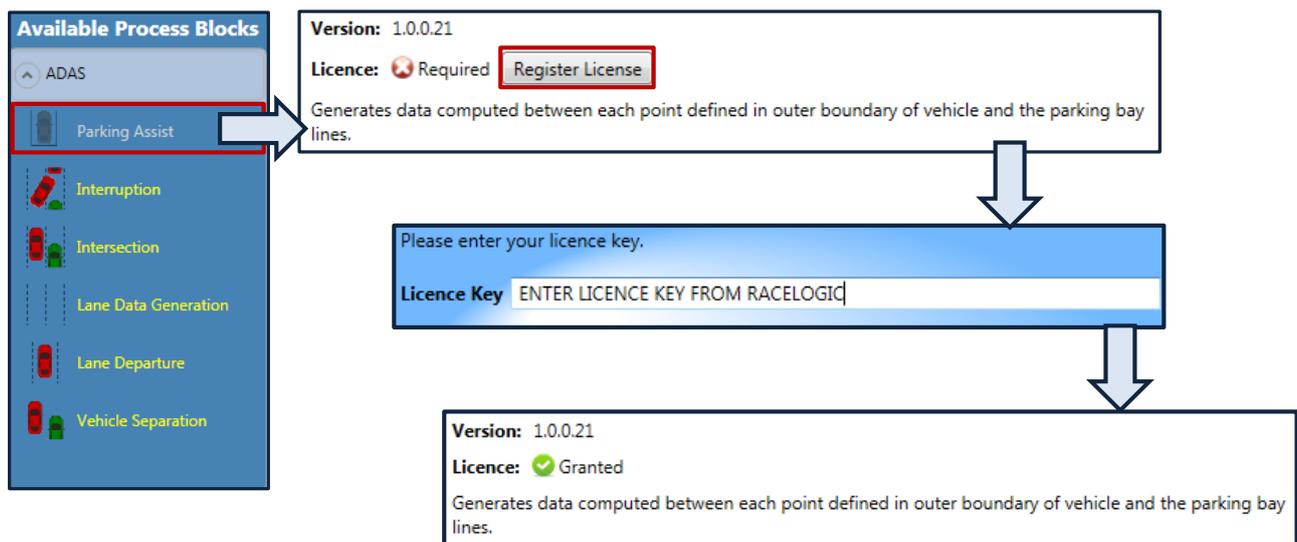
## Introduction

VBOX File Processor Parking Plugin is designed to meet ISO regulation **204/WG14 ISO16787** ‘Assisted Parking Systems (APS) — parking with reference to other parked vehicles’.

This plugin is licenced. To obtain a licence for this plugin, contact [VBOX@racelogic.co.uk](mailto:VBOX@racelogic.co.uk), or your local VBOX distributor.

## Registration

Once you have a licence key, double click on the plugin to register the licence and start using the new functions.

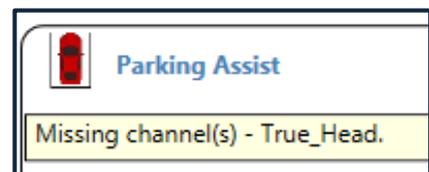


Please note, when the registration key is entered, the PC in use must be connected to the internet in order for the registration to complete.

## Requirements

Input source files must contain true heading information in order to be compatible. This means that the Parking Assist plugin will work with files from VB3i SL RTK units only.

An error message will show if the true heading channel is missing from input file, and the software won't allow the user to process a file.



Smoothing can be added to the true heading channel if the raw input data is noisy. Here the user can set the number of samples the data channel is smoothed over – the default value is 5.

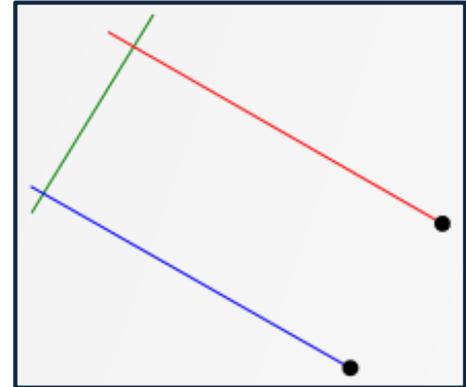


## Bay Side Configuration

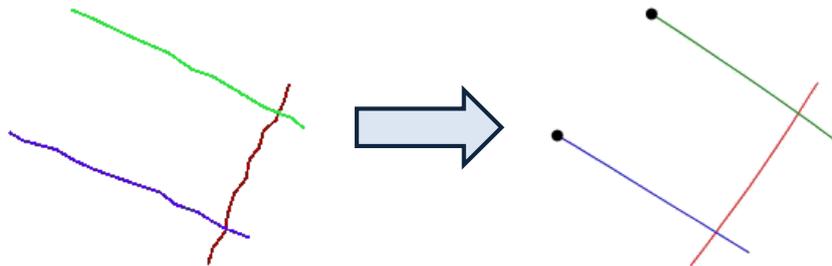
Parking assist can be used to create any virtual 3 sided parking bay, for use with reverse or parallel parking tests.

A bay must be configured from 3 separate files that have to be plotted by the user. The user cannot create a bay from a single logged file.

Input files can be .vbo (VBOX), .vbc (lane departure), or .dbn (PB/DB/VBM).



When a file with more than two position points is loaded, parking assist plugin will produce a line of best fit through the position points within the loaded file. This ensures the bay sides are straight.



When plotting (recording) a bay side, the user is required to extend the plot of the bay side past the corner point, so that there is a clear overlap. When configuring the sides of a bay, ensure the plotting of the bay starts from the entry point, and finishes past the intersection of the 'base' bay line.

The overlap of plotted lines is required as the software determines the 'base' of the bay as the side with 2 overlapping lines/intersections (green line in case picture to the right).

Once there are 3 overlapping lines the software will automatically determine 2 entry points for the lane, taking the furthest point from intersection. For this reason the customer should ensure they do not plot too far past the corner point of the lane.

Customers can use the 'bay sides and entrance points map' to visualise (check) the configured bay. Within here, the user is able to change the colour, appearance and define thickness of the visual representation. This is only a visual representation, and has no bearing on the actual result (i.e. thickness of line does not alter result).

*Bay Sides*

	File Name	Colour	Dashed	Thickness	Clear
Load Side 1 (s1)	B.VBC	<span style="color: green;">█</span>	<input type="checkbox"/>	1.0	<input type="checkbox"/>
Load Side 2 (s2)	LVBC	<span style="color: red;">█</span>	<input type="checkbox"/>	1.0	<input type="checkbox"/>
Load Side 3 (s3)	RVBC	<span style="color: blue;">█</span>	<input type="checkbox"/>	1.0	<input type="checkbox"/>

*Entrance Points*

e1 X -0.991450732051608 Y 51.989428239517

e2 X -0.991469321915346 Y 51.9894101451155

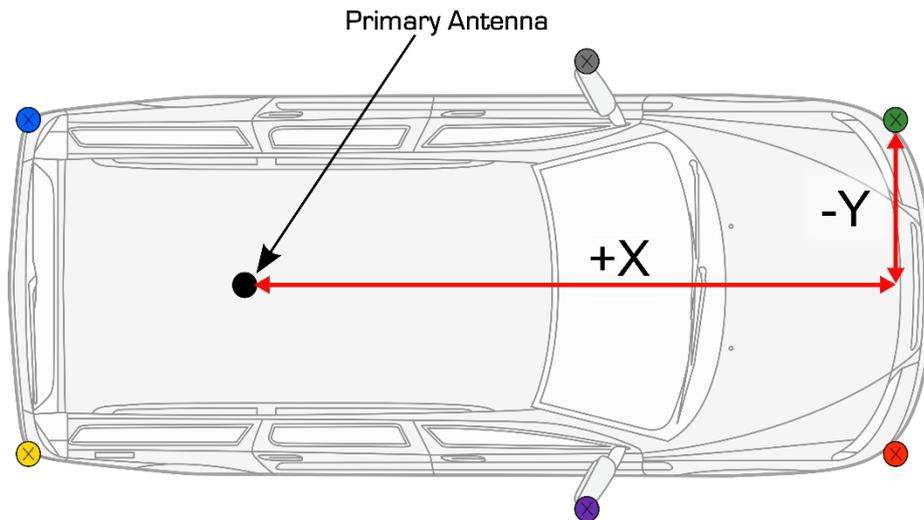
*Bay Sides and Entrance Points Map*

## Vehicle Measurement Point Configuration

The vehicle measurement points section allows the user to configure required vehicle measurement points.

There is no limit to the number of vehicle measurement points that can be set.

Points should be measured from the primary antenna as shown below.

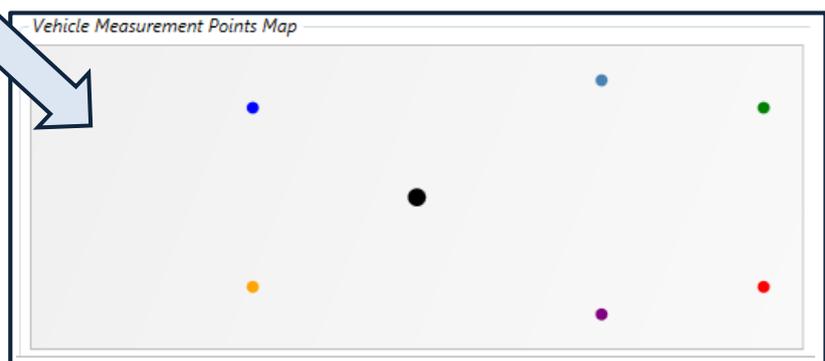


There is a 'vehicle measurement points' map to visualise the defined measurement points. As with bay sides the visual lines can be altered by colour to make it clear which point of the car the data (i.e. p1) is referencing in the processed result.

Each configured point will produce 5 range channels, two relative to entry points, and three relative to the bay sides.

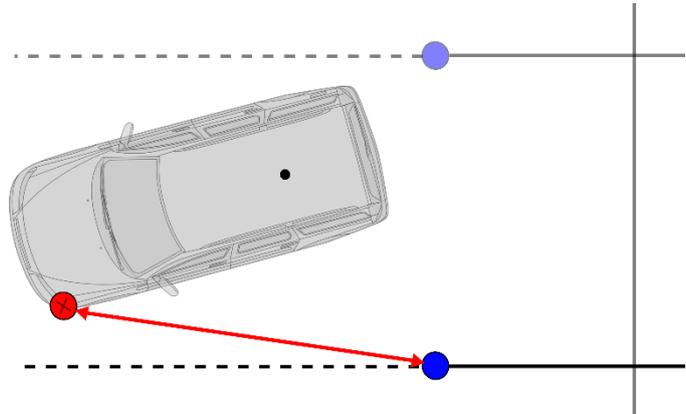
Vehicle Measurement Points

p1	X Offset	3.38	m	Y Offset	0.88	m		
p2	X Offset	-1.60	m	Y Offset	-0.88	m		
p3	X Offset	3.38	m	Y Offset	-0.88	m		
p4	X Offset	-1.60	m	Y Offset	0.88	m		
p5	X Offset	1.80	m	Y Offset	-1.15	m		

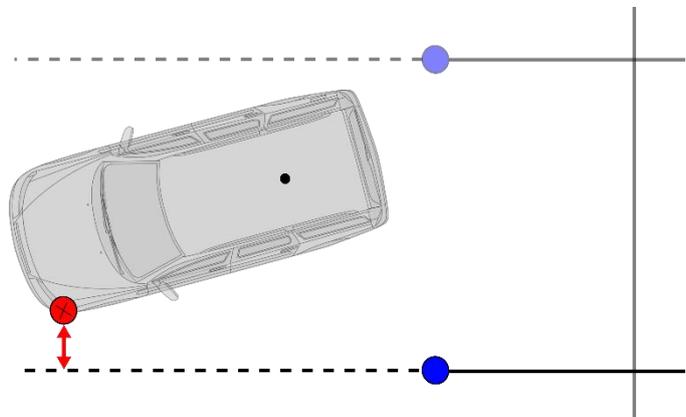


## Results

The 2 range measurements to entrance points are direct straight line ranges between vehicle and entry point. The created channel will be labelled e1 and e2 relative to what is shown in the 'bay sides and entrance points' map. Two points will exist for every vehicle measurement point. For example, P2\_e2 is the second entry point for the second defined vehicle measurement point.

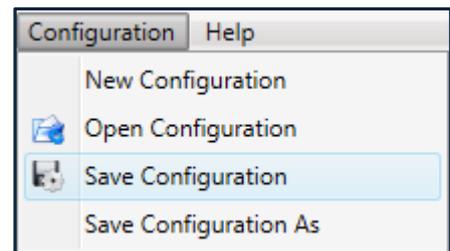


The 3 bay side range measurements are calculated perpendicular to the bay heading. Created channels will be labelled s1, s2 & s3 relative to what is shown in the 'bay side and entrance points' map. Three points will exist for every vehicle measurement point. For example, P3\_s1 is the range of the third defined vehicle measurement point, to bay side 1.



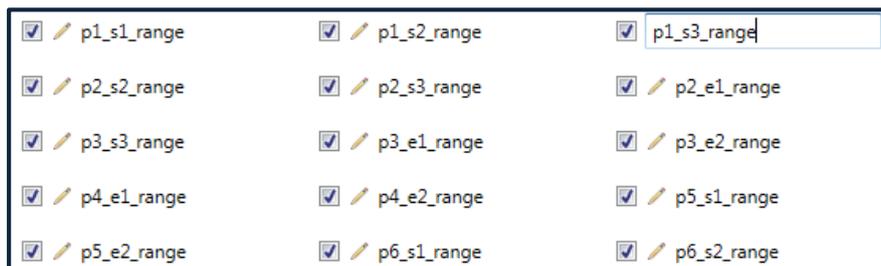
If the vehicle is outside of the configured bay, the result will still show perpendicular to the bay. Please note that as all range values are absolute values, they have no signing.

Combined bay sides and vehicle measure point configuration can be saved and reloaded at later date, using configuration/save configuration. Note that plugin settings are saved as a whole file, so separated vehicle measurement points and bay side profiles cannot be loaded.



As the plugin uses true heading, all range reference values will remain valid whether the vehicle is driving towards, or moving away from the bay.

Prior to processing the files, the user is able to alter what channels are processed, along with changing the naming conventions to make them suit their own needs.



For further assistance, please contact [support@racelogic.co.uk](mailto:support@racelogic.co.uk)