Leica DISTO™

THE ORIGINAL LASER DISTANCEMETER

Operating Instructions
PlusXL™

Version 1.0.7

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Leica
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BASICS

1. Preface

PlusXL™ is software that is supplied free-of-charge with the Leica DISTO™ plus Laser distancemeter. PlusXL™ was developed by TBM-Solutions Becker on behalf of Leica Geosystems and is a good example of effective communication between the Leica DISTO™ plus and pocket PCs.

PlusXL™ was designed for pocket PCs as well as for desktop PCs. The mobile version runs on pocket PCs with Microsoft Pocket PC 2002 and Windows Mobile 2003 as well as on most pocket PCs with Microsoft Pocket PC 2000 that support Bluetooth.

The desktop version is supported by Windows 98SE, ME, 2000 and XP with Bluetooth USB-adapters. For more information, please refer to the product specifications issued by the manufacturer of the relevant Bluetooth USB-adapter.
PlusXL™ enables writing measured data from the Leica DISTO™ plus directly to Pocket Excel or Excel.

Leica Geosystems grants no warranty on the functionality of the free-of-charge software and offers no support for it.

Please contact TBM-Solutions Becker for any possible further development of the PlusXL™ or for other software solutions regarding the Leica DISTO™ plus laser distancemeter and pocket PCs.

Any further developments must be approved by Leica Geosystems.

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2. About PlusXL

PlusXL enables direct data transfer from the Leica DISTO^{TM} laser distancemeter to an Excel cell. It is possible to transfer data to a pocket PC (Pocket Excel) and to a desktop PC or laptop computer. Just by using the directional leys on the Leica DISTO^{TM} plus, the data field can be selected and the curser can be moved in all directions in the EXCEL program, even diagonally.

After transferring the measured data into the selected Excel cell, the curser jumps horizontally or vertically to the next field.

Templates can be prepared on the PC for the various tasks and transferred to the pocket PC. Excel then performs the predefined calculation. Assigning names to the prepared rows and columns saves time when measuring on-site.

PlusXL calls up Microsoft Pocket Excel. After closing PlusXL, the Pocket Excel program remains open on the pocket PC and has to be closed before transferring data to the desktop PC.

3. System requirements

Hardware
Pocket PCs with Microsoft Pocket PC 2002 or Windows Mobile 2003 with integrated Bluetooth. Some pocket PCs require special Bluetooth drivers; these drivers are available from the manufacturer of the pocket PCs. A list of recommended pocket PCs and the current version of PlusXL are posted on the web-site www.disto.com.

Most pocket PCs with Microsoft Pocket PC 2000, 2002 or Windows Mobile 2003 with Bluetooth extension e.g. with the Bluetooth CF-card.

The desktop version of PlusXL requires a desktop PC with Windows 98SE, ME, 2000 and XP with Bluetooth USB-adapter. Details can be found in the manuals of the manufacturer of the relevant Bluetooth adapter.

Software
Microsoft ActiveSync (for the installation on the pocket PC and synchronisation between pocket PC and desktop PC). Microsoft ActiveSync is included in the delivery package of the pocket PC. The newest version is found under www.microsoft.com.

Microsoft Excel (for the desktop version and for post- editing Pocket Excel files on the PC).
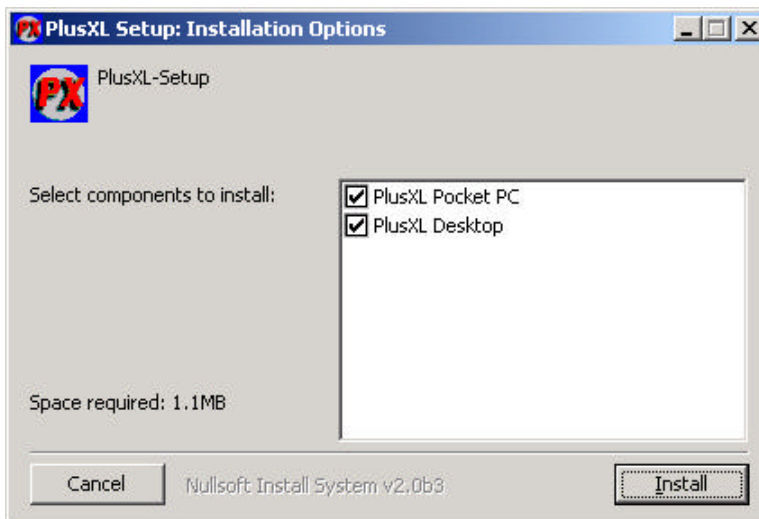
4. Installation

Insert the PlusXL-CD in the CD-drive. Start the installation of PlusXL by double clicking on the PlusXL-Setup.exe file (in Explorer) and follow the instructions displayed on the monitor:

1. Select the desired language and click "OK" (screenshot 1).

Screenshot 1

2. Select from the next screen whether the pocket PC version, the desktop version or both versions (default) should be installed (screenshot 2).

3. If the pocket PC version is to be installed, please establish an ActiveSync-connection between the pocket PC and desktop PC.

4. Click on "Install" and when prompted about the installation of the pocket PC version, confirm by clicking on "Yes" or "OK".

Screenshot.2

5. Preparing the Leica DISTO™ plus to operate with PlusXL

(Refer to section 6: "Starting PlusXL on a pocket PC")

Switches the DISTO on and off. If the DISTO is in the second function level, this key has a different function (see above). To switch the DISTO off, it first must be switched into the first function level.

Starts up Bluetooth. The Bluetooth icon is displayed on the DISTO and flashes.

Switches between function levels. "2nd" is displayed when the DISTO is in the second function level which is required to operate with PlusXL.

USING PlusXL ON A POCKET PC

6. Starting PlusXL on a Pocket PC

Before starting PlusXL for the first time, the Bluetooth connection between the Leica DISTO™ plus and the pocket PC has to be established. The procedure is found in the documentation of the pocket PC (if Bluetooth is integrated) or in the Bluetooth CF-card documentation. When the connection has been established, PlusXL can be started.

Switch on the DISTO, activate Bluetooth and switch it to the 2nd function level with

Details can be found in the DISTO manual and in section 5 *"Preparing the Leica DISTO™ plus to operate with PlusXL".* Bluetooth must be activated on the pocket PC. There are various ways to switch Bluetooth on and off (e.g. on a HP iPAQ with the Bluetooth icon located on the lower right corner (screenshot 3) or from the Settings menu. Alternatively, click on the Bluetooth icon located in the "Start | Settings | System" menu).

There are indicators on the pocket PC that show when Bluetooth is activated. E.g. on a HP iPAQ, the Bluetooth icon on the lower right is blue and the LED on the pocket PC casing flashes blue.

Please make sure how an active Bluetooth connection is indicated on your pocket PC.

Important: Before starting PlusXL, Bluetooth must be switched on! Before the first start up of PlusXL, the Bluetooth connection between the Leica DISTO™ plus and the pocket PC must be established.
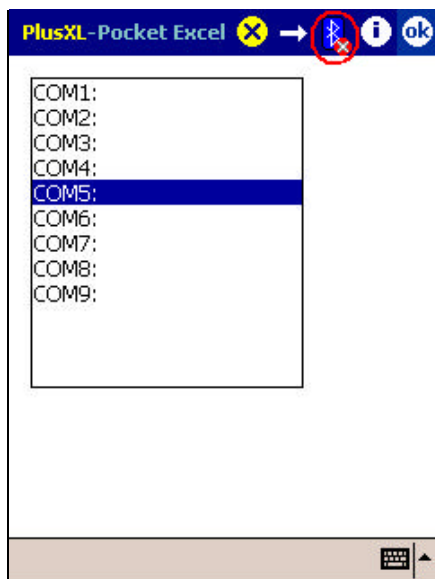
Screenshot 3

Screenshot 4

Click on "Start | Programs" (screenshot 3). Various program icons are displayed. Select the "PlusXL" icon (screenshot. 4) and start the program. After the program had been started once, a click on the small PlusXL icon (in screenshot 3 under the start icon) also starts the program.

7. Setting up the Bluetooth connection

When PlusXL is started, the Bluetooth connection between the Leica DISTO™ plus and the pocket PC is automatically established. In this case, the Leica DISTO™ plus beeps once. Then the Bluetooth icon on the DISTO stops flashing and the Bluetooth icon in the upper navigation bar of the pocket PCs is displayed without the red stop icon, which would signal an interrupted connection.

Special cases

1. The pocket PC displays a list of all Bluetooth devices known to it. Select and click on the Leica DISTO™ plus. The Bluetooth connection is then established, measured values can be transferred to Excel and navigation is possible in the Excel table (refer to section 9: "*Transferring measured values to Excel*").

2. Excel is displayed and in the upper navigation bar, the Bluetooth-icon with the red stop icon is displayed (screenshot 5): The program could not determine which COM-port to use for the Bluetooth connection. The following selection is displayed:
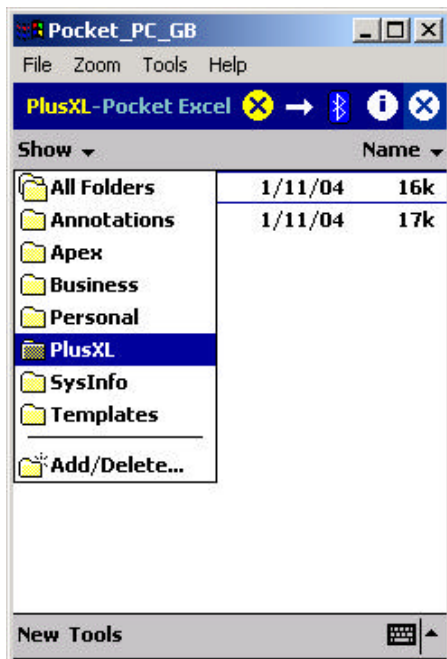

Screenshot 5

The possible COM-ports are listed. Select a COM-port (the selected COM-port is displayed in blue, e.g. COM5 in screenshot 5:). Confirm the selection by clicking on the "OK" button in the upper right corner. The program now attempts to establish a connection via the selected COM-port. Should the attempt fail, then the list is displayed again. Please select different COM-ports until the right one is found. Then Pocket Excel is displayed and measured values can be transferred and navigation in the Excel table is also possible (refer to section 9: "*Transferring measured values to Excel*"). The correct COM-port is now saved in the program.

The correct COM-port can be determined directly through the Settings menu of the relevant pocket PC. E.g. the HP iPAQ has this information saved under "Start | Settings | System | Bluetooth serial connection | COM-port". This information may be located elsewhere on other pocket PCs. For this reason, the procedure described above may be the quicker.
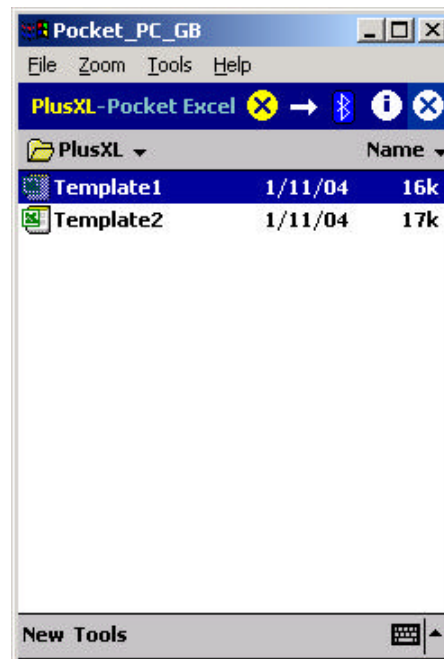
8. Excel-Workbooks and Excel-Templates

After the Bluetooth connection has been established, the Excel document view is displayed. Select the suitable workbook or template for the task ahead.

Screenshot 6   Screenshot 7

Open the PlusXL folder where the workbooks and templates will be automatically saved (screenshot. 6).

An overview of all saved files in the PlusXL folder is shown (workbooks and templates). To create a new workbook (Excel table), click on the "New" button located on the lower left (screenshot 7).

Saved workbooks or template can be opened for processing. Templates are Excel tables specially prepared for the same types of tasks. Templates can ether be created on the pocket PC or on the PC and then transferred to the pocket PC with the ActiveSync program (further information can be found in the Pocket Excel documentation). When using templates, make sure to save them as workbooks to prevent overwriting the saved data (refer to section 11" *Saving* ").

9. Transferring measured values to Excel

As an example for the key functions of the Leica DISTO^{TM} plus used in the following description, the Excel template, Template1 which is transferred to the pocket PC during the installation of PlusXL will be used. B5 is the cell selected (screenshot 8).

1. Measuring a distance with the Leica DISTO^{TM} plus

Trigger a distance measurement

2. Navigating in Excel

Any of the 8 directional keys can be used to navigate the cursor of the Excel field, i.e. even diagonally.

3. Transferring the measured value

The measured value currently displayed on the DISTO is entered in the currently selected Excel cell (B5), then the cursor in Excel jumps to the next cell on the right (to C5) or downwards (to B6) The direction is determined with the two arrows (refer to section 10, "*PlusXL™ / Pocket-Excel function buttons*").

Screenshot 8

4. Deleting a measured value

The content of the currently elected Excel cell (B5) is deleted.

10. PlusXL™ / Pocket-Excel function buttons

Most of the functions are carried out on the DISTO. Only the 5 buttons at the top of navigation bar remain (screenshot 9).

Screenshot 9

This yellow Button in the middle of the navigation bar terminates
The Bluetooth connection is terminated, not Pocket Excel.

This refers to the right button in the navigation bar. Only one of these two buttons is displayed at a time. The button belonging to Pocket Excel terminates, saves Excel documents and the PlusXL information display.

These two buttons are used to select whether after transferring data into an EXCEL cell, the curser then jumps one cell to the right or downward. The arrows show the current selection, "Right" is the default setting.

These two buttons show the status of the Bluetooth connection. Only one of the two is visible at a time. The icon on the right signals that no connection is established.

Clicking on the button during the "Inactive connection" phase, opens the selection list of COM ports available to establish the connection for the first time.
(Refer to section 7: "Setting up the Bluetooth connection"). Otherwise, an interrupted connection can be reestablished.

Please keep in mind that the DISTO switches off automatically after a certain period of inactivity. In this case, before reestablishing the connection, Bluetooth has to be restarted on the DISTO as described above.
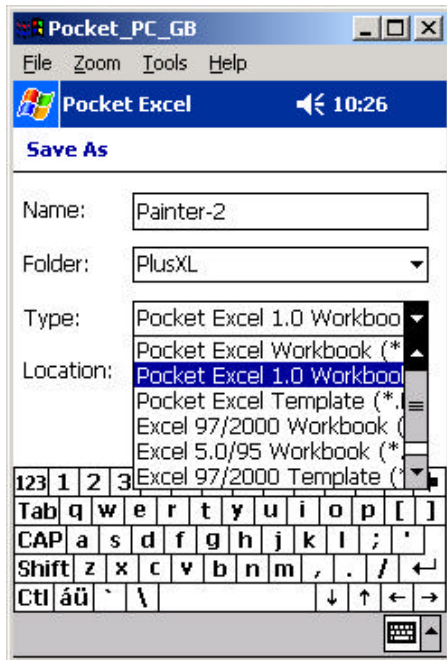
This button displays information about the program version and about the software producer, TBM-Solutions Becker.

11. Saving

The yellow button in the middle of the navigation bar terminates PlusXL. When terminating Pocket Excel with the white button (on the outer right side), the file is automatically saved under a default name. Files can also be saved under user-defined names.

When using templates, it is recommended to save them as workbooks with user defined names in order to be able to reuse the original template. Select from the Pocket Excel-menu "Tools | Workbook save as ..." Screenshot 10 is displayed.

Screenshot 10

Enter a user-defined name and save the file as a "Pocket Excel-Workbook".

12. Synchronisation between pocket PC and desktop PC

In section 8 "*Excel-Workbooks and Excel-Template*" the PlusXL documents were located in the "PlusXL" directory of Excel. The path on the pocket PC is "„My Device/My Documents/PlusXL". When ActiveSync links the pocket PC and desktop PC, all files and folders from "„My Documents" are synchronised on desktop PC with the corresponding directory. The directory is created when the link between the pocket PC and the desktop PC is established. The name of the directory is composed of the name of the pocket PC and "My Documents". Should the pocket PC be e.g. called "Pocket_PC_1 "then the synchronised directory would be named "Pocket_PC_1 My Documents". ActiveSync creates a link of the synchronised directory on the desktop of the PC. The sub directory "„PlusXL" of the synchronised directory contains all the PlusXL documents. If a new Excel template or workbook is created on the desktop PC to be used with PlusXL, then it has to be copied into the "PlusXL documents" folder. At the next synchronisation, the new Excel template or workbook will be available on the pocket PC.

! **Important**: Please keep in mind, that for synchronisation the Excel workbooks and templates have to be closed on the pocket PC (with the outer right button at the top). For detailed information, please refer to the relevant section of the pocket PC manual.

WORKING WITH PlusXL ON THE PC

13. Working with the desktop version of PlusXL

Before starting PlusXL for the first time, the Bluetooth connection between the Leica DISTO™ plus and the desktop PC has to be established. The procedure can be found in the documentation of the relevant Bluetooth USB-adapter. As soon as the connection has been established, PlusXL can be started.

Switch on the DISTO; activate Bluetooth and switch into the 2nd function level [2nd]. Detailed information is in the Leica DISTO™ plus manual and in section 5, *"Preparing the Leica DISTO™ plus to operate with PlusXL"*. Bluetooth must be activated on the desktop PC. The activation procedure differs between the various Bluetooth USB-adapters. The specific procedure can be found in the documentation of the relevant Bluetooth USB-adapter. Most Bluetooth USB-adapters flash blue when Bluetooth is active.

! **Important:**
- Make sure the Bluetooth has been activated on both computers before starting PlusXL.
- Before the very first start of PlusXL, the Bluetooth connection has to be established manually. After that, the connection is built up automatically between PlusXL and the activated Bluetooth.

During the installation of PlusXL, a link to the PlusXL program is automatically created on the desktop. Double clicking on the created icon is one possibility of starting PlusXL (screenshot 11):

Screenshot 11

Alternatively, PlusXL can also be started from the Start menu (Screenshot 12):
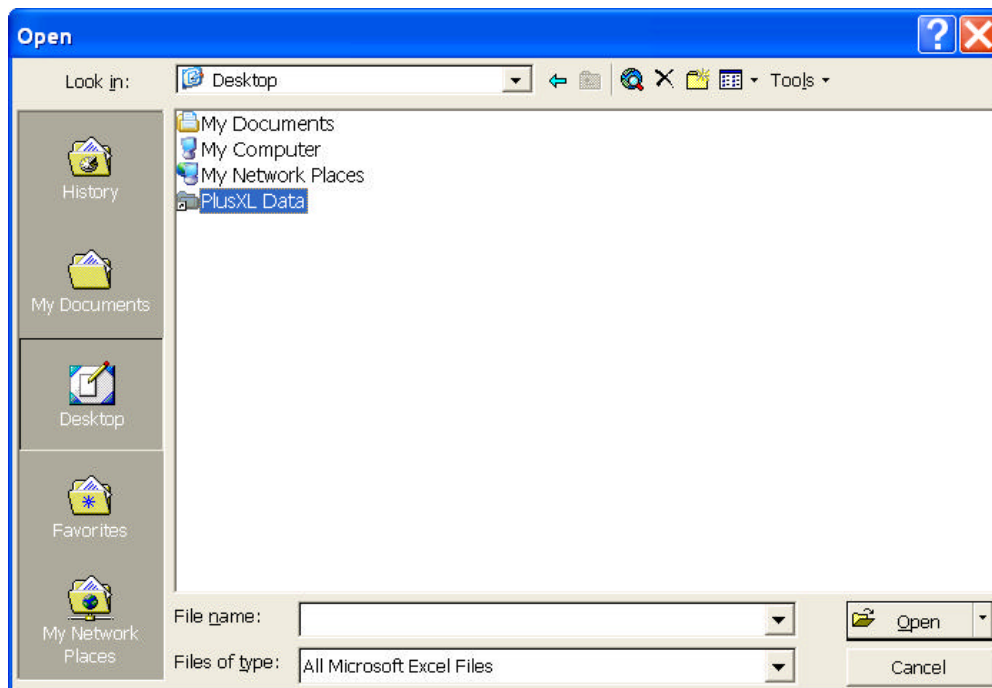

Screenshot 12

When PlusXL is started, Microsoft Excel is called up. If Excel had already been started on the PC, then the open Excel table is displayed; otherwise, an empty Excel table is displayed.

! **Attention:** During the first start of PlusXL, it may take up to a minute to establish connection with the Leica DISTO™ plus. The reason is that PlusXL first searches for the correct settings. Once they have been found, they are saved and the next time PlusXL is started the connection is established much quicker.

During the installation of PlusXL, Excel templates and workbooks are transferred to the PC; a link to the PlusXL program directory where all of these Excel files are saved is created on the PC desktop with the name "PlusXL Data" (screenshot 13):

These files are accessible in Excel through the menu "Files | Open" under "Desktop | PlusXL Data" (screenshot 13):
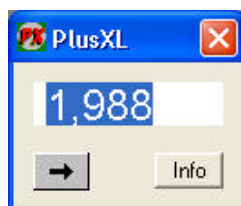

Screenshot 13

Transferring measured values from the Leica DISTO^{TM} plus to Excel follows the same procedure as with the pocket PC (refer to section 9 „*Transferring measured data to Excel*").

The PlusXL button is located in the taskbar below

Screenshot 14

Click on it to display the last measured value.

Screenshot 15

This arrow button (located on the lower left in screenshot 15) is used to select whether after transferring data to an EXCEL cell, the curser then jumps one cell to the right or downwards. The arrow shows the current selection. "Right" is the default setting.

The info button displays information about the program version and about the software producer, TBM-Solutions Becker.

The X button on the right terminates PlusXL. The Bluetooth connection between the desktop PC and the Leica DISTO™ plus is interrupted in this case. **Please keep in mind that Excel remains open and has to be closed separately.**

If Excel is terminated, so are PlusXL and the Bluetooth connection.

Pat. No.

- US 5,815,251
- US 5,949,531
- US 6,336,277
- US 6,463,393

- EP 0738 899
- EP 0932 835

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ISO 9001 / ISO 14001

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