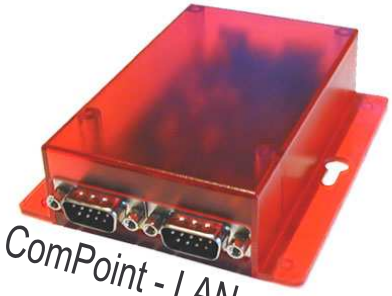
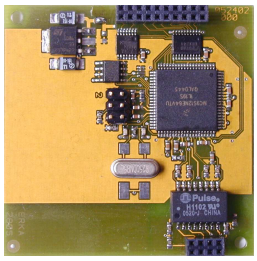
XT-Micro, ComPoint and ConLine

XT-Micro V1

XT-Micro V2



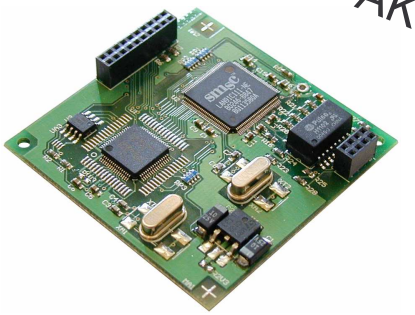
ComPoint - LAN - AS



XT-Micro² - OEM1

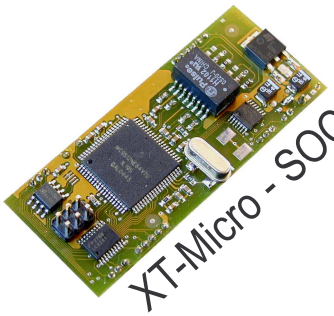
ComPoint - LAN - S

AK-DIN-RAIL



XT-Micro - OEM1

ConLine - V24



XT-Micro - SOC

PI-MODUL-LAN

XT-NANO

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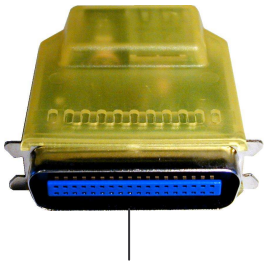
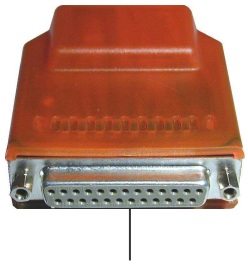
XT-MICRO

XT-Micro Technical data



Centronics 36Pin



RS232 25Pin Sub-D Jack

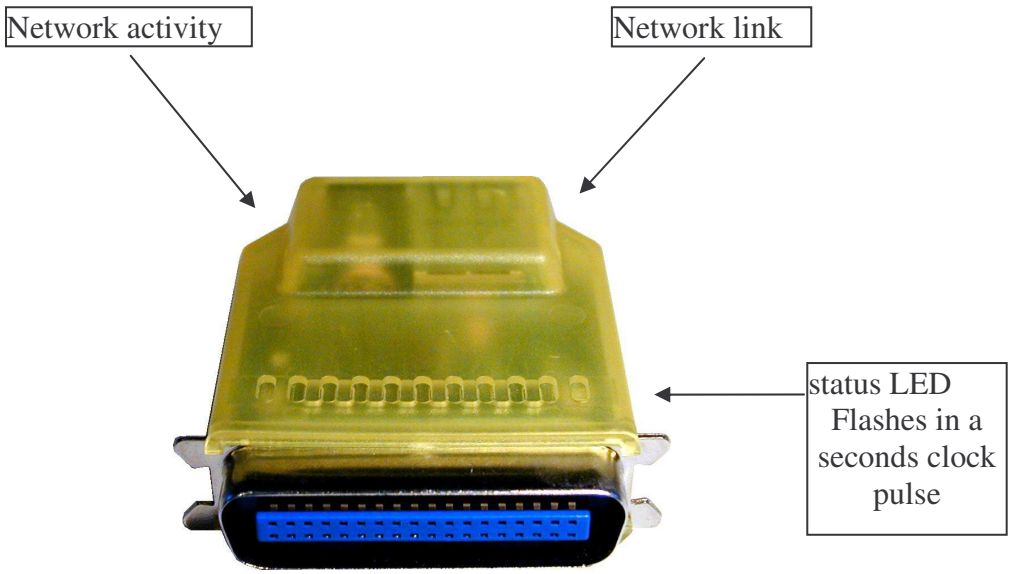
RS232 25Pin Sub-D Plug

Technical data

Dimensions:	45 x 48x 14 (mm)
Power supply:	5Volt / about 230 mA
Network Connection:	Ethernet 10/100MBit RJ45
Network speed:	10/100 Mbit Full/Half Duplex
Network Protocol:	IP, TCP,UDP, FTP,ICMP, DHCP, DNS, DDNS, ARP, BOOTP, HTML, HTTP, TELNET, SNMP, DYNDNS
XT-MICRO-C	LPR,IPP
Serial Connection:	V1 = 25 Pin Sub-D Jack, V2 = 25 Pin Sub-D Plug
Serial Protocol:	300-115200 Baud, 7-8Bit, Odd, Even, Mark, Space, None Parity Signals: TXD, RXD, RTS, CTS, DSR, DTR, DCD,GND
Special features:	Modem – Emulation, PAD – Emulation, ConnectOnData, AutoConnect, DYNDNS,UDP-KEEP-ALIVE
Centronics Connection:	36 Pin Centronics Plug
Centronics Features:	Bidirectional

XT-MICRO

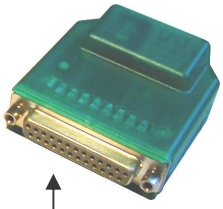
XT-Micro LED description:



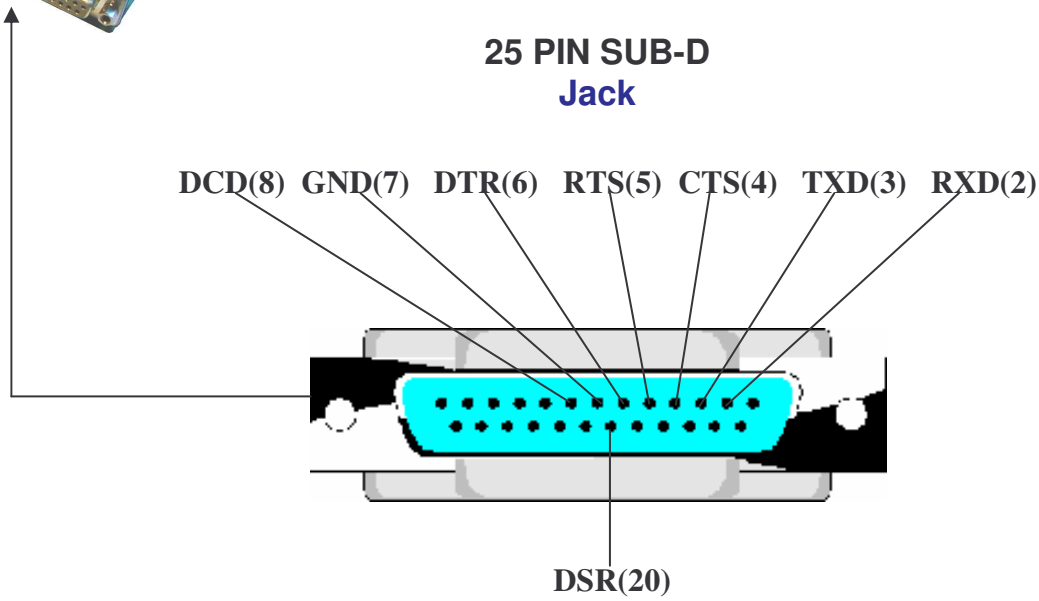
The LED's are the same in the C and V version

XT-MICRO

Hardware - description XT-MICRO V1

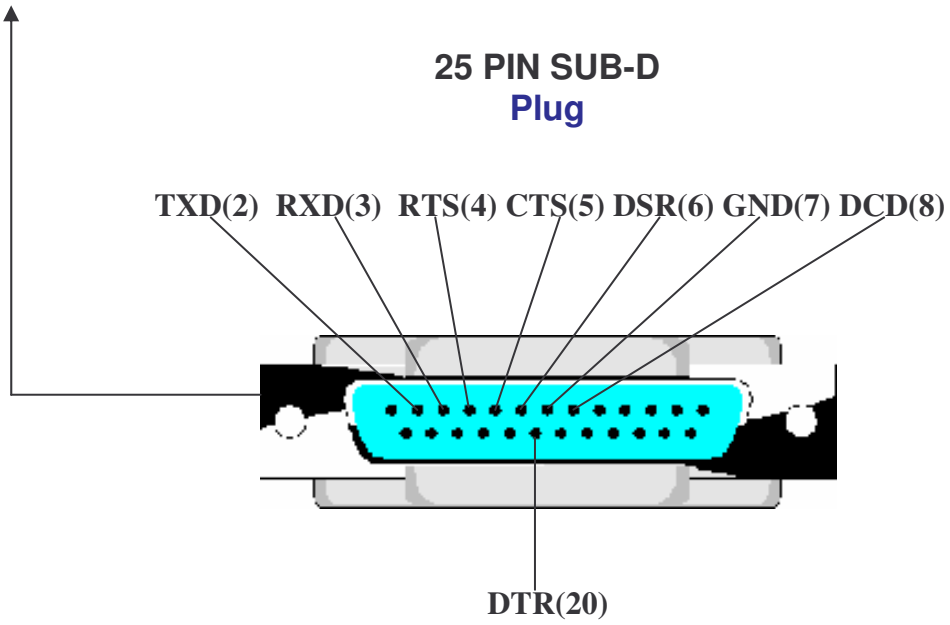


25 PIN SUB-D
Jack



XT-MICRO

Hardware - description XT-MICRO V2



ComPoint

ComPoint - LAN - S

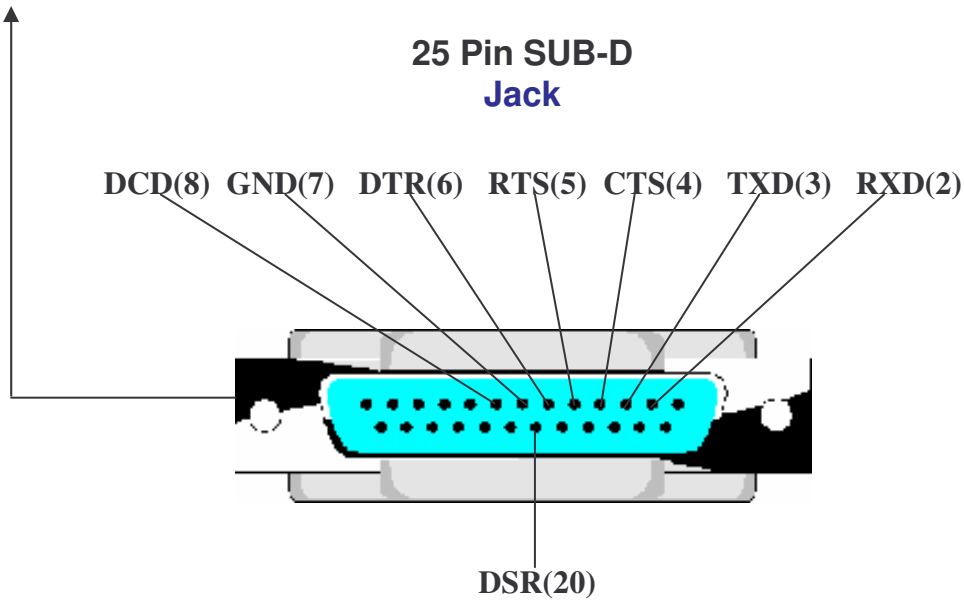
Technical data

25 Pin Jack

Dimension:	66 x 30x 105 (mm)
Power supply:	**6Volt** / about 250 mA
Network Connection:	Ethernet 10/100MBit RJ45
Network speed:	10/100 Mbit Full/Half Duplex
Network Protocol:	IP, TCP,UDP, FTP,ICMP, DHCP, DNS, DDNS, ARP, BOOTP, HTML, HTTP, TELNET, SNMP, DYNDNS
Serial Connection:	25 Pin Sub-D Jack
Serial Protocol:	300-115200 Baud, 7-8Bit, Odd, Even, Mark, Space, None Parity Signals: TXD, RXD, RTS, CTS, DSR, DTR, DCD,GND
Special features:	Modem – Emulation, PAD – Emulation, ConnectOnData, AutoConnect, DYNDNS,UDP-KEEP-ALIVE

ComPoint

ComPoint: Hardware - description RS232 – V24 – Interface



ComPoint

ComPoint – LAN - AS

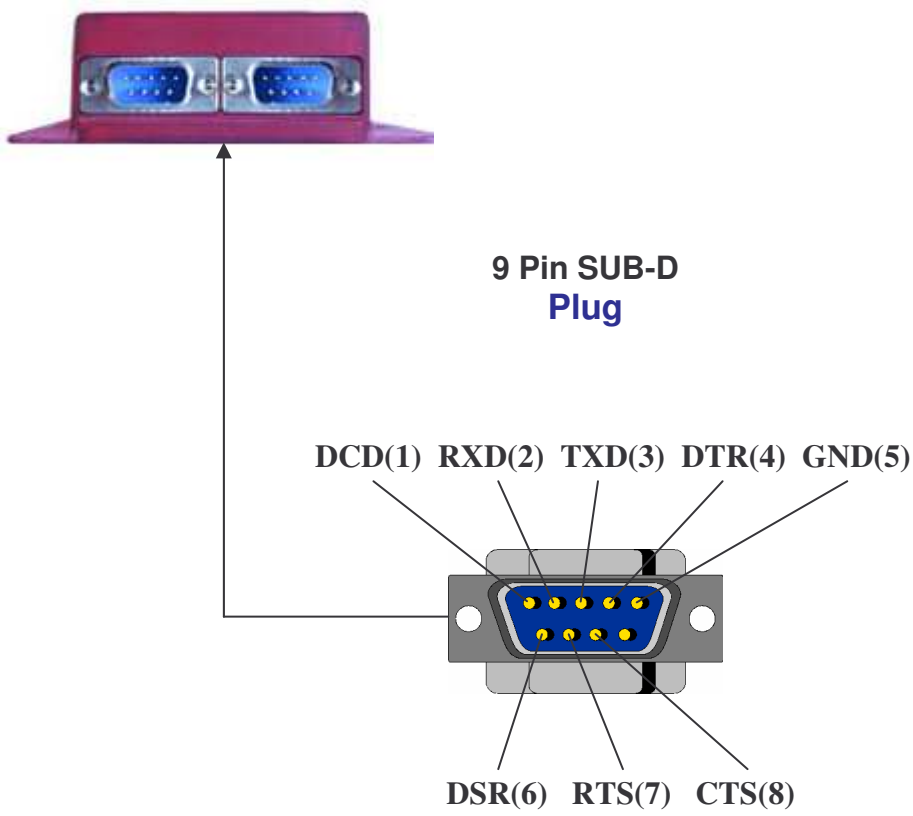
9 Pin Plug

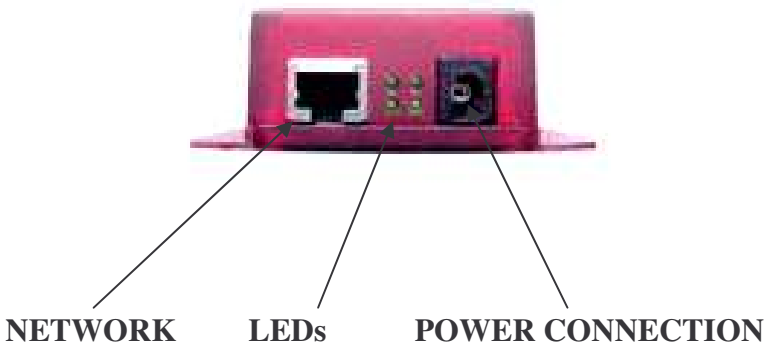
Technical data

Dimensions:	66 x 30x 105 (mm)
Power supply:	**6Volt** / about 250 mA
Network Connection:	Ethernet 10/100MBit RJ45
Network speed:	10/100 MBit Full/Half Duplex
Network Protocol:	IP, TCP,UDP, FTP,ICMP, DHCP, DNS, DDNS, ARP, BOOTP, HTML, HTTP, TELNET, SNMP, DYNDNS
Serial Connection:	2 x 9 Pin Sub-D Plug
Serial Protocol:	300-115200 Baud, 7-8Bit, Odd, Even, Mark, Space, None Parity Signals: TXD, RXD, RTS, CTS, DSR, DTR, DCD,GND
Special features:	Modem – Emulation, PAD – Emulation, ConnectOnData, AutoConnect, DYNDNS,UDP-KEEP-ALIVE

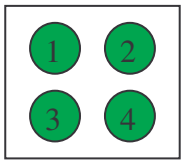
ComPoint

ComPoint – LAN – AS: Hardware - description RS232 – V24 – Interface





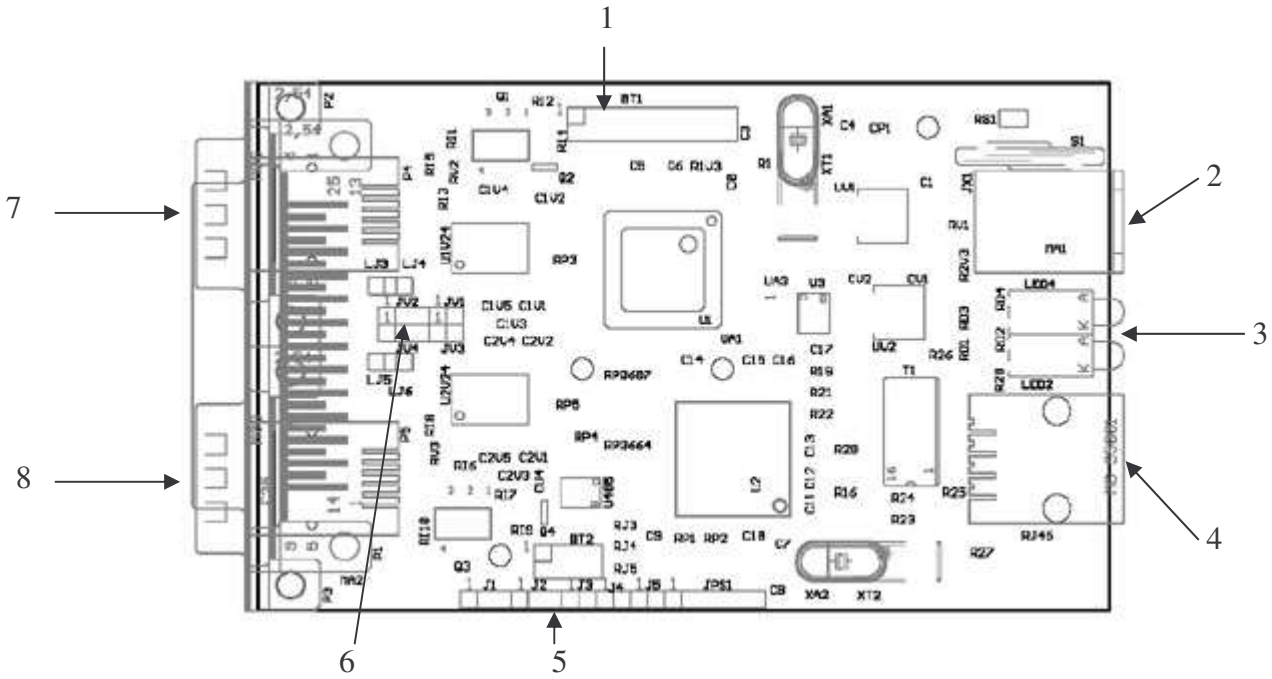
LED's (front view)



1: Status LED
2: Network link
3: Network activity
4: Power LED

ComPoint

ComPoint – LAN – AS: **Description ComPoint board:**



1	Expansion slot (BlueNode - OEM)
2	Power Connection
3	LEDs
4	RJ45 Plug (Lan)
5	Jumper 1 (J1-J5)
6	Jumper 2 (JV1-JV4)
7	COM1
8	COM2

J2 (1 2 3)
1+2 = TXD **Com2** (V24) is available (**standard**)
2+3 = TXD **Com2** (RS485) is available

J1 (1 2 3)
1+2 = RXD **Com2** (V24) is available (**standard**)
2+3 = RXD **Com2** (RS485) is available

J3 (1 2)
1+2 RXD **Com2** RS485 pulldown resistor (560 Ohm)

J4 (1 2)
1+2 TXD/RXD **Com2** RS485 terminating resistor (120 Ohm)

J5 (1 2)
1+2 TXD **Com2** RS485 pullup resistor (560 Ohm)

JV1 (1 2)
1+2 input voltage at Pin9 on **Com1** (9pin **Plug**) or Pin1 on **Com1** (25pin **Jack**)

JV2 (1 2 3)
1+2 = DCD on Pin1 on **Com1**(9pin **Plug**)
2+3 = input voltage at Pin1 on **Com1**(9pin **Plug**)

JV3 (1 2)
1+2 input voltage at Pin9 on **Com2** (9pin **Plug**) or Pin1 on **Com2** (25pin **Jack**)

JV4 (1 2 3)
1+2 = DCD on Pin1 on **Com2**(9pin **Plug**)
2+3 = input voltage at Pin1 on **Com2**(9pin **Plug**)

Caution !
Die Spannungs - versorgung Ihrer Endgeräte erfolgt auf eigene Gefahr und unter Auschluss jeglicher Haftung.

AK-DIN-RAIL

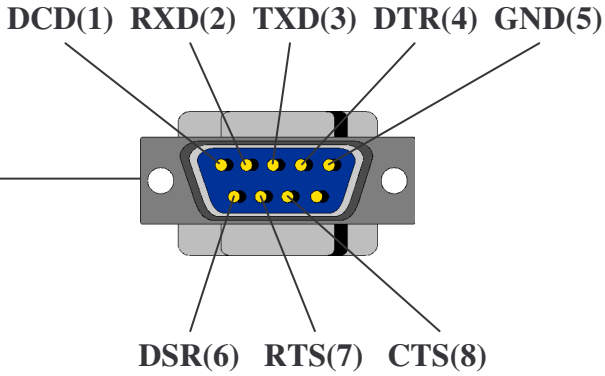
Technical data

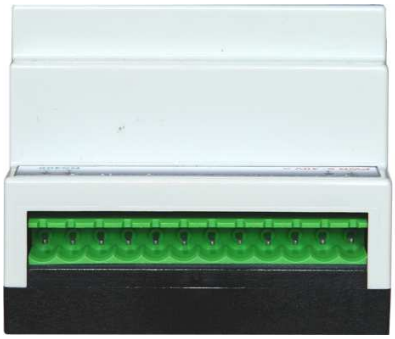
Dimensions:	70 x 90 x 58 (mm)
Power supply:	**6-40Volt** 100Mbit. 300 mA 10Mbit 180 mA
Network Connection:	RJ45
Network speed:	10/100 MBit Full/Half Duplex,Auto
Network Protocol:	IP, TCP,UDP, FTP,ICMP, DHCP, DNS, DDNS, ARP, BOOTP, HTML, HTTP, TELNET, SNMP, DYNDNS
Serial Connection:	1 x 9 PIN Sub-D PLUG 1 x 2 PIN RS485
Serial Protocol:	300-115200 Baud, 7-8Bit, Odd, Even, Mark, Space, None Parity Signals: TXD, RXD, RTS, CTS, DSR, DTR, DCD, GND
Serial Bus:	RS232,RS485,I2C
Special features:	Modem – Emulation, PAD – Emulation, ConnectOnData, AutoConnect, DYNDNS,UDP-KEEP-ALIVE

AK-DIN-RAIL

PIN – Description

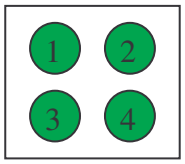
9 POL SUB-D
PLUG





RS485 POWER SUPPLY

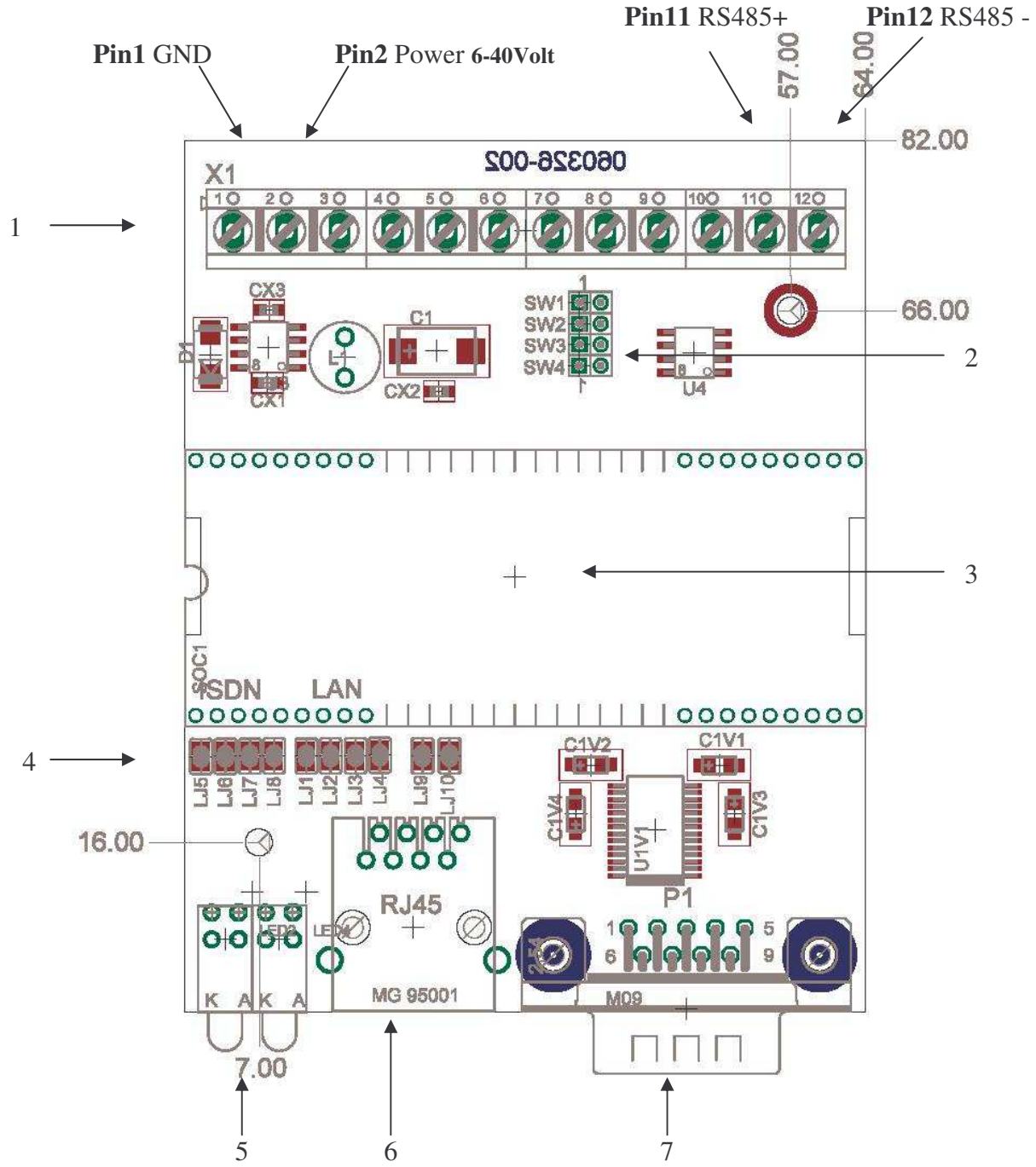
LED (front view)



1: Network activity
2: Network link
3: Power LED
4: Connection (DCD)

AK-DIN-RAIL

PIN – Description



1	PIN1 - PIN12
2	Jumper RS485 SW1-SW4
3	Socket - for XT-MICRO-SOC, ISDN – SOC , BlueNode -SOC
4	Jumper LJ1-LJ10
5	LEDs
6	RJ45 JACK (LAN or ISDN)
7	Serial connector COM1

AK-DIN-RAIL

Jumper - Description

Jumper SW1-SW4

SW1	1+2	RS485 Pulldown resistor (560 Ohm)
SW2	1+2	RS485 terminating resistor (120 Ohm)
SW3	1+2	RS485 Pulldup resistor (560 Ohm)
SW4	1+2	RS485 ReadWrite (RS485 activ)

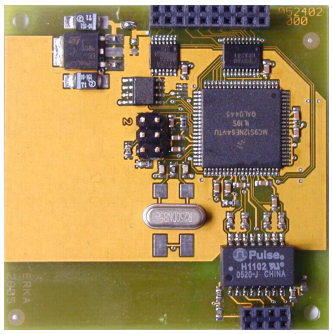
Jumper LJ1-L4,LJ9,LJ10
Must close if **XT-MICRO-SOC** (Netzwerk-Interface) in use.

Jumper LJ6-L8
Must close if **ISDN - SOC** (ISDN-Interface) in use.

Jumper
For **BlueTooth – Soc** no jumper must close.

XT-MICRO²-OEM1

XT- Micro² – OEM1



Technical data

Dimensions:	56 x 56 (mm)
Power supply:	**5Volt (3.3V optional)** 100Mbit. 300 mA 10Mbit 180 mA
Network Connection:	2 line jacks (2mm)
Network speed:	10/100 MBit Full/Half Duplex,Auto
Network Protocol:	IP, TCP,UDP, FTP,ICMP, DHCP, DNS, DDNS, ARP, BOOTP, HTML, HTTP, TELNET, SNMP, DYNDNS
Serial Connection:	2 line jacks (2mm) on RJ45
Serial Protocol:	300-115200 Baud, 7-8Bit, Odd, Even, Mark, Space, None Parity Signals: TXD, RXD, RTS, CTS, DSR, DTR, DCD, GND ***All signals have a TTL – level (5V)***
Serial Bus:	RS232,RS485,I2C
Special features:	Modem – Emulation, PAD – Emulation, ConnectOnData, AutoConnect, DYNDNS,UDP-KEEP-ALIVE,I2C-MASTER-MODE

Remark: ***You find the bus-systems and further descriptions in the corresponding design-guide.***

XT-MICRO²-OEM1

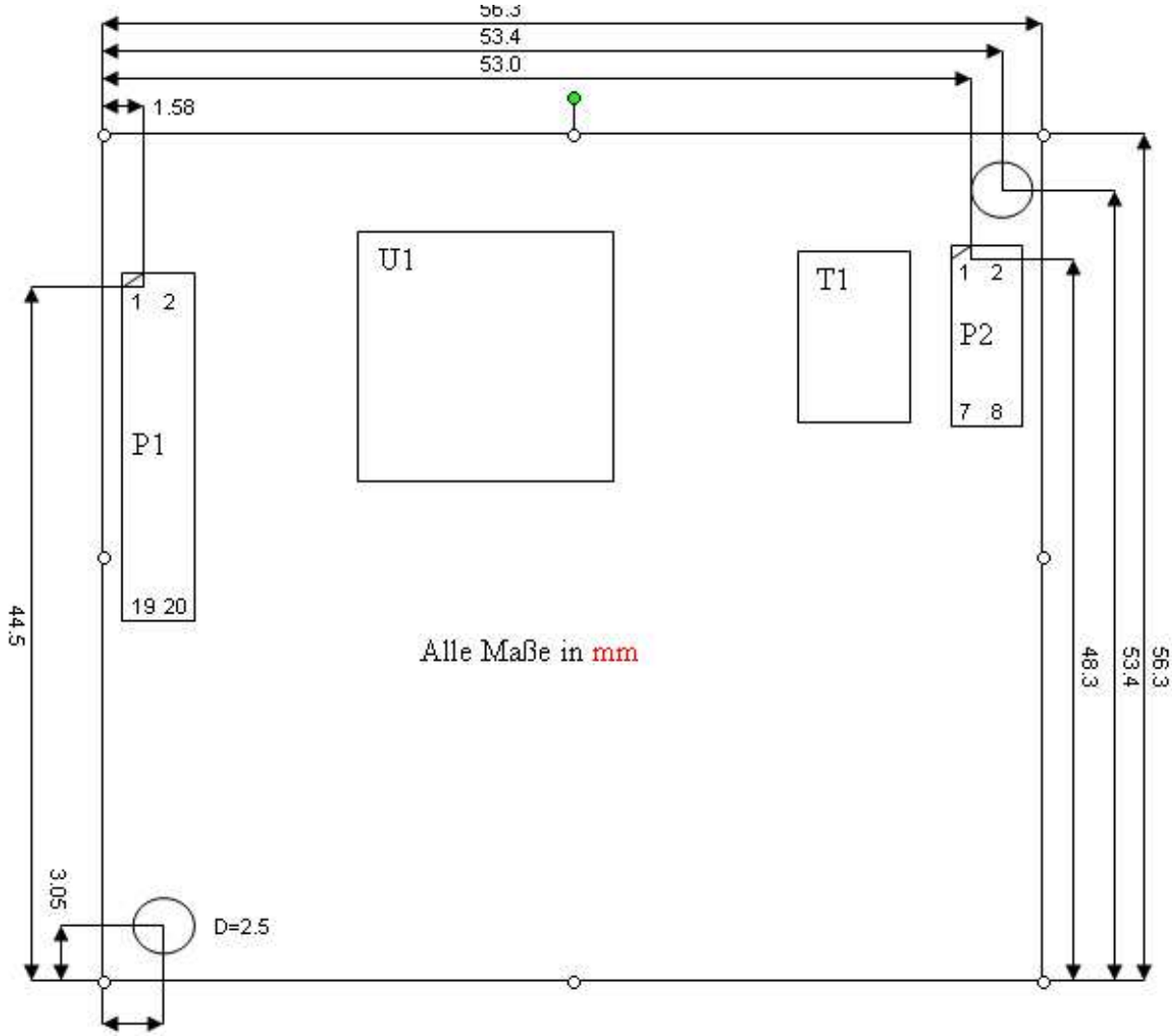
PIN – Description

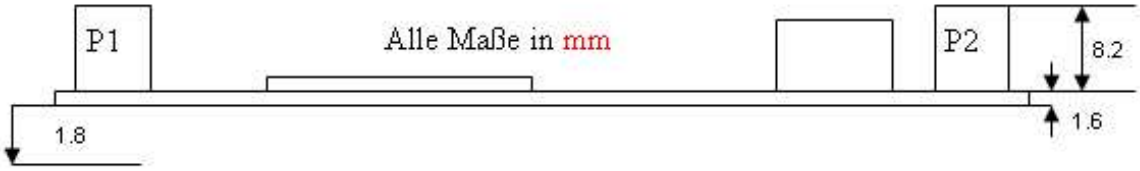
P1	RS232		RS485		I2C	
1	GND	IN	GND	IN	GND	IN
2	3.3 or 5V see 7.1	IN	3.3 or 5V see 7.1	IN	3.3 or 5V see 7.1	IN
3	GND	IN	GND	IN	GND	IN
4	RXD	IN	RXD	IN		
5	GND	IN	GND	IN	GND	IN
6	TXD	OUT	TXD	OUT		
7	NC		NC		NC	
8	CTS	IN			SDA	I/O
9	NC		NC		NC	
10	RTS	OUT			SCL	OUT
11	NC		NC		NC	
12	DSR	IN				
13	LED Activity	OUT	LED Activity	OUT	LED Activity	OUT
14	DCD	OUT				
15	NC		NC		NC	
16	DTR	OUT	RW	OUT		
17	LED LINK (LAN)	OUT	LED LINK (LAN)	OUT	LED LINK (LAN)	OUT
18	NC		NC		NC	
19	GND	IN	GND	IN	GND	
20	GND	IN	GND	IN	GND	

P2	Signal	RJ45
1	75Ohm	5
2	RX-	6
3	75Ohm	4
4	RX+	3
5	TX+	1
6	TX-	2
7	75Ohm	7
8	75Ohm	8

XT-MICRO²-OEM1

XT-Micro² – OEM1





P1,P2: SAMTEC 2x10 / 2x4 Pins **SQW** (**Rastermaß 2 mm**).

PI-MODUL-LAN

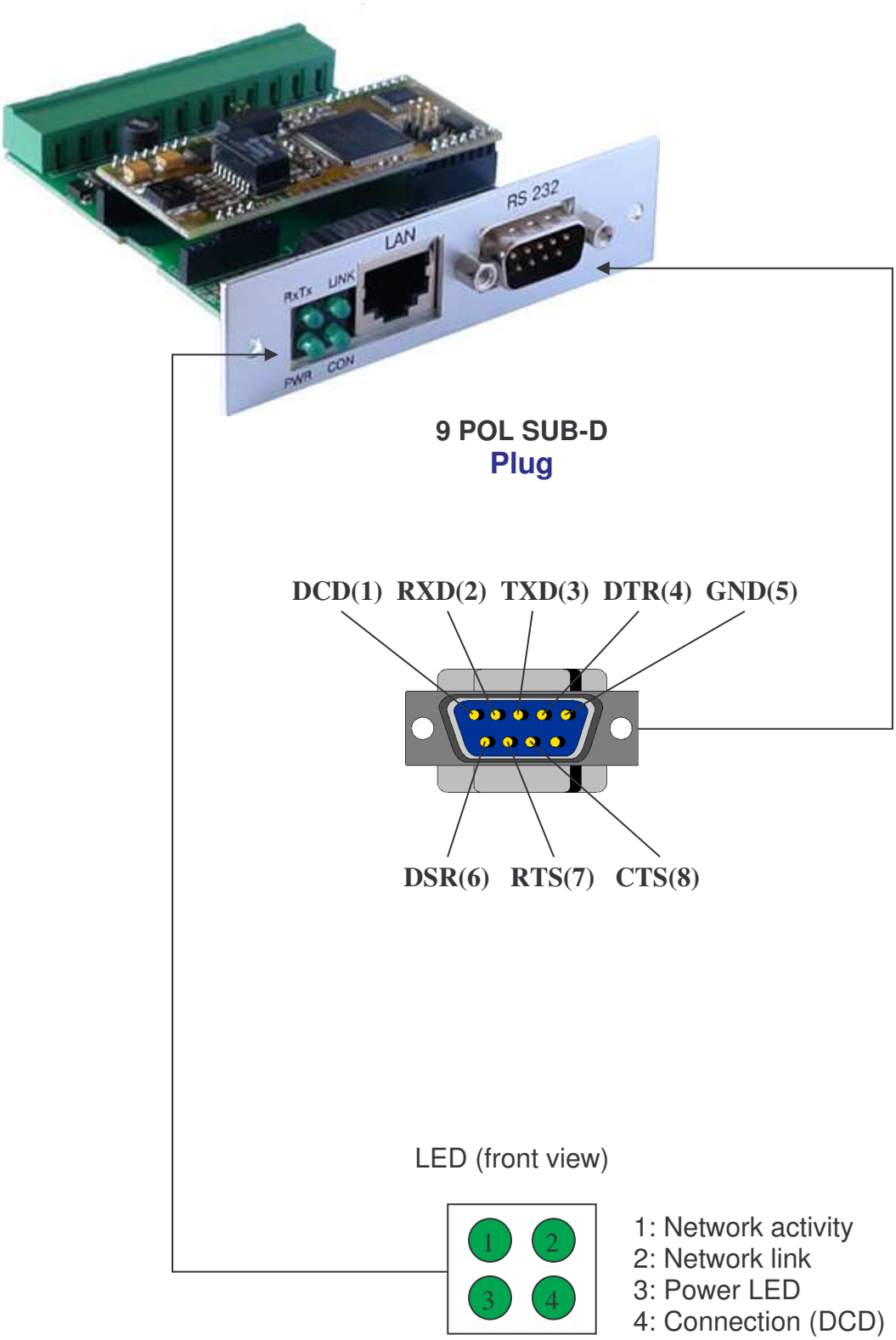
XT-MICRO-OEM2:

Technical data

Dimensions:	64 x 82 (mm)
Power supply:	**6-40Volt** 100Mbit. 300 mA 10Mbit 180 mA
Network Connection:	RJ45
Network speed:	10/100 MBit Full/Half Duplex,Auto
Network Protocol:	IP, TCP,UDP, FTP,ICMP, DHCP, DNS, DDNS, ARP, BOOTP, HTML, HTTP, TELNET, SNMP, DYNDNS
Serial Connection:	1 x 9 PIN Sub-D PLUG 1 x 2 PIN RS485
Serial Protocol:	300-115200 Baud, 7-8Bit, Odd, Even, Mark, Space, None Parity Signals: TXD, RXD, RTS, CTS, DSR, DTR, DCD, GND
Serial Bus:	RS232,RS485,I2C
Special features:	Modem – Emulation, PAD – Emulation, ConnectOnData, AutoConnect, DYNDNS,UDP-KEEP-ALIVE

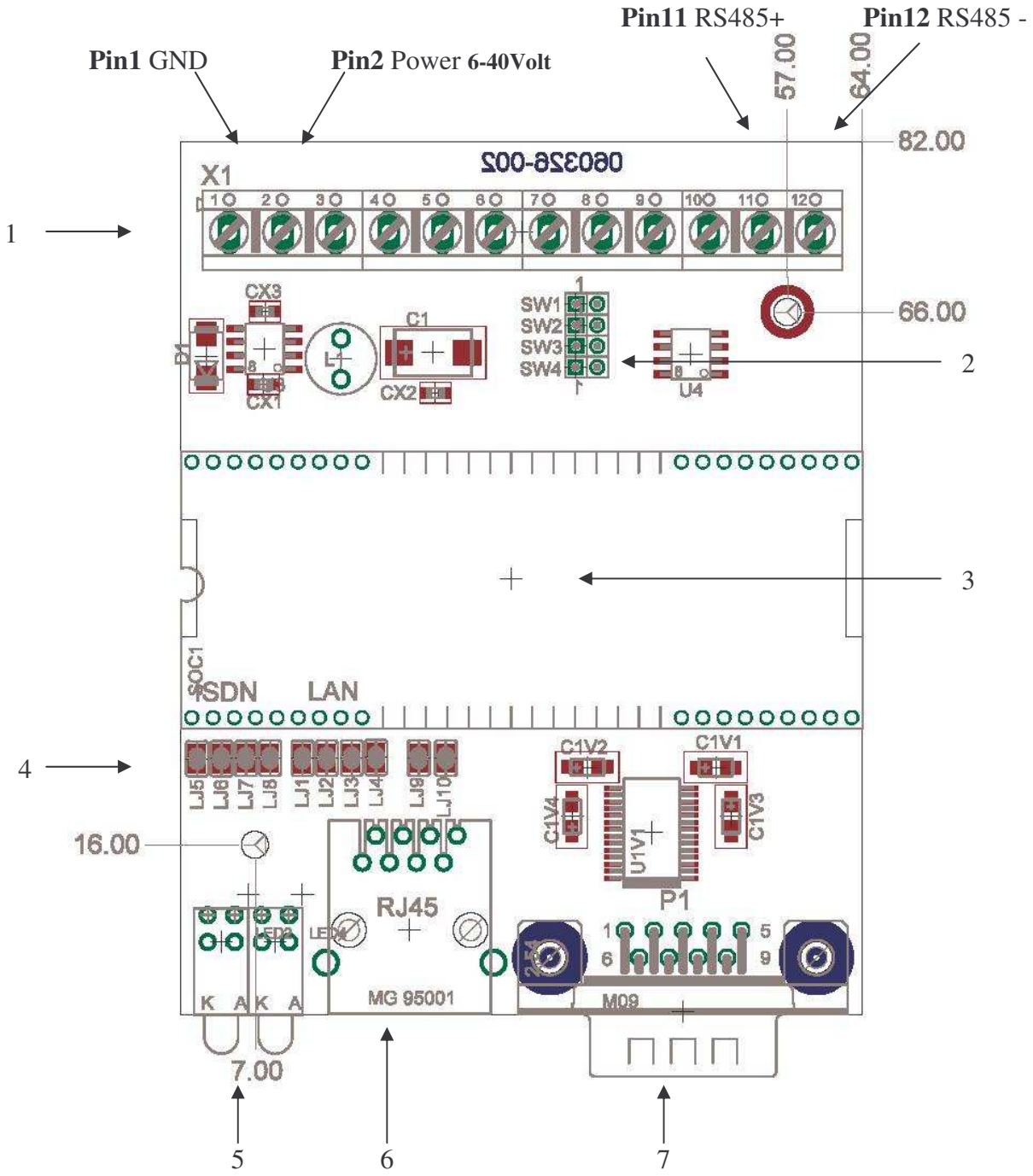
PI-MODUL-LAN

PIN – Description



PI-MODUL-LAN

PIN – Description



1	PIN1 - PIN12
2	Jumper RS485 SW1-SW4
3	Socket - for XT-MICRO-SOC, ISDN – SOC , BlueNode -SOC
4	Jumper LJ1-LJ10
5	LEDs
6	RJ45 JACK (LAN or ISDN)
7	Serial connector COM1

PI-MODUL-LAN

Jumper - Description

Jumper SW1-SW4

SW1	1+2	RS485 Pulldown resistor (560 Ohm)
SW2	1+2	RS485 terminating resistor (120 Ohm)
SW3	1+2	RS485 Pulldup resistor (560 Ohm)
SW4	1+2	RS485 ReadWrite (RS485 activ)

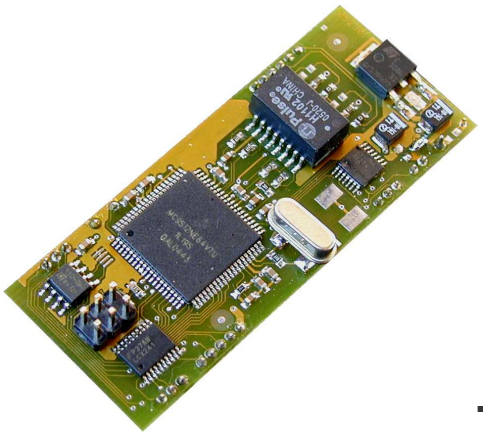
Jumper LJ1-L4,LJ9,LJ10
Must close if **XT-MICRO-SOC** (Netzwerk-Interface) in use.

Jumper LJ6-L8
Must close if **ISDN - SOC** (ISDN-Interface) in use.

Jumper
For **BlueTooth – Soc** no jumper must close.

XT-MICRO-SOC

XT- Micro – SOC



Technical data

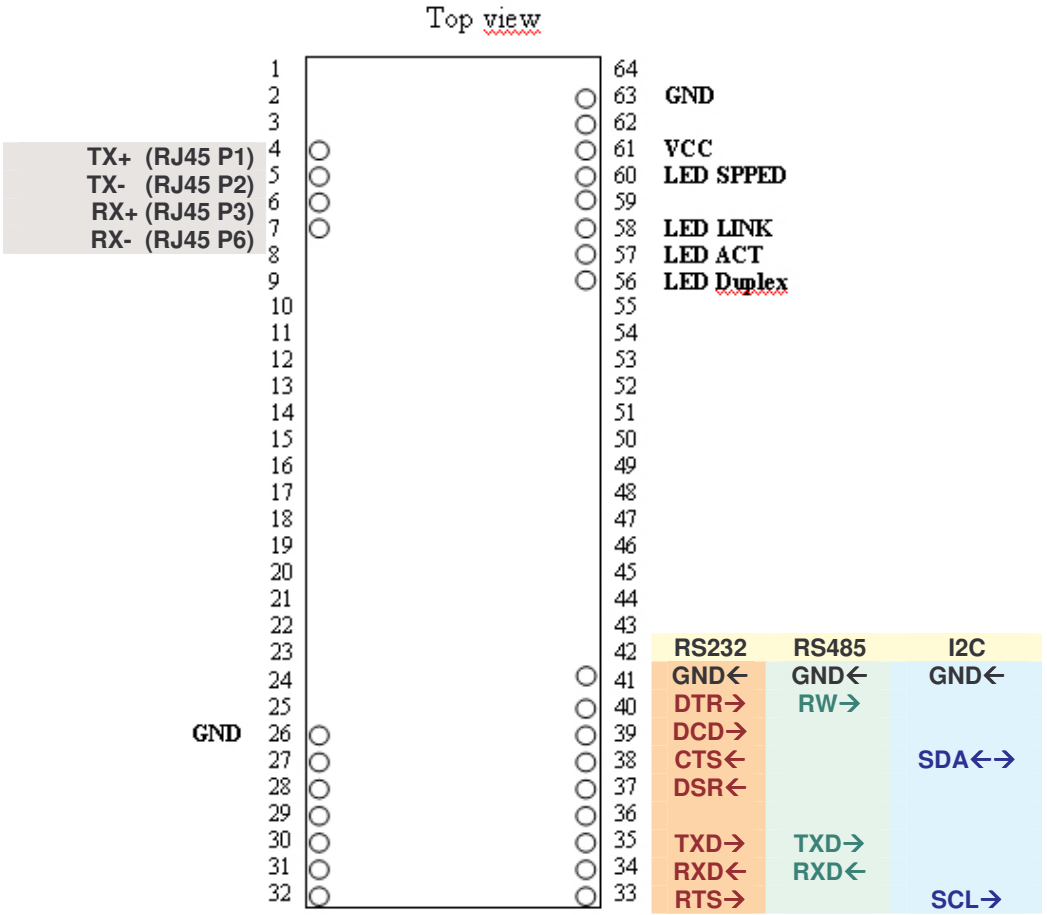
Dimensions:	65 mm x 27 mm
Power supply:	**3.3V (5V optional)** 100Mbit. 300 mA 10Mbit 180 mA
Network Connection:	2 line Pins (2mm)
Network speed:	10/100 MBit Full/Half Duplex,Auto
Network Protocol:	IP, TCP,UDP, FTP,ICMP, DHCP, DNS, DDNS, ARP, BOOTP, HTML, HTTP, TELNET, SNMP, DYNDNS
Serial Connection:	2 line Pins (2mm)
Serial Protocol:	300-115200 Baud, 7-8Bit, Odd, Even, Mark, Space, None Parity Signals: TXD, RXD, RTS, CTS, DSR, DTR, DCD, GND ***All signals have a TTL – level***
Serial Bus:	RS232,RS485,I2C
Special features:	Modem – Emulation, PAD – Emulation, ConnectOnData, AutoConnect, DYNDNS,UDP-KEEP-ALIVE,I2C-MASTER-MODE

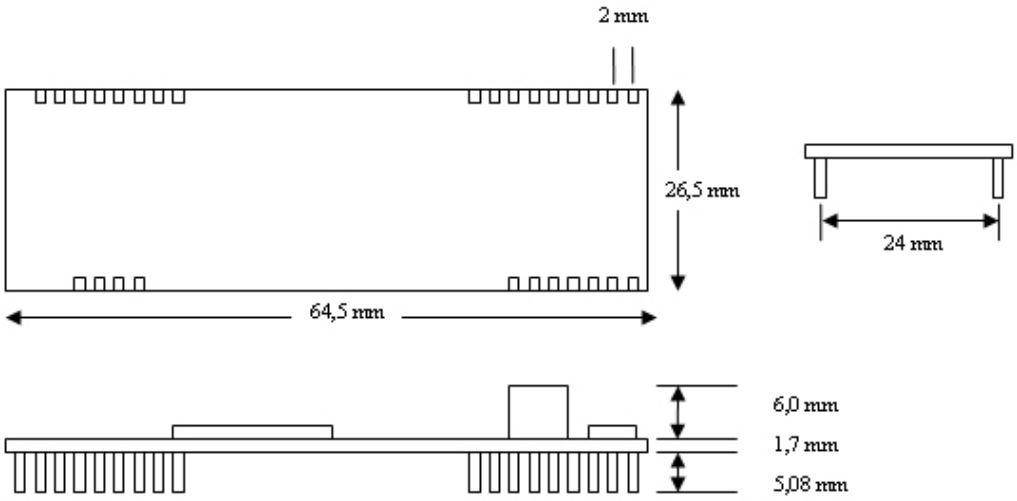
Remark: ***You find the bus-systems and further descriptions in the corresponding design-guide.***

XT-Micro – Soc

PIN – Descrition und Dimensions

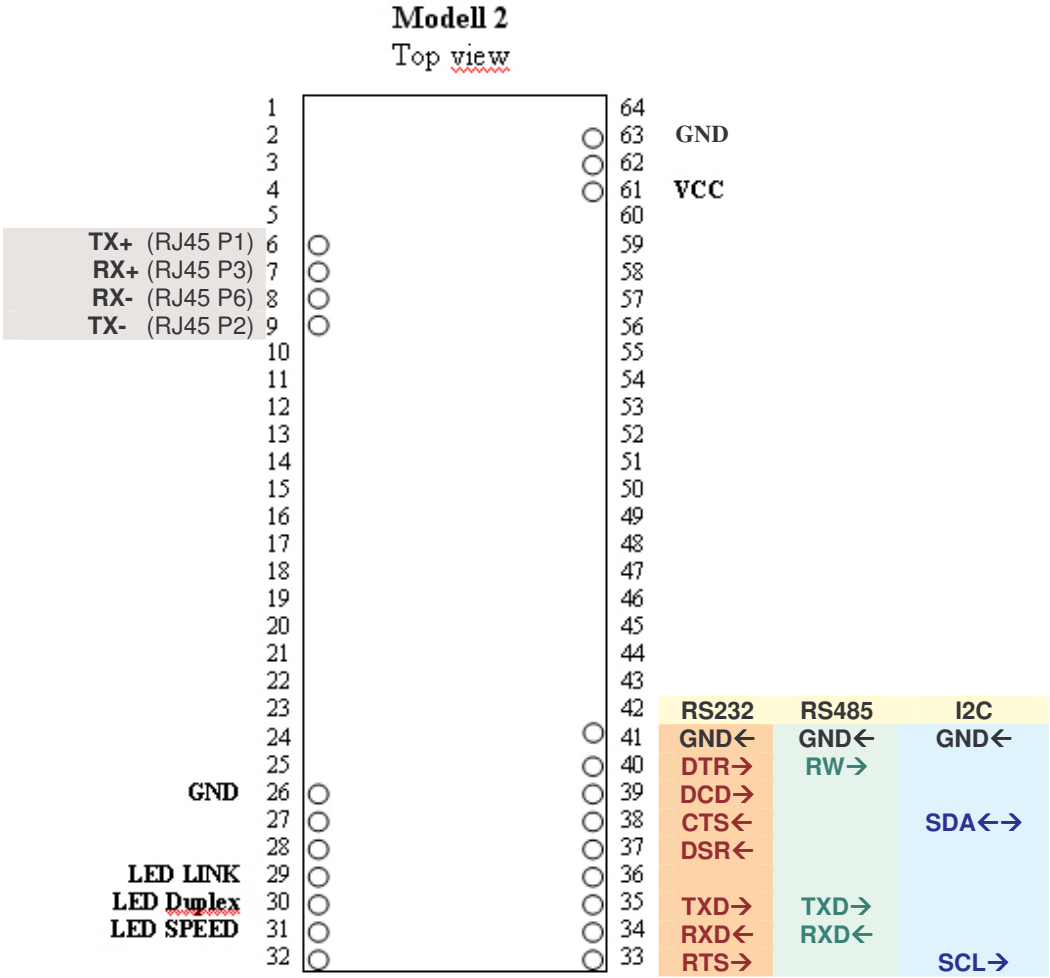
Modell 1

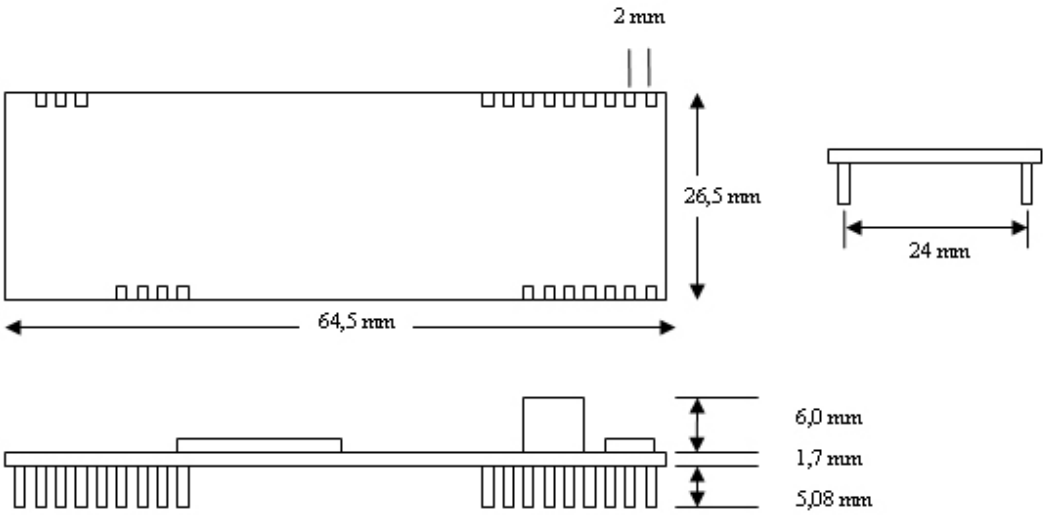




XT-Micro – Soc

PIN – Descrition und Dimensions





ConLine

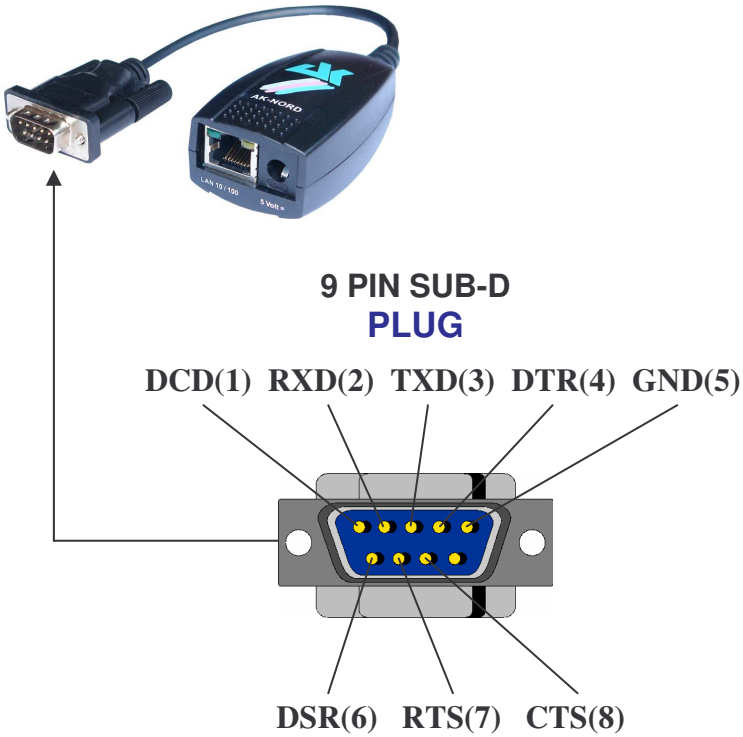
AK-ConLine-V24

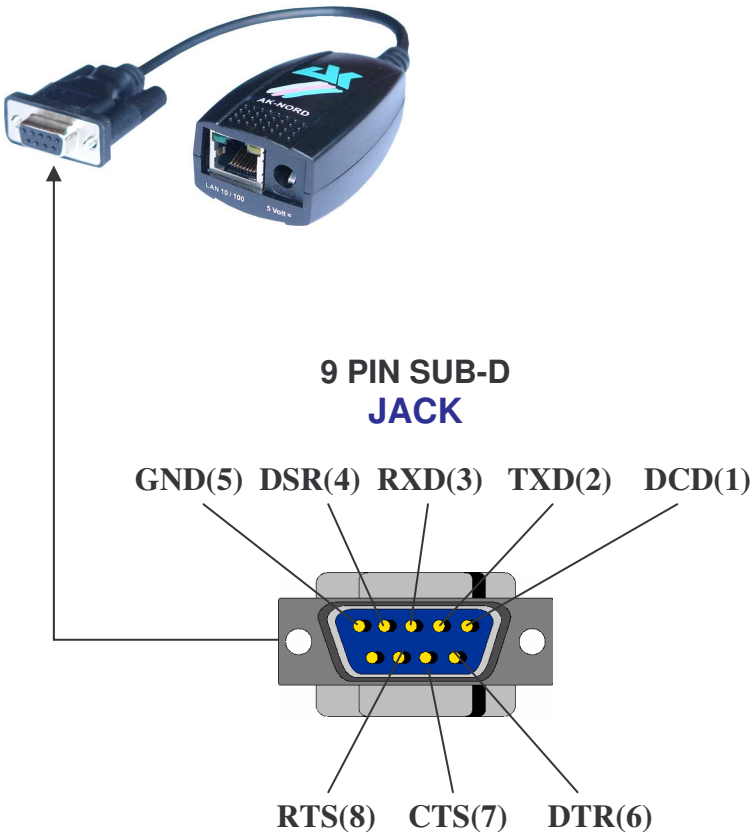
Technical data

Power supply:	**5 V** 100Mbit. 300 mA 10Mbit 180 mA
Network Connection:	RJ45
Network speed:	10/100 MBit Full/Half Duplex,Auto
Network Protocol:	IP, TCP,UDP, FTP,ICMP, DHCP, DNS, DDNS, ARP, BOOTP, HTML, HTTP, TELNET, SNMP, DYNDNS
Serial Connection:	9Pin Sub-D jack or plug
Serial Protocol:	300-115200 Baud, 7-8Bit, Odd, Even, Mark, Space, None Parity Signals: TXD, RXD, RTS, CTS, DSR, DTR, DCD, GND
Special features:	Modem – Emulation, PAD – Emulation, ConnectOnData, AutoConnect, DYNDNS,UDP-KEEP-ALIVE

ConLine

AK-ConLine-V24: Hardware - description RS232 – V24 – Interface

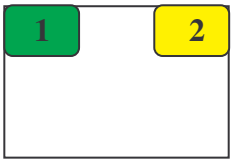




ConLine

AK-ConLine-V24: Hardware - description Interface

Network LED POWER



1: Network link
2: Network activity

Interface

Port description

Port \ Interface	XT-MICRO I			XT-MICRO II				ComPoint – LAN I		ComPoint-LAN II		Con Line	XT-MINI
	C	V	OEM	C	V	OEM	SOC	S	AS	S	AS	USB V24	CV OEM
COM1 der Schnittstelle													
515(LPR)	X			X	X	X	X			X	X	X	X
1002	X	X	X	X	X	X	X	X	X	X	X	X	X
3000	X	X	X	X	X	X	X	X	X	X	X	X	X
6500	X	X	X	X	X	X	X	X	X	X	X	X	X
6563				X	X	X	X		X	X	X	X	X
6564				X	X	X	X		X	X	X	X	X
8000	X	X	X	X	X	X	X	X	X	X	X	X	X
8888	X	X	X	X	X	X	X	X	X	X	X	X	X
9084	X	X	X	X	X	X	X	X	X	X	X	X	X
9100	X	X	X	X	X	X	X	X	X	X	X	X	X
10001	X	X	X	X	X	X	X	X	X	X	X	X	X
11111	X	X	X	X	X	X	X	X	X	X	X	X	X
COM2 der Schnittstelle													
1003									X		X		
3001									X		X		
6501									X		X		
6565									X		X		
6566									X		X		
8001									X		X		
8888									X		X		
9085									X		X		
9101									X		X		
10002									X		X		
22222									X		X		

Interface

Port Description

Description special ports:

6563/6565: About this port the COM will open with a baud rate of 9600

6564/6566: About this port the COM will open with a baud rate of 115200

8000/8001: A Connection on this port will avoid the port timeout. This port will not be disconnected by the port timeout.

8888: Reset port for port 8000/8001.Disconnects all TCP/IP connections on COM1 and COM2.

9084: Reset port for port 8000. Disconnects all TCP/IP connections on COM1.

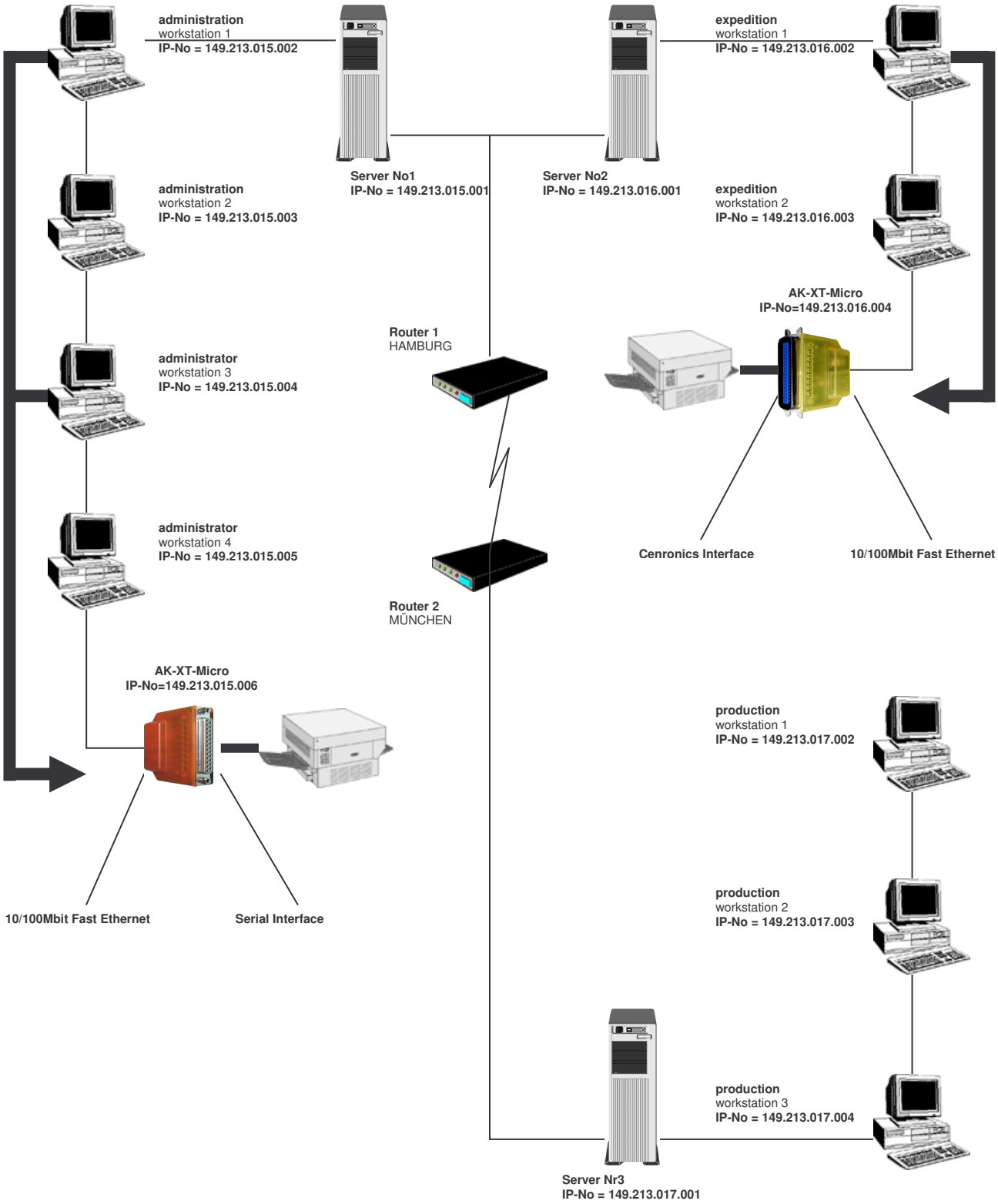
9085: Reset port for port 8001. Disconnects all TCP/IP connections on COM2.

11111: About this port it's possibly to control all Signals,Baudrats,Databits and the flow control of the COM1. For this port there is a additional description. You can employ this port in the program "VirtualCom". All qualities are transmitted then to the interface

22222: About this port it's possibly to control all Signals,Baudrats,Databits and the flow control of the COM2. For this port there is a additional description. You can employ this port in the program "VirtualCom". All qualities are transmitted then to the interface

TCP/IP Network

Example of a TCP / IP network with XT-Micro.



TCP/IP Network

Function of XT-Micro in the TCP/IP net

A TCP/IP network is composed by one or more server and the workstations connected by a LAN cable. Each subscriber in a TCP/IP network has a unique IP-number and can thus be clearly identified. These IP-numbers consist of 4 figures between 0 and 255 (octet), separated by a dot:

Examples: 149.213.48.93 or 109.89.1.3 or 56.3.58.13

4 different types of addresses are distinguished:

1. Addresses of type A

In the addresses of type A, the first octet assigns the network address (0 to127) and the three following octets assign the address of the PC. The subscribers of such a network only have the first figures of their IP-address in common, all other figures are different (i.e. 121.213.13.22, 121.122.30.89 , 121.23.111.1, etc.). This kind of addressing is only used in very large networks, as it allows a quantity of 256 to 3 addresses.

2. Addresses of type B

The addresses of type B assign the first two octets and the designations of the PCs are distinguished by the last two octets. Some IP numbers of a type B network are: 139.1.0.1, 139.1.234.89, 139.1.45.9, etc.. The maximum number of subscribers is determinate by 256 to 2 and the first figure of the IP number is usually between 128 and 191.

3. Addresses of type C

The addresses of type C assign the network address in the first 3 octets and the designation of the PC in the fourth octet. Please find following some examples of a type C network: 101.83.12.03, 101.83.12.243, 101.83.12.120 . The maximum number of subscribers is limited to 256 and thus many networks with a few PCs can be addressed. The usual range of values for the first figures of the IP number is between 192 and 223.

4. Addresses of type D

For addresses of type D the four bits of highest value in the IP number are = 1110 and thus results the range of values between 224 and 239 for the first figure of the IP number. This kind of addressing is called Multicast and is applied for new IP protocols.

In a TCP/IP network, XT-Micro must get a clear IP number according to above mentioned types. XT-Micro has no passive part in a TCP/IP network in contrast to NOVELL networks and is addressed by other subscribers by means of the IP address and does not activate a connection independently.

TCP/IP Network

Function of XT-Micro in the TCP/IP net

In the example given on the previous page, a network of three servers and three class C addresses is shown. The administration works in a 16/4 M/Bits token ring network with 4 workstations on server No 1 with the IP addresses 149.213.15.xxx, the expedition with 2 workstations in a 10 M/Bits Ethernet network on server No 2 with the IP addresses 149.213.16.xxx and the production with 3 workstations on server No 3 with the IP addresses 149.213.17.xxx. The communication from the administration to the expedition is via a fixed LAN cabling, to the production department via a router with a telecom connection. The printer of the administration is connected by XRAFFIC over a serial interface and the printer of the expedition department by XTRAFFIC over the Centronics interface. Each PC of the administration can set up a communication to XTRAFFIC and can transmit printing data via spooler system, FTP or other.

For the communication of two subscribers of a TCP/IP net over different types, it is essential which subnet mask was defined. Each subscriber to the network assigns with the help of this mask which other IP subscribers can be addressed. Therefore the target address is linked by an AND function to the subnet mask and the result is compared to the extended target address. A figure of 255 in the subnet mask means that an indication of the address is not interpreted at this stage and the figure 0 means that an analysis is made.

Please find following some examples:

proper address 123.49.89.13
subnet mask 255.255.0.0
You can dial up the addresses 123.49.xxx.xxx, i.e. 123.49.200.10 or 123.49.30.3, etc.

but **not** 123.50.200.10

proper address 123.49.89.13
subnet mask 255.255.255.0
You can dial up the addresses 123.49.89.xxx, i.e. 123.49.89.10 or 123.49.89.3, etc.

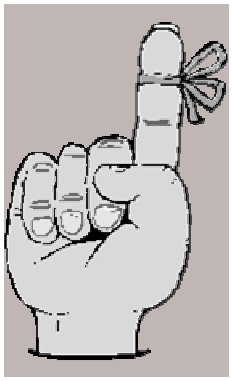
but **not** 123.49.200.10

In the example already described, in order to establish a communication between workstation 3 of the administration and XTRAFFIC, the subnet mask of workstation 3 as well as of the LAN connection from server No 1 to server No 2 must be switched to.

For LAN communications via router, a link via subnet mask must be released and the routing must be configured with a default gateway entry on the corresponding router.

TCP/IP Network

Setting of the IP address with DHCP.



1.) XTRAFFIC is operational and connected to a printer

2.) For network interface on XTRAFFIC, DHCP must be turned on (standard configuration)

3.) DHCP must be available in the LAN segment

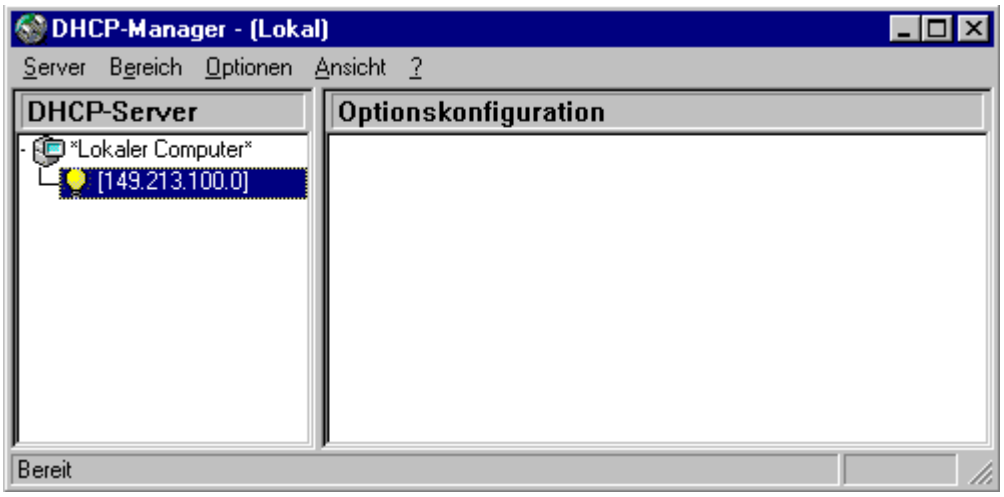
4.) Turn XTRAFFIC on

5.) Output of status printout and control of IP address

Function:

XTRAFFIC includes all mechanisms of the DHCP (Dynamic Host Configure protocol) and therefore a DHCP server can assign an IP address. The IP address can be assigned firmly (static assignment) or can vary within a range of IP addresses, according to the configuration of the DHCP server. Other features of the DHCP such as Lease Time, etc. are fully supported by XTRAFFIC.

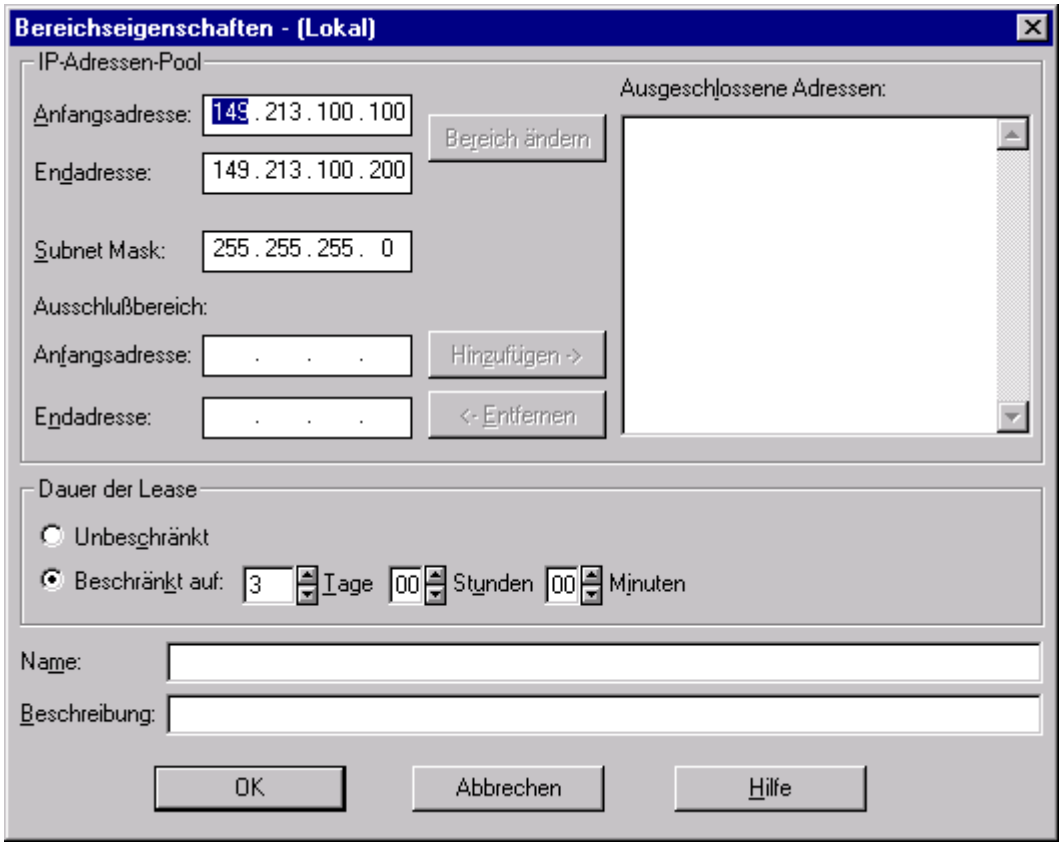
Please find following a typical entry on a Windows NT DHCP server:



TCP/IP Network

Setting of the IP address with DHCP.

Setting an address range from 149.213.100.100 to 149.213.100.200



TELNET

Configuration of XT-Micro serial

1.) XT-MICRO is operational.

2.) The IP address is set (and/or known). see “Adjustment of IP address”

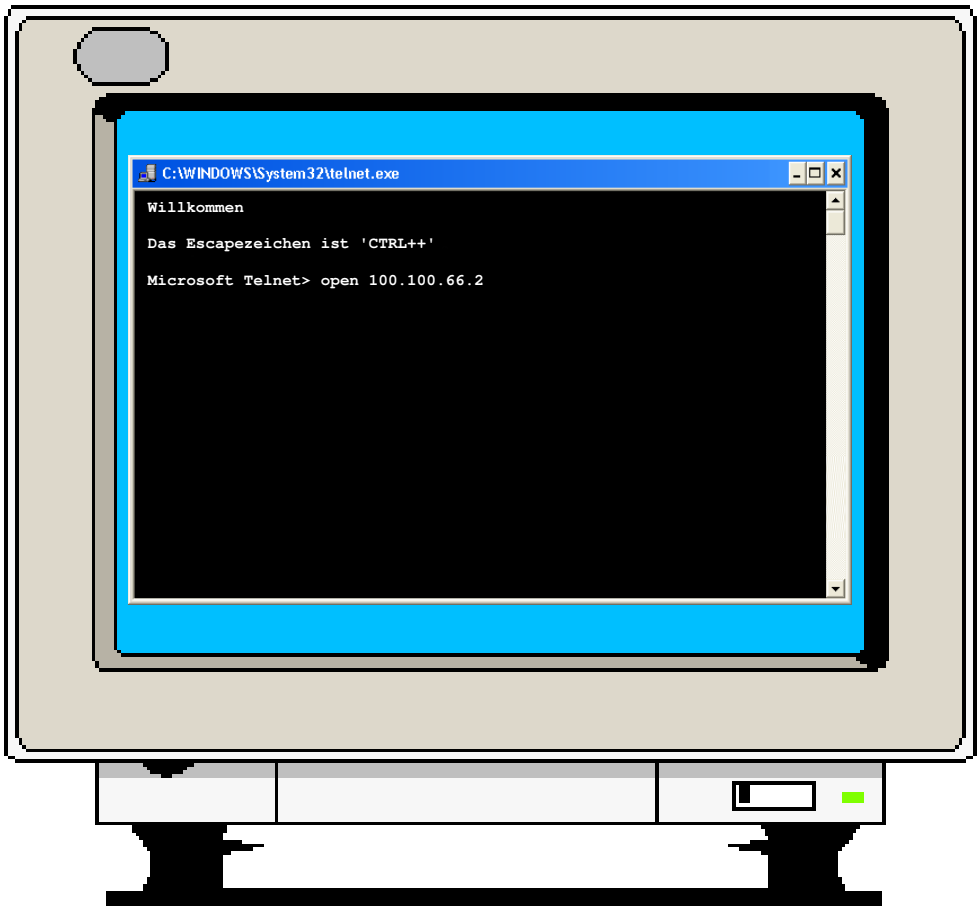
3.) XTRAFFIC is not occupied

4.) Program “TELNET” is available.

Example:
The configuration of the XT-Micro is supposed to be checked.

1

Start the program Telnet. You will find it either on the PC in the directory “WINDOWS” or it will be at your disposal on a system (OS/2 , Linux) by entering "TELNET" + < ENTER>. You can then establish a communication to XT-Micro by entering the IP address.

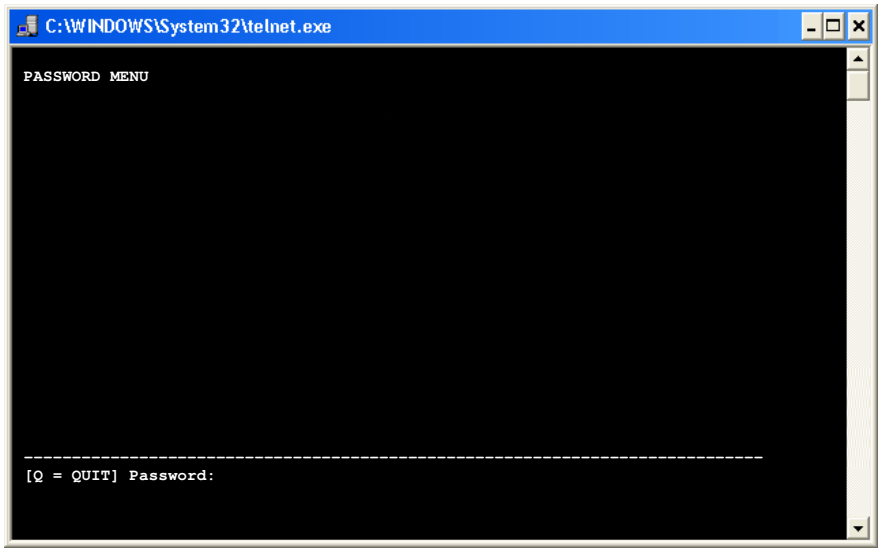


TELNET

Configuration of XT-Micro serial

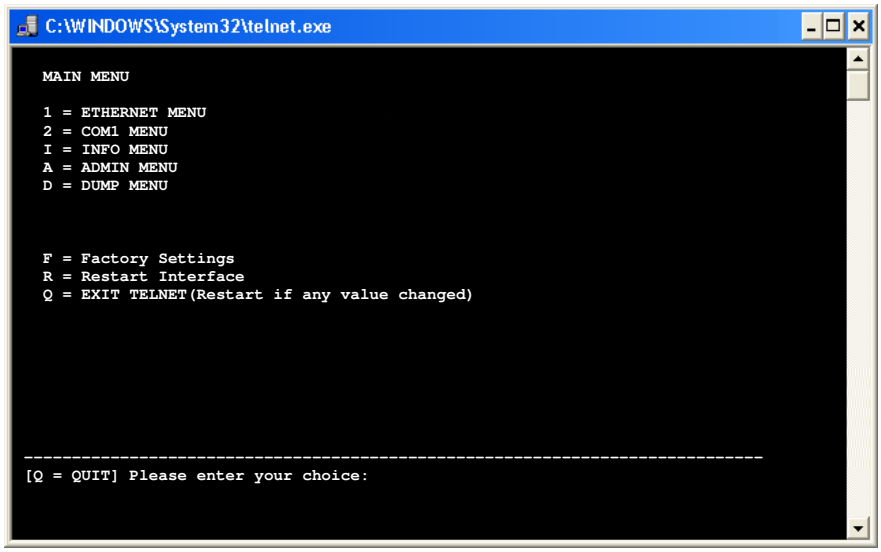
2

Enter the standard password „XT“ in the Password menu.



3

Press enter. You are now in the Main Menu of the XT-Micro. Here you can choose the Interface you like to configure.

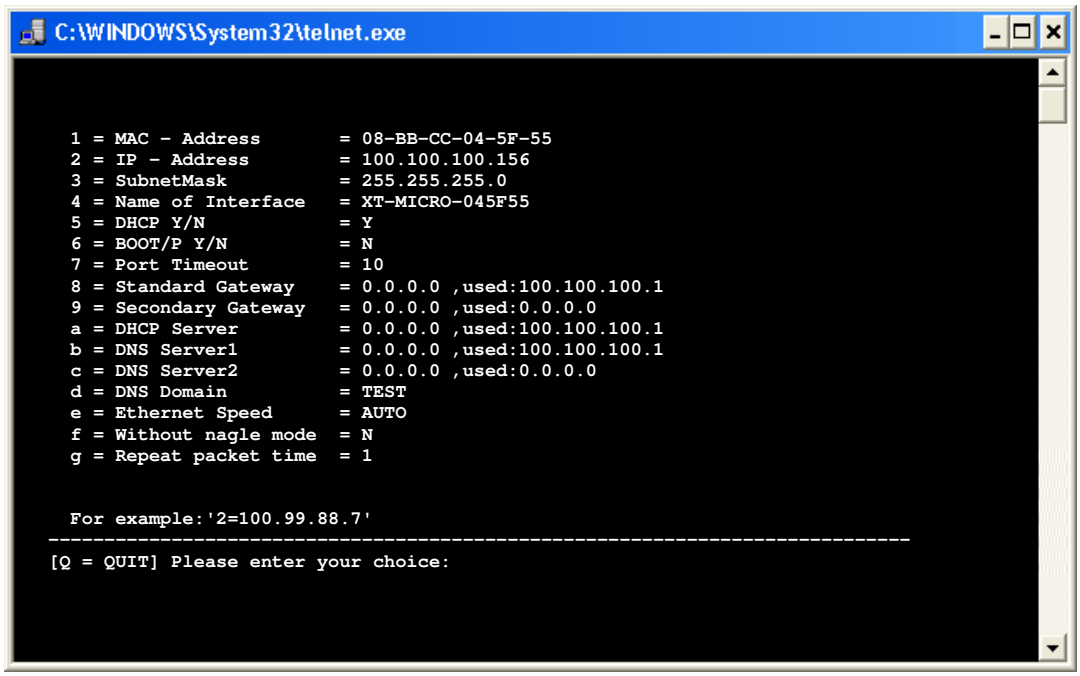


TELNET

Configuration of XT-Micro serial

4

Menu 1, the „Ethernet Menu“



1=Mac – Address : You can change the MAC-address here. We recommend you to use the standard MAC-address.

2=IP – Address : Change the IP-address of the interface at this point
example: 2=192.168.0.1

3=SubnetMask: change the Subnet-Mask at this point
example: 3=255.255.255.0

4=Name of interface: If your network uses DNS name server you can enter a name for the Interface at this point
example: 4=XT-Micro

5=DHCP Y/N: If you use an DHCP Server this point must be set to Y (Yes)
example: 5=Y

6=Boot/P Y/N: If you use an BOOT/P Server this point must be set to Y (Yes)
example: 6=Y

7=Porttimeout : After x seconds of inactivity, the port time out will drop down the connection.
example: 7=25
Porttiemout = 0 = Disable Porttimeout.

8=Standard Gateway : If you use a gateway in your network you should enter it at this point.
example: 8=192.168.0.25

9=Secondary Gateway : If you use a secondary gateway in your network you should enter it at this point.
example: 9=192.168.0.26

A=DHCP Server : If you know the IP-address of the DHCP server you should enter the IP at this point
example: a=192.168.0.35

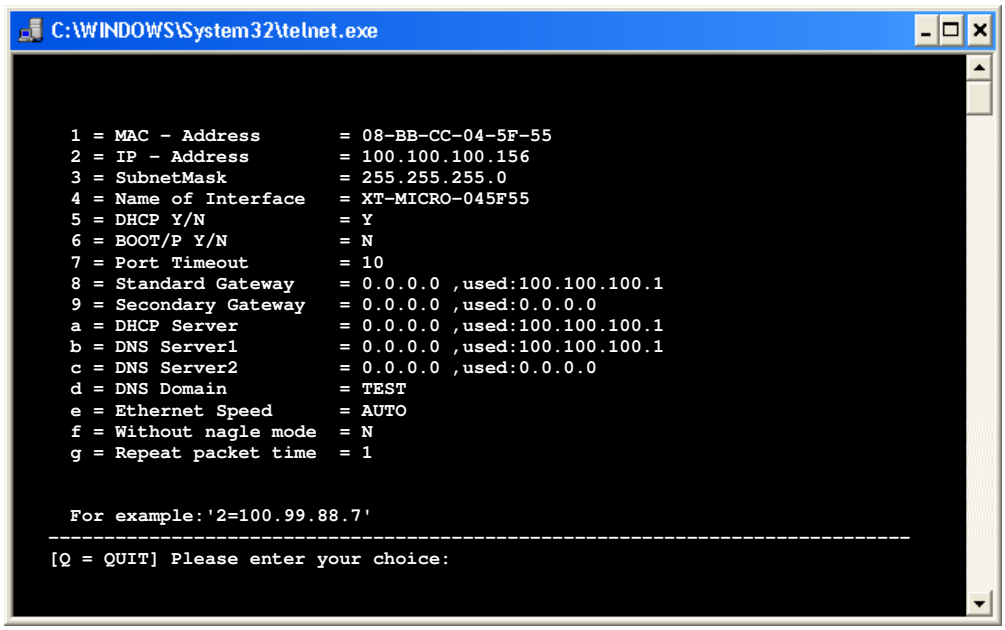
NOTE: “used “ shows current values of the parameters

TELNET

Configuration of XT-Micro serial

4

Menu 1, the „Ethernet Menu“



B=DNS Server1 : Enter the IP-address of the DNS server here.
example: b=192.168.0.66

C=DNS Server2 : Enter the IP-address of a secondary DNS server here.
example: c=192.168.0.67

D=DNS Domain : If you use your interface in a domain, you can enter the domain-name here.
example: d=exampledomain.de

E=Ethernet Speed : You can set up your Ethernet Speed here
The following modes are available:
e=10HALF → 10Mbit Half/duplex
e=10FULL → 10Mbit Full/duplex
e=100HALF → 100Mbit Half/duplex
e=100FULL → 100Mbit Full/duplex
e=AUTO → AUTO sensing

F=Without nagle mode: If you set this parameter to “Y”, then we generate no additional TCP-ACK packet after the data packet (TCP-PSH). It provides, however, that the connection partner possibly 200 ms waits, until he passes the data packet to the application.

G=Repeat packet time This value is adjustable from 1-10 seconds. It repeats after this time the last data packet, when this not was acknowledged.

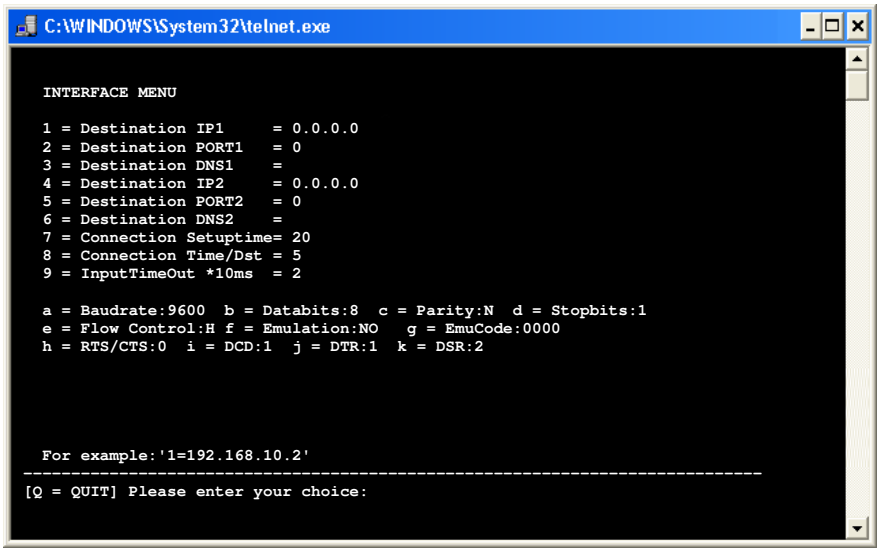
To exit the menu, press „**q**“ for quit. All parameters will be saved automatically.

TELNET

Configuration of XT-Micro serial

5

Menu 2, the „interface Menu“



1=Destination IP1 : If you use the ConnectOnData mode, the data will be sent to this IP-address
example: 1=192.168.0.2

2=Destination Port1 : Enter the target port of the Host here
example: 2=8080

3=DNS1 : If you use DNS, you can also enter the DNS name of the target host.
example: 3=destinationhost1.example.de

4=Destination IP2 : If the first target address is not available, the interface will try the second target address.
example: 4=192.168.0.3

5=Destination Port2 : Enter the target port of the second address here.
example: 5=8080

6=DNS2 : The DNS name of the second target can be set here.
example: 6=destinationhost2.example.de

7=Connection Setuptime: This parameter set up the time that the Interface should connect to the Host.
example: 7=20

8=Connection Time/Dst: Determine how often the interface should connect to the target. If 2 addresses are set, the interface will exchange the address after an unsuccessful connection.
Example: 8=5

9=InputTimeOut *1ms : Determine how long the interface will wait, until serial data will be send to the network.
Example: 9=30 (Timeout auf 300ms)

A=Baudrate: Set up the baudrate of your interface. Following modes are able:
300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600
example: a=9600

B=Databits: Set up the databits here:
7, 8
example: b=8

C=Parity: ODD = O , EVEN = E, M=MARK, S=SPACE, N=NONE
example: c=E

D=Stopbits: Number of stopbits, 1,2
example: d=1

E=FlowControl Turn flow control on or off. H = Hardware, S = Software, N = None
example: e=H

TELNET

Configuration of XT-Micro serial

6

Continuation menu 2, the " interface Menu "

```
C:\WINDOWS\System32\telnet.exe

  INTERFACE MENU

  1 = Destination IP1      = 0.0.0.0
  2 = Destination PORT1    = 0
  3 = Destination DNS1     =
  4 = Destination IP2      = 0.0.0.0
  5 = Destination PORT2    = 0
  6 = Destination DNS2     =
  7 = Connection Setuptime= 20
  8 = Connection Time/Dst = 5
  9 = InputTimeOut *100ms = 2

  a = Baudrate:9600  b = Databits:8  c = Parity:N  d = Stopbits:1
  e = Flow Control:H f = Emulation:NO   g = EmuCode:0000
  h = RTS/CTS:0  i = DCD:1  j = DTR:1  k = DSR:2




  For example:'1=192.168.10.2'
-------------------------------------------------------------------------------
[Q = QUIT] Please enter your choice:
```

F=Emulation: The following emulations are available:

Modem- Emulation	*example:*	*f=MODEM*
PAD-Emulation	*example:*	*f=PAD*
ConnectOnData	*example:*	*f=DIRECT*
AutoConnect	*example:*	*f=AUTO*
No Emulation	*example:*	*f=NO*

G=Emucode: Under this menu item you can release special function

H=RTS/CTS: This menu item chooses the behavior of the RTS line (output)

h=0 → RTS Always ON
h=1 → RTS Follows CTS
h=2 → RTS Follows DSR
h=3 → RTS Always ON + Hardware Protocol
h=4 → RTS Follows CTS + Hardware Protocol
h=5 → RTS Follows DSR + Hardware Protocol

I=DCD: This menu item chooses the behavior of the DCD line (output)

i=0 → DCD Always ON
i=1 → Indicates Connection
i=2 → Follows DSR
i=3 → Set to input

J=DTR: This menu item chooses the behavior of the DTR line (output)

j=0 → DTR Always ON
j=1 → Indicate Connection
j=2 → Follows DSR

K=DSR: This menu item chooses the behavior of the DSR line (input)

k=0 → DSR No Control
k=1 → DSR Control Incoming
k=2 → DSR Clear Connection

K=RS485: This menu item only for ComPoint-LAN-AS (COM2)

k=Y RS485 option

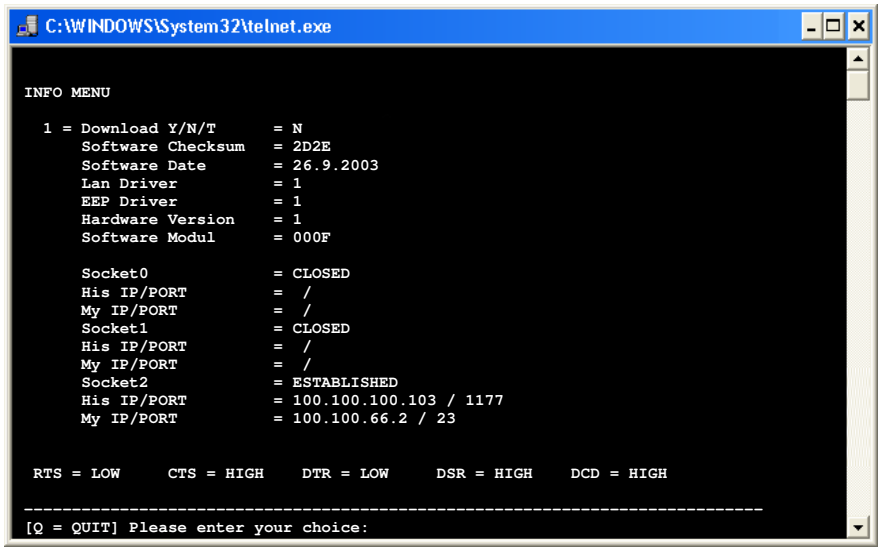
L=BUS: This menu item only for XT-MICRO-OEM1,XTMICRO-SOC,XT-MICRO-NANO
This parameter is described in the DESIGN-GUIDES of the interfaces.

TELNET

Configuration of XT-Micro serial

7

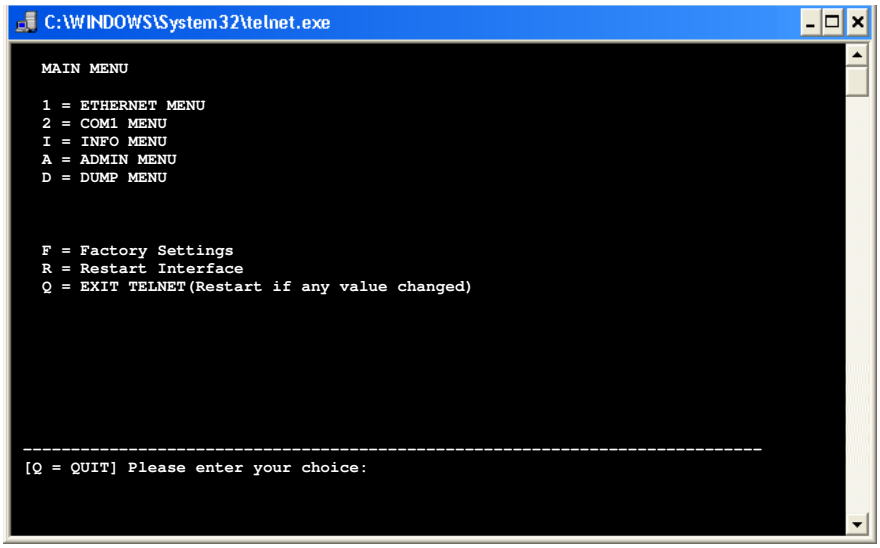
Menu i, the „info menu“



In the Info menu all versions of the interface will be displayed. There is as well the update function. This function allows a firmware update. If you want to make a firmware update use 1=T (Temp) This means, that the function will return to N after the update. If you activate Y, the firmware update will always work.

8

menu d, the „dump menu“

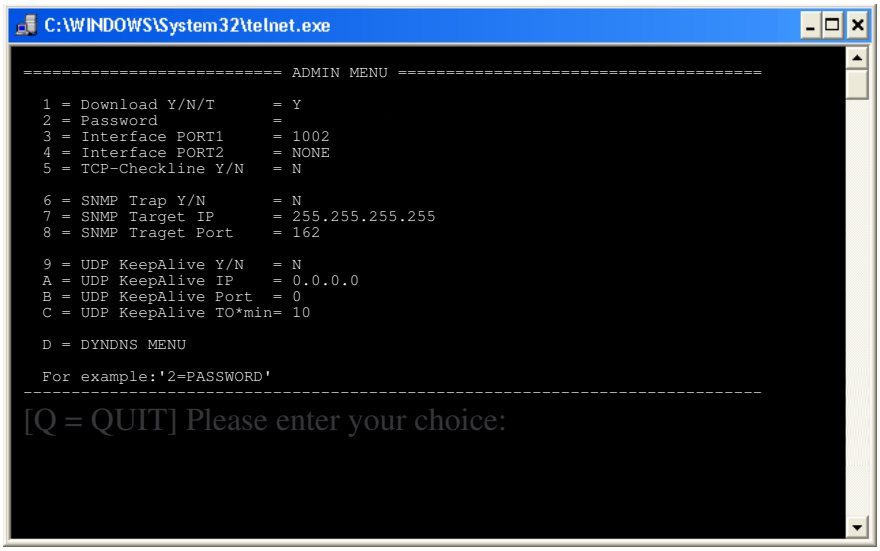


In the dump menu the data of the serial interface will be displayed. You can check the serial interface for any problems, such as wrong baudrate, etc.

TELNET

9

menu a, the „admin menu“



1 = Download Y/N/T Download option
1=Y → Download option always on.
1=N → Download not allowed.
1=T → Download option temporary on.

2 = Password Password

3 = Interface PORT1 Here, you can define your own Port. If the Port is 23(Telent) or 80(Browser) then the configuration is not longer possible and all configuration data send direkt to the serial port.

6 = SNMP Trap Y/N
7 = SNMP Target IP
8 = SNMP Traget Port
If the state of the serial interface is changed, the deviceserver sends a TRAP to an Enterprise managenemt system.

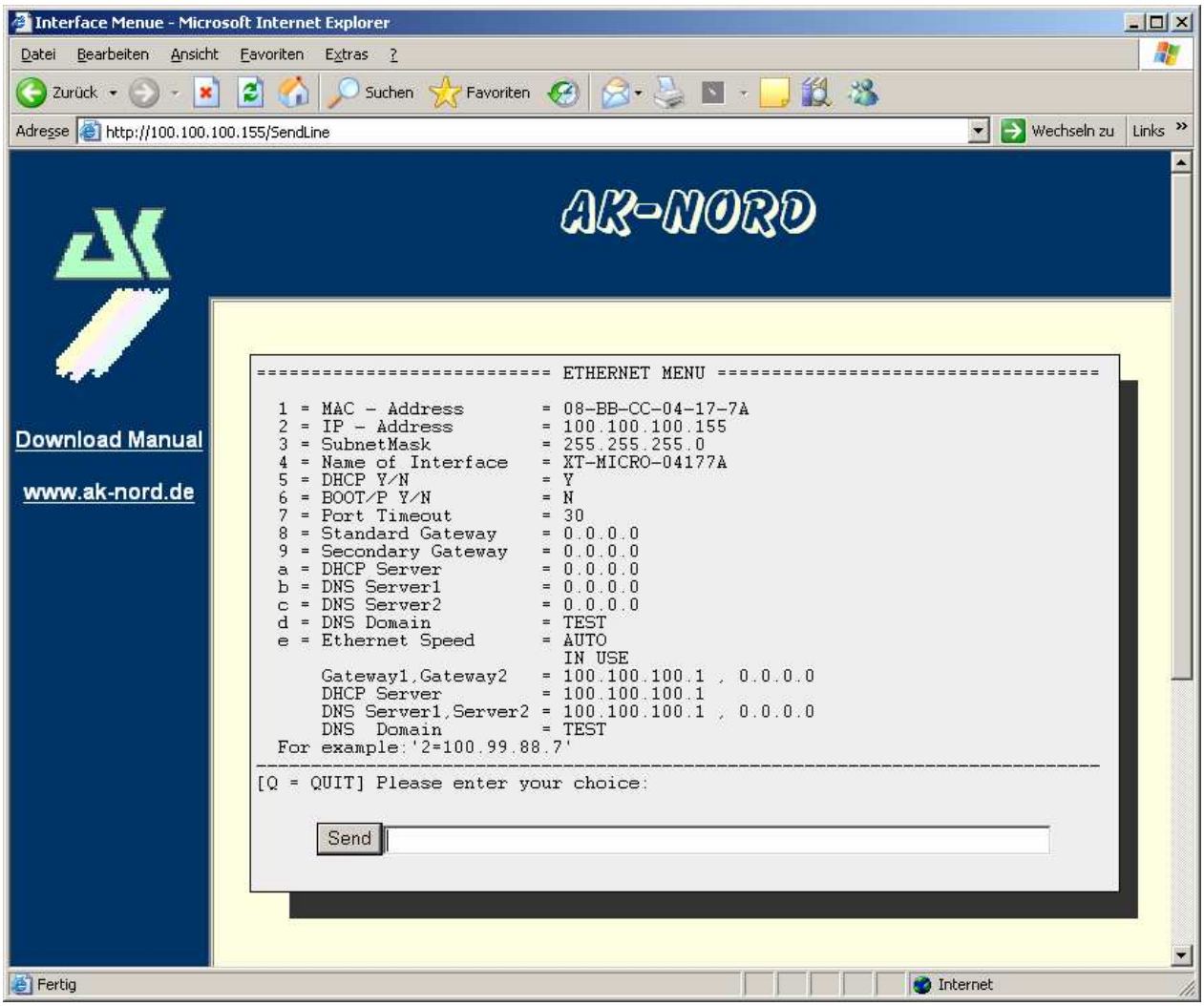
9 = UDP KeepAlive In order to find out whether the interface is turned on, you can send a KEEP-ALIVE CHAR by UDP. If you turned UDP – KEEP – ALIVE on, the interface sends periodically a "**X**" via UDP - protocol.

D = DYNDNS MENU **see section DYNDNS**

To leave the telnet menu press „q“ to quit to the main menu. All modified parameters are being saved automatically.

Configuration with a Browser

Advice:
The configuration with the browser is possible only on the series II.



All inputs occur as with the configuration by Telnet.

Important
All written values are stored after input. You must carry out a R=Restart so that the values are activated.

Configuration with V24

Configuration of XT-MICRO with V24 (only serial version)

1.) XT-MICRO is operational.

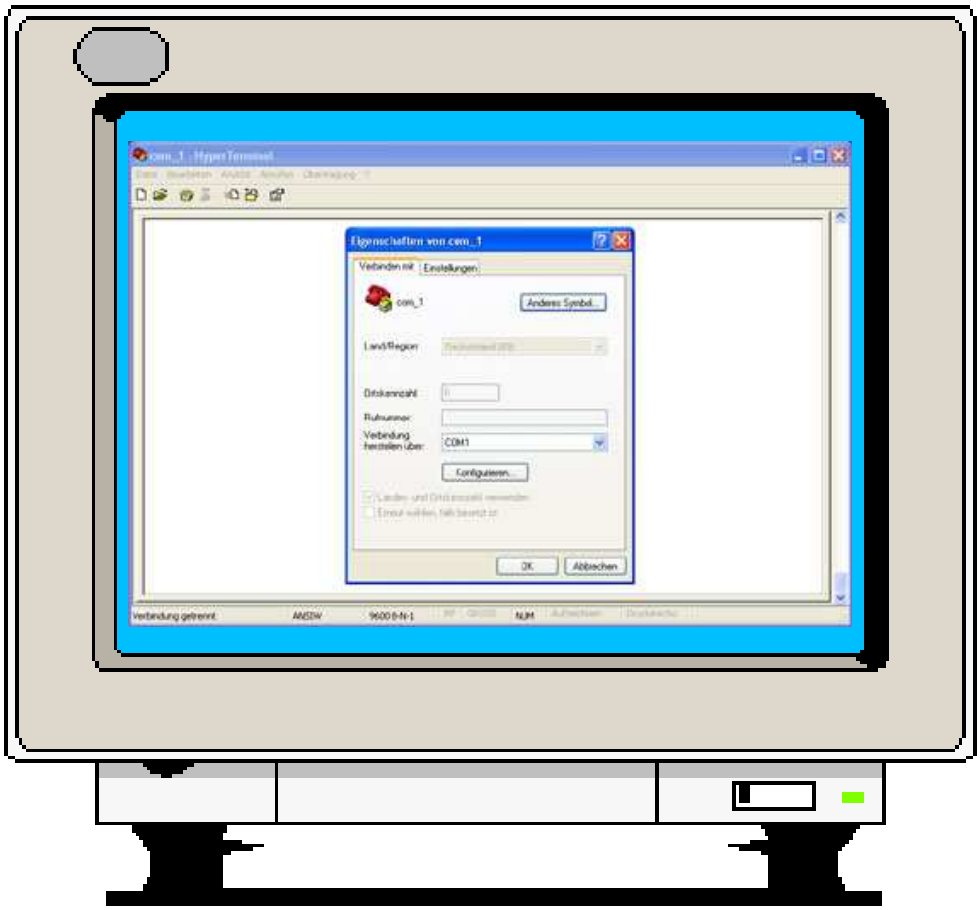
2.) XT-MICRO is connected to the PC over V24 (for example: COM1)

3.) A program such as Hyperterminal is available.

Example:
The configuration of the XT-Micro is supposed to be checked.

1

Start a program such as Hyperterminal. You can use every Terminal software which is able to open a Com port. Start XT-Micro and then press the following buttons after 2 seconds
Esc, Esc, TELNET
Now the Password Menu will be displayed.

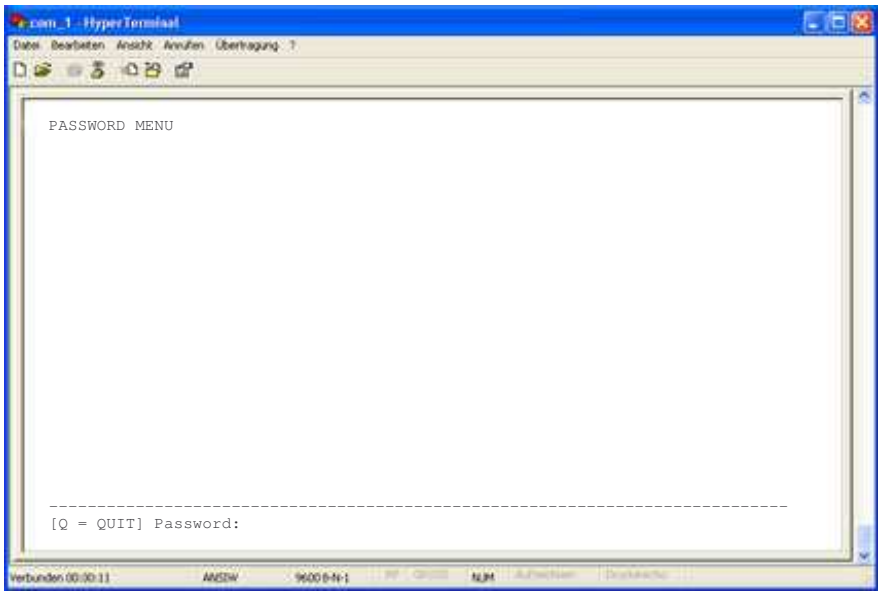


Configuration with V24

Configuration of XT-MICRO with V24 (only serial version)

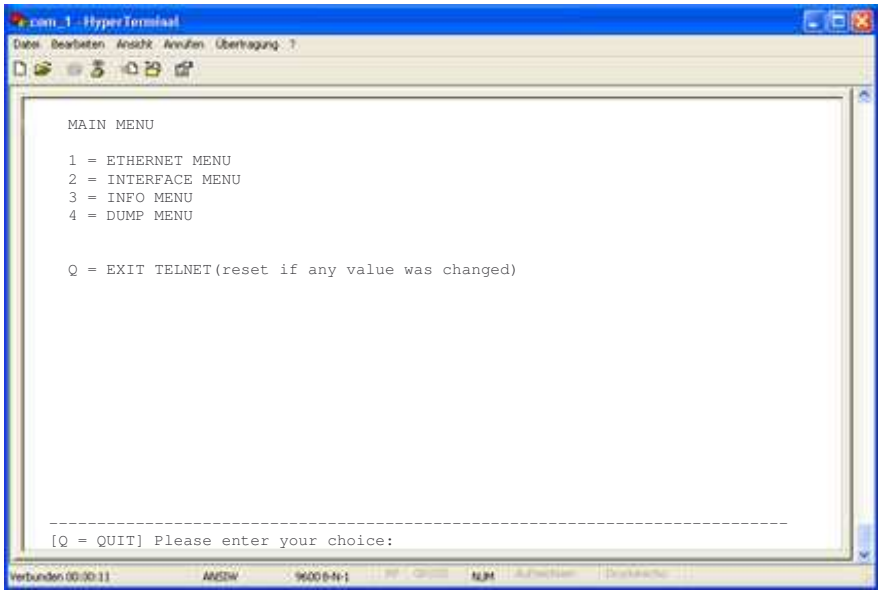
2

Enter the standard password „XT“ in the Password menu.



3

Press enter. You are now in the Main Menu of the XT-Micro. Here you can choose the Interface which you would like to configure.

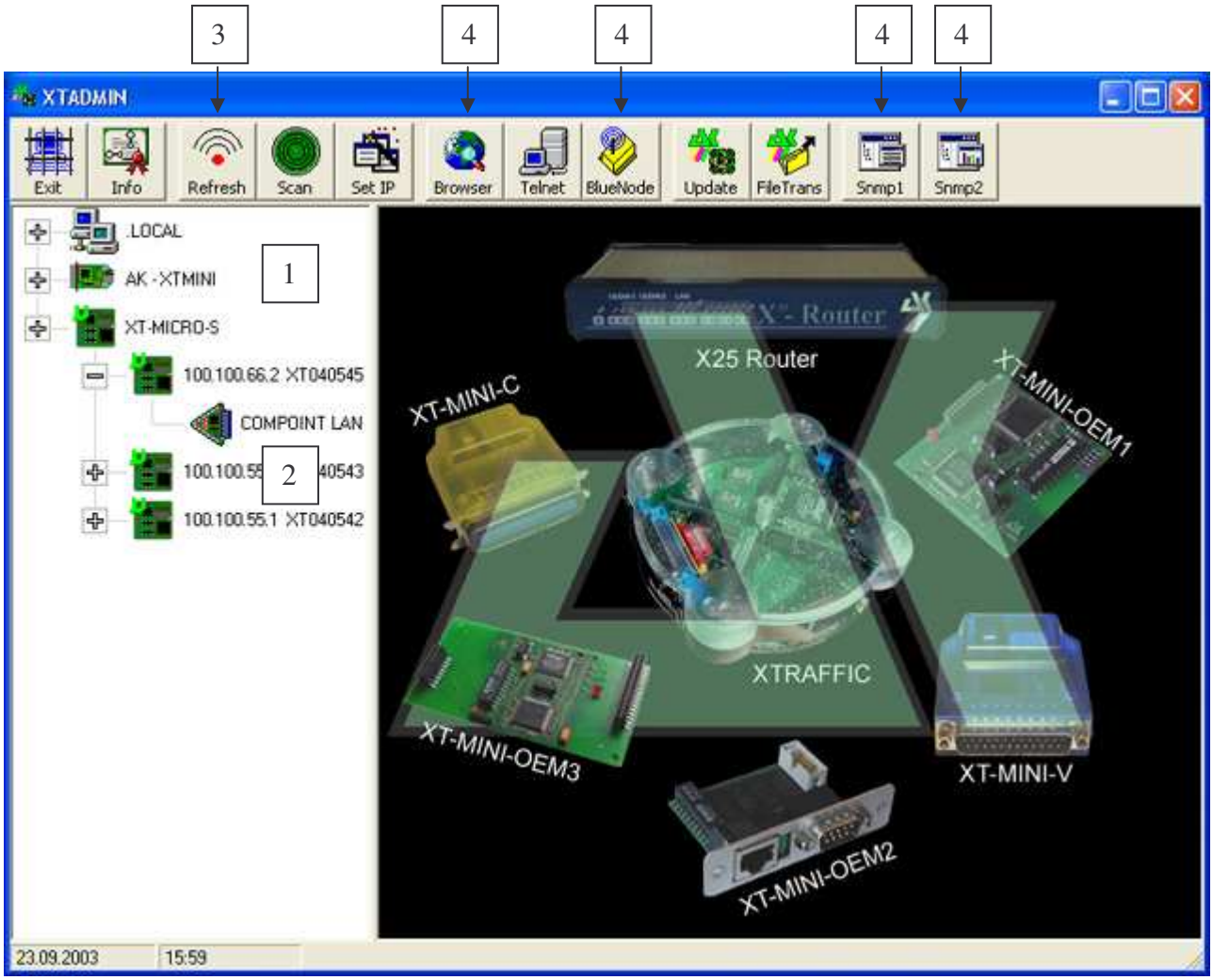


Configuration see “Telnet”

XT-Admin

Description XT-Admin

On the following pages the configuration and management tool XT-Admin will be described



1. Any AK-Nord interface will be displayed on the network.

2. The interfaces are expanded by a click onto the cross. If no cross should be available, you can't reach the interface.

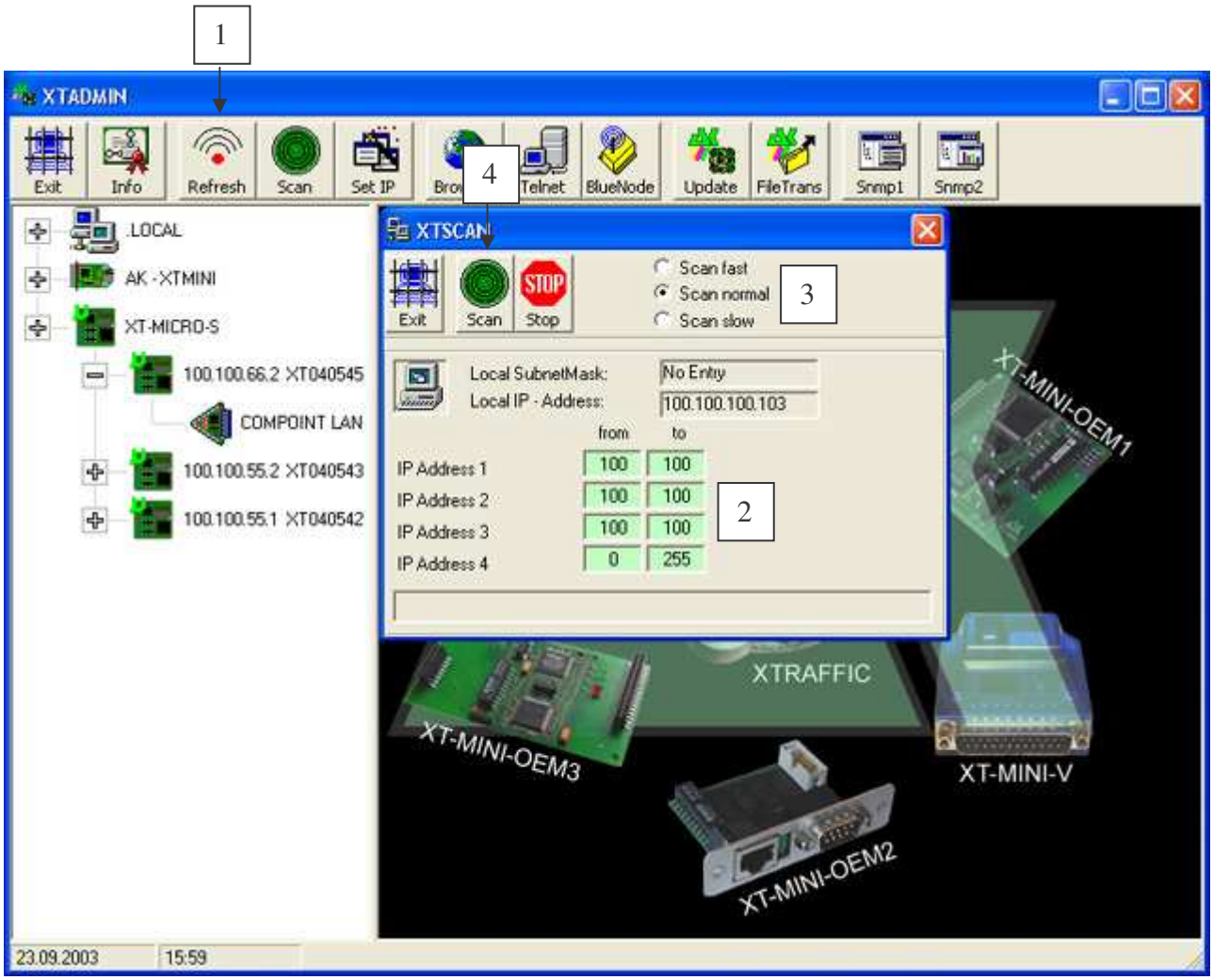
3. The interfaces on the list will be refreshed by pushing the „Refresh“ button.

4. These functions are not supported by the XT-Micro.

XT-Admin

Description XT-Admin, SCAN

If you want to display an XT-Micro which is located outside of your subnet or which is installed behind a Gateway, it is not being displayed automatically. But you have the option to scan a certain IP-area and to have the interface listed in this way.



1. If you press the „SCAN“ button the XTSCAN window will appear.

2. Enter the IP-range which you want to scan.

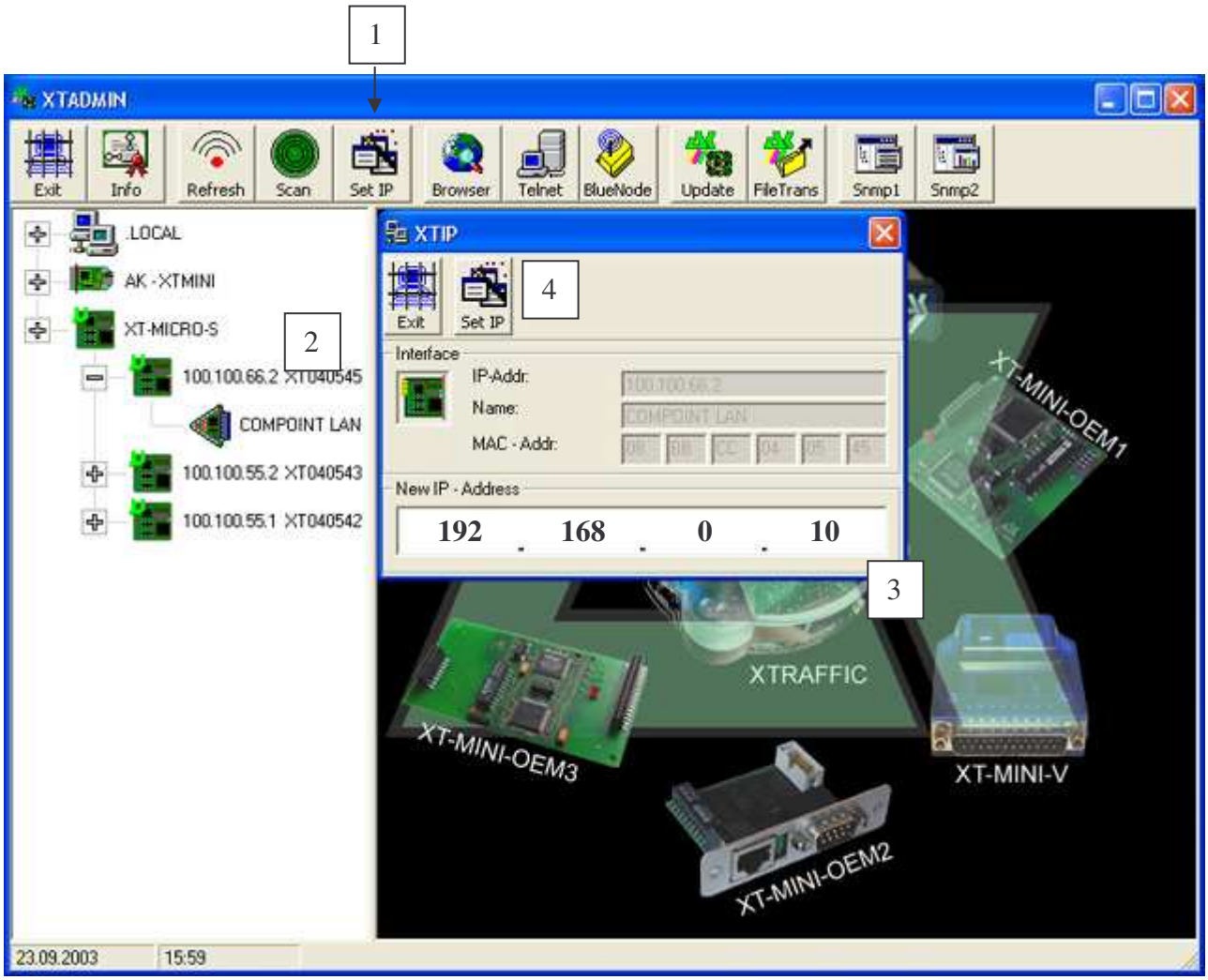
3. Choose the speed for the scan. In fast networks (like Ethernet) use the „Scan fast“ button, in slow networks use the „Scan slow“ button.

4. When all parameters are set, press the „SCAN“ button in order to start the procedure. Every interface which is being detected, will appear in the list on the left.

XT-Admin

Description XT-Admin, Set IP

By the Set IP function you can set new IP-addresses to your interfaces, just by pressing a button, even if these interfaces are outside of your subnet.



1. If you press the „Set IP“ button, the XTIP window will appear.

2. Choose the interface from the left menu which you will change the IP-address. With a click to that interface, the parameters will be transmitted to the XTIP Window.

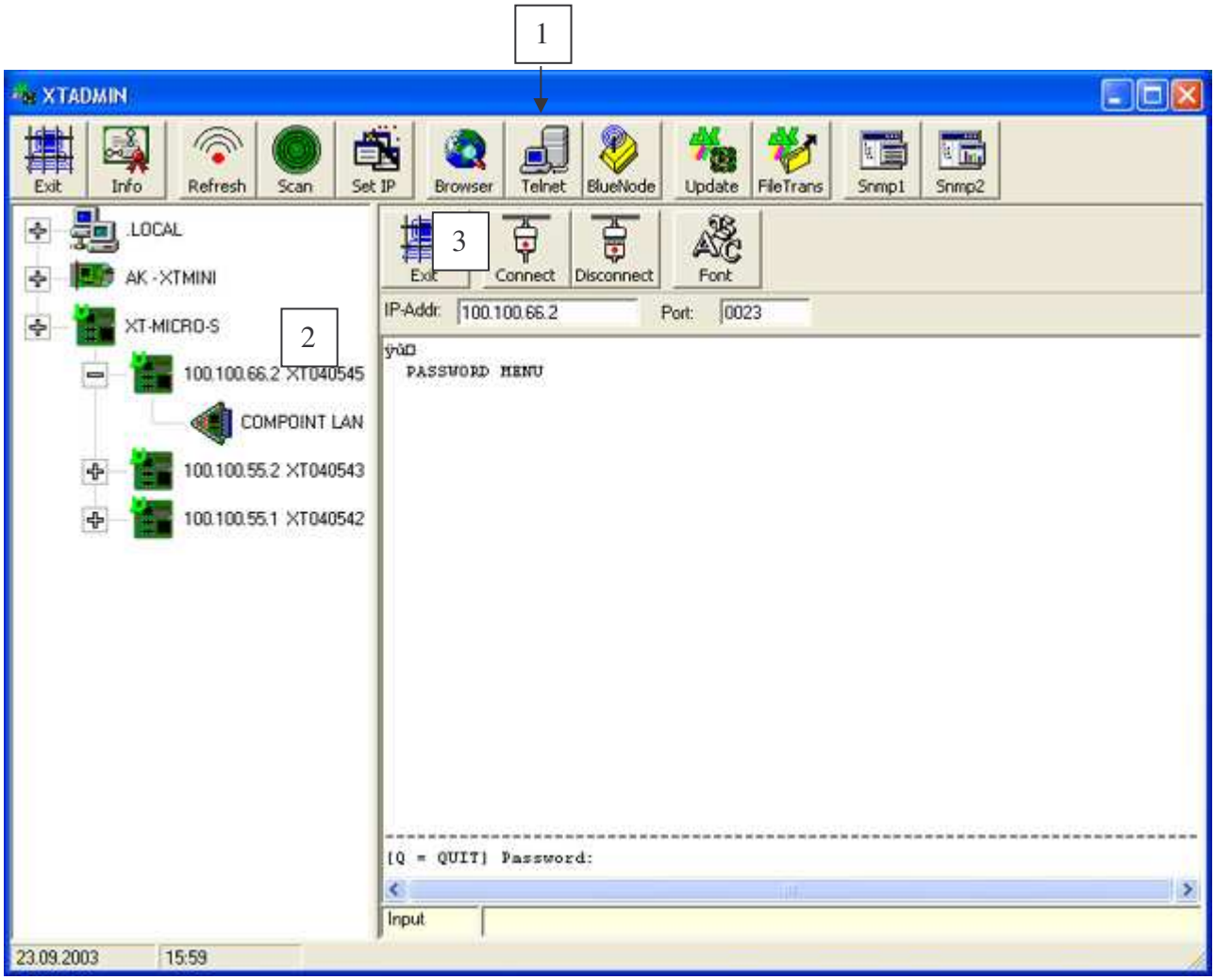
3. Enter the new IP-address in this Window.

4. To set the new IP-address press the „Set IP“ Button in the XTIP Window. After pressing the button, the interface will appear in the left window together with its new IP-address.

XT-Admin

Description XT-Admin, Telnet

By the function Telnet, you can use a Telnet window to connect to your interfaces.



1. If you press the „Telnet“ button, the Telnet window will appear.

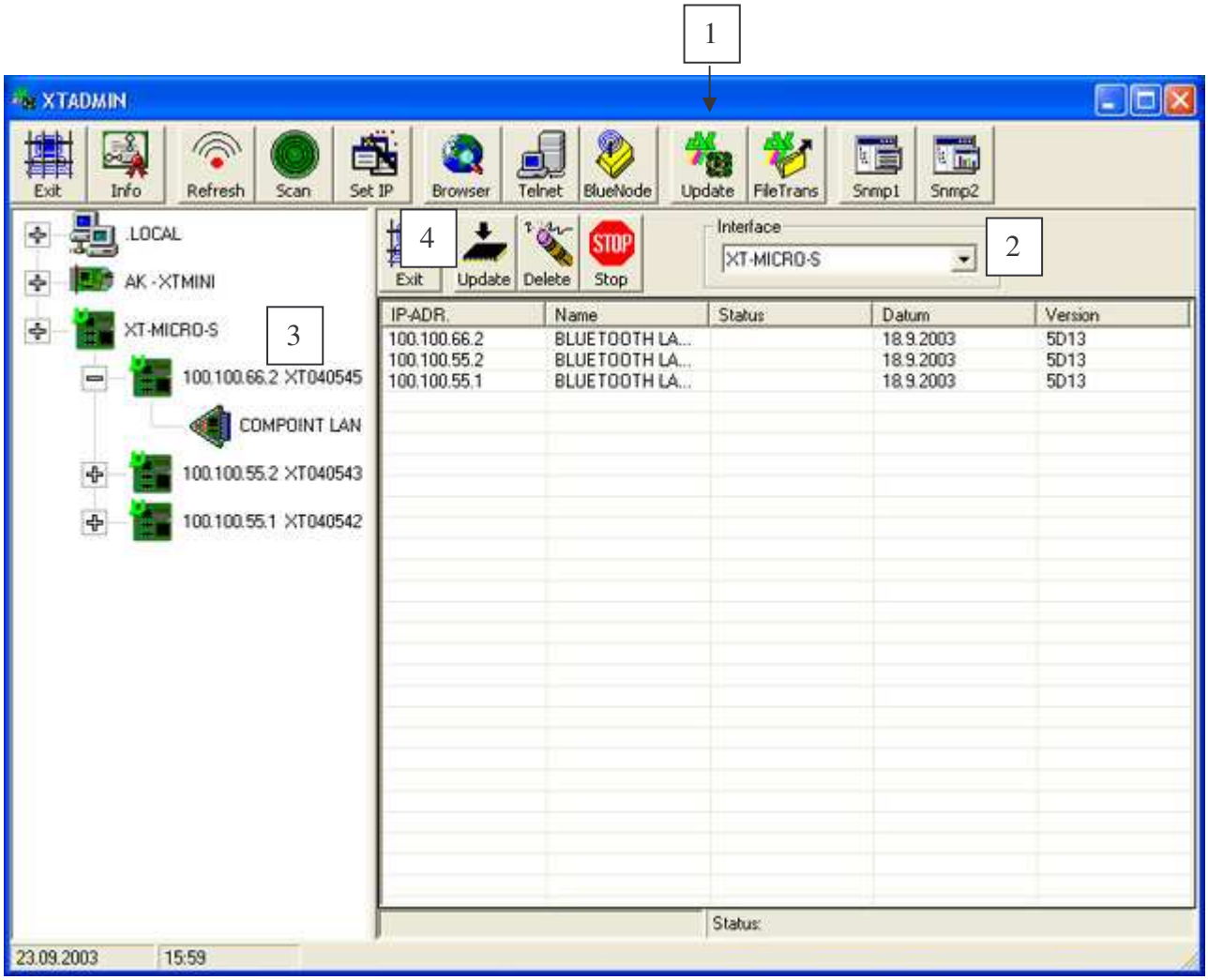
2. Choose the interface which you want to configure from the menu on the left. NOTE: the cross in front of the interface must be visible to connect to the Interface. Otherwise check your network parameters.

3. Press „Connect“ to connect to the interface. For detailed information on the configuration of the XT-Micro please refer to the Telnet chapter.

XT-Admin

Description XT-Admin, Update

With the Update function you can load new Firmware in your interfaces over the Ethernet.



1. If you press the „Update“ button, the Update window will appear.

2. Choose the type of the interface which you want to update.

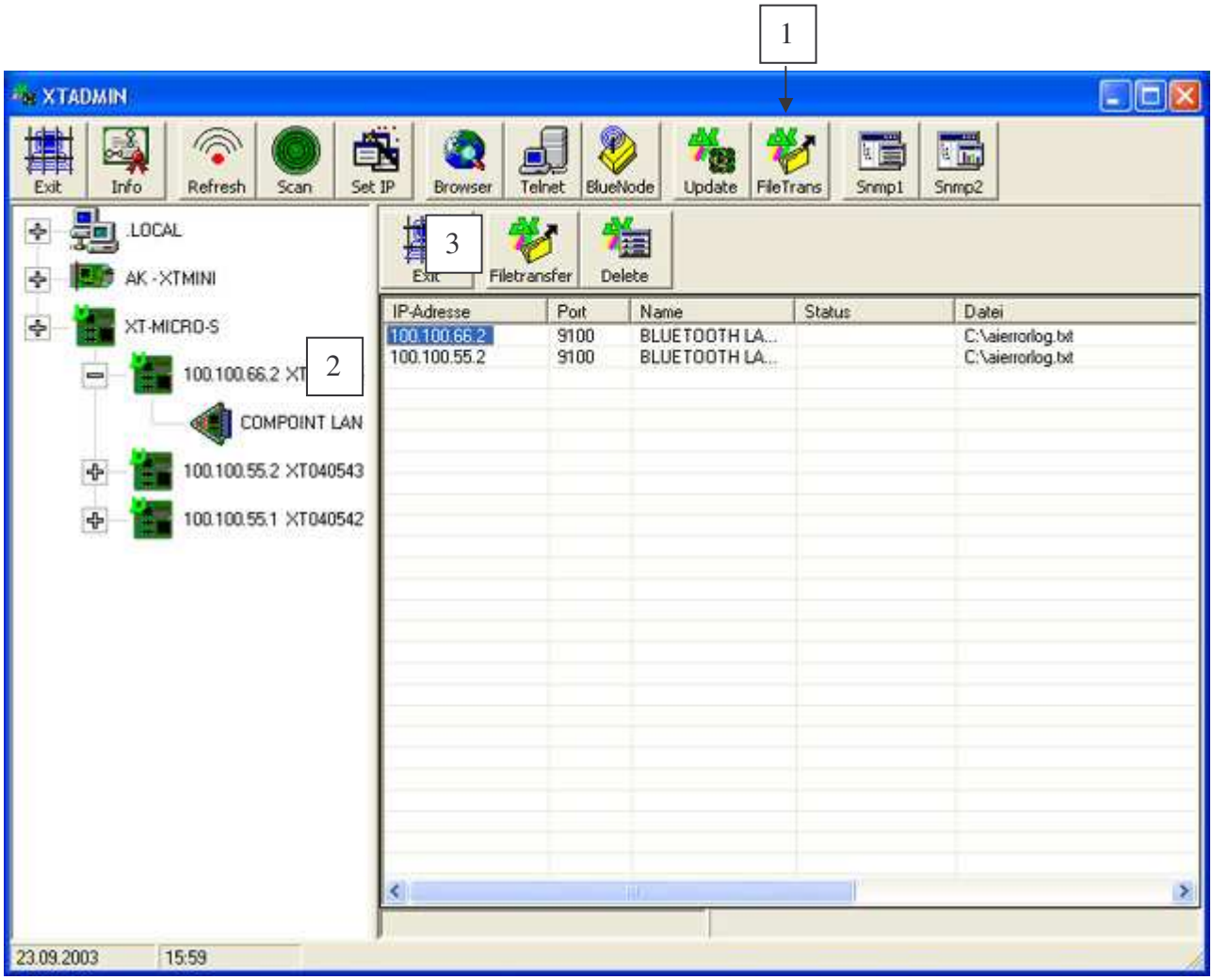
3. Choose the Interface which you want to update. NOTE: the cross in front of the interface must be visible to connect to the Interface. Otherwise check your network parameters. You can choose more than one interface. The interfaces will be listed and updated one by one.

4. When all interfaces are listed press the Update button to start the automatic update. When the update is terminated, the new version and date will be displayed in the list.

XT-Admin

Description XT-Admin, File Transfer

With the File Transfer function you can send a testfile to your interface to check the connection.



1. If you press the „FileTrans“ button, the File Transfer window will appear.
2. Choose the interface which you want to test from the left window.
3. Press „Filetransfer“ to send a testfile to the interface.

PRINTING UNDER WINDOWS 2000

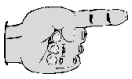
Installing printer.

1.) XT-MICRO is operable. (Turn printer on)

2.) The IP address is set (and/or known). see “Adjustment of IP address”

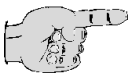
3.) XT-MICRO is not occupied (is not printing)

4.) The TCP / IP protocol is available (see „Preparation“)



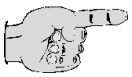
1

You will find the icon **Workstation** on the surface of Windows NT Workstation 4.0. With a double click to this icon, a window appears giving you all setting possibilities for your PC.



2

Now please look for the icon **Printer** in the **System Control** and doubleclick it with the mouse.

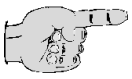


3

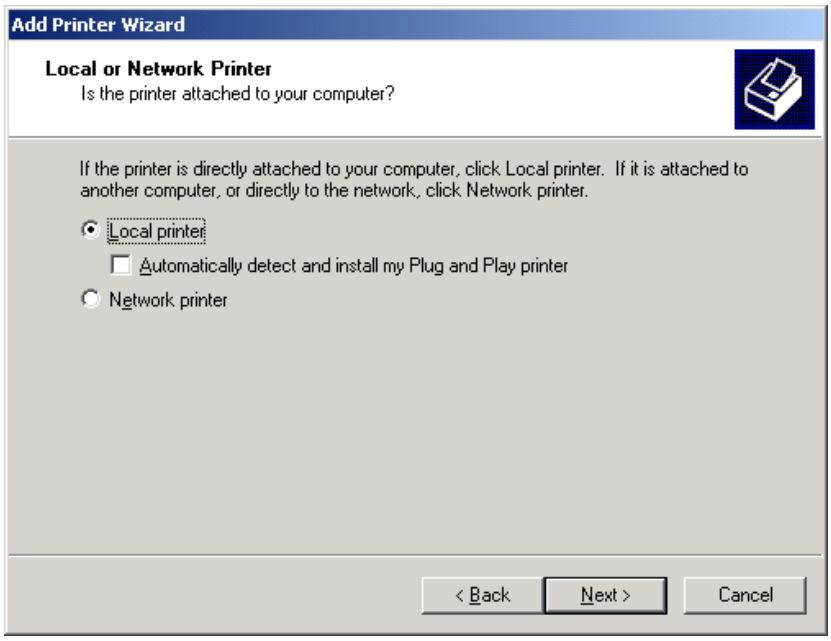
Go on with the icon **New Printer** and doubleclick it.

PRINTING UNDER WINDOWS 2000

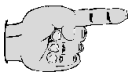
Installing printer.



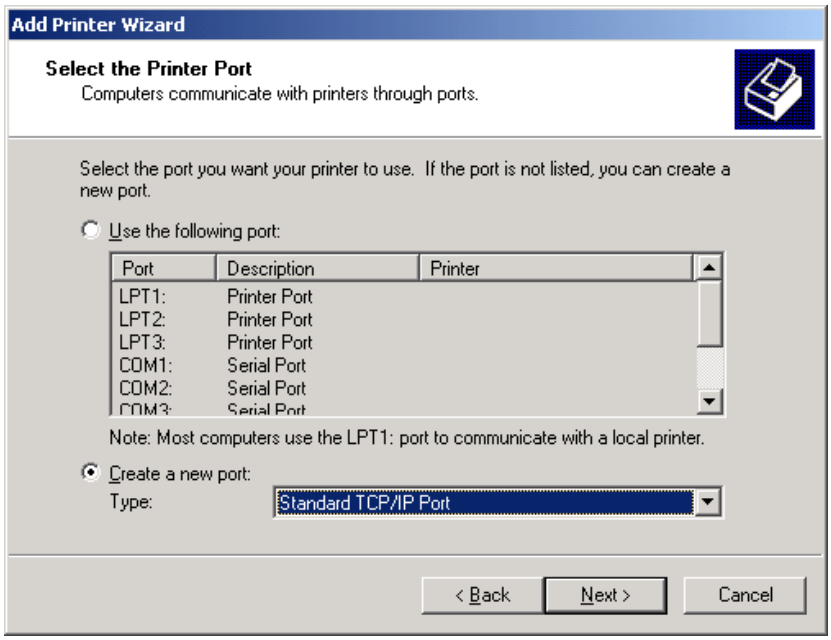
4



Confirm the installation of a local printer and continue by actuating the button **Next**.



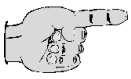
5



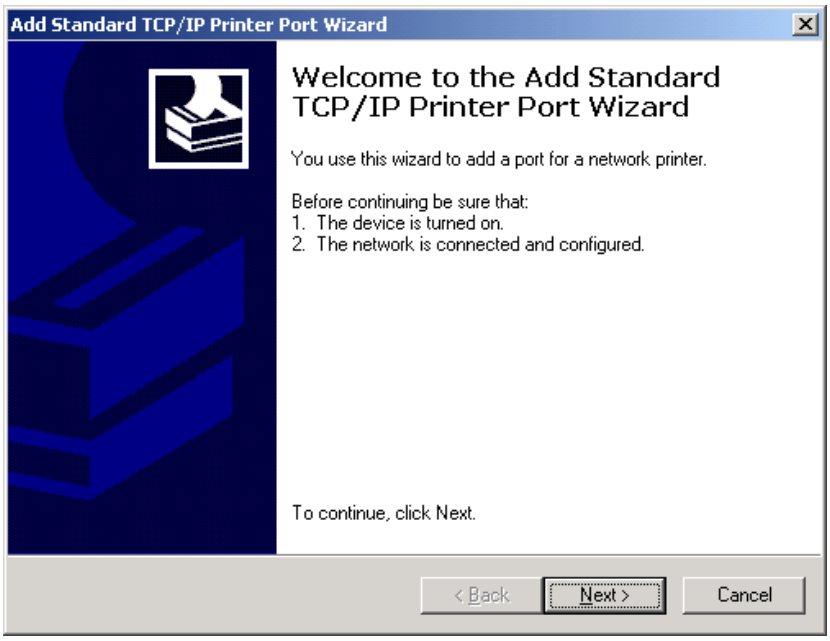
Click to **„Build new port“** and select **Standard TCP/IP** from the list. Continue by actuating the button **Next**.

PRINTING UNDER WINDOWS 2000

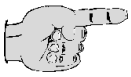
Installing printer.



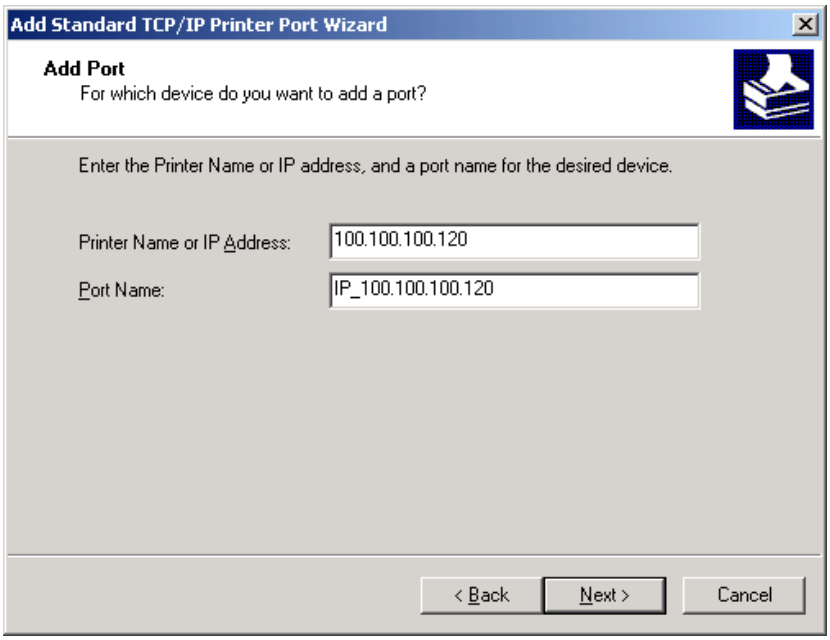
6



Continue by actuating the button **Next**.



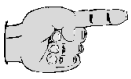
7



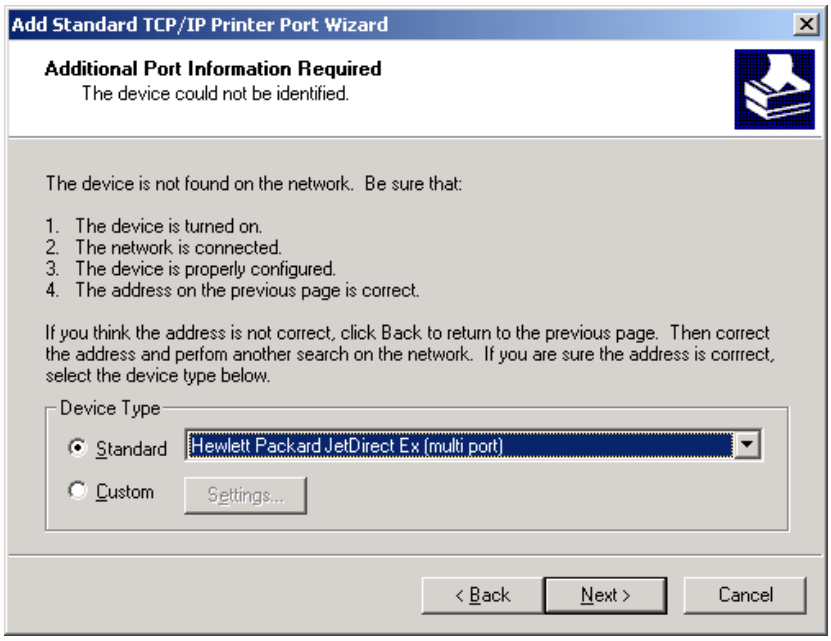
Enter the IP address of XT-MICRO.

PRINTING UNDER WINDOWS 2000

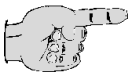
Installing printer.



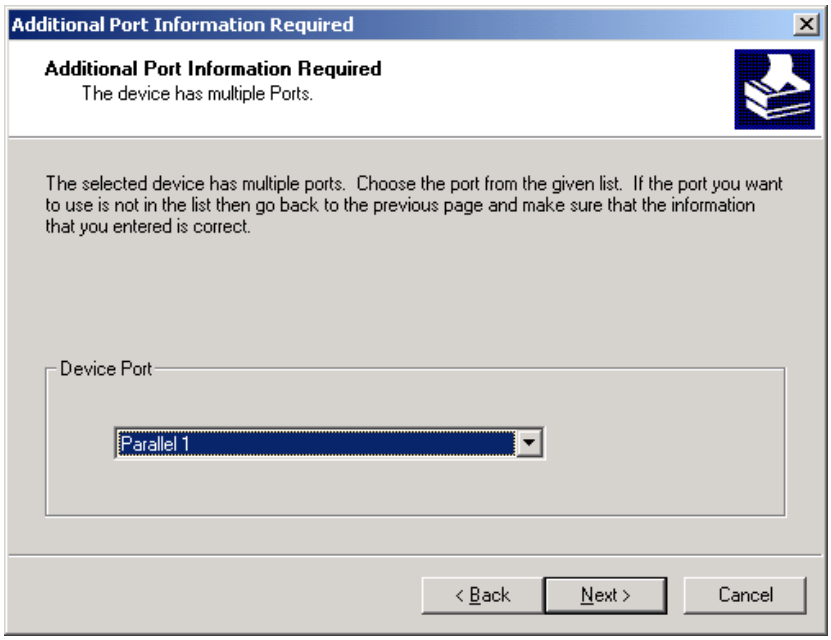
8



Enter here the type of your device.



9

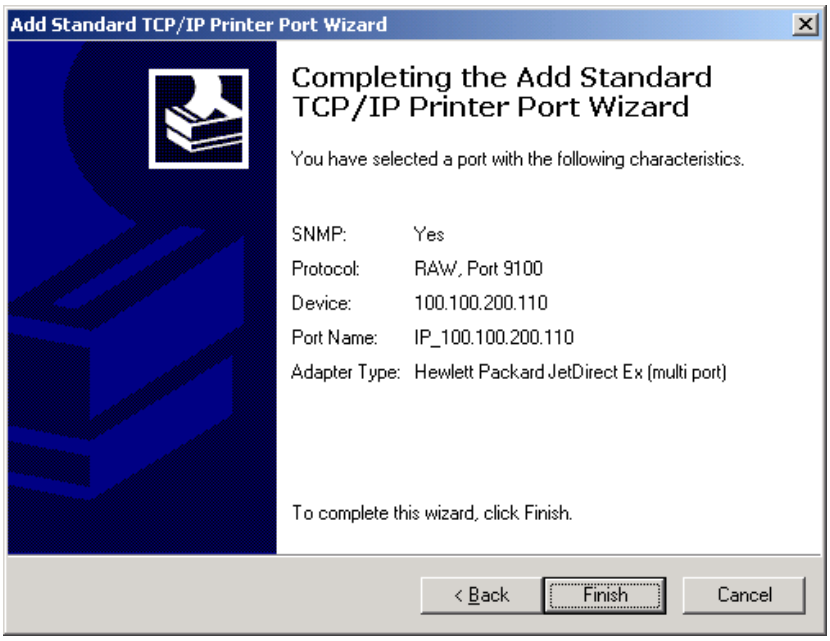


As port for the device, please enter **Parallel 1**.

PRINTING UNDER WINDOWS 2000

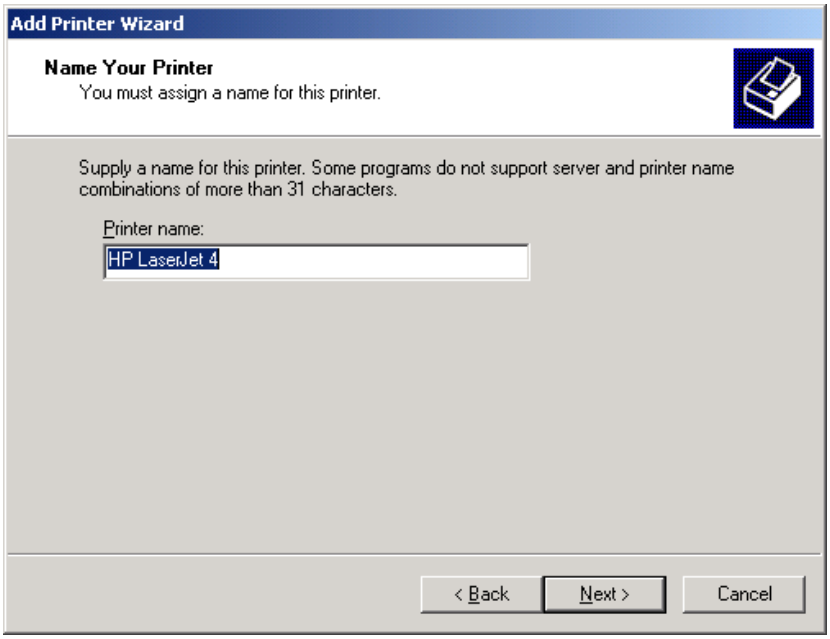
Installing printer.

10



Check if your data are correct and continue by actuating the button **Next**.

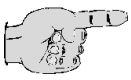
11



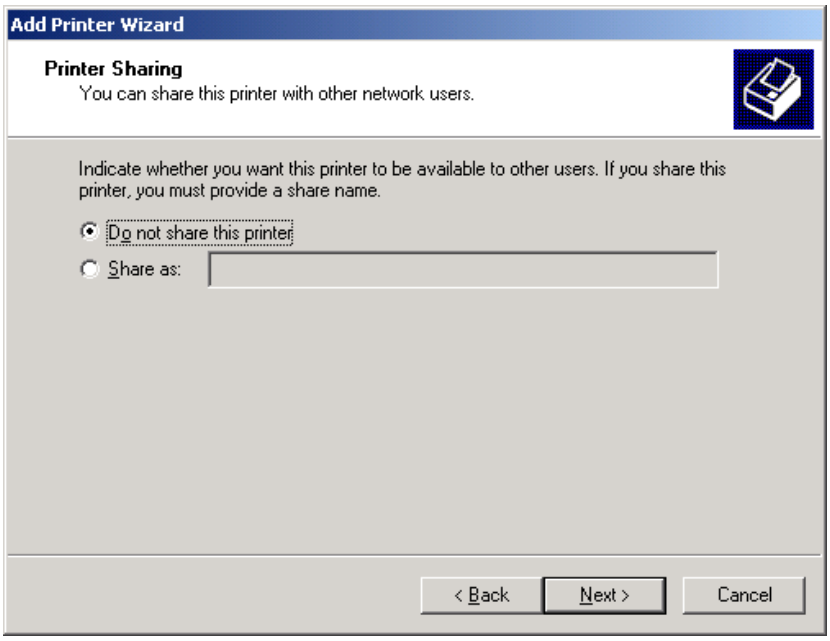
Assign a freely eligible designation to the printer and determinate if it should be used as standard printer.

PRINTING UNDER WINDOWS 2000

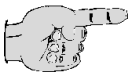
Installing printer.



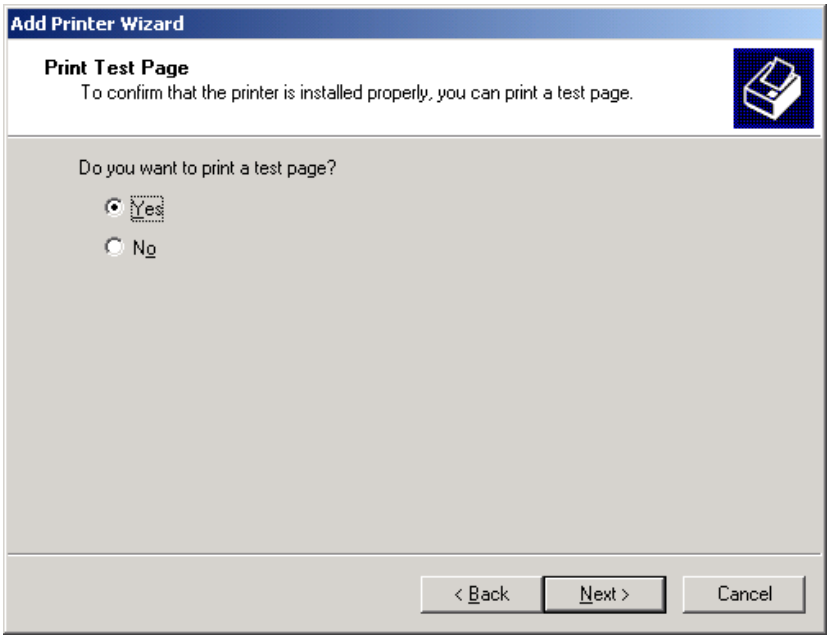
12



Determinate if the printer should be available to other PCs. (This is normally not necessary – see Win2000 Documentation) .



13

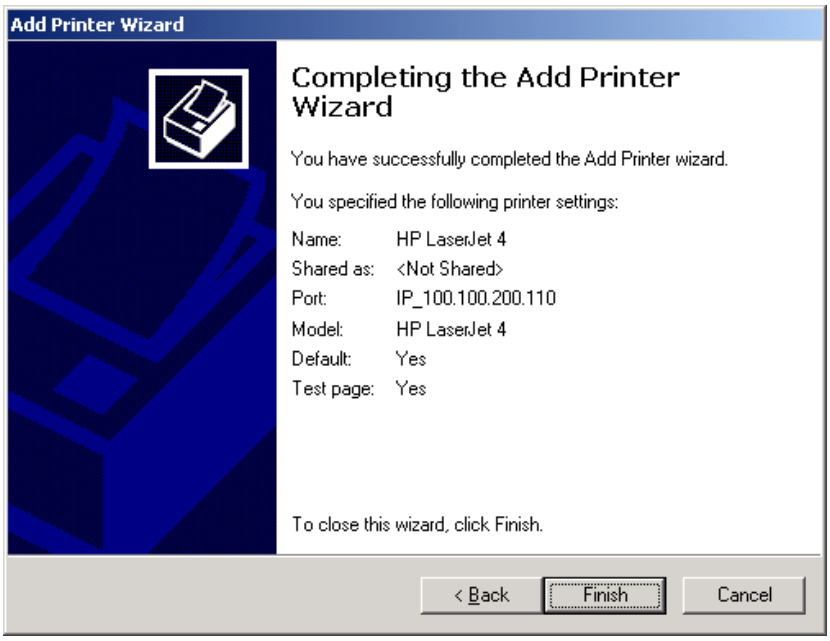


For a final test of the installation, it is recommended to perform a test with the output of the test page of Windows 2000.

PRINTING UNDER WINDOWS 2000

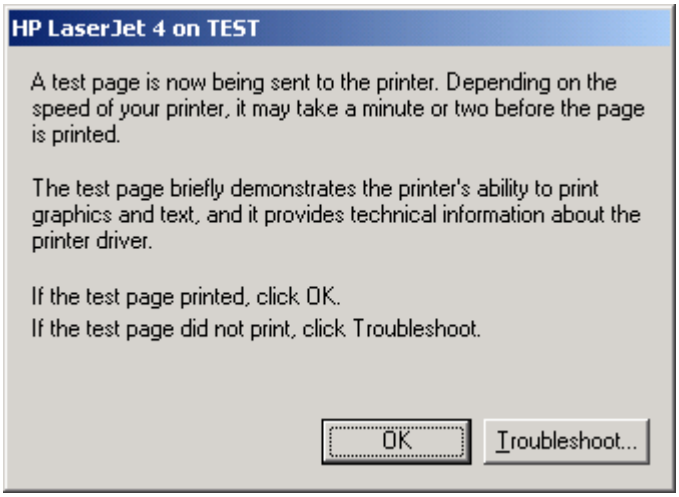
Installing printer.

14



Check your settings. Continue by actuating the button **Complete**.

15



Confirm the output of the test page by actuating the button **OK**

PRINTING UNDER WINDOWS XP

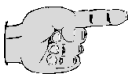
Installing printer.

1.) XT-MICRO is operable. (Turn printer on)

2.) The IP address is set (and/or known). see “Adjustment of IP address”

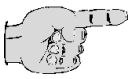
3.) XT-MICRO is not occupied (is not printing)

4.) The TCP / IP protocol is available (see „Preparation“)



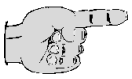
1

Press the „Start“ Button.



2

Search the menu item Printers and Faxes.

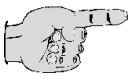


3

Press „Add a printer“

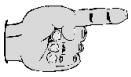
PRINTING UNDER WINDOWS XP

Installing printer.

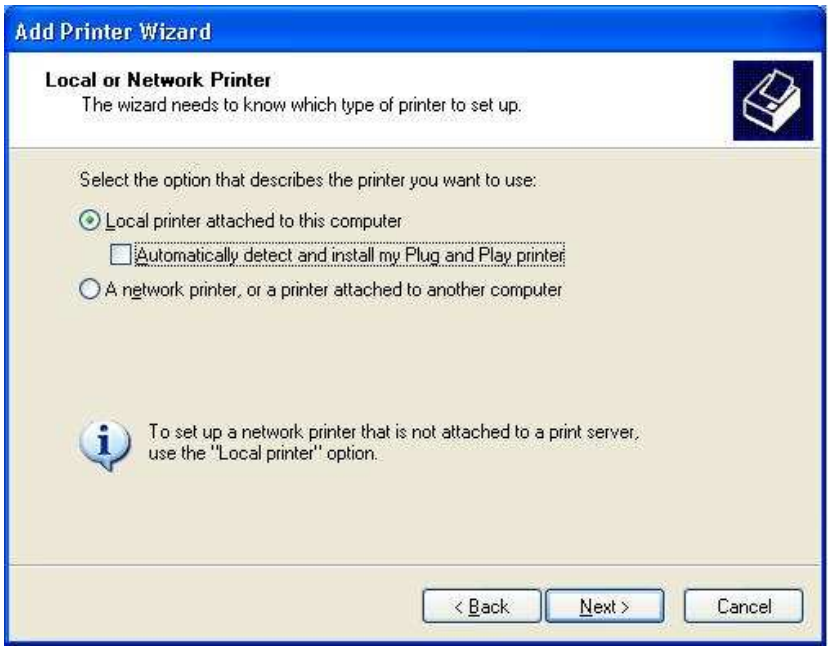


4

Click to the button „Next“ to start the installation.



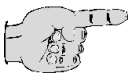
5



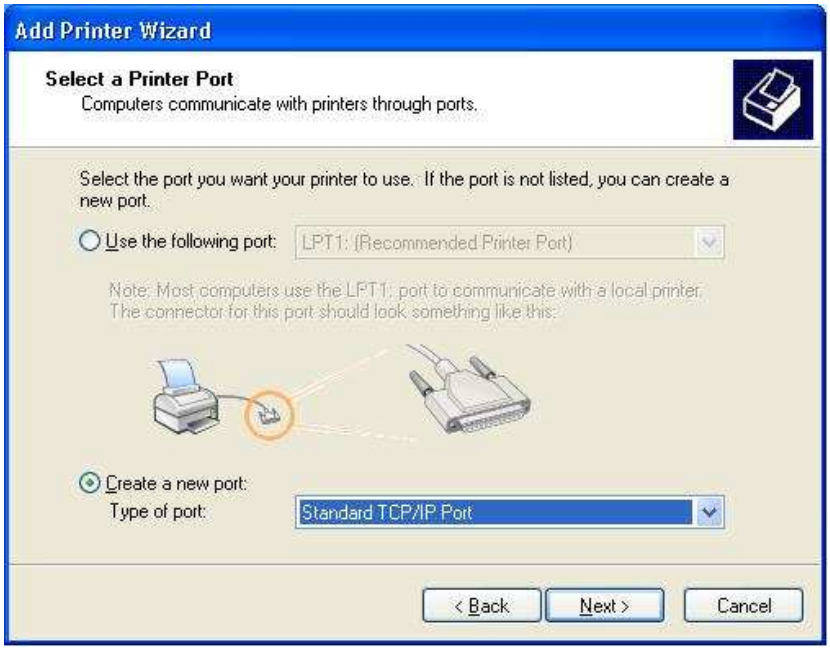
Confirm the installation of a local printer and continue by actuating the button **Next**.

PRINTING UNDER WINDOWS XP

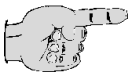
Installing printer.



6



Click to **„Build new port“** and select **Standard TCP/IP** from the list. Continue by actuating the button **Next**.



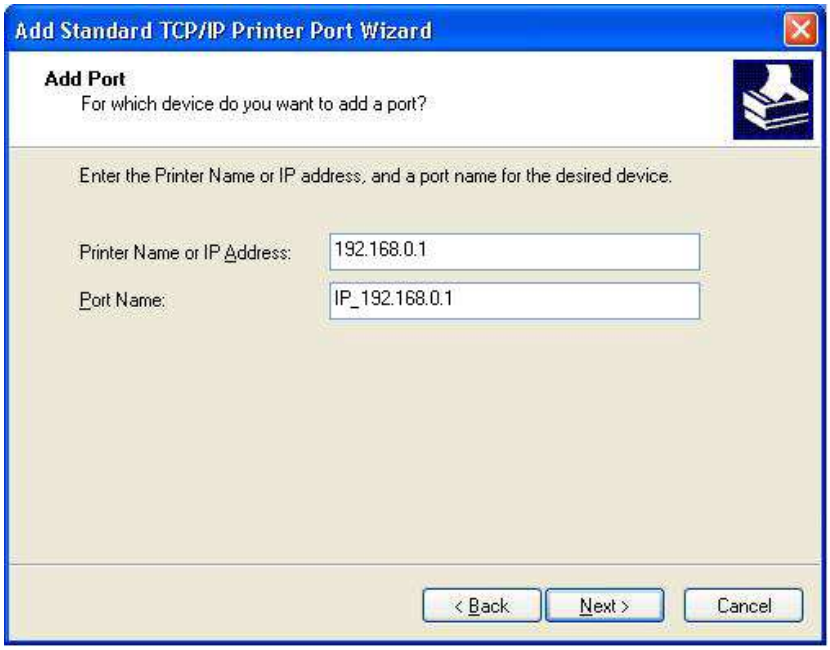
7

Continue by actuating the button **Next**.

PRINTING UNDER WINDOWS XP

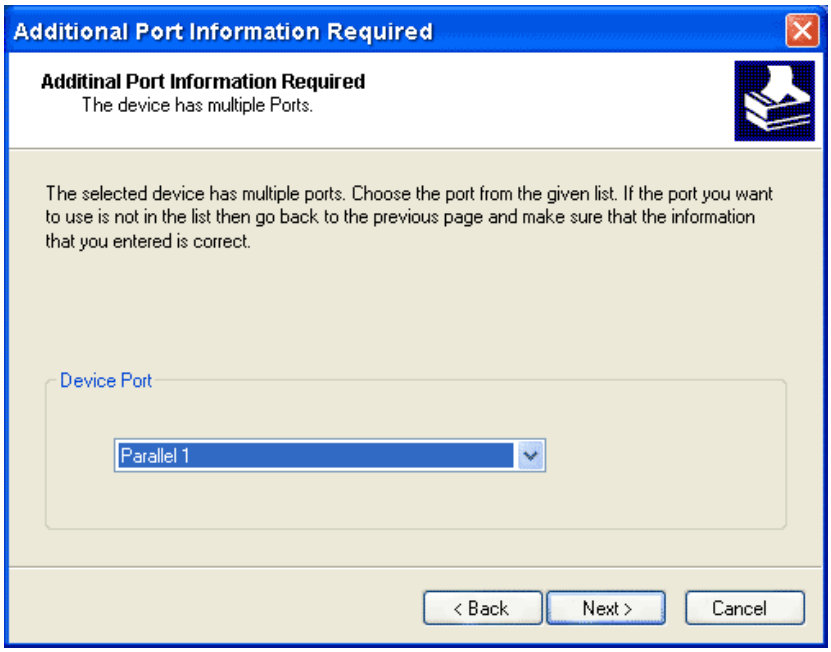
Installing Printer.

8



Enter the IP address of XT-Micro.

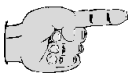
9



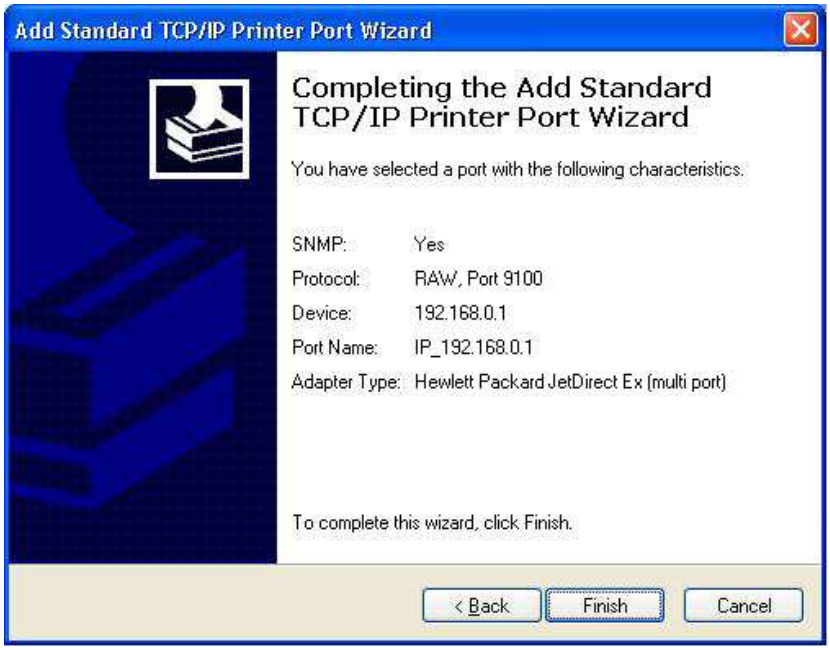
As port for the device, please enter **Parallel 1**.

PRINTING UNDER WINDOWS XP

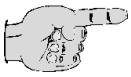
Installing printer.



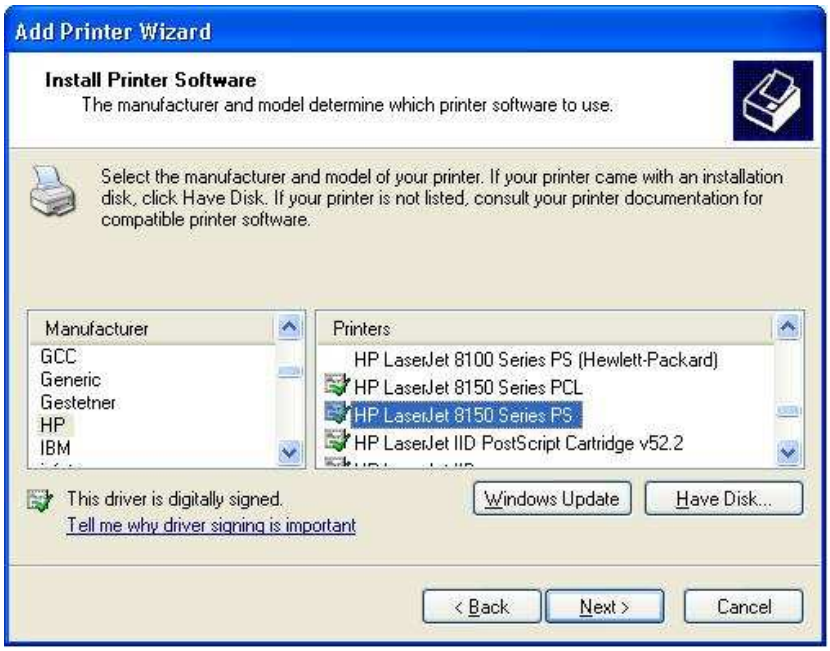
10



Check if your data are correct and continue by actuating the button **Next**.



11

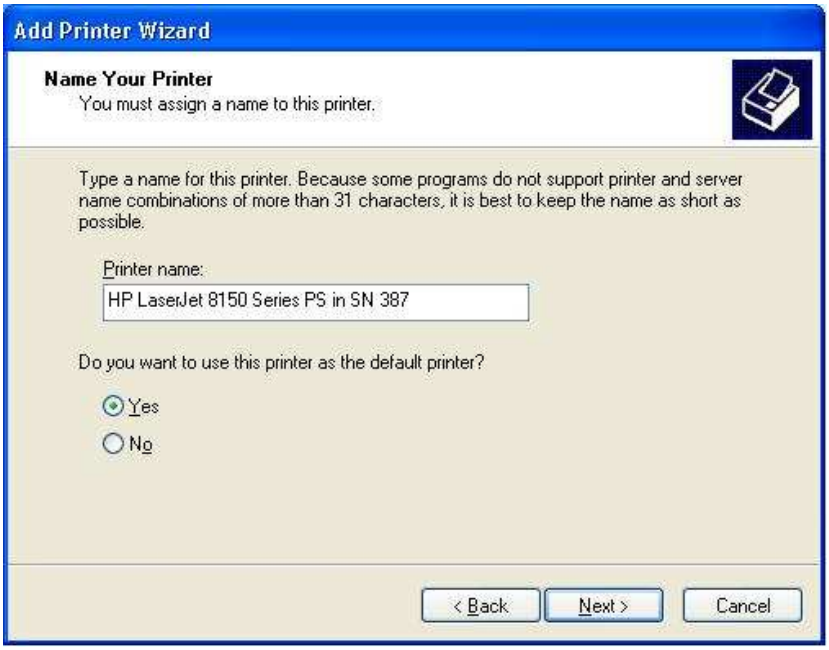


Now install the driver for your Printer and press „Next“.

PRINTING UNDER WINDOWS XP

Installing printer.

12



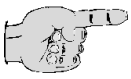
Assign a freely eligible designation to the printer and determinate if it should be used as standard printer.

13

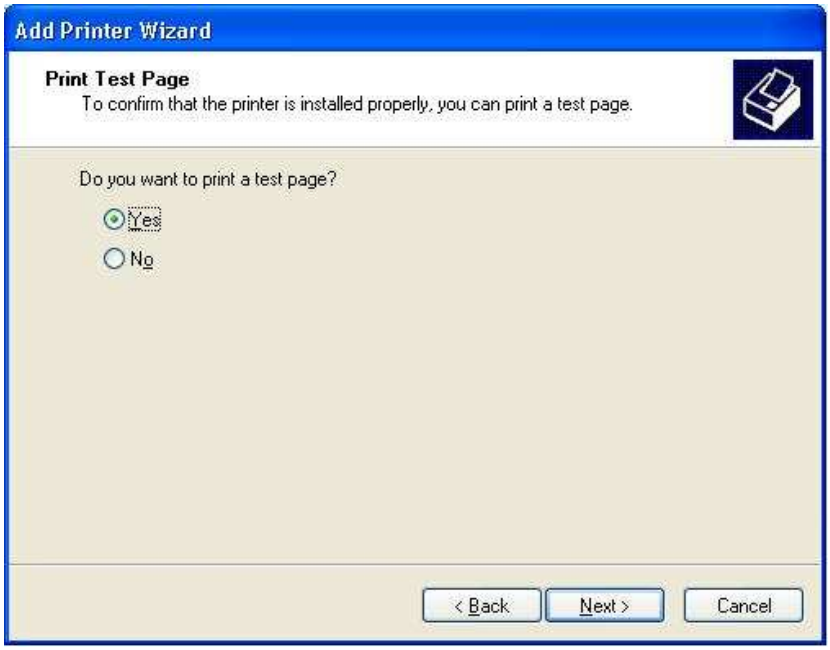
Determinate if the printer should be available to other PCs. (This is normally not necessary – see Win2000 Documentation) .

PRINTING UNDER WINDOWS XP

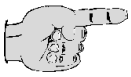
Installing printer.



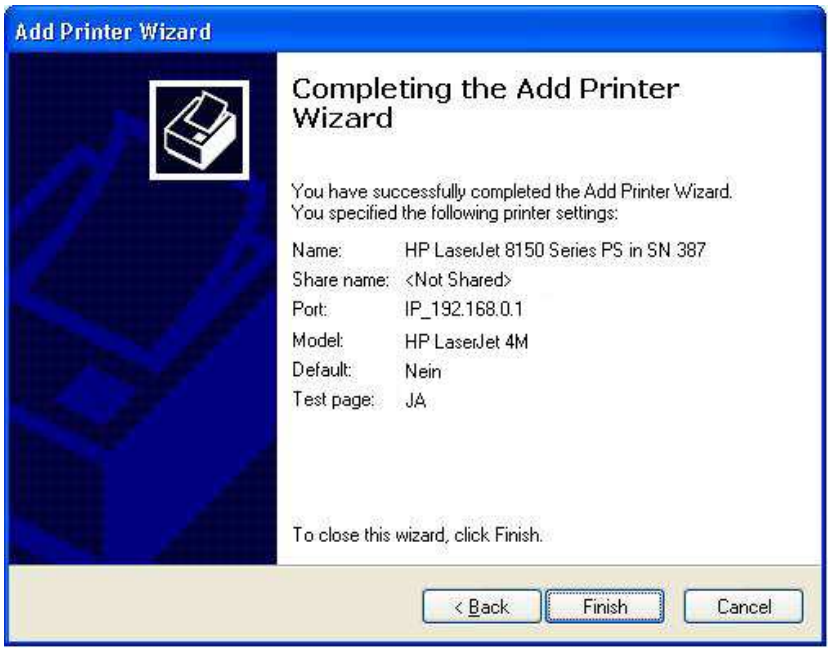
14



For a final test of the installation, it is recommended to perform a test with the output of the test page of Windows 2000.



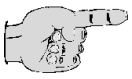
15



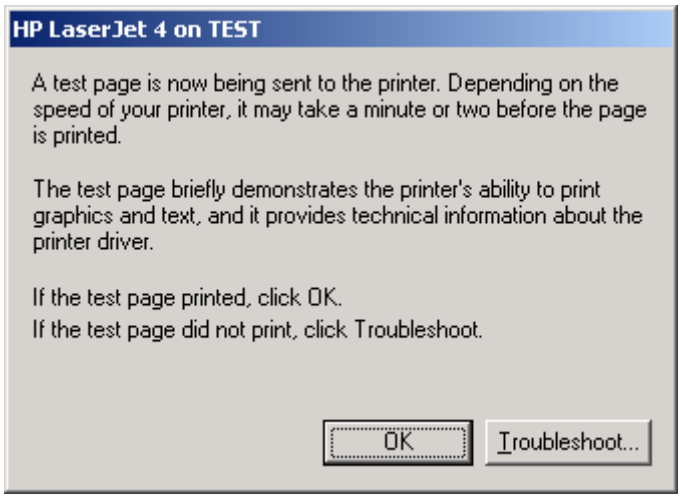
Check your settings. Continue by actuating the button **Complete**.

PRINTING UNDER WINDOWS XP

Installing printer.



17



Confirm the output of the test page by actuating the button **OK**

Examples

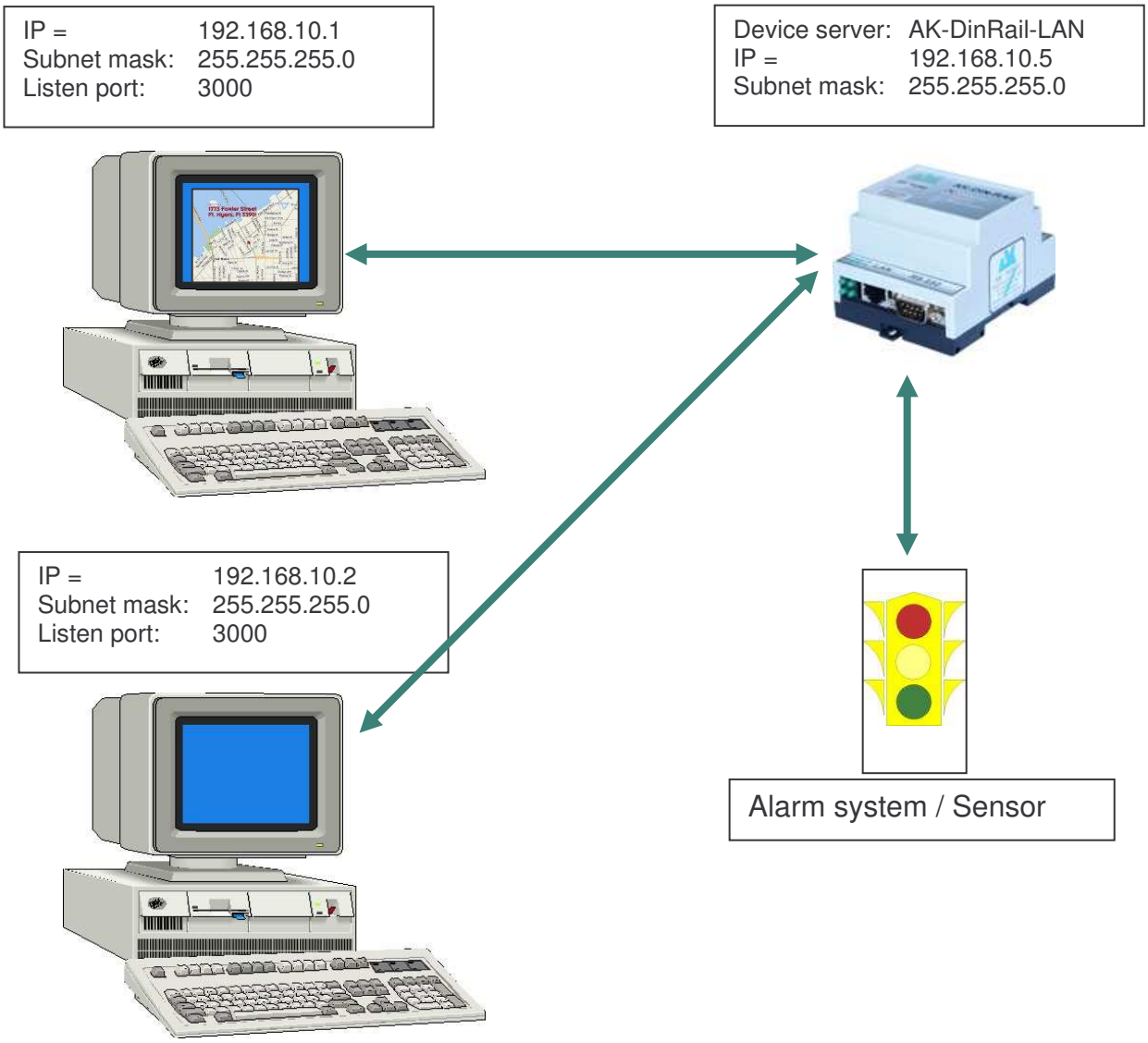
ConnectOnData

Short description:

The emulation ConnectOnData is being used in order to dial up a connection to a predefined target, if required, i.e. as soon as the interface is receiving data from the terminal. All connection data are deposited in the interface. Thereby the connection is bidirectional and transparent. When a connection is existing, the data can be sent from the interface to the PC as well as from the PC to the interface. This connection endures until the port timeout (Ethernet - Menu) has elapsed after sending or receiving the last character.

Example:

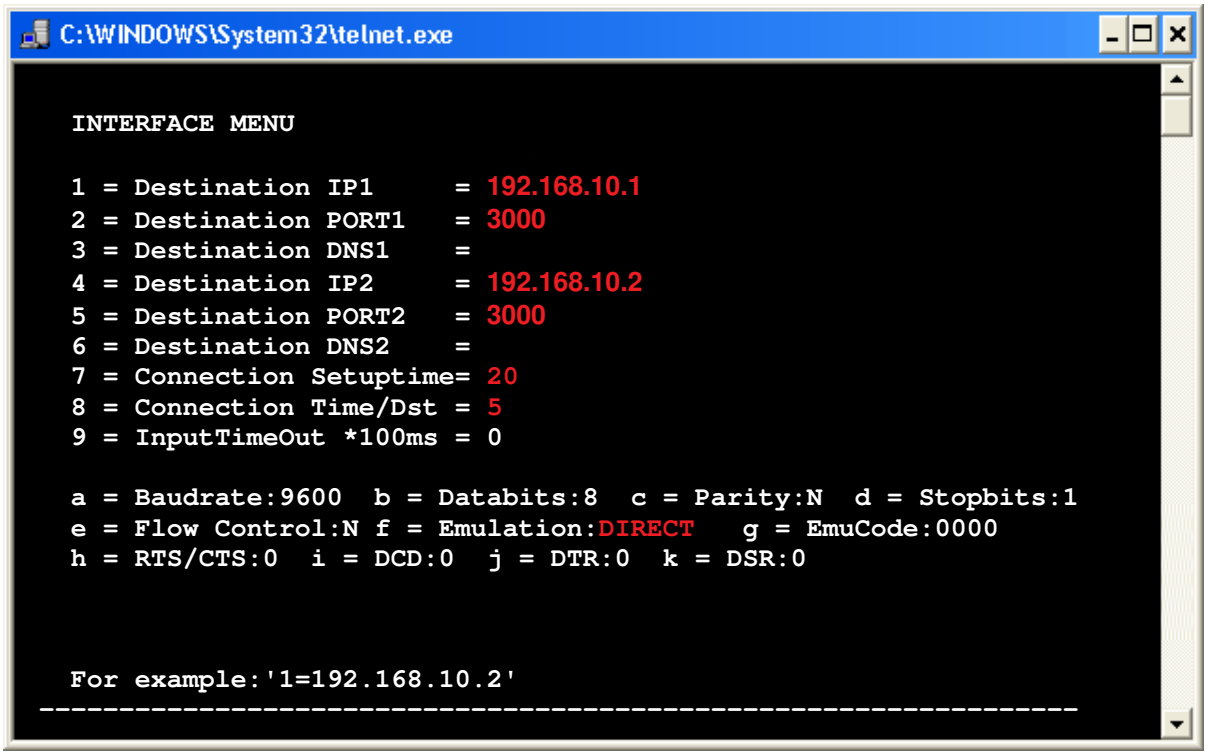
An alarm system should be able to send the alarm message to a PC by TCP/IP, if required. As soon as the alarm system is sending a message via the serial interface to the device server AK- DinRail- LAN, it will dial up a connection to the server 192.168.10.1 and will transmit all data directly to the port 3000. If this server is not available, due to the capability of redundancy of the device server, it is possible to dial up an alternative connection to the server 192.168.10.2.



Examples

Configuration:

Dial up a connection to the interface via telnet or browser. Then select the Com menu.



Connection Setup time:
In this case, the system is trying to dial up a connection during 20 seconds.

Connection Time/Dst
During those 20 seconds the system will try to dial up a connection alternately to 192.168.10.1 or to 192.168.10.2 for five seconds each.

Note:
If you are working with fix IP addresses, set the parameter DHCP (ETHERNET - MENU) to “N”. If it is set to ”Y” and no IP address is assigned to the interface, ConnectOnData is not working.

Examples

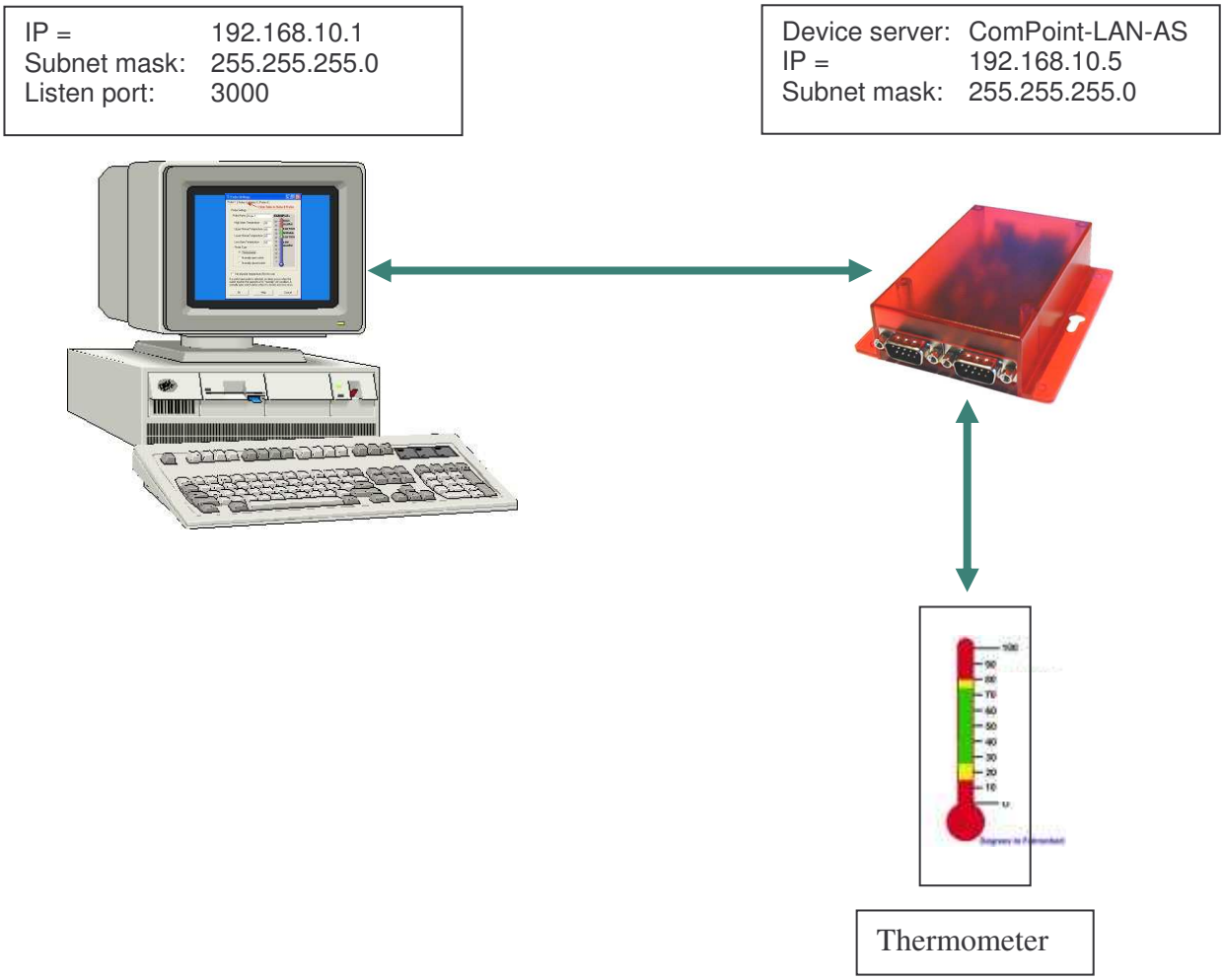
AutoConnect

Short description:

The emulation AutoConnect is being used in order to dial up a connection to the interface to a predefined target after switching on. All connection data are deposited in the interface. Thereby the connection is bidirectional and transparent. When a connection is existing, the data can be sent from the interface to the PC as well as from the PC to the interface. This connection endures until one of the devices is switched off.

Example:

A thermometer should be able to send its measured values continuously to a PC. After switching on the device server, a connection will be automatically dialed up to the server 192.168.10.1 and all data which the device server is receiving will be directly sent to port 3000.



Examples

Configuration:

Dial up a connection to the interface over telnet or browser. Then select the Com menu.

```
C:\WINDOWS\System32\telnet.exe

  INTERFACE MENU

  1 = Destination IP1      = 192.168.10.1
  2 = Destination PORT1    = 3000
  3 = Destination DNS1     =
  4 = Destination IP2      = 0.0.0.0
  5 = Destination PORT2    = 0
  6 = Destination DNS2     =
  7 = Connection Setuptime= 20
  8 = Connection Time/Dst = 5
  9 = InputTimeOut *100ms = 2

  a = Baudrate:9600  b = Databits:8  c = Parity:N  d = Stopbits:1
  e = Flow Control:N f = Emulation:AUTO   g = EmuCode:0000
  h = RTS/CTS:0  i = DCD:0  j = DTR:0  k = DSR:0


  For example:'1=192.168.10.2'
-------------------------------------------------------------------
```

Note1:
As soon as AutoConnect is activated, the procedure TCP checkline (ADMIN - MENU) is being activated. This means that the interface is checking if there is a connection to the destination. If the PC had been switched off, the port timeout will automatically run (ETHERNET – MENU) and the interface will terminate the connection as soon as the time elapses and will then retry immediately to dial up a new connection.

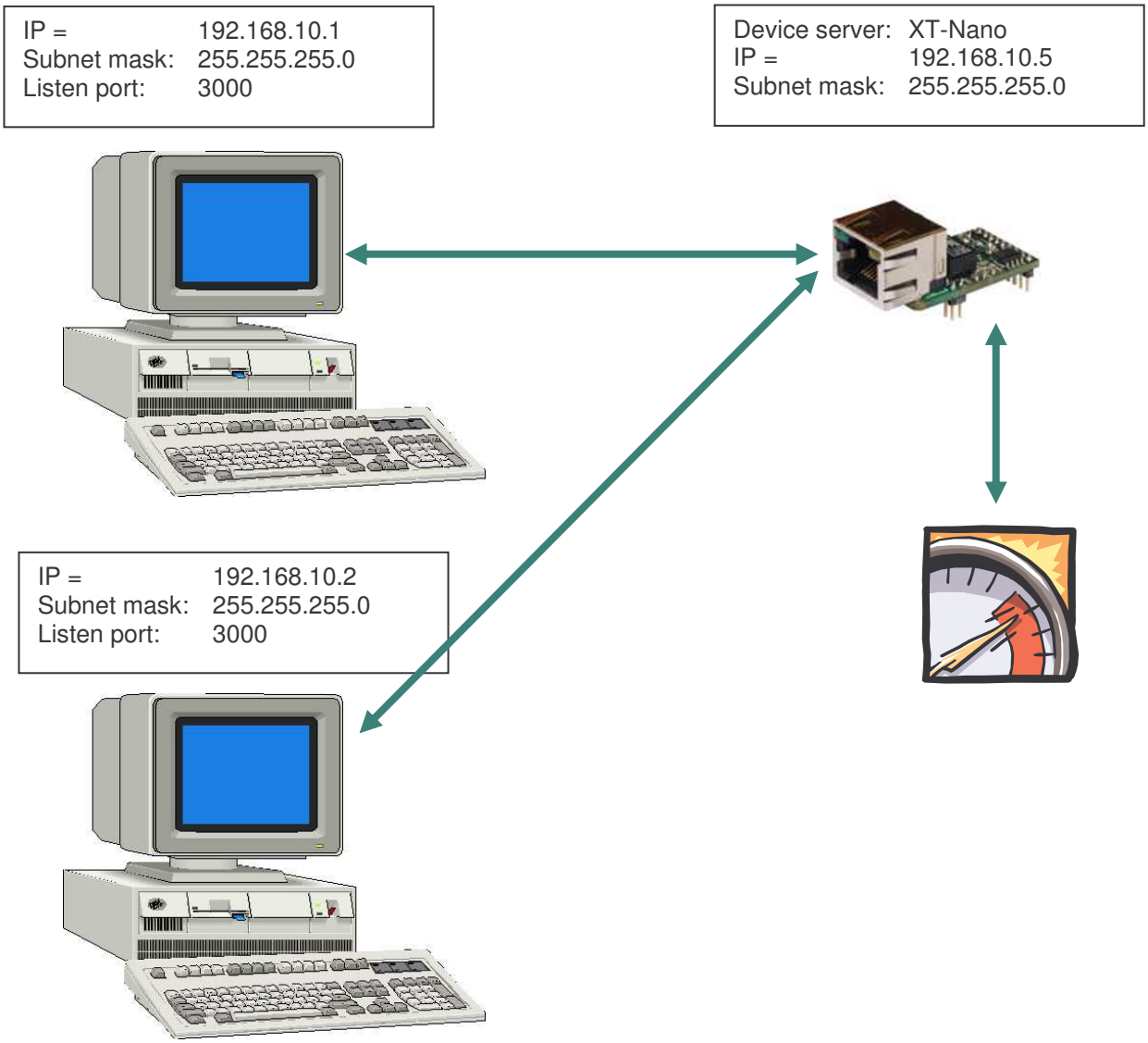
Note2:
If you are working with fix IP addresses, set the parameter DHCP (ETHERNET - MENU) to “N”. If it is set to ”Y” and no IP address is assigned to the interface, AutoConnect is not working.

Examples

Modem - Emulation

Short description:
The Modem Emulation offers you the option to completely control the AK-NORD interfaces with the connected terminal. It is possible to assign an IP address, a Gateway, a Subnet mask, a port, etc. to the AK-NORD interface and to transfer a connection requirement. The terminal also can dial up and terminate a connection to different targets in the network.

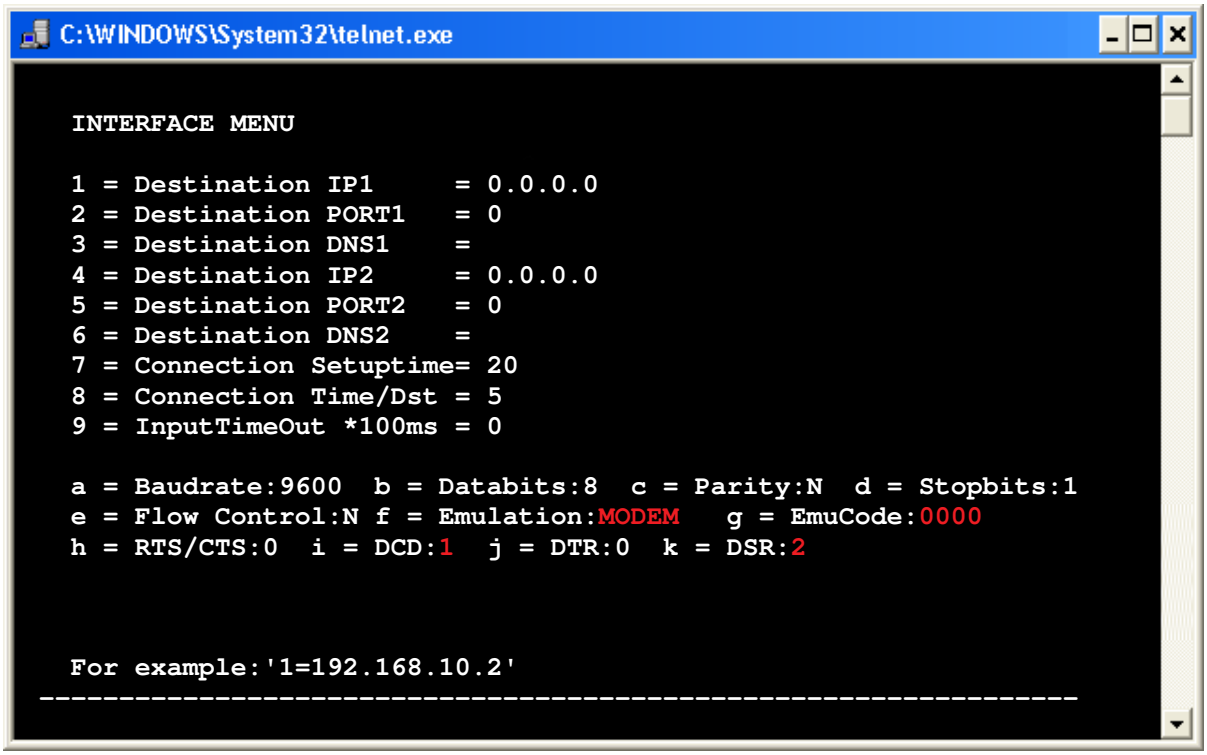
Example:
A machine control needs to send the consumption data once a day to the PC 192.168.10.1 and notify the determined malfunctions immediately to the support PC 192.168.10.2. If the machine control detects a problem over its sensor, it sends the modem command “ATDi192.168.10.2p3000“ to the interface XT-NANO and will receive the answer “connect” after the successful dialing up. From now on, the connection is ready to transfer data and the machine control can transfer any malfunction.



Examples

Configuration:

Dial up a connection to the interface via telnet or browser. Then select the Com menu.



Note1:
If you are working with fix IP addresses, set the parameter DHCP (ETHERNET - MENU) to “N”. If it is set to ”Y” and no IP address is assigned to the interface, the Modem Emulation is not working correctly.

Note2:
Set the DCD to 1. Then it will be displayed by the DCD line that a connection is existing or not (HIGH or LOW)

Note3:
Set the DSR to 2. Then you can trigger the termination of the connection by signal change on the DSR line. (HIGH, LOW, HIGH)

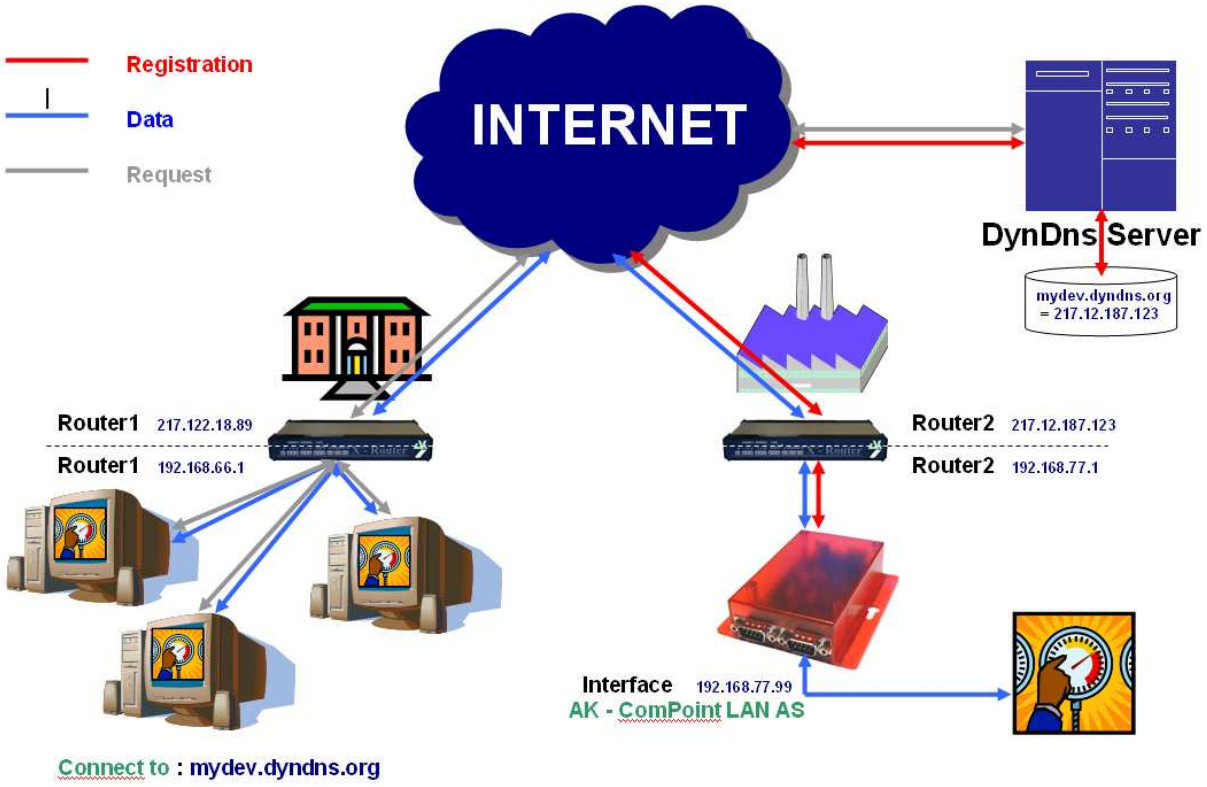
Note4:
Set the EmuCode to “0008“ and you can terminate the connection with the modem command “+++ATH“.

Note5:
All commands of the Modem Emulation are listed in modem commands manual of the manual “**at_commands_xtmicro.pdf**“!!!

Examples

DYNDNS

If you want to access a remote DeviceServer or Printserver which is connected via Internet from your central company network, you generally have to use a static cost-intensive IP-address which had been assigned by the ISP. DynDNS offers you the option to be available in spite of changing IP addresses and to have access to the products of the company **AK-NORD**. The company network or the remote router (refer to Fig. 1 Router 2) will not be identified with the IP address but with a DNS name.

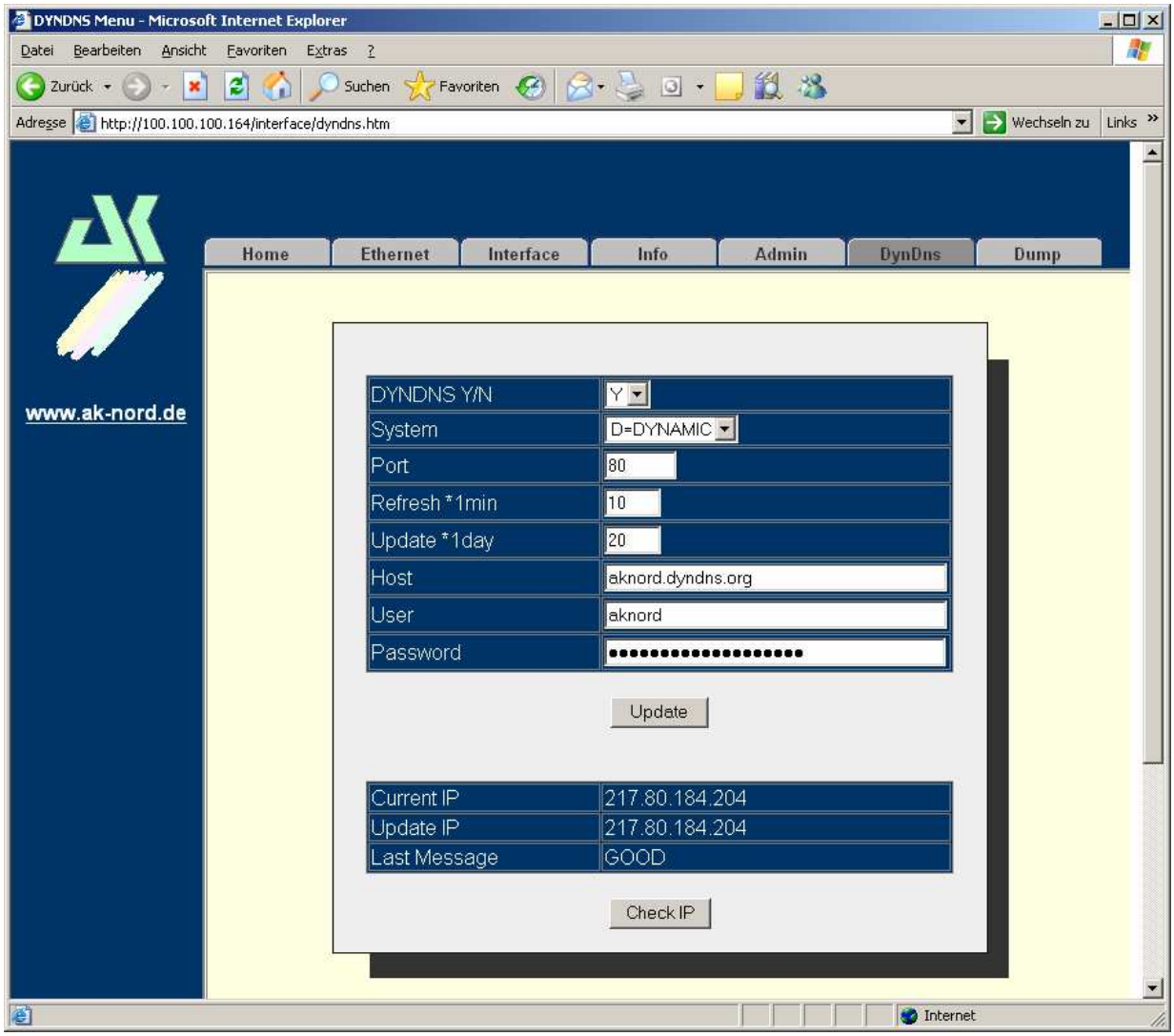


In principle, the procedure is quite simple. The **AK-ComPoint-LAN-AS** checks the availability of the DYNDNS server in regular intervals. The request "CheckIP" is responded by the DYNDNS server with the IP address of the **Router2**. If it deviates from the IP address which had been saved in the interface due to e.g. a forced disconnection by the ISP, the new IP address will be registered completely independently to the DYNDNS server (refer to "**Registration -------**"). It is registered on the account which you have set up at DYNDNS. Then only the **release** of the IP address and/or of the TCP/IP port (Port Forwarding) has to be performed on the **Router2**. In order to access the **AK–ComPoint–LAN-AS**, just connect via "**mydev.dyndns.org**". This inquiry (refer to "**Request -------**") will be released by **Router1** and you can directly start the data transfer (refer to "**Data -------**").

Examples

Generating the interfaces

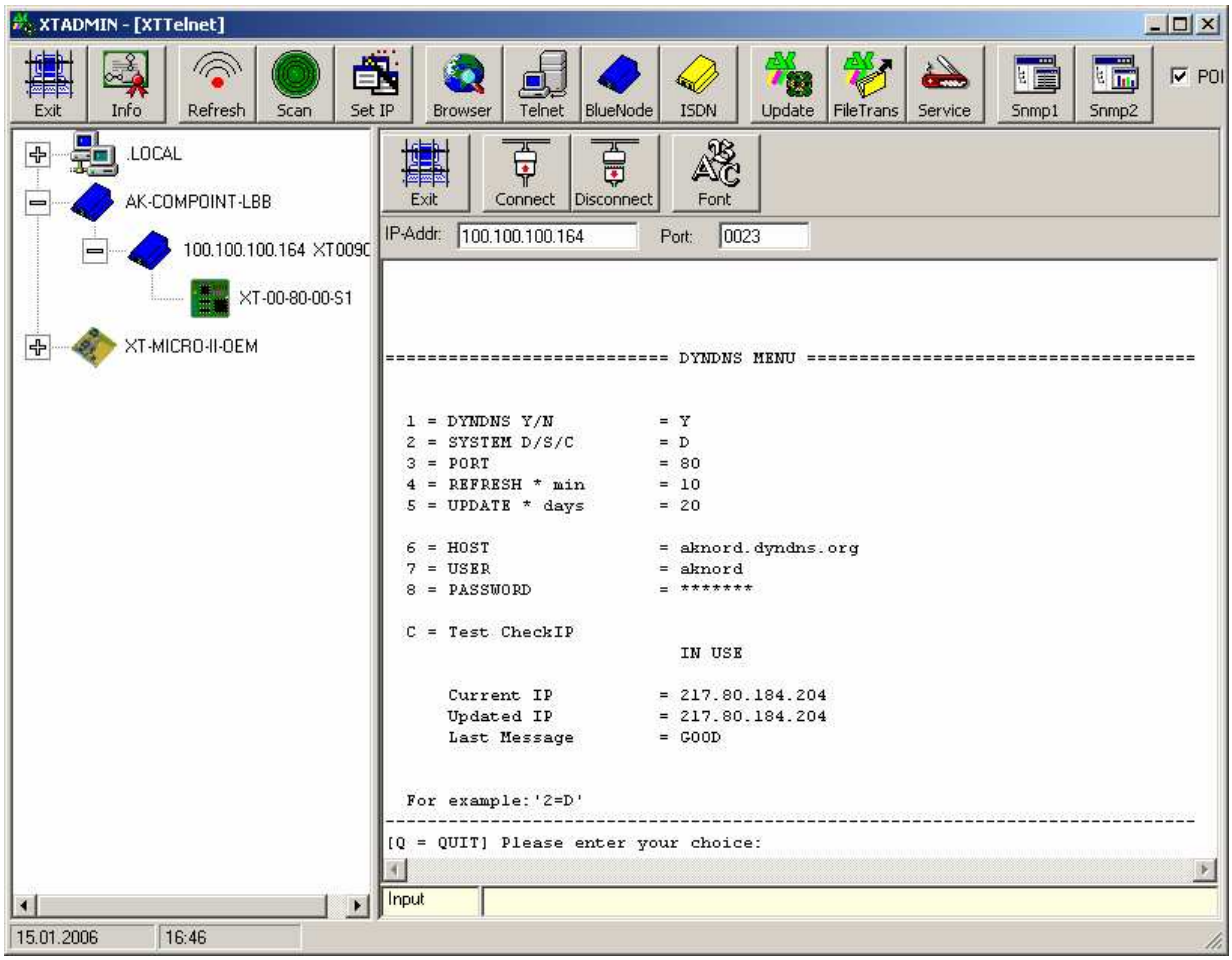
XT-MINI



Connect to the interface with the browser

Examples

XT-MICRO,COMPOINT,CONLINE



Connect to the interface with Telnet

Note:
You will find the menu “DYNDNS“ in the “ADMIN-MENU“

Examples

Here you will find the following setting options:

1 = DYNDNS Y/N	Here you can determine with "**Y**" = Yes or "**N**" = No if this function is being activated.
2 = SYSTEM D/S/C	Here you can select the type of the procedure. **D** = Dynamic **S** = Static **C** = Custom
3 = PORT	Here you can determine the target port of the inquires or of the registration. Either Port 80 = Webserver or 8245 to bypass the proxiserver.
4 = REFRESH * min	Here you determine in which intervals the IP address is being checked.
5 = UPDATE * days	Here you determine when at the latest a new registration of the IP address on the DYNDNS servers will take place. This entry is only valid if your IP address does not change within the quoted time. DYNDNS specifies a registration at the latest after 27 days. Otherwise, the name release e.g. mydev.dyndns.org will no longer be responded.
6 = HOST	Includes your account data with which you have registered at
7 = USER	DYNDNS
8 = PASSWORD	
C = Test CheckIP	If the "Current IP" still has the value "0.0.0.0" you can check the availability of the DYNDNS – SERVER with "C". If the server is available, the IP address is being shown.
IN USE	Here the current values are shown.
Current IP	current IP address e.g. of Router1
Updated IP	saved IP address
Last Message	current status

NOTE:
If several interfaces of AK-Nord are available, please only activate the DYNDNS procedure on one of those interfaces. You can access the availability of the different interfaces via PORT - FORWARDING

Examples

Last Message

NOMSG	Inquiry had not been responded
NOCHG	Update of the IP address at DYNDNS had been successful but same.
GOOD	Update of the IP address at DYNDNS had been successful
NODNSSRV	No DNS server is backed to the interface. (DHCP)
NOGW	No GW had been entered to the interface (DHCP)
ENTRYERR	The entries HOST,USER or PASSWORD are missing
NOTINUSE	The procedure is not activated.

The following error messages are generated by the DYNDNS server.

DNSERR

ABUSE

!YOURS

NOHOST

NOTFQDN

BADAUTH

BADSYS

BADAGENT

You can directly refer to:

http://www.dyndns.com/developers/specs/return.html

NOTE:
If the message DNSERR, ABUSE, !YOURS, NOHOST, NOTFQDN, BADAUTH, BADSYS or BADAGENT appears, the DYNDNS procedure is terminated and a manual restart of the interface is required.

Power supply and warranty

Power supply

XTRAFFIC draws its operating voltage either over an external power supply unit (5V / 750 mA) or if a Centronics interface is available, from the printer connected to. For this purpose there must be a voltage of +5V at the Pin18 of the Centronics interface ! If this is not the case, please ask your local vendor to seize the Pin 18 of the Centronics interface on your printer with +5V.

Warranty

The contents of this manual can be modified without prior notice. Despite thorough completion, this manual might contain errors or be incomplete. Therefore no warranty is accepted for errors or loss of data as a result hereof.

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