User,

These notes describe the interfacing of 12d version 7 with the Leica 1200 series surveying instruments.

The processes of transferring the files to the CF card both via Leica Geo Office and direct to the survey instrument are described

The following assumptions are made

1)	**Software versions**
a.	12d……..version 7.0C1e
b.	1200 simulator……version 2.12
c.	Leica Geo Office……..version 2,0,0,0 Build 5028
2)	**Total station preloaded with the following files supplied by CR Kennedy**
a.	12d format file
b.	Std config set
c.	Sample 12d code list

Upload options include

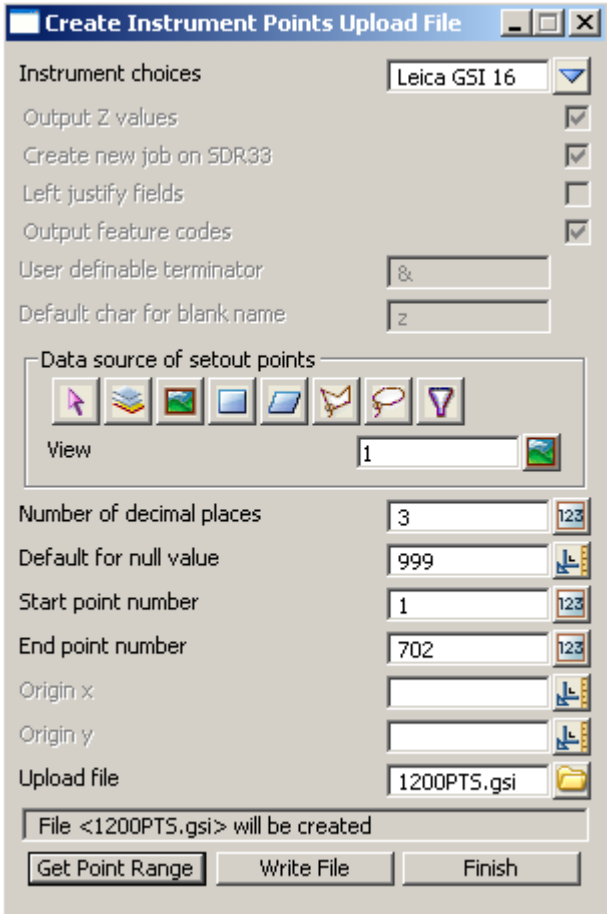
Download options include

1 GSI points

1.1 Create GSI upload in 12d

Select option **Survey=>Upload=>Create Points upload file**

or select option **Survey=>Leica=>GSI=>Points**



Select **Leica GSI 16** for instrument choice

Select relevant data source

Select **Get Point Range** to set start and end point numbers

Type in file name to create

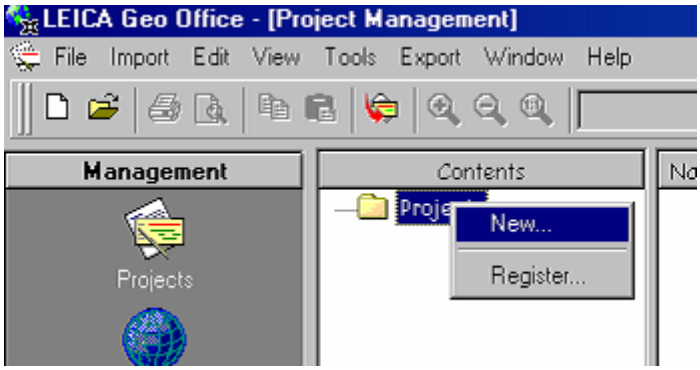
Select **Write File**

1.2 Convert GSI file to database file using Leica Geo Office

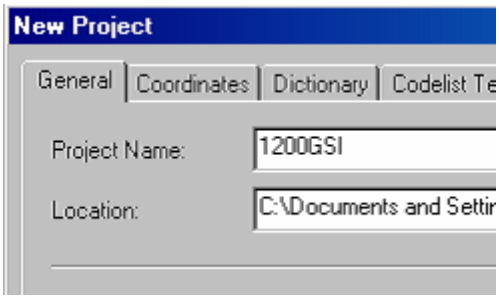
Run Leica Geo Office

Select **Management** tab

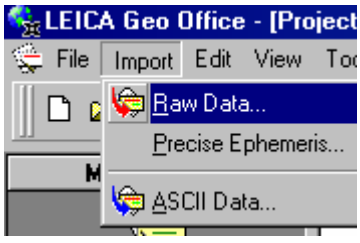
Select **Project** icon



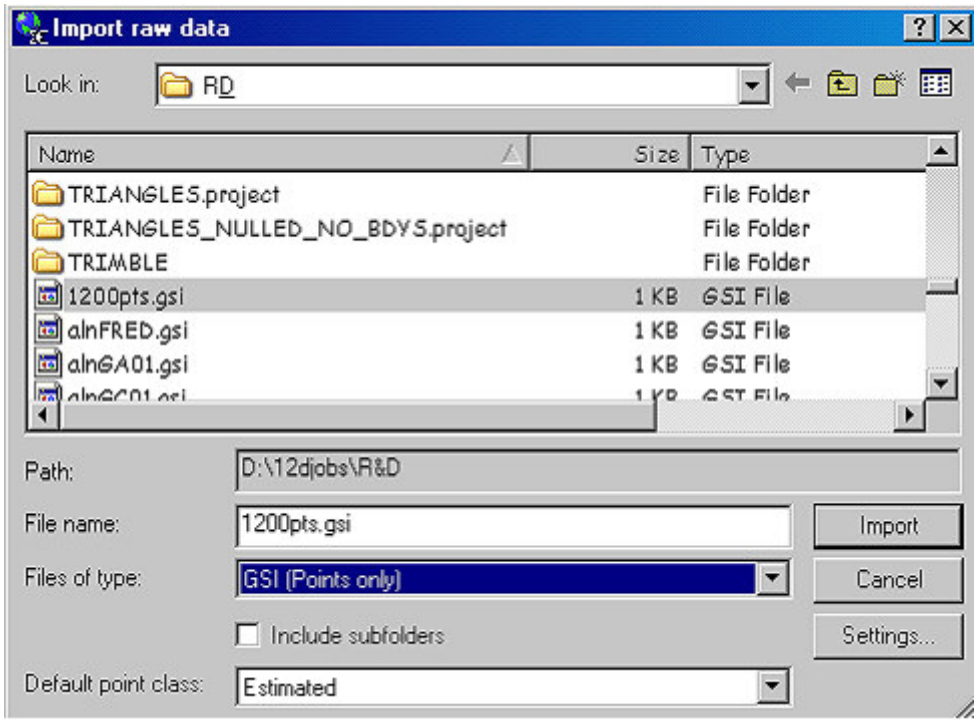
Right click on **Project** then select **New…**



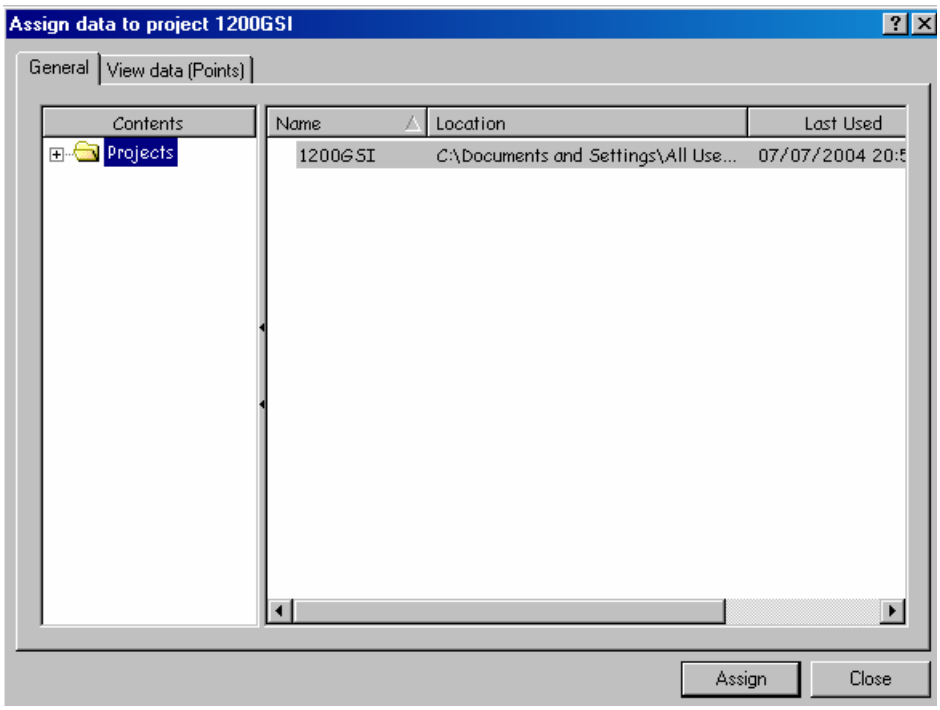
Type in Project name then select **OK**



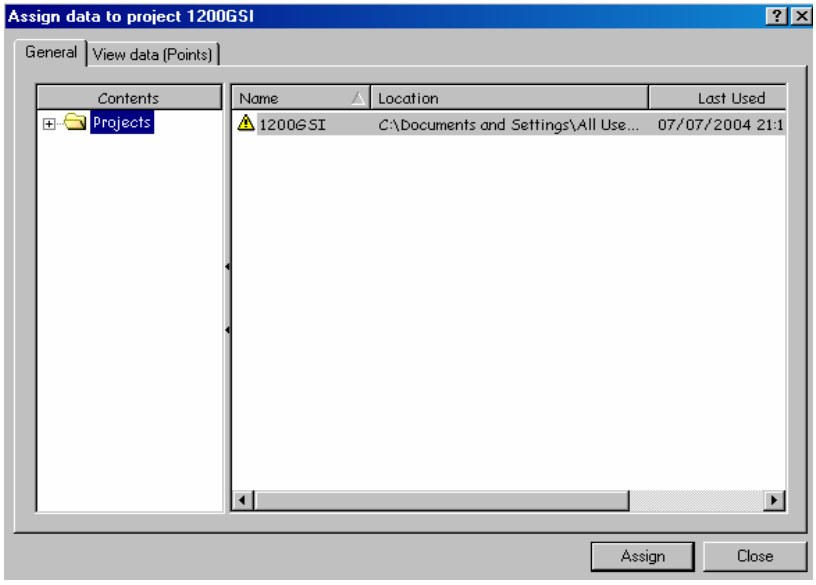
Select **Import=>Raw data**



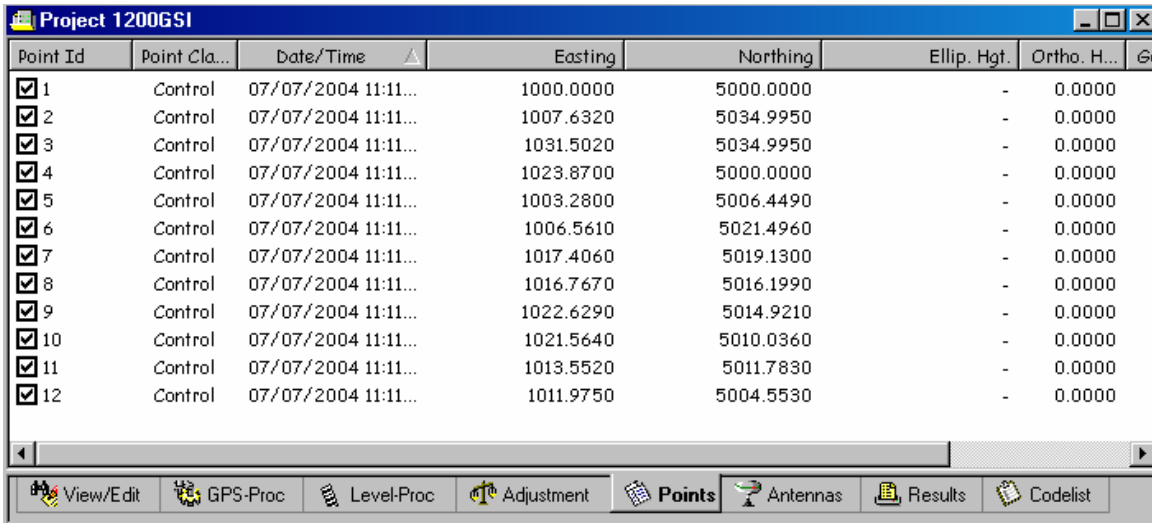
Select the newly created gsi file from the 12d working folder then select **Import**



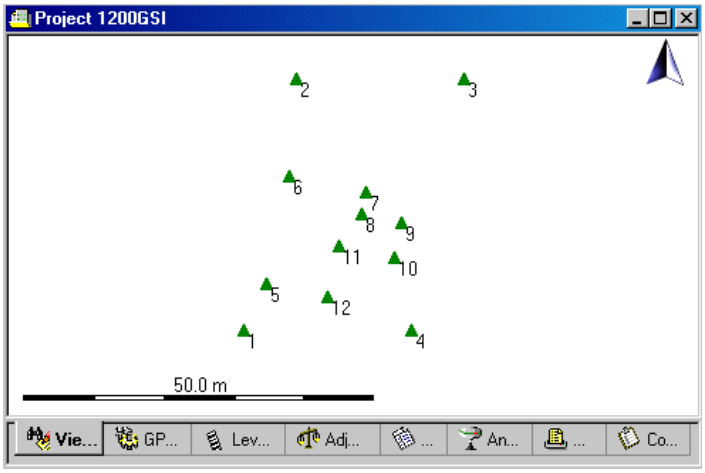
Select **Assign**

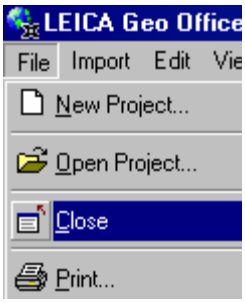


Select **Close**

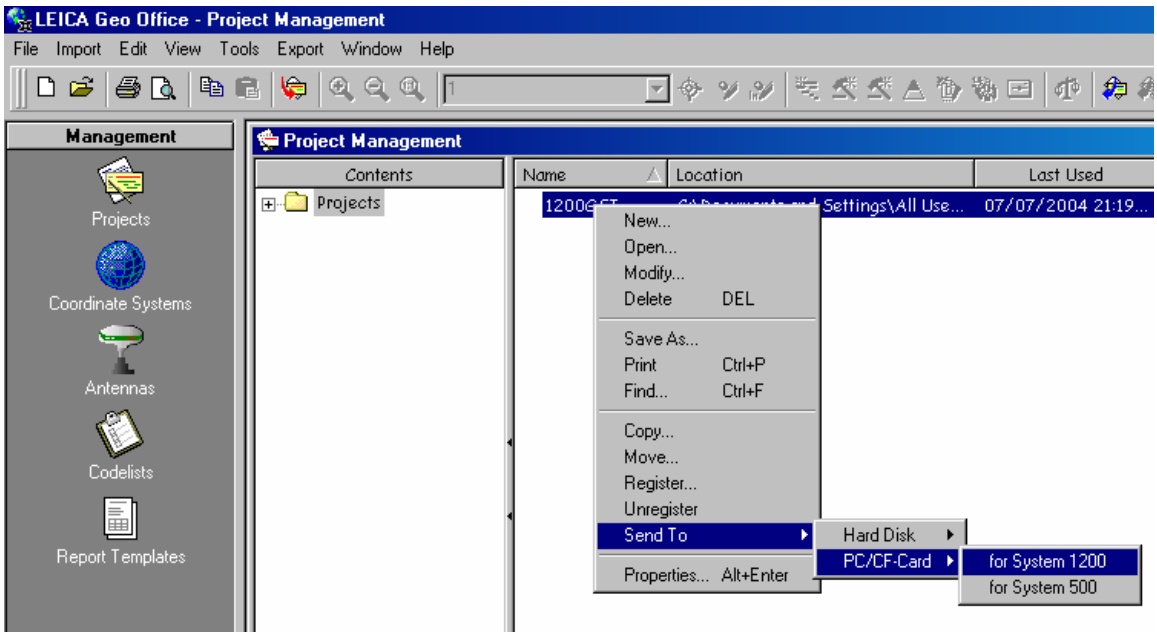


The coordinates are shown. Select **View/Edit** tab to see a map of the points





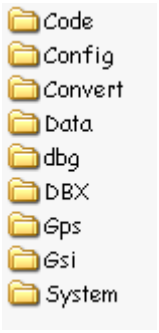
Close the project



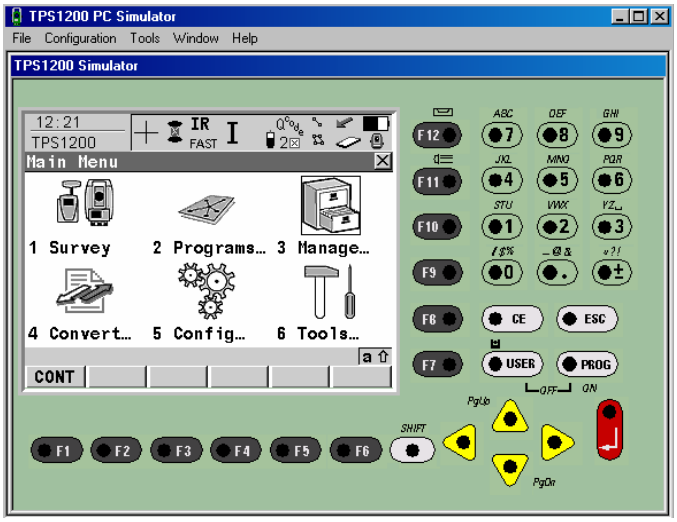
Right click on Project name then select **Send to=>PC/CF-Card=>for System 1200**

This sends the file to the card to be loaded into the instrument

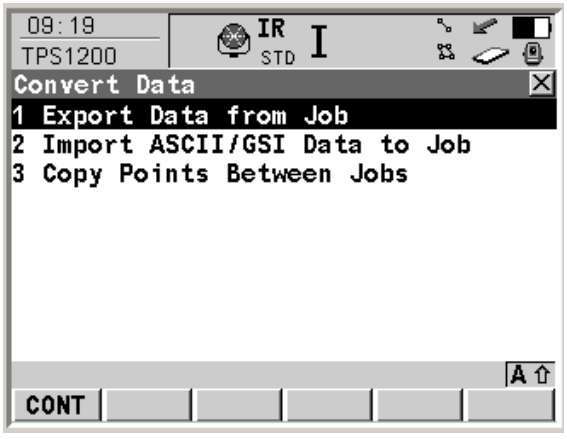
1.3 Converting GSI file on board instrument



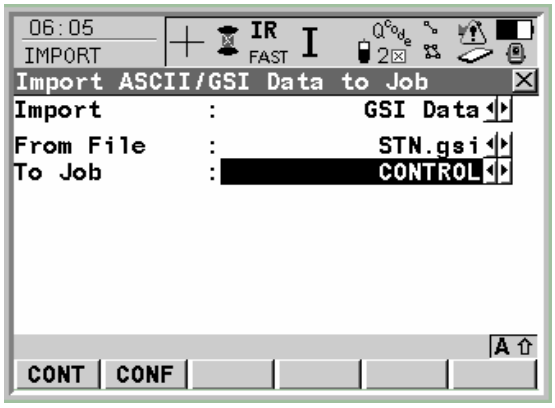
Copy the newly created GSI file from the 12d working folder to the GSI folder on the CF card



On the 1200 select **4** to go to Convert menu



Select **2** to import GSI data to job

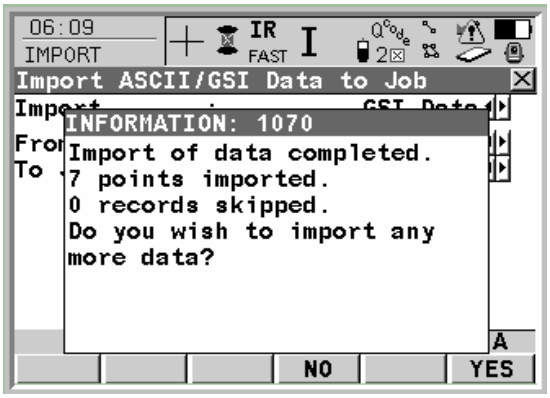


Select Import type **GSI Data**

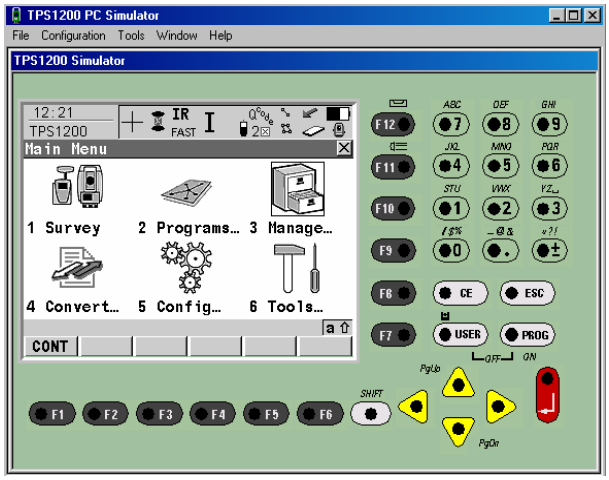
Select GSI file

Select existing job or create new job

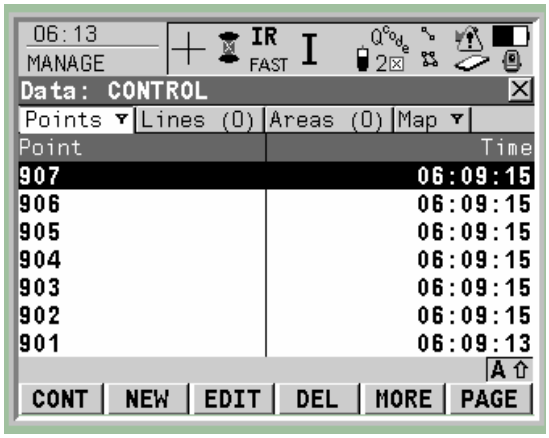
Select **F1** to import



Select **F4** to finish import



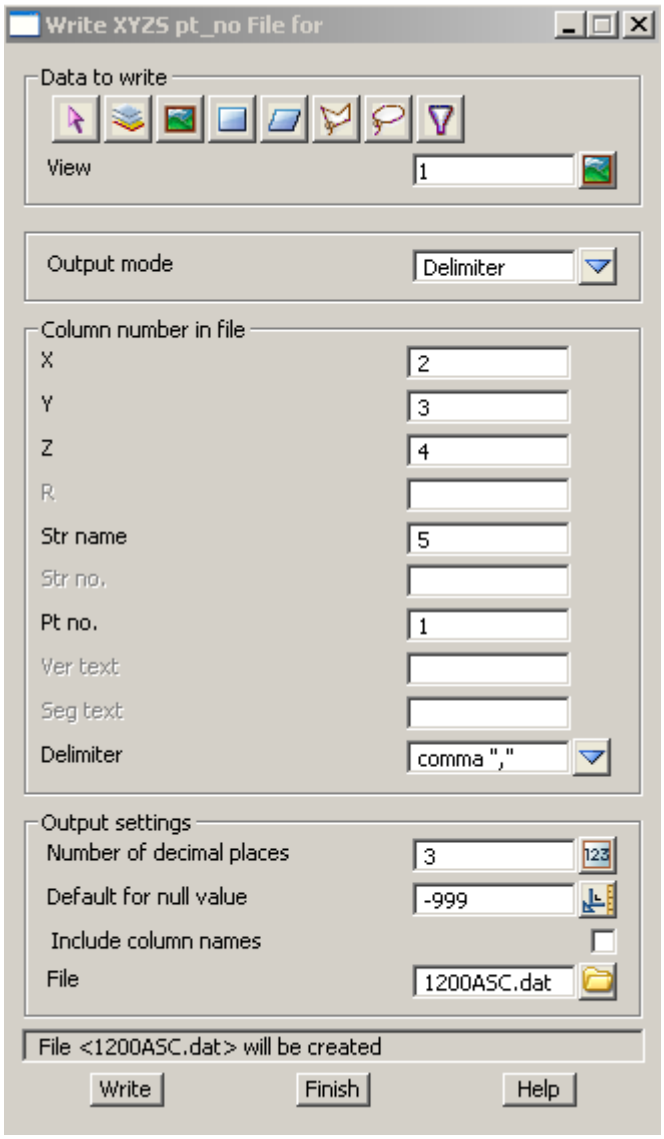
Select **F8** to view the uploaded file



2 Ascii file of coordinates

2.1 Create ascii file in 12d

Select option **File I/O=>Data output=>xyz s pt_no**



Select relevant data source

Set Output mode to **Delimiter**

Set the column numbers as per the panel

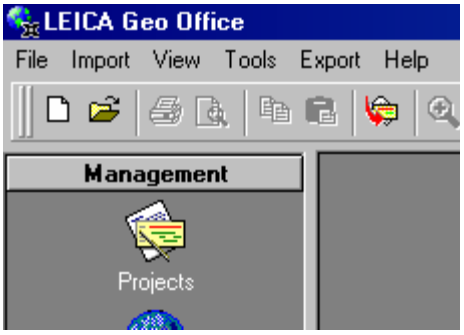
Change the delimiter to **comma ","**

Type in the file name

Select **Write**

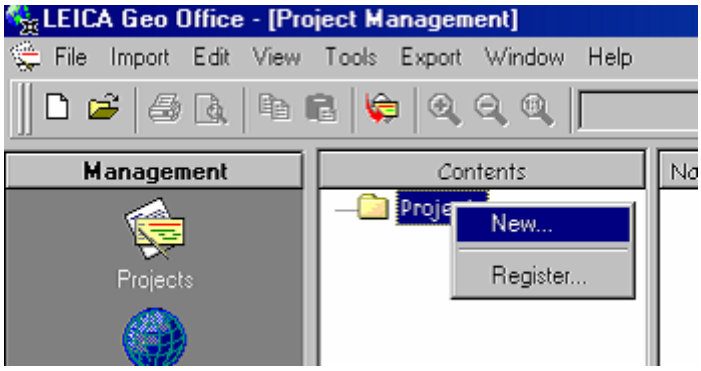
2.2 Convert XYZ file to database file using Leica Geo Office

Run Leica Geo Office

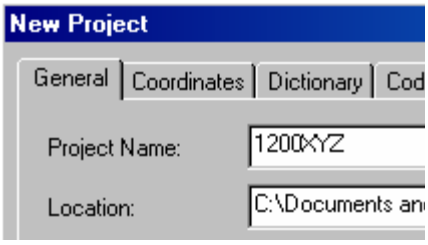


Select **Management** tab

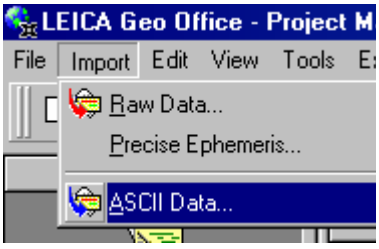
Select **Project** icon



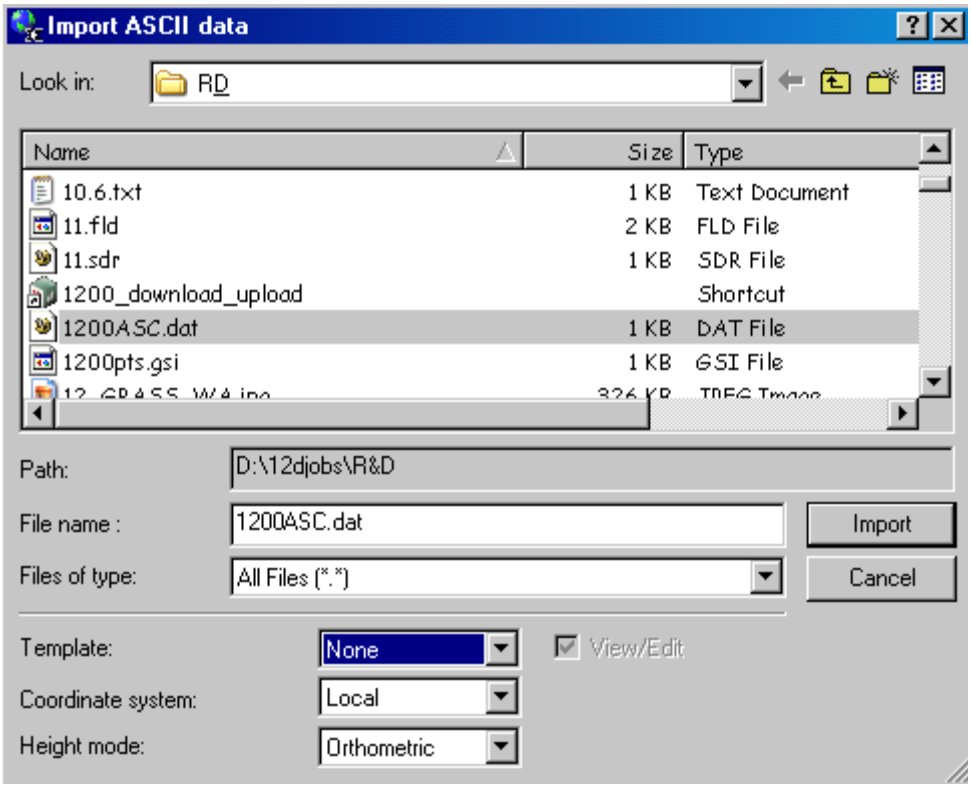
Right click on **Project** then select **New…**



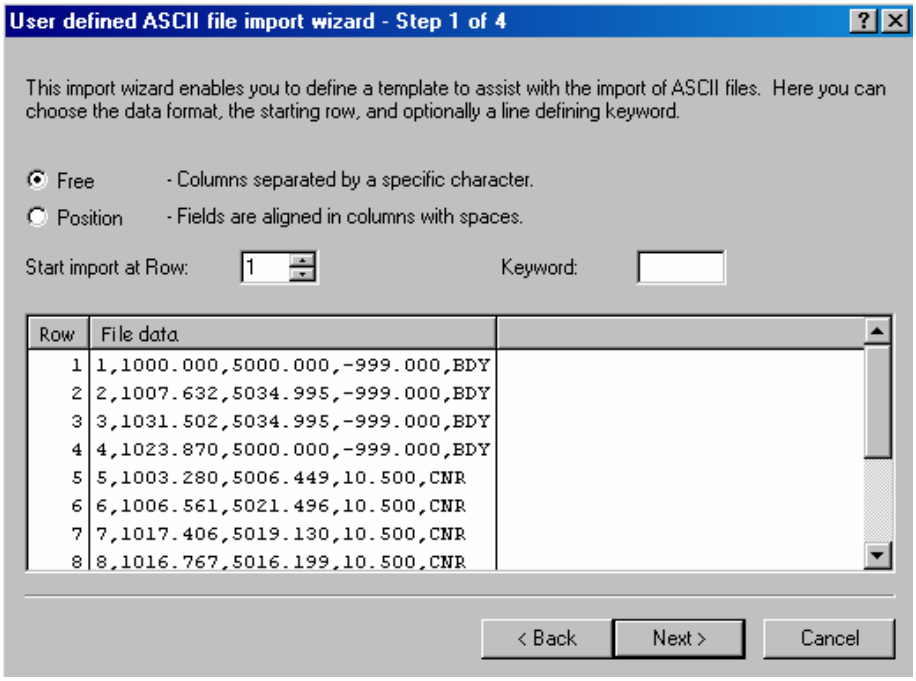
Type in Project name then select **OK**



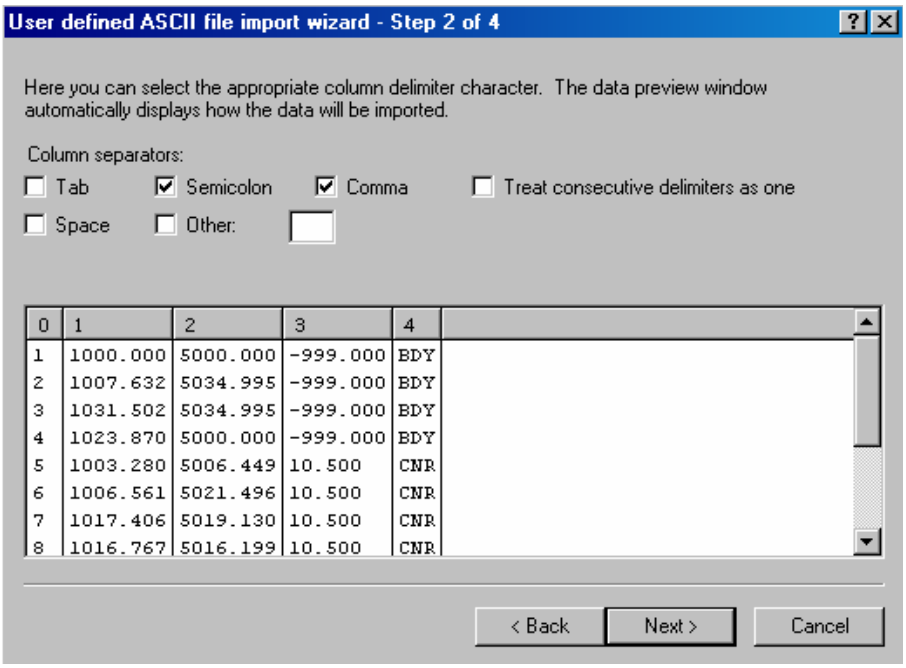
Select **Import=>Raw data**



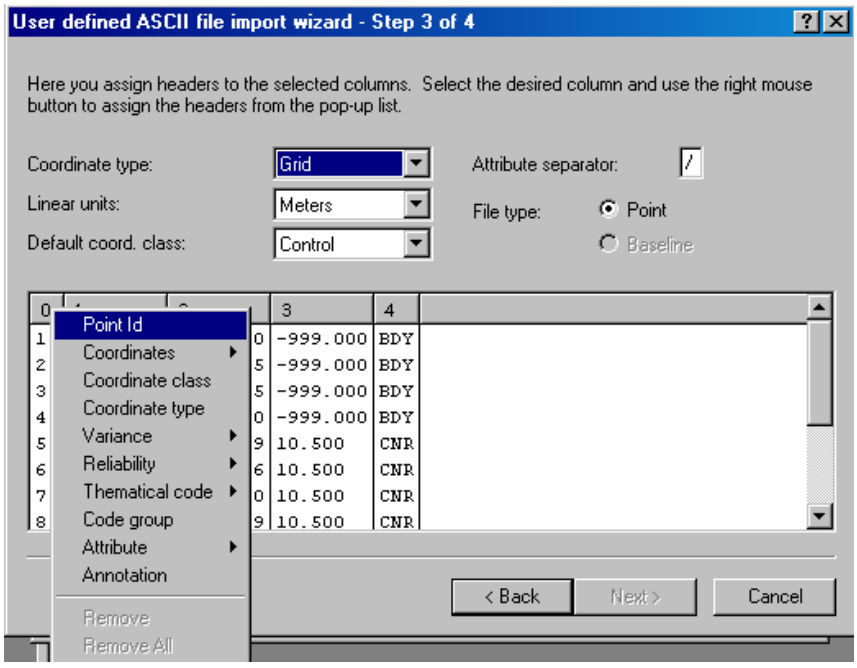
Select the newly created ascii file from the 12d working folder then select **Import**



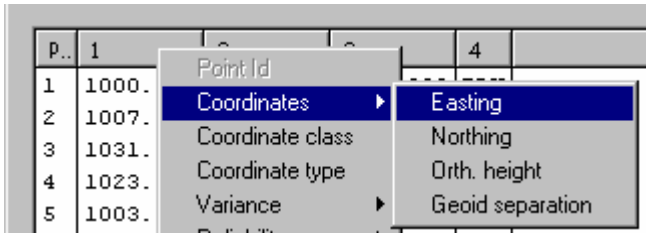
Select **Next**



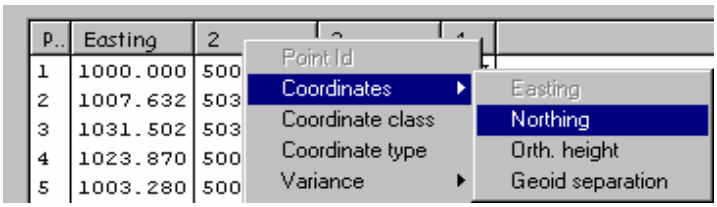
Select **Next**



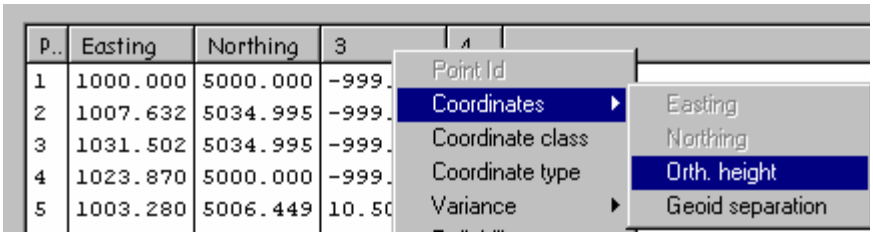
Right click on 1st column tab and select **Point Id**



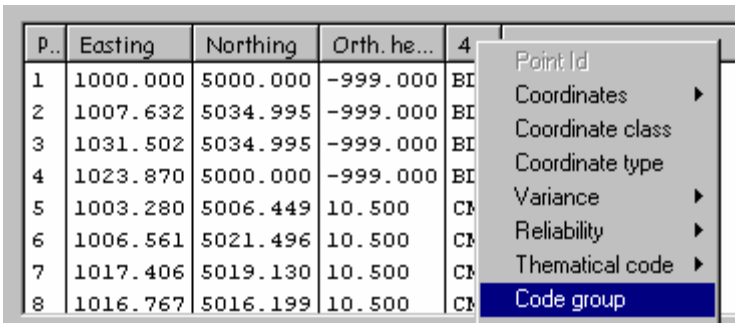
Right click on 2nd column tab and select **Coordinates=>Easting**



Right click on 3rd column tab and select **Coordinates=>Northing**

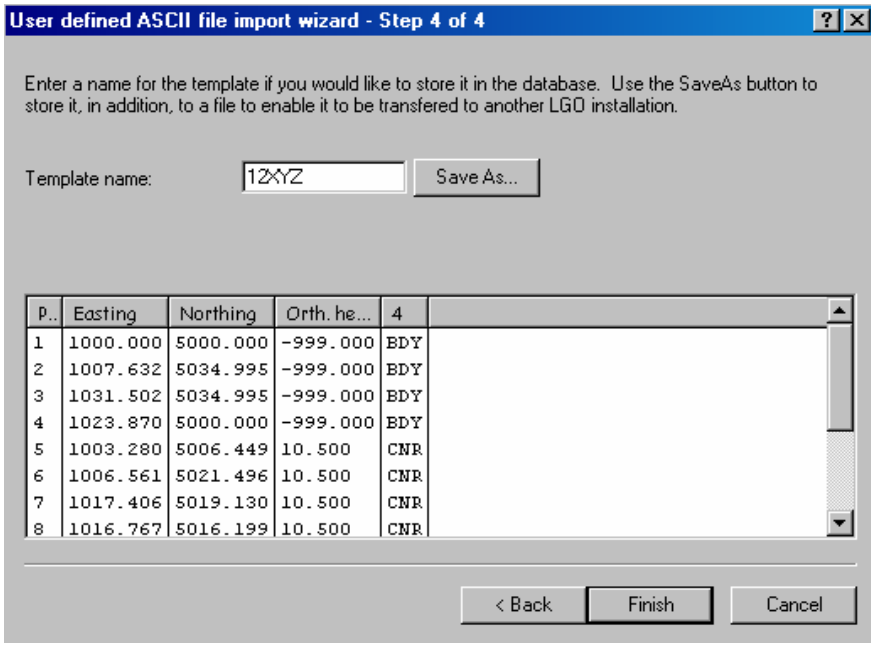


Right click on 4th column tab and select **Coordinates=>Orth. Height**

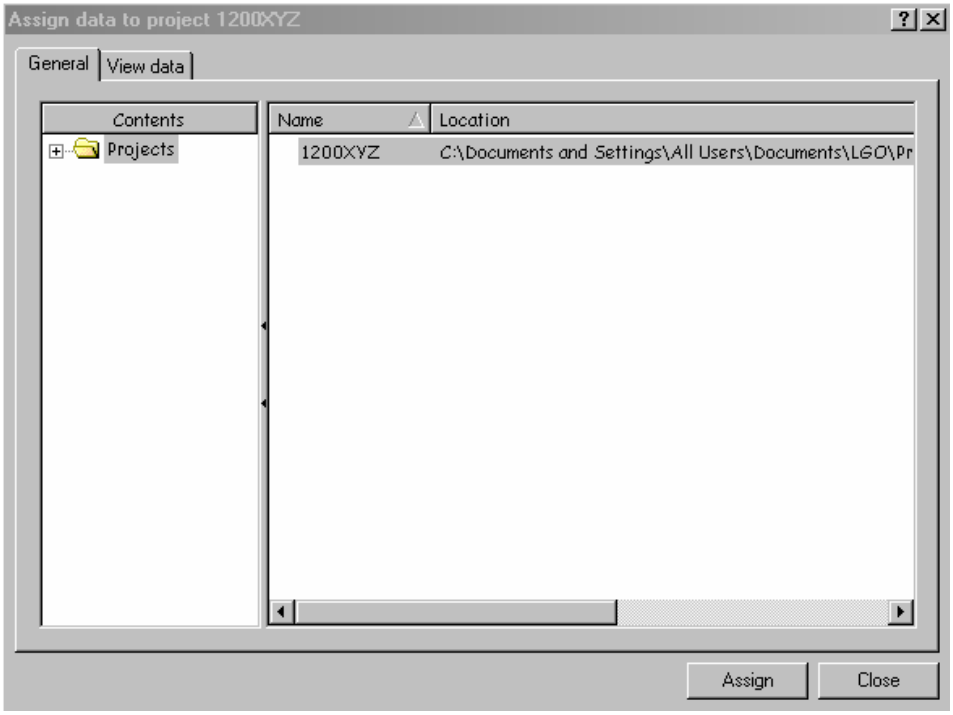


Right click on 5th column tab and select **Code group**

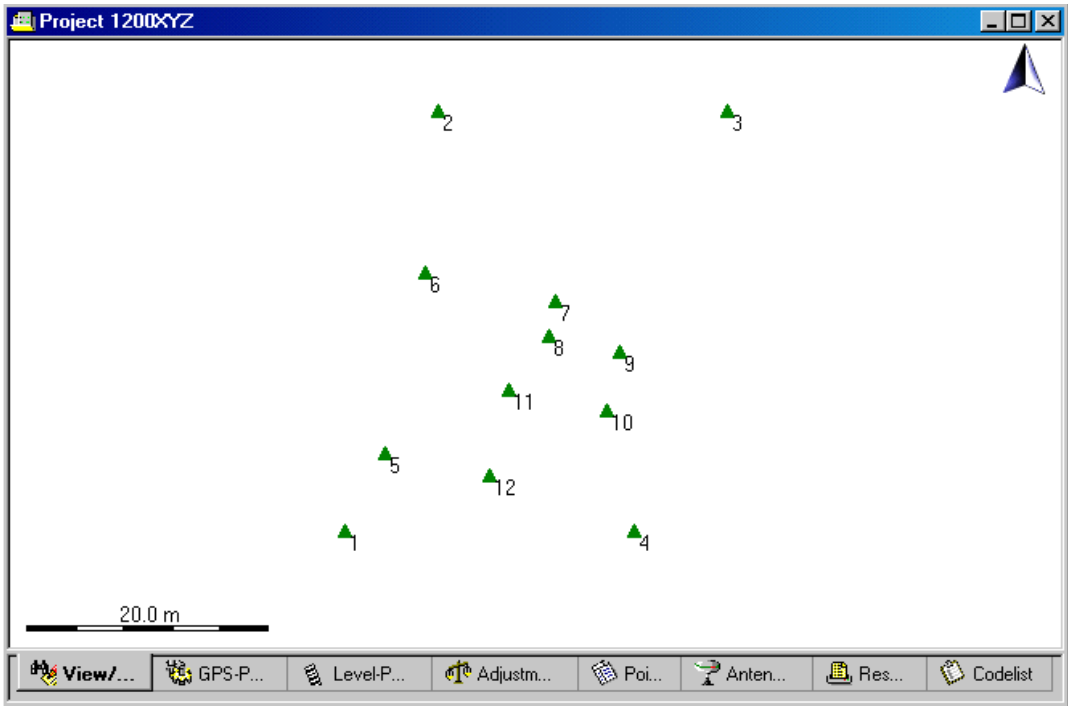
Select **Next**

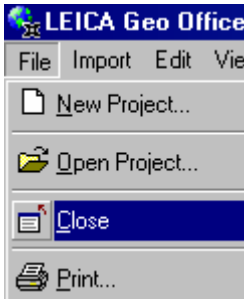


Type in template name for any future conversions then select **Finish**

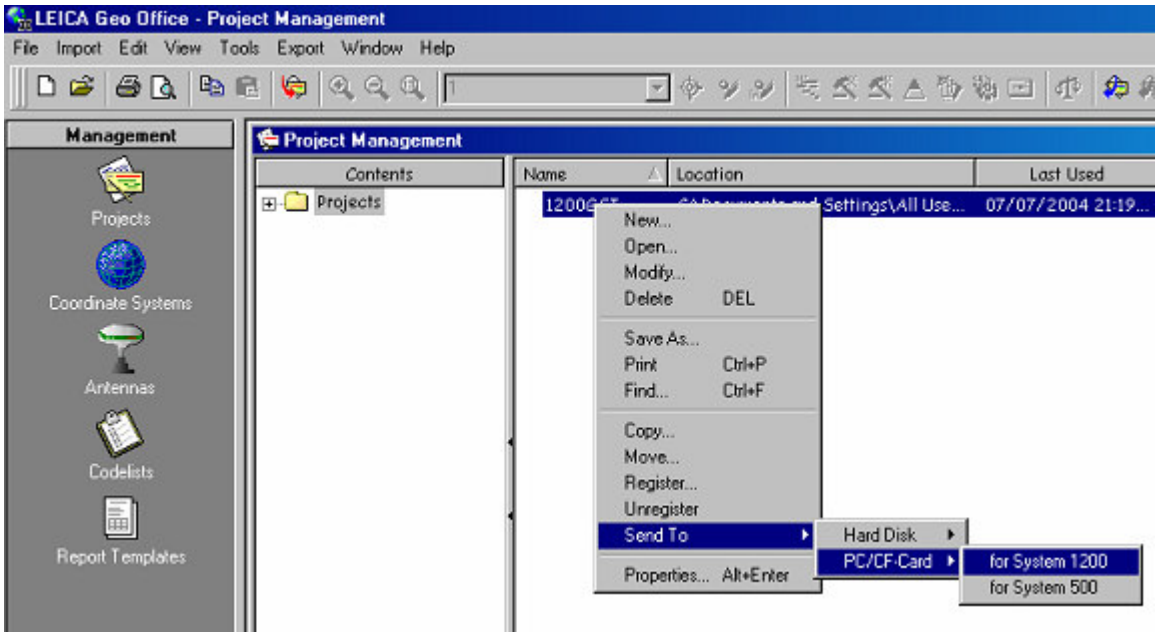


Select **Assign** then **Close**





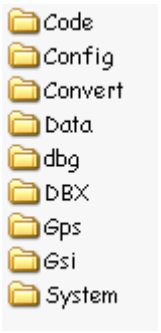
Close the project



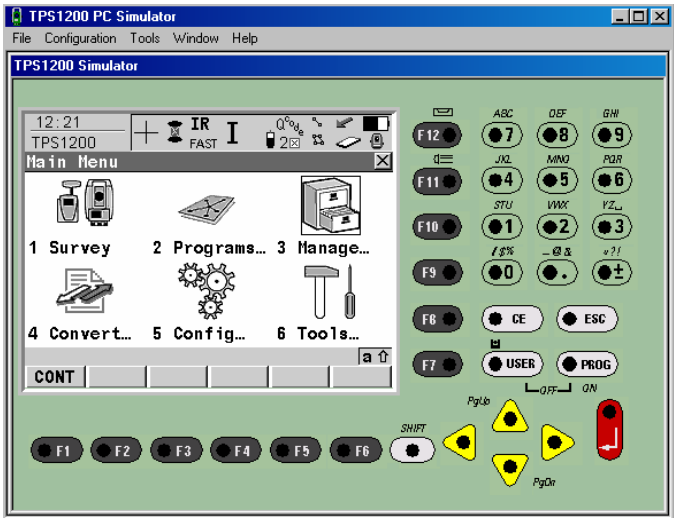
Right click on Project name then select **Send to=>PC/CF-Card=>for System 1200**

This sends the file to the card to be loaded into the instrument

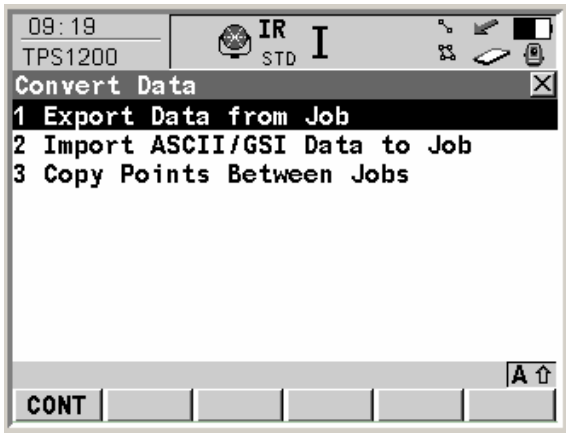
2.3 Converting Ascii file on board instrument



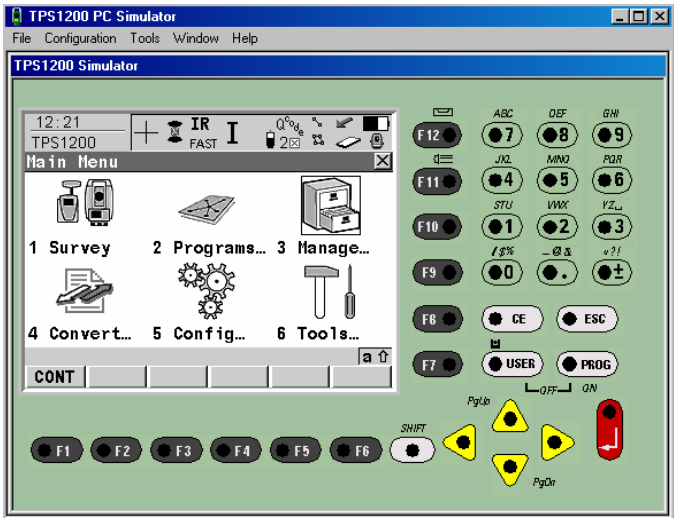
Copy the newly created ASCII (*.dat) file from the 12d working folder to the Data folder on the CF card



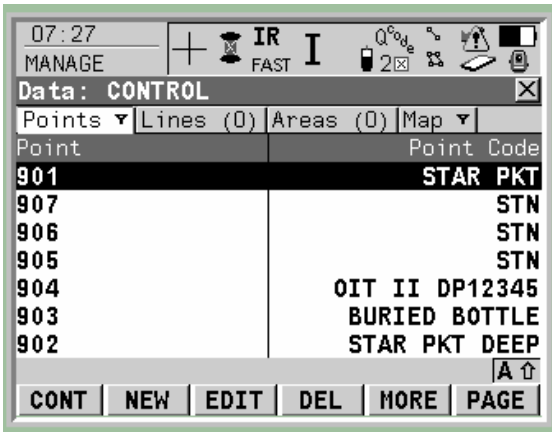
On the 1200 select **4** to go to Convert menu

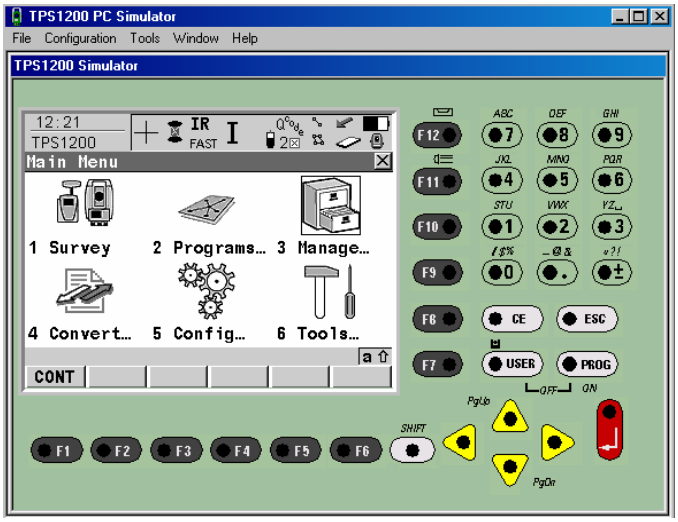


Select **2** to import GSI data to job

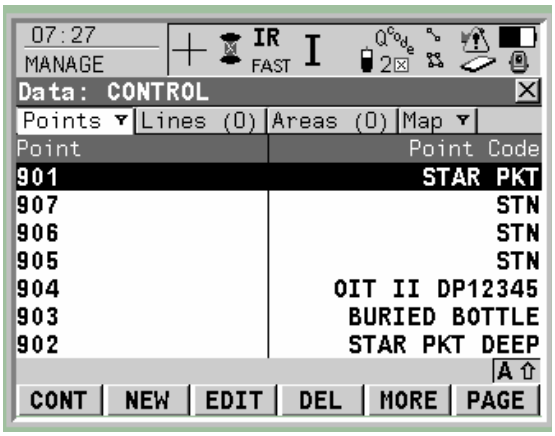


Select **F8** to view the uploaded file





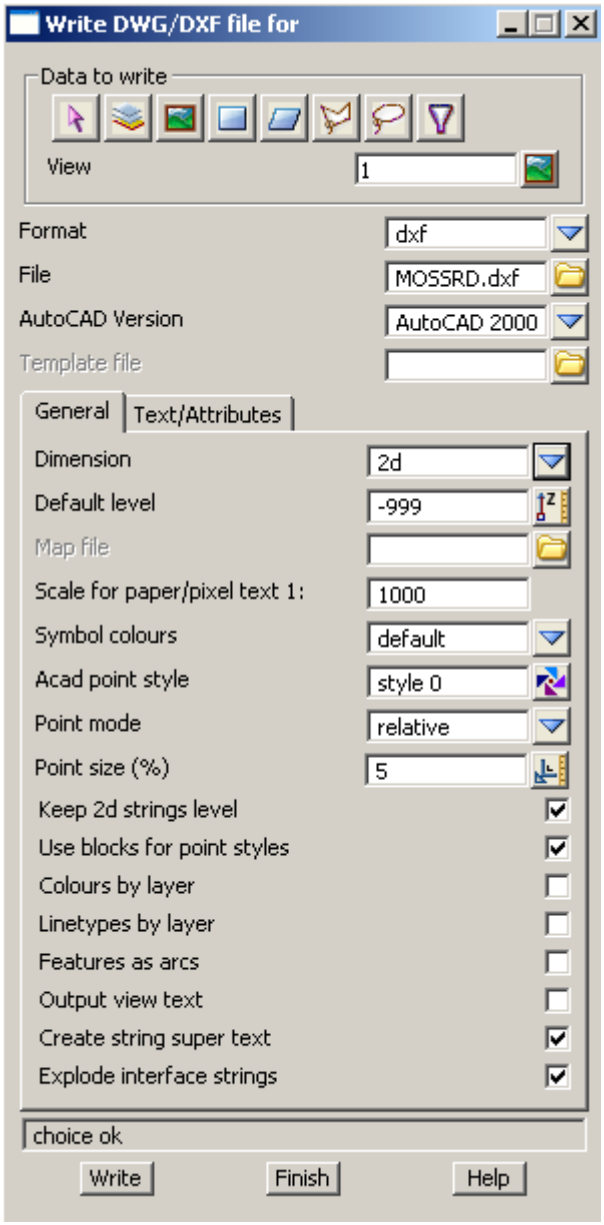
Select **F8** to view the uploaded file



3 Dxf file of points / lines

3.1 Create dxf file in 12d

Select option **File I/O=>Data output=>DWG/DXF**



Select relevant data source

Select DXF format

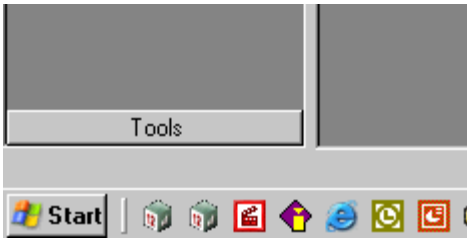
Type in the file name

Set Dimension to 2d

Select Write

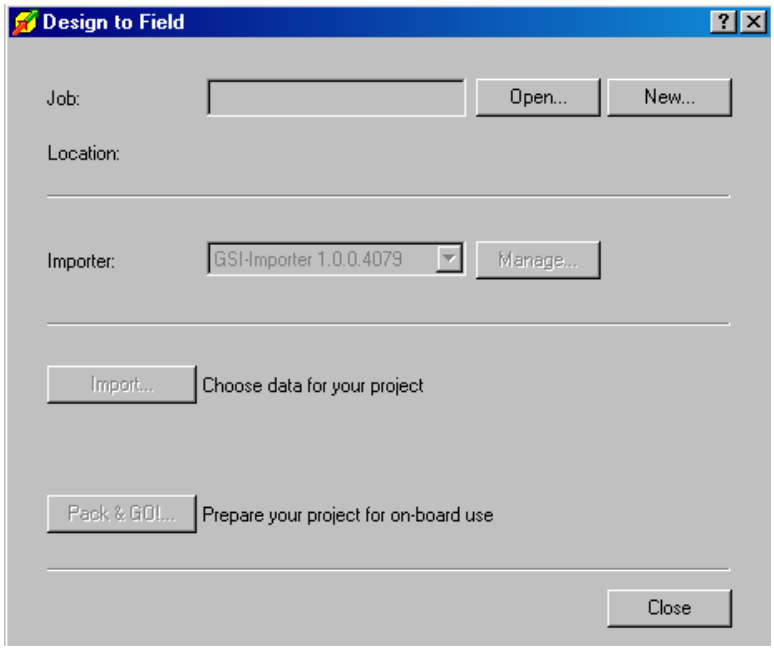
3.2 Convert DXF file to database file using Leica Geo Office

Run Leica Geo Office

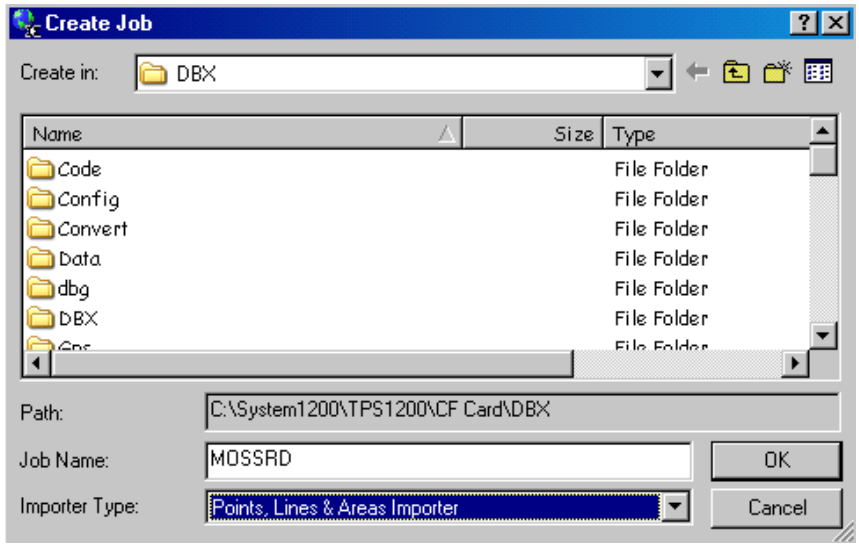


Select **Tools** tab

Selec **Design to Field**



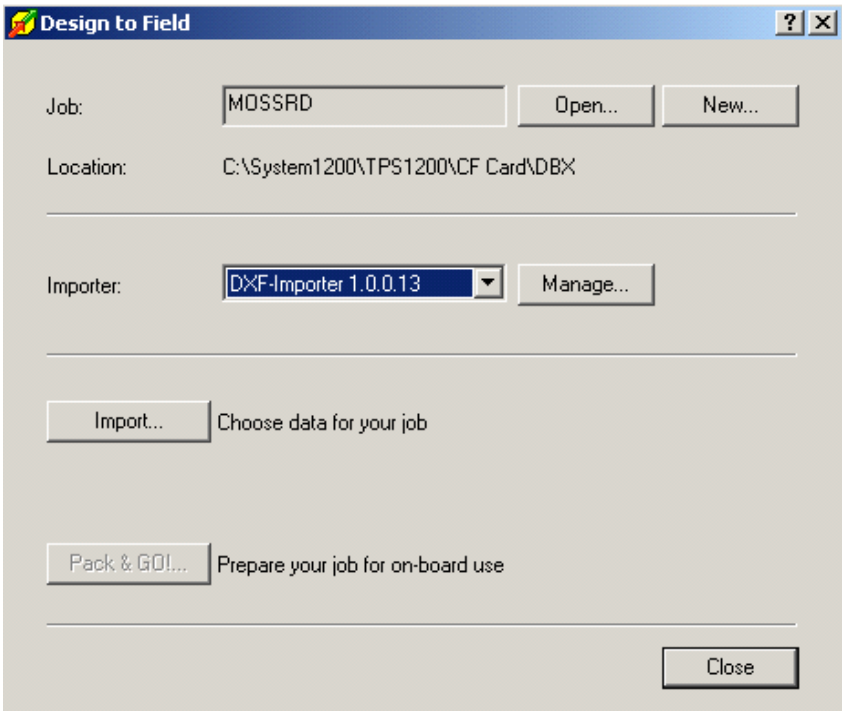
Select **New**



Type in new job name

Change the Importer type to **Points, Lines & Areas Importer**

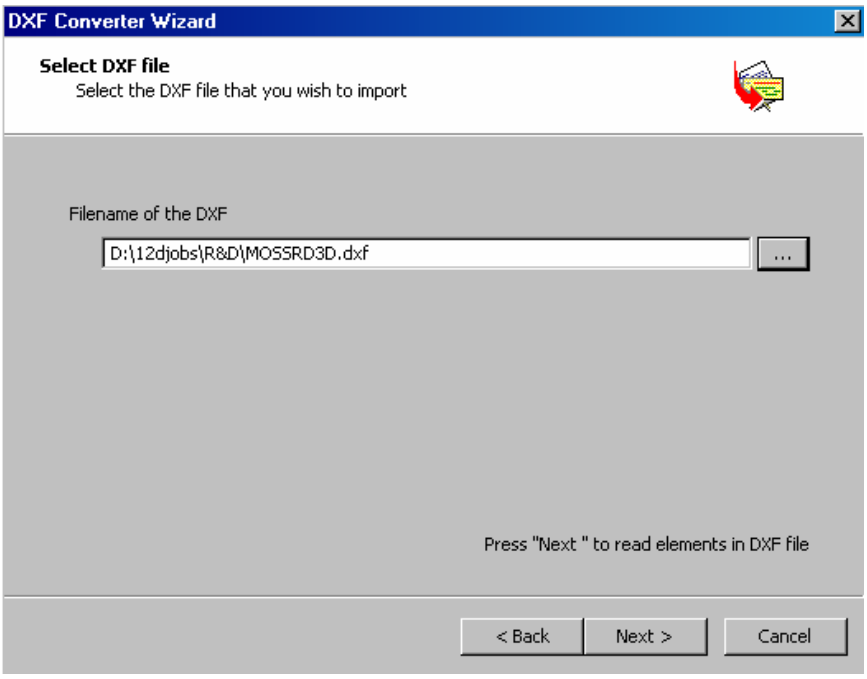
Select **OK**



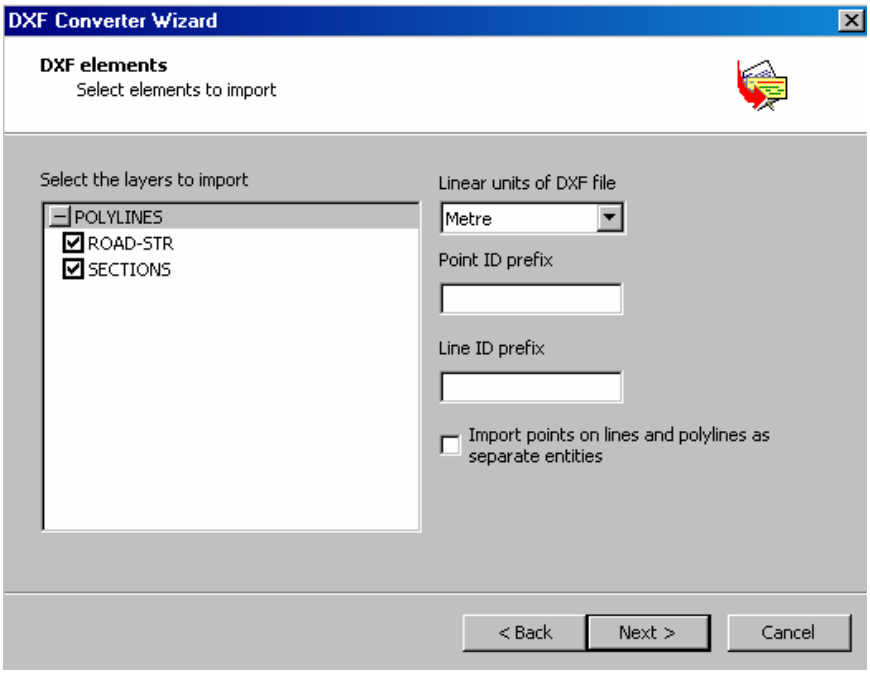
Change the Importer to **DXF-Importer 1.0.0.13**

Select **Import**

Select **Next**

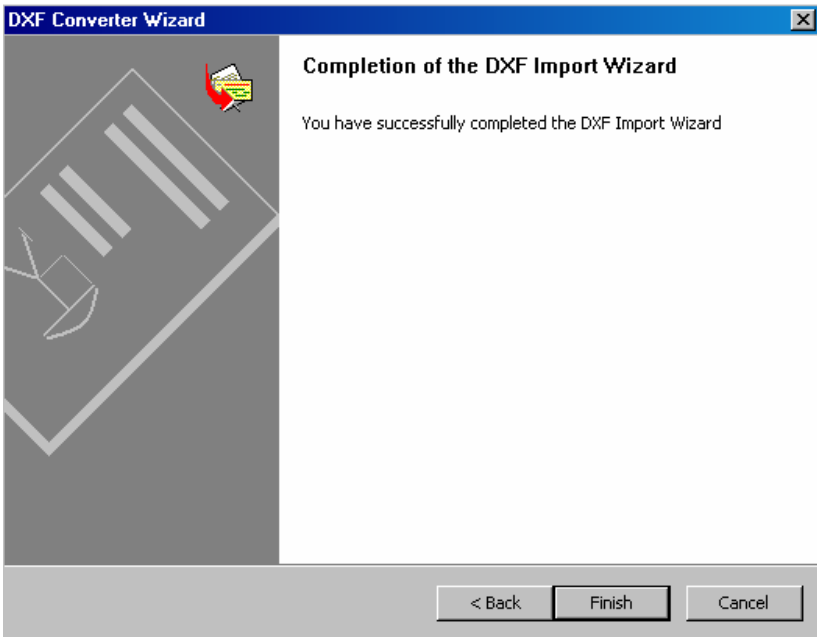


Select the newly created dxf file from the 12d working folder then select **Next**

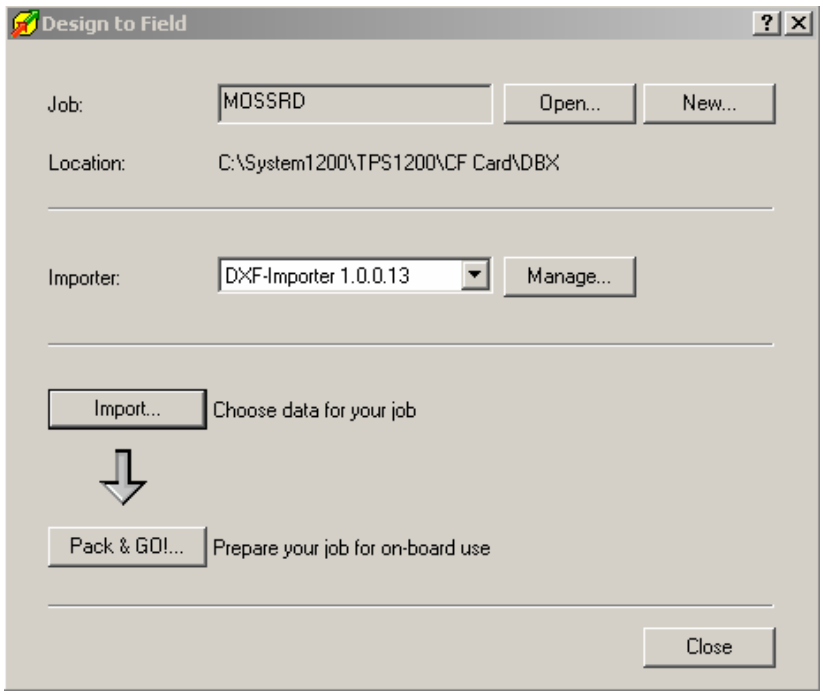


Clear prefixes

Select **Next**



Select **Finish**



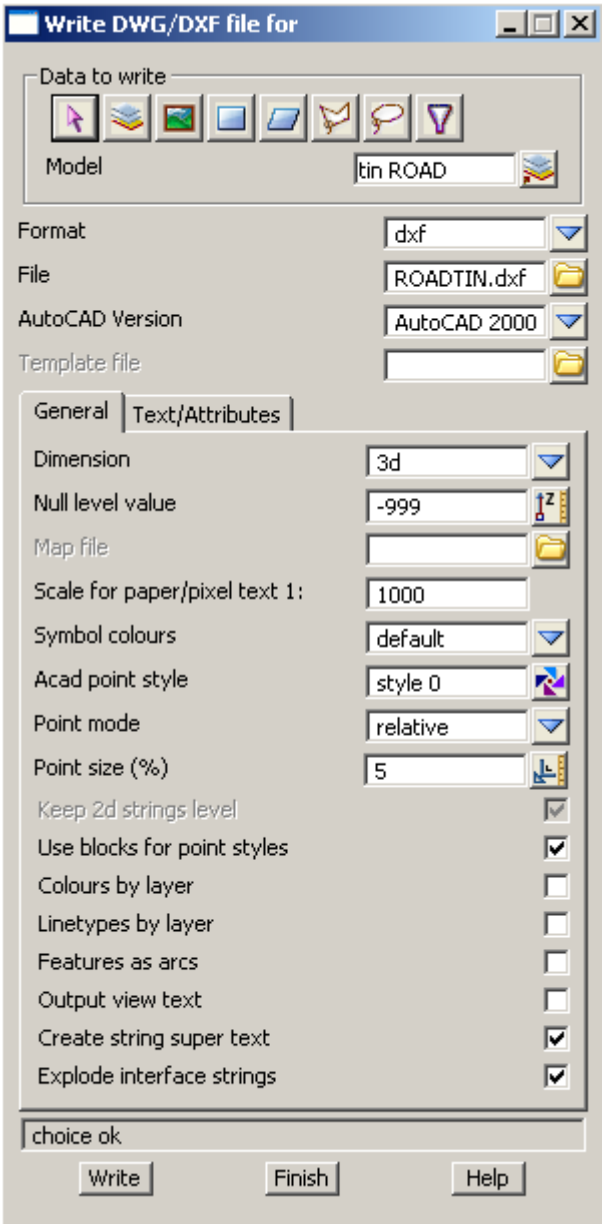
Select **Pack & Go!..**

Select **Close**

4 Dxf file of TIN

4.1 Create dxf file in 12d

Select option **File I/O=>Data output=>DWG/DXF**



Select relevant data source for TIN model

Select DXF format

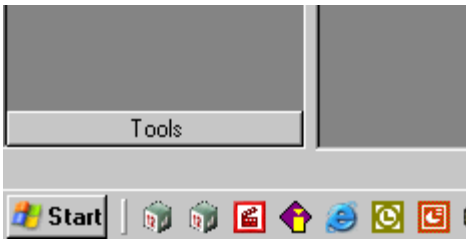
Type in the file name

Set Dimension to **3d**

Select Write

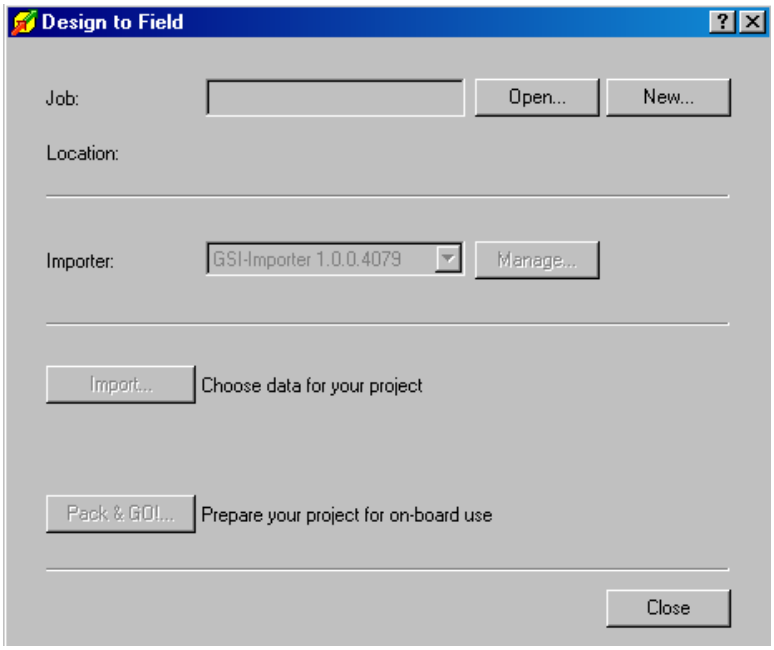
4.2 Convert DXF TIN file to database file using Leica Geo Office

Run Leica Geo Office

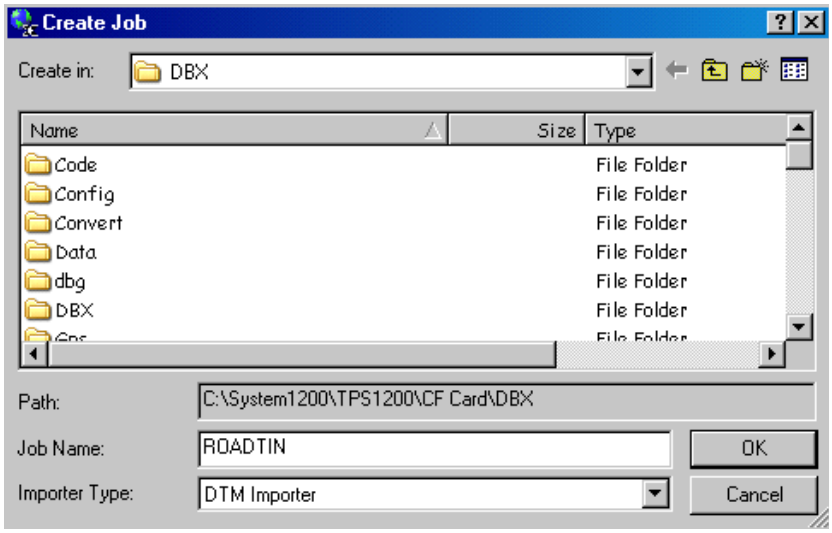


Select **Tools** tab

Selec **Design to Field**



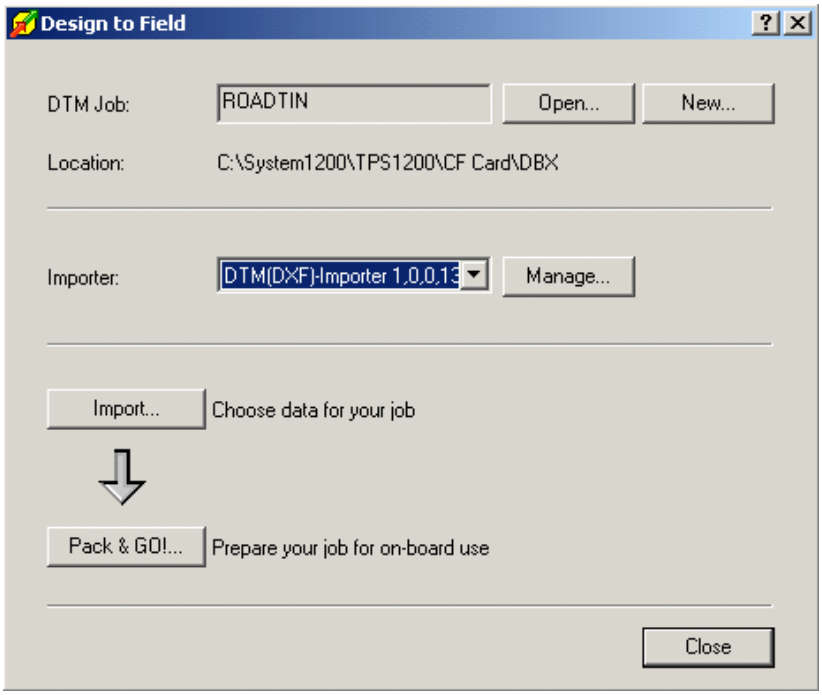
Select **New**



Type in new job name

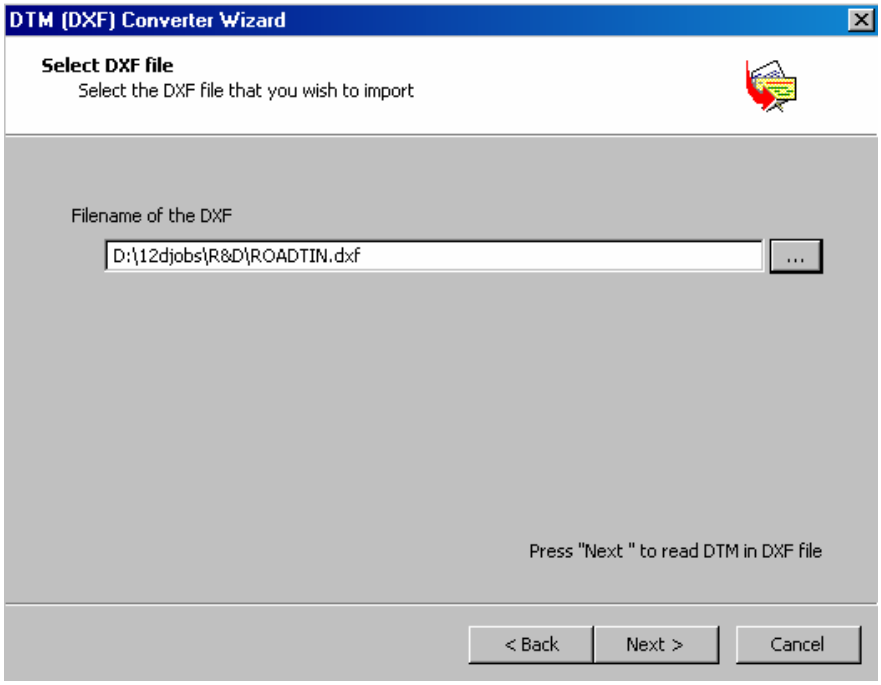
Change the Importer type to **DTM Importer**

Select **OK**

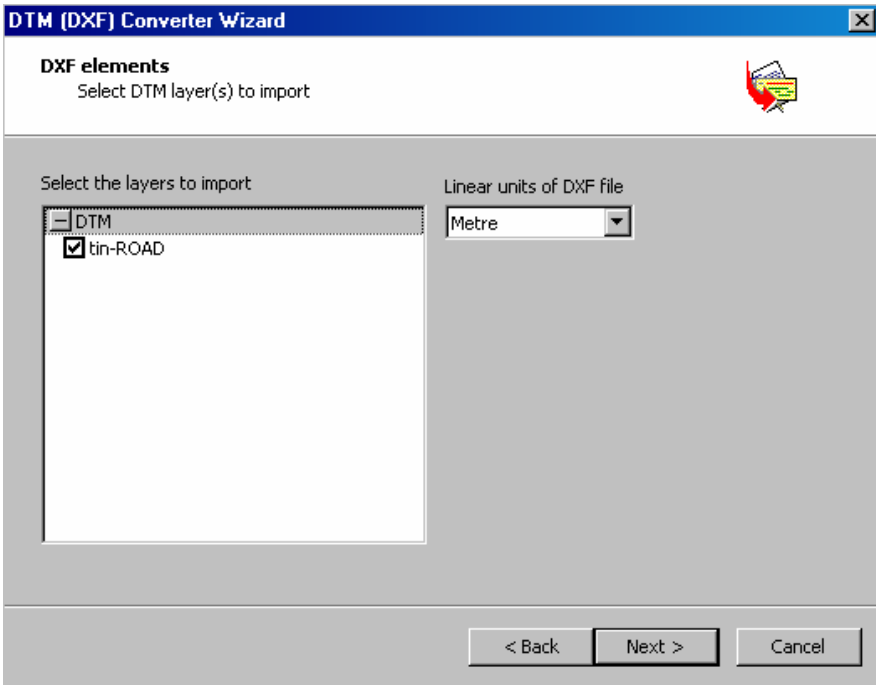


Change the Importer to **DTM (DXF)-Importer 1.0.0.13**

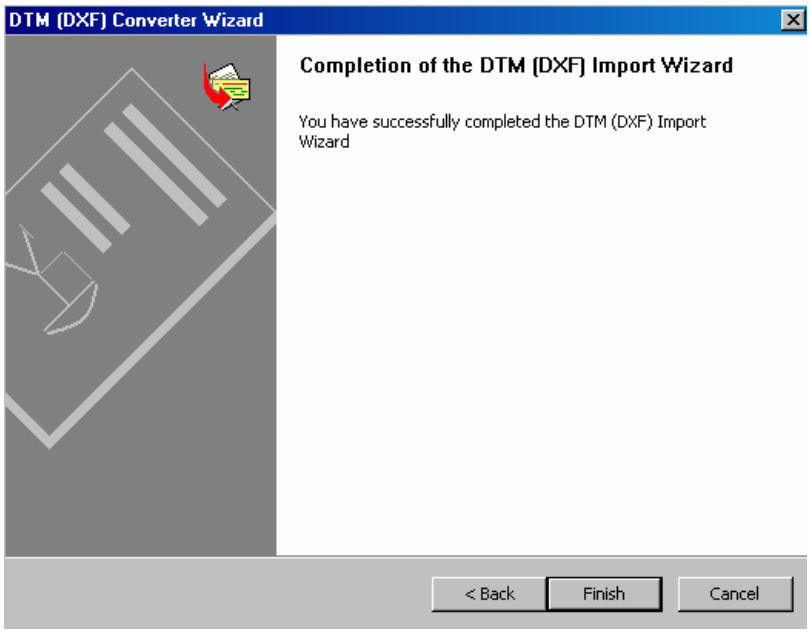
Select **Import**



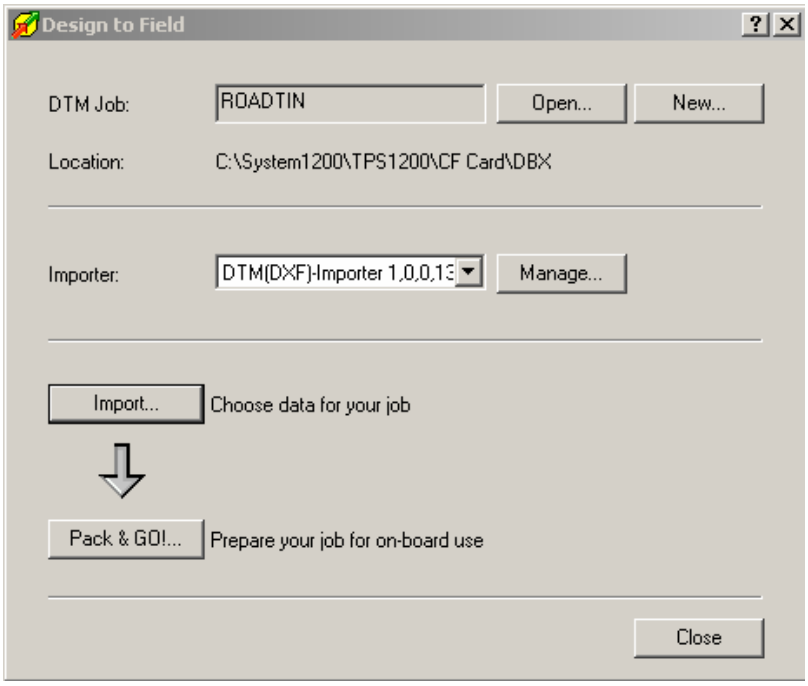
Select the newly created dxf TIN file from the 12d working folder then select **Next**



Select **Next**



Select **Finish**



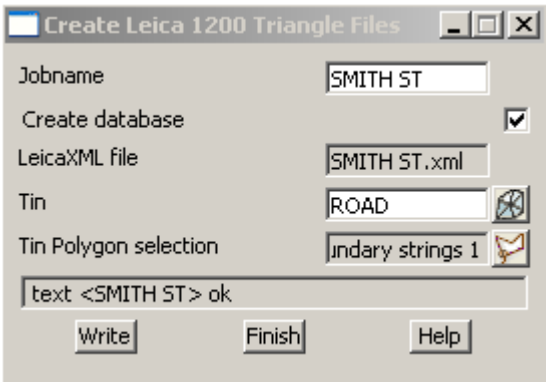
Select **Pack & Go!..**

Select **Close**

5 XML file / Data Base of TIN

5.1 Create XML / Data base files in 12d

Select option **Survey=>Leica=>1200=>Triangles**



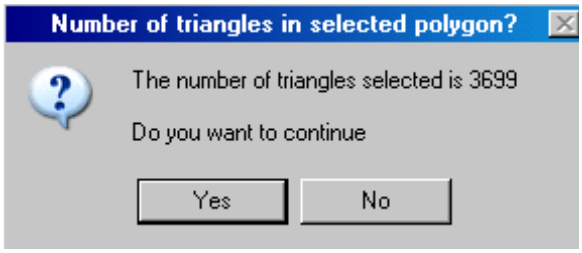
Type in the Jobname

Tick the check box to create database files

Select tin

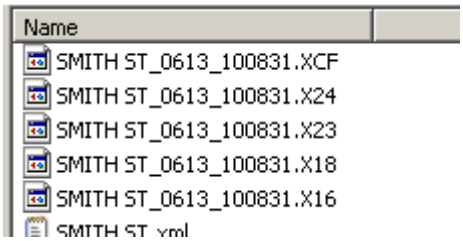
Pick Tin Polygon boundary

Select **Write**

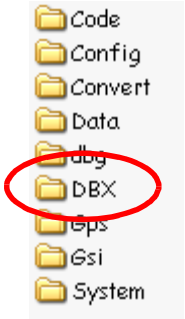


Select **Yes**

5.2 Copy the data base files to the cf card



Copy the newly created data base files (examples on left) from the 12d working folder to the DBX folder on the CF card



6 XML / Data Base road strings (single or multi layers)

6.1 Single layer

NOTES

1) Ensure that the alignment starts before the strings and finishes after the strings. If this is not the case simply edit the alignment string and extend it.

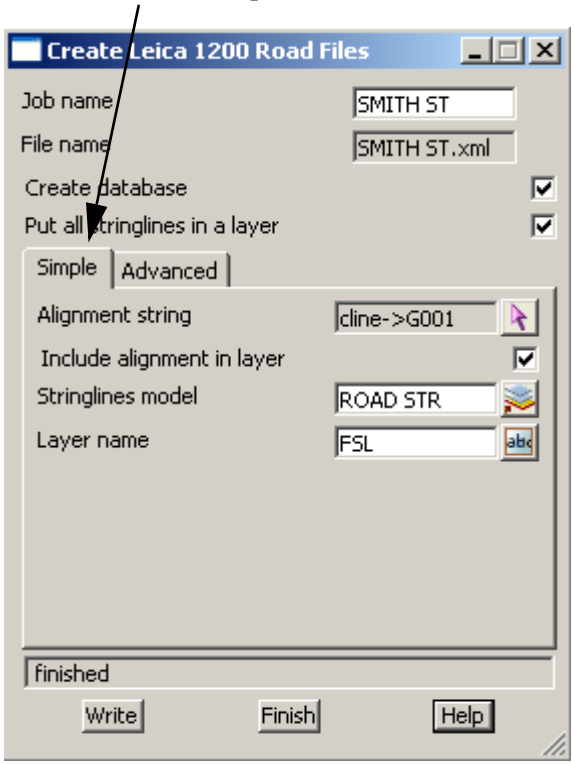
2) Strings can not reverse back on themselves and must run in the same direction as the alignment

3) If using data imported via Genio format ensure there is only one alignment string per work area

Turn on the relevant road strings to be used in the layer along with the alignment if the layer is the finished surface

Select option **Survey=>Leica=>1200=>Roads**

Select the **Simple** tab



Type in the Job name

Tick the check box so that the database is created

Tick check box to put all stringlines in a layer

Select the Pick icon then select the alignment string

Tick the check box if alignment string is to be included in level calculations

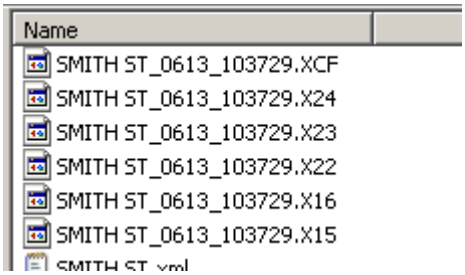
Select the model name for the road strings

Type in layer name for the strings.

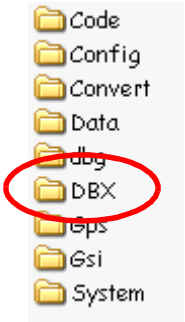
This is the the name visible to the user in Road Runner

Select **Write**

Copy the data base files to the cf card



Copy the newly created data base files (examples on left) from the 12d working folder to the DBX folder on the CF card



6.2 Multi layer

NOTES

1) Ensure that the alignment starts before the strings and finishes after the strings. If this is not the case simply edit the alignment string and extend it.

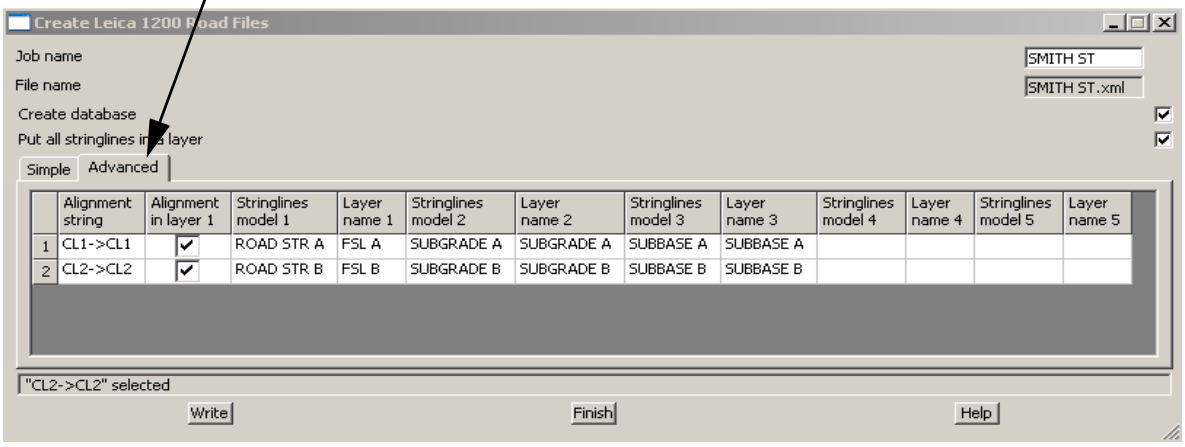
2) Strings can not reverse back on themselves and must run in the same direction as the alignment

3) If using data imported via Genio format ensure there is only one alignment string per work area

The following panel allows the user to create multiple work areas along with mulitple layers for each work area

Select option **Survey=>Leica=>1200=>Road**

Select the **Advanced** tab



Type in **Job name** as per simple method

Fill in each row picking the alignment string, string line models and layer name for the paritcular work area

Tick the check box if alignment string is to be included in level calculations

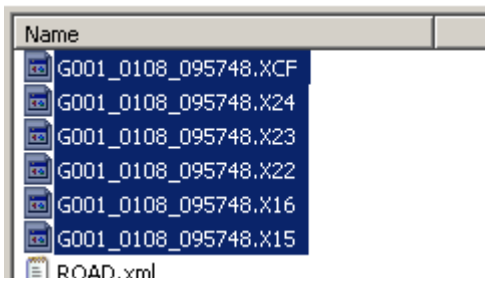
The Layer name is the the name visible to the user in Road Runner

Click in last cell (under column name **Layer name 5)** then press [Enter] key to create new row

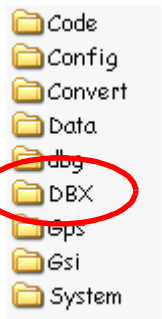
The second and subsequent row are for multiple work areasClick on Alignment string pick icon

Select **Write**

Copy the data base files to the cf card

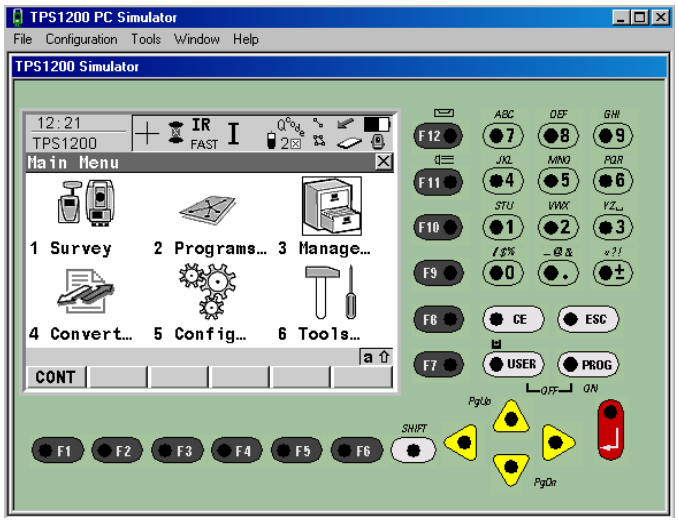


Copy the newly created data base files (examples on left) from the 12d working folder to the DBX folder on the CF card

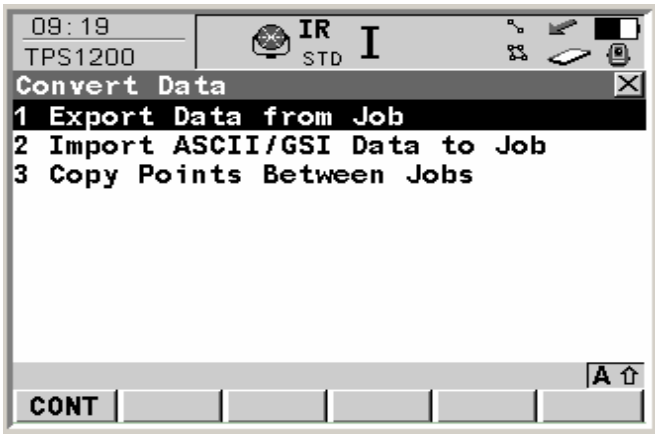


7 Creating Field file

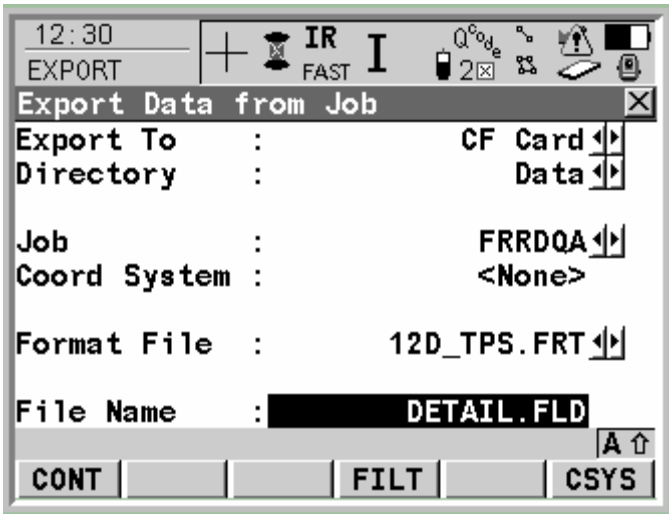
The detail survey is converted to a 12d field file on board the survey instrument



Select **4** to convert



Select **1** to export



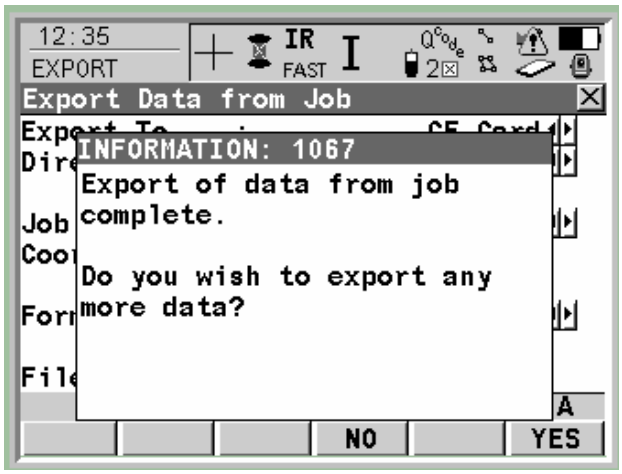
Select CF Card to export to

Select the job to convert

Select the format file **12D_TPS.FRT**

Type in the field file name

Select **F1** to continue



Select **F4** to finish

Copy the field file from the card to the working folder in 12d

Once the field file is copied to the working folder the file is reduced using option **Survey=>Create=>Field File**

See reduction notes in the **Getting Started for Surveying** manual