

MicroLink[®] ADSL PCI

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Aachen, March 2005

Preface

Thank you for placing your trust in this devolo product.

By selecting the MicroLink ADSL PCI you now have an PCI card that will enable you to surf the Internet at high speed. Transmission rates of up to 8 Mbps download make it easy and fast to download animations, graphics or similarly large quantities of data. And an upload rate of up to 1 Mbps can enable you to send even large e-mails fast without incurring high costs.

Exacting manufacturing standards and stringent quality control are the basis for high product standards and consistent quality to ensure your fullest satisfaction with this MicroLink ADSL PCI.

This documentation was compiled by several members of our staff from a variety of departments in order to ensure you the best possible support when using your product.

Additional information in the Internet at 'www.devolo.com'

Our online services (www.devolo.com) are available to you around the clock should you have any queries or require any further support.

Package contents

Please ensure that the delivery is complete before beginning with the installation of your MicroLink ADSL PCI:

- MicroLink ADSL PCI
- ADSL cable
- Installation guide (in print)
- CD-ROM including drivers, manual, firewall and virus scanner and additional applications software

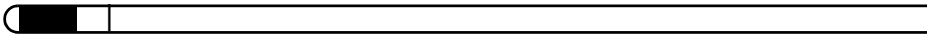
devolo reserves the right to change the package contents without prior notice.

CE conformity

This product meets the requirements of the 1999/5/EG Directive R&TTE and is designed for connection to public telecommunications networks in the EU and Switzerland.

The declaration of conformity can be found in the appendix of this manual.





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1 Introduction

1.1 What is ADSL?

The sheer speed of development of computer technology over the last few years has resulted in a huge increase in the volume of electronic data traffic. More users every day want to send and receive a constantly increasing volume of data. Conventional transmission technologies (analog modems or ISDN devices) are no longer equal to the demand.

New technologies are eliminating the restrictions and are offering the user true broadband communications at significantly higher transfer speeds. An important criterion for the spread of these access technologies is their availability in as many offices and private households as possible. One of the new technologies is transfer by ADSL, which bridges the section of the network that connects to the customer ("the last mile") over standard copper wires. ADSL can thus be used for broadband access to the Internet, for example.

ADSL technology (**A**symmetric **D**igital **S**ubscriber **L**ine) uses three regions of different sizes on the copper wire of a standard telephone line. Two regions are used for data transmission and one for telephoning. The term 'asymmetric' indicates that the transmitting and receiving channels can carry different quantities of data:

- When the user surfs the Internet, the data sent to the provider tend to carry less information (e. g. addresses of web sites or e-mails). The transmission rate of up to 1 Mbps is generally sufficient for this purpose.
- To load multimedia content (video sequences, animations, images etc.) onto the computer from the Internet at acceptable quality and speed, a transmission rate of up to 8 Mbps brings a significant saving in cost and time.

1.2

What does the MicroLink ADSL PCI have to offer?

The following is an outline of the principal features of the device giving you a quick overview of its capabilities

Simple installation

- Installing the MicroLink ADSL PCI
- Connecting your MicroLink ADSL PCI to the ADSL line using the ADSL cable provided with the product
- Installing the devolo driver
- Entering your Internet access data
- Done!

If you want to be able to use the telephone and the Internet simultaneously, you will need a splitter (e. g.) to separate the high-frequency data signals from the low-frequency telephone signals. It will be provided by your network operator.

ADSL mode

- Use the Internet and telephone at the same time (using a splitter, e. g.)
- No new wiring, because the existing telephone lines (copper wire) can still be used
- High transmission rates of up to 1 Mbps (upload) or up to 8 Mbps (download)

Status display

The indicator lights (LEDs) on the mounting plate of your MicroLink ADSL PCI adapter show the connection status and allow the data transmission to be checked. The MicroLink ADSL PCI adapter has 2 indicator lights.



1.3

Firewall and virus scanner

The MicroLink ADSL PCI is supplied with the Norman Internet Control software. Norman Internet Control is a firewall and anti-virus program that monitors your PC for malicious software, also referred to as malware. The most common types of malware are viruses, worms, and trojans. For the sake of simplicity, we often use the term virus as a collective description.

Norman Internet Control can detect and remove known and unknown viruses from hard disks, floppy disks, e-mail attachments, etc. Norman Internet Control checks files when they are accessed, and possible viruses are removed automatically. If Norman Internet Control is unable to clean an infected file, you will receive a warning and instructions on how to proceed.

2 Installation

This chapter is intended to help you activate your MicroLink ADSL PCI. You will find a brief description of the installation procedure under Windows 98, Windows Me, Windows 2000 and Windows XP.

2.1 System requirements

Your computer must meet the following requirements to operate with your MicroLink ADSL PCI:

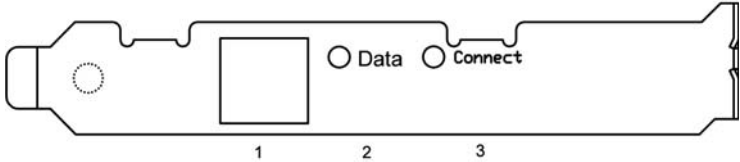
- **Operating systems:** Windows 98, Windows Me, Windows 2000 or Windows XP
- **Free PCI slot**

2.2 Connection and display elements

This section introduces the unit's hardware. It covers the unit's display elements and connection options.



You will find two LEDs as display elements and the ADSL connection on the mounting plate.



- ➊ **ADSL connection:** Connect the modem to your ADSL line via the supplied ADSL cable here.
- ➋ **Data:** Flashes when data is being sent and received over the PCI card.
- ➌ **Connect:** Flashes as long as the connection is training. Once the ADSL connection has been established, this LED remains steady.

2.3

Installation of the MicroLink ADSL PCI



Disconnect the AC power cable and the connection to the telephone network before opening your computer. This is necessary to ensure that the device is no longer live.

Do not touch any electronic parts! Static charges could destroy the electronics. You should, therefore, briefly touch the computer housing to discharge any static electric charge built up on your body.

- ➊ **The first step**
Safety First! Disconnect the power cord from the PC before removing the housing. The PCI card may only be installed or removed if the PC has been disconnected from the AC power supply.
- ➋ **Loosen the screws**
Loosen the retaining screws on the housing and remove it.
- ➌ **Remove the blind bracket**
Remove the blind bracket of a free PCI slot.
- ➍ **Insert the MicroLink ADSL PCI card**
Plug your PCI card into the slot. Ensure that the PCI card is correctly seated in its slot and tighten the screw of the mounting plate.



Close the PC before connecting it to the telephone network! Make sure that the case of the PC has been closed properly before connecting it to the telephone network.

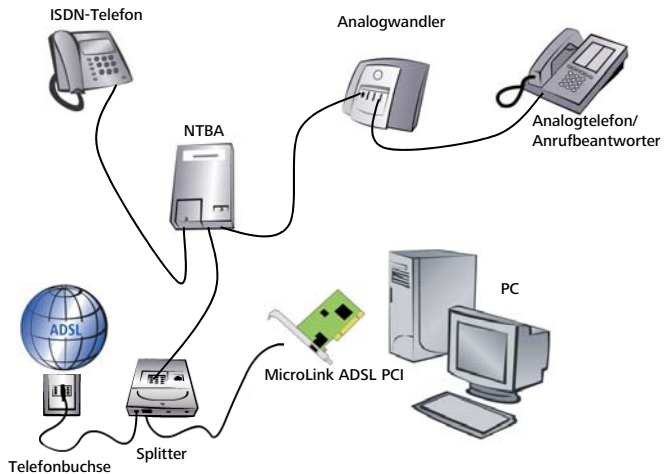
- ⑤ **Replace PC housing**
Replace the housing and screw it tight.
- ⑥ **Connection to the ADSL line (e. g. splitter)**
Connect the included ADSL cable to the socket on the mounting bracket and the ADSL connection.
- ⑦ **Connection to AC Power**
Reconnect the power cord to your computer and switch the computer on.
- ⑧ **Installing the drivers**
Continue by installing the drivers as described for the corresponding operating system.



If you want to use the MicroLink ADSL PCI card **anymore** and it is **no** longer to be recognized by your operating system, we recommend to **deinstall** it.

2.3.1

Example of application



2.4

Installation of drivers



Keep the necessary information from your Internet provider handy:

- Provider name and/or
- Service name (e. g. DSL)

Plug&play installation

The MicroLink ADSL PCI supports plug&play. Plug&play simplifies the installation considerably. Windows wizards will guide you through the installation and ask you for necessary data.

There are differences among the installation procedures for the operating systems. Therefore, the driver installation will be described separately for each Windows version for the sake of clarity.

2.4.1

Installation under Windows 98

- ① Restart your computer after inserting the PCI card.
- ② Insert the supplied devolo product CD into your CD-ROM drive.
- ③ Windows starts the hardware wizard and reports that new hardware has been detected. Confirm this message with **Next**.
- ④ Windows offers you two different ways of searching for drivers. Select the 'Search for the best driver for your device (Recommended)' option and click **Next**.
- ⑤ The suitable driver can be found on the devolo product CD. Activate the 'CD-ROM drive' option and deactivate all other boxes. Confirm with **Next**.
- ⑥ The driver installation is starting. Confirm with **Next** to continue the installation.
- ⑦ Now set up your Internet access by selecting the 'Country' where you are and your 'Internet service provider' auswählen.



If you use an Internet provider who is **not** listed, activate the 'Configure the ADSL connection manually' option and enter the 'Protocol', 'Encapsulation', 'VPI' and 'VCI' settings manually. You will get the necessary information from your provider.

- ⑧ Confirm your settings with **OK**. The driver installation continues.



You may be prompted to insert the Windows 98 CD. If prompted to, insert this CD into your CD drive and confirm with **OK**.



Windows may announce a 'Version Conflict' of a file. Please respond to the question if you want to keep this file with **Yes**.

- ⑨ Click on **Finish** to exit the installation.
- ⑩ When Windows prompts you to reboot your system, click **Yes**.
- ⑪ After rebooting Windows may also ask about your location. If so, enter your area code number (prefix number) and then click **Close**.

2.4.2

Installation under Windows Me

- ① Restart your computer after inserting the PCI card.
- ② Insert the supplied devolo product CD into your CD-ROM drive.
- ③ Windows starts the hardware wizard and reports that new hardware has been detected. The wizard offers you two different ways of searching for drivers. Select the 'Automatic search for a better driver (Recommended)' option and click **Next**.
- ④ The driver installation starts. Confirm with **Next** to continue the installation.
- ⑤ Now set up your Internet access by selecting the 'Country' where you are and your 'Internet service provider' auswählen.



If you use an Internet provider who is **not** listed, activate the 'Configure the ADSL connection manually' option and enter the 'Protocol', 'Encapsulation', 'VPI' and 'VCI' settings manually. You will get the necessary information from your provider.

- ⑥ Confirm your settings with **OK**. The driver installation continues.
- ⑦ Click on **Finish** to exit the installation.
- ⑧ When Windows prompts you to reboot your system, click **Yes**.
- ⑨ After rebooting Windows may also ask about your location. If so, enter your area code number (prefix number) and then click **Close**.

2.4.3

Installation under Windows 2000



When installing software under the Windows 2000, messages may appear, respective of the operating system, regarding driver and software signatures (Windows logo testing). Simply continue the installation regardless, and confirm any and all such prompts by clicking **Yes** or **Continue Installation**.

- ① Restart your computer after inserting the PCI card.
- ② Insert the supplied devolo product CD into your CD-ROM drive.
- ③ Windows starts the hardware wizard and reports that new hardware has been detected. Confirm this message with **Next**.
- ④ Windows offers you two different ways of searching for drivers. Select the 'Search for a suitable driver for my device (recommended)' option and click **Next**.
- ⑤ The suitable driver can be found on the devolo product CD. Activate the 'CD-ROM drive' option and deactivate all other boxes. Confirm with **Next**.
- ⑥ The driver installation is starting. Confirm with **Next** to continue the installation.
- ⑦ Now set up your Internet access by selecting the 'Country' where you are and your 'Internet service provider' auswählen.



If you use an Internet provider who is **not** listed, activate the 'Configure the ADSL connection manually' option and enter the 'Protocol', 'Encapsulation', 'VPI' and 'VCI' settings manually. You will get the necessary information from your provider.

- ⑧ Confirm your settings with **OK**. The driver installation continues.
- ⑨ Finally, click on **Finish** to exit the installation.

2.4.4

Installation under Windows XP



When installing software under the Windows XP, messages may appear, respective of the operating system, regarding driver and software signatures (Windows logo testing). Simply continue the installation regardless, and confirm any and all such prompts by clicking **Yes** or **Continue Installation**.

- ① Restart your computer after inserting the PCI card.
- ② Insert the supplied devolo product CD into your CD-ROM drive.

- ③ Windows starts the hardware wizard and reports that new hardware has been detected.
- ④ In the following dialog box, activate the 'Install the software automatically (Recommended)' option. Click on **Next** to start the driver installation.
- ⑤ Now set up your Internet access by selecting the 'Country' where you are and your 'Internet service provider' auswählen.



*If you use an Internet provider who is **not** listed, activate the 'Configure the ADSL connection manually' option and enter the 'Protocol', 'Encapsulation', 'VPI' and 'VCI' settings manually. You will get the necessary information from your provider.*

- ⑥ Confirm your settings with **OK**. The driver installation continues.
- ⑦ Finally, click on **Finish** to exit the installation.

2.5 Establishing a connection via the ADSL card

After having installed the devolo drivers successfully, you will find a shortcut to the new Dial-Up Networking connection 'MicroLink ADSL PCI' on your desktop. With it, you can connect to the Internet by entering your Internet access login data

2.5.1 Setting up the Internet access software

AOL

If your Internet service provider is AOL, a Dial-Up Networking connection does **not** have to be created. In this case, install the Internet access software provided by your Internet service provider and use it to connect to the Internet. The AOL Internet access software can be found on the AOL CD included in this package.

3 devolo MicroLink Informer

The MicroLink Informer shows detailed information on your MicroLink ADSL PCI, e. g. the current transfer rate.

3.1 Installation

- ① Put the devolo product CD in your CD-ROM drive.
- ② In the CD setup select 'Install MicroLink Informer'.
- ③ Windows starts the wizard. Click **Next**.
- ④ The following dialog box shows the default devolo target folder in which the MicroLink Informer will be installed. Select a new folder or accept the default folder, and then click **Next**.
- ⑤ Click **Next** again (2x), and continue the installation with **Finish**.
- ⑥ After a successful installation, start the MicroLink Informer with **Start ▶ Programs ▶ devolo ▶ devolo MicroLink Informer**.

4 Appendix

4.1 Technical data

	MicroLink ADSL PCI
ADSL standards	ADSL over ISDN: ITU G.992.1 (G.dmt, Annex B) Telekom specification (U-R2) ADSL over POTS: ANSI T1.413 Issue 2 ITU G.992.1 (G.dmt Annex A, Annex B)
Transfer rates	Download: up to 8 Mbps; upload: up to 1 Mbps
WAN connection	RJ11
LEDs	Data (receive data/transmit data) Connect
Computer interface	PCI 2.2
Protocols	PPP over Ethernet (RFC 2516) PPP over ATM (RFC 2364)
Power supply	Via PCI, no external power adapter required
System requirements	Windows 98, Windows Me, Windows 2000, Windows XP Free PCI slot For Internet access: ADSL connection by an ADSL provider
Environment	0-40°C
CE conformity	CE-compliant in accordance with the technical requirements of R&TTE for all EU countries and Switzerland EN60950, EN55022, EN55024
Warranty	3 years

4.2

Declaration of conformity

**KONFORMITÄTSERKLÄRUNG**

gemäß dem Gesetz über Funkanlagen und Telekommunikationsendeinrichtungen
(FTEG) und der Richtlinie 1999/5/EG (R&TTE)

EC- DECLARATION OF CONFORMITY
appropriate to the law of radio and telecom terminalequipment and Directive 1999/5/EC (R&TTE)

Die Firma: **devolo AG**
The Company: **Sonnenweg 11**
52070 Aachen

erklärt, daß das Produkt: **MicroLink® ADSL PCI**
declares that the product: **Telekommunikations (TK-) Endeinrichtung**
telecommunications terminal equipment radio equipment

Verwendungszweck: **ADSL Modem**
intended purpose:

den grundlegenden Anforderungen des § 3 und den übrigen einschlägigen Bestimmungen
des FTEG (Artikel 3 der R&TTE) entspricht.
complies with the appropriate essential requirements of the FTEG (Article 3 of R&TTE) and the other relevant
provisions.

Harmonisierte Normen: **Gesundheit und Sicherheit gemäß §3 (1) 1. (Artikel 3 (1) a)**
Harmonised Standards: **Health and Safety requirements contained in §3 (1) 1. (Article 3 (1) a)**

EN 60 950, 3rd Edition: 2000

Harmonisierte Normen: **Schutzanforderungen in Bezug auf die EMV §3 (1) 2, Artikel 3**
(1) b))
Harmonised Standards: **Protection requirements with respect to EMC §3 (1) 2, (Article 3 (1) b))**

EN 55 022: 1998 Class B
EN 55 024: 1998

Diese Erklärung wird verantwortlich abgegeben durch:
This declaration is submitted by:

Aachen, 2. Dezember 2002
Aachen, 2nd December 2002

Heiko Harbers
Vorstandsvorsitzender
CEO

4.3 Warranty conditions

The devolo AG warranty is given to purchasers of devolo products in addition to the warranty conditions provided by law and in accordance with the following conditions:

1 Warranty coverage

- a) The warranty covers the equipment delivered and all its parts. Parts will, at devolo's sole discretion, be replaced or repaired free of charge if, despite proven proper handling and adherence to the operating instructions, these parts became defective due to fabrication and/or material defects. Alternatively, devolo reserves the right to replace the defective product with a comparable product with the same specifications and features. Operating manuals and possibly supplied software are excluded from the warranty.
- b) Material and service charges shall be covered by devolo, but not shipping and handling costs involved in transport from the buyer to the service station and/or to devolo.
- c) Replaced parts become property of devolo.
- d) devolo is authorized to carry out technical changes (e.g. firmware updates) beyond repair and replacement of defective parts in order to bring the equipment up to the current technical state. This does not result in any additional charge for the customer. A legal claim to this service does not exist.

2 Warranty period

The warranty period for this devolo product is three years. This period begins at the day of delivery from the devolo dealer. Warranty services carried out by devolo do not result in an extension of the warranty period nor do they initiate a new warranty period. The warranty period for installed replacement parts ends with the warranty period of the device as a whole.

3 Warranty procedure

- a) If defects appear during the warranty period, the warranty claims must be made immediately, at the latest within a period of 7 days.
- b) In the case of any externally visible damage arising from transport (e.g. damage to the housing), the person carrying out the transportation and the sender should be informed immediately. On discovery of damage which is not externally visible, the transport company and the sender are to be immediately informed in writing, at the latest within 3 days of delivery.
- c) Transport to and from the location where the warranty claim is accepted and/or the repaired device is exchanged, is at the purchaser's own risk and cost.
- d) Warranty claims are only valid if a copy of the original purchase receipt is returned with the device. devolo reserves the right to require the submission of the original purchase receipt.

4 Suspension of the warranty

All warranty claims will be deemed invalid

- a) if the label with the serial number has been removed from the device,
- b) if the device is damaged or destroyed as a result of acts of nature or by environmental influences (moisture, electric shock, dust, etc.),
- c) if the device was stored or operated under conditions not in compliance with the technical specifications,
- d) if the damage occurred due to incorrect handling, especially to non-observance of the system description and the operating instructions,
- e) if the device was opened, repaired or modified by persons not contracted by devolo,

- f) if the device shows any kind of mechanical damage, or
- g) if the warranty claim has not been reported in accordance with 3a) or 3b).

5 Operating mistakes

If it becomes apparent that the reported malfunction of the device has been caused by unsuitable hardware, software, installation or operation, devolo reserves the right to charge the purchaser for the resulting testing costs.

6 Additional regulations

- a) The above conditions define the complete scope of devolo's legal liability.
- b) The warranty gives no entitlement to additional claims, such as any refund in full or in part. Compensation claims, regardless of the legal basis, are excluded. This does not apply if e.g. injury to persons or damage to private property are specifically covered by the product liability law, or in cases of intentional act or culpable negligence.
- c) Claims for compensation of lost profits, indirect or consequential detriments, are excluded.
- d) devolo is not liable for lost data or retrieval of lost data in cases of slight and ordinary negligence.
- e) In the case that the intentional or culpable negligence of devolo employees has caused a loss of data, devolo will be liable for those costs typical to the recovery of data where periodic security data back-ups have been made.
- f) The warranty is valid only for the first purchaser and is not transferable.
- g) The court of jurisdiction is located in Aachen, Germany in the case that the purchaser is a merchant. If the purchaser does not have a court of jurisdiction in the Federal Republic of Germany or if he moves his domicile out of Germany after conclusion of the contract, devolo's court of jurisdiction applies. This is also applicable if the purchaser's domicile is not known at the time of institution of proceedings.
- h) The law of the Federal Republic of Germany is applicable. The UN commercial law does not apply to dealings between devolo and the purchaser.