

GeoMax ZGP800 – RTK Radio and Base Setup

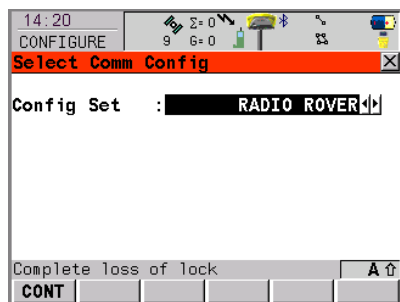
Setting up the ZGP800 with a radio to use as RTK can be easy, if you know how! Below are instructions regarding the configuration of the ZGP800C controller to devices (ZGP800A GPS antenna and ZRT100 radio) to carry out general RTK surveying.

Also provided is a couple of pointers on how to find and fix issues that you may have.

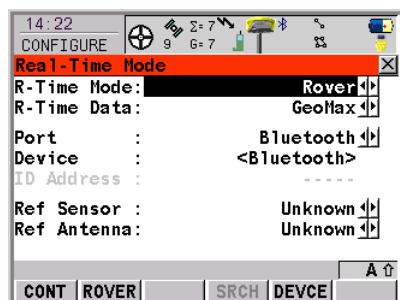
Devices may be configured to the ZGP800C via cables or using a Bluetooth connection. This document will concentrate on using Bluetooth. Once the ZGP800C is configured these settings will stay until configuration is changed. i.e. the Bluetooth will connect automatically to the antenna once turned on.

(1) Setting the configuration set and radio device

From the main menu go to 5 Config > 4 Comm Config and select "RADIO ROVER" from the list of **Config Sets** and press **F1 CONT**.



In the "Interfaces" panel select "Real Time" and press **F3 EDIT**.

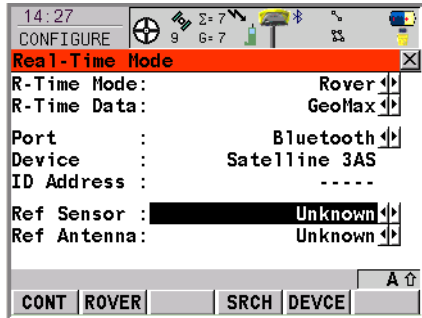


First of all make sure you have the following settings...

R-Time Mode: Rover
R-Time Data: GeoMax
Port: Bluetooth
Ref Sensor: Unknown

Antenna: Unknown

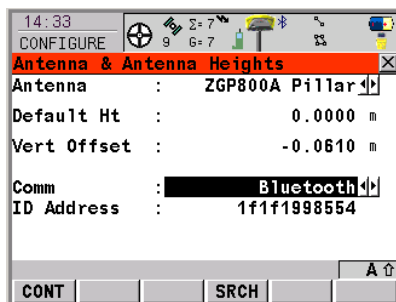
Now you will need to connect the ZRT100 to the ZGP800c controller via bluetooth. Select **F5 DEVCE** and from the list choose the "Radios" tab and select "Satellite 3AS". Press **F1 CONT** to select this device. You will then see it in the "Device" field. Now do a Bluetooth search by pressing **F4 SRCH**. Select the ZTR100 you are going to use and press **F1 CONT**. Your Real-Time Mode panel should look like this (ID Address should be populated)...



Press **F1 CONT** to continue. You will get a message line saying that the Bluetooth connection is OK. In the interfaces panel select **F4 CTRL** to set the radio channel you want. From the interfaces panel press **F1 CONT** to continue...

(2) Rover Antenna Connection

The next thing to do is connect the rover ZGP800a antenna. From the main menu go into 5 Config > 2 Instr. Config > 1 Antenna. Here you will need to set the "Comm" to Bluetooth and press **F4 SRCH** and select the ZGP800a antenna from the list.

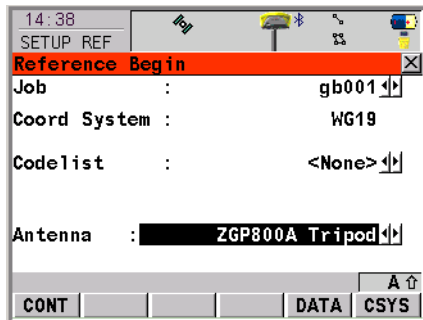


Once you have select the antenna press **F1 CONT** to accept the antenna and return the main menu. This antenna connection is only for the "rover" GPS antenna – this antenna is connected permanently to the ZGP800C. The reference antenna is configured in the "Setup Reference" Program.

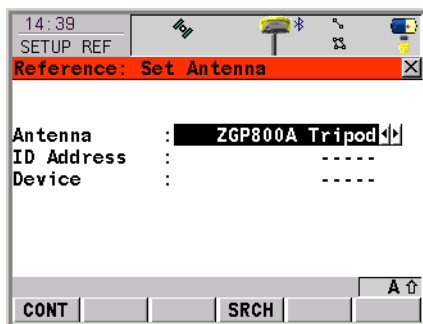
Now your rover is ready! You can now configure your base station.

(3) Base Station Setup

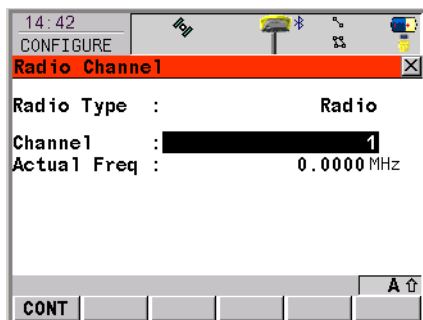
From the Main menu go into 1 Programs > 2 Setup Reference. This is a step-by-step wizard to configure your base station. Select your job and select the correct antenna type. Press **F1 CONT** to continue.



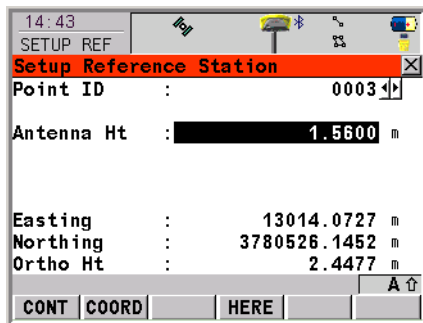
Now you will have to do a Bluetooth search (**F4 SRCH**) to select the base antenna. Once you have found the correct antenna press **F1 CONT** and the base station Bluetooth will be established. Note: Your rover antenna connection should not be affected.



Next you will have to define the radio channel. Select the same channel number as you have already set on the rover radio.



Once you have selected the correct channel press **F1 CONT** to continue. The next panel you will see in the wizard is the set point panel. Here you can use the "HERE" position or select a point from the job to use as a base point.



Once you have selected your point press **F1 CONT** to continue. The final panel in the wizard is a confirmation panel. You should see the base station's position and the flashing base station "lightning" indicating that it is sending out RTK corrections. Press **F1 FINSH** to finish the wizard, return to the main menu, start receiving RTK corrections and get a fixed position!

Tips for Bluetooth

The status of the Bluetooth connections can be checked by selecting the Bluetooth icon at the top of the screen. This tells you what devices are attached to which port. If they are black then they are currently connected. If they are gray then they are not connected. There are three Bluetooth ports and each one is configured for a particular device.

Port 1: Rover antenna,
Port 2: Reference antenna
Port 3: Bluetooth radio.

Note that the first time you connect to a Bluetooth device it will ask for authentication. The PIN is "0000". If it is the first time connecting to the Bluetooth device it may take a few seconds to complete the connection.

The Bluetooth connections can also be checked checking the Blue LED at the top of the ZRT100 and ZGP800a.

USB cable: If the communication to the antenna is via the USB cable then the 1.2m cable with red markings needs to be attached between the ZGP800C and the ZGP800A. "USB cable" need to be selected in **Instrument Config > Antenna**.

Issues

(A) Reference antenna connected as a rover

If a Bluetooth connection is active on a device then that device will not be visible when searching for a Bluetooth device. Therefore if your ZGP800A is connected as a rover you will not be able to search it as a reference antenna. Turn on the rover antenna and within "Antenna Configuration" for the rover establish the connection to the correct antenna.

It is advisable to distinguish each GPS antenna from each other, by writing the serial number in a visibly on the casing.

If you are carrying out a lot of RTK surveys then make one antenna the reference antenna and the other the rover antenna. Therefore your rover Bluetooth connection is always configured to the correct antenna – save time configuring.

A ZGP800A set as a reference once turned on will use the previous configured information and send out corrections – this allows the user to set up the reference on the same mark without going through the “Setup Reference” program.

Breaking Bluetooth connections

If you find you can not solve any Bluetooth problems and you want to break all Bluetooth connection you can do this in the Windows “Bluetooth Manager”. Minimise the ZGP800 software **Main Menu –Shift- MIN** and then open the **“Bluetooth Manager”** from the **“Control Panel”**. Select each of the “Trusted” Bluetooth connections and move them to the “Untrusted” folder. Then press “ok”.

All Bluetooth connections will now have to be setup again. This includes Bluetooth authentication

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