

Tintometer GmbH Schleefstr. 8a 44287 Dortmund Germany	H.Smit	Instructions for Data-Transmission from a Lovibond [®] photometer <u>PoolDirect / MultiDirect /</u> <u>SpectroDirect / PC Spectro II</u> to Windows [®] program "HyperTerminal"
document status: preliminary		Rev. GB.1.005

Instructions for Data-Transmission from a Lovibond[®] photometer

PoolDirect / MultiDirect

SpectroDirect and PC Spectro II

to Windows[®] program "HyperTerminal"

Remarks:

- valid for Lovibond[®] photometers PoolDirect, MultiDirect, SpectroDirect PC Spectro II
- HyperTerminal belongs to the normal Windows[®] distribution, not by Windows[®] Vista.
- this instruction is valid for Windows[®] 98 and also for other Windows Versions (3.11, WIN95, WIN NT, 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.

Connecting the photometer

Connect the photometer with the computers serial connection port (RS232) using the appropriate cable, as delivered with the photometer. Switch on the photometer and wait until "autotest" is ready.

Setting parameters of the photometer

Press the MODE key on the photometer and choose "29: printing params."

Select Xon/Xoff as flow control and a baudrate of 19200.

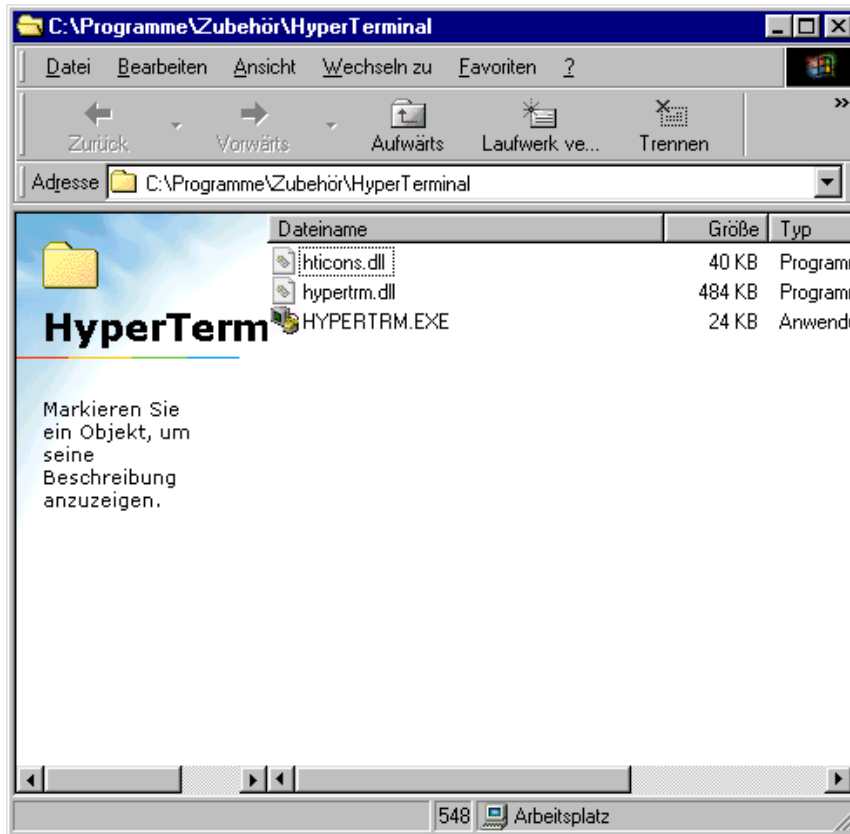
Leave the MODE menu and go back to the method-selection-list.

If your photometer does not have Mode 29 to select, this printing parameters are hard coded and cannot be changed.

First Start of HyperTerminal

Select Start → programs → accessory → communication → HyperTerminal. The picture below will be displayed (picture 1 page 2). Double-click on HYPERTERM.EXE to start HyperTerminal (depending on the settings of your system, the EXE might possibly not be displayed).

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picture 1

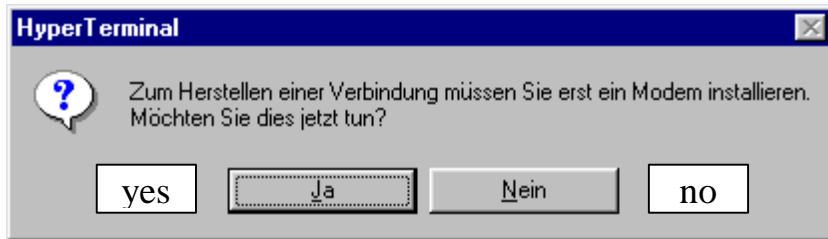
After double-click on HYPERTRM.EXE you will see, for a short time:



picture 2

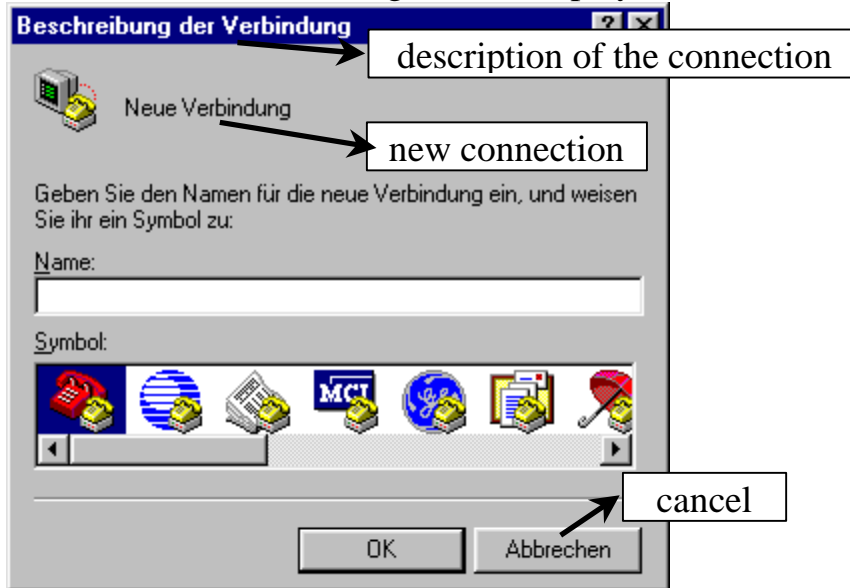
If HyperTerminal is used for the first time on your system, a message will show up asking for the installation of a modem (picture 3 page 3):

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picture 3

Select "no". The following will be displayed:



picture 4

At "name" type in for example "photometer"



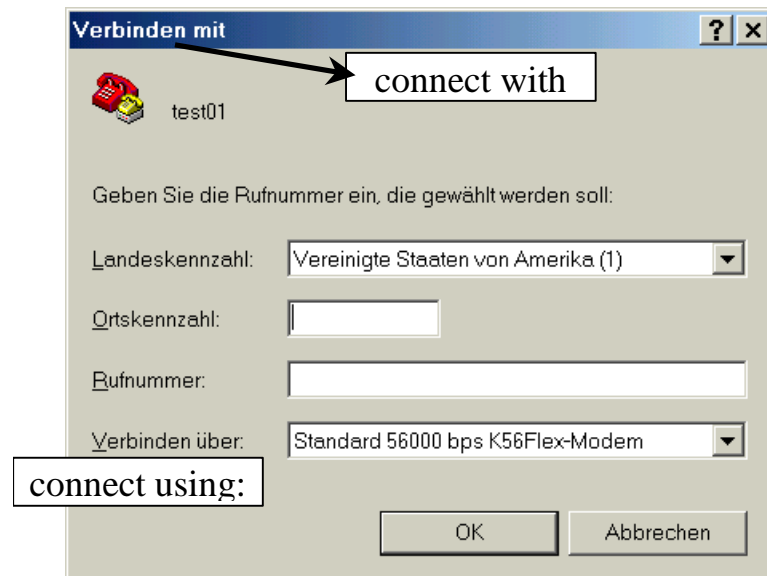
picture 5

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. At "connect using" it is not possible to select "direct connection with COMx" in this case. Please continue at "Setting up the connection if a modem was installed already" (page 15) first.

If a modem was not yet installed

it will be displayed:



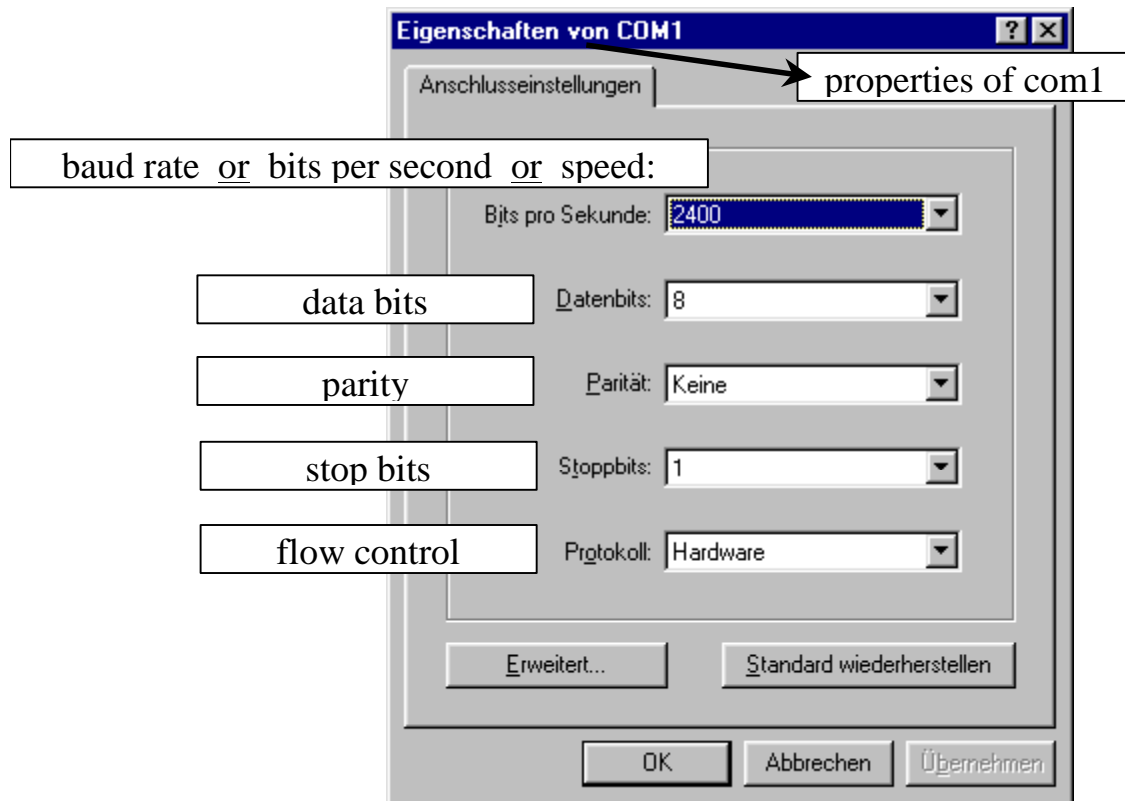
picture 7

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

Choosing the COM port

At "connect using" choose the COMx port that you connected the photometer cable to. Now click on "ok"
There will be displayed:



picture 8

Setting up the port parameters

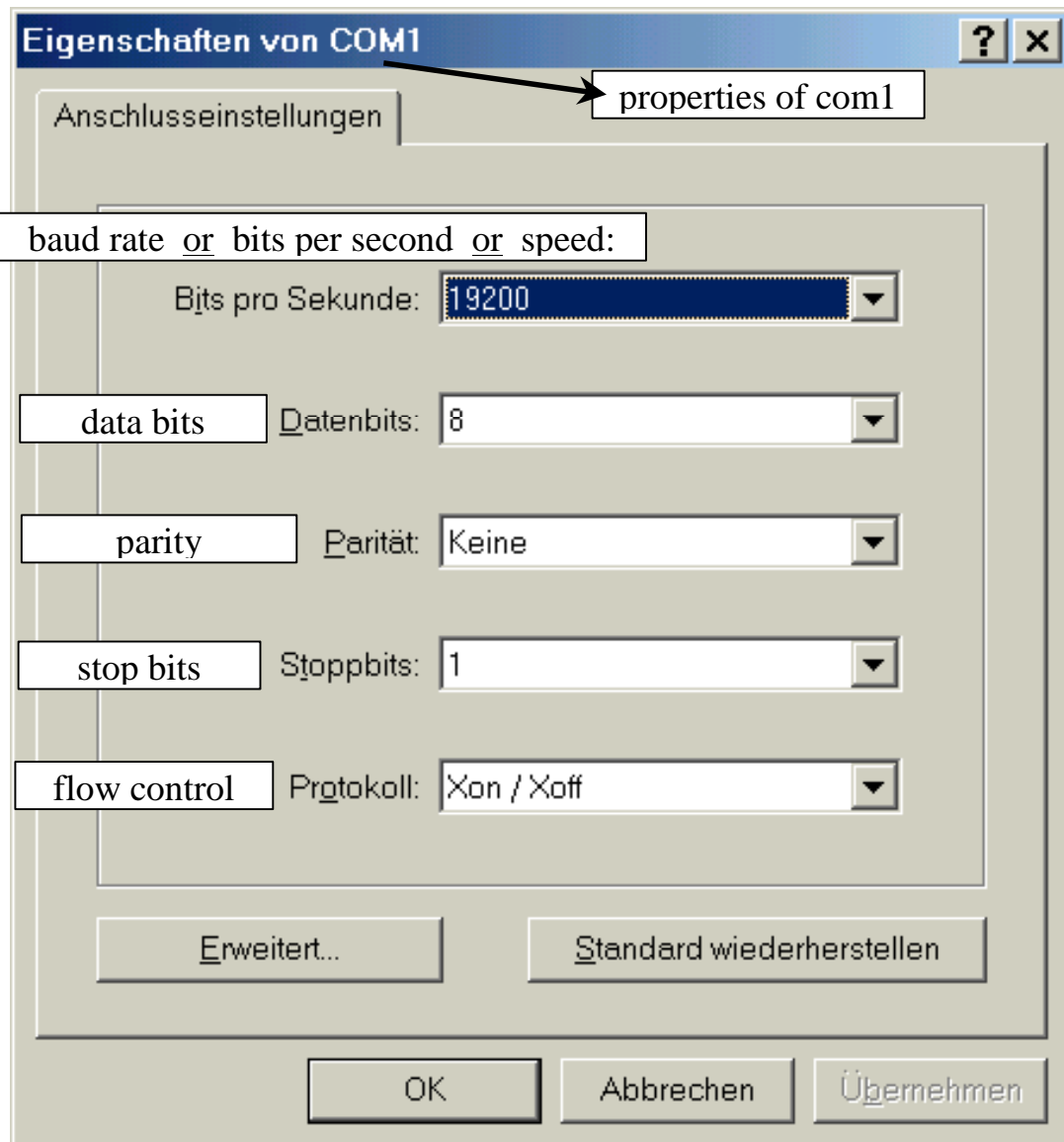
Make the following selections here:

baudrate: 19200
data bits: 8
parity: none
stop bits: 1
flow control: Xon/Xoff

If the photometer has Mode 29 to select printing parameters, select the same values at the photometer. If the photometer does not show the feature "29: printing params." at the Mode menu, the above values are hard coded in the photometer and cannot be changed.

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

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picture 9

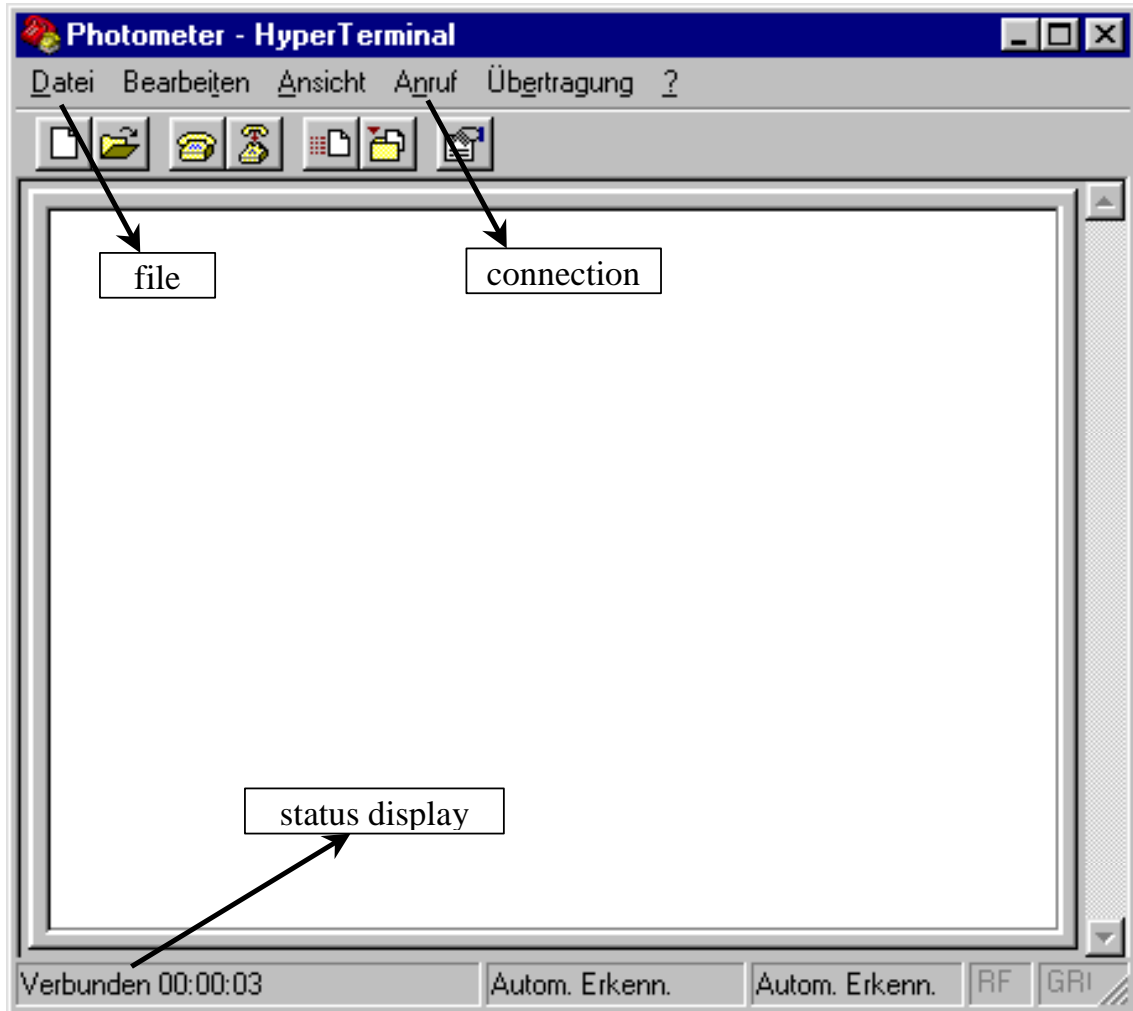
Click "ok" now.

If you followed the steps at "If a modem was not yet installed" (page 4), the HyperTerminal main window will be displayed now (picture 10 page 7).

If you followed the steps at "Setting up the connection if a modem was installed already" (page 15), picture 26 (page 18) will be displayed again. Click on "ok" once more, and the HyperTerminal main window will be displayed (picture 10 page 7).

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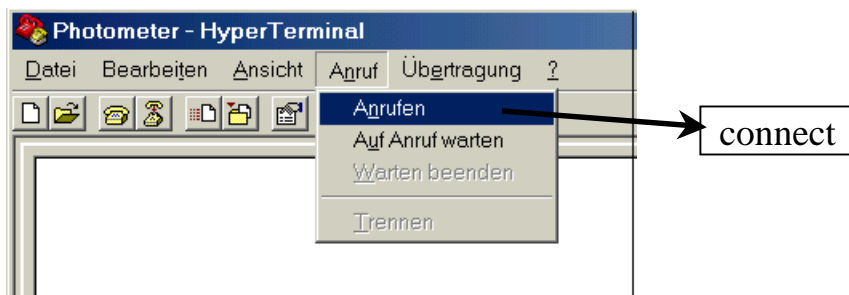
HyperTerminal main window



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":



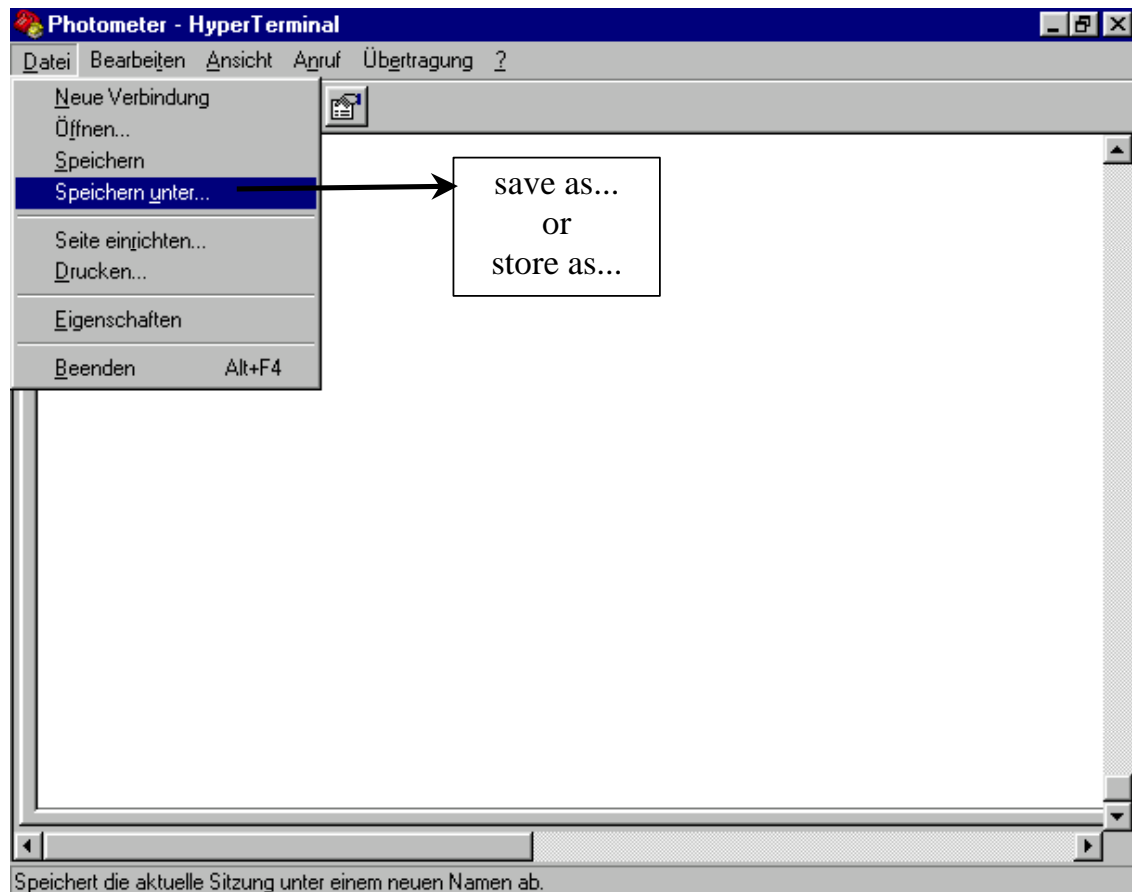
picture 11

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 "photometer", as typed in earlier:



picture 13

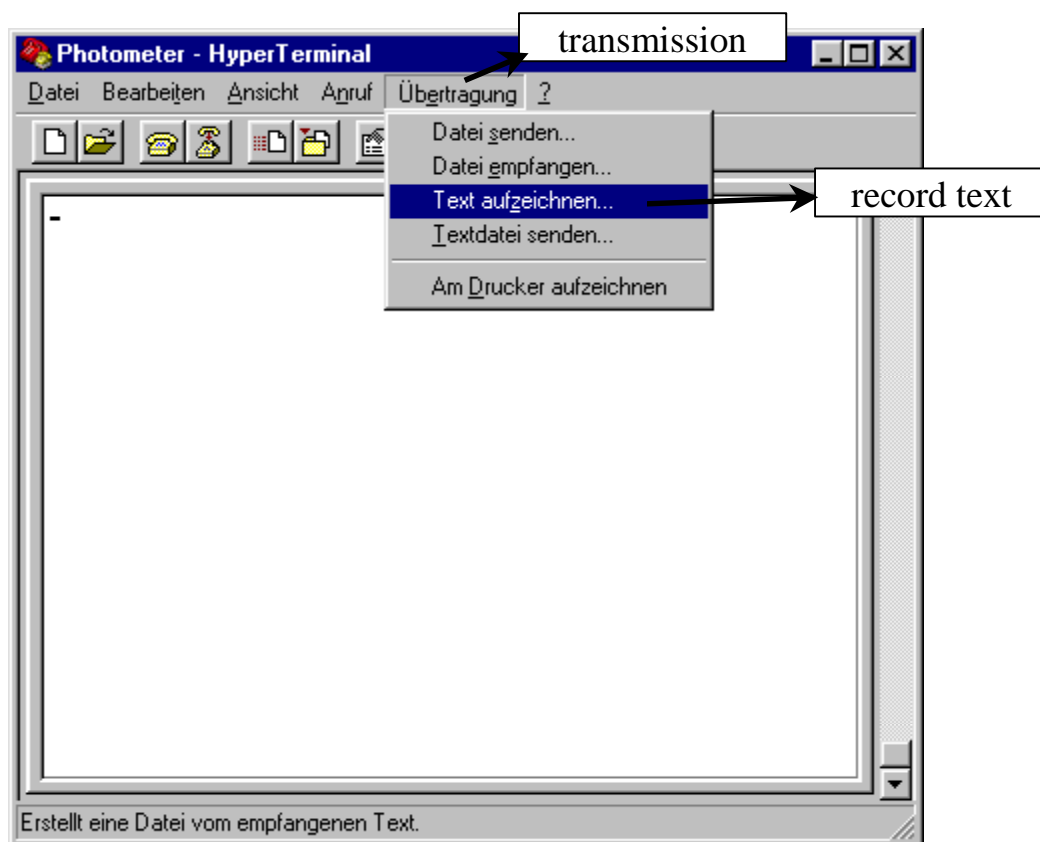
Now click on "save".

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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 the data transfer from the photometer as set up until now

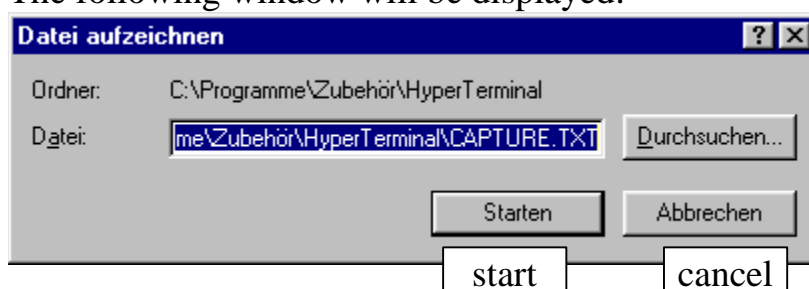
Receiving data for storage

Now choose the menu "transmission" and select the sub-menu "record text..." to receive data with the possibility to store it. The photometer should be connected and already switched on as described earlier.



picture 14

The following window will be displayed:



picture 15

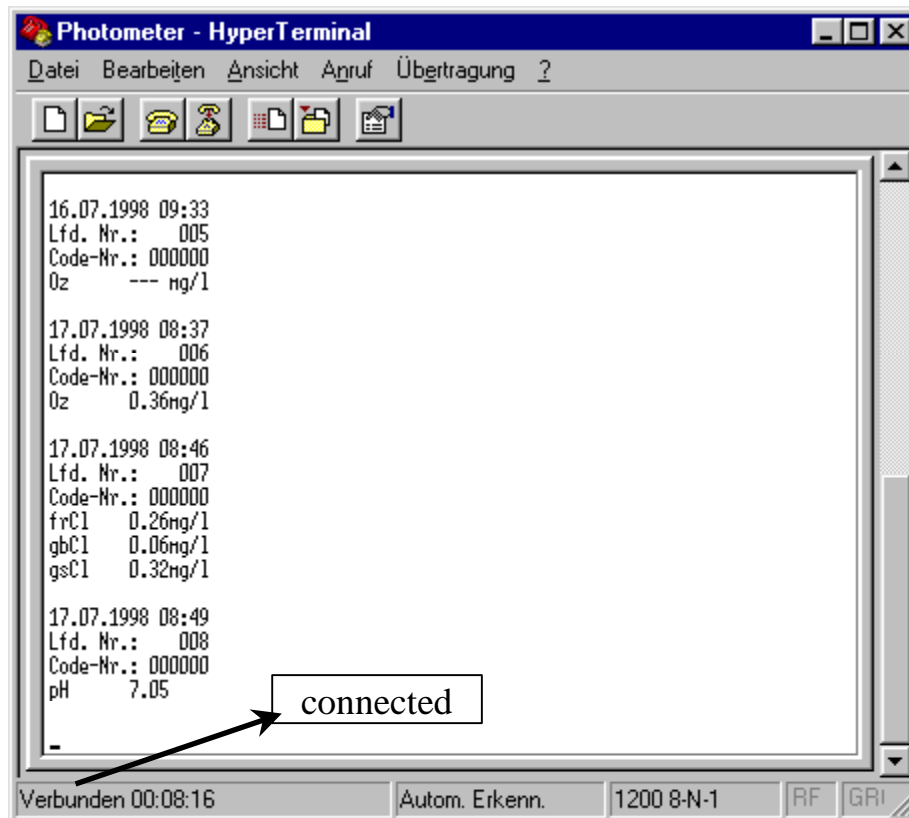
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Name of the data storage file

Here 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 10)

Start transmission

Now choose one of the Mode functions for displaying or printing stored data at the photometer and start transmission (see instructions manual of the photometer). You can watch the data being received at the HyperTerminal window:

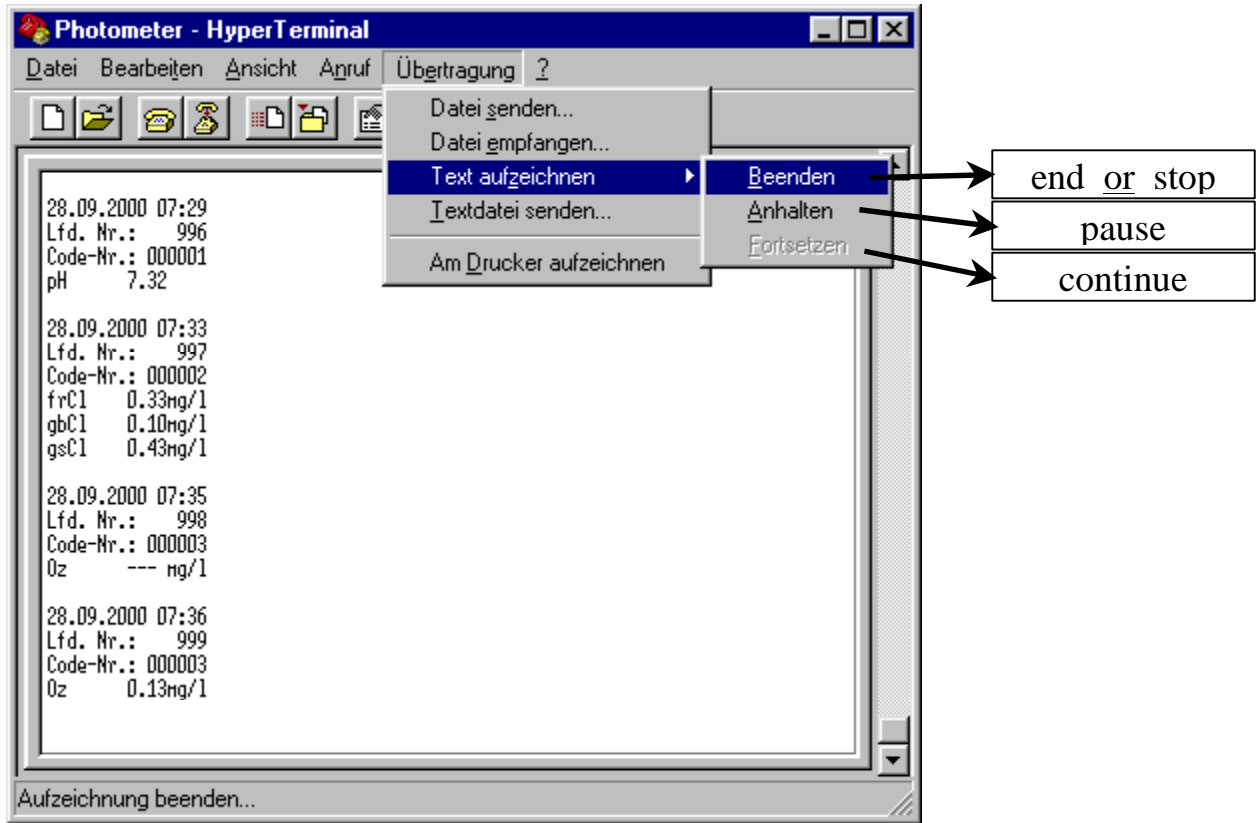


picture 16

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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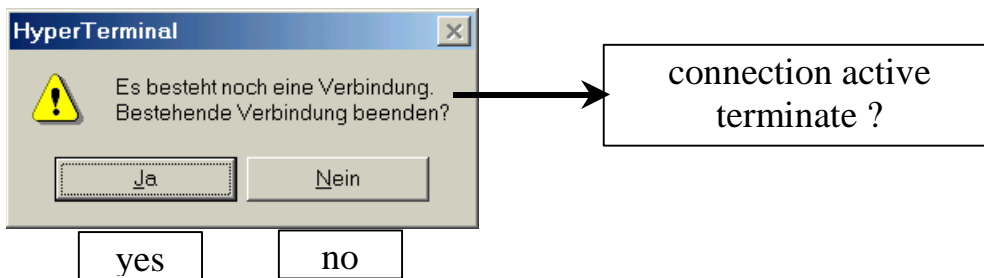


picture 17

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.

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" (picture 18).

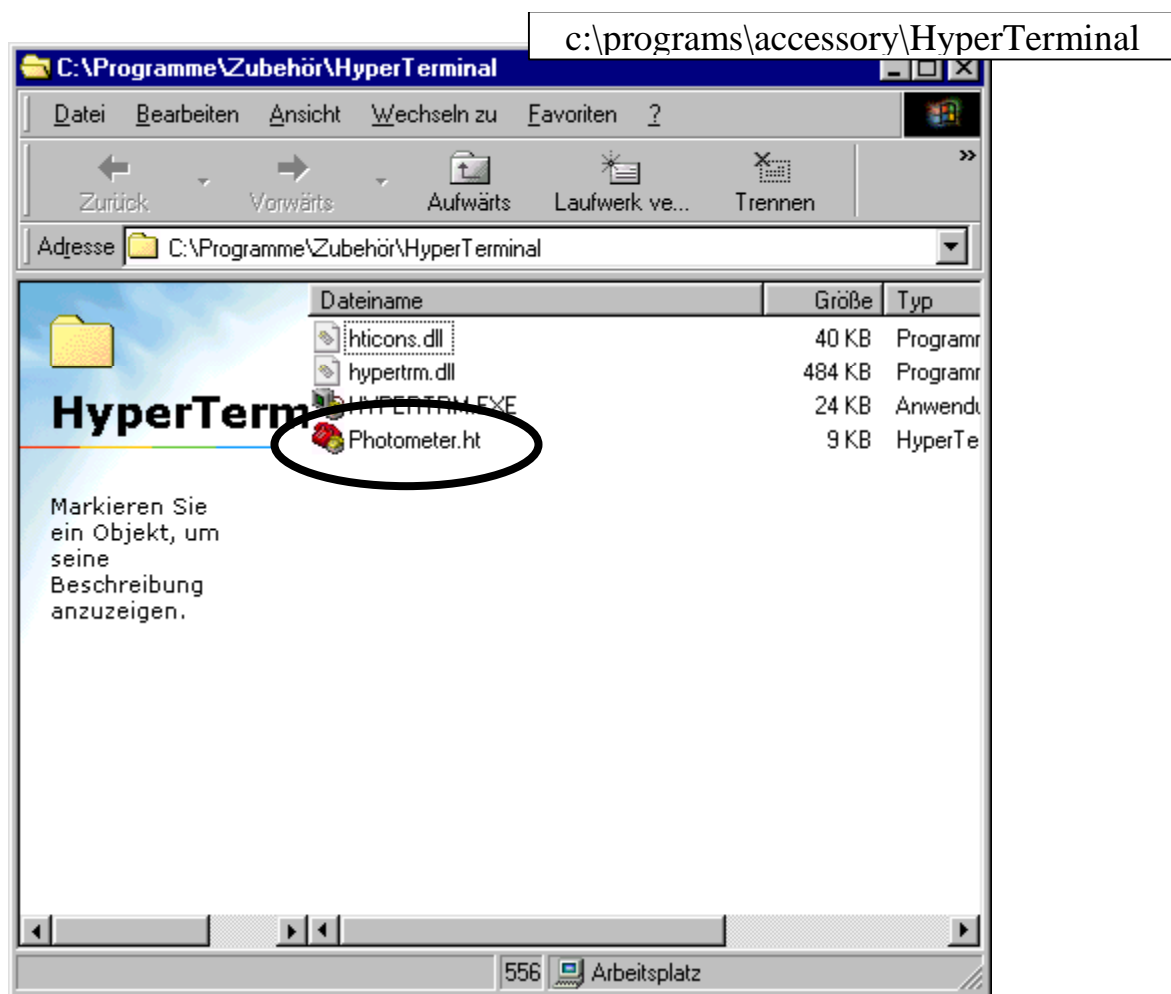


picture 18

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Starting HyperTerminal for photometer use

After all parameters of HyperTerminal have been set up and stored as a "session-file" (e.g. photometer.ht), next time you want to use HyperTerminal to receive data from your photometer, choose Start → programs → accessory → communication → HyperTerminal and the following window will be displayed:



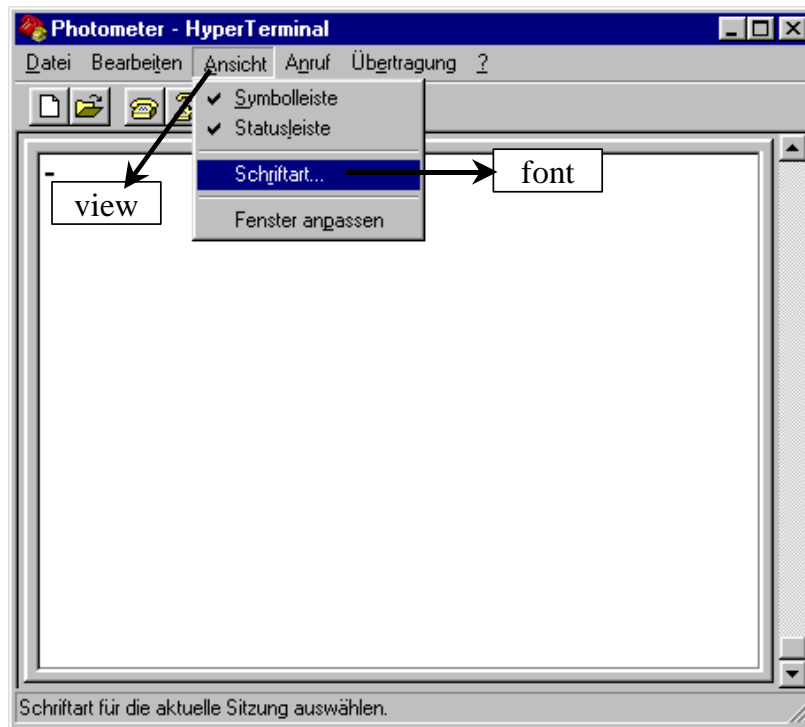
picture 19

Here you see the file "photometer.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 set up and stored earlier and will be ready to receive data from a photometer, if the photometers settings match the HyperTerminal parameters. Before starting HyperTerminal, the photometer should be connected and the "autotest" ready, the photometer showing the method-selection-list.

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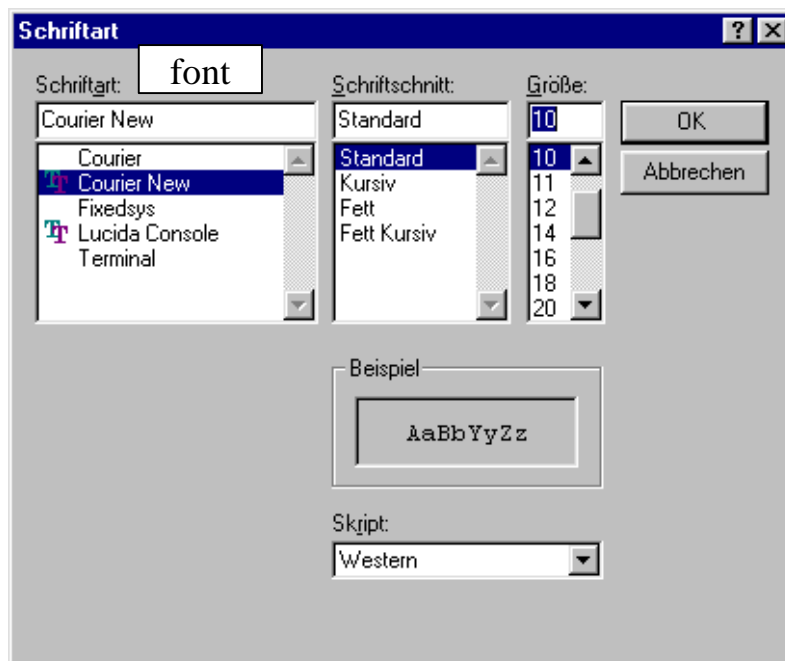
Miscellaneous

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



picture 20

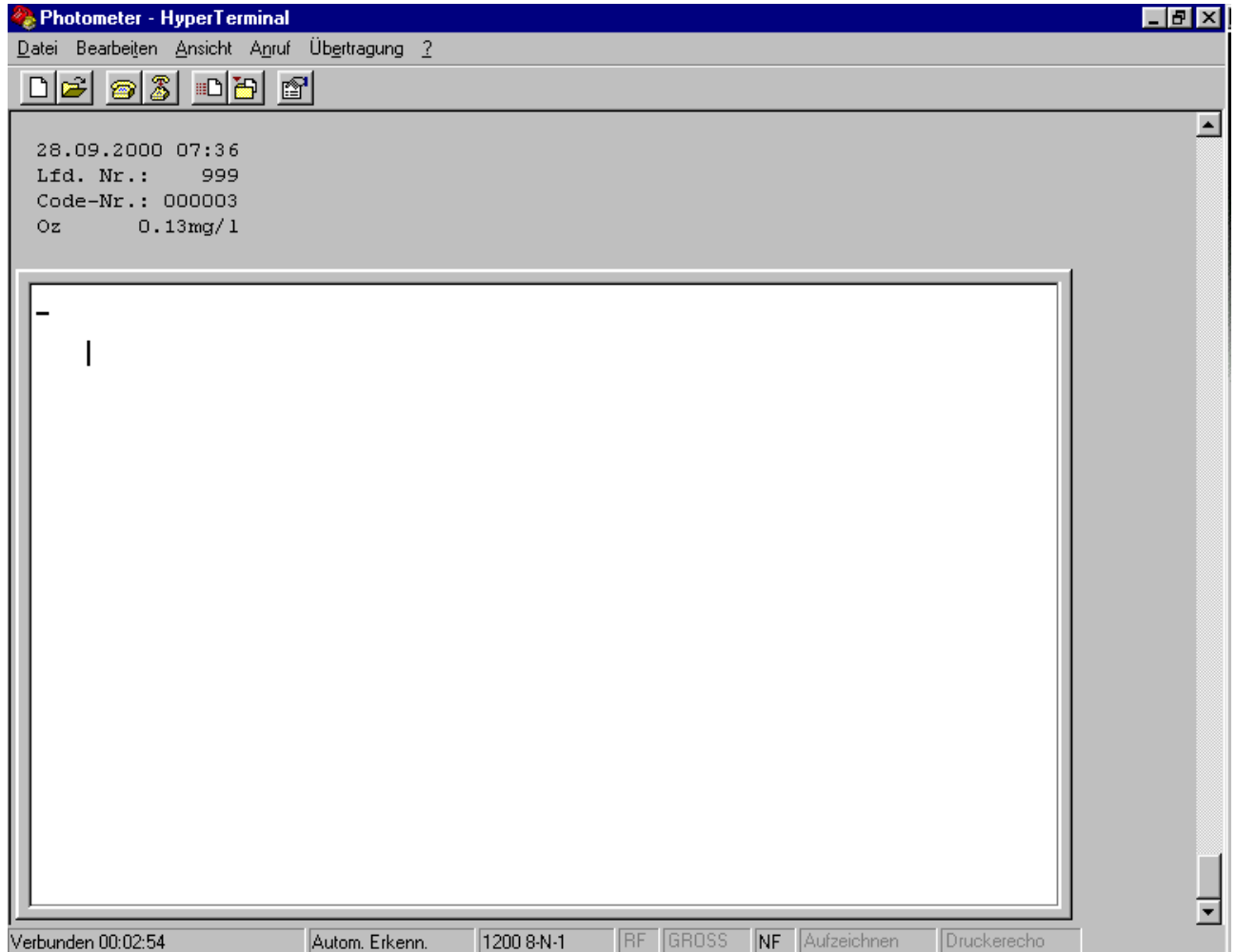
Select "TT Courier New" and set to "Standard" and "10pt", then click on "ok":



picture 21

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Increase the HyperTerminal window to full size:



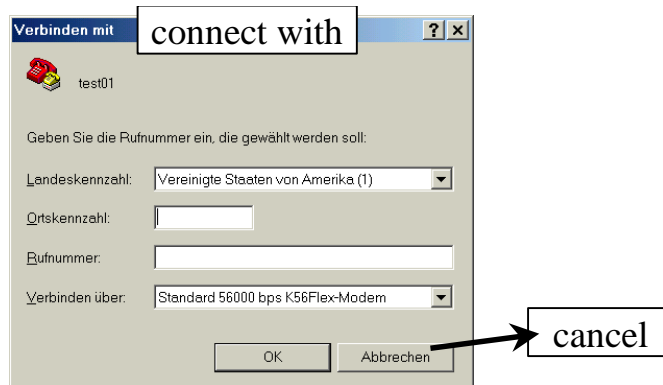
picture 22

All settings are ready now.

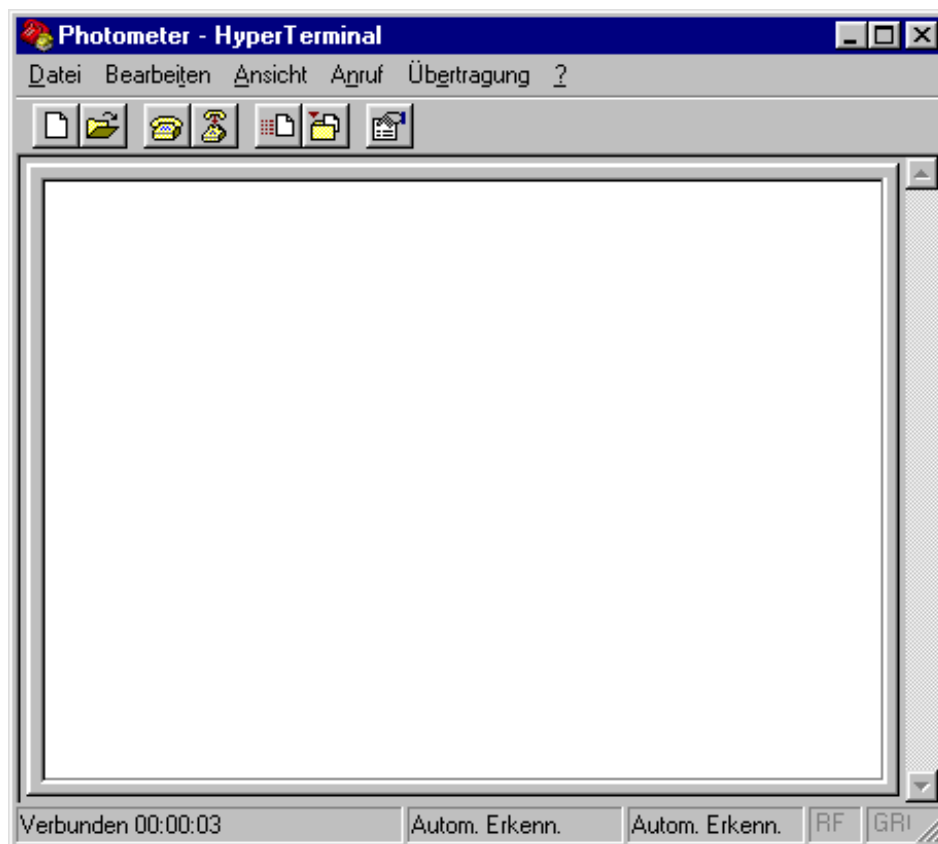
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Setting up the connection if a modem was installed already

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 photometer:

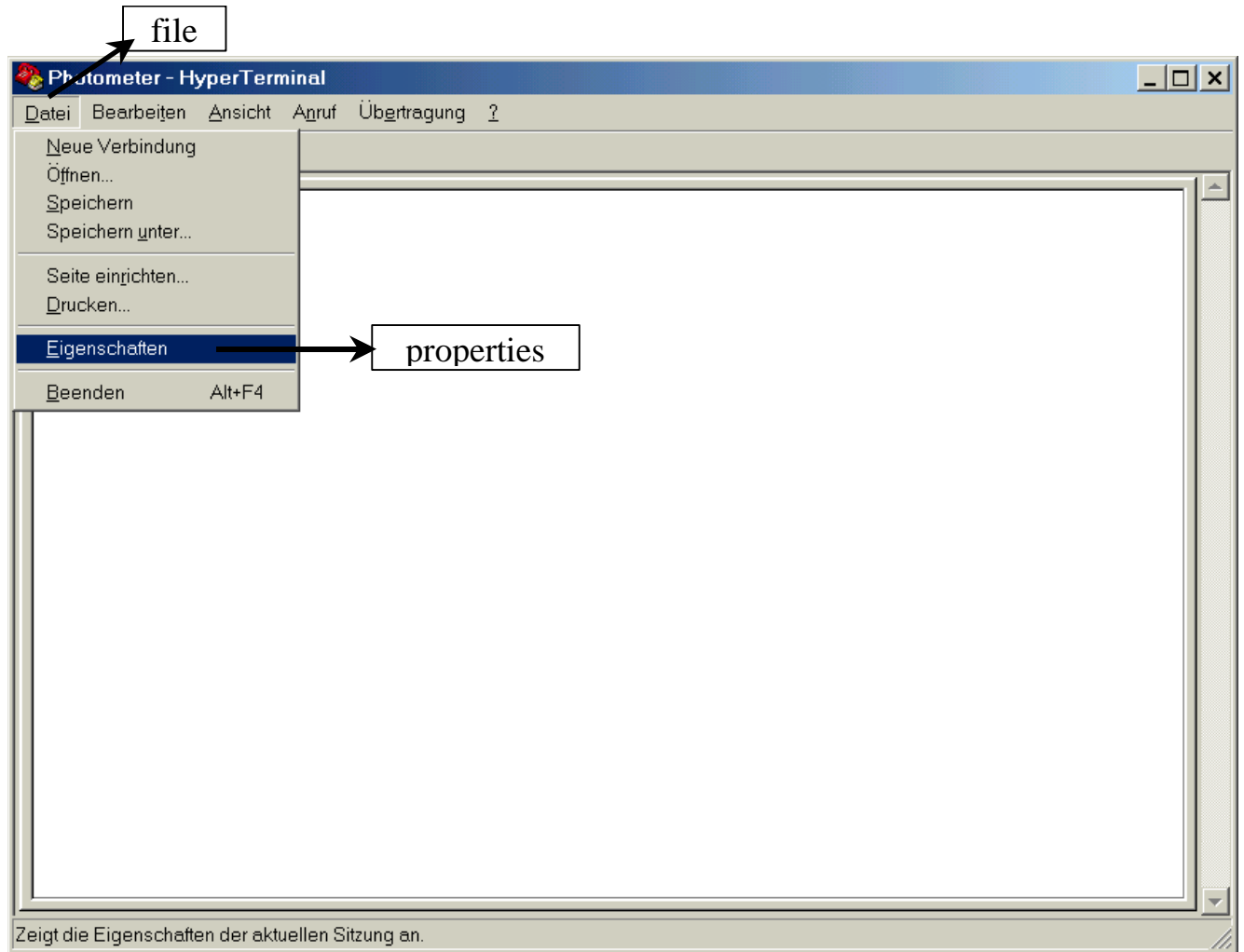


When picture 6 is displayed, click on "cancel" and the HyperTerminal main window will come up (see also picture 10):



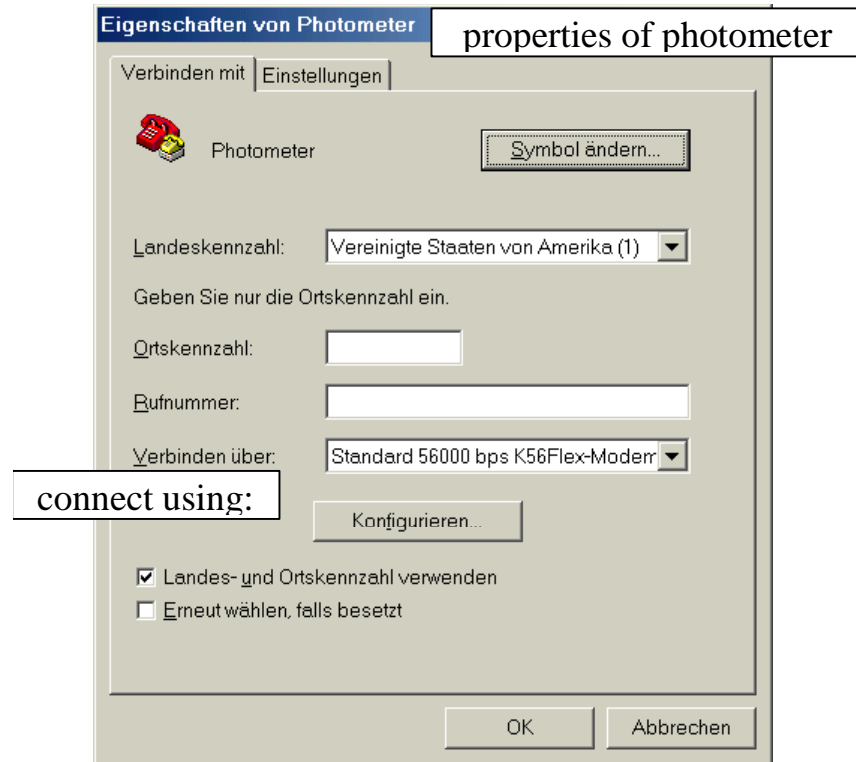
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Now choose the "file" menu and select "properties":



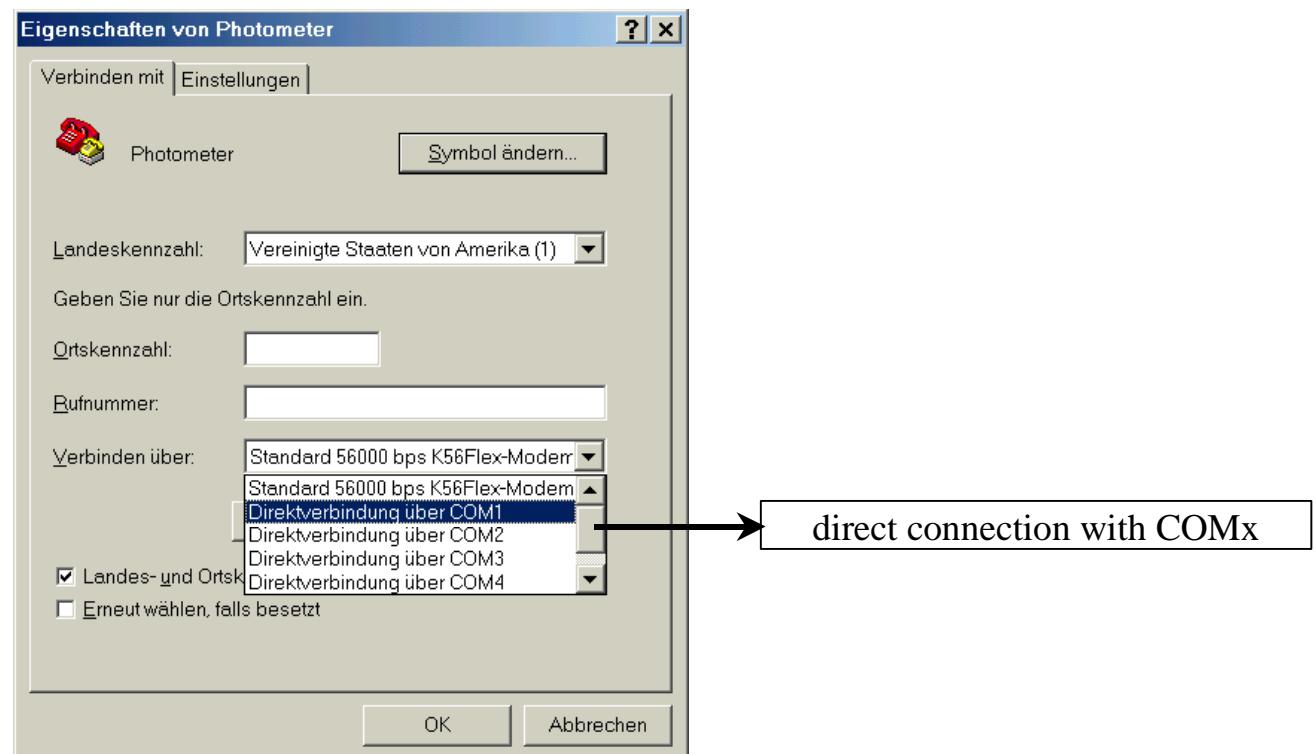
picture 23

The following picture will be displayed:



picture 24

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

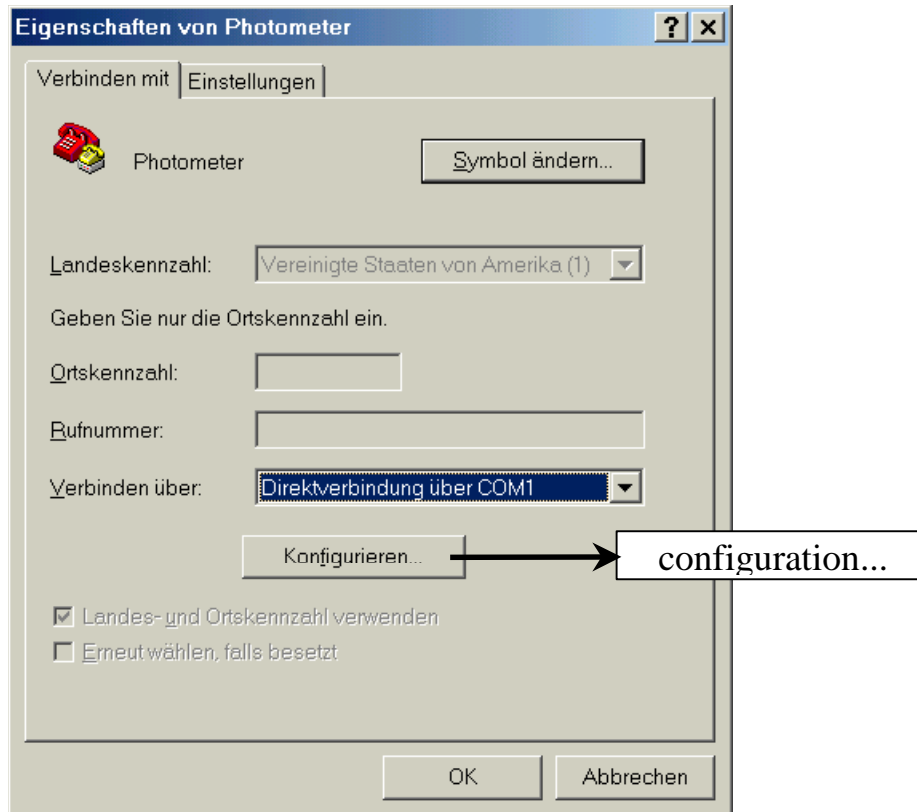


picture 25

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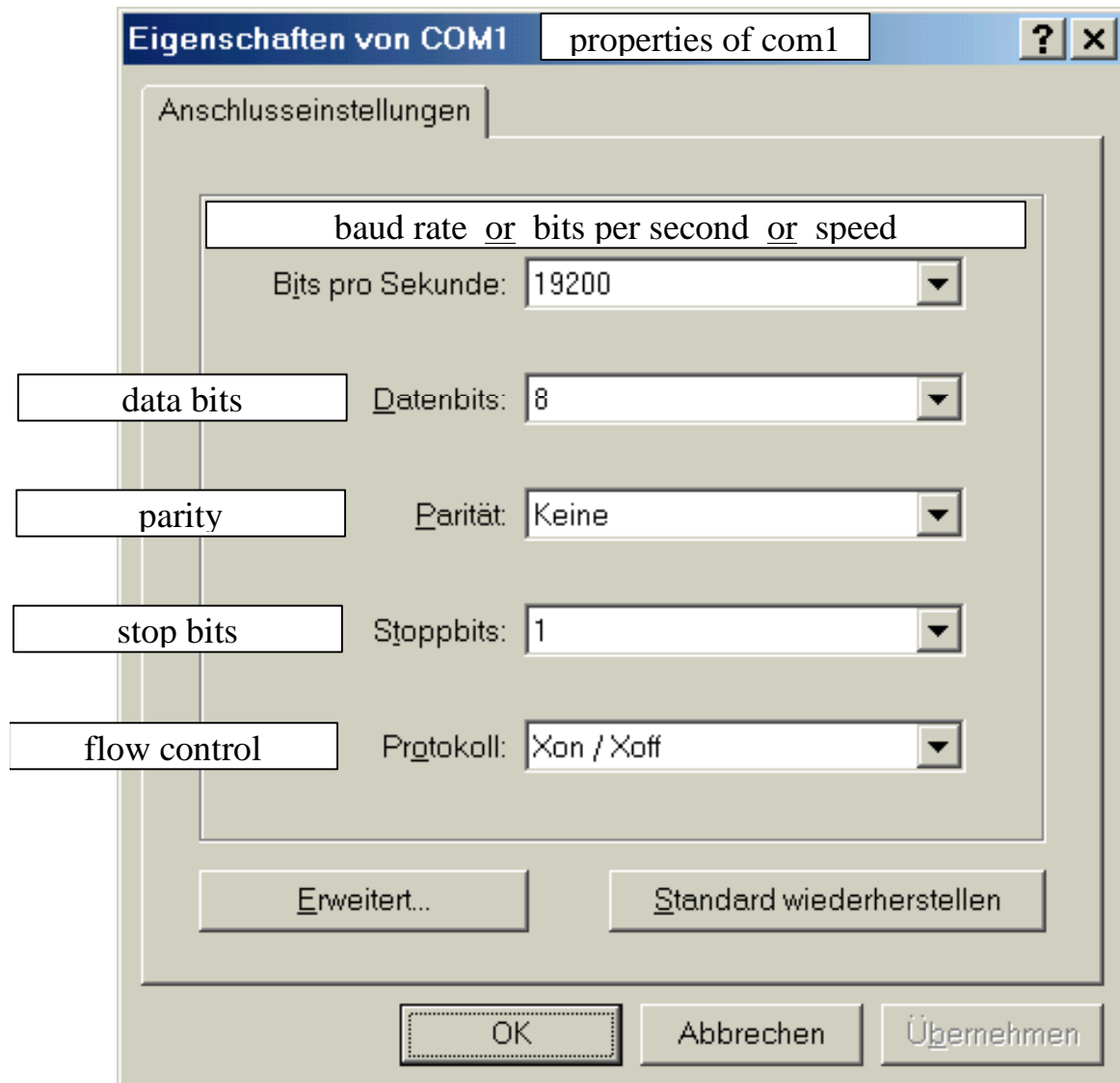
At "connect using" choose the COMx port that you connected the photometer cable to.

The window will show for example:



picture 26

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



picture 27

Now continue as described at "Setting up the port parameters" (see page 5).