

■ ***ELSA AirLancer™ MC-2***

■ ***ELSA AirLancer™ ISA-2***

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# Preface

## Thank you for placing your trust in this ELSA product.

Wireless networks from ELSA are economical alternatives or additions to local wired networks (LANs). Notebooks and PCs can use mobile network cards to communicate with one another or access wired networks via base stations and can even be integrated into the ISDN network.

This documentation is intended for the user of the *ELSA AirLancer MC-2* and *ELSA AirLancer ISA-2* mobile network cards. First we describe the devices and their options, then provide instructions for installing the devices and the drivers and as an initial application example we describe how to connect two computers with each other and to a base station.

## Documentation

The accompanying documentation comprises:

- Installation Guide
  - Hardware installation and configuration examples
- CD containing electronic documentation
  - All product manuals, basic technical information (e.g. wireless networks, general networking technology, TCP/IP etc.), workshop with detailed examples of applications, reference section for general information including a complete description of the menus



*Our online services (Internet server [www.elsa.com](http://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.*

*The KnowledgeBase can also be found on the CD. Just open the file `\\Misc\\Support\\MISC\\ELSA\\SIDE\\index.htm`.*

# Introduction

The advantages of wireless LANs are obvious: Notebooks and PCs can be set up where they are wanted—problems with missing ports or construction alterations are a thing of the past with wireless networking.

Network links in conferences or presentations, access to resources in adjacent buildings and exchanging data with mobile units are only a few of the options available with a wireless LAN.

The base station plays the central role in enabling these options in an existing wired network. All stations in the wireless network access the LAN via the base station.

## What does a wireless network card really do?

### WLAN

A wireless network card is used to link individual notebooks and PCs to a local network, a **Local Area Network** (LAN). Because the standard network wiring belonging to a conventional LAN is replaced by a radio connection in this LAN, these wireless networks are also referred to as a **Wireless Local Area Network** (WLAN).

All the functions of a wired network are available in a wireless network: Access to files, servers, printers etc. is possible as is the integration of the mobile stations into an internal company e-mail system.

## Radio transmission

### IEEE 802.11

Wireless network cards from ELSA operate under IEEE Standard 802.11. This standard is a supplement to the current IEEE standards for LANs, with IEEE 802.3 for Ethernet being the most well-known. IEEE 802.11 covers the operation of local wireless networks on private and public property in the ISM frequency range (**I**ndustrial, **S**cientific, **M**edical: 2.4 and 2.483 GHz).



*Please note that not all frequencies are permitted in every country! A table of the frequencies is given in the appendix.*

### 2 Mbps

The maximum bandwidth for data transfer is 2 Mbps. The transfer range in the open is up to 300 meters, in buildings it is typically around 30 meters.

### DSSS

The wireless network cards from ELSA use the DSSS process (**D**irect **S**equences **S**pread **S**pectrum) to shield against interference from other transmitters that may be using the same frequency range. A transmitter normally uses only a very narrow range of the available frequency band for transfer. If precisely this range is also in use by another transmitter, this will cause interference in the transfer. In the DSSS process the transmitter uses a broader section of the possible frequency band and so is less sensitive to narrow-band interference. This process is also used by the military to make

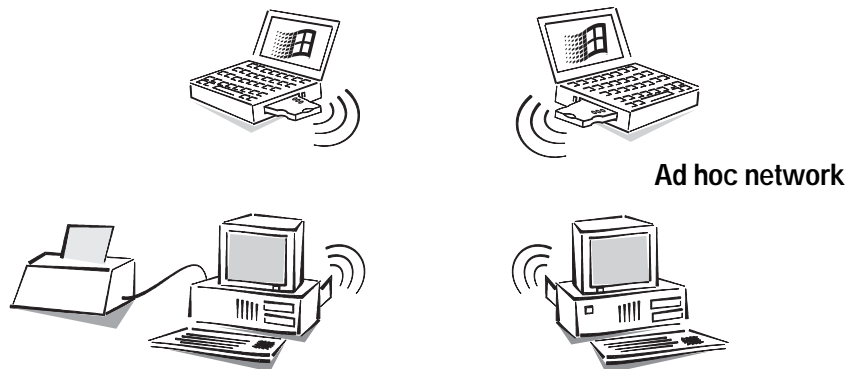
eavesdropping more difficult. In this process data are “chopped up” and spread over a wide frequency band, ensuring a reliable eavesdropping-proof transfer.

## Applications

Two basically different application options can be selected with the wireless network cards from ELSA:

*Direct PC connection*

Use the wireless network cards to link two or more computers directly. All computers in a WLAN can then communicate with one another with no additional hardware.

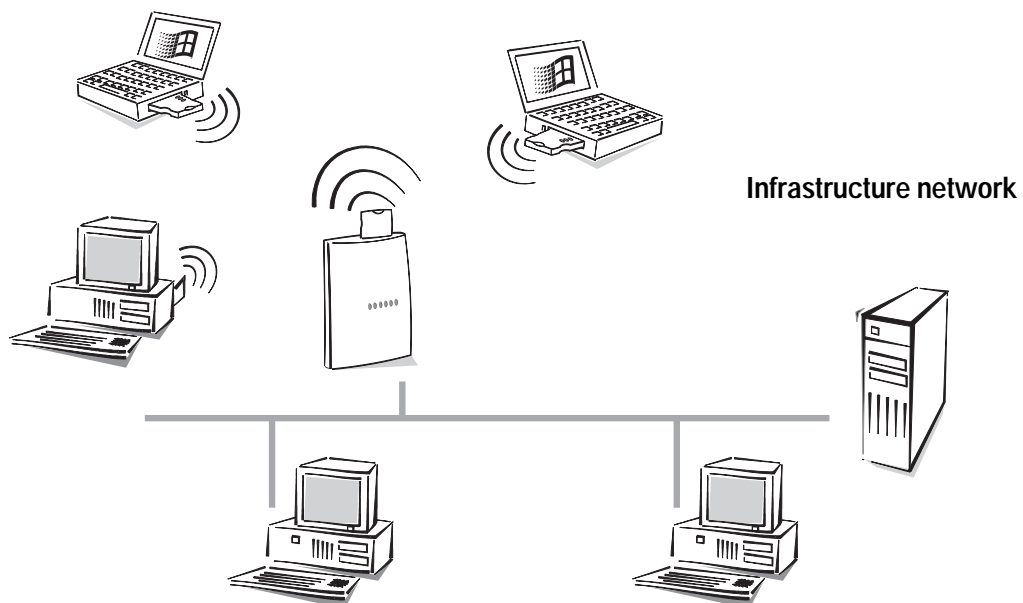


*Peer-to-peer*

This application is generally referred to as a peer-to-peer network; however, in the jargon of wireless networks this type of networking is referred to as an ad hoc network.

*Connection to wired LAN*

All computers with wireless network cards are able to access a wired network via a base station. The base station acts as the connection between the LAN and the WLAN and it also forms the switching center for data traffic within the WLANs.



*Peer-to-LAN*

A wireless network with a base station is generally referred to as a peer-to-LAN network; however, in the jargon of wireless networks this type of networking is referred to as an infrastructure network.

This network type is ideally suited as an addition to existing LANs. The infrastructure network is the ideal solution for expansion of a LAN in areas where wiring is not possible or not economical.

## Introducing the *ELSA AirLancer*

### PC card

The wireless network card *ELSA AirLancer MC-2* is designed as a PC card. In contrast to other PC cards, *ELSA AirLancer MC-2* has an antenna extending beyond the base of the card.



### LEDs

The antenna has three LEDs, which provide information on the status and the activity of the card:

- The red LED indicates that the PCMCIA slot is active and that the card driver was successfully loaded.
- The yellow LED indicates that the wireless network card is logged on to a base station.
- The green LED shows the activity on the wireless network, i.e. transmission and reception of data packets. If this LED is not lit or is permanently lit, the wireless network card is faulty.

*ELSA AirLancer MC-2* can be inserted into a free PCMCIA slot. If you use the wireless network card in a desktop PC, you will need an adapter.

*ELSA AirLancer ISA-2* includes an adapter for PCI slots.



*The wireless network cards in the PCMCIA slots, the PCI adapter and the base stations are interchangeable. Therefore, if you do not require the PC card on a desktop PC for a period, you can easily install it in another notebook.*



# Installation

The aim of this chapter is to get you online as quickly as possible. You are therefore given a brief description of the hardware installation and the driver installation under various operating systems.

## System requirements

Your computer must fulfill the following requirements for the installation:

- Windows 95, Windows 98 or Windows NT 4.0 (i386) operating system
- CD-ROM
- Free ISA slot (desktop PC)
- PCMCIA type II or type III slot, correctly installed in the operating system (notebooks)

## Data media

During installation, files may be required from the data media which you used to install your operating system and network client, if applicable. Have the appropriate diskettes or CDs ready.

## System settings

To enable full usage of the functions of the wireless network, the TCP/IP protocol must be installed. In addition, the NetBEUI network protocol is required for Windows networks in the ad hoc mode.

## Install *ELSA AirLancer ISA-2*

- ① Safety First! Disconnect the power cord from the PC before opening the housing.
- ② Loosen the retaining screws on the housing lid and remove it.
- ③ Remove the blind bracket of a free slot.
- ④ Insert the *ELSA AirLancer ISA-2* card (without *ELSA AirLancer MC-2*) into this slot, and screw down the sheet metal of the card. Replace the PC housing and screw it tight.
- ⑤ Reconnect the power cord to your computer and switch the computer on.

## Installation under Windows 95 and Windows 98



*Almost all the windows appearing on your screen during installation can be confirmed by clicking on the **OK**, **Finish** or **Next** buttons. The following information shows you exactly where you will need to take any special steps.*



*If the files are not found on the Windows CD during installation, try to find them in the subdirectory D:\win95 or D:\win98 or D:\windows.*



## Install driver for *ELSA AirLancer ISA-2*

- ① If your computer does not automatically search for new hardware after restarting, start the hardware detection manually with **Start ► Settings ► Control Panel ► Hardware**. Follow the directions of the hardware wizard and start the search for new hardware components. This may take several minutes.
- ② Once the hardware detection has finished, use the Details button to check whether a 'PCIC-compatible PCMCIA adapter' has been found. Continue with the installation.
- ③ In Windows 98 answer the questions of the 'PC Card Wizard'. In general, you can answer the questions regarding any other existing PC cards and the system files check with **No**.
- ④ Restart your computer after copying the required files.

## Install driver for *ELSA AirLancer MC-2*

- ① Insert *ELSA AirLancer MC-2* into the free PCMCIA slot of a notebook computer or into the PCMCIA adapter *ELSA AirLancer ISA-2*. Note the marks to ensure that the card is in the correct position. The card will be recognized automatically and all required drivers will be set up.

Depending on your Windows version, the hardware detection process takes place as follows:

	Windows 95, version 4.00.950	Windows 95, version 4.00.950 B	Windows 98
②	Windows 95 reports 'New Hardware Found'. Select Driver from disk provided by hardware manufacturer.	Windows 95 starts 'Update Device Driver Wizard' and selects the driver for you.	Windows 98 starts the 'Hardware Installation Wizard' and offers you two different ways of searching for drivers. Select the 'Search for the best driver for your device' option.
③	The drivers for the card are on the <i>ELSA LANCOM-CD</i> . Switch to the next window in the main directory in your CD-ROM drive (e.g.: D:\).		In the next window activate the option 'CD drive', insert the <i>ELSA LANCOM</i> CD into the drive, and confirm with <b>Next</b> .

- ④ Windows now copies the required driver files.



*After installing the drivers check whether the parameters for the wireless network (e.g. for ad hoc network or infrastructure network) are set correctly for your application (see also 'Configuration Examples').*

## Installation under Windows NT 4.0



*Before installing the driver you should ensure that you have system administrator authorization. Otherwise you will not be able to install the driver using Windows NT 4.0. The subsequent operation of the card is also possible with user rights, of course.*

*The NT network support for TCP/IP is required to operate ELSA AirLancer MC-2 under Windows NT.*

### Install driver for *ELSA AirLancer ISA-2*

- ① Start the installation with **Start ► Settings ► Control Panel ► Devices**. Select the entry **PCMCIA** and change the entry **Start Type** to 'automatic'. Confirm with **OK** and start the device by clicking the **Start** button with the mouse.
- ② Afterwards choose **Start ► Settings ► Control Panel ► PC card (PCMCIA)**. If the driver for *ELSA AirLancer ISA-2* has not been properly loaded, you will find the entry '(Empty) - Socket 0' here.

### Install driver for *ELSA AirLancer MC-2*

When installing under Windows NT 4.0, check whether the required system resources are available. *ELSA AirLancer MC-2* will be installed with IRQ 10 and the address 200 - 240 by default. The interrupts and addresses can be viewed under **Start ► Programs ► Administrative Tools (Common) ► Windows NT Diagnostics**.

If the required resources are not available, please make a note of other free resources and specify them during the installation. It is also possible to change the resource allocations at a later time with **Start ► Settings ► Control Panel ► Network ► Adapters ► Properties**.

- ① Insert *ELSA AirLancer MC-2* into the free PCMCIA slot of a notebook computer or into the PCMCIA adapter *ELSA AirLancer ISA-2*. Note the marks to ensure that the card is in the correct position.
- ② Start the installation with **Start ► Settings ► Control Panel ► Network**. Select the **Add** button on the 'Adapter' register tab.
- ③ In the 'Select Network Adapter' window select the **Have disk...** button, and enter the path to your CD drive (e.g. D:\).
- ④ Check the settings of the wireless network card.

- Activate the option **Infrastructure** if you wish to set up a connection to a base station with the wireless network card (peer-to-LAN).
- Activate the option **Standard** if you wish to set up a direct connection to another computer with the wireless network card (peer-to-peer).

⑤ Finish the installation and restart your computer.



*After installing the drivers check whether the parameters for the wireless network (e.g. for ad hoc network or infrastructure network) are set correctly for your application (see also 'Configuration Examples').*

# Example configurations

In this chapter we present two examples of the use of *ELSA AirLancer MC-2*.

*Additional application examples and information on configuring the base stations can be found in the electronic documentation on the CD.*



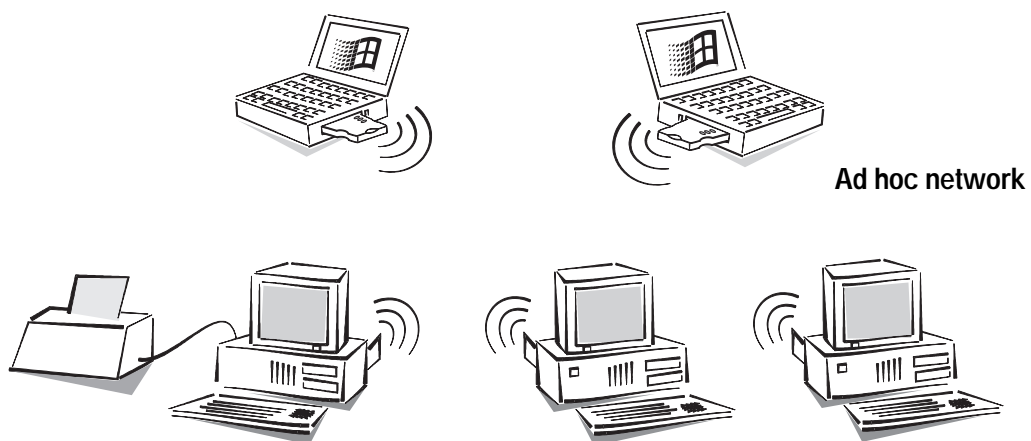
## Direct PC connection

Even small companies, branches and offices with small numbers of employees are increasingly using their computer workstations not simply as isolated solutions but they are also linking the individual computers, printers etc. to form a common structure, a network.

The Windows operating systems, used in most cases, include everything required for connecting several computers to a network. The wireless network cards from ELSA even make it unnecessary to wire the computers together. A small Windows network in which every computer can have "wireless" access to the released files, folders and printers on the other computers can be set up very quickly.

### For example: In an architect's office

We shall take a small architectural office as an example of a peer-to-peer network (or ad hoc network). Two architects and one assistant work in the office. Each of the three has a desktop PC, and a printer, used by all three, is connected to the assistant's computer. The two architects also have notebook computers to keep them up to date with outside appointments. It should be possible to exchange data between the notebooks and the desktop PCs and the notebooks should also be able to access the printer quickly at any time.



In this case all computers are fitted with *ELSA AirLancer MC-2* wireless network cards, and the desktop PCs are also fitted with the *ELSA AirLancer ISA-2 PCMCIA* adapters.

Setting up the  
wireless  
network cards

To enable the wireless network cards to detect one another and exchange data with one another, the various parameters must have the same values.

Open the network neighborhood with **Start ► Settings ► Control Panel ► Network**. Highlight the entry 'ELSA AirLancer MC-2' and choose the properties. Open the register card 'Advanced' and check the values displayed:

- **Channel** (from 1 to 13) must be set the same for all computers in the wireless network; it can be left at the default setting 'Channel 11'.

By selecting another channel you can operate different wireless networks adjacent to one another. There are theoretically 14 different channels available, but because of the frequency overlapping in the DSSS process only three channels can be implemented without overlapping (1, 6, 13) to operate adjacent to one another without interference caused by superimposition.



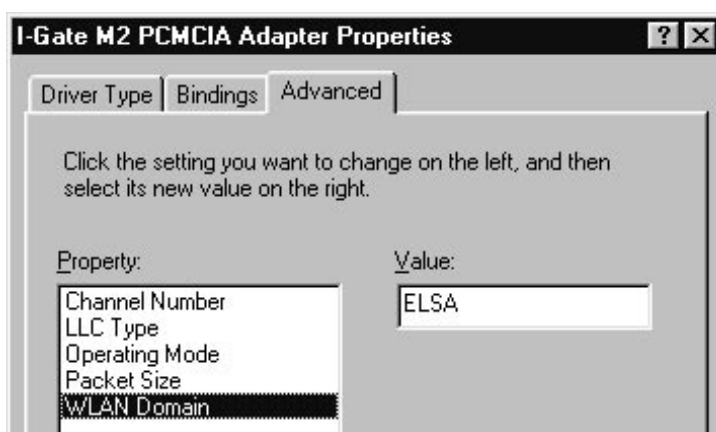
*Please note that not all channels in all countries are available for private use (see table with radio channels in the appendix).*

- **LLC Type** remains at 'IEEE 802.11' for all computers.
- **Operating Mode** is set to 'ad hoc' in a peer-to-peer network.
- **Packet Size** remains at the default value of '1550' for all computers.

At Packet Size you set the length of the individual data packets that are sent over the wireless network. Values from 50 to 1600 bytes are possible. Larger packets must be taken apart before transfer (fragmented) and reassembled at the receiver (assembled).

Small packets can allow more reliable transfers in interference-prone environments, but the proportion of useful data to management information is less.

- **WLAN Domain** can be freely selected. This value must also be the same for all computers and base stations in the wireless network.



*Change this value on all radio stations from the default 'ELSA' to any other value as soon as possible, because the WLAN Domain is used to protect your wireless network against unauthorized access as with a password.*

### Operating system settings

After installing and setting up the drivers for *ELSA AirLancer ISA-2* and *ELSA AirLancer MC-2* in all computers, there are still some components to be set up in the operating system.

- Network protocol

The network protocols TCP/IP and NetBEUI are required to implement a peer-to-peer network with the wireless network cards from ELSA. Install the protocols if they are not already installed and check the protocol links to the *ELSA AirLancer MC-2* wireless network card in the control panel.

- Client

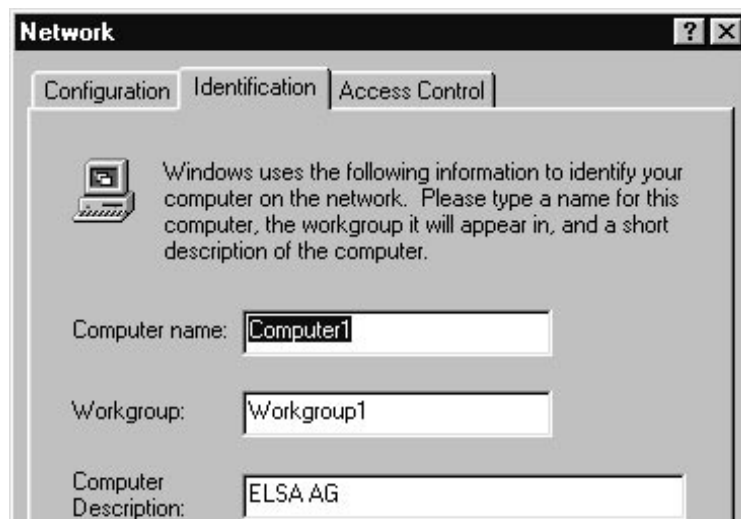
The Microsoft network client is required to permit all of the workstations in the Microsoft network to log on with names and passwords.

- Capab.

File and printer sharing permits drives and printers to be shared with other users in the Windows network.

- Name and group designation

Click **Start ► Settings ► Control Panel ► Network** and switch to the **Identification** tab.



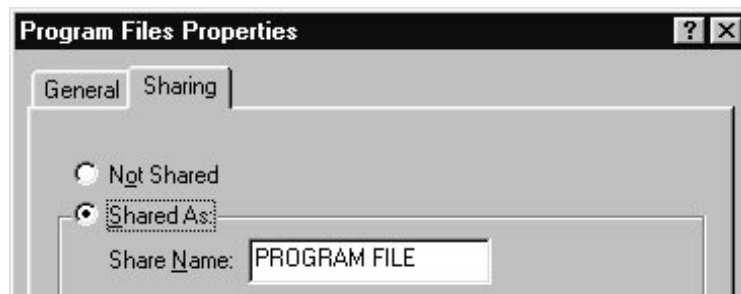
The name of the workstation must be unique. Names also may not recur in different groups.

The workgroup must be set the same for all computers that are intended to exchange data and resources.

- File and printer sharing

Ensure that file and printer sharing is enabled after the installation is complete. Click **Start ► Settings ► Control Panel ► Network ► File and printer sharing**. Specify whether other users in the Windows network should be allowed access to the printer and/or files of this workstation.

In the Windows Explorer, right-click the drives, folders or printers that you would like to share with others on the network and select the item **Sharing...** from the context menu.



Enter a name for the shared resource and a description if required. The manner in which the resource can be accessed can be selected under Access Type, and by entering passwords as required.



*It's easy to check whether the Windows network settings have been made correctly: the local computer must appear with its name in the Network Neighborhood.*

*Access to other resources*

Shortly after a computer has been started in a Windows network, the user can see the names of all other currently accessible computers in the network in the Windows Explorer Network Neighborhood (including the user's own computer).

The released folders and files are as easily accessible in Explorer as the hard disks and drives in the user's computer.

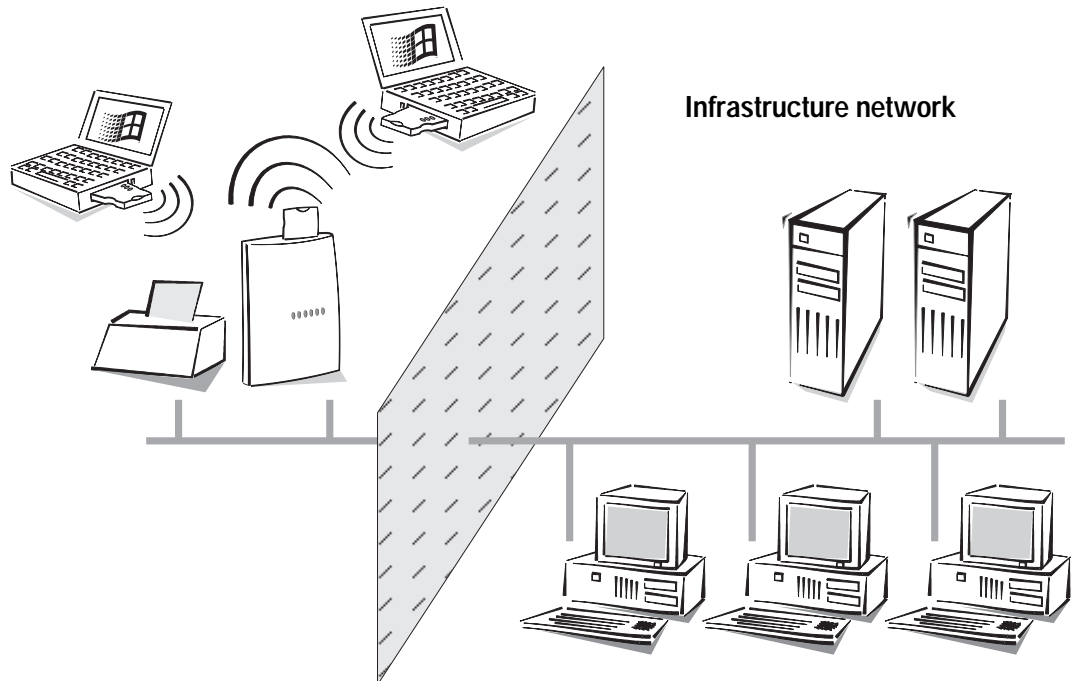
## Link to a local network

As well as setting up independent networks, the second great advantage of the wireless network is the ability to expand existing wired networks. It makes no difference here whether the existing LAN is to be extended but wiring the new workstations is uneconomical or impossible or whether, for example, external employees should have a mobile link to the LAN during an internal assignment.

*For example: In the marketing department*

We shall use the marketing department of a medium-sized company as an example for a peer-to-LAN network. The marketing employees are transferred to another floor. Because they are working externally most of the time in any case, the new workstations

will not be full wired but only an access point to the company LAN will be established with a *ELSA LANCOM Wireless L-2* base station.



Every marketing employee receives a *ELSA AirLancer MC-2* wireless network card for the notebook computer so the employee can log into the company network while in the office. To enable the marketing employees to print, there is also a network printer connected to the LAN in their office.

*Setting up the wireless network cards*

To enable the wireless network cards in the notebooks to log on to the base station and exchange data with the LAN, the various parameters must have the same values as the wireless network card in the base station.

Open the Network Neighborhood with **Start ► Settings ► Control Panel ► Network**. Highlight the entry 'ELSA AirLancer MC-2' and choose the properties. Open the register card 'Advanced' and check the values displayed:

- **Channel** (from 1 to 13) must be set the same for all computers in the wireless network; it can be left at the default setting 'Channel 11'.
- **LLC Type** remains at 'IEEE 802.11' for all computers.
- **Operating Mode** is set to 'infrastructure' for all computers in the peer-to-LAN network.
- **Packet Size** remains at the default value of '1550' for all computers.
- **WLAN Domain** can be freely selected. This value must also be the same for all computers.



*Change this value on all radio stations from the default 'ELSA' to any other value as soon as possible, because the WLAN Domain is used to protect your wireless network against unauthorized access as with a password!*





*You can find information on configuring the base stations in the documentation for ELSA LANCOM Wireless IL-2 and ELSA LANCOM Wireless L-2 and in the electronic documentation on the CD.*

#### *Access to the LAN*

After setting up the wireless network cards, all functions and services available on the desktop PCs in the wired network will be available for the marketing employees with their notebook computers:

- File server (Novell, NT or other)
- Network printer in the marketing department
- Internal company mail system (e.g. Lotus Notes)
- Internet through the LAN

# Appendix

## Technical data

Frequency band	2400-2483.5 MHz (ISM)	
Data transfer rate	2 Mbps (with an alternative option of 1 Mbps, automatic rate selection)	
Range	Up to 300 meters in the open, approx. 30 meters in enclosed structures (typical range)	
Antenna	2dBi dipole antenna	
Bit error rate	Better than $10^{-5}$	
Standard	IEEE 802.11, DSSS (Direct Sequence Spread Spectrum)	
Operating systems	Windows 95, Windows 98, Windows NT 4.0 (Windows 2000, Windows CE in preparation)	
Connects	<i>ELSA AirLancer MC-2</i>	<i>ELSA AirLancer ISA-2</i>
	PC card (PCMCIA Type II)	ISA bus
Package contents	Elaborated documentation in German, English, French and Italian	
Service	Warranty: 1 year Support: via hotline and Internet	

## Radio channels

Every one of the 14 radio channels that can be set for a wireless network has a breadth of 22 MHz with the use of DSSS. This enables a maximum of three mutually independent channels in the ISM frequency band. The table shows the medium frequencies and what channels are permitted in what country.

	Channel no.	Medium frequency [MHz]	EU (ETSI)	Spain	France
1st radio band channel 3	1	2412	X		
	2	2417	X		
	3	2422	X		
	4	2427	X		
	5	2432	X		
2nd radio band channel 8	6	2437	X		
	7	2442	X		
	8	2447	X		
	9	2452	X		
	10	2457	X	X	X
3rd radio band channel 13	11	2462	X	X	X
	12	2467	X		X
	13	2472	X		X
	14	2484			

## Warranty conditions

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 products is six years. Excepted from this warranty period are ELSA color monitors and ELSA videoconferencing systems with a warranty period of 3 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.

# Declaration of conformity



## KONFORMITÄTSERKLÄRUNG

### DECLARATION OF CONFORMITY

Diese Erklärung gilt für folgendes Erzeugnis:

This declaration is valid for the following product:

**Geräteart:** Wireless LAN PC card (PCMCIA)  
**Type of Device:**  
**Typenbezeichnung:** *AirLancer MC-2*  
**Product Name:**

Hiermit wird bestätigt, daß das Erzeugnis den folgenden Schutzanforderungen entspricht:

This is to confirm that this product meets all essential protection requirements relating to the

**Niederspannungs Richtlinie (73/23/EWG)**

Low Voltage Directive (73/23/EEC)

**EMV Richtlinie (89/336/EWG)**

EMC Directive (89/336/EEC)

Zur Beurteilung der Konformität wurden folgende **Normen** herangezogen:

The assessment of this product has been based on the following **standards**

**ETS 300 328: 1996**

**ETS 300 826: 1997**

**EN 50081-1: 1992 Teile/ parts: EN 55022: 1998**

**EN 50082-1: 1992 Teile/ parts: EN 55024: 1999**

**EN 60950: 1992+ A1: 1993 +A2: 1993 +A3: 1995 +A4: 1997**

Diese Erklärung wird verantwortlich für den Hersteller / Importeur:

On behalf of the manufacturer / importer:

**ELSA AG**  
**Sonnenweg 11**  
**D-52070 Aachen**

abgegeben durch: / this declaration is submitted by:

Aachen, 19. August 1999

Aachen, 19<sup>th</sup> August 1999

i.V. Stefan Kriebel  
 Bereichsleiter Entwicklung  
 VP Engineering



# KONFORMITÄTSERKLÄRUNG

## DECLARATION OF CONFORMITY

Diese Erklärung gilt für folgendes Erzeugnis:  
This declaration is valid for the following product:

Geräteart: Wireless LAN ISA card  
Type of Device:  
Typenbezeichnung: AirLancer ISA-2  
Product Name:

Hiermit wird bestätigt, daß das Erzeugnis den folgenden Schutzanforderungen entspricht:  
This is to confirm that this product meets all essential protection requirements relating to the

Niederspannungs Richtlinie (73/23/EWG)  
Low Voltage Directive (73/23/EEC)  
EMV Richtlinie (89/336/EWG)  
EMC Directive (89/336/EEC)

Zur Beurteilung der Konformität wurden folgende Normen herangezogen:  
The assessment of this product has been based on the following standards

EN 50081-1: 1992 Teile/ parts: EN 55022: 1998  
EN 50082-1: 1992 Teile/ parts: EN55024: 1999  
EN 60950: 1992+ A1: 1993 +A2: 1993 +A3: 1995 +A4: 1997

Diese Erklärung wird verantwortlich für den Hersteller / Importeur:  
On behalf of the manufacturer / importer:

ELSA AG  
Sonnenweg 11  
D-52070 Aachen

abgegeben durch: / this declaration is submitted by:

Aachen, 31. August 1999  
Aachen, 31<sup>st</sup> August 1999

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