



RT QUICK START GUIDE

Install, configure, calibrate and analyse.



Install



1 Mount the RT

We recommend using the RT-Strut (with the supplementary retaining strap system) in the centre of the rear footwells, or horizontally in the boot (trunk).



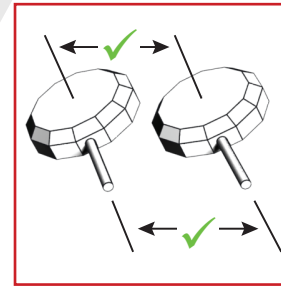
3 Connect the cables

Plug in the main user cable to the device and connect antenna cables. The primary antenna should be the one closest to the device.



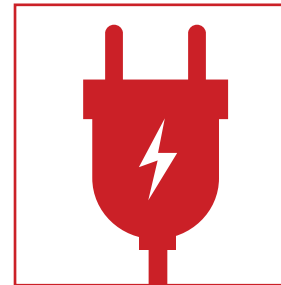
5 Setup IP connection to device

Ensure your PC's IP address settings enable you to connect via Ethernet, so you can move to configuration.



2 Position the antenna(s)

Mount the antenna(s) on the roof, at least 20cm from the roof edge, or using the Dual Antenna Roof Mount. Make sure they are at least 1m apart and the cables exit in the same direction.



4 Supply power

We recommend using a UPS or dedicated battery to supply power. Your device will then be visible in NAVsuite when trying to connect.

Configure



New configuration

Follow a step-by-step guide to create a new configuration

1 Open NAVconfig and select "New Configuration"

Read Configuration
Choose where the initial settings should be read from.

Use default settings (some settings may be locked)
 Read settings from a device

Select the product type you want to configure.

All RT3000 models

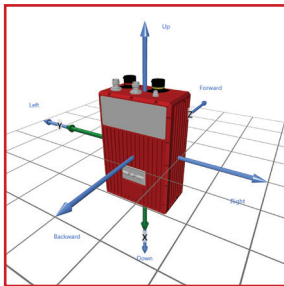
Version
 v.1
 v.2
 v.3

What type of vehicle is the device being installed in?

Unspecified
 Land
 Aerial (fixed wing)
 Aerial (rotary wing)
 Marine

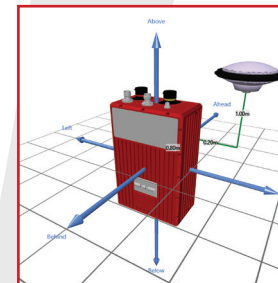
2 Read existing configuration or use default settings

Select your device and the type of vehicle.



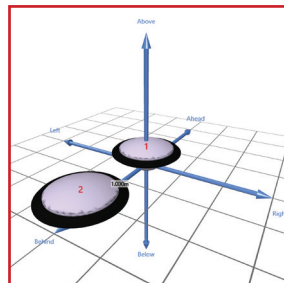
3 IMU orientation

Set the Y&Z axes of the device within the vehicle.



4 Primary antenna

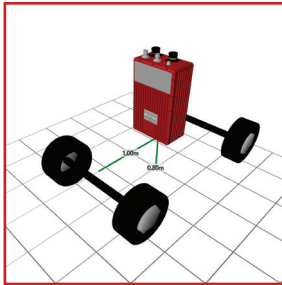
Measure the antenna's distance from the RT along the three vehicle axes.



5 Secondary antenna

Enable, if mounted, and measure the distance from the primary antenna.

Configure



6 Lateral and vertical no-slip

Input the distances of the steered and non-steered axles to the device.

Hardware Setup
Position the device and the antennas, then input the measurements here. Review the settings on this page and click Next when ready.

IMU orientation | Primary Antenna | Secondary Antenna | Lateral No-slip | Vertical No-slip | GNSS Differential Corrections

Configure GNSS differential corrections.

Correction format:
 Enable NTRIP
 Use internal client

Serial port settings (radio modem):
 9600,N,8,1

Base Station datum:
 WGS84

Networked DGPS (WLAN)
 Disabled

SBAS:
 None

TerraStar corrections
 Satellite Selection:
 Disabled
 Satellite:
 Advanced settings

7 GNSS corrections

Use the default settings, which work with our base stations, or change to match your own.

Interfaces
Configure the correct interfaces for your device. Review the settings on this page and click Next when ready.

Ethernet | WiFi | CAN Output | CAN Acquisition | Serial I/O Output | Analogue | I2C / Triggers

Configure settings for the CAN bus.

Enable CAN interface
 CAN version:
 CAN-ID:
 Show Identifier in hexadecimal
 Flexible data rate
 Nominal bit rate:
 Data bit rate:
 Sample points
 Nominal bit rate sample point:
 Data bit rate sample point:

Navigation and Status message modifiers

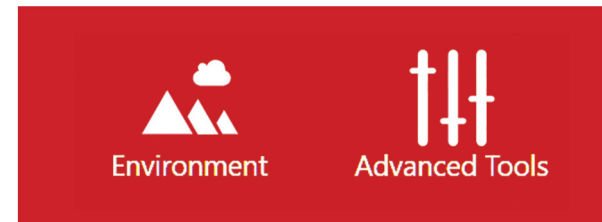
Channel	Message	Enabled	Identifier	Data rate	Comment
00	ClearTime	<input checked="" type="checkbox"/>	1536	100 Hz	Date and time.
01	Latitude,Longitude	<input checked="" type="checkbox"/>	1537	100 Hz	Latitude and longitude.
02	Altitude	<input checked="" type="checkbox"/>	1538	100 Hz	Altitude.
03	Velocity	<input checked="" type="checkbox"/>	1539	100 Hz	OXTS NED frame velocity.
04	VelocityLevel	<input checked="" type="checkbox"/>	1540	100 Hz	OXTS horizontal frame velocity.

Signal Factor Offset Min-value Max-value Units Comment

Export CSV: CAN messages per second Current: 2800 Suggested maximum: 14424

8 Modify 'Interface' settings

Configure your CAN output and acquisition settings, using CAN 2.0 or CAN-FD.



9 Use default settings

In the 'Environment' and 'Advanced Tools' for a quick start.

Write Configuration
Save the current configuration to a device.

Select the device you want to configure
 [195.0.0.21 (RT3000)]

Device reset
 Save changes and reset device
 Configuration changes will take effect immediately after the reset but the device will require a warm-up.
 Automatically launch NAVdisplay with warm-up template after device reset

Save changes only
 Configuration changes will be saved but will only take effect the next time the device is reset or power-cycled.

Ignore compatibility check failures and proceed with commit (not recommended)

- ✓ Checking device compatibility
- ✓ Uploading configuration to device
- ✓ Sending reset command to device
- ⌚ Waiting for device reset
- ✓ Verifying device configuration

Dev ID: 190827.14gc
 Waiting for device reset

10 Write the configuration to your device

Select the correct IP for your unit and click commit. Once complete, save and finish your configuration.



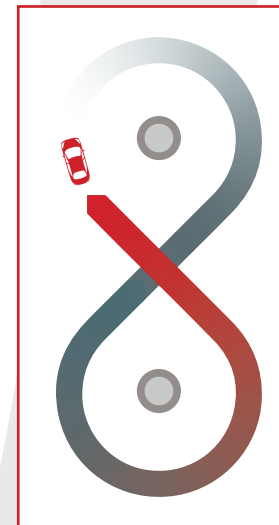
Calibrate/Warm-up

Use the 'Warm up' template in NAVdisplay to help visualise your calibration



1 Initialise

Drive in a straight line, accelerating through the set initialisation speed. The default is 5m/s (18km/h).



2 Figures of 8

Complete several figure of eight manoeuvres in your vehicle, braking into turns and accelerating out.



3 Decreasing circles

Drive in a circle at a fixed speed, and decrease the radius of your turns in both clockwise and anti-clockwise directions.

Calibrate/Warm-up



4 Slaloms

Complete a few slaloms, with short sharp turns.



5 Acceleration and braking

Apply hard acceleration and hard braking in a straight line, until at a complete stop (do not stall).

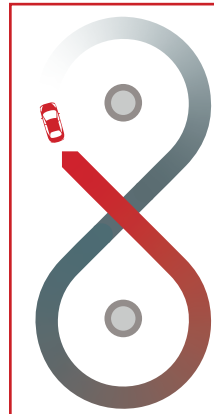


Improve configuration

Improve settings after a warm-up

6 Commit settings to your device

Use NAVconfig and select "Improve Configuration" to apply the improved settings from your calibration to the device.



7 Re-initialise and complete quick warm up

Repeat steps 2 and 3. Use NAVdisplay to check required performance level is reached.



Analyse

Files are automatically saved internally from GPS start time, as YYMMDD_hhmmss.rd



1 Open NAVsolve and select your device

2 Select the desired file in preview

3 Process your file

Selecting whether you want simulated, forward, backwards or combined, amend other settings and click "Process".

4 Export your data

Configure the file format for your desired output and click "Export".

Need further assistance?

Go the support website:
support.oxts.com

Or get in touch if you
can't find what you need:
support@oxts.com
+44(0)1869814251



If you have feedback, let us know by scanning this QR code and completing a short form.

