

# **WinTerm**

## **Universal Terminal Program**

ID No. 29890 BA2  
Rev. No. 01 25.11.96



## CONTENTS

<b>1. INTRODUCTION</b>	<b>1-1</b>
1.1 Use and Function	1-1
1.2 Typographical Conventions	1-2
<b>2. PROGRAM STRUCTURE</b>	<b>2-1</b>
2.1 The Main Menu	2-1
2.2 The Instrument Menu	2-2
2.3 The Terminal Menu	2-3
2.4 Program Handling	2-4
2.5 Sequence of Operations (Quick Start)	2-6
2.6 Menus and Functions Overview	2-7
<b>3. PROGRAM FUNCTIONS</b>	<b>3-1</b>
3.1 Instrument Definition	3-1
3.2 Editing Instrument Parameters	3-12
3.3 Instrument Communication	3-13
3.3.1 Data Transfer	3-15
3.3.2 Instrument Control via Function Keys	3-17
3.3.3 Data Communication Parameters Display	3-17
3.3.4 Downloading	3-17
3.4 Terminal Emulation	3-18
3.5 Documentation of Program Functions	3-21
<b>4. INDEX</b>	<b>4-1</b>



# 1. Introduction

## 1.1 Use and Function

**WinTerm** is a universal terminal program designed by EG&G Berthold for control and communication with (nearly) all stand-alone instruments that feature data output via the serial interface.

**WinTerm** is a 32 bit Windows 95 MDI application; with Win32s it can also run under Windows 3.1 and Windows for Workgroups 3.11.

Major **WinTerm** functions:

- Terminal emulation for ANSI, TTY, VT52, VT100.
- Instruments definition via dialog for setting the communication parameters.
- Control of stand-alone instruments via **WinTerm** by means of function keys that can be defined by the user as needed.
- Importing instrument data into **WinTerm**; data strings can be modified easily as needed in order to process the data in external programs.  
For example, you can define separators or modify or skip any character to get the desired table format.
- OLE automation for direct import of the data into EXCEL 5.0 (and higher).
- Downloading of files, i.e. transfer of files to the stand-alone instrument (e.g. for program updates).

## 1.2 Typographical Conventions

We have used the following symbols consistently in order to make it easier to work with the Manual:

**Menu titles, options, dialog boxes** and **tabs** are written in bold type inside square brackets [ ].

Example: **[File]** menu, **[Communication Setup]** dialog box, **[Terminal Settings]** tab.

**Parameter queries** on a tab are also printed in bold type inside square brackets [ ].

Example: **[Baudrate]**

Buttons and function keys are printed in bold type inside pointed brackets < >.

Example: **<OK>**, **<Remove>**

**Entries** by the user are printed in bold type inside quotation marks.

Example: input of instrument name in the **[Name]** field: "**LB 9507**".

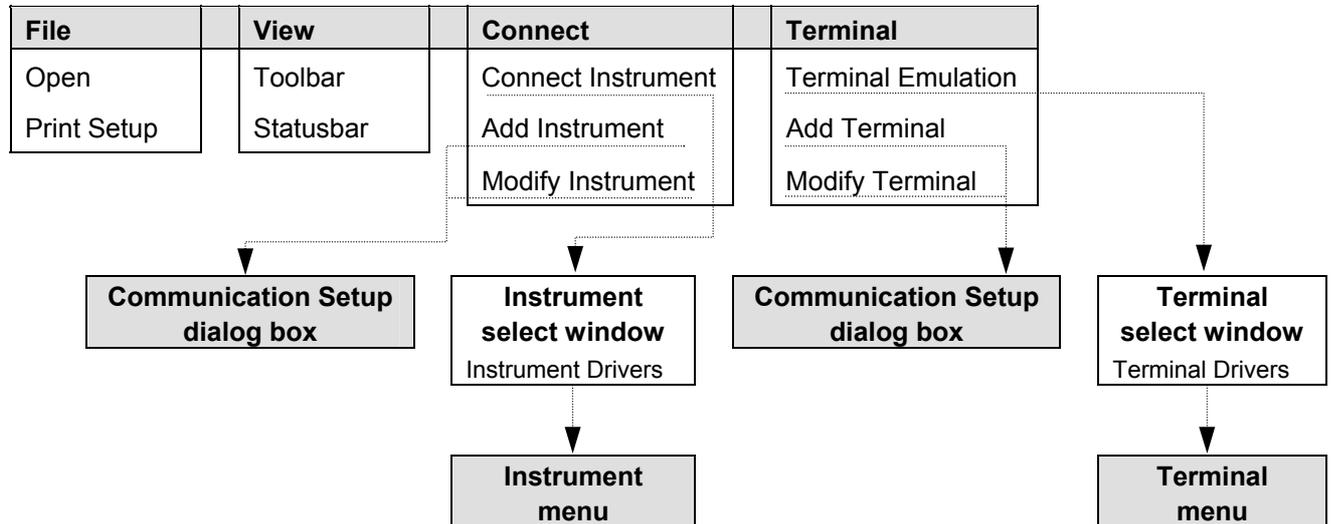
The **control characters** in the **[Control Codes]** list (**[Script Language]** tab) already have pointed brackets; they are printed in bold type together with the pointed brackets.

Example: **<NUL>**, **<LF>**.

## 2. Program Structure

WinTerm comprises three levels:

### 2.1 The Main Menu



#### Major functions of the main menu

##### Defining/establishing communication with instruments

The [Connect] menu includes two different *instrument-specific* functions.

- Via [Add] and [Modify] you can define or edit the communication parameters specifically for an instrument in the [Communication Setup] dialog box and save them under the instrument name, e.g. transfer parameters, definition of function keys for instrument control, string processing.
- [Connect Instrument] takes you via the Instrument select window (and you can select a defined instrument) to the **Instrument menu** and you can communicate with the connected instrument.

##### Terminal emulation

On the [Terminal] menu you can define parameters for the desired terminal emulations specifically for an instrument (items [Add Terminal]/[Modify Terminal]) and save them.

[Terminal Emulation] on the [Terminal] menu takes you via the terminal select window to the **Terminal menu** where the data flow is displayed.

## 2.2 The Instrument Menu

File	Edit	View	Connect	Extras
Open	Undo	Toolbar	Disconnect Instrument	Options
Close	Cut	Statusbar		Send File
Save	Copy			
Save As	Paste			
Print				
Print Preview				
Print Setup				
Exit				
			<b>Instrument xy</b>	

Select **[Connect Instrument]** on the **[Connect]** menu and then choose an instrument in the Instrument select window to get to the Instrument menu.

### **Major functions of the Instrument menu**

The communication with the selected instrument is displayed in an instrument-specific window. Upon completion of the transfer, you can edit the data displayed in the Instrument window using the functions of the **[Edit]** menu and save and print them using the functions of the **[File]** menu.

**[Options]** on the **[Extras]** menu takes you to the *instrument-specific* **[Communication Setup]** dialog box; you can view and edit the parameters for display in the Instrument window (terminal parameters, communication parameters and function key definition).

Use the **[Send File]** item to download files to the connected instruments.

**[Disconnect]** on the **[Connect]** menu terminates the connection with the instrument and you can use the editing functions. You can reestablish a connection with the instrument via the **[Connect]** item on the **[Connect]** menu. When you close the Instrument window, the program returns to the *main menu*.

### 2.3 The Terminal Menu

File	Edit	View	Terminal	Extras
Exit	Undo Cut Copy Paste	Toolbar Statusbar	Close Terminal	Options Send File

On the Terminal menu, the data flow is displayed depending on the selected terminal emulation. Select [**Options**] on the [**Extras**] menu to view and edit the communication parameters and the function key definition ([**Communication Setup**] dialog box).

Select [**Close Terminal**] on the [**Terminal**] menu to terminate the terminal mode .

[**Send File**] allows you to send data to the connected instrument.

## 2.4 Program Handling

**WinTerm** is operated using typical Windows or Windows 95 conventions either by clicking on the menu title or function name or by typing the underscored letters while holding down the <Alt> key.

In dialog boxes comprising several tabs you select the tab you want by clicking on it.

The **WinTerm** toolbar comprises 8 buttons. You can select individual program functions directly without having to open a menu window first.

**WinTerm** toolbar (from left to right):



Open file



Save file



Cut highlighted text



Copy text to Clipboard



Paste text from Clipboard



Print file



General online help



Context-sensitive help

Dimmed (gray) buttons mean that the program is in a status that does not permit you to select the respective function.

### ***Working with Instrument windows***

#### Scroll bar

The Instrument window includes a vertical scroll bar at the right hand margin of the window, so you can scroll the contents of the window up or down. You can drag the scroll box with the mouse in the desired direction.

Click on the respective arrow button  or  to scroll the window contents up or down *row-by-row*.

#### Buttons

The buttons in the upper right corner of the window have the following function:



Clicking on this button ends the instrument connection and closes the Instrument window. The program returns to the main menu.



Enlarges the Instrument window to fill up the entire screen.



Clicking on this button reduces the Instrument window to an icon.

## 2.5 Sequence of Operations (Quick Start)

1. **Install program** via Setup program.
2. **Define instruments in the main menu**

Select [**Add Instrument**] on the [**Connect**] menu, and enter the instrument-specific communication parameters in the [**Communication Setup**] dialog box for the desired instrument. See the operating manual of the respective instrument for more information (transfer parameters, structure of data strings output to the serial interface of the instrument, external control option).

Confirm entries with <OK> .

Repeat this procedure for each instrument.
3. **Establish instrument communication**

Connect instrument to serial interface.

Select [**Connect Instrument**] on the [**Connect**] menu and then select the instrument you want in the Instrument select window. The program changes to the Instrument menu and an empty window opens showing the instrument communication.

If external instrument control is possible and function keys have been defined in the [**Communication Setup**] dialog box , these function keys are shown at the bottom of the screen.

If you have defined OLE automation, EXCEL is started and a window opens showing an empty spreadsheet. If you have a 17" screen, EXCEL and the Instrument window can be displayed at the same time.
4. **Start instrument communication**
  - a) *External control*

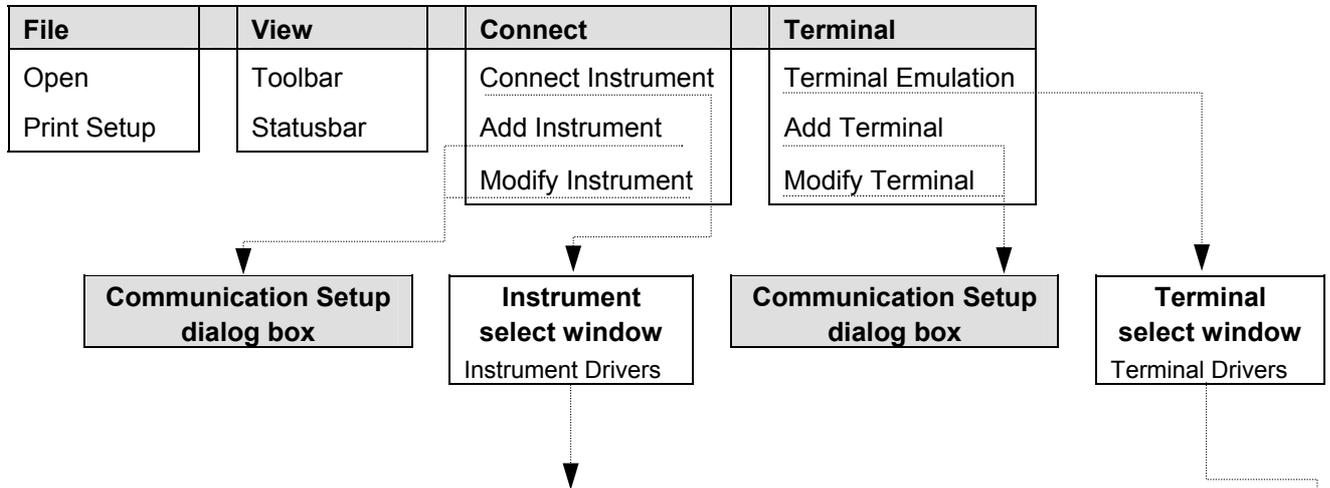
Communication starts as soon as you press the **Start** function button. The further sequence of operations is dependent upon the individual instrument.
  - b) *Instrument control*

Communication is established as soon as the connected instrument sends data via the serial interface, i.e. when the instrument is operated accordingly and a measurement has been started. This data is imported into the Instrument window and - if selected - into the EXCEL spreadsheet.
5. **Select Terminal emulation in the main menu (optional)**

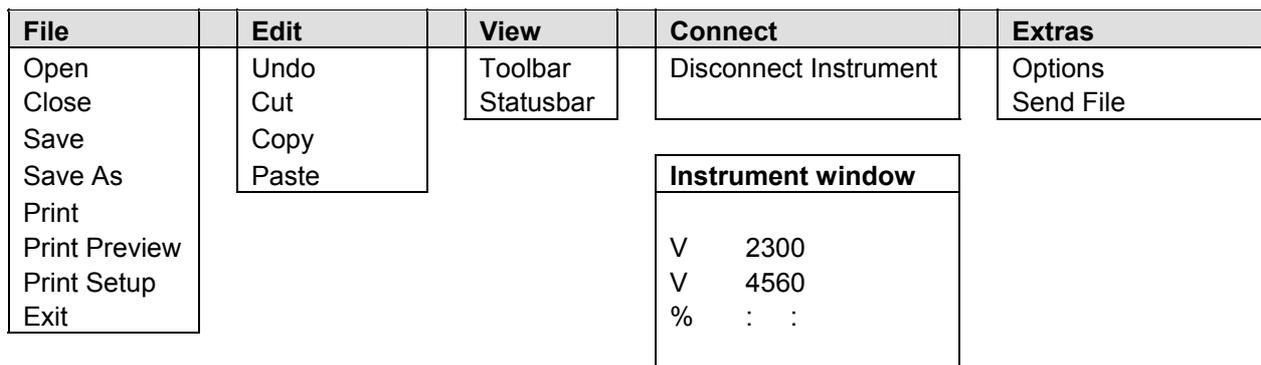
Select [**Add Terminal**] on the [**Terminal**] menu and define the desired terminal emulation(s). Then select [**Connect Terminal**]. As soon as you select the connected instrument, the data flow is displayed in the Terminal menu.

## 2.6 Menus and Functions Overview

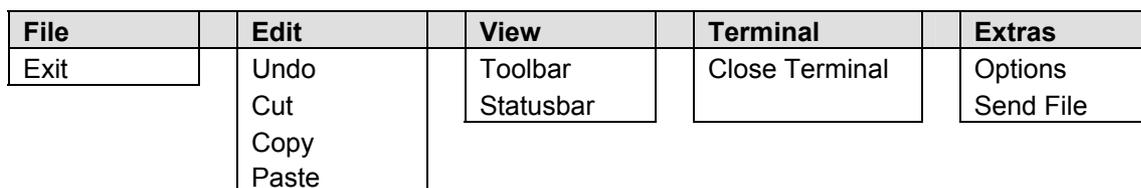
### Main Menu



### Instrument Menu



### Terminal Menu





## 3. Program Functions

This chapter describes the program functions in the following sequence:

1. Instrument definition
2. Instrument communication
3. Terminal emulation

### 3.1 Instrument Definition

You have to create an instrument-specific parameter set for each instrument you want to communicate with via **WinTerm**. Enter this parameter set in the [**Communication Setup**] dialog box; it is saved as driver information. These instrument-specific files can be loaded again any time and allow direct communication with the respective instrument .

#### Procedure

1. Select [**Add Instrument**] on the [**Connect**] menu of the *main menu*. The [**Communication Setup**] dialog box appears, comprising 5 tabs.

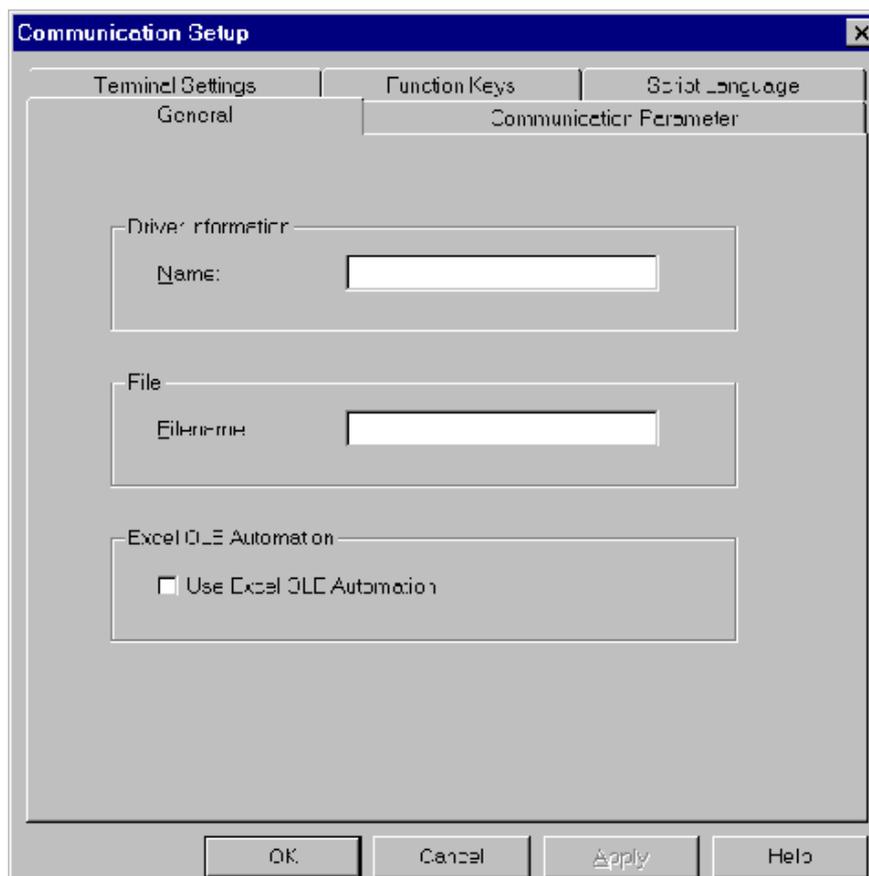


Figure 3-1:  
[**Communication Setup**],  
[**General**] tab

2. Select the [**General**] tab.

**[Driver information] [Name]**

Enter a name for the desired instrument. This name is also used as filename and - with the **WinTerm**-specific extension .TBB - displayed in the [**Filename**] text box.

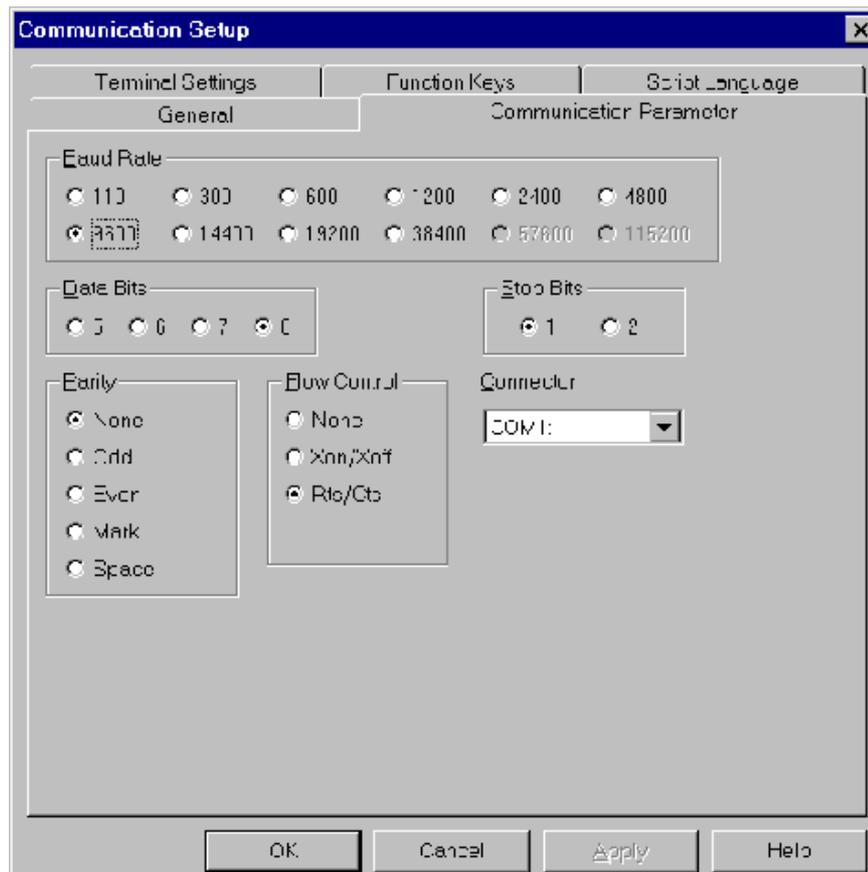
**[Excel OLE Automation]**

Define here if you want to use OLE automation. If you select this option, EXCEL starts automatically when communication has been established with an instrument (**[Connect Instrument]**), and the incoming data is automatically imported into an EXCEL spreadsheet.

To use this feature, EXCEL 5.0 or higher must be installed on your PC.

3. Select the [**Communications Parameter**] tab (see Figure 3-2) and enter the communication parameters for the respective instrument. See the instrument operating manual for more information.

Figure 3-2:  
[Communication Setup],  
[Communication  
Parameter] tab



4. Select the **[Terminal Settings]** tab (Figure 3-3) and enter the parameters for screen display:

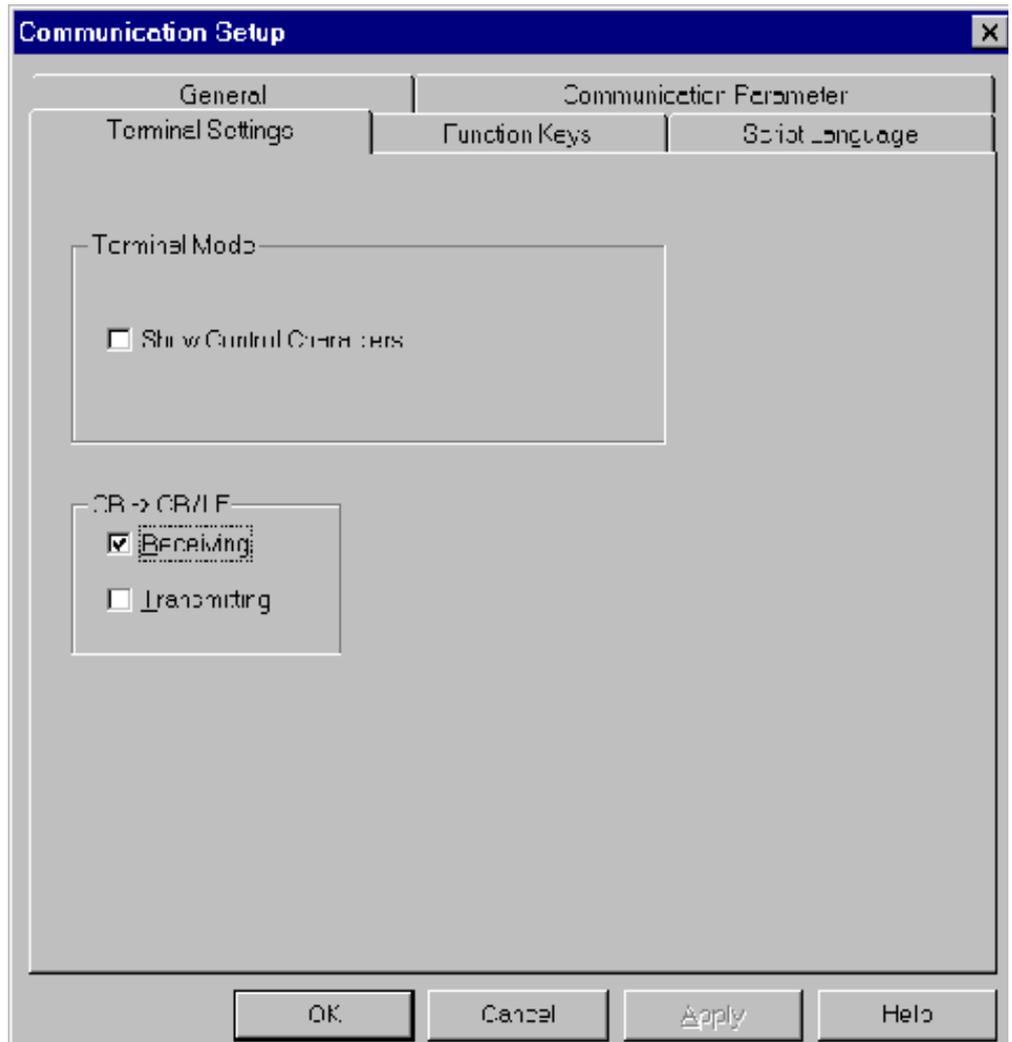
**[Terminal Mode]**

**[Show Control Characters]**

Shows the control characters which are normally invisible (ASCII codes 1 to 32).

- [CR -> CR/LF]**            Conversion of CR into CR/LF when  
**[Receiving]**                or  
**[Transmitting]**            or  
 none, when none of these options has been selected.

Figure 3-3:  
**[Communication Setup],**  
**[Terminal Settings] tab**



5. Select the **[Function Keys]** tab (Figure 3-4) if the instrument can be controlled via external commands. You can create function keys and assign text, text with control character or complete files to these function keys. If you use one of these function keys in the *Instrument menu*, the files are sent to the respective instrument via the serial interface.

Figure 3-4:  
[Communication Setup],  
[Function Keys] tab

You may assign one or several files to one function key if these files are in the program directory. As soon as you press the respective function key, the file contents is sent to the instrument.

Beginning and end of the filename have to be identified by the character ^\$F.

The screenshot shows the 'Communication Setup' dialog box with the 'Function Keys' tab selected. The dialog is divided into three main sections: 'General', 'Communication Parameter', and 'Terminal Settings'. The 'Function Keys' section is active, displaying a table with three columns: 'Key Name', 'Command', and 'Control Codes'. There are eight rows labeled F1 through F8. The 'Control Codes' column contains a list of control characters: <NUL>, <SOH>, <STX>, <ETX>, <EOT>, <ENQ>, <ACK>, <BEL>, <BS>, <HT>, <LF>, <VT>, <FF>, <CR>, <SO>, <SI>, <DLE>, and <DC1>. An 'Add' button is located below the list. At the bottom of the dialog are 'OK', 'Cancel', 'Apply', and 'Help' buttons.

### *How to define function keys*

- Enter a name in the **[Key Name]** column. This name appears later on the function key.
- In the **[Command]** column, enter text, text with control characters and/or one or several filenames which are to be assigned to a function key and transmitted at the push of a button. The **^\$F** code must appear before and after each filename.
- Place the cursor in the respective row of the **[Command]** column and enter text, the control character or the filename.

#### Tool for entering control characters:

Place the cursor at the entry position and select the control character from the **[Control Codes]** list by double-clicking on. (You can also insert a control character by clicking on the desired character and then clicking on **<Add>**).

- Up to 8 function keys (**<F1>** to **<F8>**) can be defined in this manner.

**Control Codes** are invisible ASCII control characters (see also the list of ASCII control characters on page 3-8).

#### **[Show Keys]**

If you select this item, the invisible ASCII control characters are displayed for this instrument during communication.

6. Select the [**Script Language**] tab (Figure 3-5).

You can modify the data string expected by the instrument such that it can be processed by other programs (e.g. column-wise layout of the measured data, deletion of control character, adding tabs, etc.).

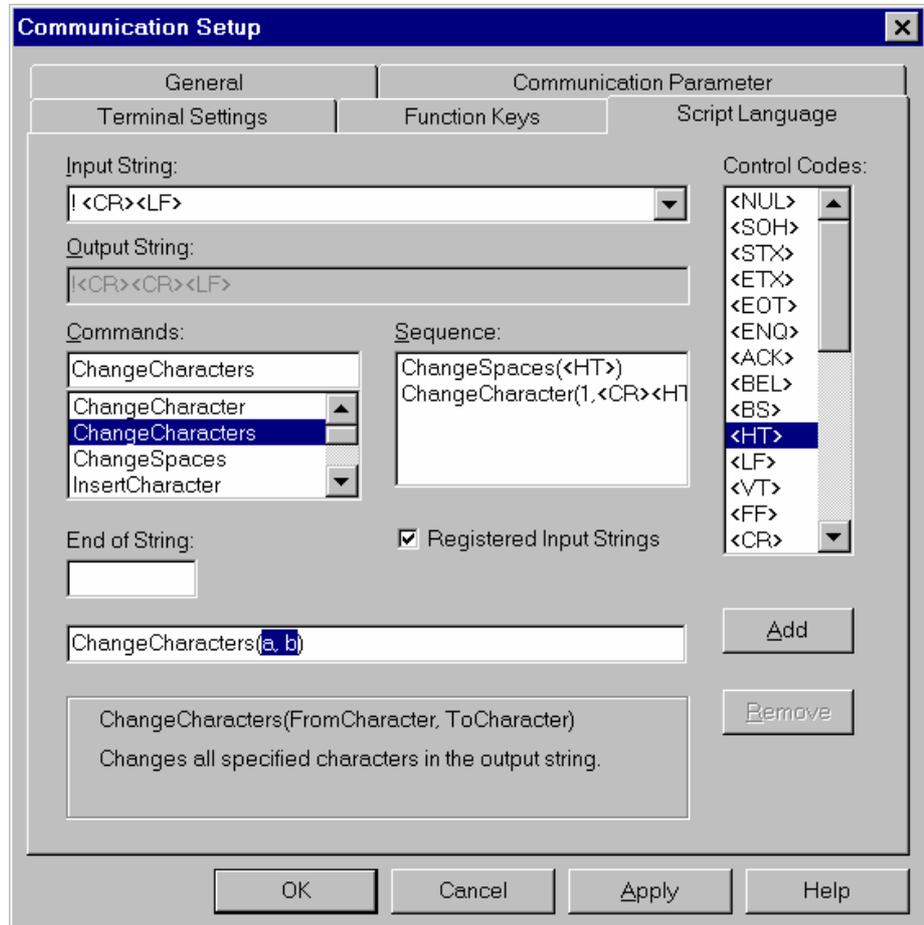


Figure 3-5:  
[Communication Setup],  
[Script Language] tab

**Explanation**

**[Input String]**

Row-wise input of control characters which are to be used by the respective instrument unmodified or modified. Characters which are not entered here will be disregarded. You can define modifications for each row via [**Commands**] and [**Control**] character (see below).

**[Output String]**

Shows the string the way it looks after editing.

**[Commands]**

List of commands which can be used to change or delete control characters:

<b>[Change Character]</b>	<b>Change Character (0, a, b)</b> <b>0</b> = placeholder for the position to be changed (sequential position number) <b>a</b> = placeholder for the character to be changed <b>b</b> = placeholder for the character to which <b>a</b> is to be converted.
<b>[Change Characters]</b>	<b>Change Characters (a, b)</b> <b>a</b> = placeholder for the character to be changed which is converted wherever it occurs in the data string. <b>b</b> = placeholder for the character to which <b>a</b> is to be converted.
<b>[Change Spaces]</b>	<b>Change Spaces (abc)</b> <b>(abc)</b> = placeholder for any string. All consecutive blank characters are replaced by the entered string. This string (abc) may therefore contain any control character.
<b>[Insert Character]</b>	<b>Insert Character (0,a)</b> <b>0</b> = placeholder for the position to be changed (sequential position number) <b>a</b> = placeholder for the character to be changed
<b>[Remove Characters]</b>	<b>Remove Characters</b>
<b>[Skip Characters]</b>	<b>Skip Characters (0)</b> <b>0</b> = number of characters to be skipped
<b>[Trim All]</b>	<b>Trim All ( )</b> Deletes all blank characters.
<b>[Trim Left]</b>	<b>Trim Left ( )</b> Deletes all blank characters at the start of the input string (leading blank characters).

**[Control]**

List of control characters (ASCII characters from 0 to 31) that can be inserted.

Figure 3-6:  
List of ASCII  
control characters

Name	Button	Description
<NUL>	^@	Null
<SOH>	^A	Start of header
<STX>	^B	Start of text
<ETX>	^C	End of text
<EOT>	^D	End of transmission
<ENQ>	^E	Inquiry
<ACK>	^F	Acknowledge
<BEL>	^G	Bell (alarm)
<BS>	^H	Back space
<HT>	^I	Horizontal tab
<LF>	^J	Line feed
<VT>	^K	Vertical tab
<FF>	^L	Form feed
<CR>	^M	Carriage return
<SO>	^N	Shift out
<SI>	^O	Shift in
<DEL>	^P	Delete
<DC1>	^Q	Device control 1
	:	:
<DC4>	^T	Device control 4
<NAK>	^U	Negative acknowledgment
<SYN>	^V	Synchronous idle
<ETB>	^W	End of transmission block
<CAN>	^X	Canceled
<EM>	^Y	End of medium
<SUB>	^Z	Substitute
<ESC>	^[	Escape
<FS>	^\	File separator
<GS>	^]	Group separator
<RS>	^^	Record separator
<US>	^_	Unit separator

**Control character selection:** Click on the character and then on <Add> (or double-click) to insert the highlighted character at the cursor position.

**[Sequence]**

Shows the conversion commands for the respective string row.

**<Add>**

Inserts the highlighted control characters at the cursor position

**<Remove>**

Deletes the row containing the cursor (in the [Input String] and [Sequence] fields).



- b) During data communication, the program searches the entire data flow for the sequences entered in the **[Input String]** field. **All** (independent of the position in the string) sequences found are processed and output accordingly. For example, if you enter **(blank character)(CR)(LF)**, all rows having this form are displayed (and processed, if necessary), i.e. in case of the LB9507 all measured standards, since these start with a blank character.
- c) To make sure that even rows which do not have any code at the start of a row can be transmitted, we recommend using a blank character as code: In order to transmit the comment it has to start with a blank character. The respective row in **WinTerm** would look as follows:
- (blank character)(CR)(LF)**
- The advantage of using a blank character as code is that the measured values always start with a blank space, since they comprise 12 digits and are right-aligned.

- Enter the **first** sequence you want **WinTerm** to process into the **[Input String]** text box.

Figure 3-8:  
Example of input string

**Example:**

1<sup>st</sup> input string:                    ?<CR><LF>

You can make these entries via the keyboard, using the **[Control]** list to enter the control character. Click on a control character and then on **<Add>** (or double-click on the control character). This will insert the selected character at the cursor position.

a) unchanged string:

To use this string without any modification, exit the **[Input String]** field. No entry is made in the **[Sequence]** list box. To create a second row, position the cursor again in the **[Input String]** field and change the input. A modification is regarded as a new row.

b) changing the string

Select a command from the **[Commands]** list by double-clicking on it. Then this command is displayed in the bottom text box with the respective code for changing the input string in brackets. Above that the code is explained. Overwrite the placeholder depending on the selected command. You may use the **[Control]** list. Then click on **<Apply>**. The changed string is entered in the row **[Output String]** and the conversion command in the **[Sequence]** list.

Figure 3-9:  
Changing an input string

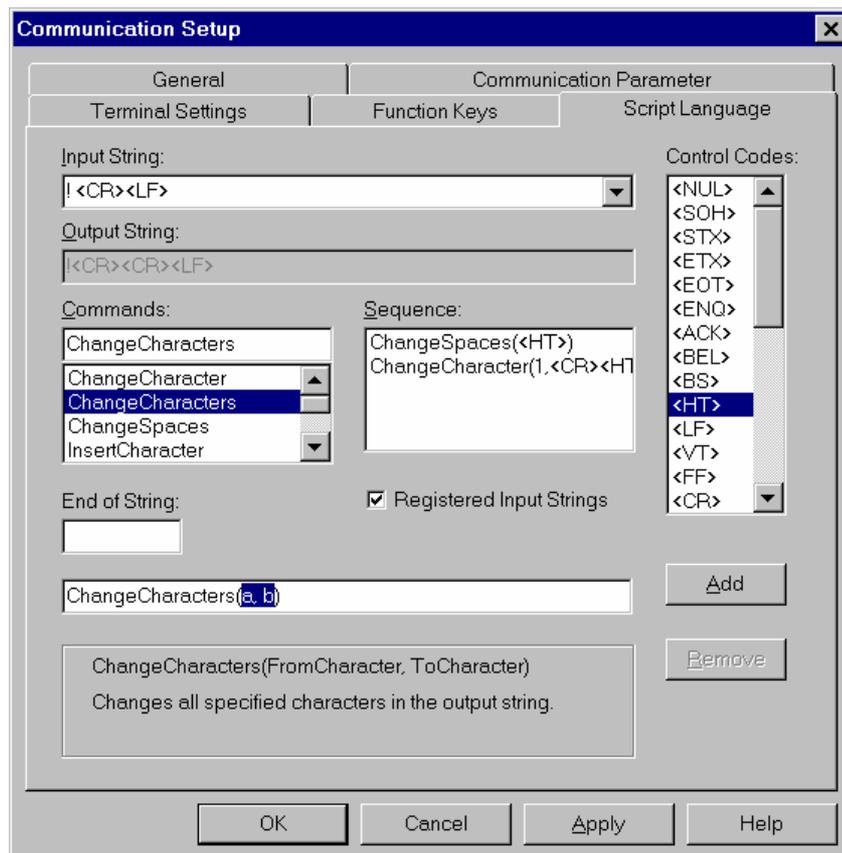
*Example:*

**Change Character (0, a, b)**  
**0** = placeholder for the position to be changed  
**a** = placeholder for the character to be changed  
**b** = placeholder for the character to which **a** is to be converted.

If you change this command code in  
**Change Character (1, <CR>, <HT>)**

- Overwrite the **0** by a **1**.
- Delete **a**, leaving the cursor in this position.
- In the [**Control**] list, click **<CR>** and then **<Add>** (or double-click **<CR>**). The **<CR>** character is inserted at the cursor position.
- Proceed in the same manner with **b**, but instead of **b** insert **<HT>**.
- Click on **<Apply>**. The changed string is entered in the [**Output String**] field, and the command sequence **Change Character (1, <CR>, <HT>)** in the [**Sequence**] list.

Figure 3-10:  
Example of changing a string by 2 commands



- Select the next command to change this string a second time. Then the command code is displayed and you can modify it as described above and enter it in the **[Output String]** row. Then the command sequence for conversion is also entered in the **[Sequence]** list. (All associated command sequences are displayed for each string.)
- Input of second row.  
Exit the **[Input String]** field and set the cursor again in this field. Thus, this row including its contents is regarded as the next row. Change the existing text and modify it as described above.
- In the **[End of String]** field, enter the last character of the entire string. If the field remains empty, the last character of the selected input string is automatically used as the last character.

You can choose if only the rows defined in the **[Input String]** field are to be displayed or all:

**Registered Input Strings**

Only the strings listed in the **[Input String]** field are displayed during data communication.

**Registered Input Strings**

The complete data flow is displayed.

### *Saving the instrument parameters*

- When you have entered/converted all parameters and characters, confirm your entries with **<OK>**. This will save all parameters and data for the respective instrument under the instrument name (defined on the **[General]** tab).

## 3.2 Editing Instrument Parameters

- To correct the instrument parameters, select **[Modify Instrument]** on the **[Connect]** menu. The Instrument select window appears.
- Select the desired file.
- The **[Communication Setup]** dialog box appears with the respective parameters.
- Edit these parameters as described in section 3.1.

### 3.3 Instrument Communication

Connect the instrument to the serial interface of the computer and turn the instrument on.

Load communication parameters for an instrument in **WinTerm**:

On the [**Connect**] menu of the main menu, select [**Connect Instrument**] and in the [**Open**] dialog box the filename under which you have saved the communication parameters for the connected instrument (extension .TBB).

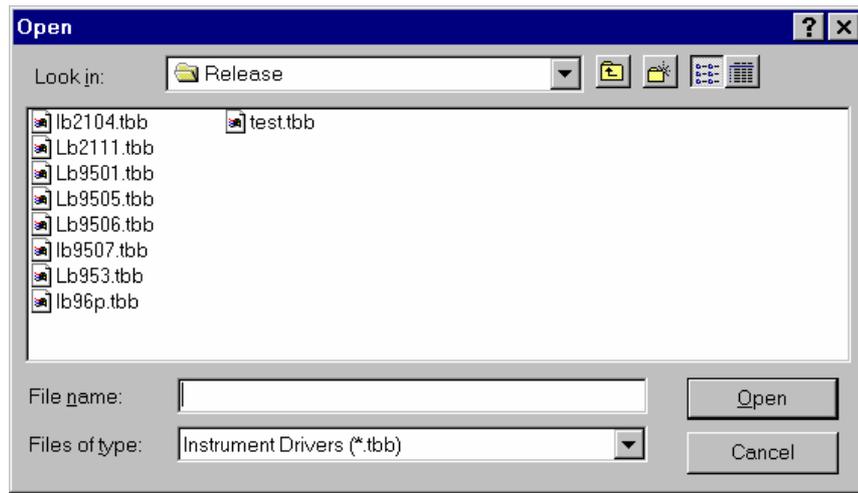


Figure 3-11:  
Opening an instrument  
parameter file

Then the program changes to the **Instrument menu** and shows the empty Instrument window (Figure 3-12).

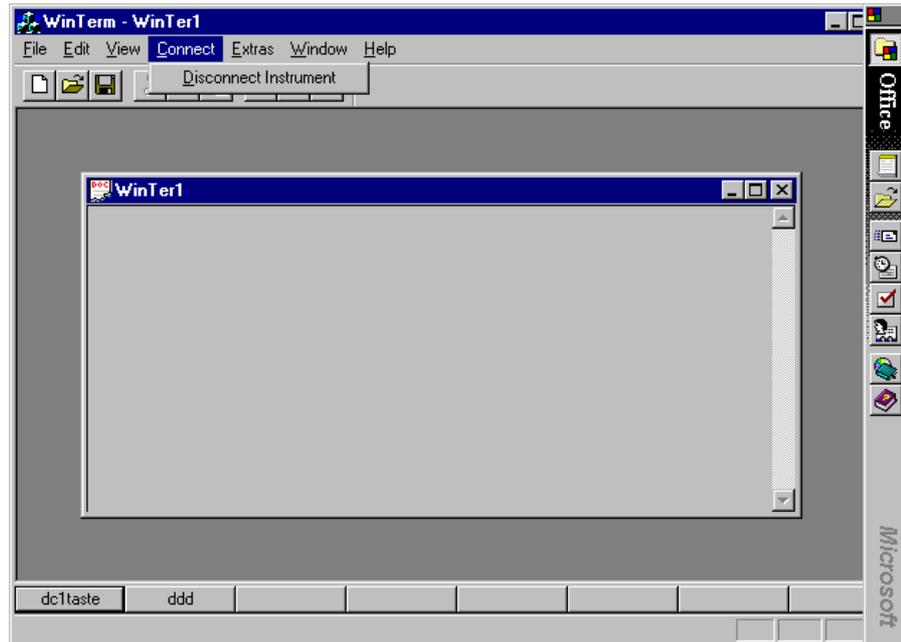


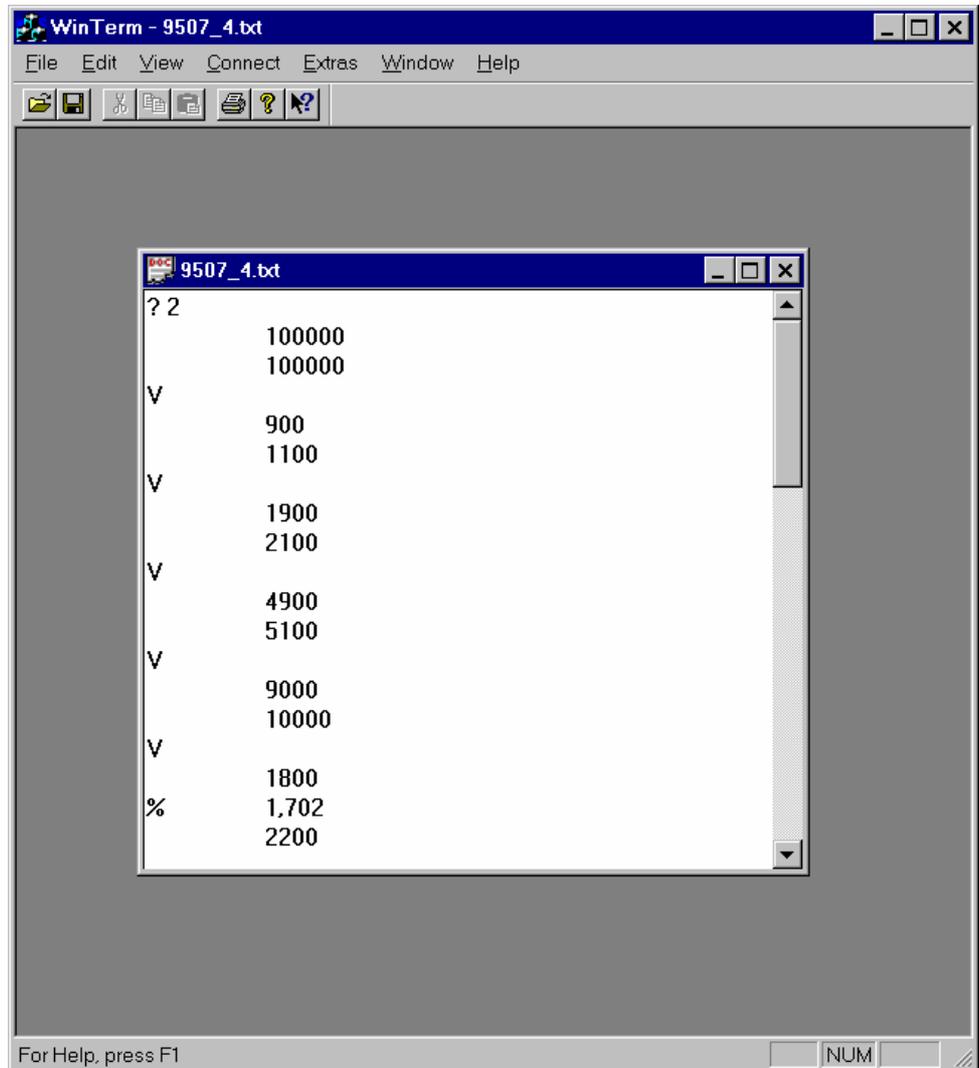
Figure 3-12:  
Instrument menu and  
display of the Instrument  
window with user-defined  
function keys

If you have selected OLE automation in the **[Communication Setup]** dialog box, EXCEL starts automatically and an empty EXCEL spreadsheet is displayed in a window.

### 3.3.1 Data Transfer

As soon as the data transfer starts, i.e. the data is transmitted from the external instrument, the data flow is displayed - depending on the setting in the **[Communication Setup]** dialog box, **[Script language]** tab - in the Instrument window (see Figure 3-13) and possibly in an EXCEL spreadsheet.

Figure 3-13:  
Display of data flow in  
Instrument window



***Editing, saving and printing is possible only after completion of the data transmission and selection of [Disconnect Instrument] on the [Connect] menu!***

**Edit**

The displayed data flow can be edited via the keyboard (overwrite, delete, enter) as well as via the following items on the **[Edit]** menu:

**[Copy]** The highlighted text is copied to the *Windows* Clipboard and is available to other programs as well.

**[Cut]** The highlighted text is cut out and copied to the Clipboard.

**[Paste]** The Clipboard contents is pasted at the cursor position.

**[Undo]** The last action is undone.

**Save**

The data can be saved under any name as TXT file. This format can be imported in most word-processing and spreadsheet programs, so that the data can be processed further.

Select **[Save as]** on the **[File]** menu and enter the directory and the filename of the transferred data in the dialog box.

**Print**

The transferred data can be printed by selecting **[Print]** on the **[File]** menu or by clicking on the Print button in the toolbar.

**Print Preview**

After selection of **[Print Preview]**, the file contents is displayed as it will be printed. The keys at the top of the window allow you to process the file contents using Windows standard functions.

**Print Setup**

Windows standard function for setting up the print parameter. For more information consult your Windows manual.

### 3.3.2 Instrument Control via Function Keys

The sequence of operations is the same as described in section 3.3.1. The only difference is that the instrument is not operated via its operating panel but via the **WinTerm** function keys.

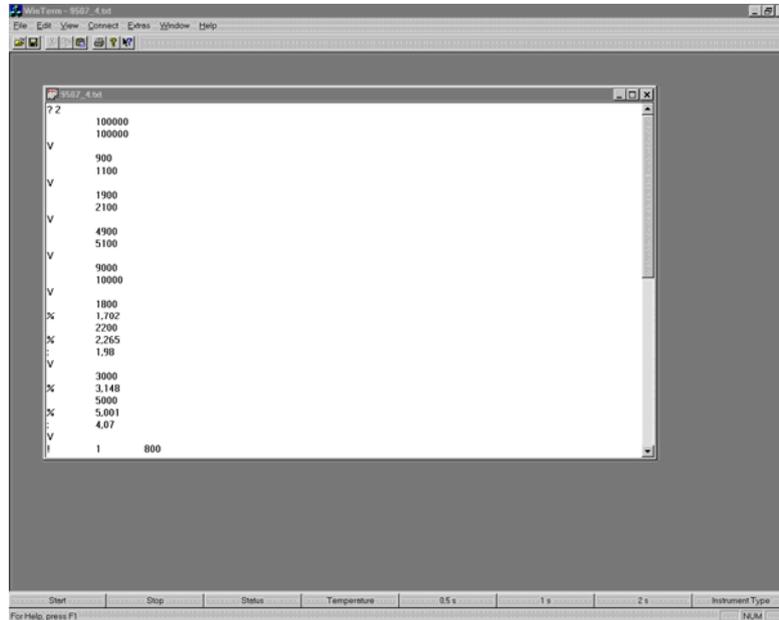


Figure 3-14  
Instrument control via  
function keys

### 3.3.3 Data Communication Parameters Display

While the data transmission of the connected instruments is displayed, you can view and edit the communication parameters for the respective instrument in the **[Communication Setup]** dialog box which is opened by selecting **[Options]** on the **[Extras]** menu of the **Instrument menu** (see our discussion on page 3-1).

Function keys

### 3.3.4 Downloading

To download one or several files to an instrument, select **[Send File]** on the **[Extras]** menu of the **Instrument menu**.

This opens the **[Send File]** dialog box. Select the file you want to send. After confirmation of your selection, the files are downloaded to the stand-alone instrument via the serial interface.

### 3.4 Terminal Emulation

**WinTerm** can also work as a pure Terminal program and display the raw data sent by the instrument on the screen unmodified. First, select the appropriate Terminal mode for the instrument and then make the connection.

1. Select **[Add Terminal]** on the **[Terminal]** menu of the main menu. The **[Communication Setup]** dialog box with 3 tabs is displayed and you can select the Terminal mode for your system (Figure 3-15) and define other instrument parameters.

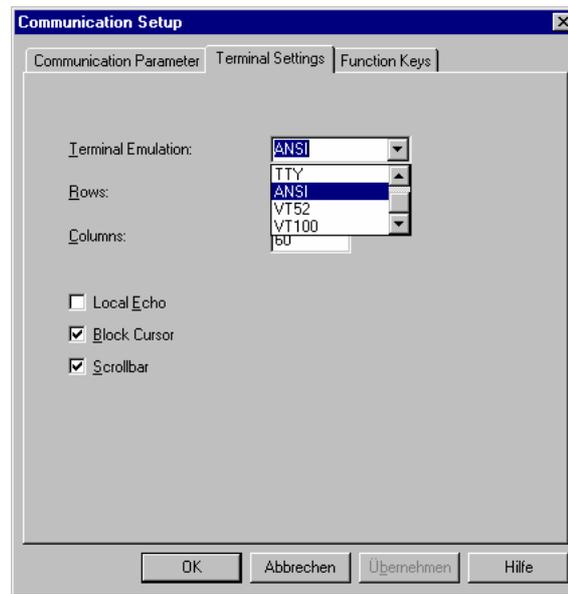
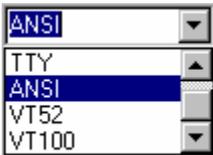


Figure 3-15:  
Selection of Terminal  
emulation on the  
**[Terminal Settings]** tab



2. In the **[Terminal Emulation]** drop-down list box, **[ANSI]**, **[TTY]**, **[VT52]** and **[VT100]** are offered for selection. Select the emulation you want and enter the following parameters for output of the transferred data to the screen:

**[Rows]**    Number of row    } depending on the raw data  
**[Columns]**    Number of columns } output of the instrument

#### **[Local Echo]**

Select this option when the transmitted characters are returned by the receiving instrument. This prevents that characters are displayed twice.

#### **[Block Cursor]**

The cursor is displayed as a block when this option is selected, otherwise as a vertical line.

#### **[Scrollbar]**

Shows a scroll bar in the Terminal window so you can scroll while the data flow is displayed.

3. Select the **[Communication Parameter]** tab and enter the transfer parameters for this instrument (see Figure 3-2, page 3-2)
4. Select the **[Function Keys]** tab when the instrument can be controlled externally and define the function keys (see page 3-4).
5. Confirm the entries with **<OK>**. The program returns to the main menu.
6. Select **[Terminal Emulation]** on the **[Terminal]** menu to start the Terminal transmission. After selection of the desired Terminal file in the Terminal select window, the program changes to the Terminal menu with the respective menu bar and a window showing the transmitted data (Figure 3-16). Any function keys you have defined are displayed at the bottom of the screen. When you press a function key, the respective text (with control character) is sent to the selected instrument via the serial interface. The transmitted and received character are then displayed in the Terminal window.
7. Select **[Send File]** on the **[Extras]** menu to transmit data in the Terminal mode to the connected instrument and select the file you want to send from the file select window.

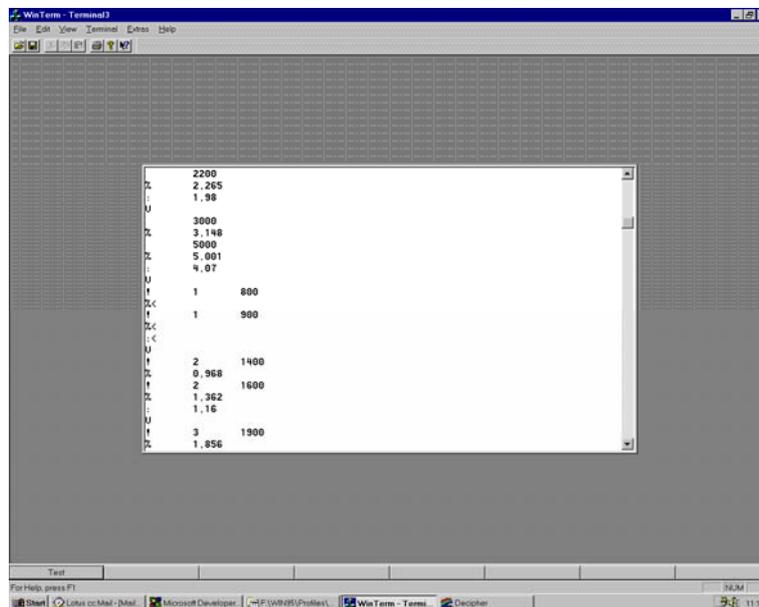


Figure 3-16:  
Data transmission in  
Terminal mode

**Save data**

The data displayed in the Terminal window can be saved under any filename. Select the item **[Save As]** on the **[File]** menu.

**Editing the communication parameters**

Communication parameters can be edited as follows:

a) On the **Main menu**

Select **[Modify Terminal]** on the **[Terminal]** menu and select the desired Terminal file in the Terminal select window. The **[Communication Setup]** dialog box appears showing the respective parameters.

b) On the **Terminal menu**

Select **[Options]** on the **[Extras]** menu. The **[Communication Setup]** dialog box appears showing the respective parameters.

In both cases, you can save the changes by clicking **<OK>**.

### 3.5 Documentation of Program Functions

#### Main menu

#### [File] menu

- [Open] Opens an Instrument or Terminal file after selection of the desired file in the **[Open File]** dialog box.
- [Print Setup] Defines the print parameters in the **[Print Setup]** dialog box (Windows standard function).

#### [View] menu

- [Toolbar] Shows the toolbar at the top of the screen. The toolbar disappears when you click on this item once more.
- [Statusbar] Shows a status bar at the bottom of the screen. Clicking on the item once more hides the status bar.

#### [Connect] menu

- [Connect Instrument] Select an instrument parameter file in the Instrument select window. Then the connection to the respective instrument is established and the Instrument window displayed in the **Instrument menu**. If the instrument sends data, the data flow is displayed in the Instrument window, depending on the modifications defined in the instrument parameter file .
- [Add Instrument] Creates a new instrument parameter file. The instrument parameters are entered and saved in the **[Communication Setup]** dialog box. This file can then be loaded via the items **[Connect Instrument]** or **[Modify Instrument]**.
- [Modify Instrument] Modifies an existing instrument parameter file. Selecting this item and the desired file in the Instrument select window opens the **[Communication Setup]** dialog box and you can edit the parameters.

#### [Terminal] menu

- [Terminal Emulation] Select the Terminal file in the Terminal select window. Then the program changes to the **Terminal menu**. The connection to the respective instrument is established and the data flow displayed in the Terminal window.
- [Add Terminal] Creates a new Terminal file. The Terminal emulation parameters are entered and saved on the 3 tabs of the **[Communication Setup]** dialog box. This file can then be loaded via the items **[Connect Instrument]** or **[Modify Instrument]**.
- [Modify Terminal] Modifies an existing Terminal file. Selecting this item and the desired file in the Terminal select window opens the **[Communication Setup]** dialog box and you can edit the parameters.

**Instrument menu****[File] menu**

<b>[Open]</b>	Opens an Instrument file after selection of the desired file in the <b>[Open File]</b> dialog box .
<b>[Close]</b>	Closes an Instrument file and thus the Instrument window.
<b>[Save]</b>	Saves an Instrument file under the existing filename.
<b>[Save As]</b>	Saves an Instrument file under a new name.
<b>[Print]</b>	Prints the contents of the open file.
<b>[Print Preview]</b>	Upon selection of this item the file contents is displayed as it will be printed, and you can edit it via buttons (Windows standard function).
<b>[Print Setup]</b>	Defines the print parameters in the <b>[Print Setup]</b> dialog box (Windows standard function).
<b>[Exit]</b>	Exits the programs.

**[Edit] menu**

	Editing functions for data processing in the Instrument window. The editing functions are available only upon completion of the data transmission and by selecting <b>[Disconnect]</b> on the <b>[Connect]</b> menu.
<b>[Undo]</b>	Undoes the last entry or action.
<b>[Cut]</b>	The highlighted text is cut and copied to the Clipboard.
<b>[Copy]</b>	The highlighted text is copied to the Clipboard.
<b>[Paste]</b>	The Clipboard contents is pasted at the cursor position.

**[View] menu**

<b>[Toolbar]</b>	Shows the toolbar at the top of the screen. The toolbar disappears when you click on this item once more.
<b>[Statusbar]</b>	Shows a status bar at the bottom of the screen. Clicking on the item once more hides the status bar.

**[Connect] menu**

<b>[Disconnect Instrument]</b>	The connected instrument is disconnected and the editing functions for data processing in the Instrument window are available.
--------------------------------	--

**[Extras] menu**

<b>[Options]</b>	Shows the parameters of the loaded Instrument file. The parameters can be edited as needed.
<b>[Send File]</b>	Any file in the program directory can be sent to the connected instrument.

**Instrument window**

The Instrument window is automatically displayed in the Instrument menu. Data sent by the connected instrument is automatically displayed.

The Instrument window is closed and you exit the Instrument menu (return to the main menu) if you click on the  button in the upper right corner of the screen.

**Terminal menu****[File] menu****[Exit]**

Exits the programs.

**[Edit] menu**

Editing functions for data processing in the Terminal window. The editing functions are available only upon completion of the data transmission and by selecting [**Close Terminal**] on the [**Terminal**] menu.

**[Undo]**

Undoes the last entry or action.

**[Cut]**

The highlighted text is cut and copied to the Clipboard.

**[Copy]**

The highlighted text is copied to the Clipboard.

**[Paste]**

The Clipboard contents is pasted at the cursor position.

**[View] menu****[Toolbar]**

Shows the toolbar at the top of the screen. The toolbar disappears when you click on this item once more.

**[Statusbar]**

Shows a status bar at the bottom of the screen. Clicking on the item once more hides the status bar.

**[Terminal] menu****[Close Terminal]**

The connected instrument is disconnected and you exit the Terminal menu

**[Extras] menu****[Options]**

Shows the parameters of the loaded Terminal file. The parameters can be edited as needed.

**[Send File]**

Any file in the program directory can be sent to the connected instrument in Terminal mode.

**Terminal window**

The Terminal window is automatically displayed in the Terminal menu. Data sent by the connected instrument is automatically displayed.

The Terminal window is closed and you exit the Terminal menu (return to the main menu) if you select [**Close Terminal**] on the [**Terminal**] menu.



## 4. Index

- A*
- Add Instrument .....2-6; 3-1; 3-20
  - Add Terminal..... 2-1; 2-6; 3-17; 3-20
  - ASCII control characters..... 3-8
- B*
- Buttons..... 1-2; 2-5
- C*
- Close Terminal..... 3-22
  - Communication parameters1-1; 2-2; 2-3; 2-6; 3-13; 3-16
    - Editing ..... 3-19
  - Connect Instrument .....2-1; 2-2; 2-6; 3-2; 3-13; 3-20
  - Connect menu ..... 2-1; 2-2; 2-6; 3-12
  - Connect Terminal ..... 2-6
  - Control characters .....3-5; 3-6; 3-8
  - Control Code..... 1-2
  - Control codes..... 3-5
- D*
- Data Transfer ..... 3-14
  - Define instruments ..... 2-6
  - Dialog box
    - Communication Setup..... 1-2; 2-1; 2-2; 2-3; 2-6; 3-1; 3-12; 3-13; 3-14; 3-16; 3-17; 3-19; 3-20
    - Open..... 3-13
    - Open File..... 3-20; 3-21
    - Print Setup..... 3-20; 3-21
    - Send File ..... 3-16
  - Disconnect Instrument..... 3-14; 3-21
  - Downloading ..... 1-1; 3-16
  - Driver information ..... 3-2
- E*
- Edit..... 3-15
  - Edit menu ..... 2-2; 3-15
  - Editing functions ..... 3-21; 3-22
  - EXCEL ..... 1-1; 3-2; 3-13
  - EXCEL spreadsheet ..... 2-6; 3-2; 3-9; 3-13; 3-14
  - External control ..... 2-6
  - Extras menu..... 2-2; 3-16; 3-18; 3-19
- F*
- File menu ..... 2-2; 3-15
  - Function keys..... 1-1; 1-2; 2-1; 2-6; 3-5; 3-16; 3-18
    - Definition ..... 3-5
- I*
- Input String ..... 3-6; 3-8; 3-9; 3-10
  - Instrument communication ..... 2-6; 3-13
  - Instrument Control..... 3-16
  - Instrument Definition ..... 3-1
  - Instrument menu .....2-1; 2-2; 3-13; 3-16; 3-20
    - Connect menu ..... 3-21
    - Edit menu..... 3-21
    - Extras menu..... 3-21
    - File menu ..... 3-21
    - Major functions ..... 2-2
    - Overview ..... 2-7
    - View menu ..... 3-21
  - Instrument parameters
    - Editing ..... 3-12
    - Saving ..... 3-12
  - Instrument window ..... 3-21
- M*
- Main menu..... 2-1; 3-19
    - Connect menu ..... 3-20
    - File menu ..... 3-20
    - Major functions ..... 2-1
    - Overview ..... 2-7
    - Terminal menu..... 3-20
    - View menu ..... 3-20
  - Modify Instrument..... 3-12; 3-20
  - Modify Terminal..... 2-1; 3-19; 3-20
- O*
- OLE automation ..... 1-1; 2-6; 3-2; 3-13
  - Options ..... 2-2; 2-3; 3-16; 3-19; 3-21; 3-22
  - Output String ..... 3-6
- P*
- Print ..... 3-15; 3-21
  - Print Preview ..... 3-15; 3-21
  - Print Setup..... 3-15; 3-21
  - Program functions ..... 3-1
    - Documentation..... 3-20
  - Program Handling ..... 2-4
  - Program installation..... 2-6
  - Program update..... 1-1
- Q*
- Quick Start..... 2-6

- R*
- Registered Input String ..... 3-9
  - Registered Input Strings ..... 3-12
- S*
- Save ..... 3-15
  - Save data ..... 3-19
  - Scroll bar ..... 2-5; 3-17
  - Send File ..... 2-2; 2-3; 3-16; 3-18; 3-21; 3-22
  - Serial interface ..... 3-4; 3-16; 3-18
  - Setup program ..... 2-6
  - Show Control Characters ..... 3-3
  - Stand-alone instruments ..... 1-1
  - Statusbar ..... 3-20; 3-21; 3-22
- T*
- Tab
- Communication Parameter ..... 3-2; 3-18
  - Function Keys ..... 3-4; 3-18
  - General ..... 3-1; 3-12
  - Script Language ..... 1-2; 3-6; 3-14
  - Terminal Settings ..... 1-2; 3-3; 3-17
- Terminal emulation ..... 2-1; 2-6; 3-17; 3-18; 3-20
- ANSI ..... 1-1; 3-17
  - TTY ..... 1-1; 3-17
  - VT100 ..... 1-1; 3-17
  - VT52 ..... 1-1; 3-17
- Terminal menu ..... 2-1; 2-3; 2-6; 3-17; 3-18; 3-19; 3-20
- Extras menu ..... 3-22
  - File menu ..... 3-22
  - Overview ..... 2-7
  - Terminal menu ..... 3-22
  - View menu ..... 3-22
- Terminal Mode ..... 3-3; 3-17; 3-18
- Terminal program ..... 3-17
- Terminal window ..... 3-22
- Toolbar ..... 2-4; 3-20; 3-21; 3-22
- Typographical conventions ..... 1-2
- U*
- Use and Function ..... 1-1
- W*
- Win32s ..... 1-1
  - Windows 3.1 ..... 1-1
  - Windows 95 ..... 1-1
  - Windows for Workgroups 3.11 ..... 1-1
- WinTerm
- 3 levels ..... 2-1
  - Major functions ..... 1-1