Verisurf Point Reports

The Point Report product translates 3D point data to a comma delimited ASCII file. This process can also work in reverse. Delimited ASCII point data can be used to create screen geometry. To Verisurf, these ASCII files are know as reference files. Reports can also be generated to display the differences obtained through the comparison of the point data in two reference files.

Access the **Reference File** menu by clicking the **Reports** option, in the **Verisurf Family of Products** menu. Here is the **Reference File** menu, and a description of each option.

Make (Reference File)

The **Make** feature creates a comma-delimited reference file that contains the 3D point data from points or notes that you select from the screen.

The file is always output with comma delimiters. This way, the space, in a note ID, is not written to the reference file as if it were a delimiter.

If a note and a point occupy the same XYZ location, only the note coordinates are written to the reference file. The note ID is added at the first column, followed by the X, Y, and Z coordinates of the point. This indicates that a note, and not a point, has been written to the reference file.

After clicking the **Make** option, the **Select Points** menu is displayed. It is now possible to select points and notes from the graphics screen. Standard Design point selection options, such as **Window** or **All**, could be used to easily capture the entities on a portion of the screen or all entities in the file. When all of the points and notes have been selected, click **Done**. When the **Save As** dialog appears, type a name in the **File name** box and click **Save**. The reference file will appear on the screen.

The reference file will include comma-delimited data that will be displayed according to the following conventions:

Geometry	***File format***
Point	[x][y][z]
Note	[id][x][y][z]
Point with Vector	[x][y][z][i][j][k]
Note with Vector	[id][x][y][z][i][j][k]

Read (Reference File)

The Read feature reads a reference file and translates it to points, notes, and vector lines that appear as screen geometry.

Spaces, commas, tabs, plus signs or minus signs must separate the data items. If the data is separated by spaces, spaces in the note IDs will be interpreted as delimiters. The second word of the note would be imported to Design as if it were a Y coordinate. At this point, the read process would fail.

Data, formatted as described below, will create the following geometry:

File format	**Created Geometry**
[x]	Point with YZ=0
[x][y]	Point with Z=0
[x][y][z]	Point
[id][x][y][z]	Note and Point
[x][y][z][i][j][k]	Point and Line
[id][x][y][z][i][j][k]	Note, Point and Line

Tips on Reading a Reference File

Attributes
By default, the geometry created from a reference file is saved on the main level, using the current system color. If you want the geometry to be created at a different level or in another color, you can add key words to this reference file.

Insert he key word above the of point data line for which you want to change the level or color. This key word will change the level or color of all successive point data lines. If a new key word in inserted, the color or level will be changed from that point down. Only one key word can appear on a line. To change the level and the color of the next data point, place these key words on separate lines.

The example below shows 5 lines of point data. Inserting the key word “Color 13” causes the next two lines to be displayed in chartreuse. As a level was not specified, the geometry will be created on the main level. The key word “Color 10” will change the next three

```
Color 13
-44.32830, -35.29080, 11.60658
-44.40740, -35.01900, 11.48243
Color 10
-44.48810, -34.74290, 11.35824
Level 3
-44.56890, -34.44930, 11.23164
-44.64860, -34.17300, 11.10804
```

lines to green. The key word “Level 3” will cause the next two points to be created at that level.

A level name can be specified after the level number, in the ”level” key word.

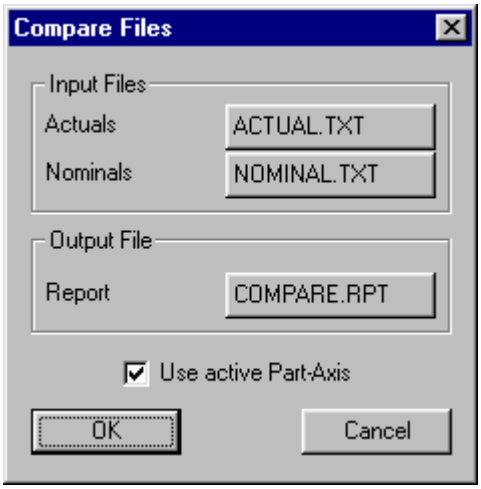
Vector
Vectors don’t have to be unit vectors. So lines can have different lengths. If the [I][j][k] vector lengths are smaller then .02, lines are not created.

Edit REF

The Edit REF feature starts the text editor with your choice of reference file. All of the reference files are stored as standard ASCII text. This gives you a convenient way to add key words without leaving Verisurf.

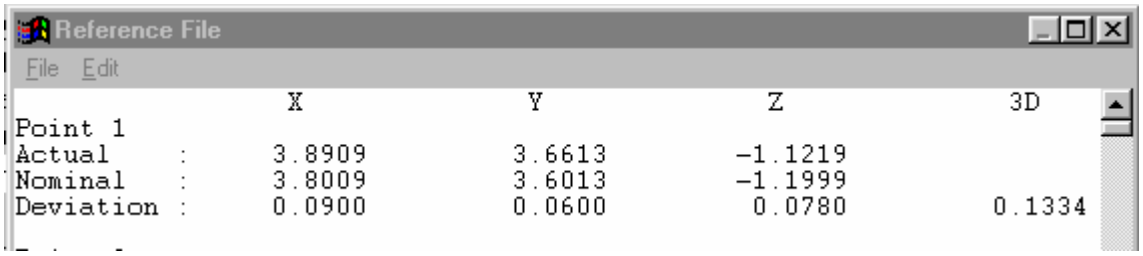
Compare

This feature reports the differences between two reference files. Click **Compare** to select input files with actual and nominal points. Specify the report name and click **OK**.



Use Active Part-Axis

The 3d deviations between each nominal and actual point will be displayed.

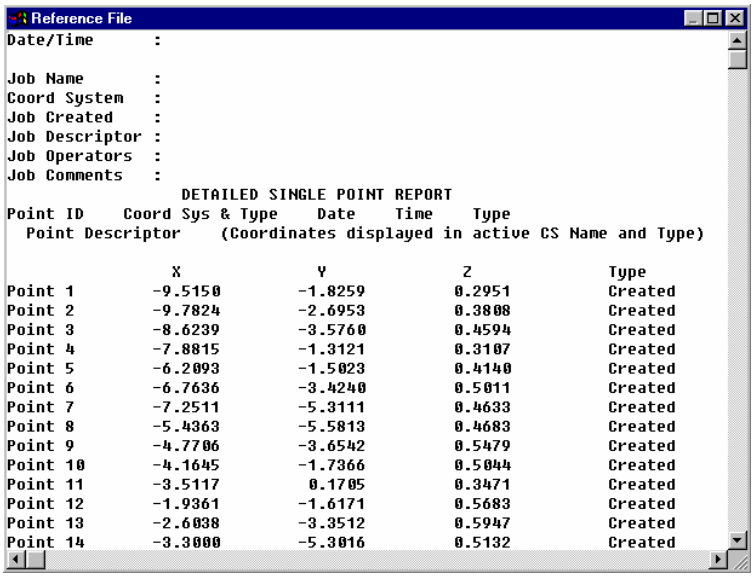


Point Report

This feature produces a text report from point entities that you select from the drawing screen. The report contains the point ID, the coordinates and a flag indicating whether the point entity was created with CAD features or collected with a CMM device.

To make a point report, Click **Point Report.** Select the points. Click **Done.** Type a name for the report and click **Save**.

Here is a sample point report:



Reference File

```
Date/Time      :

Job Name       :
Coord System   :
Job Created    :
Job Descriptor :
Job Operators  :
Job Comments   :
                  DETAILED SINGLE POINT REPORT
Point ID    Coord Sys & Type    Date    Time    Type
  Point Descriptor    (Coordinates displayed in active CS Name and Type)

                  X             Y             Z             Type
Point 1        -9.5150       -1.8259        0.2951        Created
Point 2        -9.7824       -2.6953        0.3808        Created
Point 3        -8.6239       -3.5760        0.4594        Created
Point 4        -7.8815       -1.3121        0.3107        Created
Point 5        -6.2093       -1.5023        0.4140        Created
Point 6        -6.7636       -3.4240        0.5011        Created
Point 7        -7.2511       -5.3111        0.4633        Created
Point 8        -5.4363       -5.5813        0.4683        Created
Point 9        -4.7706       -3.6542        0.5479        Created
Point 10       -4.1645       -1.7366        0.5044        Created
Point 11       -3.5117        0.1705        0.3471        Created
Point 12       -1.9361       -1.6171        0.5683        Created
Point 13       -2.6038       -3.3512        0.5947        Created
Point 14       -3.3000       -5.3016        0.5132        Created
```

List RPT

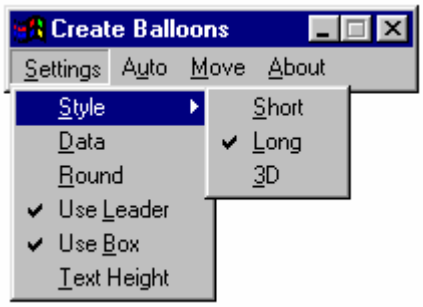
This feature allows you to select a report and display it in a list window. This is a read only window. Use **Edit REF** if you want to make changes to the report.

Data to Excel

You can also create point reports that are displayed in a MIcrosoft® Excel® spreadsheet. After you click the **Data to Excel** option, you select the points for the report and click **Done**. Verisurf then starts Excel® and displays the report in spreadsheet format.

Balloons

The Balloons feature is used to add point report data to the graphic screen. After you click the **Balloons** option, the Create Balloons menus are displayed.



This feature is in development and will be documented fully in the next Verisurf release.