

Tintometer GmbH Schleefstr. 8a 44287 Dortmund Germany	H.Smit	Instructions for Data-Transmission from a Lovibond [®] <u>OxiDirect</u> to Windows [®] 98 program "HyperTerminal"	document status: preliminary Rev. GB.1.003
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Instructions for Data-Transmission from the Lovibond[®] BODmeter
OxiDirect
to Windows[®] 98 program "HyperTerminal"

Remarks:

- valid for Lovibond[®] OxiDirect BOD measurement system
- HyperTerminal belongs to the normal Windows[®] distribution
- this instruction is also valid for other Windows Versions (3.11, WIN95, WIN NT, WIN XP...), with only slight differences
- As we only have a computer system for German language the actual names of menus, system control, parameters etc. might vary on your system.

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Connecting the OxiDirect to the PC

Connect the OxiDirect with the computers serial connection port (RS232) using the appropriate cable (delivered with OxiDirect).

Preparing the program "HyperTerminal"

Please see chapter "First Start of HyperTerminal"

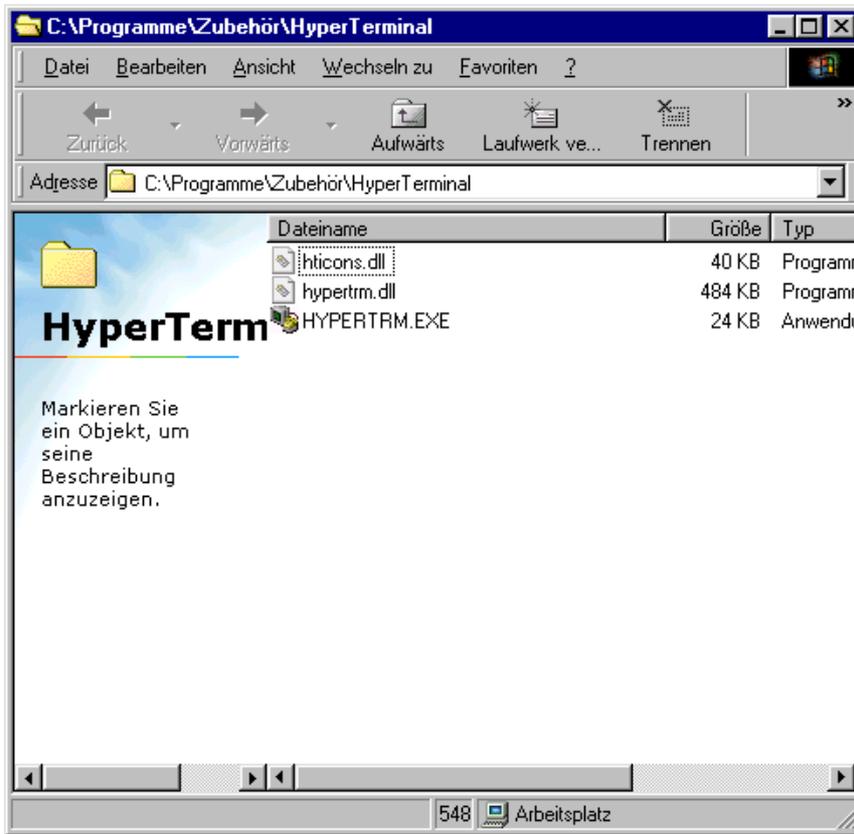
Starting the datatransfer at the OxiDirect instrument

The datatransfer can only be started at the OxiDirect instrument. HyperTerminal in our case acts just as a passive program, waiting for data input at the serial port. To start the datatransfer hold the Read button pressed at the OxiDirect, while switching on the instrument. Wait until three decimal points flashed two times in the lower display. Now release the Read button. The instrument will display "Prn" in the upper display and start to print the data. While printing data, the instrument will light the LED corresponding to the measurement-head who's data is currently output at the serial link.

First Start of HyperTerminal

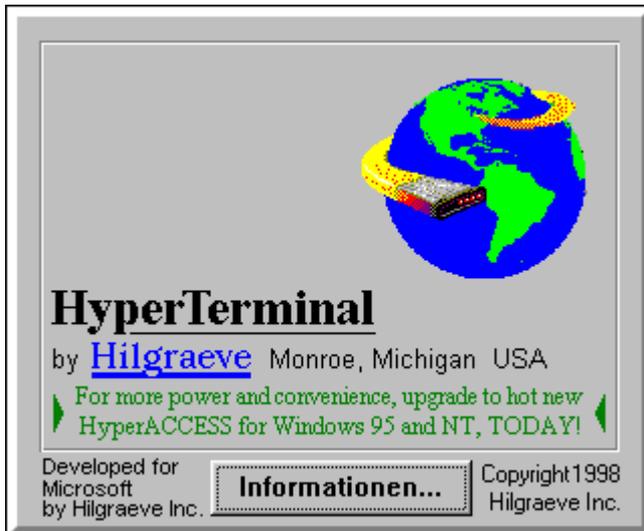
Select Start → programs → accessory → communication → HyperTerminal. The picture below will be displayed (picture 1 page 4). Double-click on HYPERTRM.EXE to start HyperTerminal (depending on the settings of your system, the EXE might possibly not be displayed).

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picture 1

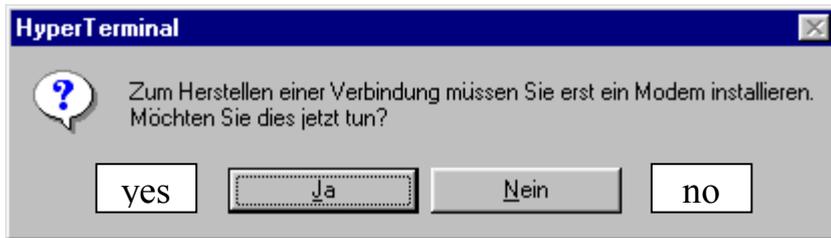
After double-click on HYPERTRM.EXE you will see picture 2, for a short time.



picture 2

If HyperTerminal is used for the first time on your system, a message will show up asking for the installation of a modem (picture 3 page 5):

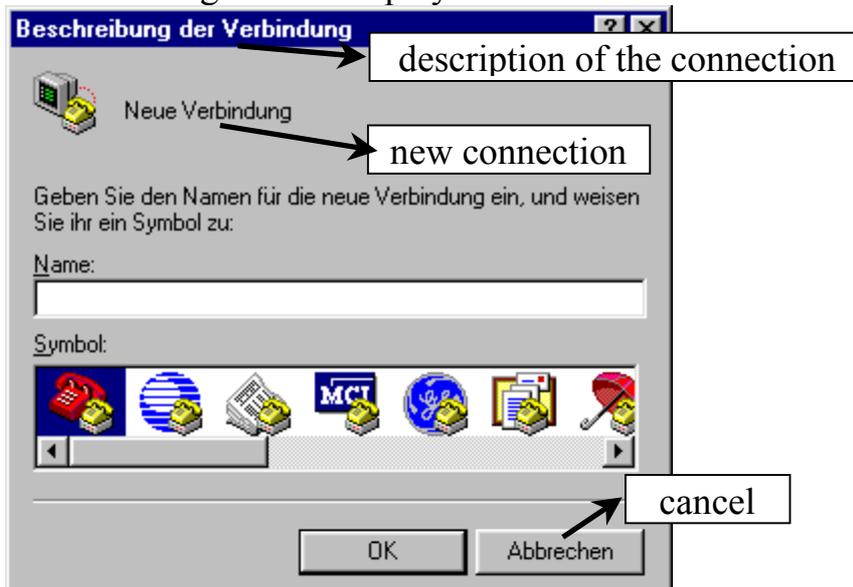
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picture 3

Select "no".

The following will be displayed:



picture 4

At "name" type in for example "OxiDirect"



picture 5

And then click "ok".

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If a modem was installed already

(not necessarily currently connected to your computer)
there will be displayed:

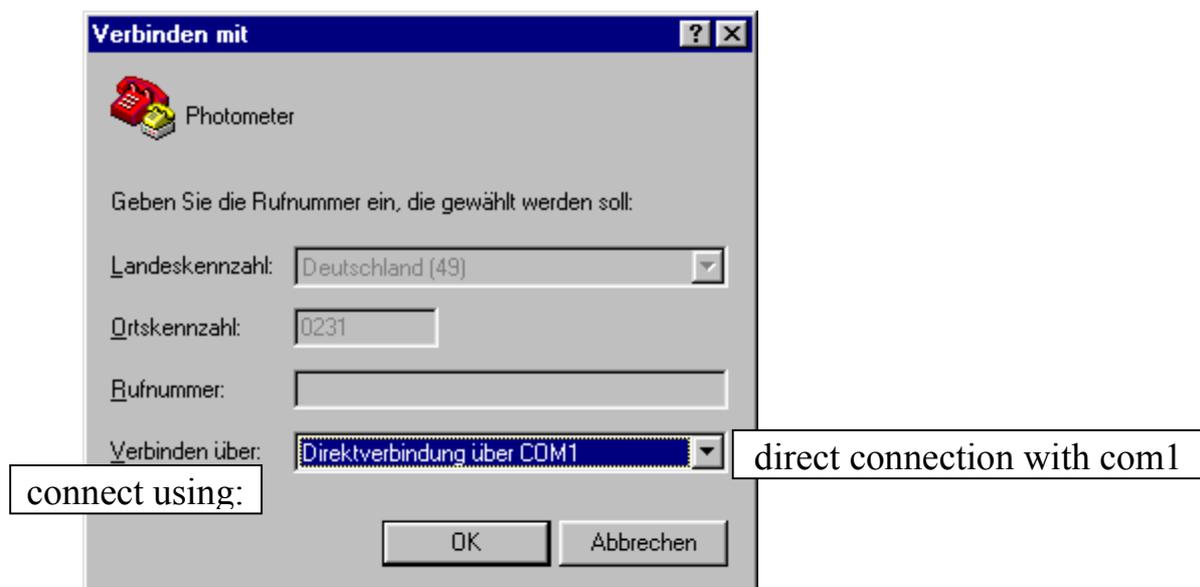


picture 6

The values actually shown may vary. Please continue at "Setting up the connection if a modem was installed already" (page 20) first.

If a modem was not yet installed

it will be displayed:



picture 7

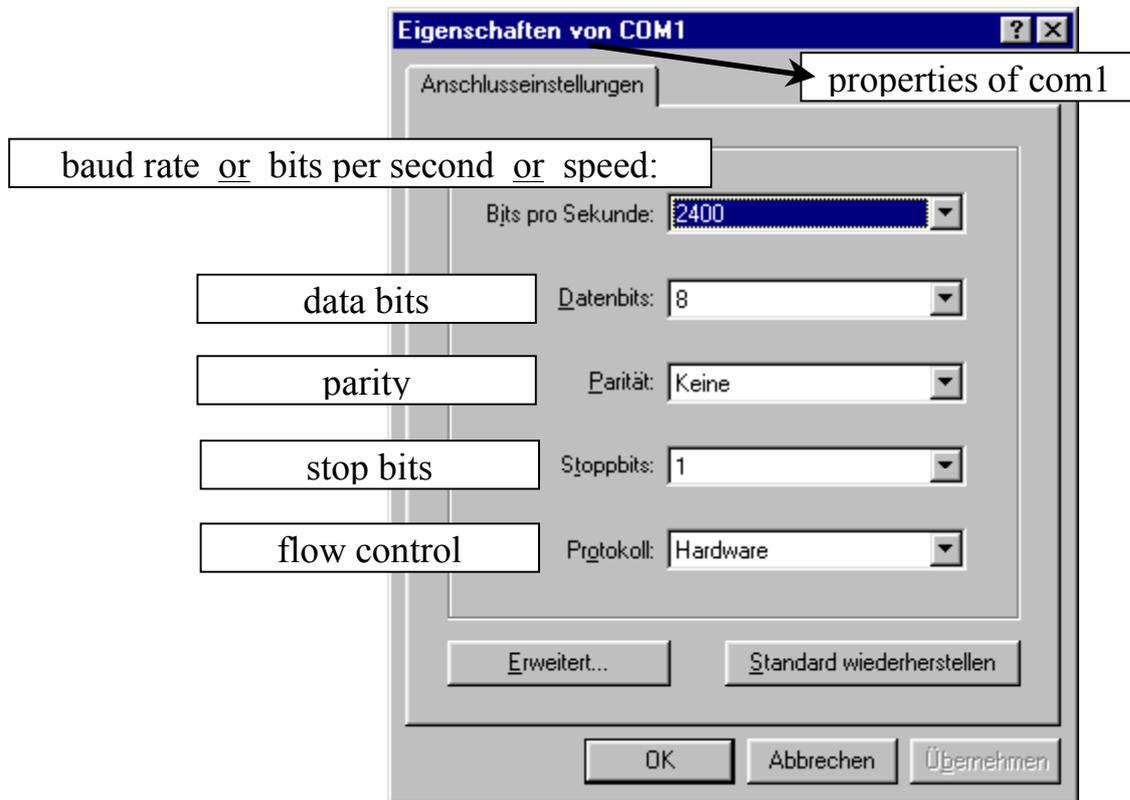
(Remark: You do not need a modem to connect the OxiDirect.)

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Choosing the COM port

At "connect using" (picture 7) choose the COMx port that you connected the OxiDirect cable to. Now click "ok"

HyperTerminal will show:



picture 8

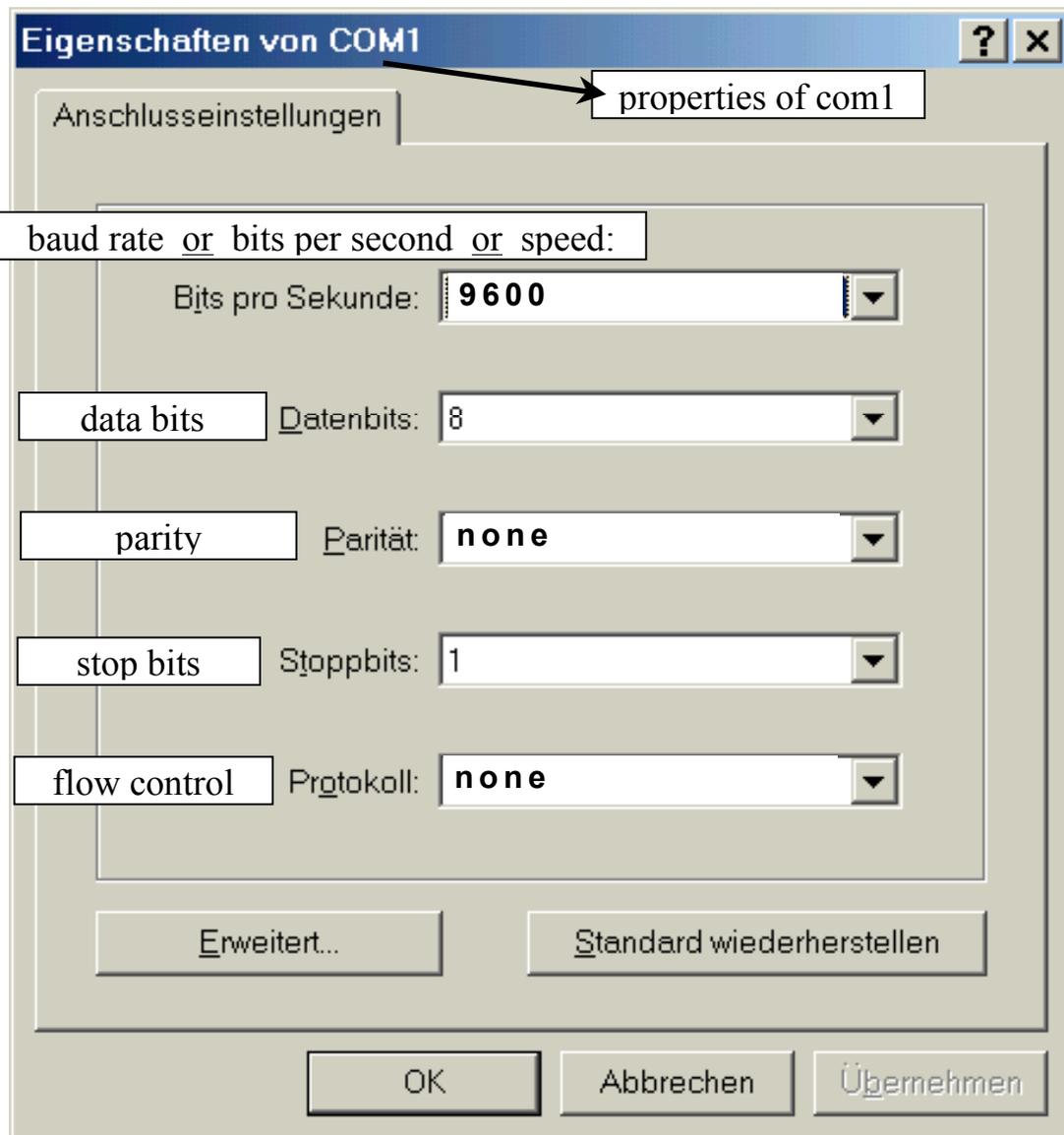
Setting up the port parameters

Make the following selections here (picture 8):

baudrate: 9600
data bits: 8
parity: none
stop bits: 1
flow control: none

Now the properties should be similar to this (picture 9):

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picture 9

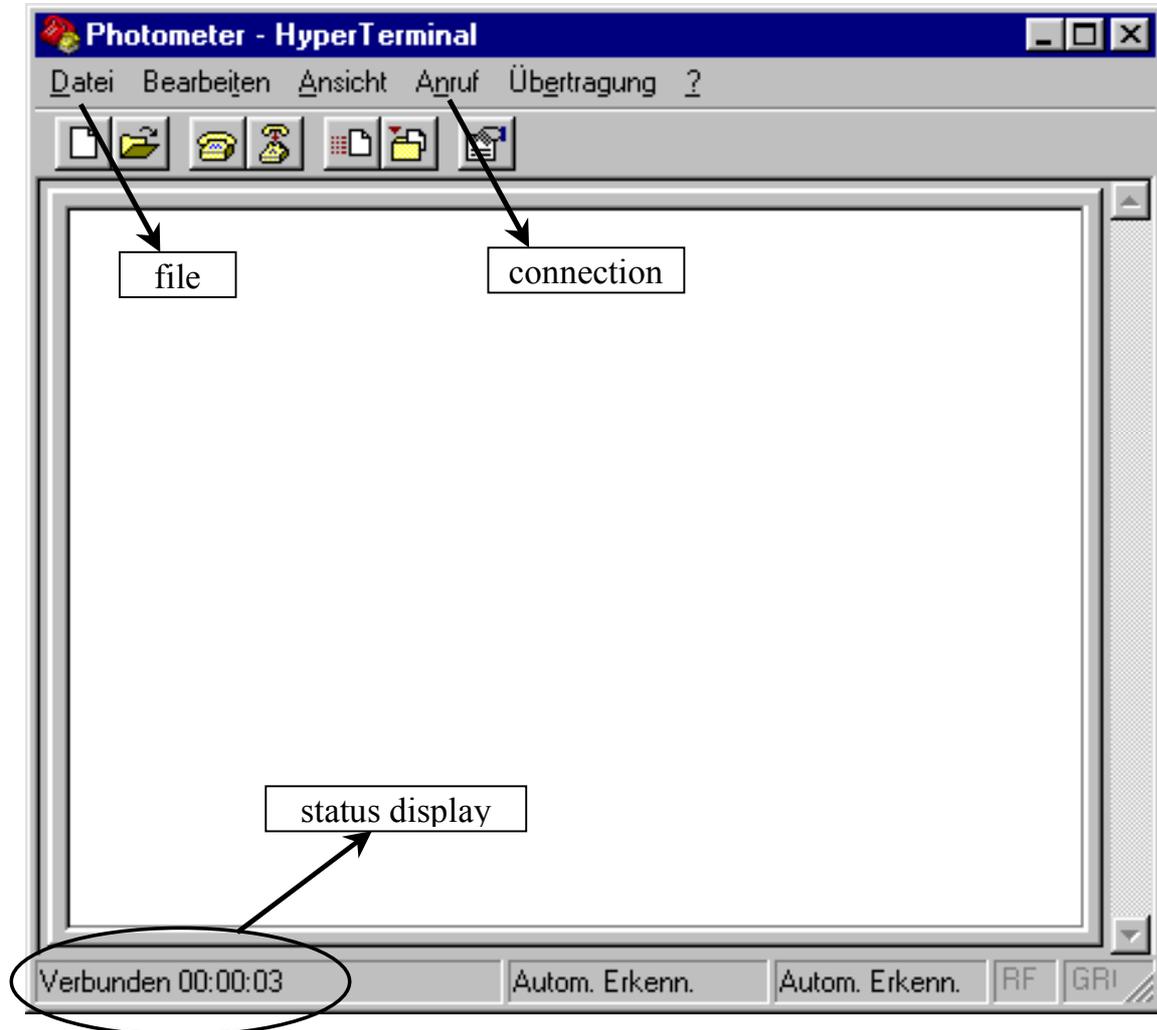
Click "ok" now.

If you followed the steps at "If a modem was not yet installed" (page 6), the HyperTerminal main window will be displayed now (picture 10 page 9).

If you followed the steps at "Setting up the connection if a modem was installed already" (page 20), picture 30 (page 23) will be displayed again. Click on "ok" once more, and the HyperTerminal main window will be displayed (picture 10 page 9).

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HyperTerminal main window



picture 10

Offline ↔ Connected

If the status, displayed at the lower left corner, does not show "connected.." but "offline", please choose "connect" at the menu "Connection":



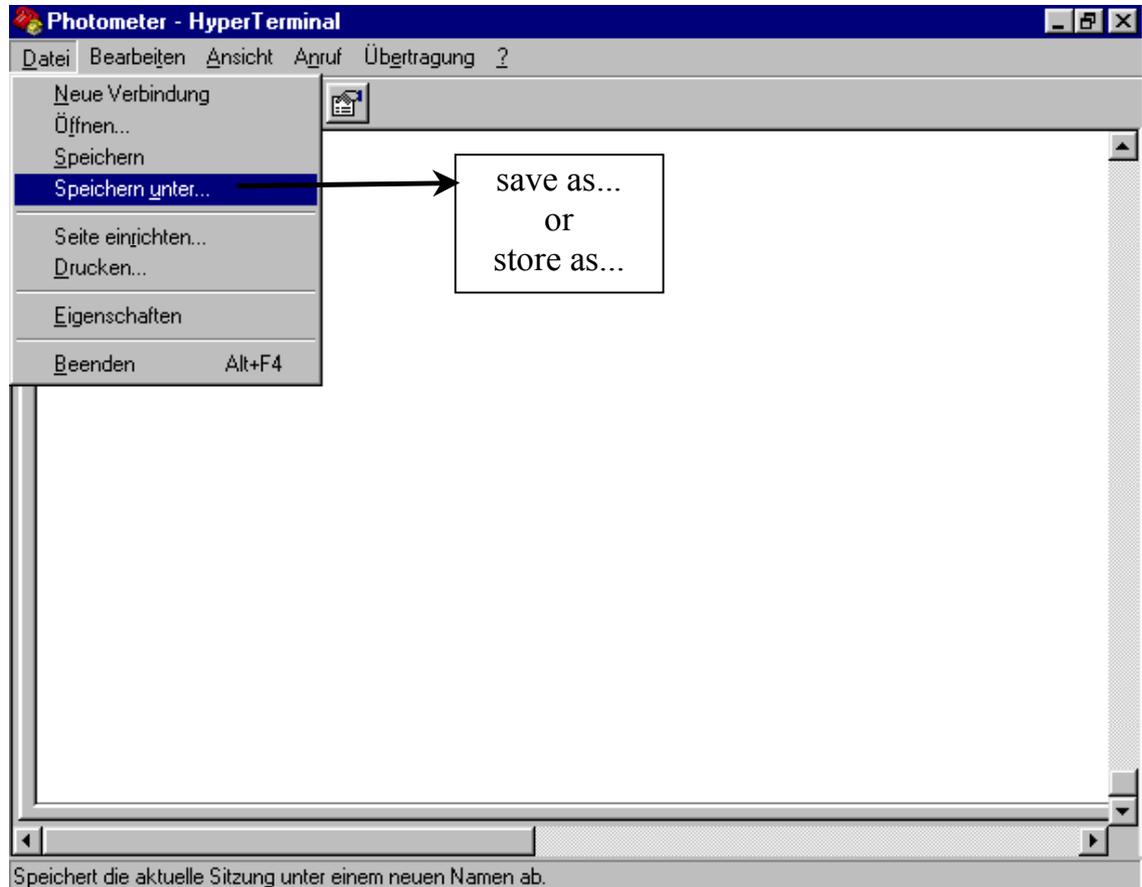
picture 11

Now "connected..." should be displayed as status.

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Save parameters

At menu "file" select "save as...":



picture 12

This window will be displayed now, with filename "OxiDirect", as typed in earlier:



picture 13

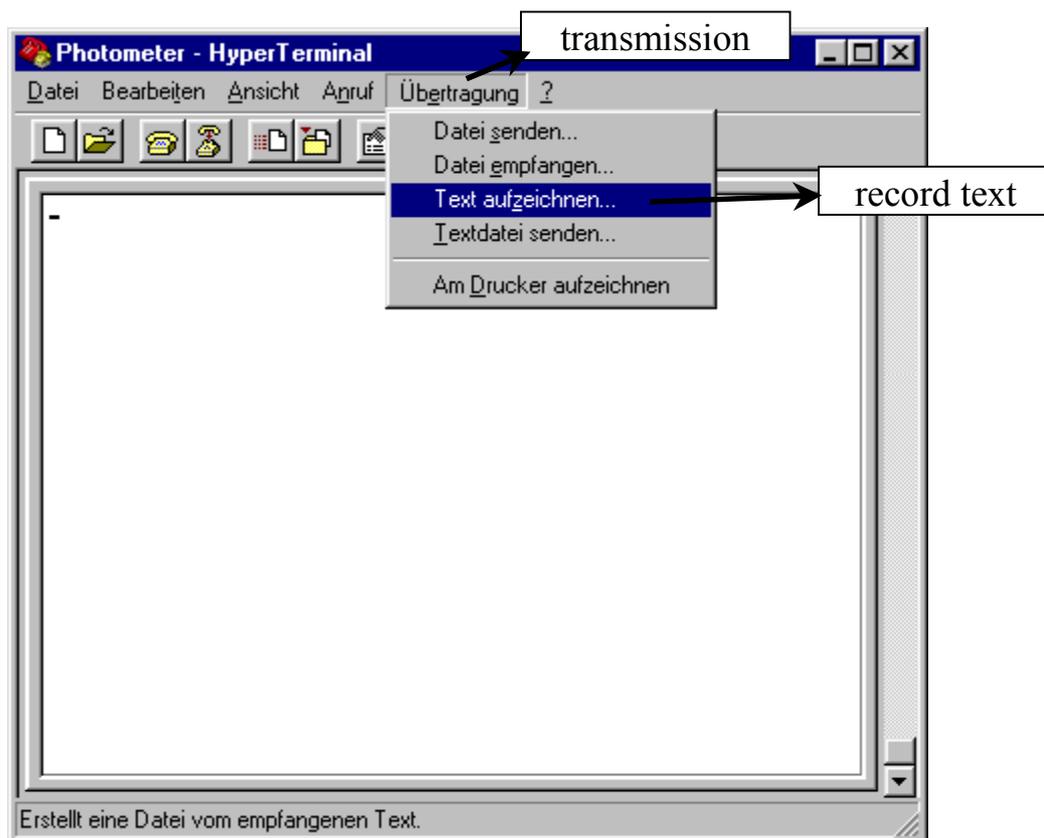
Now click on "save".

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The current settings will be saved in a "session-file". The next time you can start HyperTerminal by double-click on this "session-file" and HyperTerminal will automatically load the settings for data transfer from the OxiDirect.

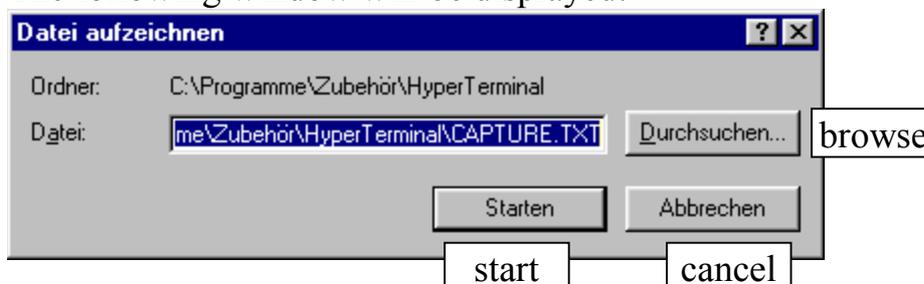
Receiving data for storage

Now choose the menu "transmission" and select the sub-menu "record text..." to receive data with the possibility to store it. The OxiDirect should be connected to the PC, but not yet switched on.



picture 14

The following window will be displayed:



picture 15

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Name of the data storage file

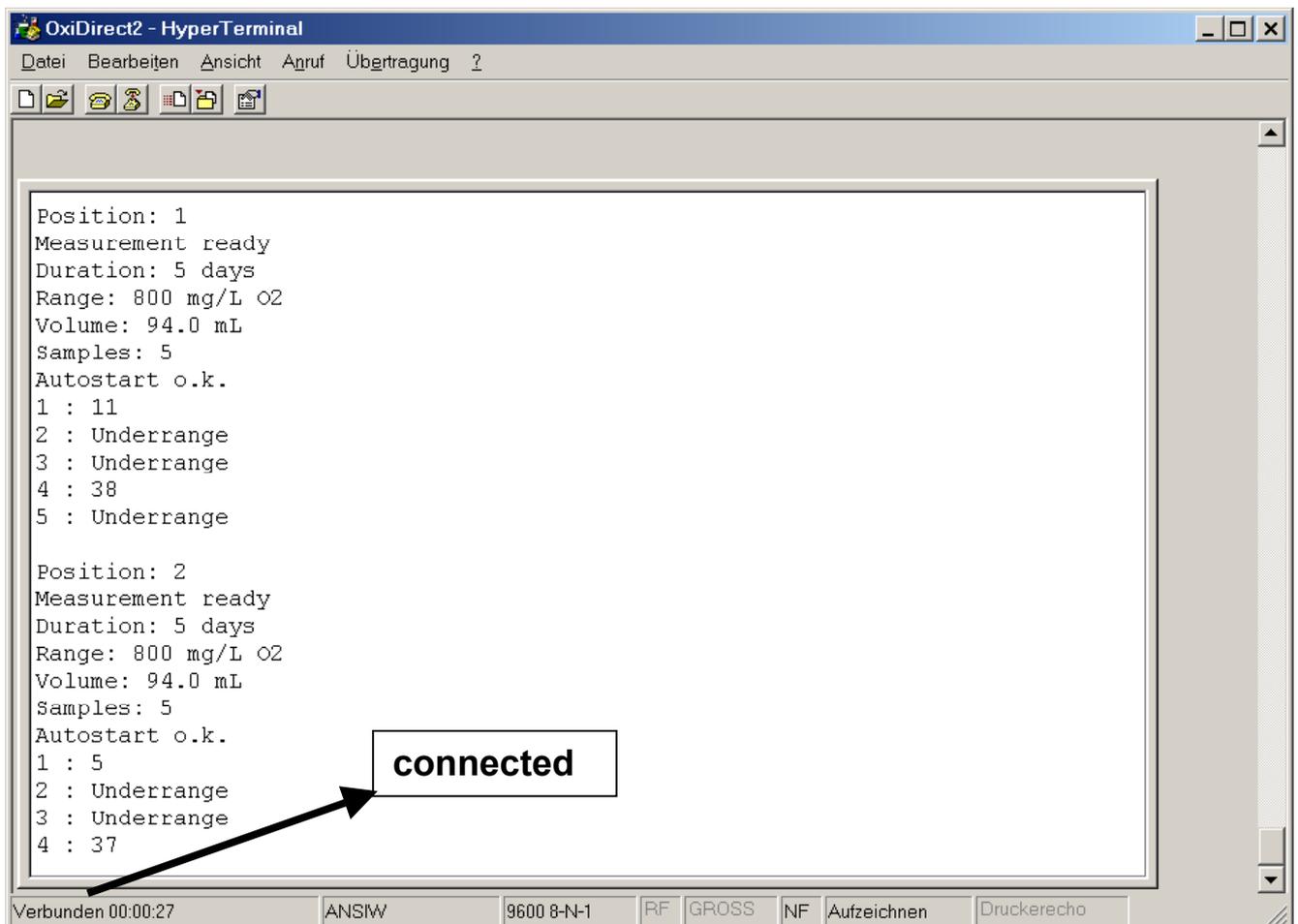
Here (picture 15) you can give a name and a folder for the file the received data should be saved to. In our example we kept the default folder and name. The data will be stored to the file "CAPTURE.TXT" at the folder c:\Programme\Zubehör\HyperTerminal. Click on "start". HyperTerminal is now ready to receive data and store it afterwards.

Attention: The data received will not be stored during reception but only when the transmission is ended as described below (see "Terminate data transmission and store data" page 12)

Start transmission

Now start the transmission of data as described in "Starting the datatransfer at the OxiDirect instrument" at page 1.

You can watch the data being received at the HyperTerminal window:

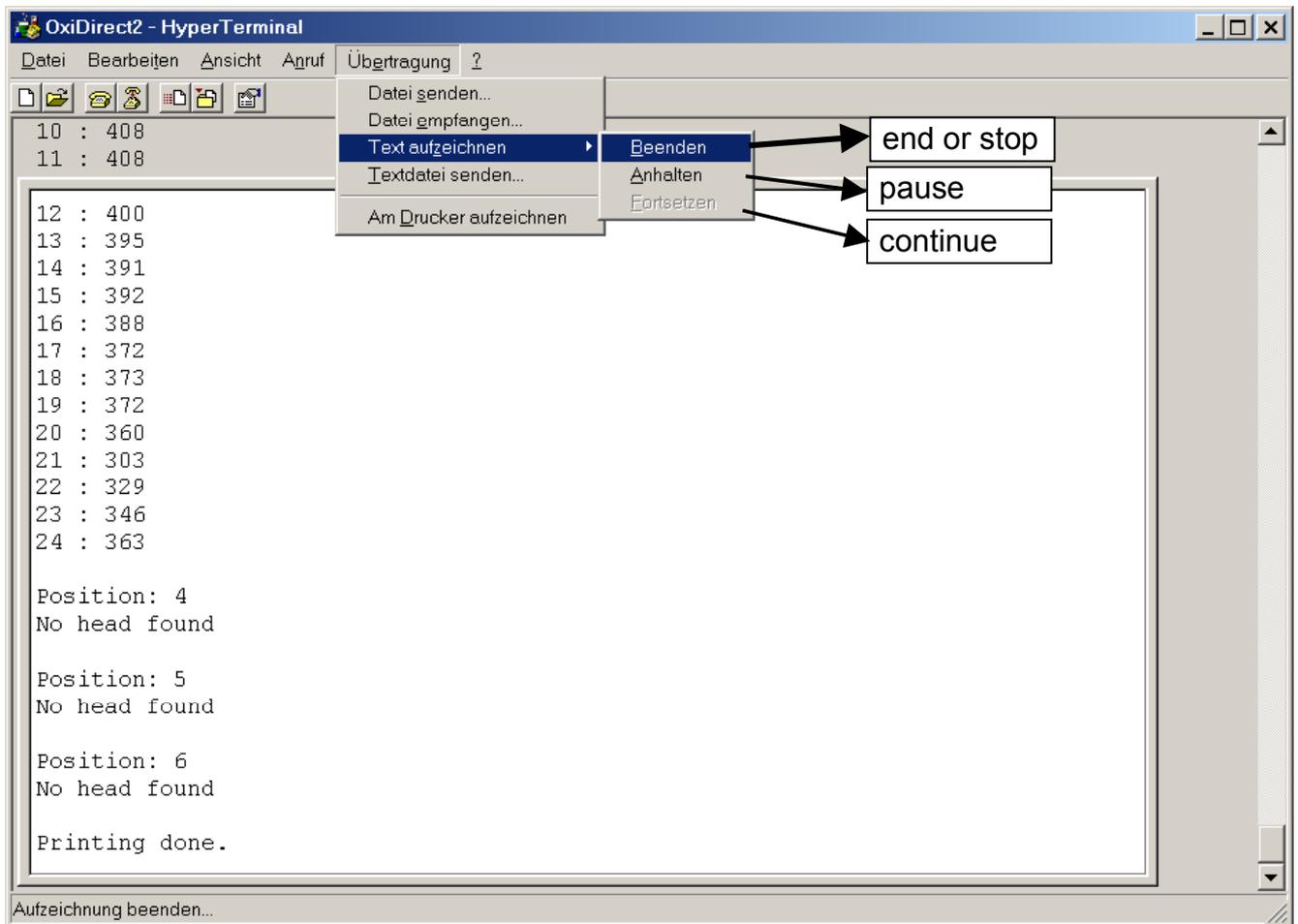


picture 16

Terminate data transmission and store data

When all data was transmitted, choose the menu "transmission" and select the sub-menu "record text..." and there the part "end record" (see picture 17):

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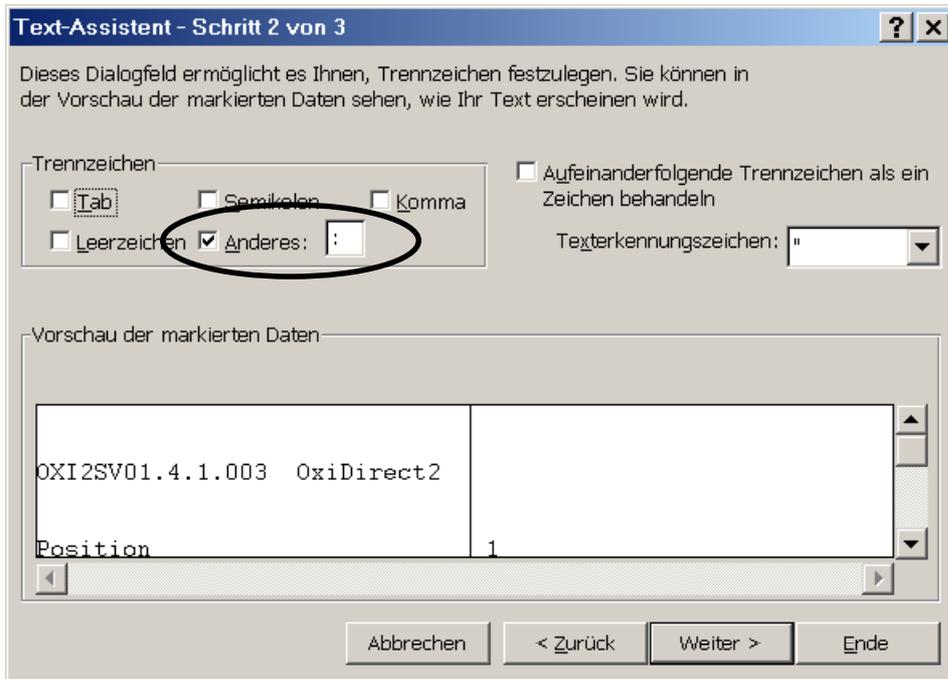


picture 17

Now the received data is stored, at our example in file CAPTURE.TXT at folder C:\Programme\Zubehör\HyperTerminal, and can be used afterwards as you need it.

Using the data in Microsoft Excel

To use the received and stored data in an Excel spreadsheet, start Excel and go to the file-open menu. You should see the file selection window now. Navigate to the folder where you stored the received data (see chapter "Name of the data storage file" at page 3). In the file selection window of Excel switch the file type filter setting to "textfiles" or "all file-types". Now you should be able to find the file with the stored data in the appropriate folder. Open this file. Excel will ask how your data can be described best and you can make a choice between "fixed length" and "special separation character": Please choose "special separation character" here and continue. A new small window will pop up, where you can select or give the separation character. Type in the ":" at "other" and deselect the other choices. The window should look similar to the following (picture 18) now:

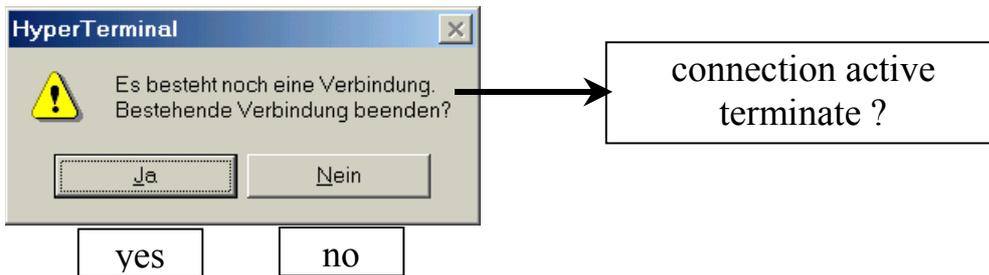


picture 18

Please continue now. The data will be imported into a spreadsheet. For each measurement head there is a data header, giving general information about the measurement done with this head and a data section, with the measured BOD values.

Exit HyperTerminal

To close HyperTerminal use the cross in the upper right corner of the HyperTerminal window or use "Exit" at the file-menu. If a connection is still active choose "yes" to close it (picture 19).



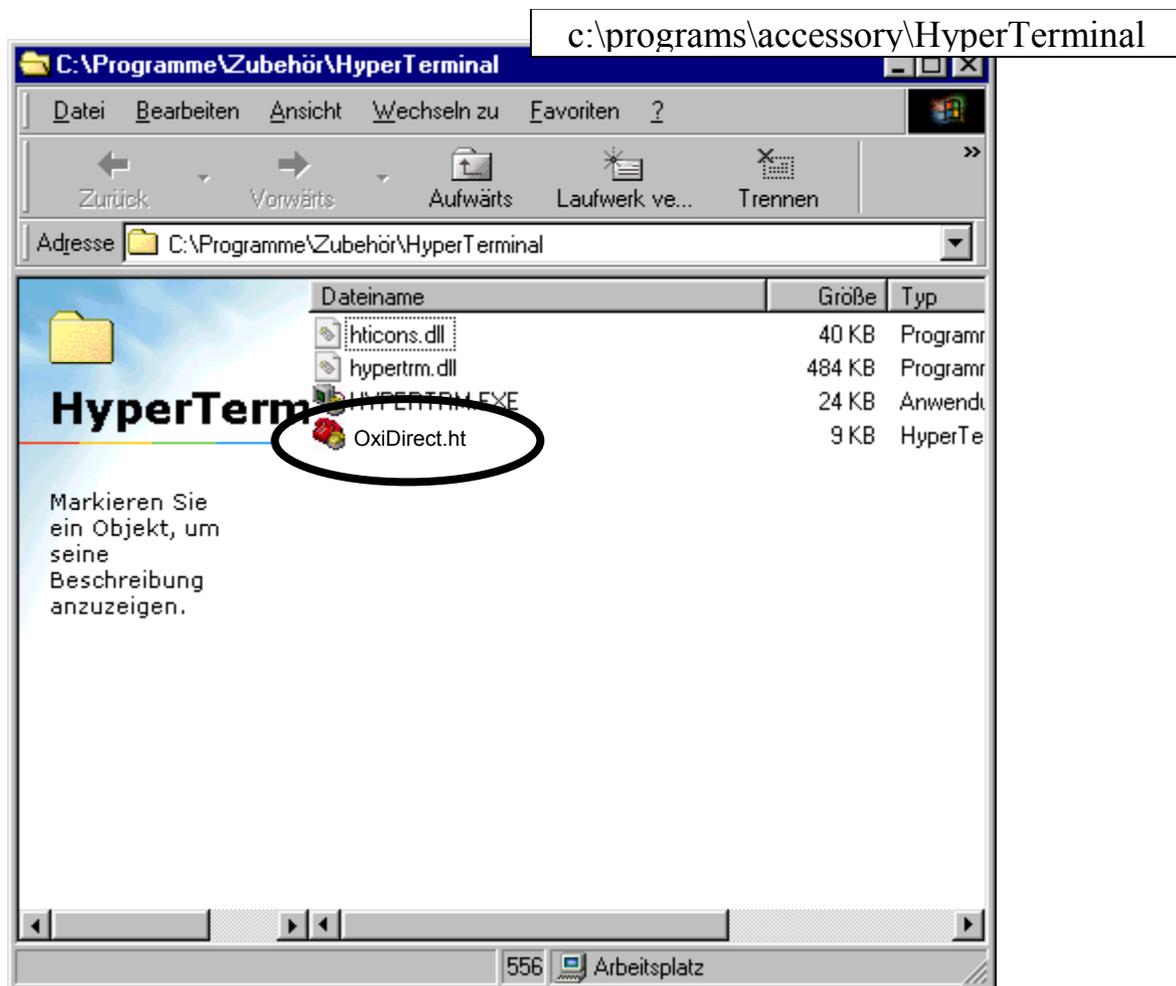
picture 19

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Starting HyperTerminal for OxiDirect use

With Windows 98

After all parameters of HyperTerminal have been set up and stored as a "session-file" (e.g. OxiDirect.ht), next time you want to use HyperTerminal to receive data from your OxiDirect, choose Start → programs → accessory → communication → HyperTerminal and the following window will be displayed (this is the example for Windows 98. For Windows ME, XP please see description after the Windows 98 explanation):



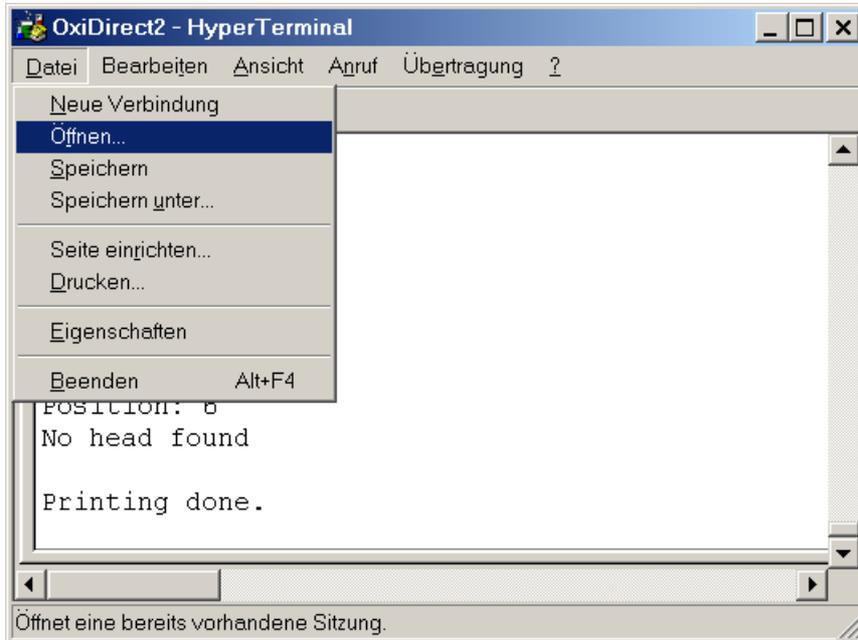
picture 20

Here you see the file "OxiDirect.ht" now. This file was generated as you selected "file" → "store as..." in the HyperTerminal main window, earlier in this instructions. By a double-click on this file HyperTerminal is started with the parameters as set up and stored earlier and will be ready to receive data from an OxiDirect.

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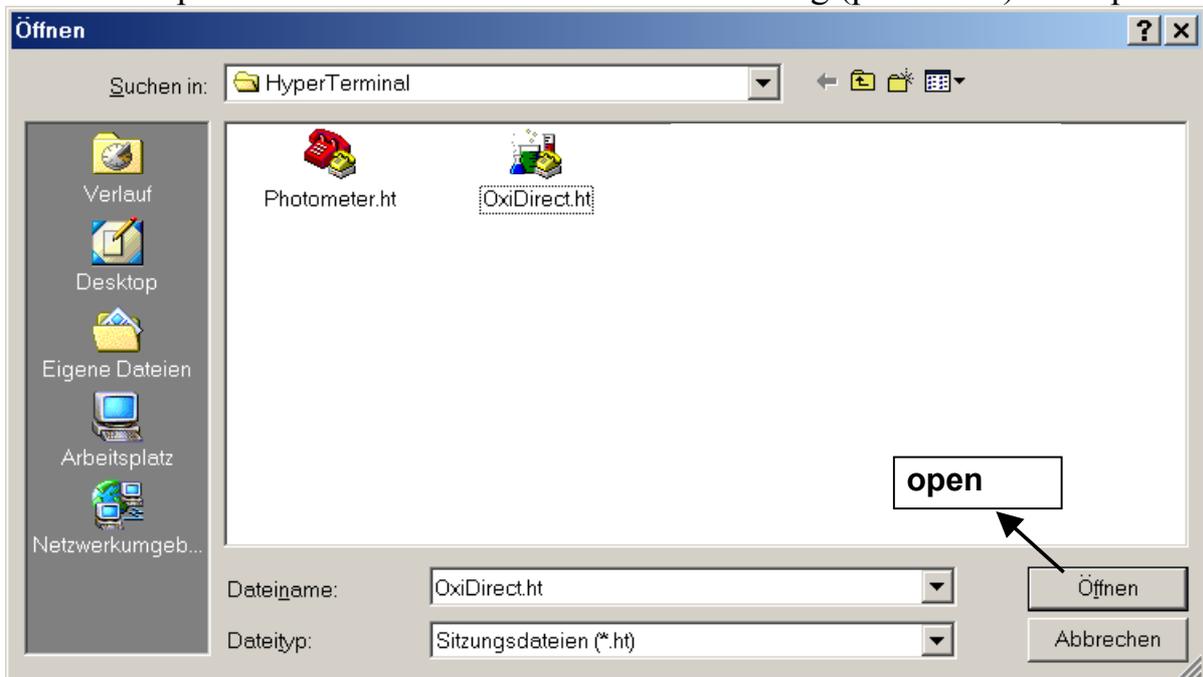
With Windows ME, Windows XP

Start HyperTerminal and in HyperTerminal go to menu "file" → "open..." (see picture 21)



picture 21

Click on "open" and a window similar to the following (picture 22) will open:



picture 22

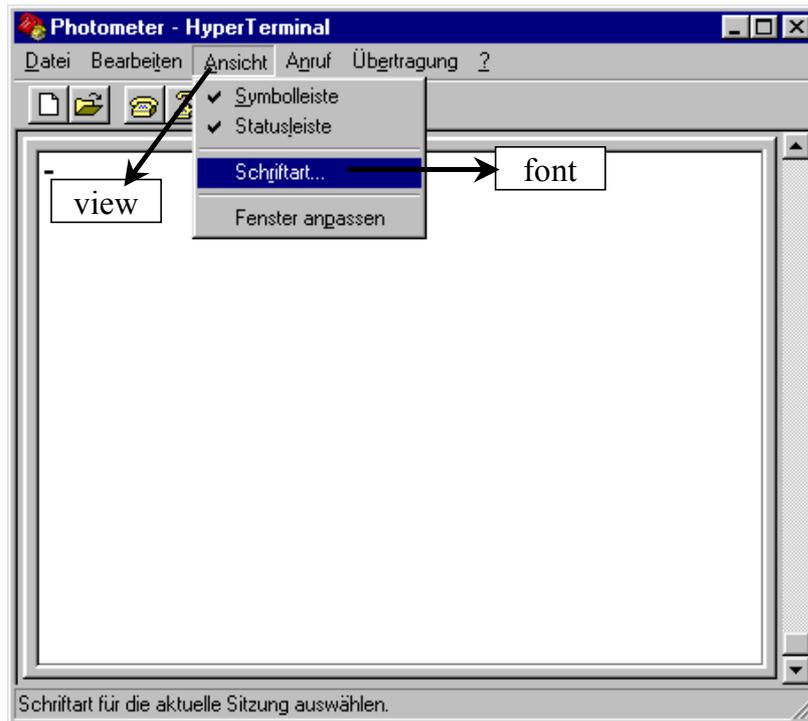
Here you see the file "OxiDirect.ht" now. This file was generated in the chapter "Save parameters" at page 10, earlier in this instructions.

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With a double-click on this file HyperTerminal is started with the parameters as set up and stored earlier and will be ready to receive data from an OxiDirect.

Miscellaneous

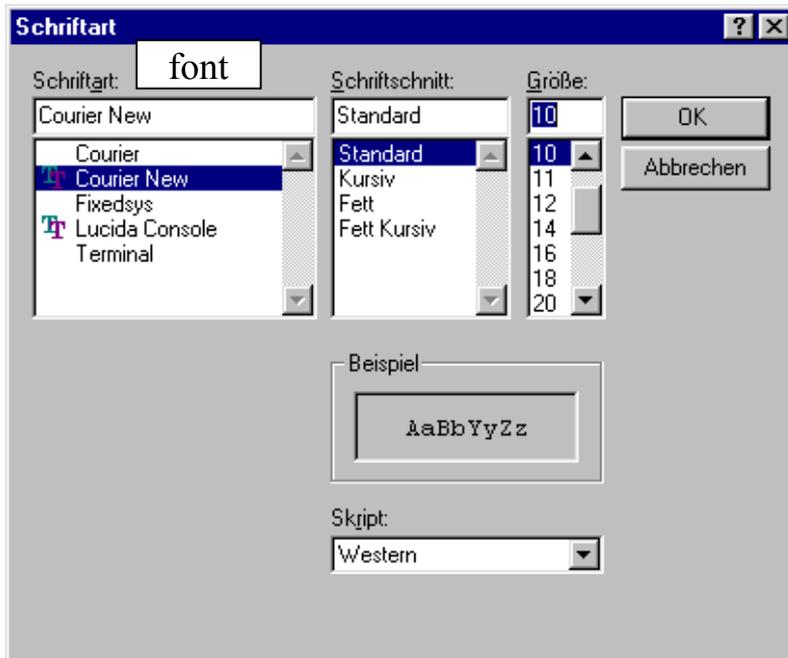
To improve readability of the received data in the HyperTerminal main window, choose "View" → "Font":



picture 23

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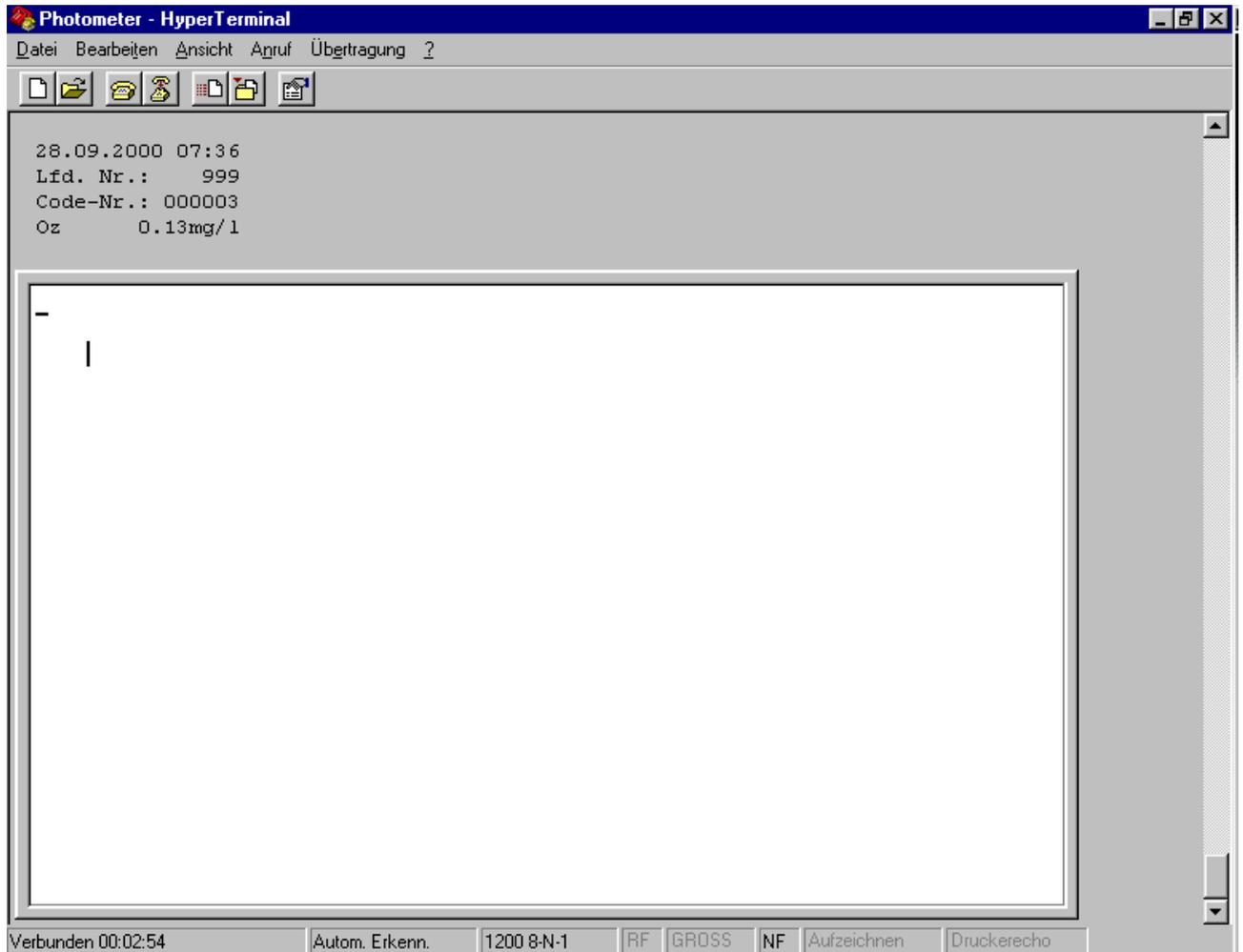
Select "TT Courier New" and set to "Standard" and "10pt", then click on "ok":



picture 24

Increase the HyperTerminal window to full size:

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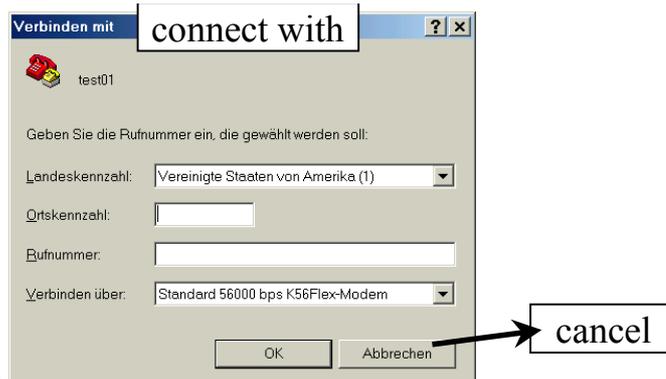
picture 25

All settings are ready now.

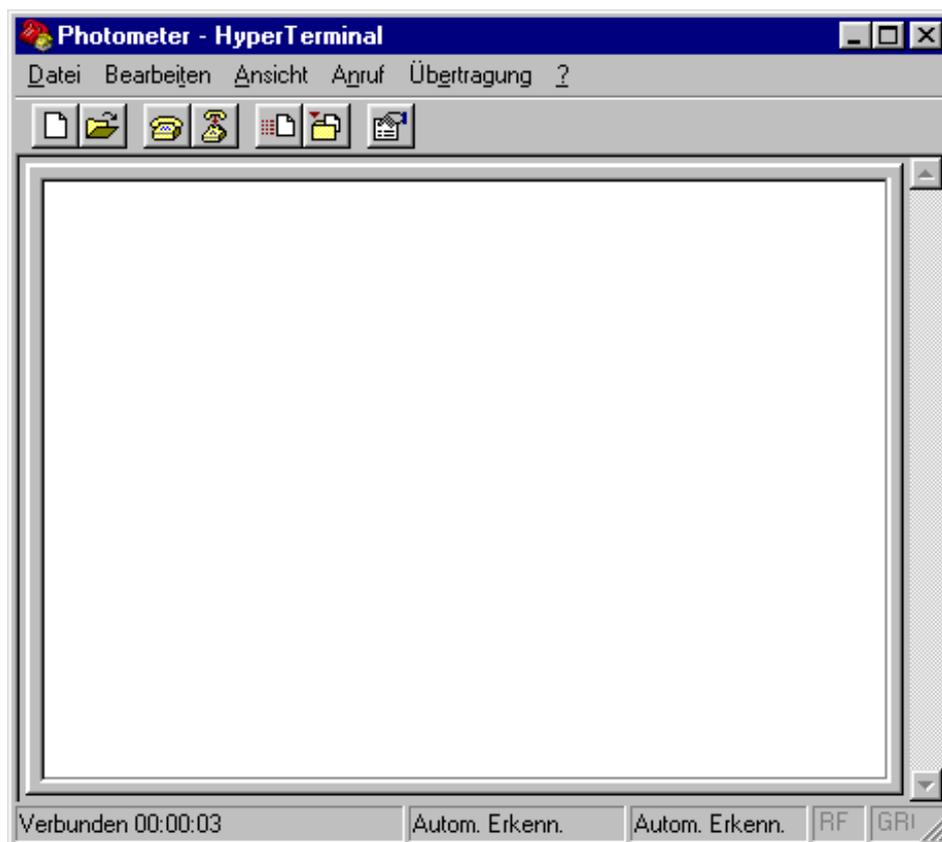
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Setting up the connection if a modem was installed already

The following description shows how the parameters can be set up if a modem was already installed to the computer's operating system before HyperTerminal shall be set up for data transfer from the OxiDirect:



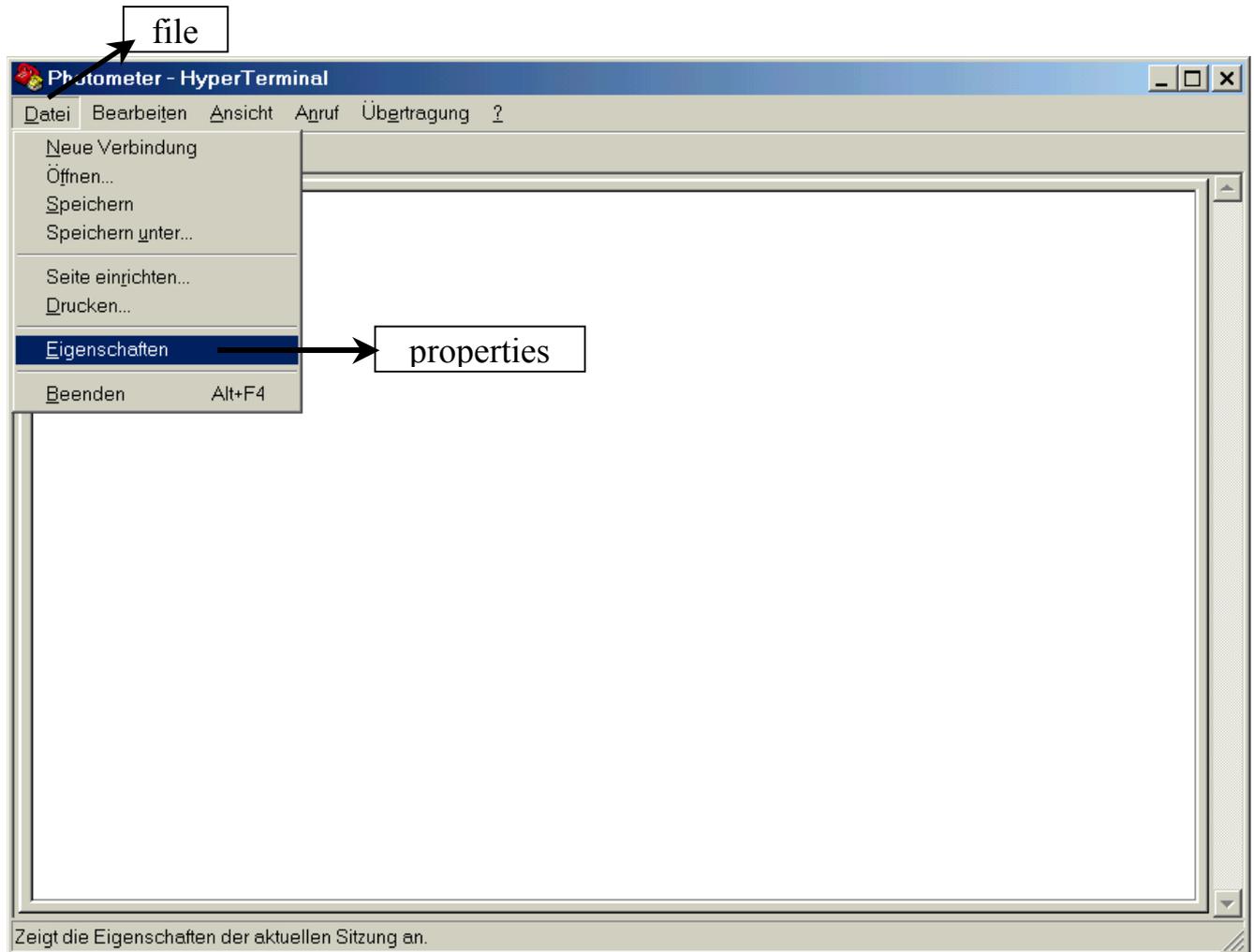
When picture 6 is displayed, click on "cancel" and the HyperTerminal main window will come up (see also picture 10):



picture 26

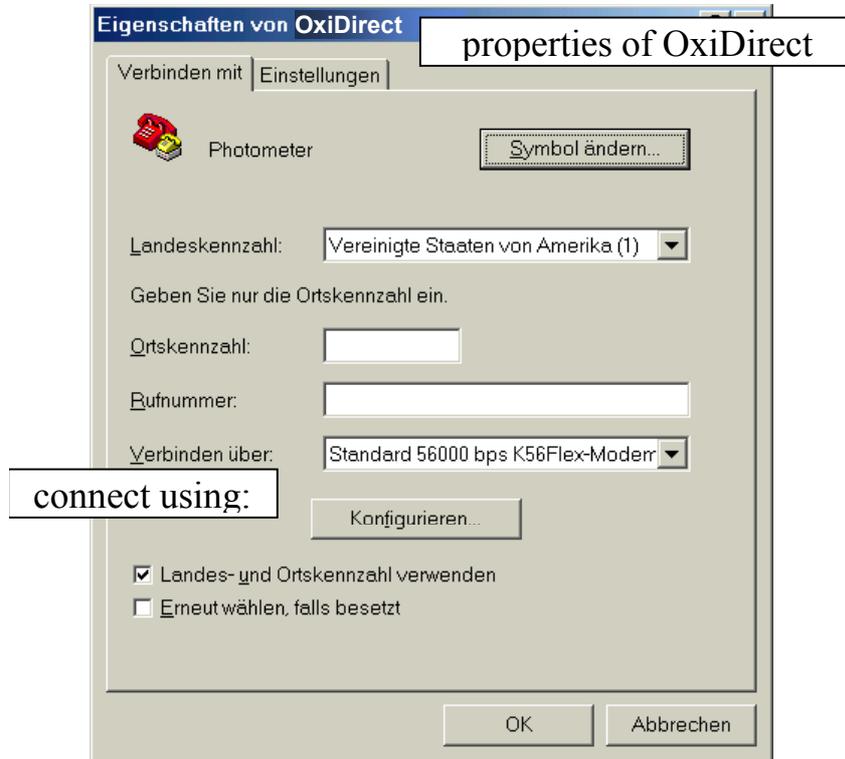
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Now choose the "file" menu and select "properties":



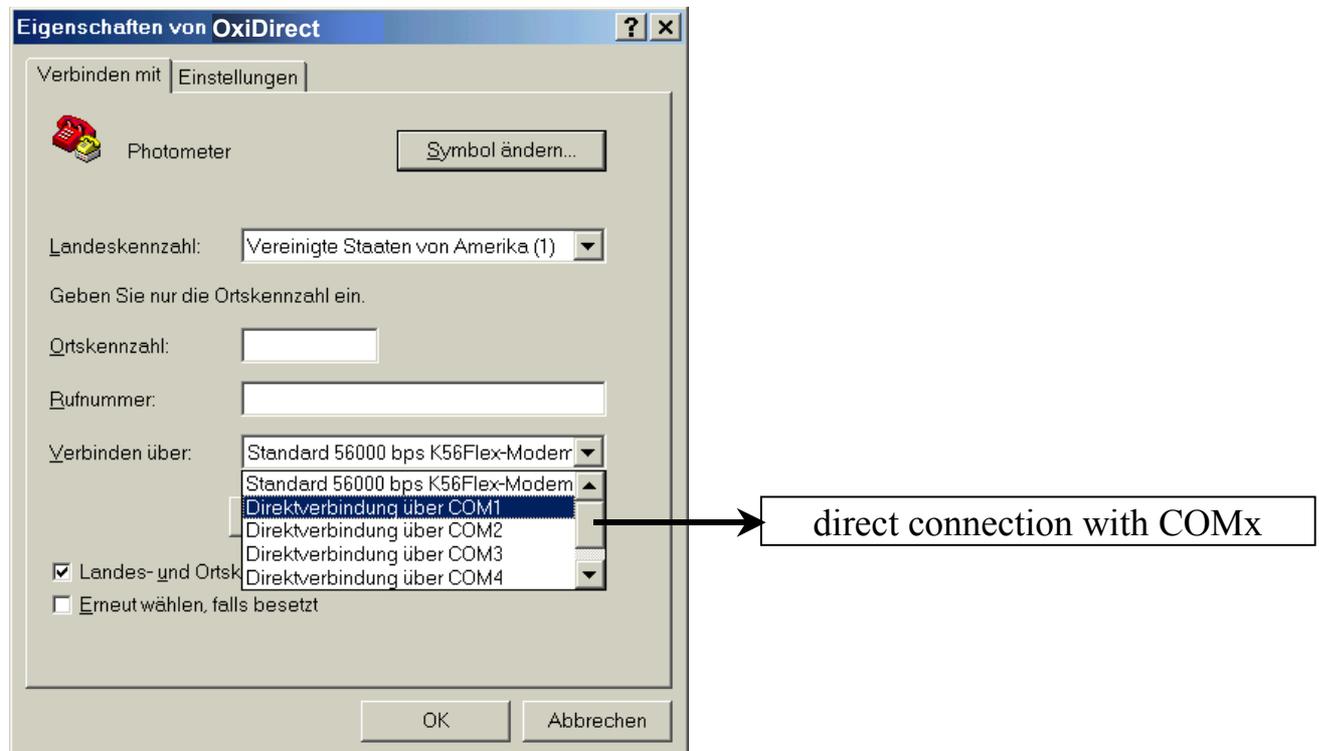
picture 27

The following picture will be displayed:



picture 28

Now you can select the appropriate COMx port at "connect using:"

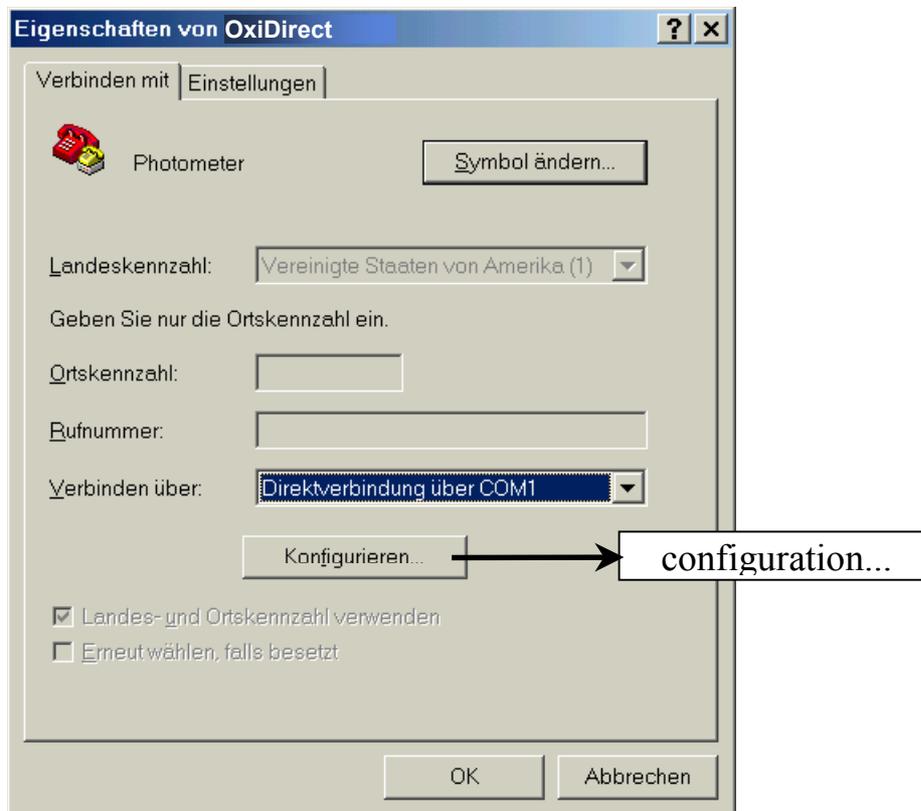


picture 29

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At "connect using" (picture 7) choose the COMx port that you connected the OxiDirect cable to.

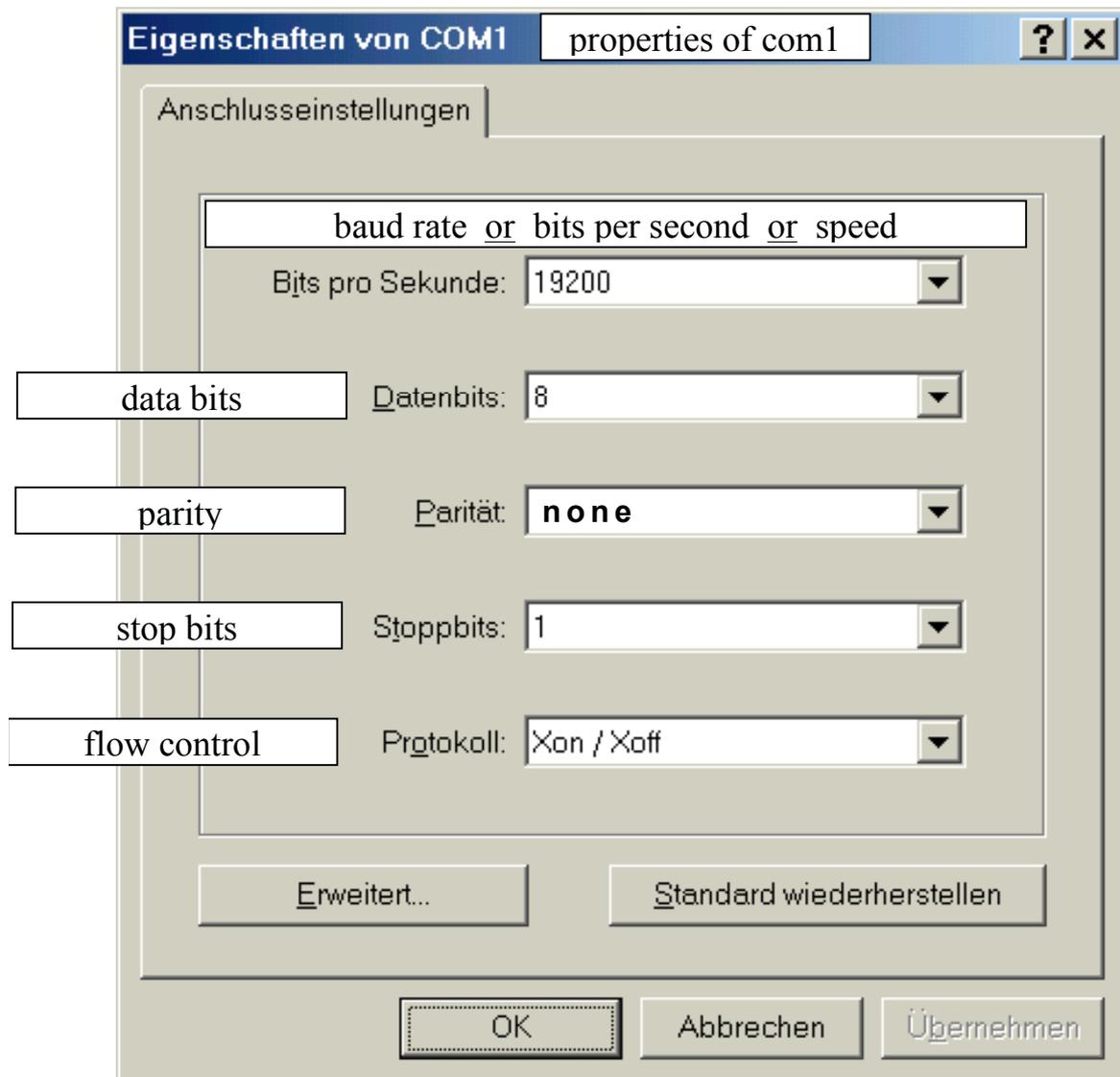
The window will show for example:



picture 30

Click on "configuration...", to set up the port parameters. The next window (picture 31) will be displayed (but most probably with different values):

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picture 31

Now continue as described at "Setting up the port parameters" (see page 7).