

User's Guide for the Nokia Wireless GPS Module (LD-1W)



Part number
Issue 1

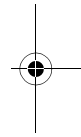
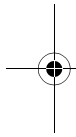


DECLARATION OF CONFORMITY

We, NOKIA CORPORATION, declare under our sole responsibility that the product LD-1W is in conformity with the provisions of the following Council Directive: 1999/5/EC.

A copy of the Declaration of Conformity can be found from http://www.nokia.com/phones/declaration_of_conformity/.

CE 0560



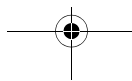
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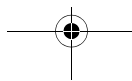
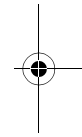
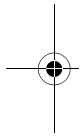


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Part number/Issue 1





Contents



Contents

For your safety 6

1. Introduction 8

Global Positioning System 8

Bluetooth wireless technology 11

Bluetooth passcode 11

External antenna 11

2. Getting started 12

Overview 12

Batteries and chargers 14

Installing the battery 15

Charging the battery 17

Pairing the GPS module with a compatible phone 18

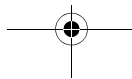
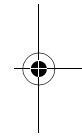
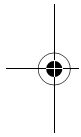
3. Using the GPS module 20

Power key functions 20

Carrying the GPS module 21

Using the GPS module with several paired phones 22

Disconnecting and reconnecting the GPS module 23

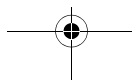
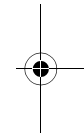
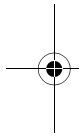




Contents



Resetting the GPS module.....	24
Troubleshooting.....	25
4. Battery information.....	26
Care and maintenance.....	29





For your safety



For your safety

Read these simple guidelines. Breaking the rules may be dangerous or illegal. Further detailed information is given in this user's guide.



ROAD SAFETY COMES FIRST

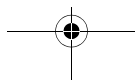
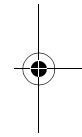
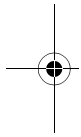
Remember that the safety of operating a motor vehicle in traffic requires the full attention of all motorists. Only use your Nokia Wireless GPS Module (LD-1W) if traffic conditions permit safe use and check if local laws/regulations restrict the use of mobile devices while driving.

When using the GPS module in a mobile environment place it so that it does not disrupt the normal operation of the vehicle. Make sure you fasten the GPS module properly to prevent accidental movement of it.



INTERFERENCE

All wireless devices may be susceptible to interference, which could affect performance.





For your safety



BATTERIES AND CHARGERS

Use only approved batteries and chargers. Do not connect incompatible products.



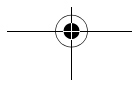
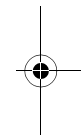
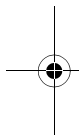
CONNECTING TO OTHER DEVICES

When connecting to any other device, read the relevant user's guide for detailed safety instructions. Do not connect incompatible products.



QUALIFIED SERVICE

Only qualified personnel may repair this device.



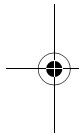


Introduction

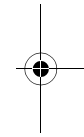


1. Introduction

With the help of the Nokia Wireless GPS Module you can determine your current position and direction easily. The GPS module is a battery operated device that uses Bluetooth technology to communicate positioning information to compatible mobile phones, PCs, PDAs and other devices.

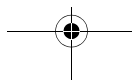


Read this user's guide carefully before using the GPS module. Check also <http://www.nokia.com/support> or your local Nokia Web site for the latest version of this guide, additional information, downloads, and services related to your Nokia product.



■ Global Positioning System

The Global Positioning System (GPS) is a worldwide radio navigation system that includes 24 satellites and their



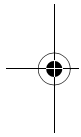


Introduction

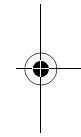


ground stations that monitor the operation of the satellites.

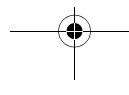
A GPS terminal (such as the Nokia Wireless GPS Module) receives low-power radio signals from the satellites and measures the travel time of the signal. From the travel time, the GPS terminal can calculate its location to the accuracy of +/- 25 metres. In optimal conditions, the accuracy may be within a few metres.



The accuracy can be affected by poor satellite geometry. The more satellites the GPS module can "see", the better the accuracy. The internal antenna of the GPS module, which is located on the same side as the Nokia logo, should be facing upwards for proper functioning. Note also that some car windshields and windows may contain metal, for example, for heat reflection or defogging purposes. This may block or attenuate the satellite signal.



The availability and quality of GPS signals may also be affected by buildings and natural obstacles as well as weather conditions. Therefore, the GPS should not be





Introduction

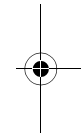
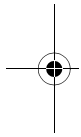


used for precise location measurement, and you should never rely solely on location data from the GPS module.

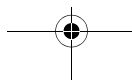
In addition, the GPS determines your direction on the basis of your movement. Therefore, the GPS cannot detect which way you are facing if you are not moving.



Note: The Global Positioning System is operated by the United States government, which is solely responsible for accuracy and maintenance of the system. The accuracy of location data can be affected by adjustments to GPS satellites made by the United States government and is subject to change with the United States Department of Defense civil GPS policy and the Federal Radionavigation Plan.



Warning! This GPS module does not support emergency location service (E911).



Introduction

Bluetooth wireless technology

The Bluetooth technology makes it possible to connect compatible communication devices without using cables. Please refer to the user's guide of your phone for a more detailed description of Bluetooth technology.

Bluetooth passcode

You need a Bluetooth passcode for pairing the GPS module with a compatible device. The passcode is 0000.

External antenna

Sometimes the performance of the GPS module may be unsatisfactory because of nearby obstacles blocking the satellite signals. The performance of the GPS module may be improved by using an external antenna with a male MCX-connector and an input voltage of 3V.

Plug the external antenna into its connector (5) on the GPS module. See Overview starting from page 12.

Getting started

2. Getting started



Note: The use of wireless devices may be restricted in some situations. Observe any restrictions and obey all signs and instructions concerning the use of wireless devices.

■ Overview

The GPS Module contains the following parts:

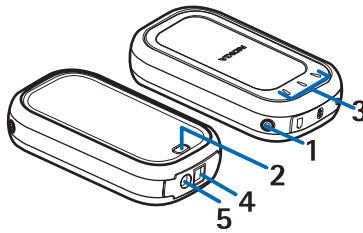
- 1 - **Power on/off key:** Switches the GPS module on and off, or resets the Bluetooth section of the GPS module.
- 2 - **Release button:** Opens the back cover.
- 3 - **Indicator lights:** Display the current status of the GPS module. The indicator lights are red/green, blue and white. Red and green lights indicate the status of the battery and charging, or resetting the module. The blue light indicates an active Bluetooth connection, and the

Getting started

white light shows that the GPS module is receiving satellite data and is able to determine its position.

4 - Connector for a compatible charger

5 - Connector for an external antenna



Before you can start using the GPS module, you must:

- install a compatible software application on the phone,
- charge the battery of the GPS module fully, and
- pair the compatible phone with the GPS module.

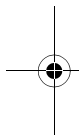


Getting started

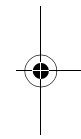


Note also that some Nokia phone models (e.g. 9500 and 9300) have a Location Privacy setting in the Control Panel menu. This setting must be set to "Accept all" in order to provide GPS location data to software applications.

■ Batteries and chargers

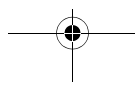


The GPS module has a removable and rechargeable BL-5C battery. If you need to replace the battery, you can purchase a new one from your local dealer.



Check the model number of any charger before using it with this product. The following chargers are intended for use with the GPS module:

- Mains chargers: AC-1, ACP-8, ACP-9, ACP-12
- Mobile chargers: LCH-8, LCH-9, LCH-12.



Getting started

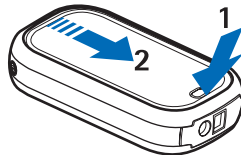


Warning! Use only batteries and chargers approved by Nokia for use with this particular device. The use of any other types will invalidate any approval or warranty, and may be dangerous. For availability of approved batteries and chargers, please check with your local dealer.

■ Installing the battery

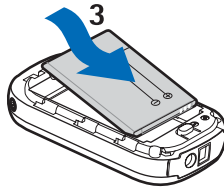
To install the battery:

1. Open the back cover of the GPS module by pressing the release button (1) and sliding the cover downwards (2).

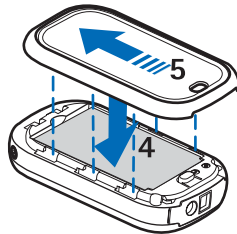


Getting started

2. Insert the battery (3).



3. Close the back cover of the GPS module (4), and slide it upwards until its properly locked into its place (5).



■ Charging the battery

To charge the battery:

1. Plug the charger into its connector (4) on the GPS module. See Overview starting from page 12.
2. Connect the charger to a power outlet. Either the green or red indicator light is blinking during charging depending on whether the GPS module is turned on (green) or off (red).
3. When the battery is fully charged and the power is on, the green light is displayed continuously. When the battery is fully charged and the power is off, the red light stops blinking. Disconnect the charger from the power outlet and the GPS module.



Important: When you disconnect the charger cable of any enhancement, grasp and pull the plug, not the cord.

When the battery is running out of power, the red indicator light on the GPS module starts blinking in sets



Getting started



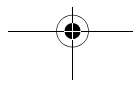
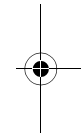
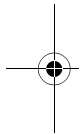
of three every 15 seconds. Charge the battery as described above.

■ Pairing the GPS module with a compatible phone

Before the GPS module can be used it has to be paired with a compatible phone.

To pair the GPS module with a compatible phone:

1. Make sure that the phone is switched on.
2. Switch on the GPS module. Make sure that the battery of the GPS module is charged.
3. Activate the Bluetooth connection from the phone. For more information, see the user's guide of the phone.
4. Set the phone to search for Bluetooth devices as instructed in the user's guide of the phone.
5. Select the GPS module from the list (Nokia LD-1W).



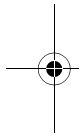


Getting started



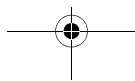
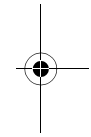
6. Enter the Bluetooth passcode 0000 to pair and connect the GPS module to the phone.

An active Bluetooth connection is displayed by a blue indicator light on the GPS module. The GPS module should now appear in the phone's menu where you can view the Bluetooth devices that are currently paired with the compatible phone.



7. Start using the GPS module (see page 20).

Note also that with some applications you can handle pairing and connecting from the application itself without using the Bluetooth menu.





Using the GPS module



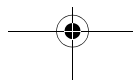
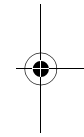
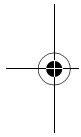
3. Using the GPS module

■ Power key functions

The GPS module has one function key: **power on/off**. However, the key has three different functions:

- one-second key press to switch unit power on and off
- ten-second key press to reset the unit
- short key press to check the unit status in night mode.

In some applications, the GPS module can be set into night mode from the mobile phone. In night mode, the indicator lights are always off when the power is on, the Bluetooth connection active, and the GPS module can determine its position. In the night mode, the status of the GPS module can be checked by shortly pressing the power key, whereby the indicator lights appear briefly.

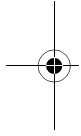




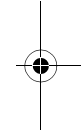
Using the GPS module



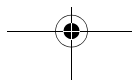
When you turn the GPS module on, it takes some time for the device to position itself. This time varies depending on how long the GPS module has been turned off, and how well it can receive the satellite signals. This time is also longer if the battery has been removed. In optimal conditions, this start-up positioning takes about one minute.



■ Carrying the GPS module

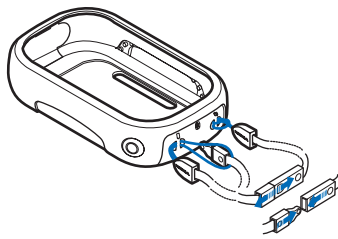


Wherever you use the GPS module, place it in the protective case with the Nokia logo upwards. That way you can better protect the GPS module from accidental knocks, dust and splashes of water.



Using the GPS module

To carry the GPS module around your neck, fasten the neck strap to the protective case as shown in the picture below.



■ Using the GPS module with several paired phones

The GPS module can be paired with up to 8 compatible phones but connected to only one at a time. To pair the GPS module with a compatible phone, follow the instructions on page 18.

Using the GPS module

The 8th pairing is always temporary, and it is replaced when a 9th user tries to pair a phone with the GPS module.

If you want to remove the existing pairings you can reset the GPS module (see page 24).

■ Disconnecting and reconnecting the GPS module

The GPS module can be disconnected from the phone, if, for example, you want to use another Bluetooth device with the phone. To disconnect the GPS module, do one of the following:

- Disconnect the GPS module from the application you used to establish the connection.
- Switch off the GPS module, or the phone.
- Disconnect the GPS module from the phone's Bluetooth menu.

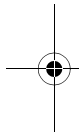


Using the GPS module

- Move the phone more than 10 metres away from the GPS module.

Note that you do not need to delete the pairing to disconnect the GPS module.

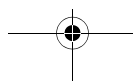
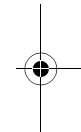
To reconnect the GPS module to the phone, switch on the GPS module and open the connection from the application in the phone. Note that some applications might recreate the connection automatically.



■ Resetting the GPS module

You can reset the GPS module to its original settings, for example, to reset the pairings. Resetting the GPS module clears all of its settings, including pairing information.

To reset the GPS module, press the **power on/off** key in off mode for 10 seconds. During resetting, the green and red indicator lights are blinking alternately.





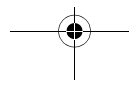
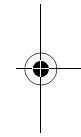
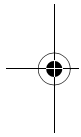
Using the GPS module



Troubleshooting

If you cannot connect the GPS module to a compatible phone, proceed as follows:

- Make sure that the Bluetooth feature is activated on the compatible phone.
- Make sure that the GPS module is switched on and paired with a compatible phone.
- Make sure that you have disconnected the previous Bluetooth connection from the phone.
- Check that the GPS module is within 10 metres of the phone and that there are no obstructions or other electronic devices between the two.





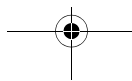
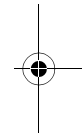
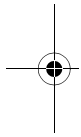
Battery information



4. Battery information

Your GPS module is powered by a rechargeable battery. Take good care of the battery and follow the guidelines below.

- The battery can be charged and discharged hundreds of times but it will eventually wear out. When the operating time is noticeably shorter than normal, contact your nearest qualified service facility and change the battery.
- Use only batteries approved by the manufacturer and recharge your battery only with the chargers approved by the manufacturer. Unplug the charger when not in use. Do not leave the battery connected to a charger for longer than a week, since overcharging may shorten its lifetime. If left unused a fully charged battery will discharge itself over time.

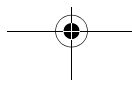
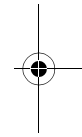
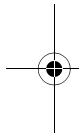




Battery information



- Temperature extremes can affect the ability of your battery to charge.
- Use the battery only for its intended purpose.
- Never use any charger or battery which is damaged.
- Do not short-circuit the battery. Accidental short-circuiting can occur when a metallic object (coin, clip or pen) causes direct connection of the + and - terminals of the battery (metal strips on the battery), for example, when you carry a spare battery in your pocket or purse. Short-circuiting the terminals may damage the battery or the connecting object.
- Leaving the GPS module in hot or cold places, such as in a closed car in summer or winter conditions, will reduce the capacity and lifetime of the battery. Always try to keep the battery between 15°C and 25°C (59°F and 77°F). A GPS module with a hot or cold battery may temporarily not work, even when the battery is fully charged. The performance of batteries



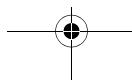
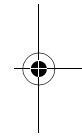
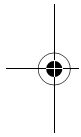


Battery information



is particularly limited in temperatures well below freezing.

- Do not dispose of batteries in a fire!
- Discard batteries according to local regulations (e.g. recycling). Do not dispose as household waste.



Care and maintenance

Your Nokia Wireless GPS Module is a product of superior design and craftsmanship and should be treated with care. The suggestions below will help you to fulfil any warranty obligations and to enjoy this product for many years.

- Keep all accessories out of the reach of small children.
- Even though the GPS module is splash-proof when placed inside the protective case, try to keep it as dry as possible. Precipitation, humidity and all types of liquids or moisture can contain minerals that will corrode electronic circuits.
- Do not use or store the GPS module in dusty, dirty areas. Its moving parts and electronic components can be damaged.
- Do not store the GPS module in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not store the GPS module in cold areas. When it warms up to its normal temperature, moisture can form inside, which may damage electronic circuit boards.

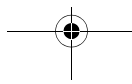
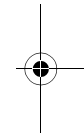
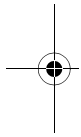


Care and maintenance



- Do not attempt to open the GPS module other than as instructed in this guide. Non-expert handling may damage it.
- Do not drop, knock or shake the GPS module. Rough handling can break internal circuit boards and fine mechanics.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the GPS module.
- Do not paint the GPS module. Paint can clog the moving parts and prevent proper operation.

If the GPS module is not working properly, take it to your nearest qualified service facility. The personnel there will assist you and, if necessary, arrange for service.





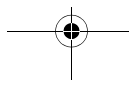
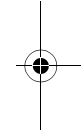
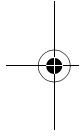
Care and maintenance



FCC Notice - Nokia Wireless GPS Module (LD-1W)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference; and
2. This device must accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

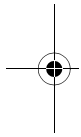




Care and maintenance



- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



NOTE: Modifications not expressly approved by Nokia could void the user's authority to operate the equipment.

