

Differential Base Station

(RLVBBS5)



The RACELOGIC DGNSS RTK 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 roving unit used, position accuracies of up to 2 cm* are available.



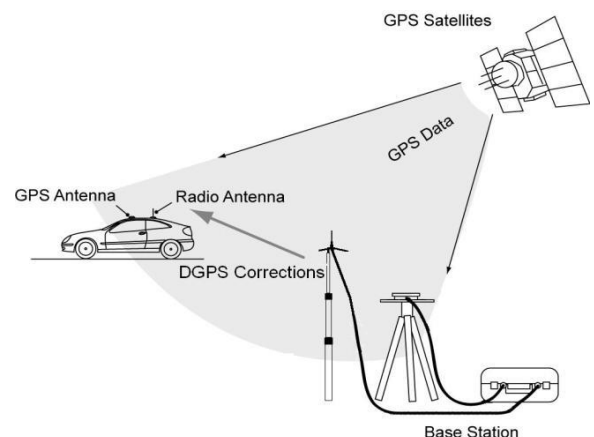
Features

- Survey grade GPS/GLONASS receiver with L1/ L2
- Up to 2 cm* accuracy
- 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.



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Output Messages

RTCM Rev3

Type	Description	Rate
1004	Extended L1&L2 GPS RTK Observables for GPS RTK Use	1 s
1012	Extended L1&L2 GLONASS RTK Observables	1 s
1006	Stationary RTK Reference Station ARP plus the Antenna Height	10 s
1008	Antenna Descriptor and Serial Number	10 s

RTCM

Type	Description	Rate
1	Differential GPS corrections	1 s
3	GPS Reference Station Parameters	10 s
31	Differential GLONASS corrections	1 s
32	GLONASS Reference Station parameters	10 s

CMR

Type	Description	Rate
0	GPS measurements	1 s
1	Reference Station coordinates	10 s
3	GLONASS measurements	1 s

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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 8-30 V 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 antenna and tripod (needs to be ordered separately) at the highest available spot to ensure the best un-affected satellite reception.

Outputs

Radio Antenna	None included. Variety of radios available depending on country and range requirements: please see radios info sheet or contact RACELOGIC.
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Specifications

Temperature	Power
<ul style="list-style-type: none">Storage: -40°C to +50°COperating: 0°C to +45°CBattery fast charge: 10°C to +50°C	<ul style="list-style-type: none">Battery life: Up to 18hr (depending on radios)Input voltage range: 8-30 VoltsInput current operating and ... charging @19 V: 2.25 Amps not charging @19 V: <0.5 Amps
Radio Modems	Memory
<ul style="list-style-type: none">Frequency – Europe: 868 MHzFrequency – All other countries: 915 MHzFrequency – Satel: 430 MHzFrequency - 2.4 GHz	<ul style="list-style-type: none">GPS position: 25 location

Package Contents

Description	Product Code
Base Station unit	VBBS5
GPS/GLONASS antenna with 3 m cable	RAC001-17007 (RLCAB101-3)
Battery charger / Mains supply	