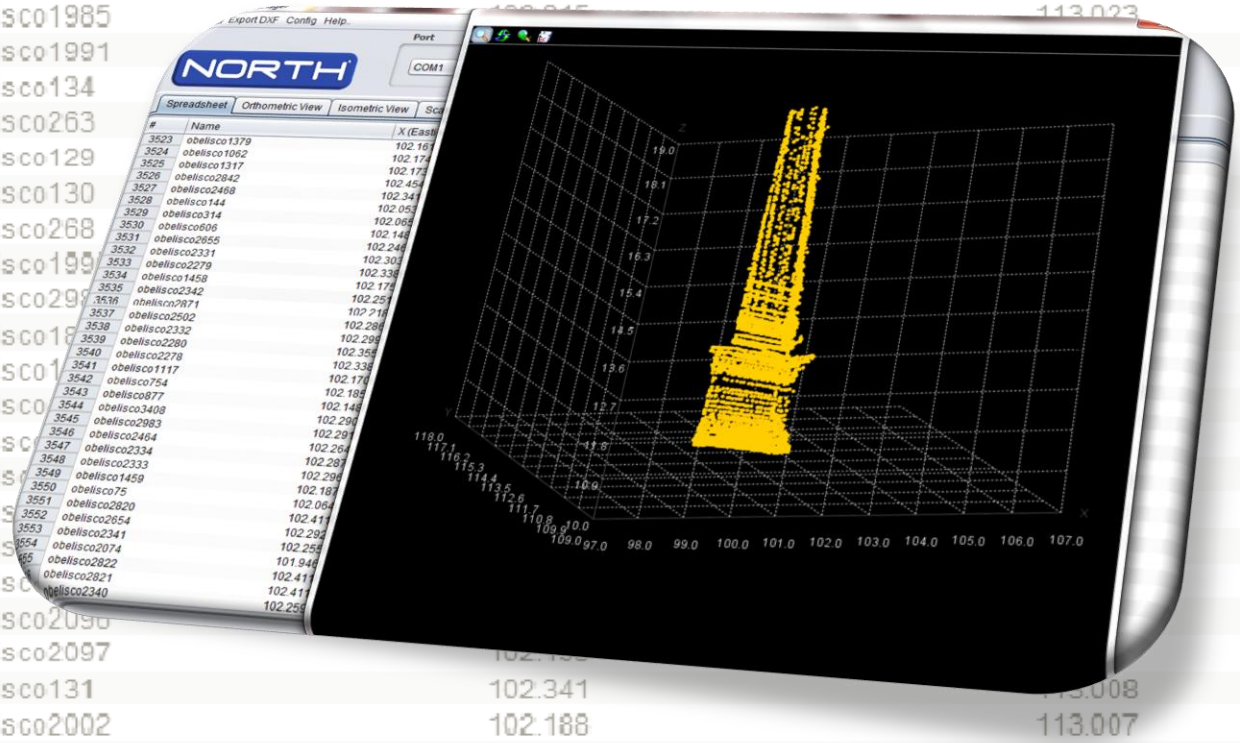
NORTH

Surveying and Positioning Systems

Spreadsheet | Orthometric View | Isometric View | Scanner Config

	Name	X (Easting)	Y (Northing)
4248	obelisco296	102.441	113.035
4249	obelisco297	102.421	113.035
4250	obelisco302	102.267	113.035
4251	obelisco102	102.527	113.033
4252	obelisco128	102.412	113.033
4253	obelisco439	102.450	113.032
4254	obelisco269	102.521	113.031
4255	obelisco127	102.437	113.030
4256	obelisco438	102.347	113.030
4257	obelisco100	102.462	113.029
4258	obelisco1880	102.617	113.028
4259	obelisco101	102.477	113.028
4260	obelisco1985		
4261	obelisco1991		
4262	obelisco134		
4263	obelisco263		
4264	obelisco129		
4265	obelisco130		
4266	obelisco268		
4267	obelisco199		
4268	obelisco29		
4269	obelisco1		
4270	obelisco1		
4271	obelisco		
4272	obelisc		
4273	obelis		
4274	obelis		
4275	obelis		
4276	obelis		
4277	obelisco2096		
4278	obelisco2097		
4279	obelisco131	102.341	113.008
4280	obelisco2002	102.188	113.007
4281	obelisco300	102.344	113.007
4282	obelisco2098	102.192	113.006



NORTH DATA MANAGER

USER GUIDE

WWW.NORTHSURVEYING.COM

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About this version.

Before installing the program; be sure you have already installed the JAVA SUN virtual machine. Otherwise the program will install it on your PC.

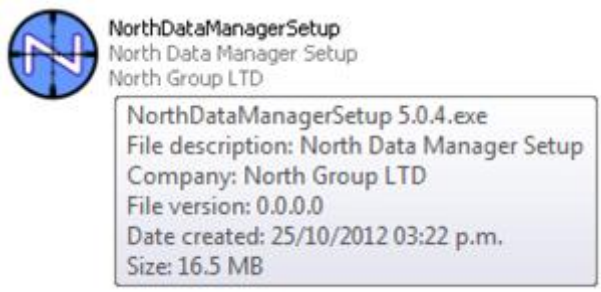
This version released is able to work only with E, N, Z coordinates, for other kind of measurement, you will have t wait for the next version to be released.

The 2D & 3D windows preview on North Data Manager is only with view purpose, so it will not allow you to edit the points throw such window.

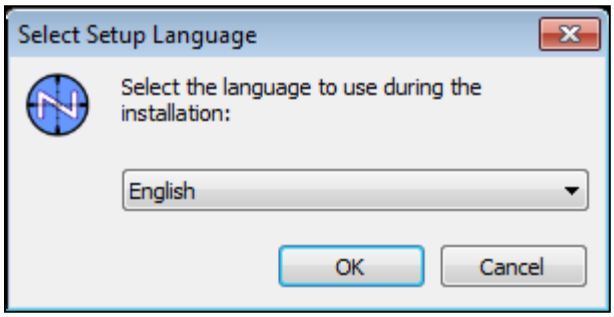
Before close the program; please be sure to save (export) all measurements and control point, after the program closes all data will be lost.

North Data Manager Installation.

- Starting the setup.
  In order to start the setup, please execute the NorthDataManagerSetup.exe file.

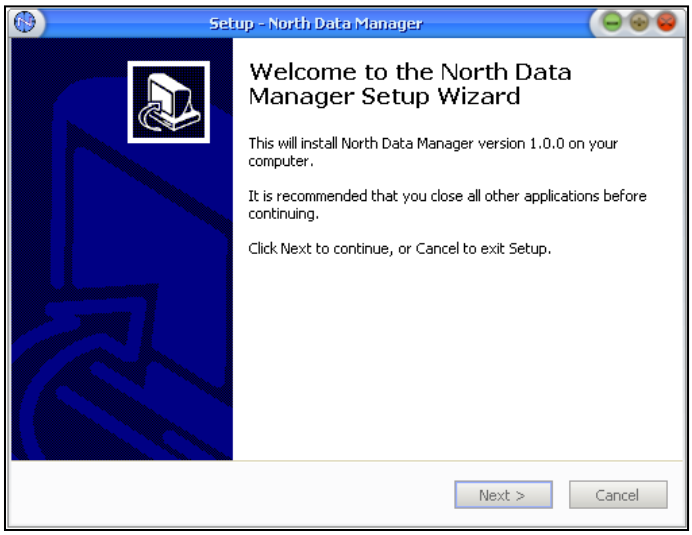


- Choosing the language.
  Please choose the language you prefer for continue the installation, there are 3 options: Spanish, English, and Portuguese.



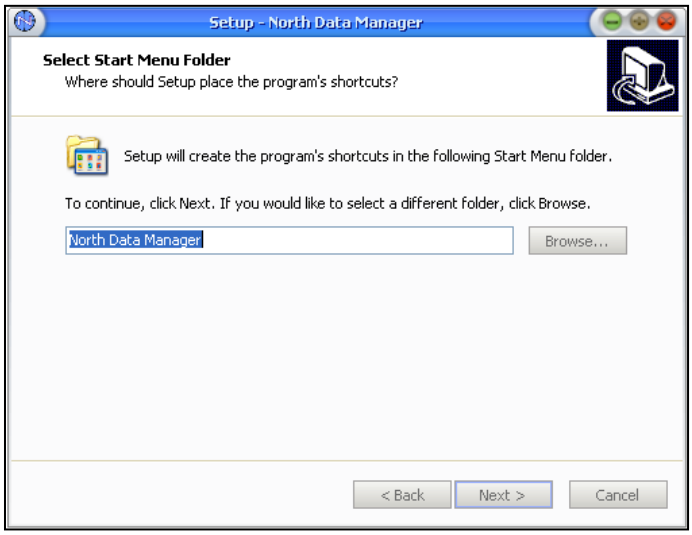
- Welcome to Setup Wizard.

  After you chose the language the Setup Wizard will guide you throw the installation procedure. Please continue by pressing NEXT>.



- Choosing installation folder.

  By default the program will install on *C:\NorthDataManager* folder directory, if you want to change it, use the BROWNSE… option to set a different folder directory, other wise press NEXT>.

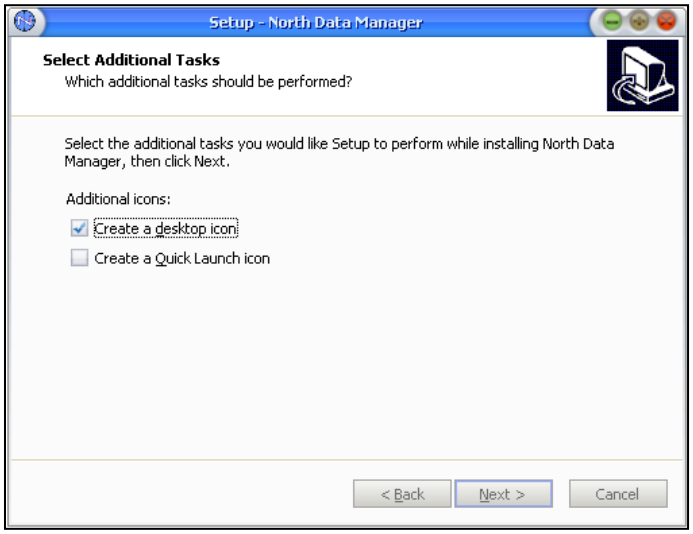


- Additional tasks.

  The next window will allow you to choose the additional installation options:

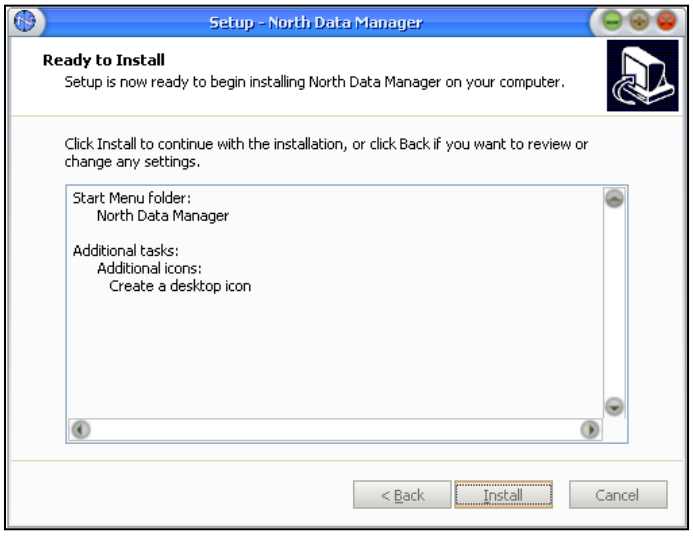
  - Create a desktop icon.
  - Create a Quick Launch icon.

Choose the one you prefer or both. After that, continue by pressing NEXT>.

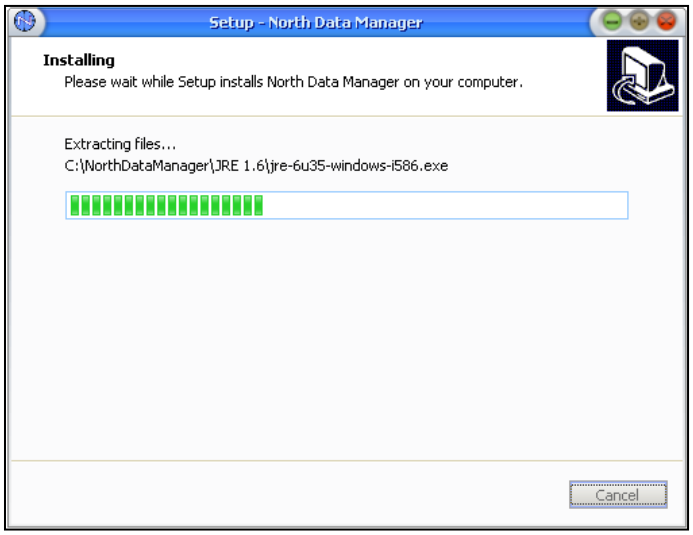


- Ready to Install.

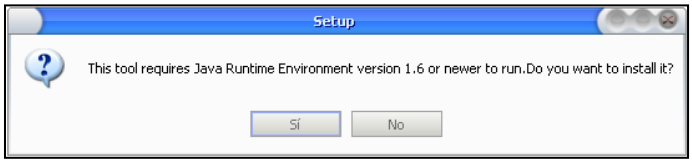
  The program now it's ready to install on your personal computer, if you are agree please press INSTALL otherwise choose <BACK for a previous step or CANCEL for abort the installation procedure.

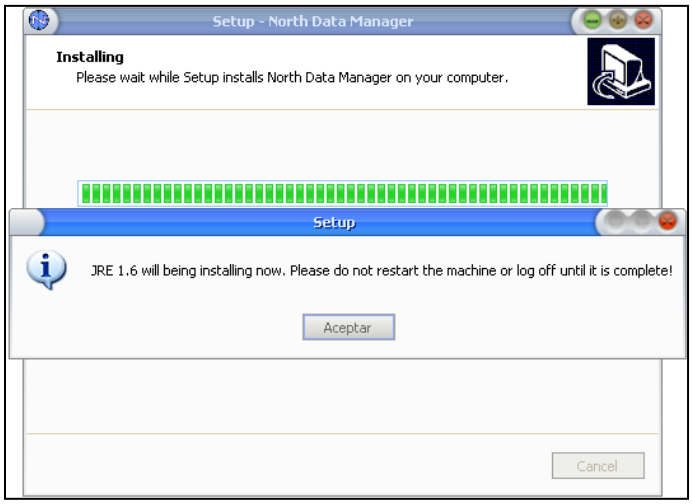


- Installing.
  On this step the program will install on your personal computer, please do not use any other application which may causes any installation failure.

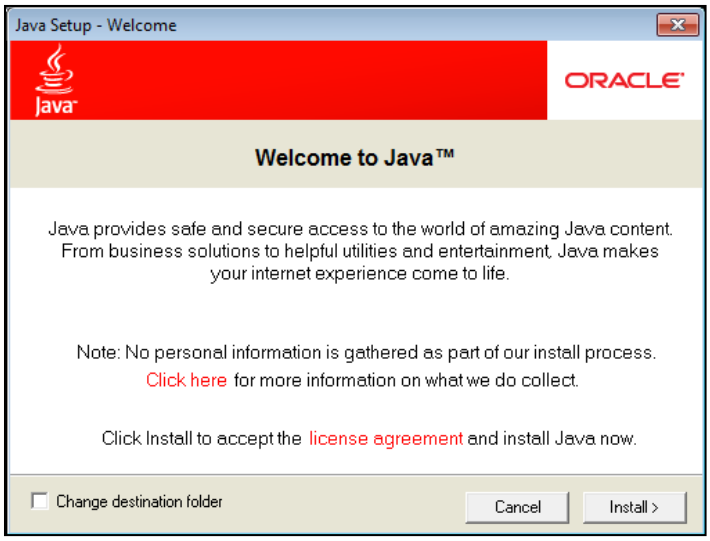


  - JAVA SUN Virtual Machine detection.
    It is very important to already have installed the JAVA SUN virtual machine on your computer. If you don't have it, the program will verify it and warn you about it, in order to install JAVA SUN, please confirm by pressing OK .



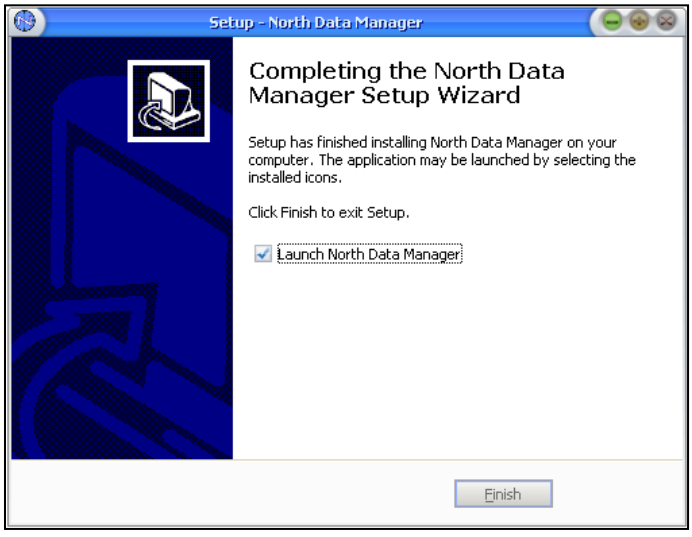


- JAVA SUN installation.
  At this step JAVA will install on your computer. Press INSTALL.



- JAVE SUN Installed.
  Please confirm the window after JAVA SUN was installed on your computer, in order to continue the North Data Manager program.

- End of Installation.
  Finally you will the last installation window indicating the process is done.

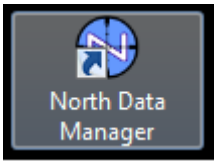


Opening at first time and Activation.

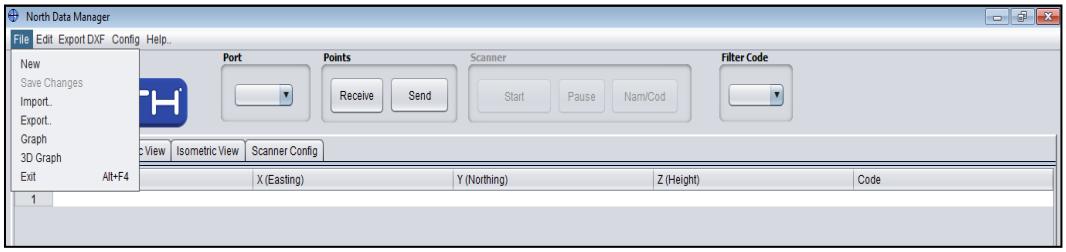
The first time you open the program you will notice it has many option unavailable.

- **Opening at first time.**

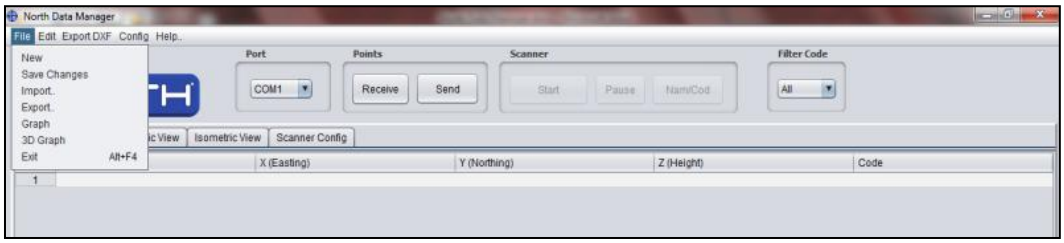
Please find the direct access icon on your desktop or go to Start -> All programs -> North Data Manager and execute the program.



When you open it, you will find several options are unavailable due the program is still not activated.



In order to use it with the all features you must activate the program.



- **Activation.**

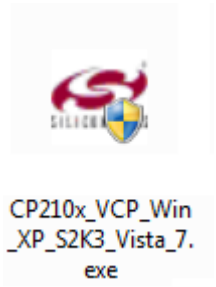
The only way to activate the software is by downloading data information from a North Total Station NXR using cable or BT. After that you will be able to use the program at any time.

NXR Driver installation and connection.

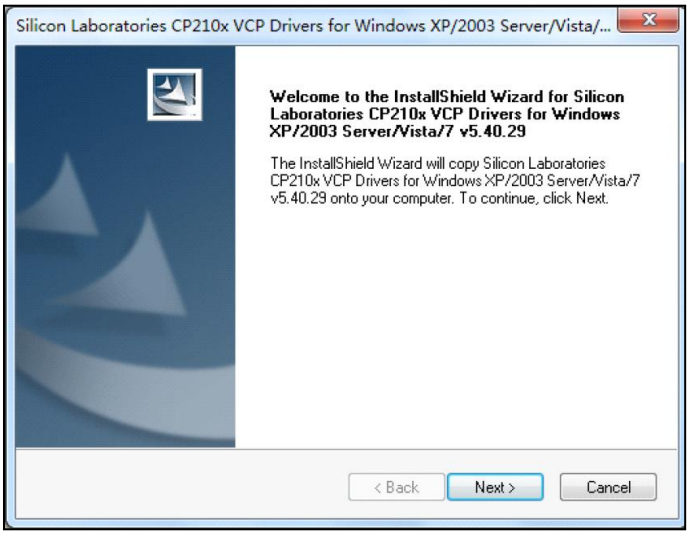
Before establishing communication between North Data Manager and the NXR Total Station, is necessary to install the driver in order to set a COM port communication.

- **Driver installation.**

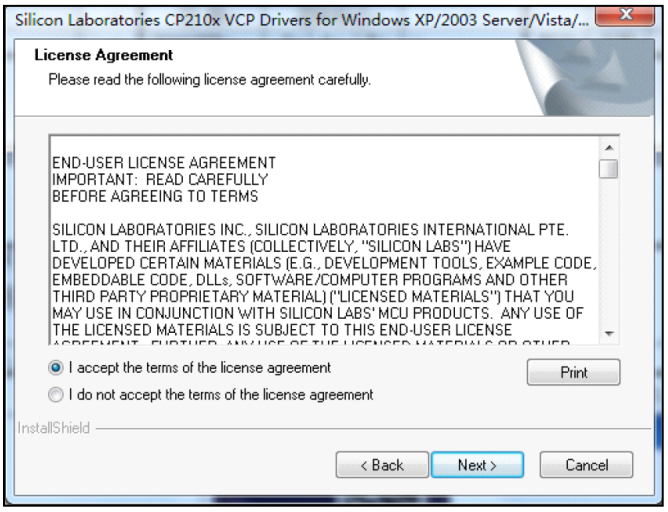
Execute the file: CP210x_VCP_Win_XP_S2K3_Vista_7.exe



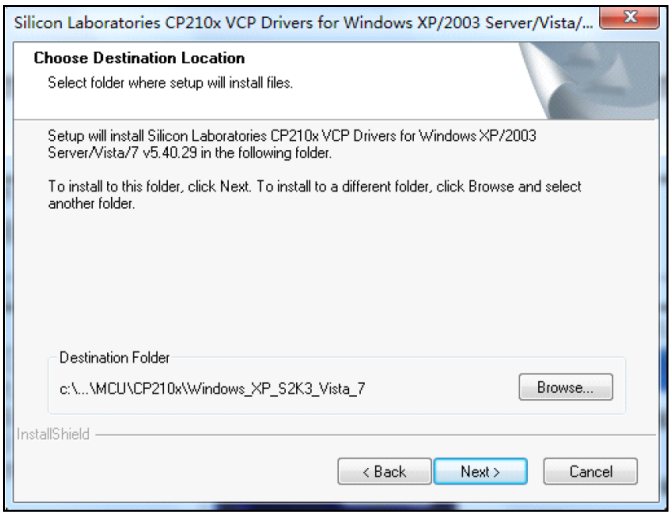
After that you will see the installation wizard for the driver. Please select NEXT>.



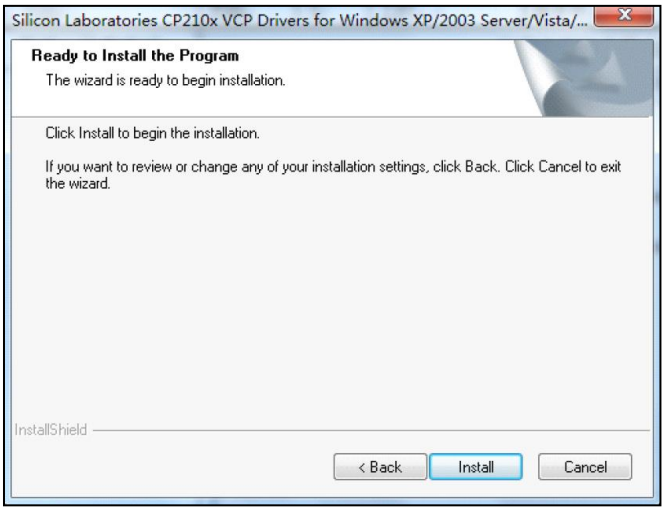
On the next windows please read and accept the license terms agreement, then press NEXT>.



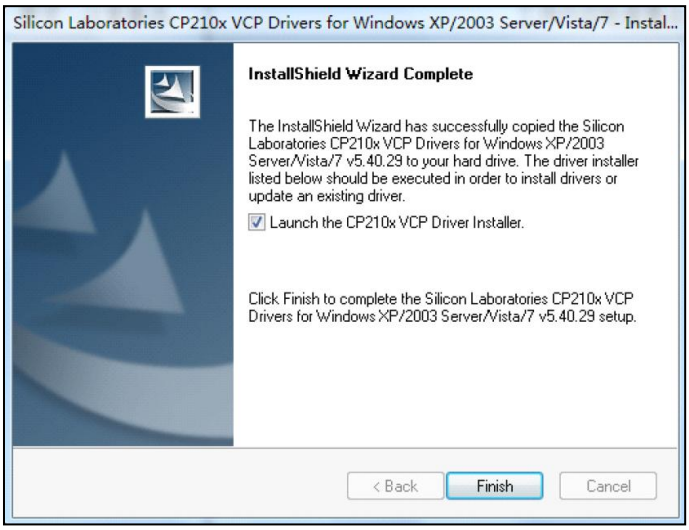
The program will be installed on the default directory; if you want to change it you can assign the folder on this window. Then press NEXT>.



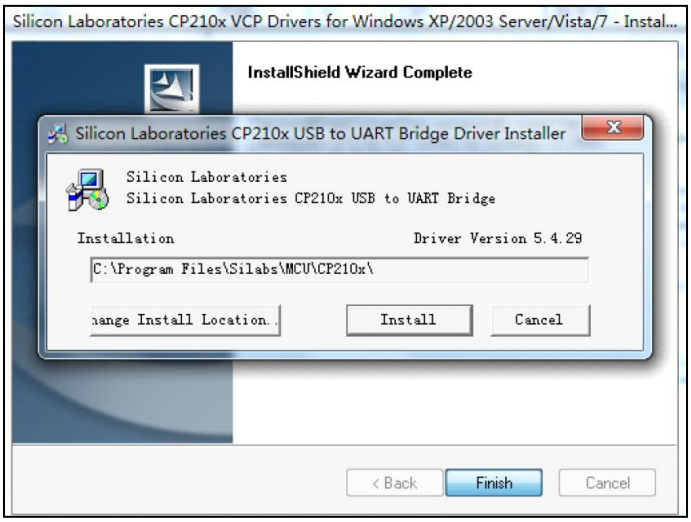
Now the program is ready to be installed. Press INSTALL.

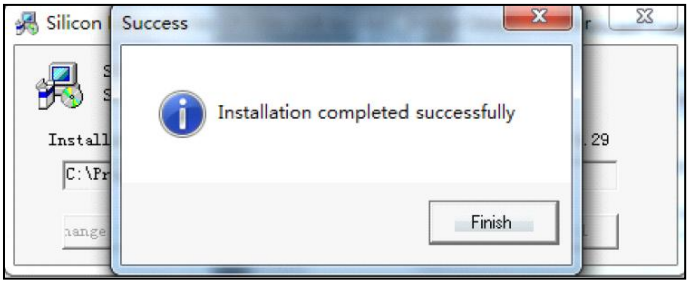


After this step, the program will copy all necessary files on your computer; on the next window select the option “Launch the CP210x VCP Driver Installer” and press FINISH.



Finally the program will finish installing the driver. Please confirm when popup a window with the final information about the installation.

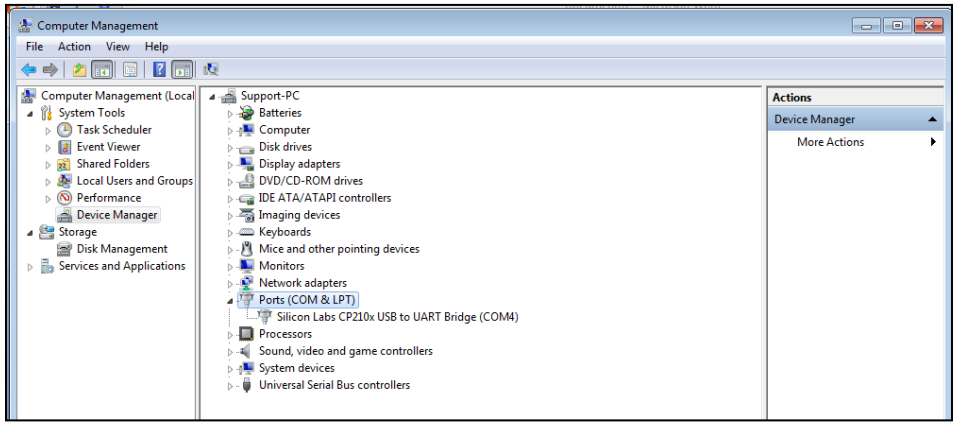




➢ **Connection.**

▪ **Connection via Cable.**

Please connect the device to your computer using the USB terminal, and then turn on the total station. For the assigned COM port, please verify the DEVICE MANAGER on your computer in order to find the connection available.

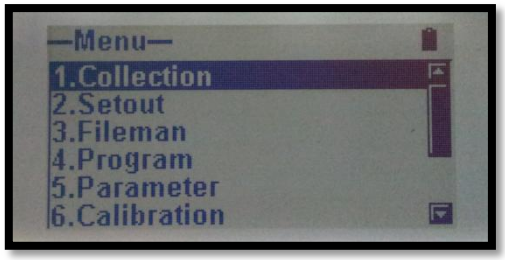


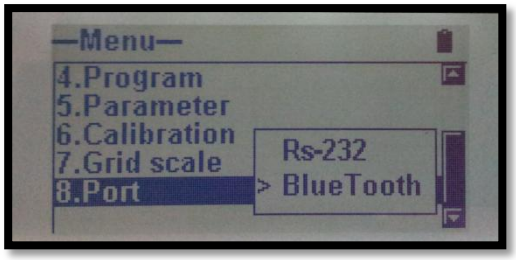
You will identify it by the name of controller used: Silicon Labs CP210x USB to UART Bridge. Followed by the number of COM port assigned.

- **Connection via Bluetooth.**

The first step is turn on the Bluetooth on the Total Station, follow the next procedure in order to do it (It´s very important to confirm whether your device has Bluetooth with your local dealer).

Menu -> 8. Port -> Bluetooth->ENT (button)



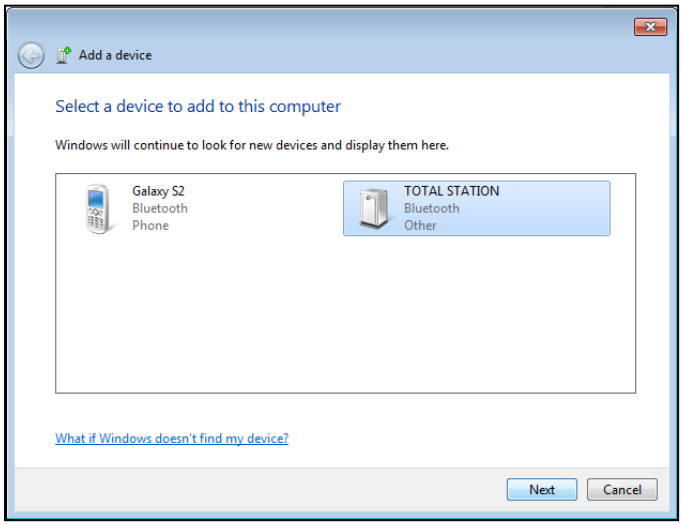


Setting communication on the computer via Bluetooth.

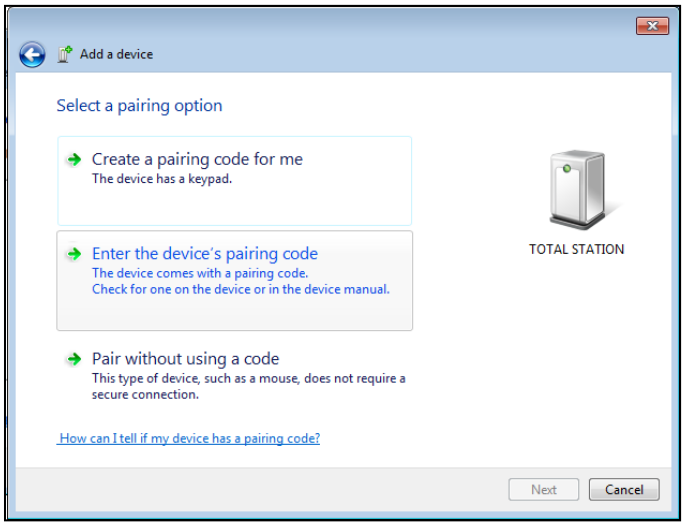
Follow the next procedure on your PC in order to set the connection.

Start -> Control Panel -> Add new Device

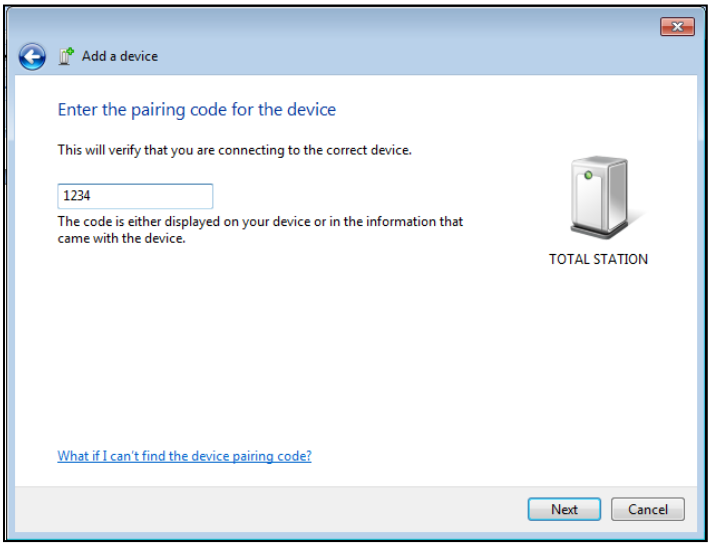
After that you will see all devices with Bluetooth, choose the total station. Then press NEXT.



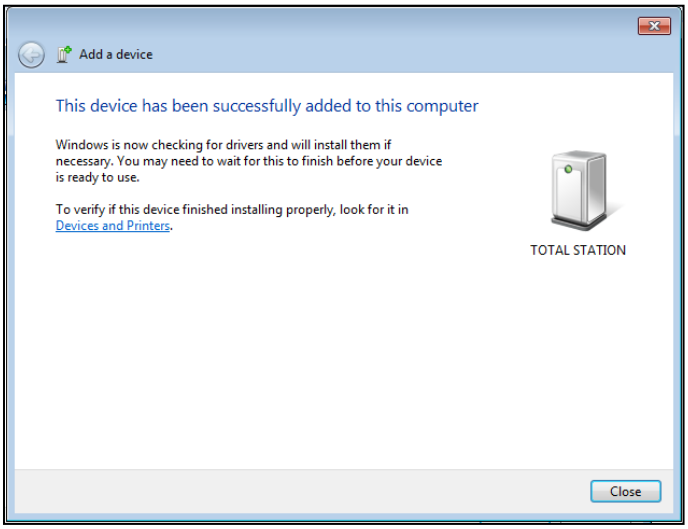
On the next window choose the option “Write the Device pairing code”



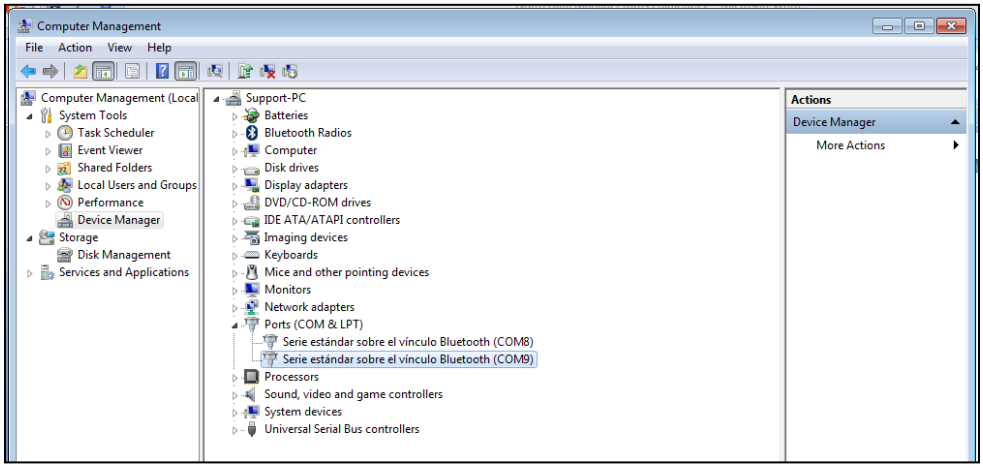
Now write the Pairing code which is “1234”; then press NEXT.



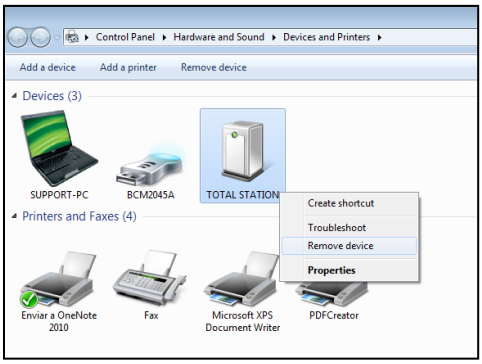
Finally you will see a window showing the result of pairing, if it was success you can close the window, otherwise try to connect it again.



After that you can find the COM ports assigned on the DEVICE MANAGER on your computer.



For uninstall the device go to CONTROL PANEL -> SEE HARDWARE AND PRINTERS. Find the Total Station and uninstall (remove) it.

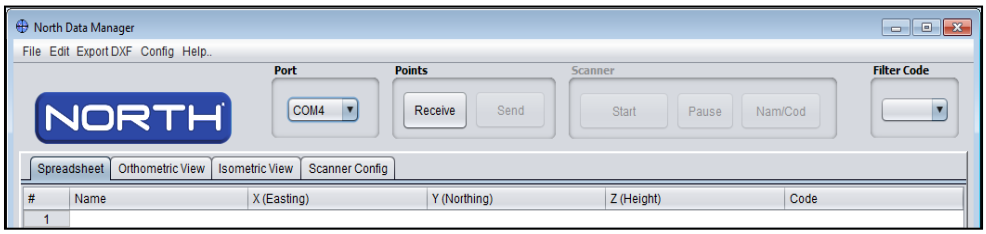


Activating the North Data Manager.

In order to activate all functions on the program we are going to proceed to download information from a total station.

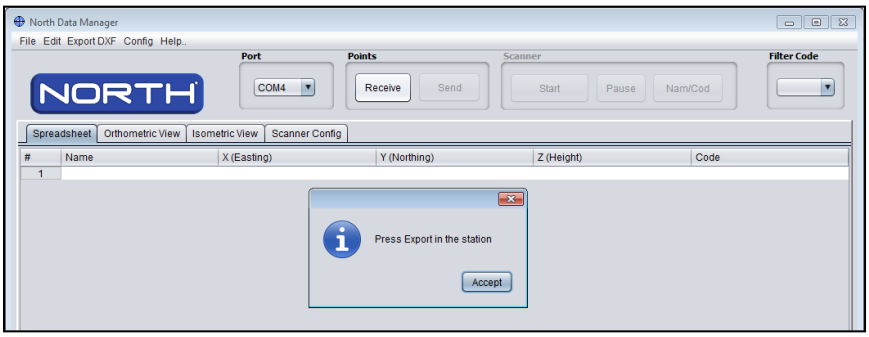
1. Please connect the total station to your computer via Cable (or pair it via Bluetooth) then open the North Data Manager.

   Automatically the program will find the active port, in cases with Bluetooth connection please choose the first one COM port. On the picture it found COM9



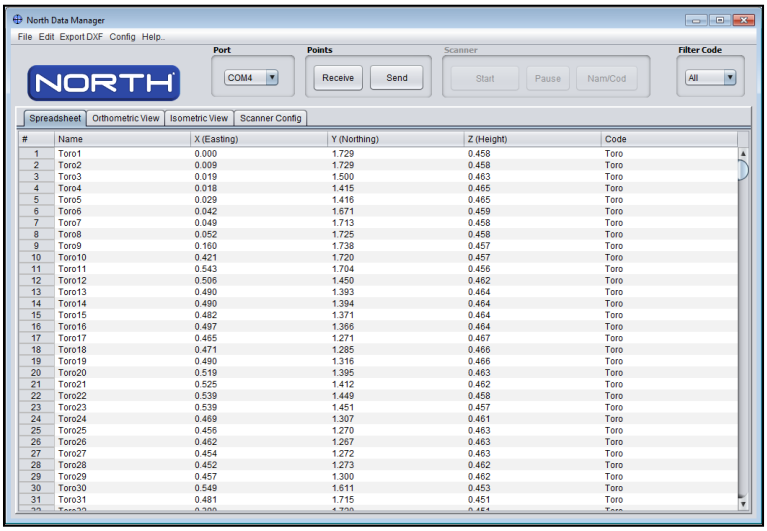
2. On the total station prepare it for export data (check the NXR manual for reference).

3. Press the button RECEIVE, after that you will see a popup with the message PRESS EXPORT IN THE STATION, warning after you confirm the program will be awaiting for the data, you should export the data from total station within the next 15 seconds.

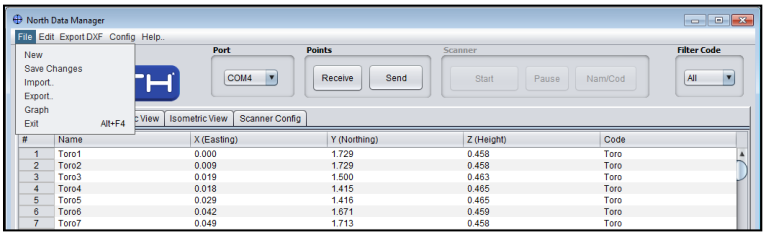


4. While downloading data please do not use any other application which could causes any failure.

5. When the data is received you will see it on the main spreadsheet.

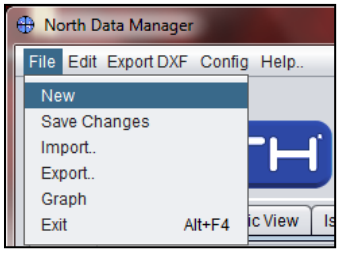


6. Now, you can verify the program is activated.

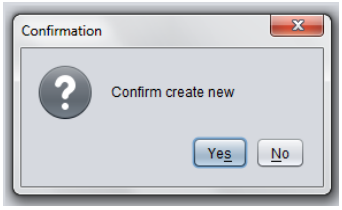


Tools

- **File>>New.**



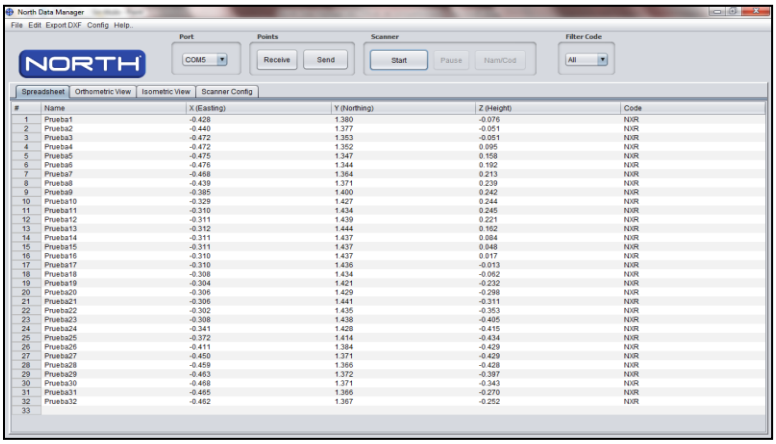
This option is for a new job, please click on “New” for a create a new job, before the program is a question for your confirmation.



- **File >> Save Changes**

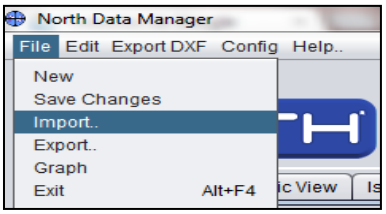
Before you can use this option, you must have imported or exported to a file, after having made some changes, you can now save your changes.

After modification the points measurements, please continues for a save your job.

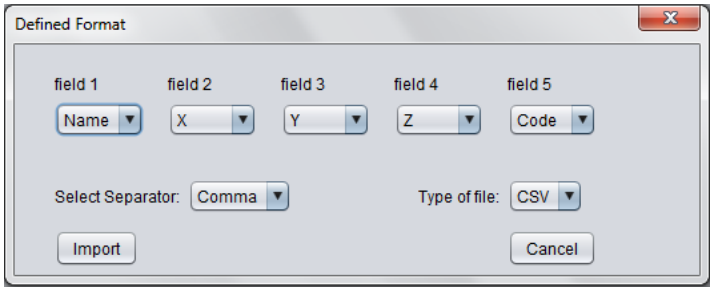


Please click for a button “File>> Save Changes” then asks if you want to save.

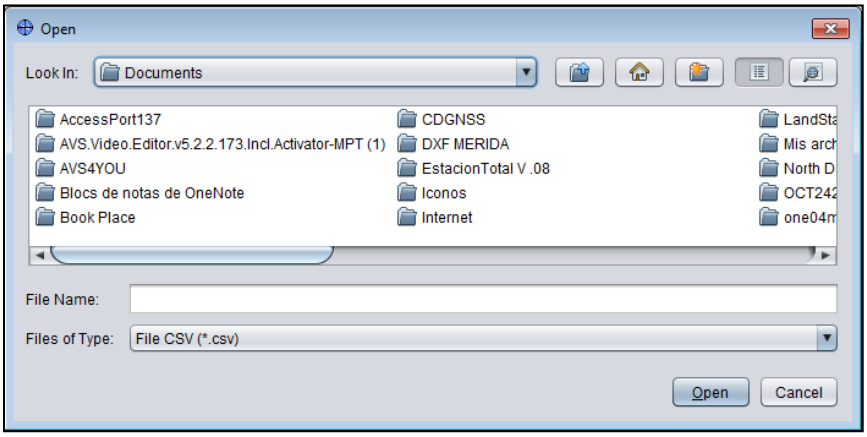
- **File >> Import**



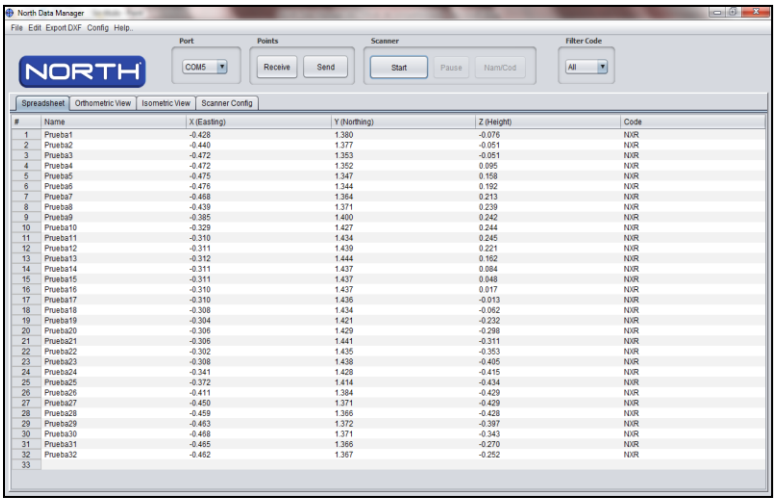
The Import option is very important, will enable us to view the files in the program that have been previously saved.



After a window in which we can choose the type of accommodation of the file as well as the type of formatting you want to import, and in addition we see the option for that type of separator need. Please finish after click in the button Import.

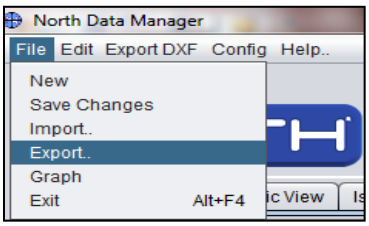


Now select the file you want to import. Sure have chosen the correct file, proceeded to click on "OPEN".

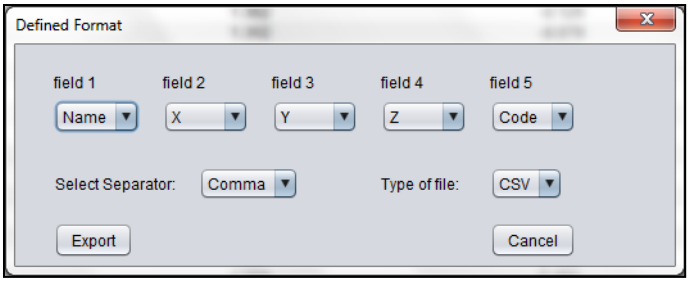


We finally have our work after completing their modification or add more point, we can save from the "File >> Save Changes"

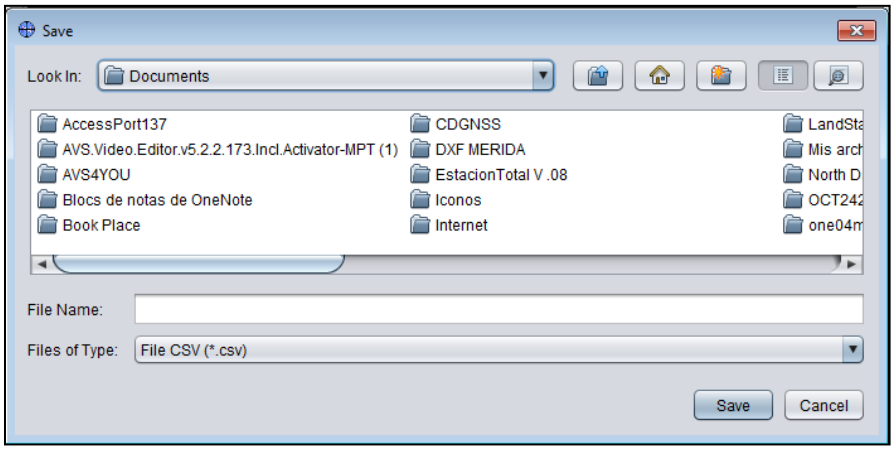
- **File>> Export.**



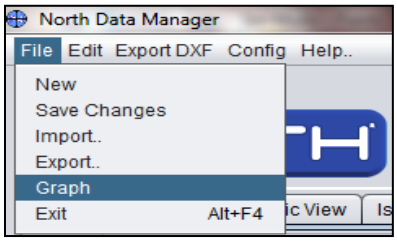
This option helps us to export the data obtained through the total station NXR or imported files we want to export to another destination. We are free to choose where to send, also can edit and then export.



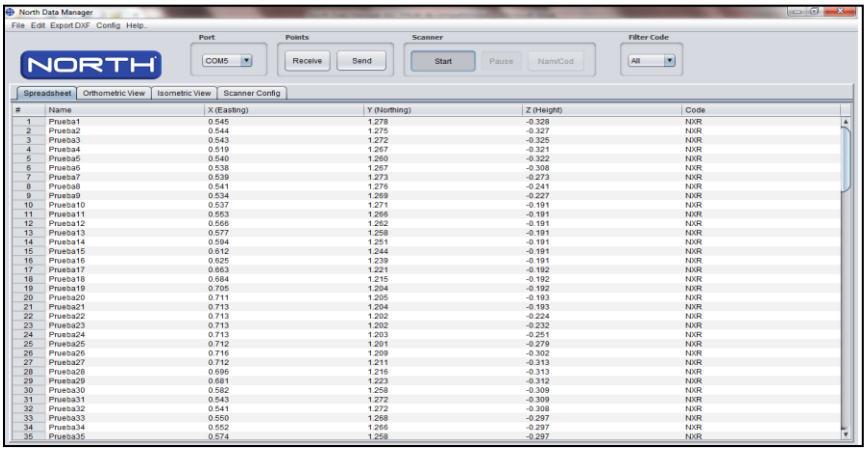
After defining the format, choose where you saved (exported) our work.



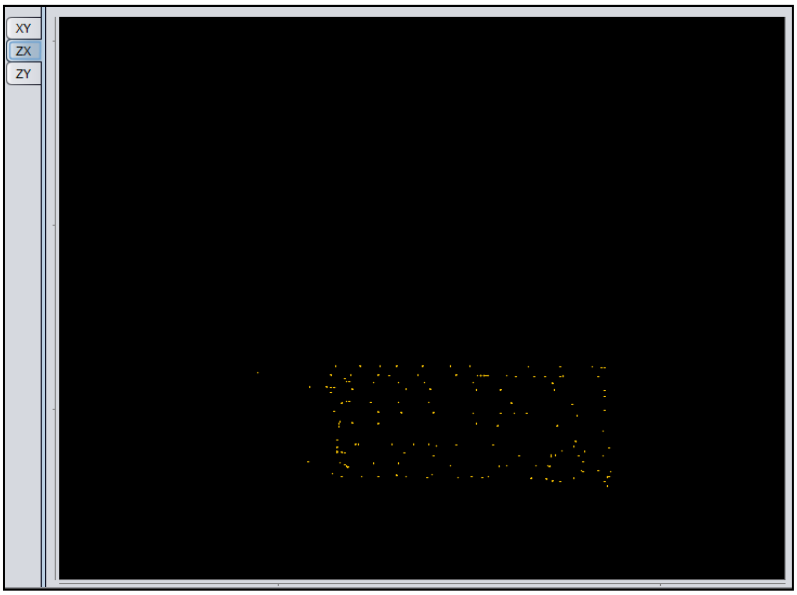
- **File>> Graph.**



This option helps us to visualize the points we have stored, or that we are scanning.



Taking our point we can visualize them by clicking "View Orthometric" getting our graph our points taken:



- **Edit>> Copy.**

This tool is used to copy one or more points.

- **Edit>>Cut.**

This tool is used to cut one or more points.

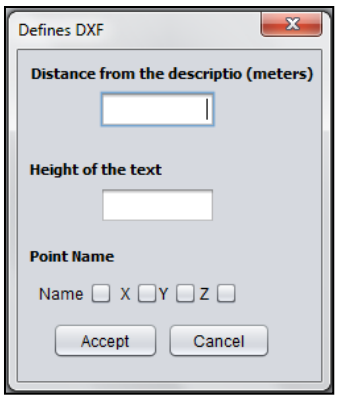
- **Edit>>Paste.**

This tool is used to paste one or more points.

- **Edit>>Undo.**

This tool will enable us to do throwback to an action already done.

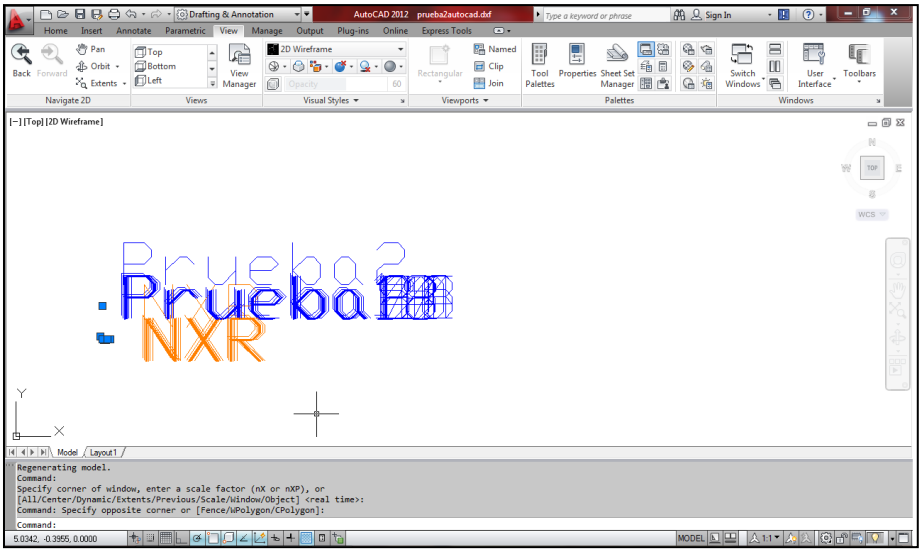
- **Export DXF>>Export**



This section refers to a file extension in AutoCAD.

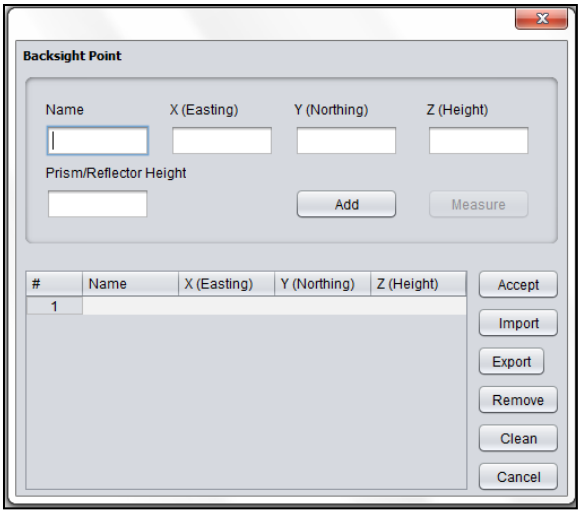
Well, in the section “Distance from the description (meters)” is for saying how much distance you want is information on each point. “height of the text” Indicates the font size of the information of each point. Indicates the font size of the information of each point. Just as "the point name" is to decide which information is observed. "X", "Y", "Z" or "name".

Example:



- **Config >>Control Point**

This configuration is to find the north by a known point and the total station, the known point is called "backsight point".



- **Config>>Refresh ports.**

Refresh the ports from the connection the "Total Station".

- **Config>>Language.**

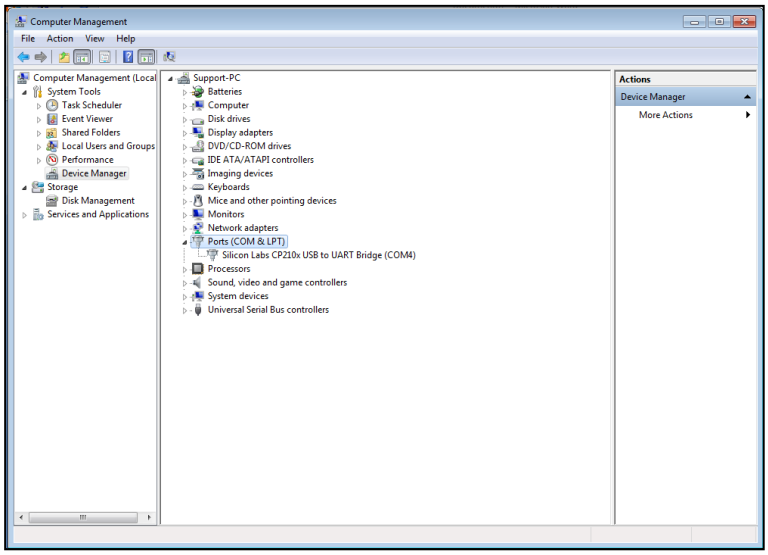
Select your favorite language.

- **Help>>Create sample file.**

Creates a single file which needs to import to visualize.

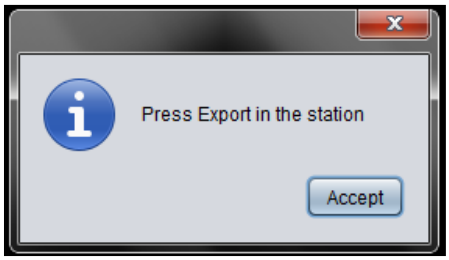
Port & Points.

The program features automatic port allocation, if the port is not being detected, it is recommended that you can find the COM ports assigned on the DEVICE MANAGER on your computer.



- **Receive.**

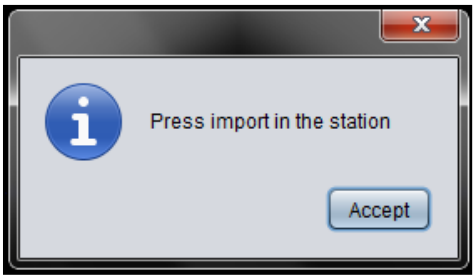
First press indicates that export in our "Total Station", and then we have 15 sec. Export to file



For receiving measures from our "total station" is necessary to have to export them from the station to the computer, to view and edit the measurements.

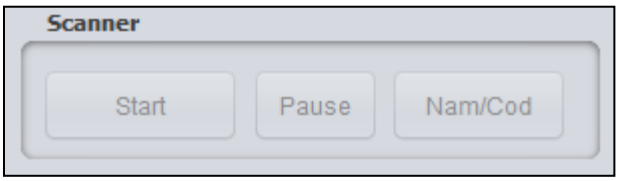
- **Send.**

First press indicates that export in our "Total Station", and then we have 15 sec. Send to file



For sending measures from our "total station" is necessary to have to import them from the station to the computer, to view and edit the measurements.

Scanner.



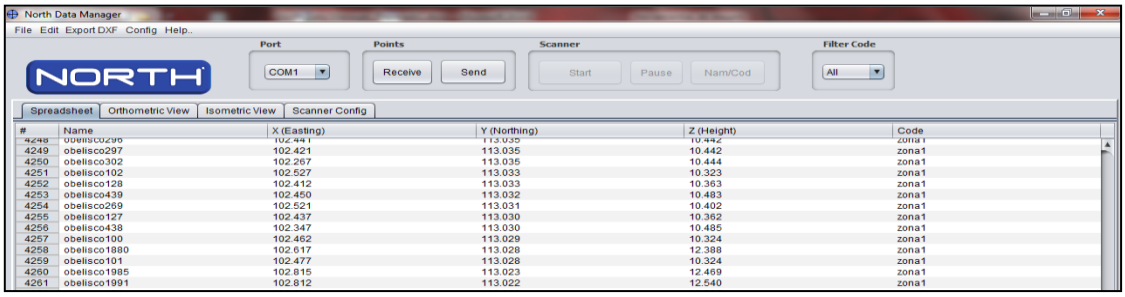
The image scan is very helpful to us because we can view images from the point of "Orthometric" and "isometric".

Today is an important tool because we can visualize a 3D image .

Note: to do the scan “The Total Station" Make sure press the button "DIST" or if not to press the "DIST" on the keyboard, this will have to the connection between the two.

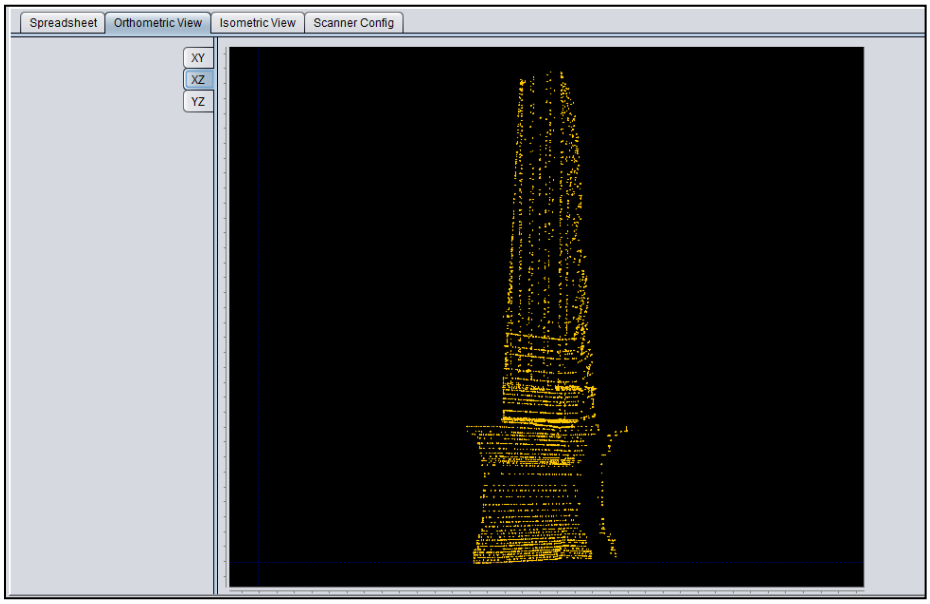
Example:

1. After pressing "Dist" in our station, click on "Scan" and then start recording station points.

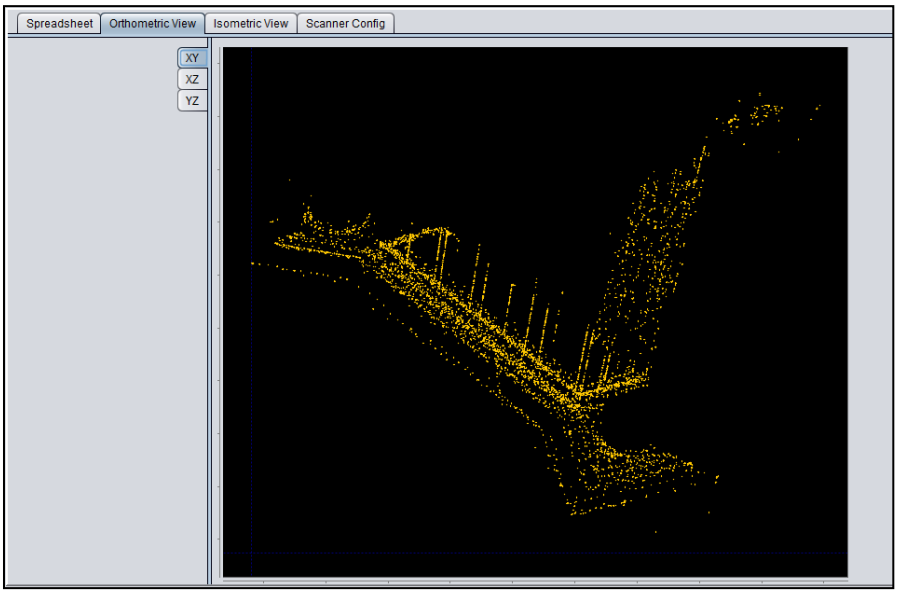


#	Name	X (Easting)	Y (Northing)	Z (Height)	Code
4249	obelisco297	102.421	113.035	10.442	zona1
4250	obelisco302	102.267	113.035	10.444	zona1
4251	obelisco102	102.527	113.033	10.323	zona1
4252	obelisco128	102.412	113.033	10.363	zona1
4253	obelisco439	102.450	113.032	10.483	zona1
4254	obelisco269	102.521	113.031	10.402	zona1
4255	obelisco127	102.437	113.030	10.362	zona1
4256	obelisco438	102.347	113.030	10.485	zona1
4257	obelisco100	102.462	113.029	10.324	zona1
4258	obelisco1880	102.617	113.028	12.388	zona1
4259	obelisco101	102.477	113.028	10.324	zona1
4260	obelisco1985	102.815	113.023	12.469	zona1
4261	obelisco1991	102.812	113.022	12.540	zona1

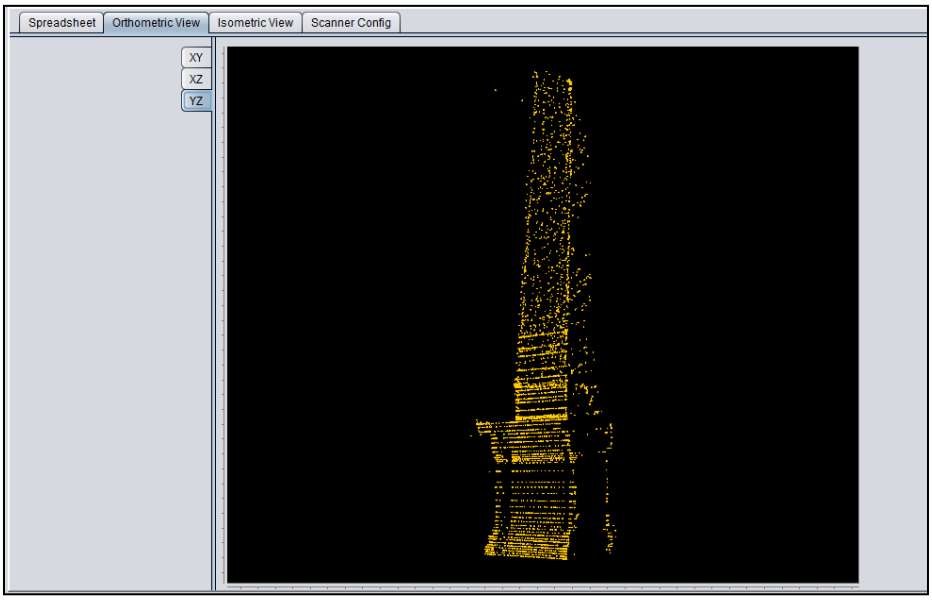
2. Graphed the points and we can see in "Orthometric View".



- Viewing angle “ZX”

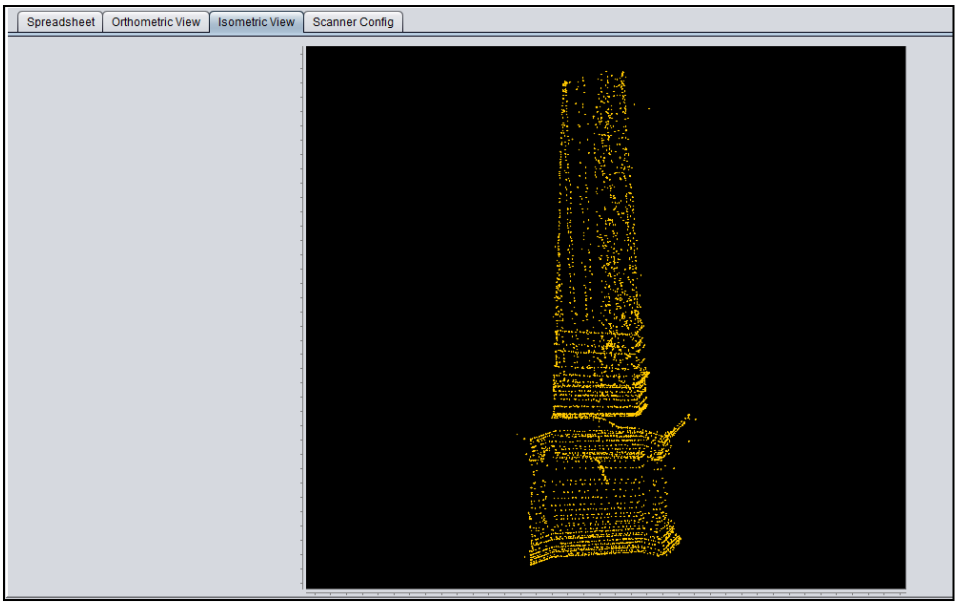


- Viewing angle “XY”



- Viewing angle “ZY”

3. “Isometric View”.



-In the option “Orthometric View” and “Isometric View” you can visualize more options, when you press click right in your mouse:

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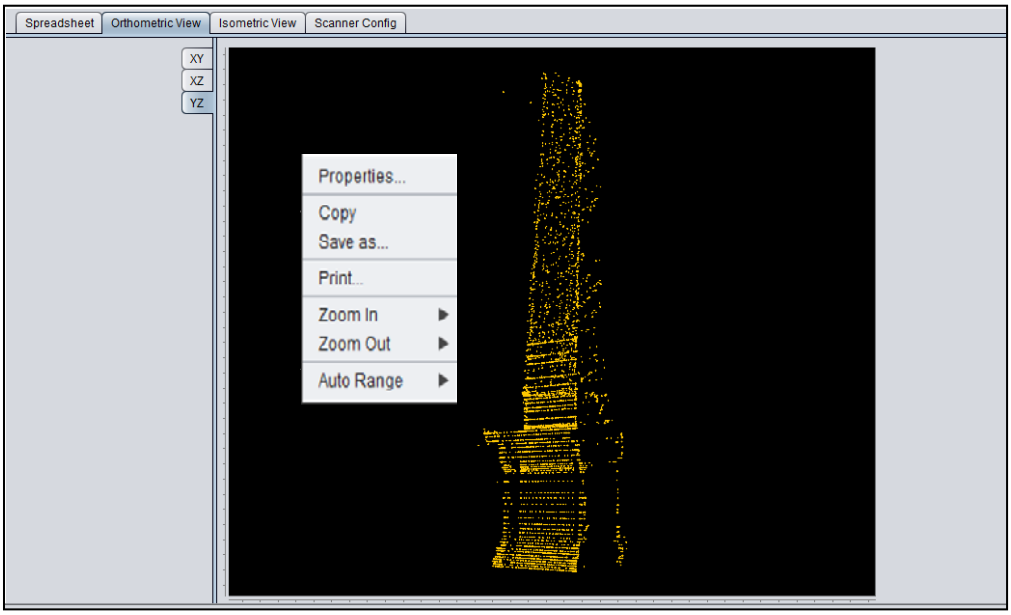
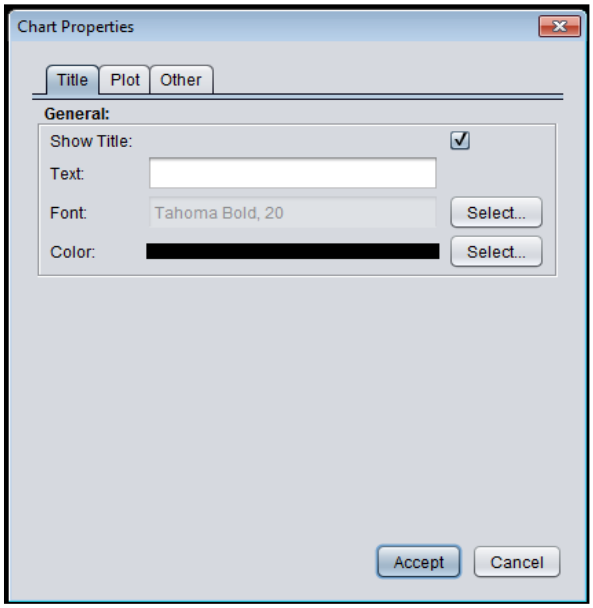
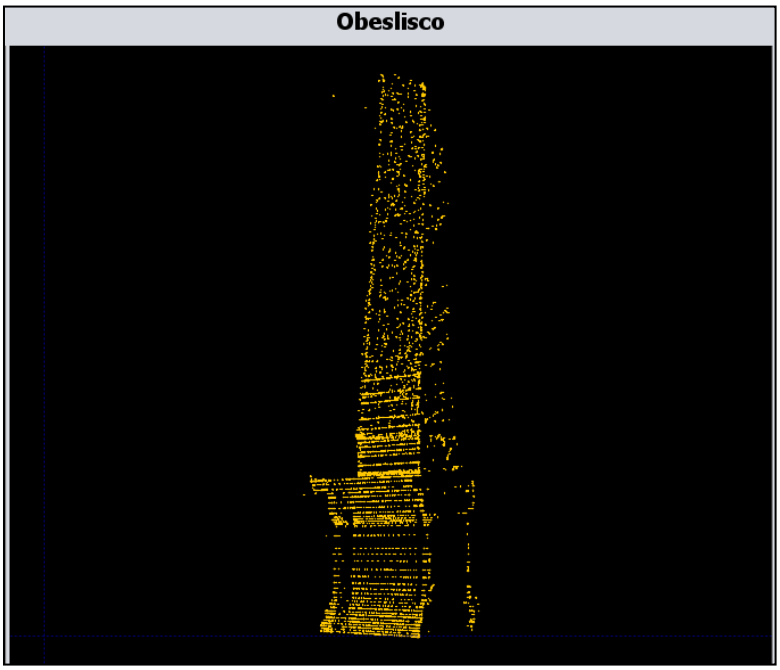
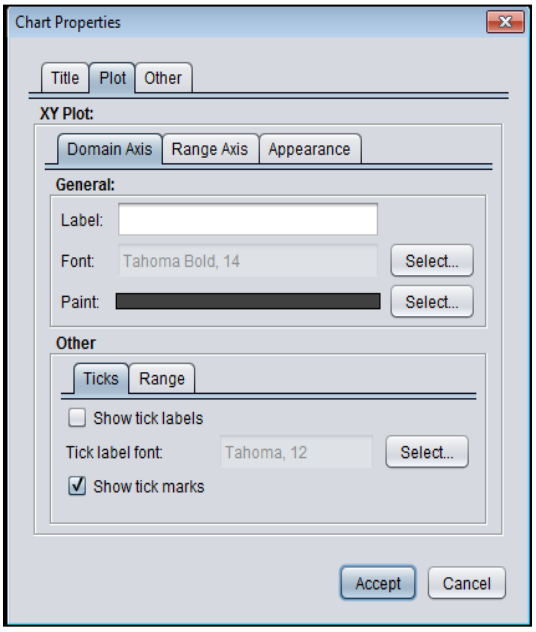


- **Properties:**
  - **Title.-** This option provides the facility to put a name to work and to be able to name the abscissae, and the coordinates, is a complement to visualize in a better way our scanned object.

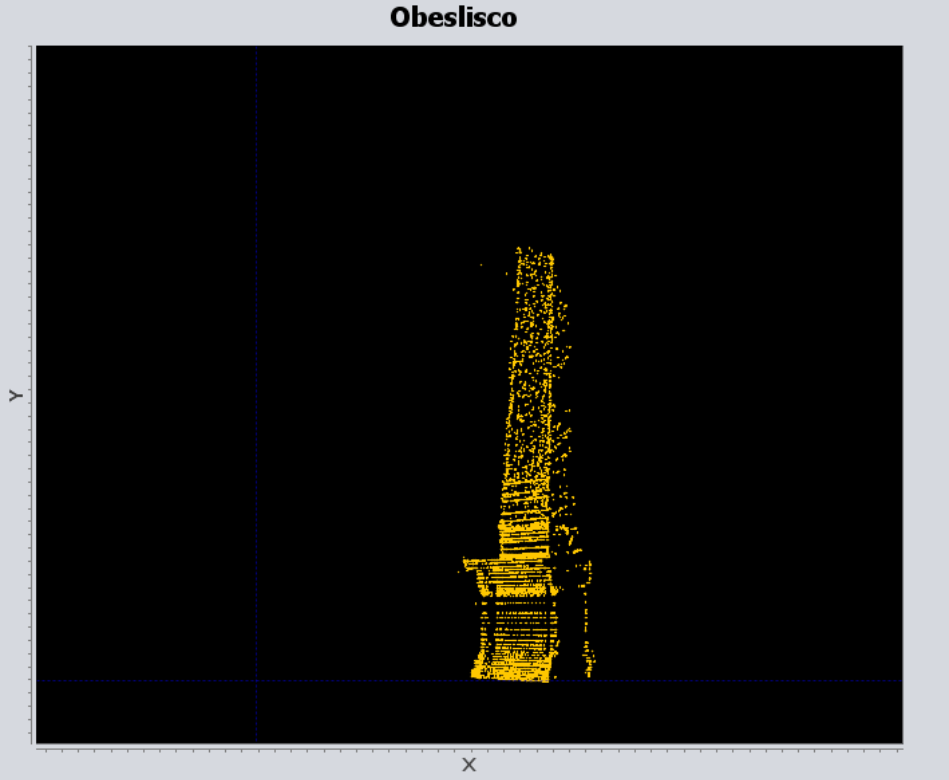


Name assigned:





- **Plot.-** In this option, you can assign a name to the x-axis and the axis of coordinates, also can be assigned any desired font or a color of your choice.

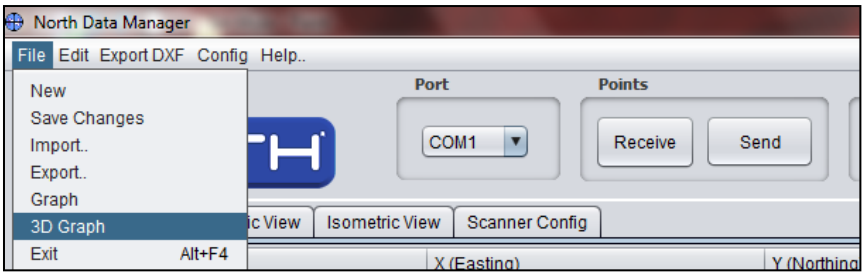


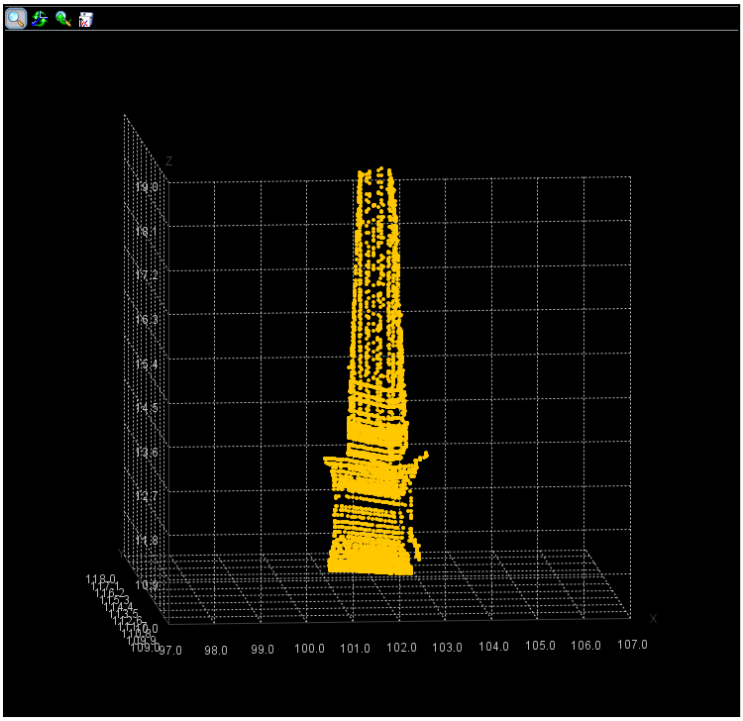
- **Copy.-** This option is to place a copy of the image being displayed and can use it in any program of our choice.
- **Save As.-** This option facilitates the saving of the image, saving file *. png. This option helps to open more easily to open or to make use of it.
- **Print.-** To print this option is necessary, also makes us a quick impression of our image and displayed or edited.
- **Zoom in, Zoom out.**- These options can help us zoom in or zoom out the image can also zoom or away from the axis we want to see.
- **Auto range.**- After use the zoom in or out of the image, pressing this option, our image back to its mode which Visualize all the plotted points.

3D view.

This new method allows visualizing our scanned images into 3D mode without the need for another program to do it, among your options is the Zoom option, save the file in *. Png and customize the graph.

After having the points please press the option “File>>3D Graph”

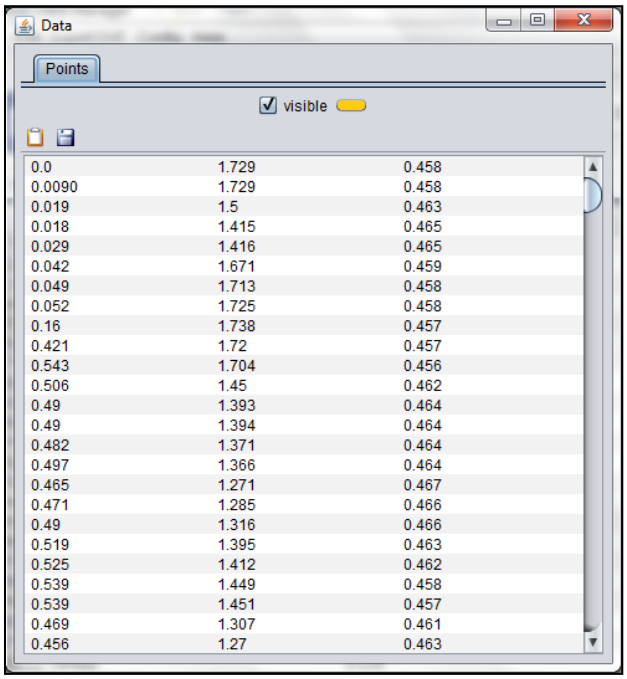




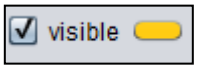
To move the image, we only need to click left and move to the side we want to visualize.

- Zoom.
- Rotate Axes.
- Reset Zoom & Axes.
- Save graphics in a .PNG file

To display the graphing table need to double click right on some point and then displays a table like this, where you can see the coordinate system.

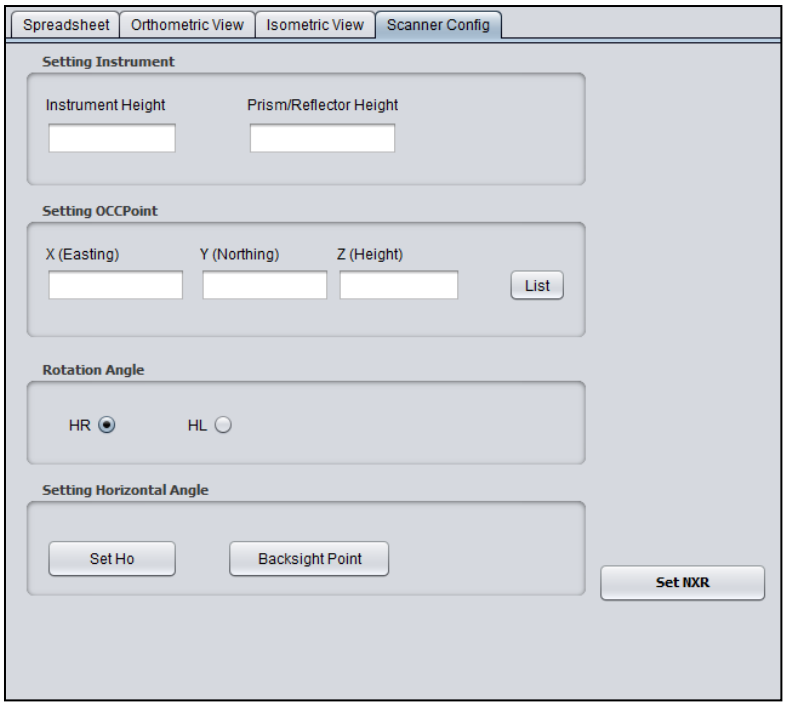


0.0	1.729	0.458
0.0090	1.729	0.458
0.019	1.5	0.463
0.018	1.415	0.465
0.029	1.416	0.465
0.042	1.671	0.459
0.049	1.713	0.458
0.052	1.725	0.458
0.16	1.738	0.457
0.421	1.72	0.457
0.543	1.704	0.456
0.506	1.45	0.462
0.49	1.393	0.464
0.49	1.394	0.464
0.482	1.371	0.464
0.497	1.366	0.464
0.465	1.271	0.467
0.471	1.285	0.466
0.49	1.316	0.466
0.519	1.395	0.463
0.525	1.412	0.462
0.539	1.449	0.458
0.539	1.451	0.457
0.469	1.307	0.461
0.456	1.27	0.463

- 

To customize our graph, we can change the color of all the points by choosing from a large range of colors.

Scanner Config.



Setting Instrument:

Instrument Height: define actual height of the "Total Station", remember that it must be the current measure in order to obtain concrete results and to obtain the real measure of the height at the time of making measurements.

Prism/Reflector Height: define actual height of the "Prism/Reflector ", remember that it must be the current measure in order to obtain concrete results and to obtain the real measure of the height at the time of making measurements.

Setting OCCPoint:

Introduce real coordinates of the station, this option is to maintain a point source, and to know the coordinates of another point to be measured.

Rotation Angle:

Indicates the type of rotation that would manage the station, please indicate the right to not for errors.

This indicates that when measuring a point you need to know which direction we measure if the HR or HL, this is very important to know the exact coordinates in the right direction.

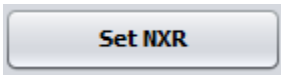
Set Ho:

Indicate the exact coordinates where north is, should ignore the coordinates, we recommend using the "Backsight Point".

Backsight Point:

This option is recommended in order to find the north based on a known point, you enter the coordinates of a known point.

When you enter the backsight and press "Set NXR", the "Total Station" grades indicate where are you, when you turn the total station configured to direction (RH or LH) grades go down to 0'00'00 ° this indicates that it is the north where it is pointing.

And finally click on 

when you finish setting.

Note: First do not forget to push the button "DIST" in the station so they can synchronize and start scanning.

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support@northgps.com

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NORTH

Surveying and Positioning Systems

File Edit Export DXF Config Help..

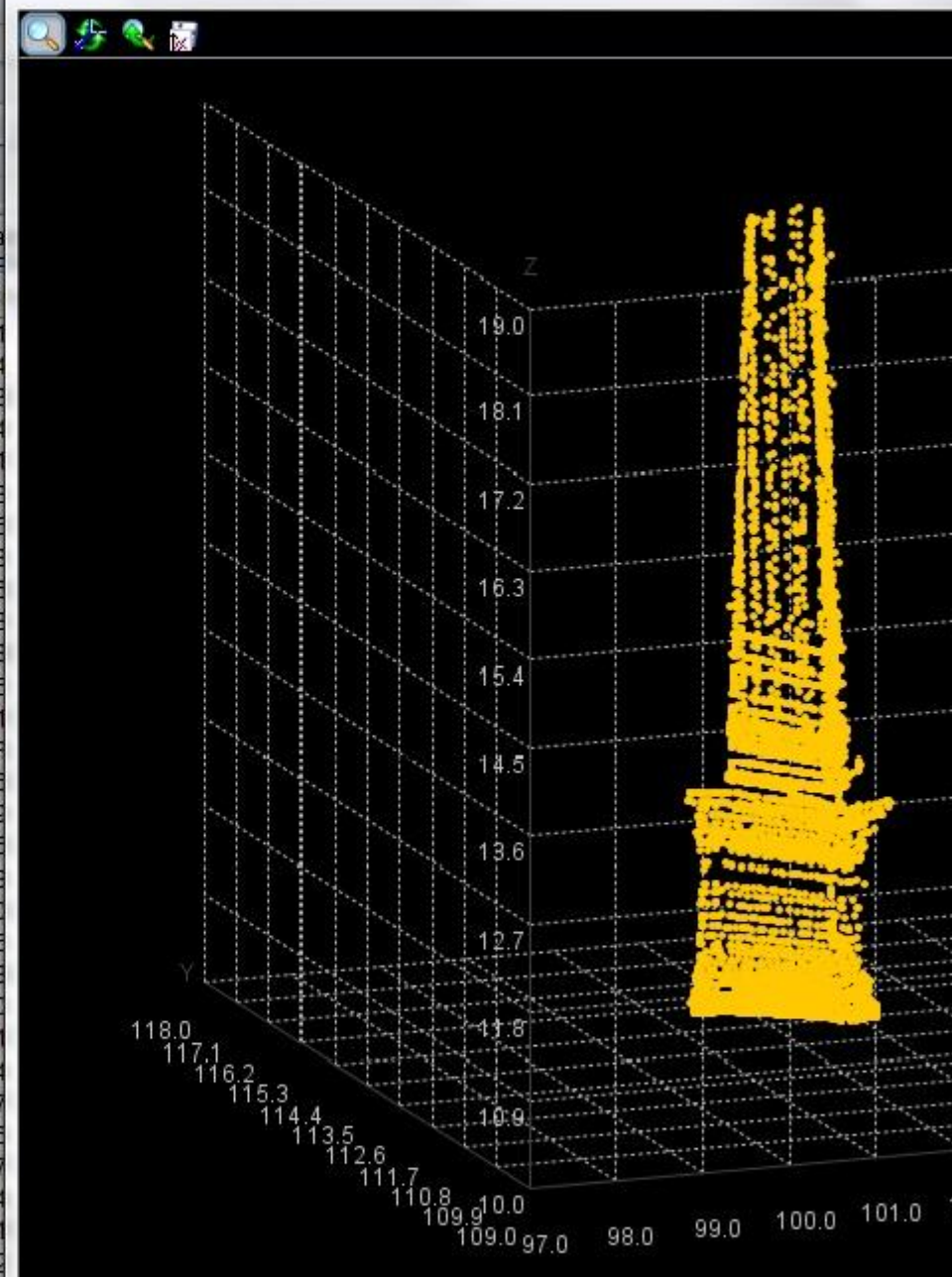
Port

COM1

NORTH

Spreadsheet | Orthometric View | Isometric View | Sca

#	Name	X (Easti
3523	obelisco1379	102.161
3524	obelisco1062	102.174
3525	obelisco1317	102.173
3526	obelisco2842	102.454
3527	obelisco2468	102.341
3528	obelisco144	102.053
3529	obelisco314	102.065
3530	obelisco606	102.148
3531	obelisco2655	102.246
3532	obelisco2331	102.303
3533	obelisco2279	102.338
3534	obelisco1458	102.175
3535	obelisco2342	102.251
3536	obelisco2871	102.218
3537	obelisco2502	102.286
3538	obelisco2332	102.299
3539	obelisco2280	102.355
3540	obelisco2278	102.338
3541	obelisco1117	102.170
3542	obelisco754	102.185
3543	obelisco877	102.148
3544	obelisco3408	102.290
3545	obelisco2983	102.291
3546	obelisco2464	102.264
3547	obelisco2334	102.287
3548	obelisco2333	102.296
3549	obelisco1459	102.187
3550	obelisco75	102.064
3551	obelisco2820	102.411
3552	obelisco2654	102.292
3553	obelisco2341	102.255
3554	obelisco2074	101.946



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