

 ***ELSA MicroLink™ 56k Internet***

User Manual

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Preface

Thank you for placing your trust in this ELSA product.

With the *ELSA MicroLink 56k Internet*, you will be able to access the Internet and take advantage of a variety of other data communications applications by using the included software package.

Exact manufacturing standards and stringent quality control are the basis for high product standards and consistent quality to ensure your fullest satisfaction with this modem.

Changes to this manual

ELSA products are characterized by ongoing further development. It is therefore possible that the information printed in this manual is not current in all points.

Our online services (Internet server www.elsa.com) are available to you around the clock should you have any queries regarding the topics discussed in this manual or require any further support. In the support file section under 'Know-How', you can find answers to frequently asked questions (FAQs). The KnowledgeBase also contains a large pool of information. Current drivers, firmware, tools and manuals can be downloaded at any time.



Package contents

Please ensure that the delivery is complete before beginning with the installation of your modem:

- *ELSA MicroLink 56k Internet*
- Power adapter
- Telephone line connection cable
- Modem connector cable (V.24/RS232 cable)
- CD with application software
- Documentation

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

Online documentation

The ELSA MicroLink 56k Internet contains extensive electronic documentation in addition to the printed handbooks. This provides information on topics such as the installation of access software, the online services and other support notes. This



information has been stored in HTML or PDF format. A browser (e.g. Netscape Navigator or Microsoft Internet Explorer) is required for reading and printing HTML files. The ACROBAT Reader program is required to read and print PDF files. It can also be found on the included CD and may be installed using the CD setup program.

If the CD setup program does not automatically start when you insert the CD, simply double-click 'autorun.exe' in the root folder of the CD.

To read the online documentation, proceed as follows:

- ① Insert the included *ELSA MicroLink 56k Internet* CD in your CD drive. The welcome screen will open automatically.
- ② Click on **Online Manual** to select the desired online documentation.

The ELSA homepage on the Internet

The ELSA homepage is a service for our customers and others interested in ELSA products, which include modems, ISDN modems, graphics boards and monitors. The ELSA homepage provides continuously updated product information pertaining to your *ELSA MicroLink 56k Internet* and other ELSA products. You can also find answers to frequently asked questions (FAQs), a wealth of tips and tricks and selected links to other WWW pages. What's more, our page provides access to selected search engines.

How to make the ELSA homepage your default homepage:

You can set your browser to load ELSA's homepage as soon as you connect to the Internet. The following explains how you can access the ELSA homepage using either Netscape Navigator or Microsoft Internet Explorer as your browser:

Netscape Navigator

- ① Start Netscape Navigator and select **Options ► General Preferences ► General view**.
- ② Under **Start with:** enter **ELSA's homepage <http://www.elsa.com>**.
- ③ Then add a check to **Homepage Location:** and confirm with **OK**.

Microsoft Internet Explorer

- ① Start Microsoft Internet Explorer and select **View ► Options ► Navigation**.
- ② Under **Homepage** enter the ELSA homepage **<http://www.elsa.com>** and confirm with **OK**.

Now you will automatically access ELSA's homepage whenever you connect to the Internet.

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Introduction

This chapter is intended to help you activate your *ELSA MicroLink* modem as quickly as possible. It contains a brief description of the installation under the Windows 95, Windows 98 and Windows NT 4.0 operating systems.



The online documentation on the modem also contains detailed information on the configuration of the included software in the section "Here's How".

If the CD setup program does not automatically start when you insert the CD, simply double-click 'autorun.exe' in the root folder of the CD.



For safety reasons, use the supplied AC adapter only!

CE Conformity

The *ELSA MicroLink* modem bears the CE mark and thus satisfies the following European regulations:

- 93/68/EWG CE marking regulations
- 73/23/EWG Low-voltage regulations
- 89/336/EWG EMC regulations
- 91/263/EWG Terminal equipment regulations
- 98/482/EG Network approval regulations

EU approval

Note to the user This device was approved for the whole of Europe according to ruling 98/482/EC of the European Council for connection to the public telephone network as an individual end device. Due to the differences between the public telephone networks within different states, this approval does not constitute a guarantee for correct operation of the device at every network node. Should any problems occur, please first contact your dealer.

Network compatibility declaration

This device complies with the European TBR21 standard for analog network access. It also fulfills additional national standards as described in the ETSI Guide EG 201 121. The user must select the country in which the device will be used with the supplied country selection software. The device is thus designed for use in all EU member states that recognize the CTR21 type approval standard.

If you encounter problems with the country selection software, please contact your retailer.



Tone (DTMF) dialing is the only dialing method recognized by CTR21.

Setting up your *ELSA MicroLink 56k Internet*

1

The first step

Please ensure that your PC and the modem are switched off ❶.

2

Connect the *ELSA MicroLink 56k Internet*

Plug the power connector ❷ of your ISDN modem into a 230 V wall socket using the included AC adapter.

3

Connection to your PC

Insert the supplied V.24/RS232 cable into connection ❸ of the modem and to a free serial port (e.g. COM1 or COM2) of your PC.

4

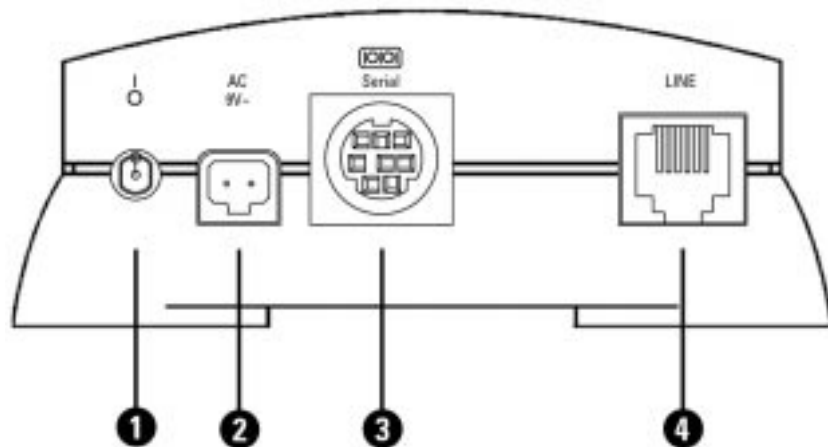
Connection to the telephone network

Connect one end of the connecting cable supplied to the line connection on the modem ❹ and the other end to the suitable outlet for the telephone line.

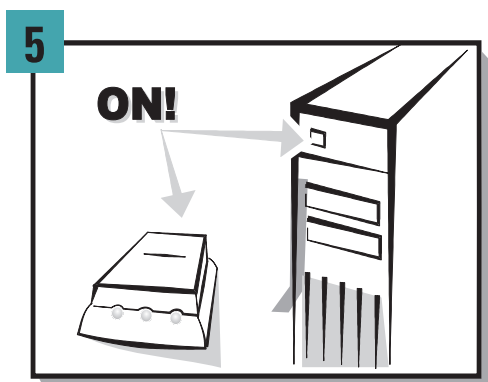
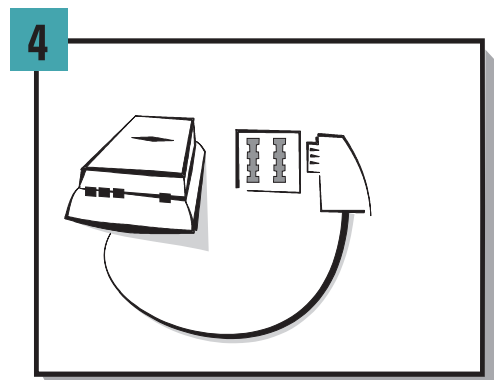
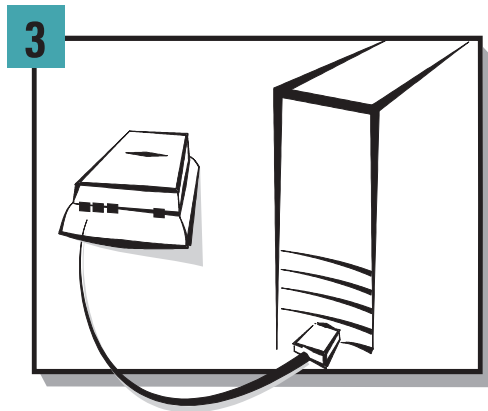
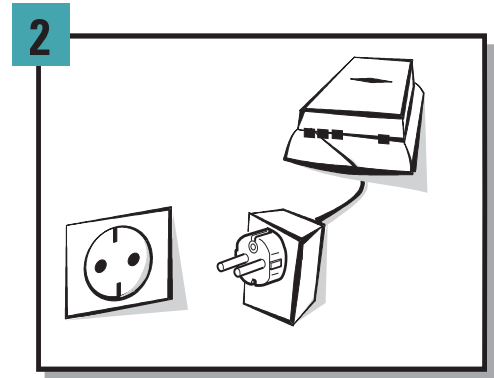
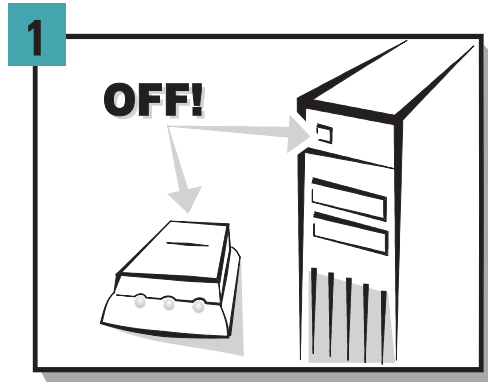
5

Switch on PC and modem

Switch your computer on first, then your modem.



❶	On/Off switch
❷	Power supply connection
❸	Serial port (V.9/RS232C interface)
❹	Line port (RJ11 socket)



Installation

Installation under Windows 95

The installation procedure varies depending on the version of Windows 95 you are using. The various versions of Windows 95 can be identified by the way your computer responds when booting. In addition, you can check under **Start ► Settings ► Control Panel ► System** which Windows 95 version is installed on your computer.

Installation under Windows 95, version 4.00.950 B

The installation under Windows 95 takes place in the following stages:

- ① After connecting your modem, restart the computer. Windows 95 starts 'Update Device Driver Wizard' and selects the driver for you.
- ② Ensure that the modem CD is in your CD drive (e.g. D:\) and confirm with **Next**. After the current drivers have been found, please confirm this with **Next**.
- ③ The information window 'Insert disk' may be confirmed with **OK**. The window 'Copy files' appears.
- ④ Click **Browse** and switch to your CD drive (e.g. D:\), and click **OK** twice to start the copy process.
- ⑤ Continue with the country selection as described in the 'Country Selection' chapter.

Installation under Windows 95, version 4.00.950

The installation under Windows 95 takes place in the following stages:

- ① After connecting your modem, restart the computer. Windows 95 boots and displays the 'New Hardware Found' dialog box.
- ② Select **Driver from disk provided by hardware manufacturer** and click **OK**.
- ③ Ensure that the modem is in your CD drive (e.g. D:\) and **Browse**. The 'Open' dialog box will be displayed.
- ④ Switch to the drive letter of your CD-ROM drive (e.g. D:\), and confirm with **OK**.
- ⑤ In the 'Select Model' dialog box, choose the **ELSA MicroLink 56k Internet** and confirm with **OK**. The files required will be copied.
- ⑥ Continue with the country selection as described in the 'Country Selection' chapter.

Installation under Windows 98

To install the modem under Windows 98, proceed as follows:

- ① After connecting your modem, boot your computer and confirm the 'Hardware Wizard' window with **Next**.
- ② Windows 98 provides you with two options for searching for drivers. Select the **Search for the best driver for your device** option and click **Next**.
- ③ In the subsequent dialog box, activate the **CD-ROM drive** option and deactivate all other boxes. Insert the modem CD in the CD-ROM drive (e.g. D:\) and **Next**.
- ④ When the driver has been found, confirm by clicking **Next** in order to initiate installation. Finally, click **Finish** to exit installation.
- ⑤ Continue with the country selection as described in the 'Country Selection' chapter.

Deinstallation under Windows 95 and Windows 98

In order to remove the drivers from your computer, click **Start ► Settings ► Control Panel ► Modem**. Select the entry for **ELSA MicroLink 56k Internet** and click on the **Remove** button. In addition, you will have to use the Windows Explorer to remove the following Inf files:

- 'MDMELSA7' (usually in the C:\windows\inf folder)
- 'ELSA AG MDMELSA7' (usually in the C:\windows\inf\other folder)

Installation under Windows NT 4.0

To install the modem under Windows NT 4.0, proceed as follows:

- ① After connecting your modem, restart the computer.
- ② Select **Start ► Settings ► Control Panel ► Modems**, and click on **Add** to start the modem recognition. The *ELSA MicroLink 56k Internet* will be recognized as a 'Standard Modem'.
- ③ Click on **Change** to select the modem and in the 'Install New Modem' window, select **Have Disk**.
- ④ Click **Browse** and switch to your CD-ROM drive. Use **Open** to select the file 'MDMELSA7.INF' on your modem CD and click **OK**.
- ⑤ In the 'Install New Modem' dialog box, select the *ELSA MicroLink 56k Internet*, confirm with **OK** and click **Next**.

- ⑥ Finally, click **Finish** to exit installation.

The *ELSA MicroLink 56k Internet* will now be available under Windows NT 4.0. The existing Windows NT 4.0 software (e.g. HyperTerminal, Dial-Up Networking) can access the modem directly.

- ⑦ Continue with the country selection as described in the 'Country Selection' chapter.

Deinstallation under Windows NT 4.0

In order to remove the drivers from your computer, click **Start ► Settings ► Control Panel ► Modem**. Select the entry for **ELSA MicroLink 56k Internet** and click on the **Remove** button. In addition, you will have to use the Windows Explorer to remove the following Inf files:

- 'OEMx' (e.g. OEM3, in the C:\winnt\inf\ folder)

Installation under Windows 2000

To install the modem under Windows 2000, proceed as follows:

- ① After connecting your modem, boot your computer and confirm the 'Hardware Wizard' window with **Next**.
- ② Windows 2000 provides you with two options for searching for drivers. Select the **Search for the best driver for your device** option and click **Next**.
- ③ In the subsequent dialog box, activate the **CD-ROM drive** option and deactivate all other boxes. Insert the modem CD in the CD-ROM drive (e.g. D:\) and confirm with **Next**.
- ④ After the current driver has been found, please confirm this with **Next**. In the next window, confirm the query 'Do you wish to continue the installation' with **Yes**. Finally, click **Finish** to exit installation.
- ⑤ Continue with the country selection as described in the 'Country Selection' chapter.

Deinstallation under Windows 2000

In order to remove the drivers from your computer, click **Start ► Settings ► Control Panel ► Modem**. Select the entry for **ELSA MicroLink 56k Internet cPNP** and click on the **Remove** button. In addition, you will have to use the Windows Explorer to remove the following inf file:

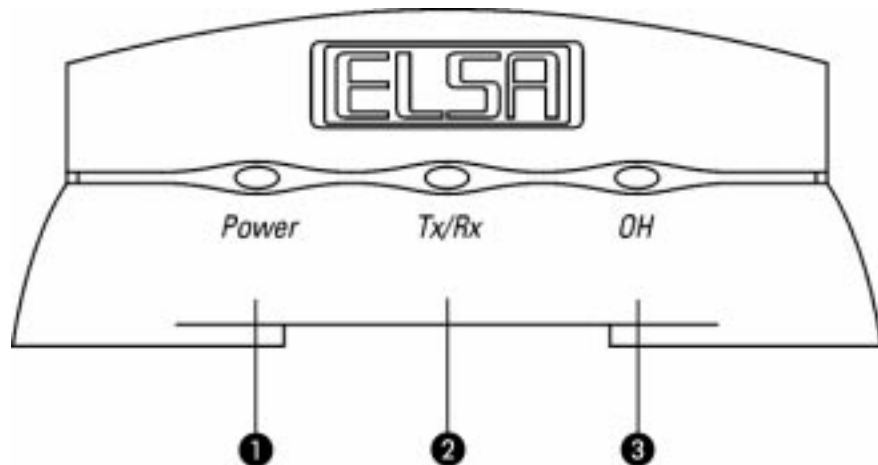
- 'OEMx' (e.g. OEM3, in the C:\winnt\inf\ folder)

Country selection

- ① Please reinsert the modem CD in your CD-ROM drive. The country selection program will be started automatically when the CD is inserted. Use this program to select the country in which you would like to use the *ELSA MicroLink 56k Internet*. In the default configuration, the modem is set up for Germany.
- ② Select the entry **Germany**, for example, to configure the modem for use in Germany, and confirm with **OK**.
- ③ Once the modem has been successfully configured, the CD setup is initiated and you can begin installing the software provided.

Status display and troubleshooting

The LEDs on the front panel show the condition of the interface lines or the condition of the modem.



①	Modem operational
②	Data to/from modem
③	Modem online (off hook)



The power LED is lit when the modem is operational.

Communications software

The *ELSA MicroLink 56k Internet* is a modem that is supplied together with the *ELSA-COMMUNICATE! Lite* software suite. *ELSA-COMMUNICATE! Lite* is a communications program which provides you with the most important data communications applications in a convenient, easy-to-use package.

The included *ELSA-COMMUNICATE! Lite* software provides the following features in conjunction with your modem:

- Telephone answering machine
- Fax
- Internet e-mail
- Address book (e.g. fax and telephone numbers)
- Integrated terminal program

It is possible to upgrade to the full version of *ELSA COMMUNICATE! PRO*.

What do I need for *ELSA-COMMUNICATE! Lite*?

The following minimum requirements must be fulfilled for the use of the modem with *ELSA-COMMUNICATE! Lite*:

- **Computer:** A PC with at least a 486 processor is recommended. Approx. 100 MB free disk space is required for a complete installation. After installation, the *ELSA-COMMUNICATE! Lite* takes about 25 MB in disk space.
- **CD-ROM:** CD-ROM drive
- **RAM:** a minimum of 16 MB.
- **Modem:** *ELSA MicroLink 56k Internet*
- **Operating system:** Microsoft Windows 95, Windows 98 or Windows NT
- **Active speakers:** We recommend the use of active speakers in conjunction with a sound card.

Control commands

The AT command set (AT = command prefix for Attention) was not standardized until recently. The implementation was left to the discretion of the individual manufacturers. A standard now exists in the V.250 command set. Microsoft recommends the use of this command set for the 'PC 98' specifications and prescribes its use for the 'PC 99' specification.

With your *ELSA MicroLink 56k Internet*, you have purchased a state-of-the-art modem equipped with the AT command set in accordance with V.250.

A terminal program is required to enter AT commands from the PC (e.g. *ELSA-COMMUNICATE! Lite*).

Entering and executing AT commands

After switching on, the modem is in the command phase. Commands can only be accepted, interpreted and executed in this phase.

In the event that several commands are to be sent to the modem, these may be entered individually, each with an AT command prefix and a concluding . It is also possible, however, to enter these commands consecutively in a single command line after an introductory **AT** and to conclude the line with an .

The individual commands may be separated by spaces to improve the overview. No further characters may be entered once the end of the command line buffer has been reached. The command line can then only be edited with (backspace) or executed with .

Escape command

Use the characters and to abort a command line or a screen output (e.g. in case of displaying the register contents use **AT%R**).

Commands that must be specified with a parameter may also be entered without a parameter. The absence of a parameter corresponds to the parameter 0 (e.g. **ATL = ATL0**).

After the successful establishment of a connection to the remote site, the modem switches from the command phase to the transfer phase.

Transfer phase means that a connection to a remote data station (i.e. to another modem) exists: The modem is online. This is the case after successful call establishment (outgoing call), as well as after answering a call (incoming call). The exchange of data between two data stations can take place during this phase.

A renewed transition to the command phase and back, also in the case of an existing connection, is possible with the escape command and the command **ATO**. The escape

command consists of a series of three escape characters (default setting: +++) and a valid command line.

After the three Escape characters have been entered, the modem is in the command state. Data transfer is not interrupted until a valid command line has been recognized.

The escape character has nothing in common with the character **Esc** of the ASCII character set. It can be redefined in register S2.

All commands sent to the modem must begin with the ASCII characters **AT** or **at** (not valid: At or aT) and must be concluded with **Enter**. A valid command line in an escape sequence is restricted to a maximum of 40 characters.

The command **AT&F** loads the firmware default parameter settings. This command is not executed during existing connections.

Bit-oriented registers

Bit-oriented registers are primarily used to provide status information. Please note that the modification of a single value in the bit-oriented register may have several functions. Great caution should thus be applied when changing bit-oriented registers! To change the configuration of your modem, you should use the AT commands instead. A complete description of the S-registers can be found on the ELSA modem CD.

Modifying bit-oriented registers

The following example will illustrate the modification of the bit-oriented options of a register. To set the bit 6 of register S14, enter the command **ATS14.6=1**.

If you would like this value to be maintained after the modem is switched off, the new entry can be stored with the command **AT*W**.

Overview of AT command set and registers

In this brief overview, which is grouped according to topics, you find frequently needed AT commands and registers you can use to change your modem settings. A complete description of the AT command set and registers can be found on the CD which comes with the modem.

The "Commands and registers" column lists AT commands and registers you can use to change the basic settings of the modem. The "More commands and registers" column lists AT commands and registers for extended control of the modem.

Basic control features

Configuration	Commands and registers	More commands and registers
Basic initialization of the modem	AT&F	
Control of call establishment (dialing)	ATD, ATT, ATX	AT\$D, AT:D, S6, S7, S8, S14 (bit 6)
Call acceptance, taking over of the line, hang up	ATA, ATD, ATH, AT&D2, S0	AT-H, AT\T, S14.6, S28 (bit 7)
Transition between command and transfer phase	+++ , ATO	S2
Control of speaker and of call signaling	ATL, ATM, S54 (bit 0)	
Read out modem information	ATI, ATS, AT&V	AT%R, AT\S, AT%V, S86
Control data compression	AT+DS	
Control error correction	AT+ES	
Control data flow monitoring	AT+IFC	S130
Control dial lock or dial delay	S31 (bit 7)	

Extended control features

Configuration	Commands and registers	More commands and registers
Operation with saved initializations	AT&V, AT&W, AT*W, AT&Y, ATZ	S54
Operate with saved phone numbers	AT+ASTO	

Special control features

Control modem signal lines	AT&C	AT\D, AT&S
Control the effects of DTR	AT&D	AT\$D, AT:D, S28 (bit 7)
Control modem answers	ATE, ATQ, ATV, ATV	AT&D, AT-H, AT-M, AT*Q, S96
Control call tones	AT&G	
Control transfer method	AT+MS	
Control data format	S28 (bit 0-1), S53	
Control telephone-side speed	AT+MS	

Appendix

Technical data

Users with specific technical interests should refer to this chapter for detailed information on *ELSA MicroLink 56k Internet*.

	<i>ELSA MicroLink 56k Internet</i>
Power supply	230 V/9V _{AC} power adapter, TÜV GS approved
Power consumption (approx.)	Transmission phase (online) 700 mA typ. Command phase (online) 350 mA typ.
Power consumption	9.9 VA typ.
Dimensions and design	31 x 93 x 123 mm (W x H x D), plastic housing
Ambient conditions	5..40°C 0..80%, non-condensing
Transfer protocols and speeds	56.000..300 bps asynchronous, transmission and reception 33.600..300 bps asynchronous (V.90, K56flex, V.34, V.32bis, V.32, V.22bis, V.21, V.23, V.80, Bell 212A and Bell 103)
Error correction	V.42 and MNP Class 4
Data compression	V.42bis and MNP Class 5
Command set	AT command set in accordance with V.250/V.25ter
Fax operation	14.400..2400 bps in accordance with V.17, V.33, V.29 and V.27ter; fax command set, TR-29.2 Class 2 (SP-2388), Class 2.0 (TIA/EIA-592), Class 2.1 (ITU-I.32), Class 1 (TIA/EIA-578) and Class 1.0 (ITU-T-T.31)
Dialing method	Dual-tone multifrequency dialing
External call	Via flash function or digit
BPS ADJUST	automatic in accordance with V.8 and V.100 (can be disabled)
Computer interface	V.24/RS-232
CE conformity	Tested in accordance with EN 50082/Part 1, EN 50081/Part 1, EN 61000-4-2,3,4,6, ENV 50204, EN 55022, Class B, EN 60950
EU approval	according to CTR21 + Advisory Notes EG 201 121

Warranty Conditions as of June 01, 1998

The ELSA AG warranty, valid as of June 01, 1998, is given to purchasers of ELSA 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 our 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. Also we reserve the right to replace the defective product by a successor product or repay the original purchase price to the buyer in exchange to the defective product. Operating manuals and possibly supplied software are excluded from the warranty.
- b) Material and service charges shall be covered by us, but not shipping and handling costs involved in transport from the buyer to the service station and/or to us.
- c) Replaced parts become property of ELSA.
- d) ELSA are 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 *ELSA MicroLink 56k Internet* is two years. This period begins at the day of delivery from the ELSA dealer. Warranty services 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 transport company representative and ELSA should be informed immediately. On discovery of damage which is not externally visible, the transport company and ELSA are to be immediately informed in writing, at the latest within 7 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 the original purchase receipt is returned with the device.

4 Suspension of the warranty

All warranty claims will be deemed invalid

- a) if the device is damaged or destroyed as a result of acts of nature or by environmental influences (moisture, electric shock, dust, etc.),
- b) if the device was stored or operated under conditions not in compliance with the technical specifications,
- c) if the damage occurred due to incorrect handling, especially to non-observance of the system description and the operating instructions,

- d) if the device was opened, repaired or modified by persons not authorized by ELSA,
- e) if the device shows any kind of mechanical damage,
- f) if in the case of an ELSA Monitor, damage to the cathode ray tube (CRT) has been caused especially by mechanical load (e.g. from shock to the pitch mask assembly or damage to the glass tube), by strong magnetic fields near the CRT (colored dots on the screen), or through the permanent display of an unchanging image (phosphor burnt),
- g) if, and in as far as, the luminance of the TFT panel backlighting gradually decreases with time, or
- h) 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 software, hardware, installation or operation, ELSA reserves the right to charge the purchaser for the resulting testing costs.

6 Additional regulations

- a) The above conditions define the complete scope of ELSA'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) ELSA 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 ELSA employees has caused a loss of data, ELSA 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, ELSA'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 ELSA and the purchaser.

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