

Enhance scan data quality using FARO's noise compression

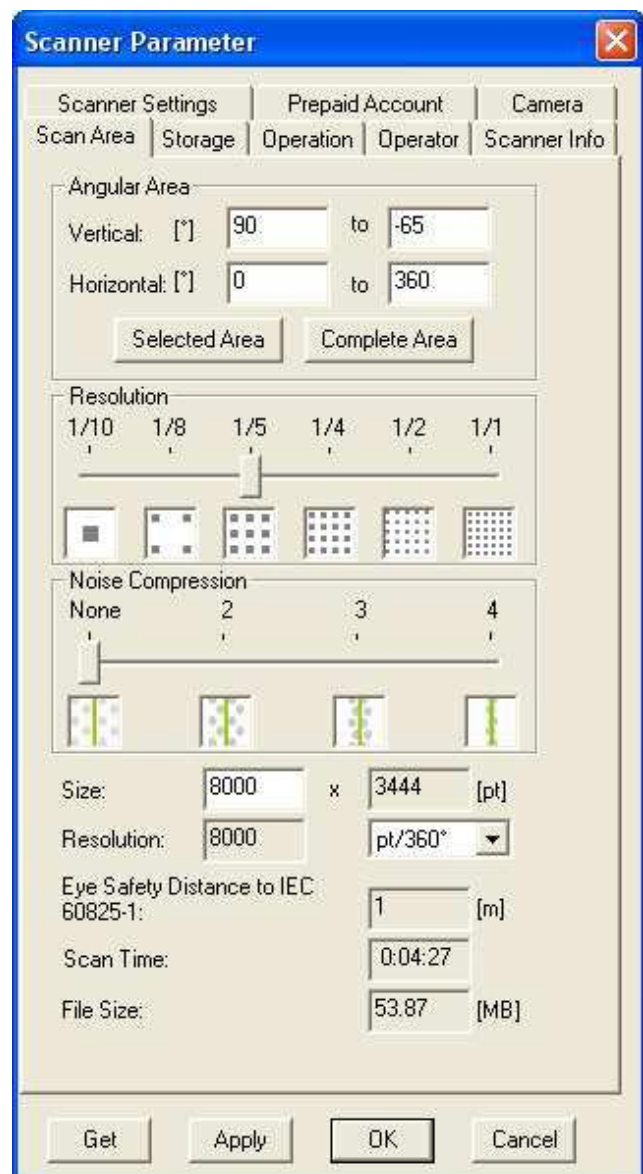
The FARO Laser Scanner LS allows you to improve the quality of your scan data by its sophisticated "Noise Compression" feature. This feature, which has been introduced with version 4.1 of FARO Scene and FARO Record not only reduces the fuzziness of your point cloud – at the same time it reduces the file size with practically no loss of detail.

You have two possibilities to apply the "Noise Compression" feature:

- 1) During scanning by setting the related parameter in the Scanner Control
- 2) During post-processing in FARO Scene

To apply "Noise Compression" during scanning just open the "Scanner Parameter" dialogue box in the Scanner Control. In the middle part of the tab "Scan Area" you will find the section "Noise Compression" with its slider to set the level of compression. (see picture on the left)

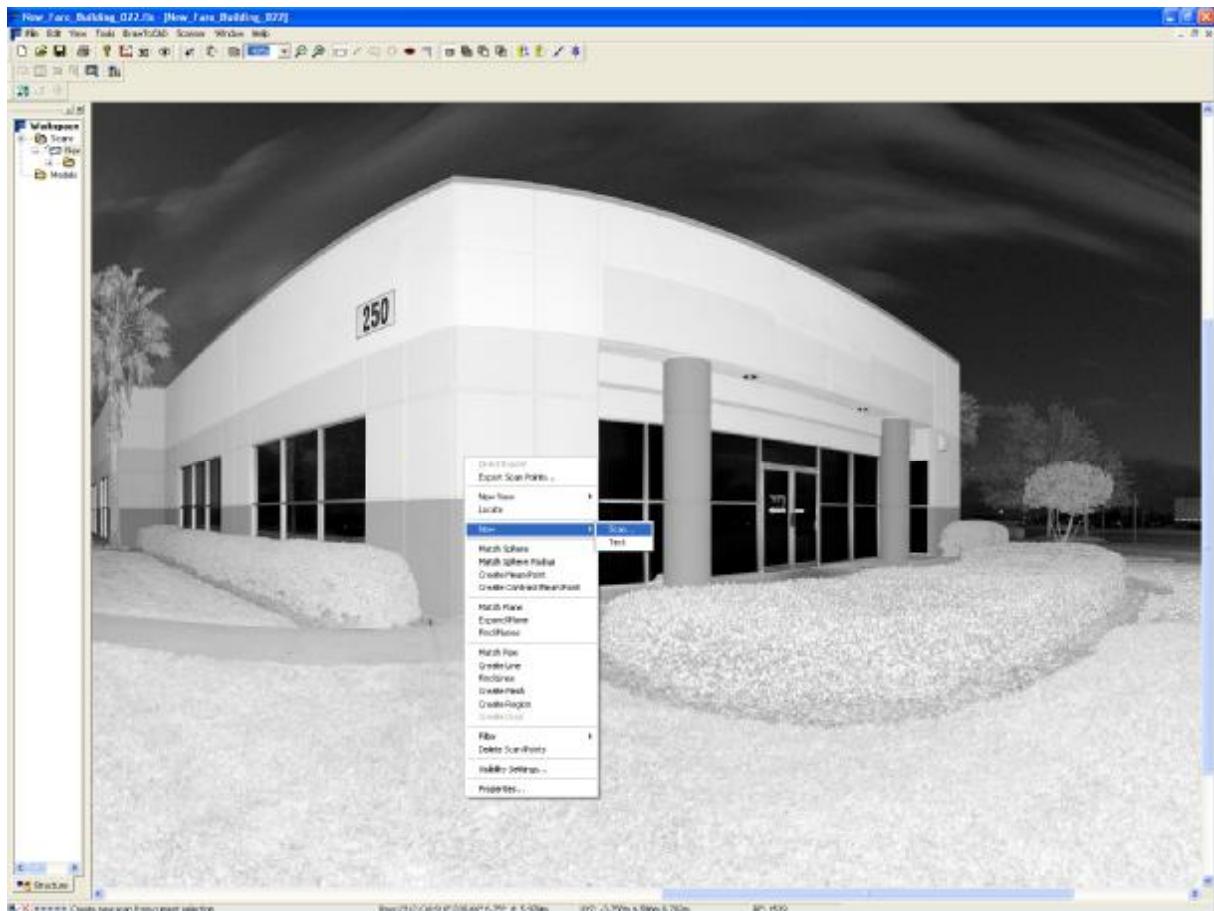
If you want to improve your scan files which have already been captured without "Noise Compression" you best load the scan to be processed and open a "Planar View". In the "Planar View" create a selection of the whole scan. To do so, open the context menu of the scan (right click into the planar view) and select the command "New – New Scan...".



"Scanner Parameter" dialog box of the Scanner Control

Laser Scanner

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Selecting "New – Scan..." from the context menu opens the "New Scan" dialogue box

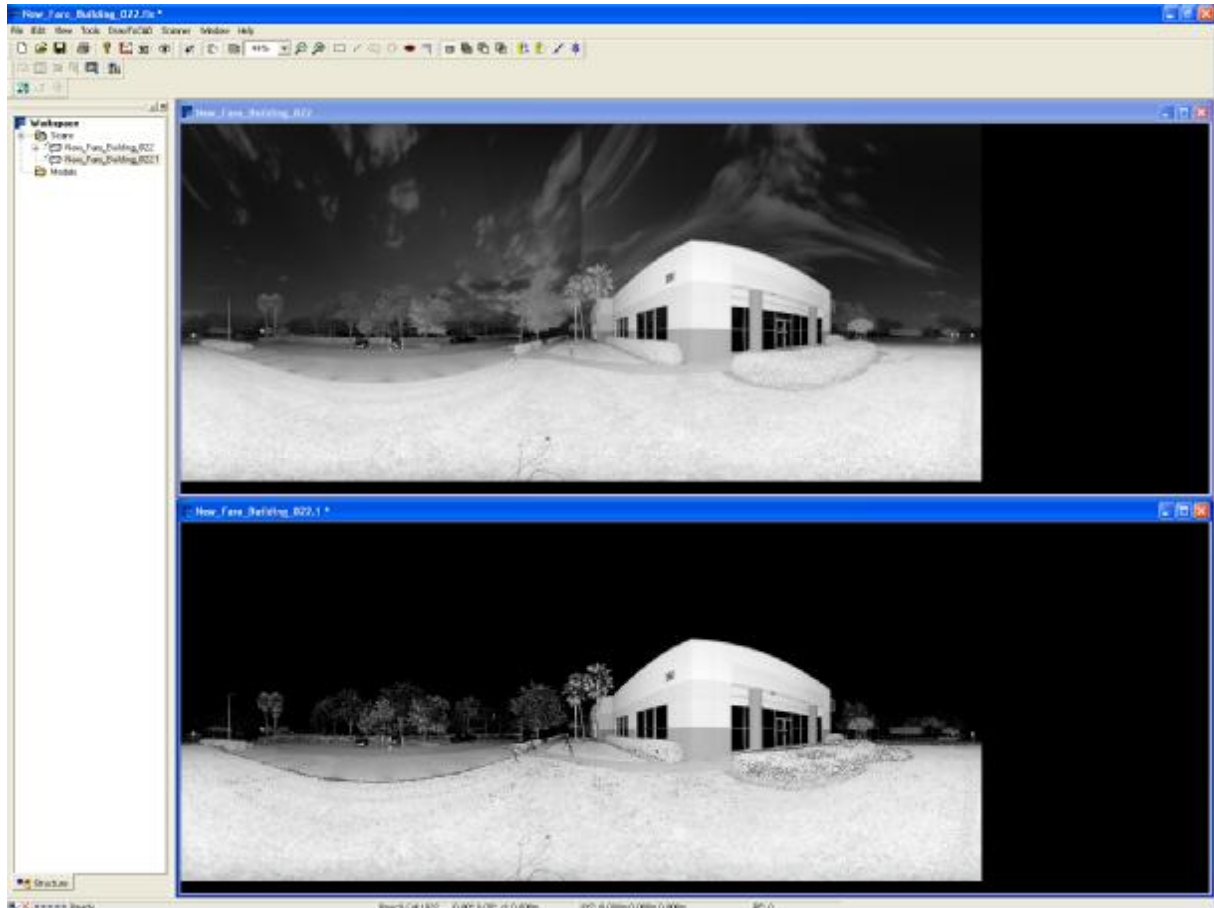
This will bring up the "New Scan" dialogue box where you may set the level of compression and activate the "Smooth" feature (the default value for the smoothing is suitable for most situations, but feel free to play a bit with it). In this dialogue box you have to define a new name for the compressed scan. FARO Scene helps you by suggesting a name (old file name + ".1" or the next free number).



"New Scan" dialogue box



After pressing “OK” FARO Scene, within a few seconds; creates a new, compressed scan.

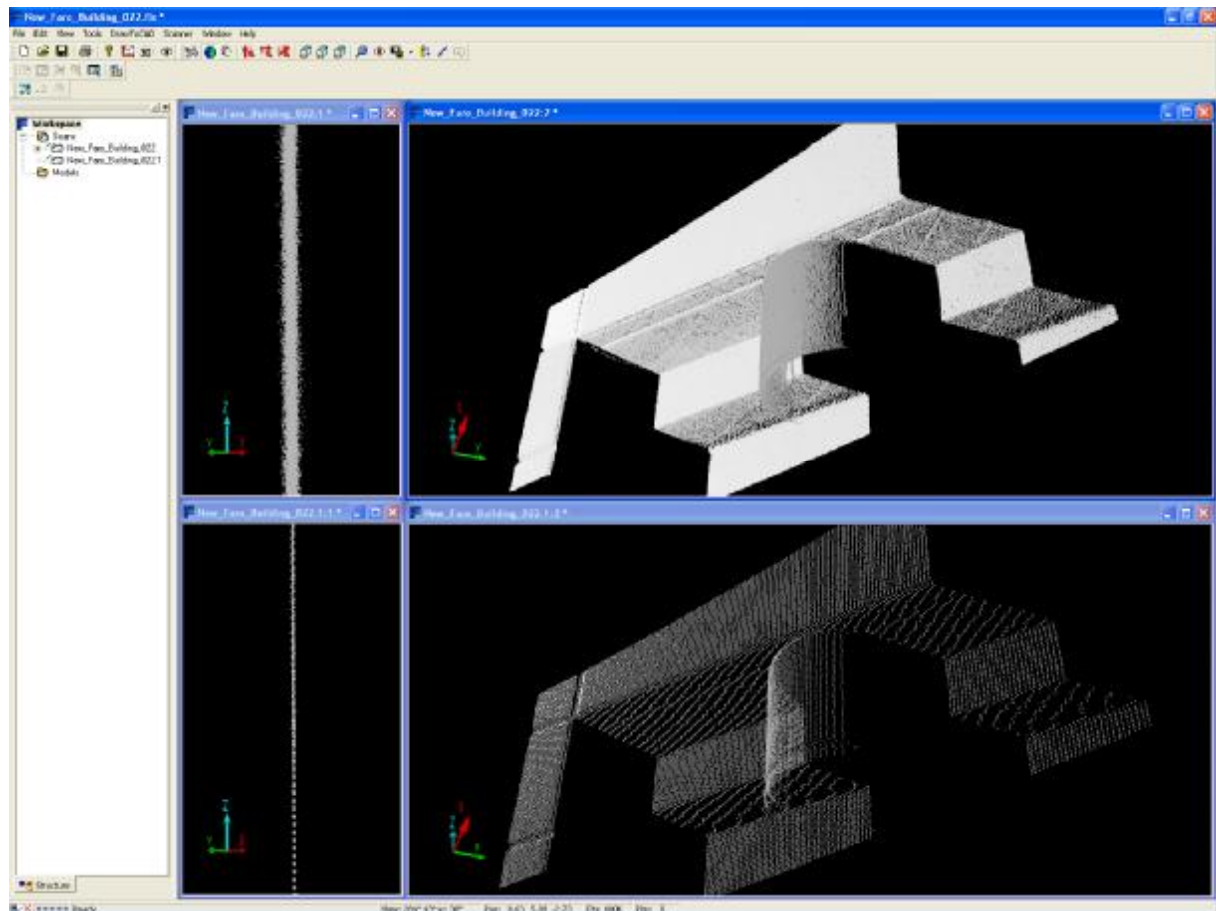


Upper window: Original scan in planar view

Lower window: Scan after “Noise Compression” in planar view

To make sure that you do not lose your work save the workspace which will let FARO Scene also save the new scan to your hard drive.

If you compare your scan data before and after compression, you will see the difference immediately.



Sections of a scanned building in 3D view.

Upper left: Cross-section through a wall, original scan data

Lower left: Cross-section through the same wall after "Noise Compression"

Upper right: 3D view of a section of the original scan data

Lower right: 3D view of the same section after "Noise Compression"

Optionally, it might improve the result further, if you run the "Stray" filter with the compressed point cloud.

Behind the scenes:

When running the "Noise Compression" feature FARO Scene takes quadratic samples of the point cloud and averages the sampled points into one single point. The size of the samples is defined by the level of compression you chose from the settings of that feature. "2" means a sample of 2x2 scan points, "3" means 3x3 scan points and so on. Obviously, this results at the same time in a reduction of the amount of points by the square of the selected compression level.

Unless "sub-sampling" this feature does not just drop off points, it uses all available information to calculate a smoother point cloud.



This feature is available for FARO Scene version V4.1.10.2 or later.

In case you are using FARO Scene version V4.x.x.x you can upgrade without any extra costs. If you wish to get a free upgrade, please contact our customer service department.

If you are using an older version of FARO Scene, you also have the possibility to upgrade. Please contact our customer service department for more information.

Customer Service:

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