# Nokia N95 Positioning –

How to establish a GPS connection efficiently

© 2007 Nokia. All rights reserved.

Nokia, Nseries, and N95 are trademarks or registered trademarks of Nokia Corporation. Other product and company names mentioned herein may be trademarks or tradenames of their respective owners.

Reproduction, transfer, distribution, or storage of part or all of the contents in this document in any form without the prior written permission of Nokia is prohibited.

Nokia operates a policy of ongoing development. Nokia reserves the right to make changes and improvements to any of the products described in this document without prior notice.

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, UNDER NO CIRCUMSTANCES SHALL NOKIA OR ANY OF ITS LICENSORS BE RESPONSIBLE FOR ANY LOSS OF DATA OR INCOME OR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES HOWSOEVER CAUSED.

THE CONTENTS OF THIS DOCUMENT ARE PROVIDED "AS IS". EXCEPT AS REQUIRED BY APPLICABLE LAW, NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE MADE IN RELATION TO THE ACCURACY, RELIABILITY OR CONTENTS OF THIS DOCUMENT. NOKIA RESERVES THE RIGHT TO REVISE THIS DOCUMENT OR WITHDRAW IT AT ANY TIME WITHOUT PRIOR NOTICE.

The Global Positioning System (GPS) is operated by the government of the United States, which is solely responsible for its accuracy and maintenance. 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. Accuracy can also be affected by poor satellite geometry. Availability and quality of GPS signals may be affected by your location, buildings, natural obstacles, and weather conditions. The GPS receiver should only be used outdoors to allow reception of GPS signals.

GPS should only be used as a navigation aid. It should not be used for precise location measurement and you should never rely solely on location data from the GPS receiver for positioning or navigation.

## ESTABLISH A GPS CONNECTION EFFICIENTLY

### Internal GPS receiver

The GPS receiver is located in the bottom of the device. When using the receiver, slide the numeric keypad open, and hold the device at an angle of about 45 degrees (as shown in the picture), with an unobstructed view of

the sky. Do not cover the numeric keypad with your hand.

Establishing a GPS connection may take from a couple of seconds to several minutes. Establishing a GPS connection in the car may take longer.



The GPS receiver draws its power from the

device battery. Using the GPS receiver may drain the battery faster.

### **Assisted GPS**

Assisted GPS (A-GPS) is used to retrieve location assistance data over a packet data connection. A-GPS is a network service. The assistance data is retrieved from the Nokia A-GPS service server only when needed. Your device is preconfigured to use the Nokia A-GPS service, if no service provider specific A-GPS settings are available.

You must have a packet data internet access point defined in the device to retrieve assistance data from the Nokia A-GPS service. To define an access point for A-GPS, press, and select Tools > Settings > General > Positioning > Positioning server > Access point. A wireless LAN access point cannot be used for this service.

#### ESTABLISH A GPS CONNECTION EFFICIENTLY

### About satellite signals

If your device cannot find the satellite signal, consider the following:

- If you are indoors, go outdoors to receive a better signal.
- If the numeric keypad slide is closed, open it.
- If you are outdoors, move to a more open space.
- Check that your hand does not cover the GPS antenna of your device. See the picture in Internal GPS receiver.
- If the weather conditions are bad, the signal strength may be affected.
- If the power saver turns on on the display while the device is attempting to establish a GPS connection, the attempt is interrupted.

#### Satellite status

To check how many satellites your device has found, and whether your device is receiving satellite signals, press the menu key, and select Tools > GPS data > Position > Options > Satellite status. If your device has found satellites, a bar for each satellite is shown in the satellite info view. The longer the bar, the stronger the satellite signal. When your device has received enough data from the satellite signal to calculate the coordinates of your location, the bar turns to black.

Initially your device must receive signals from at least four satellites to be able to calculate the coordinates of your location. When the initial calculation has been made, it may be possible to continue calculating the coordinates of your location with three satellites. However, the accuracy is generally better when more satellites are found.