

# RT-Base GNSS Base Station

## Features

- 45cm DGPS Corrections
- 20cm L1 Corrections
- 2cm L2 Corrections
- RTCA, RTCA2 and RTCM V3 Corrections
- Integral 10h Battery
- Integral Charger
- Integral Mains PSU
- Integral Radio Modem
- 450MHz Band
- Error Correcting Transmission
- Save/Restore Antenna Position
- Multi-path Rejecting GPS Antenna
- IP65 Rated Case

## Compatibility

- RT2002, RT2004
- RT3000
- RT4000

Oxford Technical Solutions  
77 Heyford Park  
Upper Heyford  
Oxfordshire  
OX25 5HD  
England

Tel: +44 1869 238 015  
Fax: +44 1869 238 016  
<http://www.oxts.co.uk>  
<mailto:info@oxts.com>

# RT-Base GNSS Base Station



The RT-Base is a portable GNSS Base Station capable of providing Differential Corrections for Differential GPS and GLONASS Receivers.

The RT-Base can be used with the RT products to give up to 2cm positioning accuracy.

One RT-Base unit can be used to correct multiple DGPS systems. Additional Remote Radio Modems can be purchased for each mobile DGPS system.

## Fast To Install

The RT-Base has been designed with installation speed in mind. Simply connect the GPS Antenna and the Radio Modem Aerial; then turn on. The unit can start transmitting corrections in under 2 minutes with a known location or under

5 minutes if the position needs to be averaged.

Training for operators is also minimal. Instructions are printed on the inside of the RT-Base unit and a Quick Guide is provided to make the operation easy.

## Integral Battery

The RT-Base includes a 10 hour battery for all-day operation. A 12-volt input is provided for an external battery if required.

An internal mains charger can charge the RT-Base's battery in 2 hours. The internal power supply can be used to run the system if mains power is available.

## Multipath Rejection

The RT-Base uses Pulse-Aperture Correlator Technology to minimise the effects of multipath.

The GPS-700 Pin-Wheel Technology Antenna includes a ground-plane to minimise ground surface multi-path and reflections.



Qty	RT-Base components with SATEL radio
1	RT-Base Unit
1	GPS-C006 15m GPS Antenna Cable
1	GPS-702-GG GPS Antenna
1	SATEL Sateline-3ASd Radio Modem
2	Radio Modem Aerial/Antenna with 3m cable
1	Lightweight Tripod
1	IEC Mains Cable
1	77C0002B Power Cable
1	Internal Radio Link – fit to use internal radio
1	RT-Base User Manual
1	RT-Base Quick Guide

Note 1: Different radios are required for operation in different countries

Parameter	RT-Base Specifications
Mains Power	110-240 V AC. 50-60Hz. 3A Max.
Battery	12V, 7Ah, Sealed Lead-Acid
Charge Time	2 hours
Operating Time	> 10 hours
Operating Temperature	0 to 50°C
Charge Temperature	10 to 40°C
Environment	IP65 – with lid closed
Relative Humidity	95%, non-condensing
Corrections	RTCA, RTCA2, RTCM V3
Frequency	1 Hz
Format	RS232
Dimensions	486 x 392 x 192 mm
Weight	12.6 kg



The RT-Base includes a Remote Radio Modem and Antenna for use on the vehicle. The Radio Modem in the RT-Base will be factory configured for use in a particular country or territory.



For correct operation of the RT-Base it is essential to locate the GPS antenna in a location where it has a full view of the sky, down to an elevation of 10 degrees in all directions. It must also be away from reflective objects, like buildings and trees.

### Radio Modem

The RT-Base includes an internal radio modem. Several options are available so that the RT-Base can be used without a license in many countries.

Advanced Error Correcting Codes are used in the Radio Modem's communication to enhance reliability and minimise the number of corrupt packets.

The Radio Modem provides reliable transmission over a 2km range in an open environment. Since some packets

can be dropped or have errors, the Radio Modem can be used up to a range of 5km in open environments.

### IP65 Rugged Case

When the lid is closed the RT-Base has IP65 ingress protection, making it suitable for use in all weathers.

The RT-Base is mounted in a rugged ultra high impact PELI case.

For further information please contact Oxford Technical Solutions or your nearest local agent.

Radio	Details
SATEL	380 - 480 MHz band, up to 1 W, typically 5 km. License free bands available for many European countries. Radio will typically cover 8 bands with 25 kHz channel spacing.
SATEL	869 MHz band, up to 500 mW, typically 2 km. License free across most of European Union.
Freewave	900 MHz band, up to 1 W, typically >10 km. License free in USA, Brazil, Canada.
Futaba	2.4 GHz band, 10 mW, maximum 2 km. License free in Japan.