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Preface

The Communicator 56K ESP-2 serie comprises modems for normal, analogue telephone lines. The modem can be installed by the user. This does not any require specific expertise.

The following layout is used to show commands:

'Configuration screen' A software concept. These are usually shown on the screen.

<RETURN> The key on the keyboard which is to be pressed.

[c:\setup] A command that is to be entered using the keyboard.

Important information is given in the form shown below:

Note: *The diskette should not be formatted.*

Warning: *This may cause a hazard!*

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1. Introduction

The Communicator 56K ESP-2 is a modem intended for public (analogue) telephone network connections. For modem connections, the maximum data transfer speed is 56,000 bps. This is approximately 5.5 KB per second. Fax messages are sent at a maximum of 14,400 bps. You can also use the Communicator 56K ESP-2 as an answering machine. The Communicator 56K ESP-2 complies with V.80 recommendations and is therefore suitable for video conferencing and telecommuting.

The Communicator 56K ESP-2 modems cannot be used for ISDN or other telephone systems using digital code.

2. Safety First

The Communicator 56K ESP-2 is designed for standard analogue telephone line connections. Do not connect it to a digital telephone system or to a network. This may cause damage.

Use the modem in dry spaces only.

Do not connect or disconnect any equipment if the computer has not been turned off yet. This may cause damage to the equipment.

the Communicator 56K ESP-2 has a power supply. This mains supply is suited for Europe only and should only be installed in dry spaces. Unplug the equipment if you are going on holiday or planning on not using the modem for a long period. Do NOT use any other mains supply than the one provided and do NOT use this mains supply for any other purpose (for a personal stereo, for example). This may cause fire. During installation, please make sure that the cables do not cause any inconvenience or get caught under or behind the leg of a chair, and so forth.

If lightning occurs, you are advised to unplug the mains supply and the telephone connection to avoid damage.

3. How to install your modem

This chapter describes how to connect the modem to your computer.

3.1 Hardware

The package should contain the following:

- Modem;
- Disk containing the control program for Windows 95/98 and NT 4.0;
- Software and relevant manual;
- Telephone lead with plug;
- Adapter;
- Serial cable;
- Manual.

Contact your supplier if one or more of these items are missing.

Your modem has to be connected to your computer. The relevant leads are provided. Proceed as follows:

1. Switch off the computer.
2. Plug the 25-pin-wide connection of the serial lead into the "RS-232" serial port at the back of the modem.
3. Plug the other end of the serial cable into the serial port of your computer. This is usually COM2. The cable has two connections. Choose the plug that fits.
4. Plug the telephone lead into the "LINE" connection at the back of the modem.
5. Plug in the telephone lead you find in the box. There is a possibility that you have a version for a particular country where the telephone plug is fitted to the cable. If so, continue with step 6.
6. Plug the telephone plug into the telephone contact.
7. Turn OFF the main switch at the front of the modem. Insert the wire of the adapter into the "POWER" connection at the back of the modem.
8. Insert the plug into a socket.
9. Connect your telephone to the "PHONE" connection on the modem.
10. Take the phone off the hook and check that you can hear the dial tone.
11. If applicable, plug a loudspeaker or set of headphones in the "SPK" modem connection and a microphone into the "MIC" connection.

12. Switch on the modem. The modem will test itself, after which the equipment will be ready for use.
13. Switch on the computer. Now you are ready to install the software.

Note: *The loudspeaker and headphone connections are optional, and therefore do not feature on all modems.*

3.2 Software

3.2.1 Control program

3.2.1.1 DOS

DOS programs do not require any special installation procedure. You do, however, need a DOS communication program. This is not provided and should be purchased separately.

You need the following modem information in order to proceed:

- The modem COM port.
- The speed. You can choose up to a maximum of 115K2 bps.
- The transport control. RTS/CTS is usually sufficient. If possible, do not use Xon / Xoff. This may cause problems when establishing connections with certain services.

Proceed as follows to test the modem:

1. Start the communication program.
2. Set the right COM port.
3. Switch on the terminal mode.
4. Enter [at] and then press <RETURN>. Subsequently, the modem should indicate either 'OK' or '0'. Check the settings if the modem does not give any further indications. If any problems occur, consult the 'Troubleshooting' chapter.

3.2.1.2 Windows 3.1x

Follow the instructions for DOS. Set the modem to COM4.

3.2.1.3 Windows 95/98 with Plug & Play models

The modem is automatically recognised by the operating system after you have started Windows 95/98. Insert the disk containing the control program in drive A and follow the instructions on the screen.

By default, a COM port and a modem are created with the correct settings.

3.2.1.4 Windows NT

The control program on the disk supplied for Windows 95/98 is also suitable for Windows NT 4.0. Follow the instructions in the Windows manual.

3.2.2 Sending and receiving fax messages

3.2.2.1 DOS

No software is supplied for DOS. If you do want to fax using DOS, select a fax program that is compatible with Class 1 fax modems.

3.2.2.2 Windows 95/98, and NT

Install the program that can be found on the CD. Make sure you install the 32 Bits version. See the instructions furnished with the CD for more information.

4. How to use your modem

The modem is controlled by application programs. The modem comes with an application program that provides access to all functions. These application programs should first be installed before you can use them. Also refer to the relevant manual for further information.

Redial if your modem does not operate properly or if the connection is very slow. In some areas, the quality of telephone connections may be poor.

This type of modem has various indicators. These indicators show whether the modem has established a connection. Also refer to figure 1. The indicators notify you about the following points:

TD	Send Data	Is on when the modem is sending data to another modem
RD	Receive Data	Is on when the modem is receiving data from another modem
DTR	Terminal Ready	Is on when the DTR signal is active
CTS	Clear to Send	Is on when the CTS signal is active
DCD	Carrier Detect	Lights up when connected.
OH	Off Hook	Modem uses the telephone line.
AA	Auto Answer	Someone is calling the modem.
PWR	Power	Is on when the modem is ON



Figure 1: The indicators on the front of the modem

You can turn the modem on and off using the Power switch. The connection will be ended immediately if the modem is switched off when a connection is still active. It is advisable not to end a connection in this way.

5. Maintenance

The Communicator does not need any special maintenance. Clean the Communicator ESP using a soft, damp cloth.

Do not use alcohol or any other aggressive cleaning agents on the plastic exterior, as these may cause damage.

Never immerse the modem or the adapter in water or any other fluid. This is dangerous and may cause irreparable damage.

6. Troubleshooting

This chapter tells you how to resolve any problems. Contact your dealer if you do not find the required solution in this chapter.

Complaint	Possible cause	Solution
Modem does not respond.	Modem COM port setting differs from software settings.	Check that the communication software is set to the right COM port and IRQ settings
	Initialisation string incorrect.	Check that the modem is correctly set by the communication software. You may be asked to enter an 'initialisation' string. Then enter [AT&F] or call the help desk of the service you are trying to use.
Modem does establish a connection, but there is no data on screen.	Communication parameter settings incorrect.	Check that all communication settings (baud rate, data, stop and parity bits) are correct and are the same on both sides. Check that the hardware flow control (RTS/CTS default settings) is activated on both the modem and in the software.
	The system waits.	Press <ENTER> a number of times. The system may be waiting to receive data from you before sending its own data.
	Terminal emulation incorrect.	Check that the correct terminal has been set in the software. Consult your software manual for this.

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Complaint	Possible cause	Solution
The modem is ringing, but there is no connection.	Poor telephone line.	Redial.
	Poor private branch exchange.	Try a direct external line.
	Wrong number.	Check the number. With an internal exchange, make sure you dial the number for the external line.
	Communication parameter settings incorrect.	Contact the service for the correct communication settings.
Modem has errors when establishing a connection with another modem.	Connection interrupted by message.	Make sure that the "Call Waiting" mode is turned off.
	Dataflow control incorrect.	Make sure that the RTS/CTS hardware flow control is active.
Modem voice performance poor.	Incorrect modem type selected in the software.	Check that the correct modem type has been selected in the voice/fax software.
	Computer too slow.	Check that your computer is fast enough to cope with voice modes (38.4 kbps). Voice modes use the CPU intensively and therefore require a minimum of 486 CPU.
Error message 'No Dial Tone'	Telephone line in use.	Wait until it is free.
	'Phone'-and 'Line'-connections swapped.	Connect telephone line to 'Line' port and not to the 'Phone' port.
	Telephone line doesn't work.	Test with normal telephone and reset.
	Non-compatible dial tone from home switch board.	Use direct outside line or include the command 'Xl' in the full ring command to switch off dial tone detection e.g: ATXIDT<telno>

Complaint	Possible cause	Solution
Modem does not respond.	Modem is not connected to the mains; all indicators are off.	Check that modem has been turned on. Check that adapter plug is plugged in properly.
	Wrong serial port setting in the software.	Check the communication program settings. External modems are usually connected to a COM2.
	Serial cable not connected.	Check the cable or replug it. If the cable is not correctly connected and you use Windows 95/98, then restart the computer to set the control program.
Modem reports errors during data transmission.	Speed of the port has been set too high.	Under DOS and Windows 3.x, most computers can cope with speeds up to 57k6 bps. You need a 16c550 serial port for higher speeds.

Appendix A: Technical specifications

Modulation norms	V.34, V.32bis, V.32, V.29, V.27ter, V.23, V.22bis, V.22, V.21 ch2, V.17, Bell212/103
56 kbps norm	K56Flex, V.90
Synchronous protocol	V.80 for video conferencing H.324 norm
Compression	V.42bis, MNP Class 5
Error correction	V.42, MNP Classes 2-4
Host interface	RS 232 port for external models
FAX group	Group III
FAX command	Class 1
Send levels	-10 dBm +/- 1 dB
Sensitivity	-43 dBm
Capacity	3 W max.
Temperature	in operation: 0°C to 55°C, in storage : -20° to 80°C

Appendix B: Conditions for 56K connection

Under certain circumstances, your Communicator 56K ESP-2 can receive data at a speed of a maximum of 56,000 bits per second. If a connection is not possible at 56,000 bps the modem will automatically drop to a lower speed.

A speed of 56,000 bps is only possible *for receiving data* under the following conditions:

- You are connected to the Internet;
- Your Internet service provider has a 56,000 bps compatible connection station on the number you are calling;
- You are connected to the Internet supplier by a modern (digital) telephone switchboard. Check with your telephone company if necessary.
- You are using a direct analogue external line and not a connection via an in-house switch board or ISDN.

Under all other circumstances and *for sending data*, the maximum speed is 33,600 bps.

Note: *Speed depends upon the quality of the telephone line. The communicator 56K ESP-2 will drop the speed if the connection is poor.*