

# New SpatialAnalyzer Version: SA 2012.12.06

Download: <http://www.kinematics.com/download/index.php>

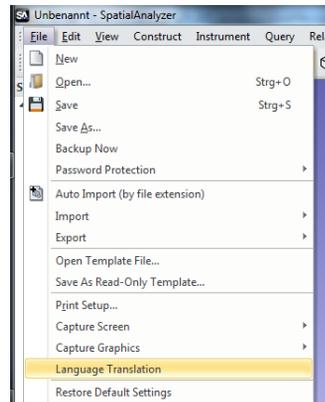
Please note: You download the actual full version of SpatialAnalyzer, but you can use only the full functionality if you have a actual software license key. In other cases you can only work with the SA Viewer.

## What's New In SA

### • Stock Language Translation

Five stock languages are now included with SA:

- English
- German
- Spanish
- Russian
- Chinese

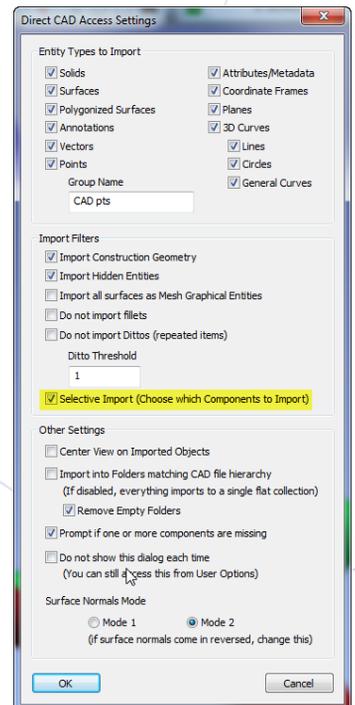
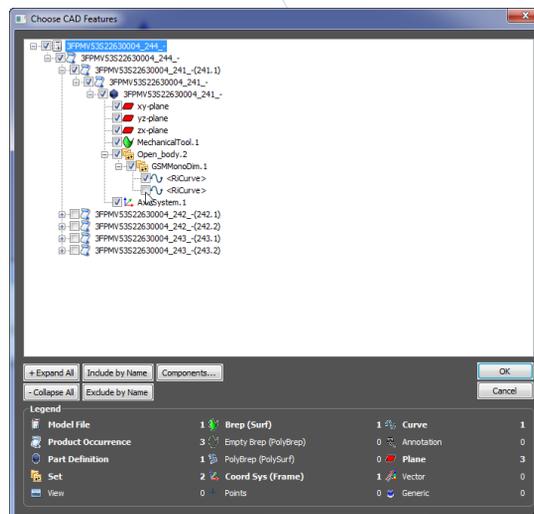


### • Selective CAD Import

For CAD formats that support part assemblies (such as CATIA's CatProduct files), you can now choose which individual components in the assembly to import, instead of making an attempt to import the entire assembly. Moreover, the contents of any CAD file being imported are displayed before import so that you can choose which specific items to include in the operation.

To access this capability, Import a CAD file using Direct CAD Access.

In the Direct CAD Access dialog, ensure that the Selective Import (Choose which Components to Import) option is checked.



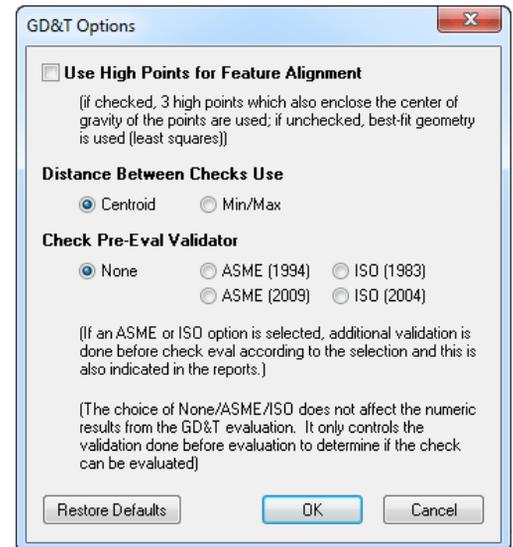
## • GD&T Improvement

### › Check Pre-Eval Validator

In the User Options *Analysis* tab, in the **GD&T Options** dialog (accessible by clicking the **GD&T Options** button), a check Pre-Eval Validator has been added. This performs standard-specific validation checks on measurement data prior to a GD&T evaluation.

The GD&T evaluation results are equivalent regardless of setting, since the standards in that area do not differ. However, depending on which standard is active (ASME 1994, ASME 2009, ISO 1983, or ISO 2004), different checks may be performed on the initial data. This may result in a check failing even though it may have passed in an earlier version of SA.

Note that the None option maintains the equivalent behavior of previous versions of SA. This setting is saved with the job file.

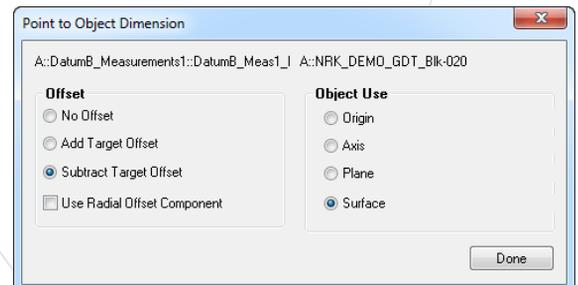


### › Evaluate All Feature Checks

A new option has been added to force a recalculation of all feature checks in an entire job. Simply select **GD&T > Evaluate All Feature Checks**.

## • Point to Object Dimensions: Radial Offsets

Point to object dimensions can now compensate for radial offsets in addition to planar offsets. Simply check the *Use Radial Offset Component* option. This is useful, for instance, when determining the distance to an edge that was measured with a pin nest.



## • Set Viewpoint (View>View Control>Set Viewpoint ...)

### › From Object

The new command aligns the viewpoint down the -Z axis of the selected object.

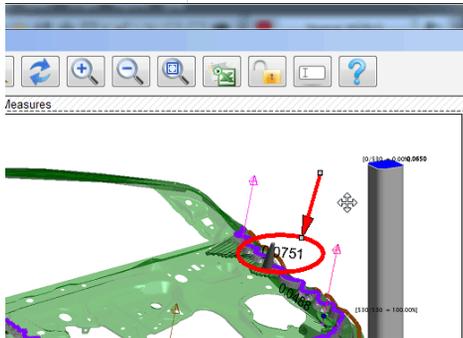
### › From Surface Point

You can align the view to look directly down the normal to a surface at a specific point by click on a surface. The view will realign to look directly down the normal of the surface at the selected point.

## • Reporting Improvements

### ➤ Report Shapes

To help with annotating your reports, you can now draw boxes, ellipses, and lines (or arrows) directly on reports. Draw in any color or using several different line thicknesses or line styles.



All Vectors Summary: Vector Group				
Statistic	dX	dY	dZ	Mag
Min	-0.0038	-0.0363	-0.0211	-0.0558
Max	0.0456	0.0337	0.0538	0.0337
Average	0.0030	0.0000	0.0022	-0.0037
StdDev from Avg	0.0079	0.0057	0.0118	0.0153
StdDev from Zero	0.0084	0.0057	0.0120	0.0158
RMS				0.0157
Tol Range				-0.0650
In Tol				530 (100.0%)
Out Tol				0 (0.0%)
Count	530			

### ➤ Report Object Locking

Individual items on reports can now be locked, which “freeze-dries” values and prevents those items from being modified in the report designer. Simply right-click an object on a report and select Locked Object from the context menu to toggle the object’s locked state.

### ➤ Report Undo

Undo support (Edit>Undo or **Ctrl+Z**) has been added to the report designer.

### ➤ Insert/Delete Page

Pages can now be inserted or deleted in an SA report. To do so, right-click in the report and choose **Insert Page** or **Delete Page**. These menu items are only available if the action is possible from the right-click location.

- Pages can only be inserted if there are no report items intersecting the horizontal line where the click was initiated.
- Pages can only be deleted if the page does not contain any report items.

### ➤ Disabled Table Truncation

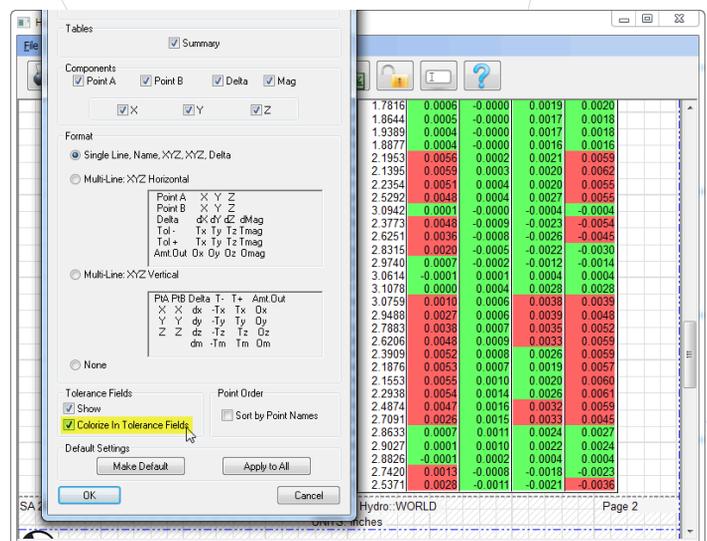
You can disable truncation on a per-table basis (regardless of the *Maximum Number of Rows Per Table* setting in the User Options **Reporting** tab) by right-clicking the table and selecting **Do Not Truncate** from the context menu.

### ➤ Remove Trailing Empty Pages

In the Report Designer, there is a new option to remove all empty pages at the end of a report. Simply select **Edit>Remove Trailing Empty Pages**.

### ➤ Colorization of In-Tolerance Fields

A new report option has been added for coloring in-tolerance delta fields green (see picture).



## • Laser Trackers

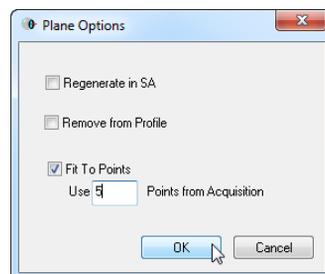
### ➤ Projection Plane Settings

New settings have been established for measurement operations that accept projection planes, including:

- Circle
- Patch Point
- Single Point Circle

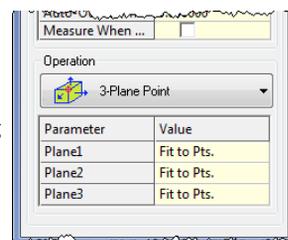
Left-click the projection or intersection plane option in the operation's parameters to select an existing plane to use. Right-click to specify options for automatically fitting the points while measuring:

- **Regenerate in SA.** This option automatically creates the construction plane after the profile completes.
- **Remove from Profile.** Clears an existing selected plane from the profile.
- **Fit To Points.** When checked SA will automatically fit a plane to the measured points. Specify the number of points to measure here.



### ➤ 3-Plane Point

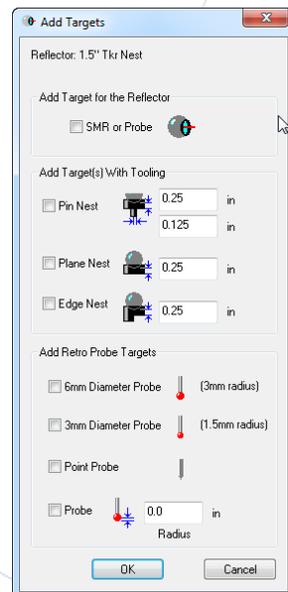
This new measurement operation in the laser tracker interface automates the process of measuring a "corner point" - a point that is constructed by measuring 3 intersecting planes. Many different acquisition modes can be used with this operation, including discrete point, stable point, and spatial scan. To define or measure the three planes, see above "Projection Plane Settings".



### ➤ Adding Targets with Custom Radial Offsets

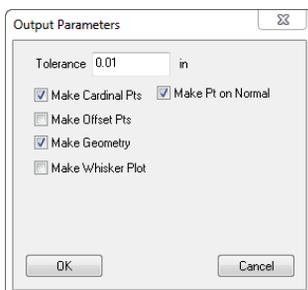
When adding defined targets in the laser tracker interface using the [Add: From Selected Reflector](#) button, you can now specify both the planar and radial offsets. This allows you to set these offsets in this dialog instead of the [Targets](#) table.

The default values for these fields will change depending on the size of the selected reflector and your current active units.



### ➤ Circle Fit Point on Normal Option

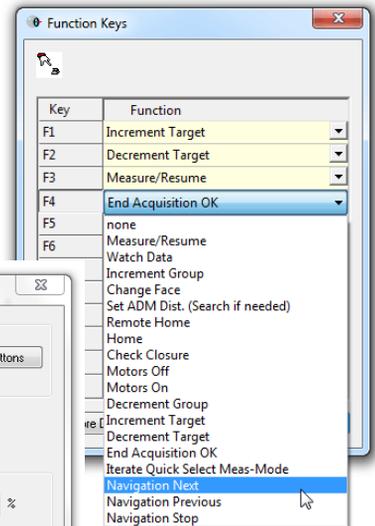
When measuring a circle in the laser tracker interface or fitting a circle using Measurement Plans, the circle fit output parameters now have a *Make Pt on Normal* option.



When checked (if *Make Cardinal Pts* is enabled), the fit will create a cardinal point on the circle's normal (existing behavior). You can now turn this option off to create a cardinal point only on the circle center.

## • Inspection Routine Navigation Enhancements

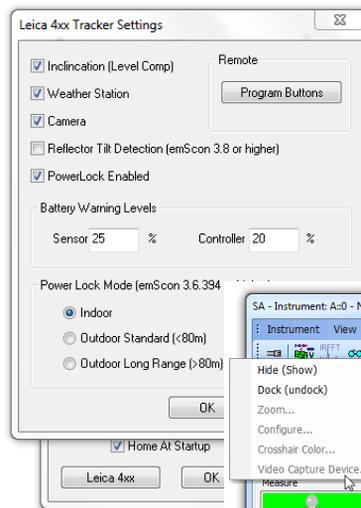
You can now program function keys (or remotes that emulate function keys) for “Next”, “Previous” and “Stop” navigation operations, primarily to allow easier progression through an inspection routine in the SA Toolkit.  
You can now also program CMM arm buttons for Next/Previous to correspond to a short/Long button press.



## • Leica AT-401 Reflector Tilt Detection

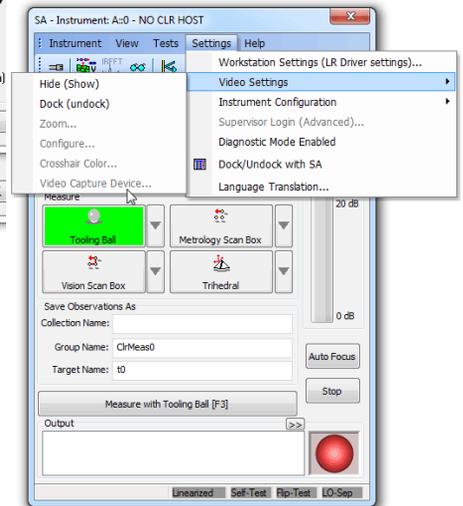
In EmScon v.3.8.290 and later, the AT401 will now detect that a reflector is tilted too far away from the instrument and return an invalid beam state, essentially preventing measurement.

This feature can be enabled/disabled in the **Leica 4xx Tracker Settings** dialog as Reflector Tilt Detection (emScon 3.8 or higher).



## • Laser Radar: Video Source Selection

In the Laser Radar interface, you can now explicitly choose the video source.  
From the interface, select **Settings>Video Settings>Video Capture Device**.

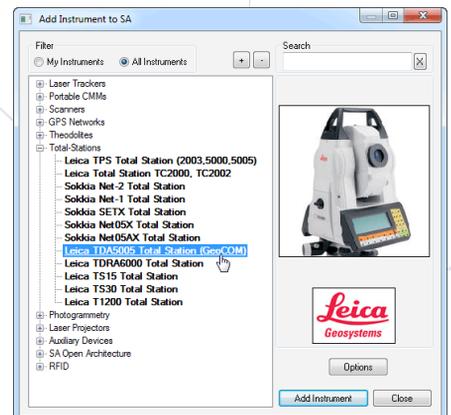


## • Leica TDA5005 GeoCOM Interface Added

A GeoCOM-based interface has been added for the Leica TDA5005 that does not require the use of the NRK embedded SpatialAnalyzer application. This interface looks similar to the TDRA6000 interface. For this to function properly, the instrument must be added as a ‘Leica TDA5005 Total Station (GeoCOM)’ type.

For the GeoCOM mode to work properly, the instrument must be in the ‘MEAS’ program, running from its top level menu. Entering lower-level menu items within the program will cause the device to cease GeoCOM communication until returning to the top level menu.

The TDA5005 should be configured with GSI Communication: 9600/N/8/1/No Protocol and GeoCOM Communication: 9600/N/8/1/GeoCOM Protocol.

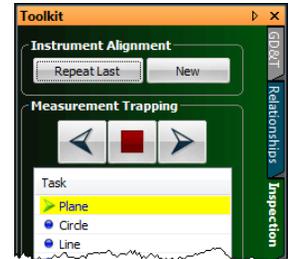


## • Repeat Alignments

Any instrument's alignment can now be repeated, making alignments as part of a repeatable process easier to set up. Whenever an instrument is aligned using Quick Align, Measure Nominal Points, or the Frame Wizard, the alignment parameters are stored with the instrument. This alignment can then be repeated at any time.

### To Repeat an Instrument's Alignment:

In the *Inspection* tab of the SA Toolkit, click the *Repeat Last* button while connected to an instrument. This will automatically recall the previously saved alignment parameters, which can then be modified or committed. Clicking the *New* button is a convenient way to perform a new alignment on the connected instrument.

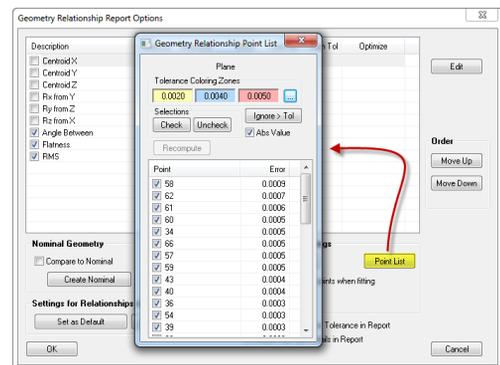


## • Geometry Relationship Point Lists

You now have access to and control over point lists for geometry relationships. Simply click the *Point List* button in the *Geometry Relationship Report* Options dialog.

You can also access the point list by right-clicking a geometry relationship in the tree and selecting *View Point List*. Just as in the *Geometry Fitting* dialog, you can deactivate points, deactivate points exceeding a critical threshold, and sort by name or error.

A new option has been added to the *Geometry Relationship Report Options* dialog to permit the display of these points on a report. Simply select the *Show Point List Details In Report* option, and when the geometry relationship is added to a report, the point list will be included.



## • MP Script

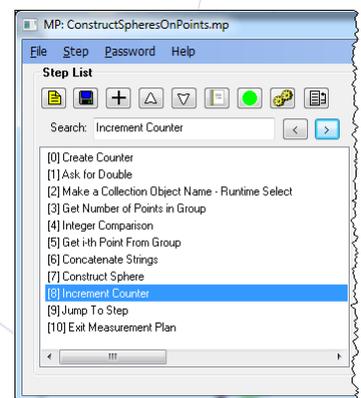
### ➤ Searching

The MP Editor now has a Search field which allows you to search the current script to find a command or comment.

This can save a lot of time when working on a lengthy script.

### ➤ The MP Editor now supports **drag and drop** loading of MPs from external files. Simply drag an MP file onto the MP editor, and it will be opened.

### ➤ A new button, **Show Step References**, has been added which shows the steps that reference the selected step.



- Events – in the past

**The 4th German User Meeting of the SpatialAnalyzer Software**

08. – 09. November 2012 | Bruchsal - Germany | at VMT



This year six SA user hold presentations about their SA applications. VMT and NRK presented the new SA packages (see below) and organized some workshops regarding „Relationship Fitting“ and „Toolkit + Reporting“. Many thanks to the 45 participants at the German User Meeting. We are looking forward meeting you next year again.

- Events – at the future

**CONTROL 2013**

The International Trade Fair for Quality Assurance

14. – 17. May 2013 | Messe Stuttgart | Hall 5, Booth 5308



- Available SA Packages 2013



**SA PROFESSIONAL**

SA Professional with Native CAD is the professional measurement, alignment, inspection, analysis, and reporting software for all portable metrology instruments. In addition to all essential measurement needs, it includes several key inspection features, geometry inspection, and measurement automation.

**SA ULTIMATE**

SA Ultimate plus Native CAD is the premier measurement, optimization, analysis, reporting, and automation software suite for all portable instruments.

**SA MACHINE**

SA Machine with Native CAD contains all features of SA Ultimate, but also allows users to interface with robots and CNC machines. This permits calibration and real-time compensation of robots and large volume CNC machines to high degrees of accuracy. It also enables robotic scripting, teach pendant behavior, and linear or joint space robotic control.

For more information s:

[IMS Homepage](#)

[NRK Homepage](#)