Differential Base Station

(RLVBBS4 / RLVBBS4RG)

The RACELOGIC DGNSS Base Station is designed to improve positional accuracy of VBOX units and other compatible GPS/ GLONASS systems by calculating and transmitting differential correction data.

By programming the Base Station with a known position, it is able to accurately monitor the difference between its programmed position and the position that it is receiving via GPS/GLONASS.

The difference is then transmitted via radio to allow a remote GPS system to correct its position.

The differential correction message can be broadcasted in RTCM, CMR or proprietary RTK formats using an internal or mast mounted radio modem transmitter.

Depending on the type of Base Station and roving unit used, position accuracies of up to 2 cm* are available.

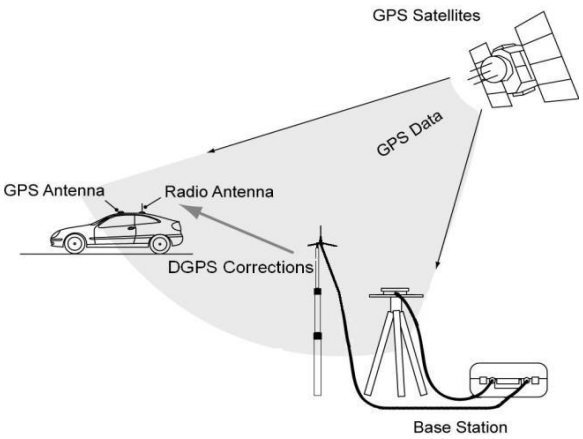
Features

- Survey grade GPS or GPS/GLONASS receiver
- Up to 2 cm* accuracy with Option 2
- RTCM, CMR, RTCMV3 or proprietary outputs
- 25-position memory to store and recall different reference locations
- Optional integral or mast mount radio transmitters with range of up to 10 km (approx. 6.2 miles line of sight) and 2 km in built-up area
- Self-survey mode
- Up to 18 hrs built-in battery life (depending on radios in use) or external power
- Rugged IP64 (splash proof) enclosure
- Compatible with wide range of radios to suit location and range requirements

** 95 % CEP (Circle Error Probable) means 95 % of the time the position readings will fall within a circle of the stated radius.*

Communication with external units is carried out via radio. The Base Station is designed to work with a variety of different radios, to suit different requirements.

RACELOGIC have a number of radio sets available, allowing you to select the most suitable frequency and range for your region. See the Radios info sheet or contact RACELOGIC to find out more.



VBOX AUTOMOTIVE
Unit 10, Swan Business Centre, Osier Way, Buckingham, Bucks MK18 1TB, England
Tel: +44 (0)1280 823 803 Fax: +44 (0)1280 823 595 Email: vbox@racelogic.co.uk
www.vboxautomotive.co.uk

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Base Station Options

There are two variants to suit different accuracy requirements:

Option 1
DGNSS DGPS Base Station (RLVBBS4)

- GPS only
- Correction message in RTCM type 1 & 3, and RACELOGIC proprietary (20cm)

Option 2
DGNSS RTK Base Station (RLVBBS4RG)

- GPS + GLONASS + RTK
- Correction message in RTCM type 1 & 3, CMR, RTCMV3 and RACELOGIC proprietary (2cm)

Specifications

Inputs	Power	Power can be obtained either from the internal battery supply or from an external source via a front panel (using the supplied mains power supply, or via an external waterproofed connector from a suitable 8-30v DC supply).
	GPS/ GLONASS Antenna	Connects to the Base Station via screw-on TNC connectors and must be placed in a position away from any other obstacles that could cause satellite signals to be blocked or reflected. Wherever possible, place the GPS antenna and tripod (needs to be ordered separately) at the highest available spot to ensure the best un-affected satellite reception.
Outputs	Data format	Depending on Base Station option
	Radio Antenna	None included. Variety of radios available depending on country and range requirements: please see radios info sheet or contact RACELOGIC.
Memory	GPS Position	25 Locations

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Temperature	Power
• Storage: -40°C to +50°C • Operating: 0°C to +45°C • Battery fast charge: 10°C to +50°C	• Battery life: Up to 18hr (depending on radios) • Input voltage range: 8-30 Volts • Input current operating and ... charging @19V: 2.25 Amps not charging @19V: <0.5 Amps
Radio Modems	**Memory**
• Frequency – Europe: 868 MHz • Frequency – All other countries: 915 MHz • Frequency – Satel: 430 MHz • Frequency - 2.4 GHz	• GPS position: 25 location
RTCM Messages Rate	**CMR Message Rate (VBBS4RG only)**
• Type 1 – Differential GPS Corrections: 1 Second • Type 3 – GPS Reference Station Parameters: 10 Second • Type 31 – Differential GLONASS Corrections (VBBS4RG only): 1 Second • Type 32 – GLONASS Reference Station Parameters (VBBS4RG only): 10 Second	• Type 0 – GPS Measurements: 1 Second • Type 1 – Reference Station Coordinates: 10 Second • Type 3 – GLONASS Measurements: 1 Second

Package Contents

Description	Product Code
Option 1	***RLVBBS4***
Base Station unit	VBBS4
GPS Ground plane antenna with 3 m cable	RLACS194
Battery charger / Mains supply	

Description	Product Code
Option 2	***RLVBBS4RG***
Base Station unit	VBBS4RG
GPS / GLONASS antenna with 3 m cable	RLVBACS068
Battery charger / Mains supply	