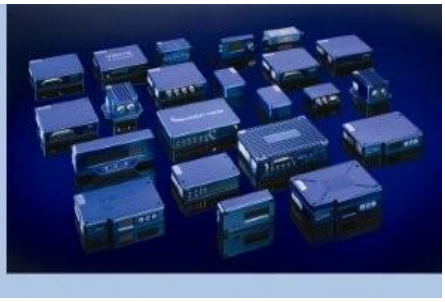
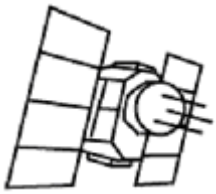
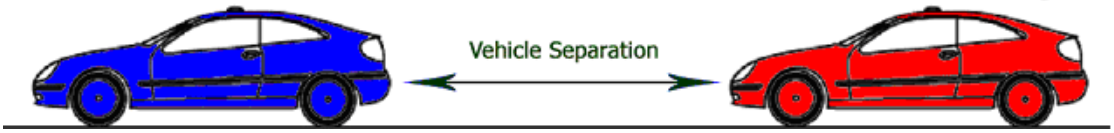
# Vehicle Separation for ADAS Testing



Racelogic's Vehicle Separation system allows real-time measurement of vehicle separation parameters for testing of ADAS systems such as active cruise control, lane departure and collision warning systems.






As development of ADAS – Advanced Driver Assistance Systems – becomes more commonplace, the methods used to develop and test such systems become more advanced. Racelogic is pleased to announce new, dedicated vehicle separation functionality for its industry-proven VBIII RTK system. This affords ADAS developers the capability to verify the accuracy of their systems in development.

Vehicle separation data can be viewed real-time in the local vehicle whilst being logged for subsequent analysis and it can be transmitted on CAN for use by third-party systems.

A fixed point can be substituted in place of the remote vehicle's VBOX (such as tests involving a fixed remote vehicle or pedestrian), freeing up a VBOX and cutting the (already quick) setup time in half.

The information below applies to the 2cm accuracy system comprising 2x VBOXIII RTK (with Glonass) data-loggers and an RTK Basestation. 2cm is the highest level of accuracy we can offer, but we also do 20cm, and 40cm options which are lower cost; please contact your local Racelogic distributor for further details.

## Equipment

Vehicle separation testing can be conducted using VBOX III data-loggers, augmented by an RTK Basestation. For existing VBOX customers this means minimal cost to expand their current capabilities to include vehicle separation, whilst new users will also find VBOX III data-loggers to be powerful tools in other areas of testing as well.

A vehicle separation system requires the following components:

- 2x RLVB3R2G2 – VBOX data loggers with RTK and Glonass
- 1x RLVBBS3G – RTK Basestation (includes one telemetry module for receiving VBOX)
- 1x RLVBRTM3E – Additional telemetry module (to receive Basestation corrections)
- 1x RLBTELEM3E – Telemetry module pair (to transmit data between vehicles)
- 1x RLVBQ1U – Racelogic Q1Ultra display (or user's own laptop PC) running vehicle separation software
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The RTK Basestation provides correction data for the VBOX III data-loggers via radio telemetry. Data is then transmitted live from the remote vehicle to the local vehicle via radio telemetry operating on a second frequency, maximising the amount of data that can be transmitted between the vehicles.

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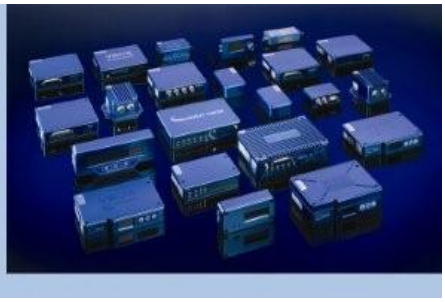

## Parameters Available

Parameters available from the system include the basic GPS-derived information from each unit along with the calculated vehicle separation channels.

**Local & Remote Vehicle Channels:**

- Satellite count
- Time
- Latitude
- Longitude
- Speed
- Heading
- Height
- RTK solution type

**Separation Channels:**

- Straight line distance
- Longitudinal range
- Lateral range
- Angle to remote vehicle
- Relative speed
- Relative longitudinal speed
- Relative lateral speed

All channels are available in the following modes:

- Live via software
- Post processed via software
- Live via CAN from the VBOX in the local vehicle
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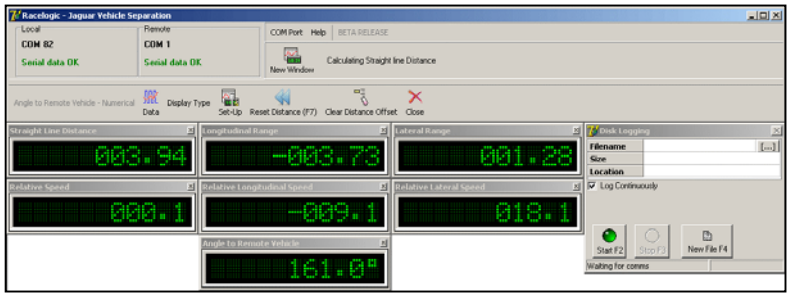
All data is available at 20Hz

## Vehicle Separation Software

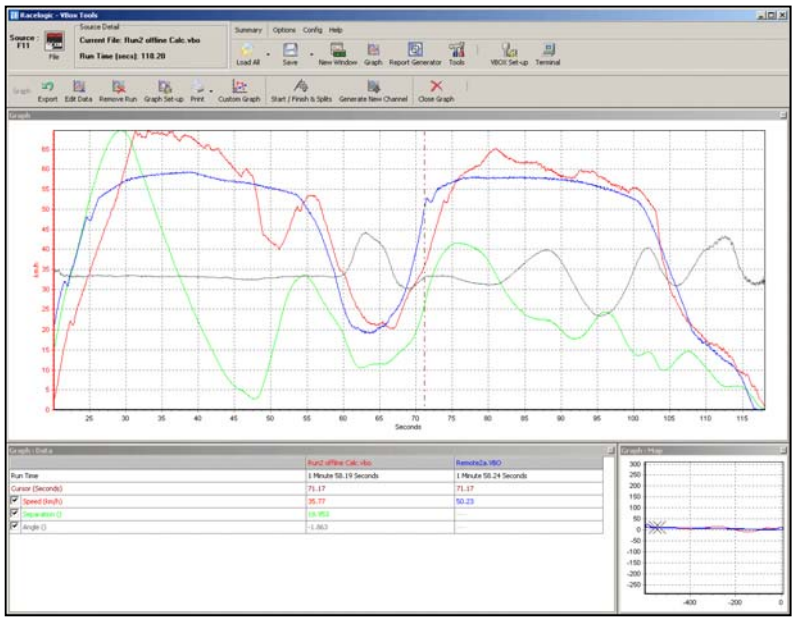
This software displays in real time any of the Parameters listed above. Also creating a single data file containing the Separation Channels and local car data




## VBOXTools Analysis Software

Data processed by the Vehicle separation software or recorded by the VBOX's can be displayed in the supplied VBOXTools software package.

The screen shot to the right shows the time-synched data from the local and remote vehicle. In this case also showing vehicle separation and angle to the remote vehicle.



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