

Release Notes Axyz V1.4.2

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1 New Features and Changes

1.1 News in a nutshell

- Supports Windows XP including SP2
- Allows working with restricted windows user account (neither Administrator nor Power- user rights are required anymore)
- USB dongle support (dongle delivery on specific request only)
- Improvements for nearly all modules

1.2 Installation Kit

The Installation Kit has been improved

- Crystal Report Template version selection, Tracker-File installation etc.
- Installation of dongle drivers for both parallel and USB port.
- New License Agreements in several languages are provided.
- NETBEUI Network Protocol for Windows XP installations provided.

Note: Axyz installation as well as installing tracker-files requires Administrator rights. Nevertheless, a restricted user can launch the installation. The system will then ask for appropriate login- parameters.

IMPORTANT: Please unplug the Axyz dongle when asked by the installation program to do so. For parallel port dongles, it may be necessary to reboot after installation, even when not requested by the installation program. Do this if the dongle is not recognized.

1.3 Axyz Core Data Module CDM

1.3.1 Save Settings of Windows

The option "calculate scale" in the best-fit window is now persistently saved. Other check- button controls are persistently saved where appropriate.

1.3.2 Handling of fixed scale in transformation

In the transformation options dialog, the fixed scale parameter is now consistently handled like the translations and rotations, i.e. if the user enters 2 as a fixed scale, the result of the scale will be 2. The same applies to fixed Radius/Diameter in Shape fit where applies.

1.3.3 Inherit scale in Shape fit, Axis Alignment and Transformation

The option 'Inherit Scale from active' is now a public feature and can be controlled through the user-interface in Shape fit, Axis Alignment and Transformation. The availability of these options can be controlled with the following ini file entries and is set to 1 by default. (Axyz.ini [Settings] section)

```
ShowInheritAlignScaleBox=1  
ShowInheritShapeScaleBox=1  
ShowInheritTrafoScaleBox=1
```

1.3.4 New angle unit Mil

“mil” as an additional angle unit has been introduced into the Axyz 1.4.2 master database.

1.4 Axyz Data Manager

1.4.1 Inconsistency under Win2000 fixed

A random abort during Import/Export Wizard under Win 2000 has been fixed.

1.4.2 A wrong behavior in DM has been solved:

If several Workpieces (WP) with points were available and then a new WP was created and a column was moved in the WP, all points of the other WP appeared automatically in this WP. If a different WP was deleted afterwards, the Points disappeared from this newly created WP.

1.4.3 Data Manager no longer pops up after initial start of LTM & STM/MTM

The focus problem that made Data Manager Popup over LTM/STM after 1st start has been fixed.

1.4.4 New data formats for importing points

To import total station offline data GSI 81 ↔ 82, i.e. XYZ as well as YXZ, two additional format descriptions have been made available: GSIXYZ and GSIYXZ, the former of which is a copy of GSI.

1.5 Bundle Program

1.5.1 Save Setting in Bundle display

In order to be able to save the solution type persistently, a new setting has been introduced in the [TypeSolution] section of the Bundle.INI file:

```
SolutionTypePersistent=0  
SolutionTypePersistent=1
```

Zero is set by default to keep the behavior unchanged. Users, who want that persistence, must set the flag manually.

1.6 Axyz Laser Tracker Module LTM

1.6.1 Beam will keep last position

On some instruments the laser beam jumped approximately 2cm off the reflector center (z direction) while having the keep last position flag active and breaking the beam. This problem has been fixed, the laser stays on the reflector and locks on accordingly.

1.6.2 NETBEUI protocol supported

The NETBEUI protocol has been made available under WinXP by the Axyz installation kit.

1.6.3 No more flickering of Measurement Window

The flickering of the Measurement Windows in MTM/STM and LTM has been removed.

1.6.4 Frame grabber supported under XP

The VideoFrame speed under XP is as expected if latest device drivers are installed. The respective download pages are listed up in this document.

1.6.5 Build/Inspect tolerance colors

LTM Build/Inspect tolerance colors are now consistent between zoomed and normal view.

1.6.6 Interruption Orient-to-Gravity with NIVEL

At the end of the orient to gravity process, a dialog pops up prompting the user to relocate the NIVEL into the monitoring position and warning about the necessary warm-up time. The user may now stop the NIVEL readings if the NIVEL has not reached the necessary warm-up time.

1.6.7 Graphics Transfer Parameter enabled to avoid conflicts in Build/Inspect

LTM->General Settings->Graphics Transfer Parameter is now enabled per default and kept persistently. Thus the software is prevented from being unable to run the build/inspect process.

1.6.8 LTM Stationary Point averaging flag

LTM provides a new global flag, which allows stationary point averaging for both faces (Setup, General Settings, Stationary Point averaging). By default, general overwriting of measurements remains on, as in previous versions. Please note, that if points should be averaged from two faces (manually or with the 2face script), the point averaging flag needs to be checked as well.

1.7 Axyz Theodolite Modules STM/MTM

1.7.1 Hidden Point with average readings

Hidden Point Calculation with erroneous average of 2 face measurements has been fixed.

1.7.2 No more limitation of serial ports

The problem of limited number of serial ports has been fixed. The highest supported serial port is now 32.

1.7.3 Autoscan problem resolved

Some PC's showed communication problems via serial ports. This concerned the automatic recognition of sensors.

1.8 Auxiliary Tools

1.8.1 Nivel 20 - Inclination sensor:

Communication problem with serial port fixed

1.8.2 Install Tracker Files:

A new helper-tool to install tracker files is provided. Usage of this tool is mandatory to ensure correct file permissions! A shortcut to this tool is place in the Start/Programs/Leica Axyz folder. Please see also chapter 'Upgrading from Axyz 1.4.1 to 1.4.2' in this document

1.8.3 LGO TOOLS for SW upload to TPS5000

This tool replaces the Leica Survey Office for uploading the onboard System SW and Application SW. It also includes the as-is TPS configuration tool.

1.9 Reporting

As Crystal Reports 7 has been phased out, Axyz 1.4.2 now supports also Crystal Reports 10 report templates. Basically it is recommended to install Axyz 1.4.2 with the option for Crystal Reports 7 (default). If during Axyz setup the Crystal Reports 10 option is selected, a new set of v10 templates is provided. In this case, a later installation of Crystal Reports 7 or Crystal Reports 9 can cause incompatibilities. The installation program provides further explanations.

1.10 OLE functions

1.10.1 Modified OLE functions

New OLE/COM functions are provided for those commands with extended input- parameters. The new commands are the same as those without '2', but with additional parameters. The 'old' functions are still provided for backward compatibility.

TransformCoordSys2
AxisAlignCoordSys2
AxisAlignCoordSysEx2
AnalyzeShapefit2
AnalyzeNominalShapefit2

For Details please refer to the Axyz.tlb type library and Axyz OLE-Commands.pdf.

2 Upgrading from Axyz 1.4.1 to 1.4.2

As Axyz 1.4.2 provides new Restricted User support, there are some important steps to consider when upgrading an existing Axyz 1.4.1 installation to Axyz 1.4.2.

- ❑ Before uninstalling Axyz 1.4.1 store copies of the following files:
 1. Masterdb *.axyz
Folder C:\Program Files\Leica\Axyz\Masterdb
 2. Job files *.axyz
Folder C:\AxyzData\Jobs
 3. Import/Export definitions *.ied
Folder C:\Program Files\Leica\Axyz\Ied
 4. Customized report forms/templates *.rpt
Folder C:\Program Files\Leica\Axyz\RepForms\...
 5. Tracker files *.mdb
Folder C:\Program Files\Leica\Axyz\Tracker
 6. Access rights *.acg
Export access rights file from Leica Axyz Configuration Tool
- ❑ Uninstall Axyz 1.4.1 as Administrator user
- ❑ Install Axyz 1.4.2 as Administrator user
- ❑ After the installation of Axyz 1.4.2 restore the backedup files:
 1. Masterdb *.axyz: Copy the Masterdb *.axyz file to C:\Program Files\Leica\Axyz\Masterdb as Administrator user and give the "Everyone" group "Full Control" access.
 2. Job files *.axyz: Copy the Job file *.axyz file to C:\AxyzData\Jobs as Administrator user and give the "Everyone" group "Full Control" access.
 3. Import\Export definitions *.ied: Copy the *.ied files to C:\Program Files\Leica\Axyz\Ied as Administrator user and give the "Everyone" group "Full Control" access.
 4. Customized report forms/templates *.rpt: Copy the *.rpt files to a location where the operating user has at least "Read" access.
 5. Tracker files *.mdb: Use the Axyz 1.4.2 tool "Install Tracker Parameter Files" to handle these files correctly. This tool should be used also as Administrator user. It can also be used as restricted user, as long this restricted user is the owner of the *.mdb file to import. Copying the file makes the logged in user the owner of the file.
 6. Access rights *.acg: Use the Leica Axyz Configuration Tool to import the *.acg file created in step

3 Language versions (german, french)

Please note that prior to the language pack installation, the original english Axyz 1.4.2 version needs to be installed. The respective language packs can be found on the Axyz 1.4.2 Installation CD in the LanguagePacks directory. It replaces the file(s) listed in 'Packlist.txt' to provide a german or French Axyz version. This listing can be found on the installation 'disk1' of the distribution medium. A copy under the name 'PacklistP1.txt' will also reside in the Axyz program directory once the language pack is installed.

Backup copies of all previous files will be kept (in 'Previous' subdirectories). You may delete these old files once the system has been verified to run correctly after this upgrade installation.

Moving the files in the 'Previous' directories up one directory level (that is, overwriting the new files with the previous ones) means restoring the previous version (note there are 5 such directories, typically named '..\Leica\Axyz', '..\Leica\Axyz\Tracker', '..\Leica\Axyz\Scripts', '..\Leica\Axyz\doc', 'C:\WinNT\System32' (or whatever these directories are named on your PC)

4 System requirements for Axyz V. 1.4.2

4.1 Supported Operating Systems

- Windows 2000
- Windows XP

4.2 Min. Requirements

4.2.1 Min. requirements for Axyz CAD /View

<i>Desktop</i>		<i>Notebook</i>	
Computer	P III, 1.0GHz	Computer	P III 1.0 GHz
3.5" Disk drive	yes	3.5" Disk drive	yes
CD-Drive	16x speed or faster	CD-Drive	16x speed or faster
RAM	>512MB	RAM	>512 MB
	>256 KB Cache		>256 KB Cache
Ports	1x Parallel for Printer 1x Serial for options 1x USB port	Ports	1x Parallel for Printer 1x Serial for options 2x USB port
Harddisk	>2 GB	PCMCIA slot	yes
Graphics board	open GL support	Harddisk	> 2 GB
		Graphics board	open GL support

4.2.2 Min. Desktop Computer requirements for Axyz LTM

<i>Desktop</i>		<i>Notebook</i>	
Computer	P III 700 MHz	Computer	P III 700 MHz
3.5" Disk drive	yes	3.5" Disk drive	yes
CD-Drive	16x speed or faster	CD-Drive	16x speed or faster
RAM	>256 MB	RAM	>256 MB
	>256 KB Cache		>256 KB Cache
Ports	1x Parallel for Printer 1x Serial for options 2x USB port 1x Network Interface for NetBEUI communication (10Mbps or faster)	Ports	1x Parallel for Printer 1x Serial for options 2x USB port PCMCIA slot or 1x Network Interface for NetBEUI communication (10Mbps or faster)
Harddisk	>2 GB	Harddisk	>2GB

4.2.2.1 Supported Frame Grabber Boards (for use with Overview Camera only)

Win2000/XP	575882	Video Grabber DX for Desktop (PCI Version) or
Win2000/XP	575883	Video Grabber DX for Notebook (USB Version)

IMPORTANT: Since Windows NT4 is no longer supported, the Coreco driver installation option is hidden by default. To install Coreco support anyway, just manually rename VideoWinCR.dll to VideoWin2.dll. Alternatively, you can run Setup with command line option /VSD.

4.2.3 Min. Desktop Computer requirements for Axyz STM, MTM

<i>Desktop</i>		<i>Notebook</i>	
Computer	P III 700 MHz	Computer	P III 700 MHz
3.5" Disk drive	yes	3.5" Disk drive	yes
CD-Drive	16x speed or faster	CD-Drive	16x speed or faster
RAM	>256 MB	RAM	>256 MB
	>256 KB Cache		>256 KB Cache
Ports	1x Parallel for Printer	Ports	1x Parallel for Printer
	2x Serial for options		1x Serial for options
PCI slot	MOXA multi RS232 (if >2 instruments)		2x USB port
	2x USB port	PCMCIA slot	PCMCIA Ethernet
Harddisk	>2 GB	Harddisk	>2GB

4.3 Win2000/XP specific drivers

Please visit the download sections to upgrade the Win2000/XP drivers for your products.

Moxa - PCI multi serial interfaces
www.moxa.com

3Com - PCI and PCMCIA LAN interfaces
www.3com.com

Quatech - PCMCIA or USB multi serial interfaces
www.quatech.com

Video Grabber DX for Notebook (Grabee Video Grabber)
<http://www.idkvideo.com/grabee2.html>

Video Grabber DX for Desktop (PixelView)
<http://www.prolink-usa.com/english/product/vdo-bt881p.html>

5 Known limitations

5.1 Axyz LTM

5.1.1 Tracker Systems with T-Accessories

Axyz does generally not support T-Accessories. Due to mechanical compensation reasons it is not possible to measure with T-CAM mounted. Ensure to remove the T-CAM from Tracker head before using Axyz.

5.2 Axyz STM and MTM

5.2.1 Operation with manual Theodolites and Total Stations

Axyz has been tailored to support motorized instruments such as TM-, TDM- and TDA-type instruments. However also manual instruments such as TC1800 and TC2003 are Axyz compatible to a certain degree and must be mapped as “TDM5005” during the very first “Autoscan”. Thus the manual instruments have limited functionality in:

- Average mode
- Build & Inspect.

5.3 Axyz Data-Manager

In some cases, mainly when workpieces are added, the DM must be refreshed manually.

5.4 Axyz VIEW and CAD

5.4.1 Label Size

Changing of the Label size options for small and large text in the Graphics/Option dialogue box, appears to have no effect on the size of small or large text displayed in the graphics window.
Workaround: Close the job and re-open. The new values then take effect.

5.4.2 Label Option

The Defaults button in the Graphics/Options/Label Options dialogue box appears to have no effect (I.e. default values are not restored).
Workaround: Close the job and re-open. The new values then take effect.

5.4.3 Workaround on CAD/View window redraw problem

CAD/View has a redraw window problem when switching between LTM and CAD/VIEW. Sometimes the window does not redraw at all
Workaround: If this problem occurs, click onto the rotation slider in the CAD/View. Or use an OpenGL graphics card.

5.4.4 Reduced View/CAD screen representation (black bar)

To achieve a good performance and representation in the View/CAD module it is required to use an OpenGL supported graphic board. Otherwise it can happen that the View/CAD screen is not entirely available for graphical representation (horizontal/vertical black bars).

5.5 Reporting

5.5.1 Axyz CAD Graphic Reporting

When executing a Graphic report via the menu Graphic/Print Graphics/Print Report it can happen that a black rectangle is printed on the report at the location where the Print Report submenu was shown on the screen. The reason for this black rectangle is the new 'menu transition effects' in Win2000, which are fully fading out the menus only after creating the bitmap in CAD/View. To prevent this the following Win2000 settings have to be changed:

Settings/Control Panel/ Display Properties/ Visual Effects / Use transition effects for menus and tooltips

5.5.2 LTDBEditor Reporting

On some computers - depending on Crystal Reports Runtime engine and / or Crystal Report designers installed, registering of 'CRYSTL32.OCX' silently fails upon Axyz installation.

Effect: Report creation from within LTDBEditor will fail and an error message dialog just showing 'E' appears.

Resolution: Manually register 'CRYSTL32.OCX' in Axyz Folder, 'Crpe' Subfolder. This must be done with granted admin rights, otherwise regsvr32 will return with an error.

Typically, run the following command line (Start/Run...) :

```
regsvr32.exe "C:\Program Files\Leica\Axyz\Crpe\Crystl32.ocx"
```

6 Documentation and further tools for Axyz V. 1.4.2

6.1 Reference Manuals on CD

All reference manuals for the Axyz software are on the Axyz installation CD (Directory 'Manuals'). The manuals are stored in "PDF" file format that can be read with Acrobat reader, which is also supplied on the CD or can be downloaded via www.adobe.com.

The following files are included:

Art. No.	Ver.	Title	
722232	140	Axyz System Concept.pdf	Reference manual of Axyz concept
722234	140	Axyz CDM.pdf	Reference manual for Core Data Module
722233	140	Axyz DM.pdf	Reference manual for Data Manager
722231	142	Axyz PAM.pdf	Reference manual of Process Automation Module
722236	140	Axyz STM&MTM.pdf	Reference manual for Single- & Multi-Theodolite
722235	140	Axyz LTM.pdf	Reference manual for Laser Tracker Module
722237	140	Axyz VIEW&CAD.pdf	Reference manual for Axyz CAD and VIEW
722238	140	Axyz Mathematics for User.pdf	Description of Axyz Mathematics
575701	142	Axyz OLE-Commands.pdf	Description of OLE commands
575663	228	Axyz Comm228 onwards.pdf	Reference manual AxyzComm 2.28 (English, German, French)
714278		Wireless Network Installation Guide.pdf	Reference manual for Remote Control Unit (Jornada)
734 664		IPAQ LTM Installation guide	Reference manual for Remote Control Unit (HP iPAQ)

Also refer to the '[C:\Program Files]\Leica\Doc' directory for advanced documentation such

- serial data exchange with 3rd party SW

6.2 TPS5000 Software on CD

You will find the latest software on the Axyz installation CD (Directory "TPS5000"), which is required for Axyz and TPS type instruments. The detailed description is found in the STM and MTM training manuals.

The following directories are included:

AxyzComm	AxyzComm 2.30 (English, German, French)
System Software	SystemSoftware 2.28 (in different languages) for TPS1000; TM/TDM/TDA5000 TC/A2003; TM5100/A, TM/TDM/TDA5005
LgoTools	LgoTools providing SW-upload, TPS5000 configuration and other utilities (available in English, German, French, Spanish)
TPS5000 Configuration Files	Default configuration settings for use with Axyz, which the user may upload by the TPS Configuration Utility.
CCR Distance Field Check	EXCEL file for field check of distance offset for 1.5 inch Corner Cube reflector Important: Applies for instruments only, who neither have a Producer nor a Service Inspection M for distance measurements to CCR1.5”.
TCPS26-Configuration	Configuration utility with default configuration settings for the TCPS26 Radio Modem for use with Axyz

Leica Geosystems AG, February 2005