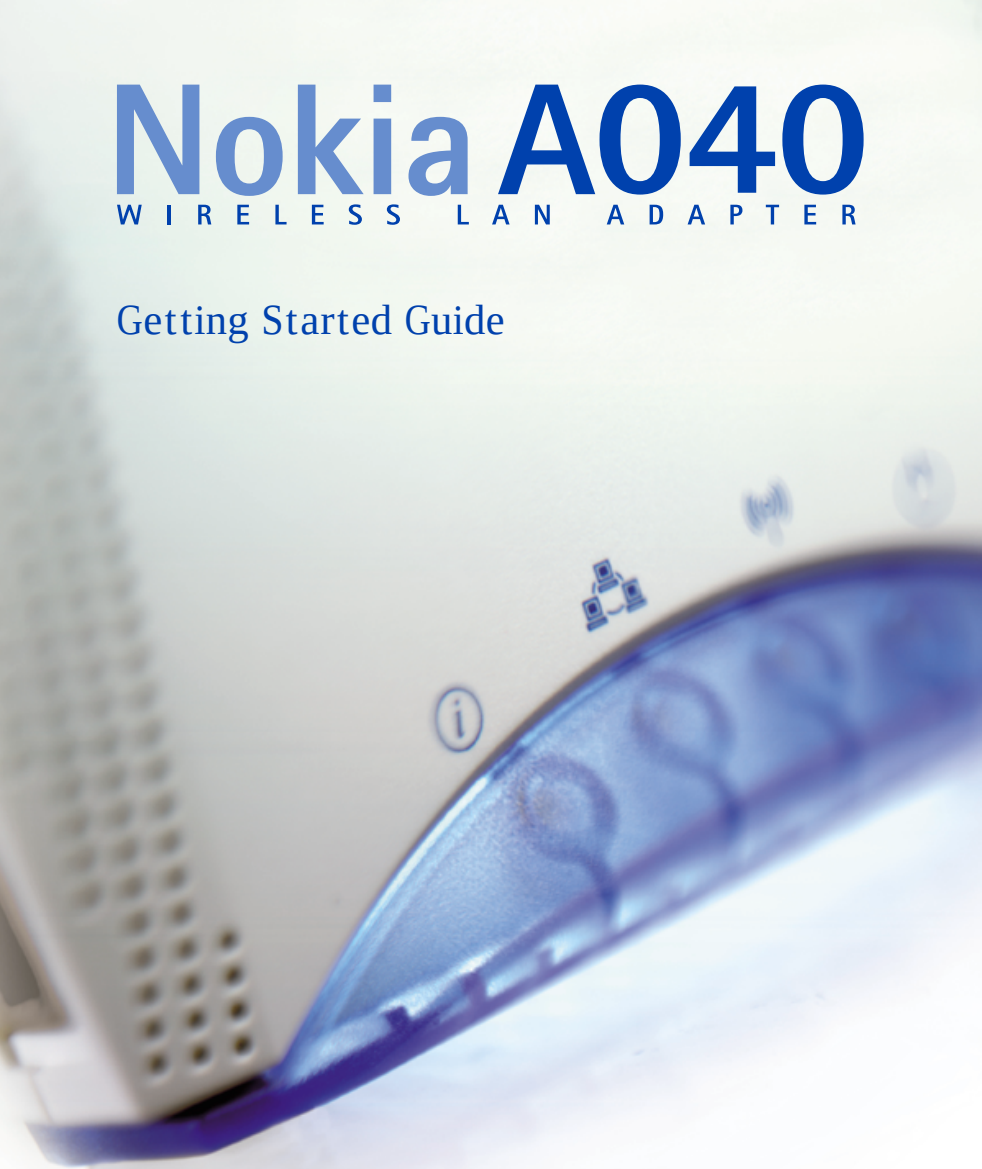
Nokia A040

WIRELESS LAN ADAPTER

Getting Started Guide



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CONNECTING PEOPLE

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ISSUE 1

Welcome

This guide tells you how to use a Nokia A040 wireless LAN adapter to provide wireless communications between a standalone device (with no wireless capabilities) and an existing LAN (managed by a Nokia wireless LAN Access Point).

Please read the *Important Safety Information* before using your Wireless LAN Adapter. Failure to comply with these guidelines may be dangerous or illegal.

How to use this guide

This guide gets you up and running quickly with your A040. It contains the following information:

- How to connect the adapter to a standalone computer
- How to test that the adapter can communicate wirelessly with an existing LAN
- What to do if the simple test fails.

Related documentation

If you need to be able to configure the A040, please see the *A040 Advanced User Guide*, supplied in Acrobat PDF format on the accompanying CD-ROM, which explains:

- How to use a desktop or laptop PC to perform optional configuration via a direct Ethernet connection
- How to monitor and make advanced configuration changes remotely, using a suitably privileged network station.

Please see the documentation that came with your Access Point for details on managing a wireless network.

Conventions used in this guide

Your A040 can transfer information between a standalone computer and an existing LAN.

Notes

You'll find tips or other useful facts in side notes throughout the manual. Pay particular attention to notes that start with **Note** or WARNING.

Text conventions

We use the following conventions:

- `courier` is used for file names, or to denote text that appears on your screen
- **`courier bold`** is used to denote text that you should type in
- new terms are shown in *italic* text the first time they appear
- **bold** text denotes the name of a physical button or LED on the adapter (e.g. the **alert** LED) or a button on screen that you need to click (e.g. "click **Restart**").

Features

The A040 has the following features:

- Built-in wireless LAN adapter card to communicate with an Access Point
- Automatic operation – can work as delivered, with no reconfiguration
- Custom operation – can be reconfigured to add security, modify your network setup or perform upgrades
- IT environment – can be monitored and controlled remotely in a managed environment
- Supports IEEE802.11 Infrastructure or Peer-to-Peer (ad-hoc) modes
- Automatic connection to any Access Point regardless of network name (optional)
- Can be configured to look for a specific network name
- Software-configurable sound indicator.

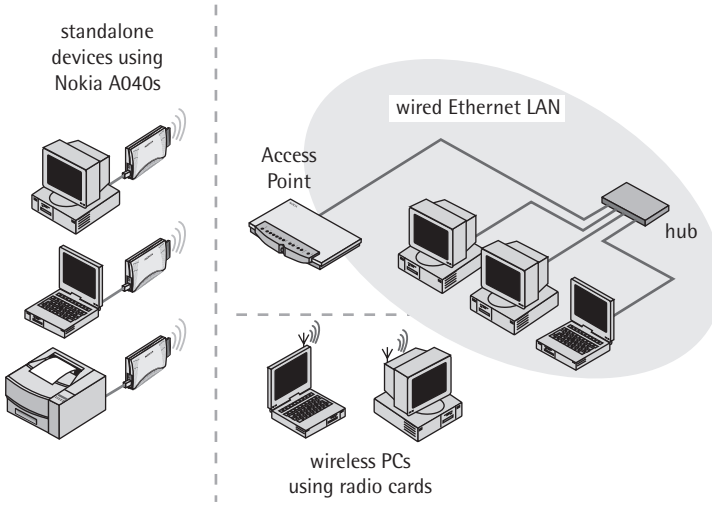
Table of contents

1. Overview

The Nokia A040 is often referred to simply as an 'adapter' throughout this guide.

Nokia A040 Wireless Lan Adapter allows you to connect standalone computers to an existing wired/wireless LAN that is managed by an IEEE802.11-compliant Access Point.

You can also use the adapter to access Ethernet-equipped resources such as printers and scanners:



Checklist

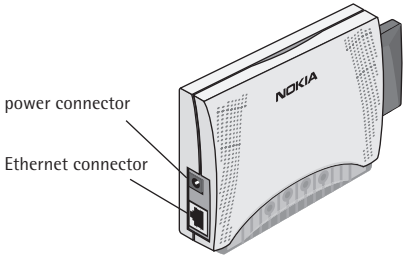
After unpacking the adapter, check the contents against the packing list. The components listed below are included:

- This User Guide
- Nokia A040 Wireless LAN Adapter
- Ethernet cable
- Power supply
- Nokia A040 Utilities CD-ROM.

Connectors

WARNING: *Use of a power adapter other than that supplied with the unit could be unsafe.*

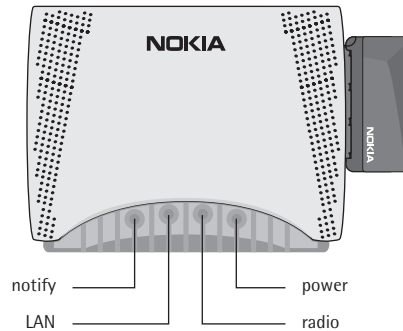
The adapter has the following connectors:



- **Power connector** – This is where you connect the power unit. Only use the power unit supplied with the A040.
- **Ethernet connector** – This is an RJ45 Ethernet connector.

LEDs

The adapter has the following LEDs:



Note*: A solid red* **power** *LED indicates a fault.*

- **power**
  - Normally this shows green
  - Solid red indicates a fault
  - Flashing red/green – memory update.
- **radio** – This indicates activity on the wireless LAN connection:
  - On – Connected, but no traffic
  - Flashing intermittently – Connected, and there is network traffic.
- **LAN** – Illuminated when there is a good connection to the host device.
  - Off – Not connected
  - On – Connected, but no traffic
  - Flashing intermittently – Connected, and there is network traffic.
- **notify** – Used with the **LAN** LED to indicate connection status to Access Point (see page 12).

Special LED/sound sequences

The A040 also has an internal speaker. It emits sounds in conjunction with special LED sequences:

Power-on

At power-on, the following things happen:

1. The A040 emits a three-tone chirp.
2. The **LAN** LED lights (assuming there is a LAN connection).
3. The **notify** and **radio** LEDs flash together and the adapter beeps for up to 10 seconds while the adapter scans for an Access Point.
4. If a connection is made to an Access Point, the adapter emits a three-tone chirp, the **notify** LED goes out and the **radio** LED stays on.
   If the adapter fails to connect to an Access Point, the beeps stop but the **notify** and **radio** LEDs continue to flash together.

Access Point connection lost

If the connection with an Access Point is lost for any reason:

1. The **notify** and **radio** LEDs flash together (they keep flashing until a connection is regained).
2. The adapter emits beeps for five seconds.

Access Point connection regained

If the connection with an Access Point is regained:

1. The **notify** and **radio** LEDs stop flashing.
2. The adapter emits a three-tone chirp.
3. The radio LED stays on solid if there is no activity, or flashes intermittently if there is.

New configuration applied

If you alter and save any configuration settings:

1 The **power** LED flashes red and green.

2 The adapter emits a three-tone chirp.

Set-up mode entered

If you put the adapter into set-up mode (see the *Advanced User Guide*, supplied as an Acrobat PDF file on the CD-ROM):

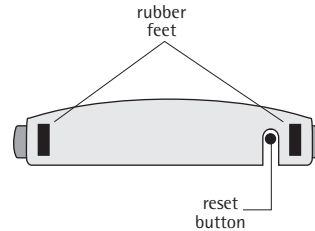
1 All the LEDs come on, then go out again.

2 The unit makes an intermittent beeping sound.

3 Note that the **notify** and **radio** LEDs do not flash (as the adapter is not attempting to connect to an Access Point).

Reset button

The adapter has a reset button hidden on its underside:



You use this to put the unit into set-up mode (see the *Advanced User Guide*, supplied as an Acrobat PDF file on the CD-ROM).

2. Getting started

For many applications the A040 will work straight out of the box with no configuration changes. This chapter explains how to connect an adapter to a host computer and check it's working properly.

If the operational test fails, *Troubleshooting* on page 22 explains how to determine whether you need to reconfigure the adapter from its factory default state before it will work on your network.

Minimum host computer requirements

In order to work correctly, any computer connected to the A040 must satisfy the following minimum requirements:

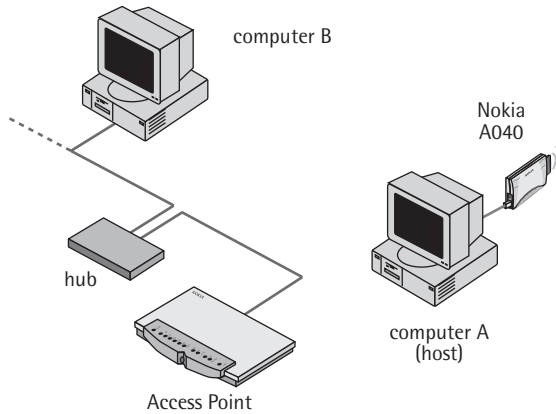
- Ethernet network interface card (NIC) with 10BaseT connection
- Associated Ethernet drivers installed, as specified by the manufacturer of the NIC
- Windows 95, 98, 2000 or NT.

You may also need an RJ45 adapter for use with a PCMCIA Ethernet card

With the Nokia A040, you can also use non-Windows devices that support TCP/IP over Ethernet.

Connecting and testing the A040

The simplest method of testing the adapter is to use the configuration shown here:



Using the adapter in a TCP/IP environment

This section explains how to connect and test the A040 on a TCP/IP network. If you do not use TCP/IP, please see *Testing on a non-TCP/IP network* on page 21.

Computer A (the host) and computer B should both be configured to use TCP/IP and have fixed IP addresses.

We'll refer to the IP address of computer A (the host) as IP-A and the IP address of computer B as IP-B.

1 Check and write down IP-A and IP-B.

2 Switch off computer A (the host).

3 Make sure that the Access Point, computer B and the hub are operating normally.

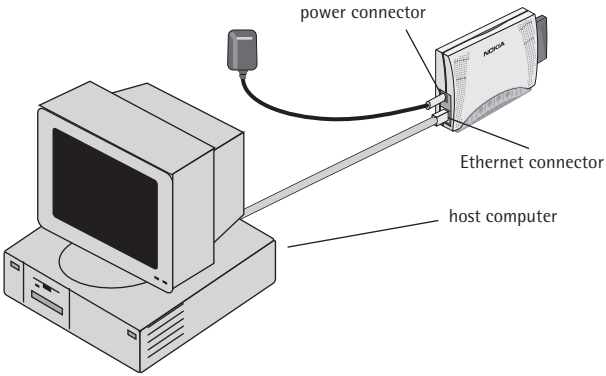
4 Connect the power unit to the A040's power connector and to a wall outlet.

5 Connect the Ethernet cable to the adapter's Ethernet connector.

6 Connect the other end of the Ethernet cable to the host computer.

7 Switch on at the wall outlet.

8 Switch on the host computer.



After the host computer has powered up, the adapter's **power** LED should glow a steady green, and its **LAN** LED should be on, indicating a good connection to the host computer.

The adapter will start beeping as it searches for an Access Point. After a short while the beeps should stop and the adapter will emit a chirp (three rising tones) indicating that a connection has been made.

9 If the beeps stop but there is no chirp, and the **radio** and **notify** LEDs continue to flash

together, it means that the A040 is unable to find an eligible Access Point, or that the Access Point will not allow a connection. See *Troubleshooting* on page 22.

Note: *You only need to perform this step if your network uses automatic IP address assignment (DHCP).*

10 **(DHCP only)** When the A040 has stopped beeping you should use the IPConfig utility under Windows to renew the IP address information in Computer A and Computer B (see page 20). Make a note of the IP addresses assigned for use later in the testing.

11 On Computer B, open an MS-DOS console window.

12 At the prompt, issue a 'ping' command to the IP address of Computer A. For example, if IP-A is 192.168.5.21, you would enter:

```
ping 192.168.5.21
```

Successful ping

If the 'ping' is successful, you should see an output of the following form:

```
C:\> ping 192.168.5.21

Pinging 192.168.5.21 with 32 bytes of data:

Reply from 192.168.5.21: bytes=32 time=1ms TTL=32
Reply from 192.168.5.21: bytes=32 time<10ms TTL=32
Reply from 192.168.5.21: bytes=32 time<10ms TTL=32
Reply from 192.168.5.21: bytes=32 time<10ms TTL=32

C:\>
```

Your A040 is operating correctly, and you don't need to perform any special configuration to make it work.

Unsuccessful ping

If there is a problem, you'll see the following output:

```
C:\> ping 192.168.5.21

Pinging 192.168.5.21 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

C:\>
```

See *Troubleshooting* on page 22 for possible problems and solutions.

Renewing IP address information

If you're using DHCP and you need to renew the IP address information on a computer, follow the instructions in this section.

Under Windows 95/98

Under Windows 95/98, you do this using WinIPcfg:

1. Choose **Run** from the **Start** menu.
2. Enter **`WinIPcfg`** and press **Return**.
3. Select the correct adapter card in the pull-down menu.
4. Click **Release**.
5. Click **Renew**.

Under Windows 2000/NT

1 Open a DOS prompt.

2 Enter **`ipconfig /release`**

This will release the old address.

3 Enter **`ipconfig /renew`** to renew the address.

You should now be able to access the Access Point from your client machine.

Testing on a non-TCP/IP network

If you do not use TCP/IP you can still follow the instructions in *Using the adapter in a TCP/IP environment*. When the A040 stops beeping, indicating a connection has been made to the Access Point, you can try transferring a file between Computer A and Computer B in order to verify that the system is operating.

Troubleshooting

If the 'ping' test fails and your host computer cannot communicate with a known station on the wired LAN, check the table below, which lists some possible problems and solutions:

If...	...do this
You entered the IP address incorrectly in the ping test	Try the ping test again.
The A040 is beeping continuously	Check that the Access Point is within range and functioning correctly.
You have multiple Access Points, using different Network Names	Decide which network name you want to connect to and configure the A040 with that name.
Your Access Point is using WEP encryption	You'll need to configure the A040 with the correct WEP mode and encryption keys to allow access.
Your host computer has incorrect Ethernet drivers installed	Install the Ethernet NIC as if you were intending to connect to a regular LAN hub.

Some solutions involve reconfiguring the adapter – you'll need to follow the instructions in *Preparing to configure an adapter* and *Configuration parameters* in the *Advanced User Guide*

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