



- when it has to be right

Leica
Geosystems

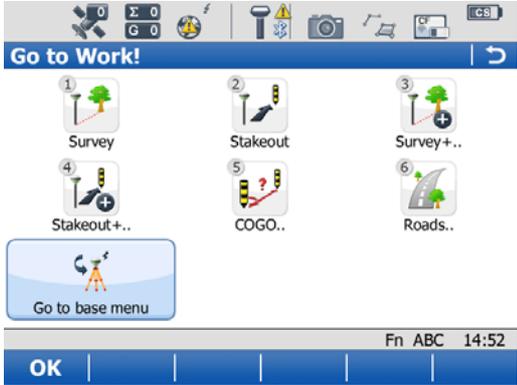
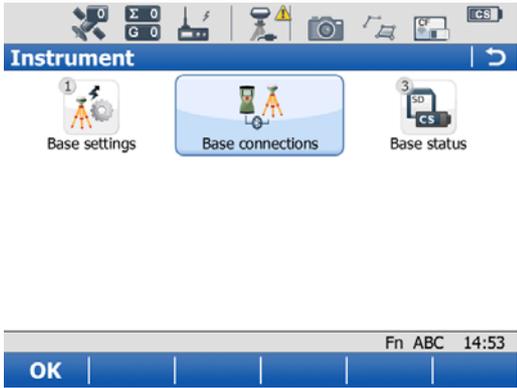
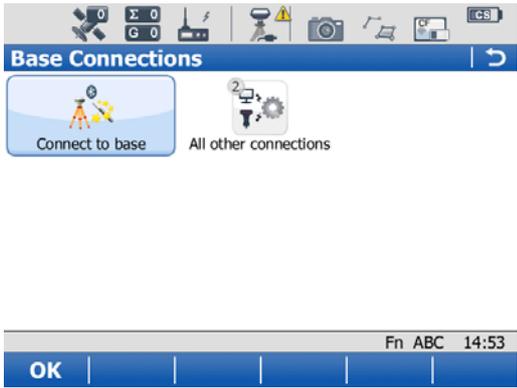
Leica Viva Quick Guide Leica Viva: GS15 Base and Rover Set up

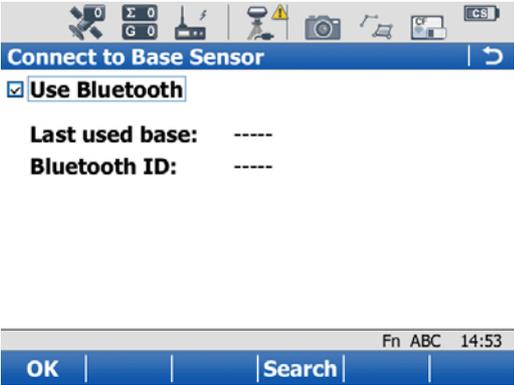
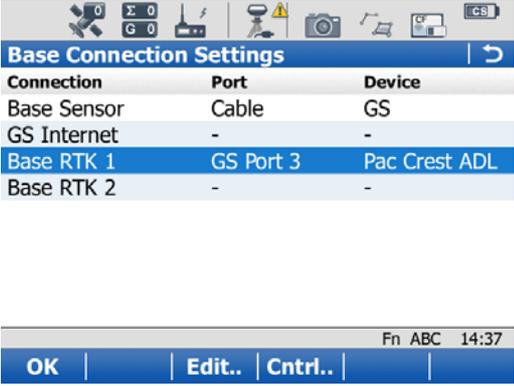


This guide will go through the necessary steps to configure GS15's to be used with Pacific Crest ADL radios, as a reference and rover RTK set up, using one CS10/CS15 and making use of the Rover and Base Worlds.

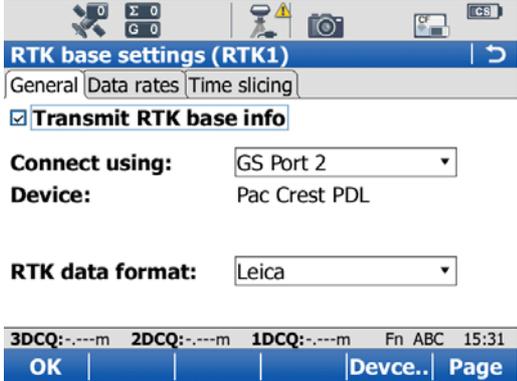
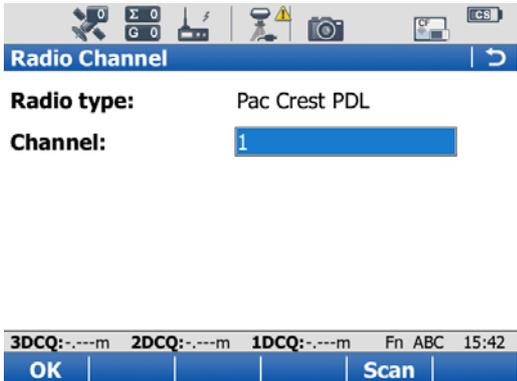
1. Configuring the Base Sensor for Pacific Crest PDL or ADL Radios.
2. Starting the Base, recording Static Data at the Base and Base Status messages.
3. Configuring the Rover Sensor.

- Leica Viva Quick Guide
 - Leica GS15 Base and Rover Setup - Configuring the Base Sensor

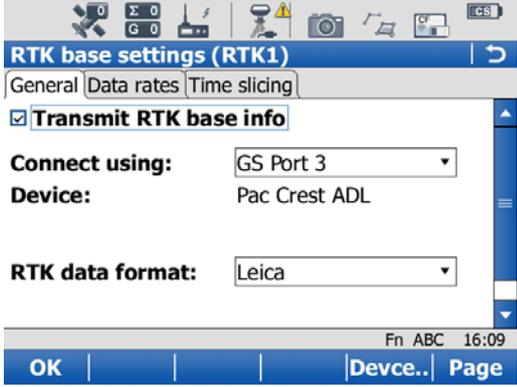
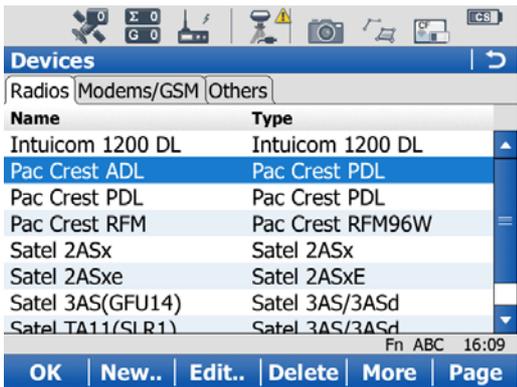
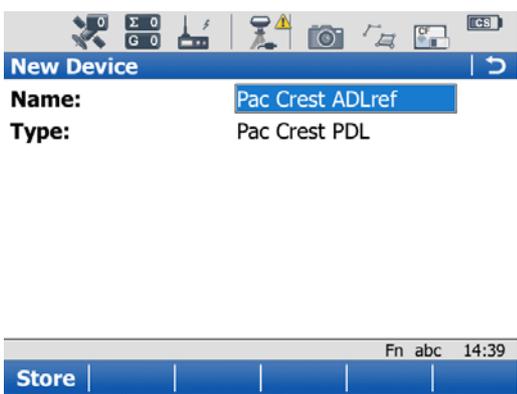
Step	Instruction	Screenshots
1.1	Position the GS15 to be used as the base sensor, and switch it on. If you wish to use a GEB171 battery, connect it to P1 on the underside. Switch on the CS15, and from the main menu go to  then to the base menu	
1.2	Press  Instrument , then Base Connections .	
1.3	If you are connecting to the Base GS15 using a cable, or the Bluetooth pairing has already been set up, then go straight to Step 1.5 . If you are connecting to the GS15 via Bluetooth for the first time, then a Bluetooth pairing will need to be set up. Use the Connect to base button.	

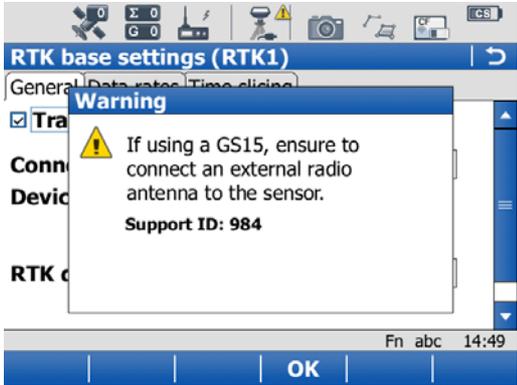
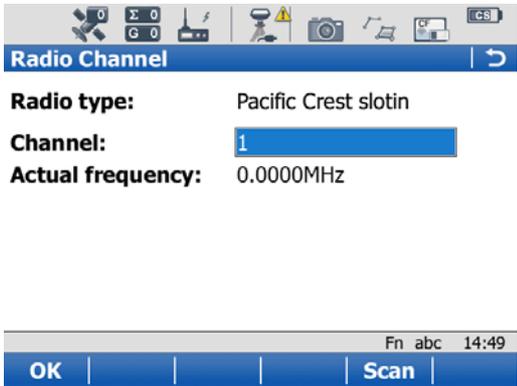
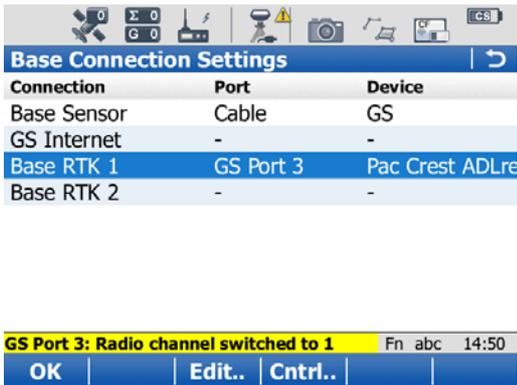
Step	Instruction	Screenshots															
1.4	<p>Make sure that Use Bluetooth is ticked, and that no other GS15s other than the reference/base one is switched on and press F4 Search.</p> <p>A list of available Bluetooth devices will be shown. You'll recognise the GS15 by the name, which includes the serial number, found on the base of the GS15.</p> <p>Select the GS15 and press OK. The pairing will be carried out automatically, and the Bluetooth LEDs on the CS15 and the GS15 will turn from green to blue.</p> <p>Press Finish to end the Wizard</p>																
1.5	<p>From the Base Main Menu, use the following buttons to access the All Other Connections Screen.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid gray; padding: 5px; text-align: center;">  Instrument Base settings Connections & status </div> <div style="border: 1px solid gray; padding: 5px; text-align: center;">  Base connections </div> </div> <div style="border: 1px solid gray; padding: 5px; text-align: center; margin-top: 10px;">  All other connections </div> <p>If using a blue PDL base radio, go to step 1.6</p> <p>If using the ADL radio slotted into the GS15, go to step 1.9</p>	 <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Connection</th> <th>Port</th> <th>Device</th> </tr> </thead> <tbody> <tr> <td>Base Sensor</td> <td>Cable</td> <td>GS</td> </tr> <tr> <td>GS Internet</td> <td>-</td> <td>-</td> </tr> <tr> <td>Base RTK 1</td> <td>GS Port 3</td> <td>Pac Crest ADL</td> </tr> <tr> <td>Base RTK 2</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	Connection	Port	Device	Base Sensor	Cable	GS	GS Internet	-	-	Base RTK 1	GS Port 3	Pac Crest ADL	Base RTK 2	-	-
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Base RTK 2	-	-															

- Leica Viva Quick Guide
 - Leica GS15 Base and Rover Setup - Configuring for PacCrest Blue PDL Radio

Step	Instruction	Screenshots																		
1.6	<p>Make sure the blue PDL base radio is connected to P2 on the underside of the GS15.</p> <p>Tick the Transmit RTK base info box, select GS Port 2 for Connect using, and RTK Data Format to be Leica. Then press F5 Device.</p>	 <p>RTK base settings (RTK1)</p> <p>General Data rates Time slicing</p> <p><input checked="" type="checkbox"/> Transmit RTK base info</p> <p>Connect using: GS Port 2</p> <p>Device: Pac Crest PDL</p> <p>RTK data format: Leica</p> <p>3DCQ:----m 2DCQ:----m 1DCQ:----m Fn ABC 15:31</p> <p>OK Device.. Page</p>																		
1.7	<p>Go to the Radios tab, select Pac Crest PDL from the list and press OK twice to return to the Base Connections page.</p>	 <p>Devices</p> <p>Radios Modems/GSM Others</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> </tr> </thead> <tbody> <tr><td>Int. Radio</td><td>Internal radio</td></tr> <tr><td>Intuicom 1200 DL</td><td>Intuicom 1200 DL</td></tr> <tr><td>Pac Crest ADL</td><td>Pac Crest ADL</td></tr> <tr><td>Pac Crest ADLref</td><td>Pac Crest ADL</td></tr> <tr><td>Pac Crest PDL</td><td>Pac Crest PDL</td></tr> <tr><td>Pac Crest RFM</td><td>Pac Crest RFM96W</td></tr> <tr><td>Satel 2ASx</td><td>Satel 2ASx</td></tr> <tr><td>Satel 2ASy</td><td>Satel 2ASyF</td></tr> </tbody> </table> <p>3DCQ:----m 2DCQ:----m 1DCQ:----m Fn ABC 15:31</p> <p>OK New.. Edit.. Delete More Page</p>	Name	Type	Int. Radio	Internal radio	Intuicom 1200 DL	Intuicom 1200 DL	Pac Crest ADL	Pac Crest ADL	Pac Crest ADLref	Pac Crest ADL	Pac Crest PDL	Pac Crest PDL	Pac Crest RFM	Pac Crest RFM96W	Satel 2ASx	Satel 2ASx	Satel 2ASy	Satel 2ASyF
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1.8	<p>Press F4 Ctrl to select the radio channel to use. Alternatively, on the radio itself, press the Channel button until the desired channel number is displayed. Press OK until you are back at the Base Menu.</p> <p>Note: The channel numbers on the blue PDL radio start at '0', whereas the channel numbers on the slot-in Rover ADL radio start at '1'. Ensure that the channel number selected on the rover ADL radio is ONE HIGHER than that selected on the base PDL.</p>	 <p>Radio Channel</p> <p>Radio type: Pac Crest PDL</p> <p>Channel: 1</p> <p>3DCQ:----m 2DCQ:----m 1DCQ:----m Fn ABC 15:42</p> <p>OK Scan</p>																		

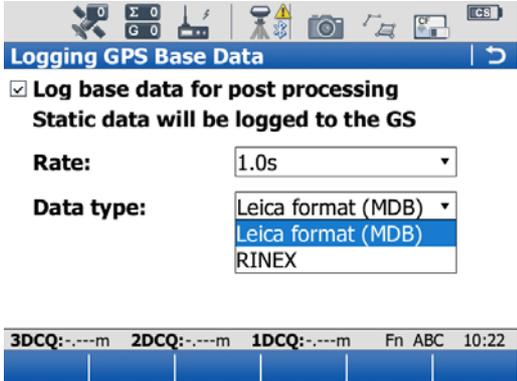
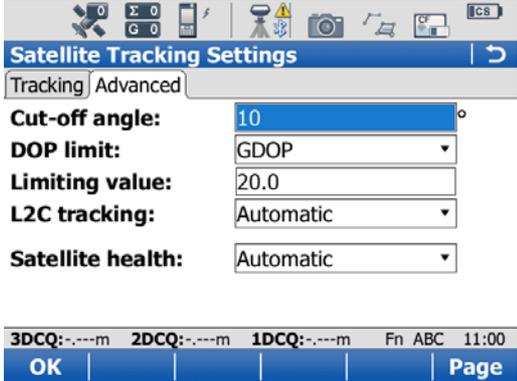
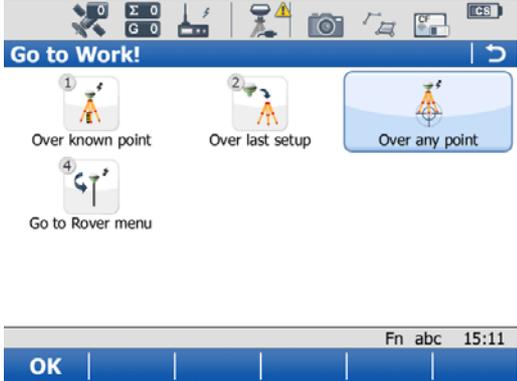
- Leica Viva Quick Guide
 - Leica GS15 Base and Rover Setup – Configuring for PacCrest ADL Base Radio

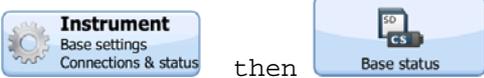
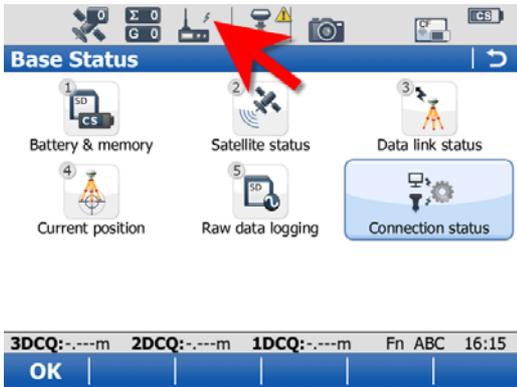
Step	Instruction	Screenshots
1.9	Tick the Transmit RTK base info box, select GS Port 3 for Connect using , and RTK Data Format to be Leica . Then press F5 Device .	
1.10	Highlight the device Pac Crest ADL in the Radios tab. Because the reference and rover configuration have to use differently named devices, we will create a copy of this device to use for the reference. Press F2 New .	
1.11	Type a new name as shown, press Store , then OK . Press OK again.	

Step	Instruction	Screenshots															
1.12	The following warning will show, reminding you to have the external radio antenna attached to the GS15. This is a push fit on the middle connection on the underside of the GS15. Press OK .																
1.13	Now press F4 Cntrl . Note the radio channel number. The rover radio will need to be set to the same channel number later. Press OK .																
1.14	Press OK until you are back at the Base Menu.	 <table border="1" data-bbox="852 1384 1369 1512"> <thead> <tr> <th>Connection</th> <th>Port</th> <th>Device</th> </tr> </thead> <tbody> <tr> <td>Base Sensor</td> <td>Cable</td> <td>GS</td> </tr> <tr> <td>GS Internet</td> <td>-</td> <td>-</td> </tr> <tr> <td>Base RTK 1</td> <td>GS Port 3</td> <td>Pac Crest ADLre</td> </tr> <tr> <td>Base RTK 2</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	Connection	Port	Device	Base Sensor	Cable	GS	GS Internet	-	-	Base RTK 1	GS Port 3	Pac Crest ADLre	Base RTK 2	-	-
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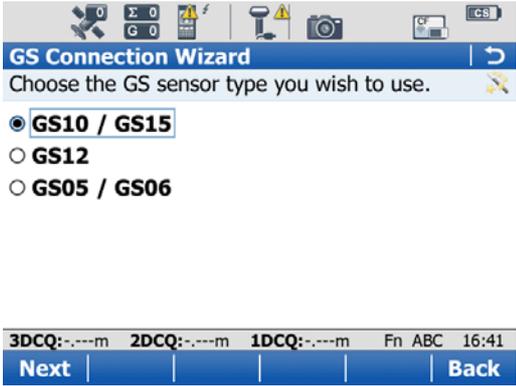
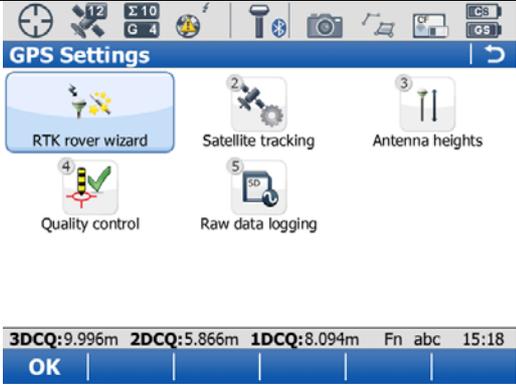
- Leica Viva Quick Guide

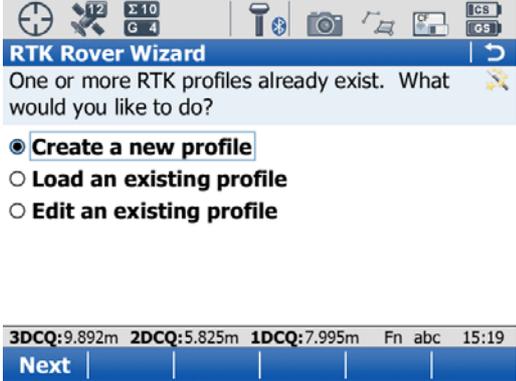
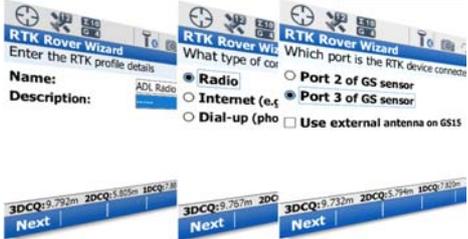
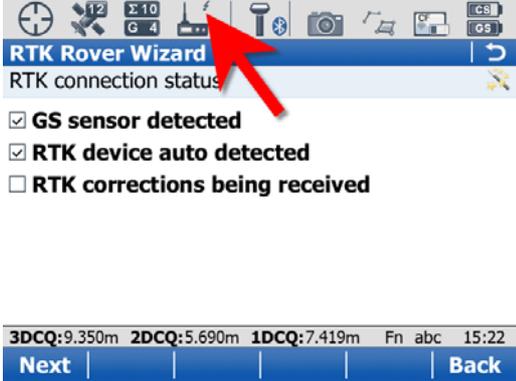
- Leica GS15 Starting the Base, Recording Static Data & Base Status Messages

Step	Instruction	Screenshots
2.1	<p>To log static data while the base is running, insert an SD card into the slot in battery compartment 1 of the GS15.</p> <p>Press  Instrument Base settings Connections & status then  then .</p> <p>Tick the box, select the required data rate and data type to be stored.</p>	 <p>The screenshot shows the 'Logging GPS Base Data' screen. A checkbox is checked for 'Log base data for post processing', with the note 'Static data will be logged to the GS'. The 'Rate' is set to '1.0s' and the 'Data type' is set to 'Leica format (MDB)'. The bottom status bar shows '3DCQ:--m 2DCQ:--m 1DCQ:--m Fn ABC 10:22'.</p>
2.2	<p>If you want the data collection to pause if a certain DOP value is exceeded, then go to the Advanced tab in .</p>	 <p>The screenshot shows the 'Satellite Tracking Settings' screen, with the 'Advanced' tab selected. Settings include: 'Cut-off angle' set to 10, 'DOP limit' set to GDOP, 'Limiting value' set to 20.0, 'L2C tracking' set to Automatic, and 'Satellite health' set to Automatic. The bottom status bar shows '3DCQ:--m 2DCQ:--m 1DCQ:--m Fn ABC 11:00' and 'OK Page'.</p>
2.3	<p>To start the base running, press .</p> <ul style="list-style-type: none"> If you already have coordinates for your base point, either noted down or stored in the current selected job, use Over known point. If you are returning to the previous used position, use Over last setup. If you are setting up over a point with unknown co-ordinates, use Over any point. <p>Follow the wizard for your chosen method. Make sure you have the correct antenna type selected.</p>	 <p>The screenshot shows the 'Go to Work!' screen with four options: 'Over known point', 'Over last setup', 'Over any point', and 'Go to Rover menu'. The bottom status bar shows 'Fn abc 15:11' and 'OK'.</p>

Step	Instruction	Screenshots
2.4	<p>At the end of the wizard for your chosen method, you will be prompted to stay in the Base menu or return to the Rover menu, and the lightning strike (arrowed) will be pulsing to indicate that corrections are being transmitted.</p> <p>If you wish to check the status of the Base, then select Base. Press</p>  <p>then</p>  <p>and select the option you wish to check.</p>	
2.5	<p>When you are ready to return to the Rover menu, press</p>  <p>then</p>  <p>. The Bluetooth will disconnect from the base GS15, and connect to the rover GS15.</p>	

- Leica Viva Quick Guide
 - Leica GS15 Configuring the Rover Sensor

Step	Instruction	Screenshots
<p>3.1</p>	<p>If the CS15 Bluetooth connects to the rover GS15, then the Bluetooth pairing has already been set up.</p> <p>Go straight to Step 3.3.</p> <p>If you are connecting to the GS15 via Bluetooth for the first time, then a Bluetooth pairing will need to be set up. Press ,</p> <p>Then , then .</p>	
<p>3.2</p>	<p>Select GS10/GS15, then press Next.</p> <p>Make sure that Use Bluetooth is ticked and press F4 Search.</p> <p>A list of available Bluetooth devices will be shown. You'll recognise the GS15 by the name, which includes the serial number, found on the base of the GS15.</p> <p>Select the GS15 and press OK. The pairing will be carried out automatically, and the Bluetooth LEDs on the CS15 and the GS15 will turn from green to blue.</p>	
<p>3.3</p>	<p>You will then need to configure the Rover sensor to receive the corrections. Press  then .</p> <p>Use the RTK Rover Wizard to easily set up the configuration for the ADL Radio</p>	

Step	Instruction	Screenshots
3.4	Create a new profile.	 <p>RTK Rover Wizard One or more RTK profiles already exist. What would you like to do?</p> <ul style="list-style-type: none"> <input checked="" type="radio"/> Create a new profile <input type="radio"/> Load an existing profile <input type="radio"/> Edit an existing profile <p>3DCQ:9.892m 2DCQ:5.825m 1DCQ:7.995m Fn abc 15:19 Next</p>
3.5	Give the profile a name (eg ADL Radio), and a description if desired. Configure the following pages as shown. Tick the Use external antenna on GS15 box if necessary.	 <p>RTK Rover Wizard Enter the RTK profile details</p> <p>Name: ADL Radio Description: ADL Radio</p> <p>RTK Rover Wizard What type of connection do you want to use?</p> <p>Radio <input checked="" type="radio"/> Internet (e.g. Port 3 of GS sensor) <input type="radio"/> Port 2 of GS sensor <input type="radio"/> Dial-up (phone) <input type="checkbox"/> Use external antenna on GS15</p> <p>3DCQ:9.793m 2DCQ:1.185m 1DCQ:1.185m Next</p>
3.6	Select the name of the device as Pac Crest ADL , ensure that the channel number matches that of the Base, or press F5 Scan to find the channel the Base is transmitting on. Set the RTK Data format to be Leica .	 <p>RTK Rover Wizard Which RTK device is being used?</p> <p>Name of device: Pac Crest ADL Channel: 5 Frequency: 458 Press Scan to find a channel RTK data.</p> <p>RTK data format: Leica Sensor at base: Automatically Antenna at base: Automatically <input type="checkbox"/> RTK base has a unique ID</p> <p>3DCQ:11.90m 2DCQ:1.185m 1DCQ:1.185m Next</p>
3.7	Once you have completed the configuration, the connection status page should have all boxes ticked, and the lightning strike will be pulsing. Press next. You will now be ready to survey.	 <p>RTK Rover Wizard RTK connection status</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> GS sensor detected <input checked="" type="checkbox"/> RTK device auto detected <input type="checkbox"/> RTK corrections being received <p>3DCQ:9.350m 2DCQ:5.690m 1DCQ:7.419m Fn abc 15:22 Next Back</p>