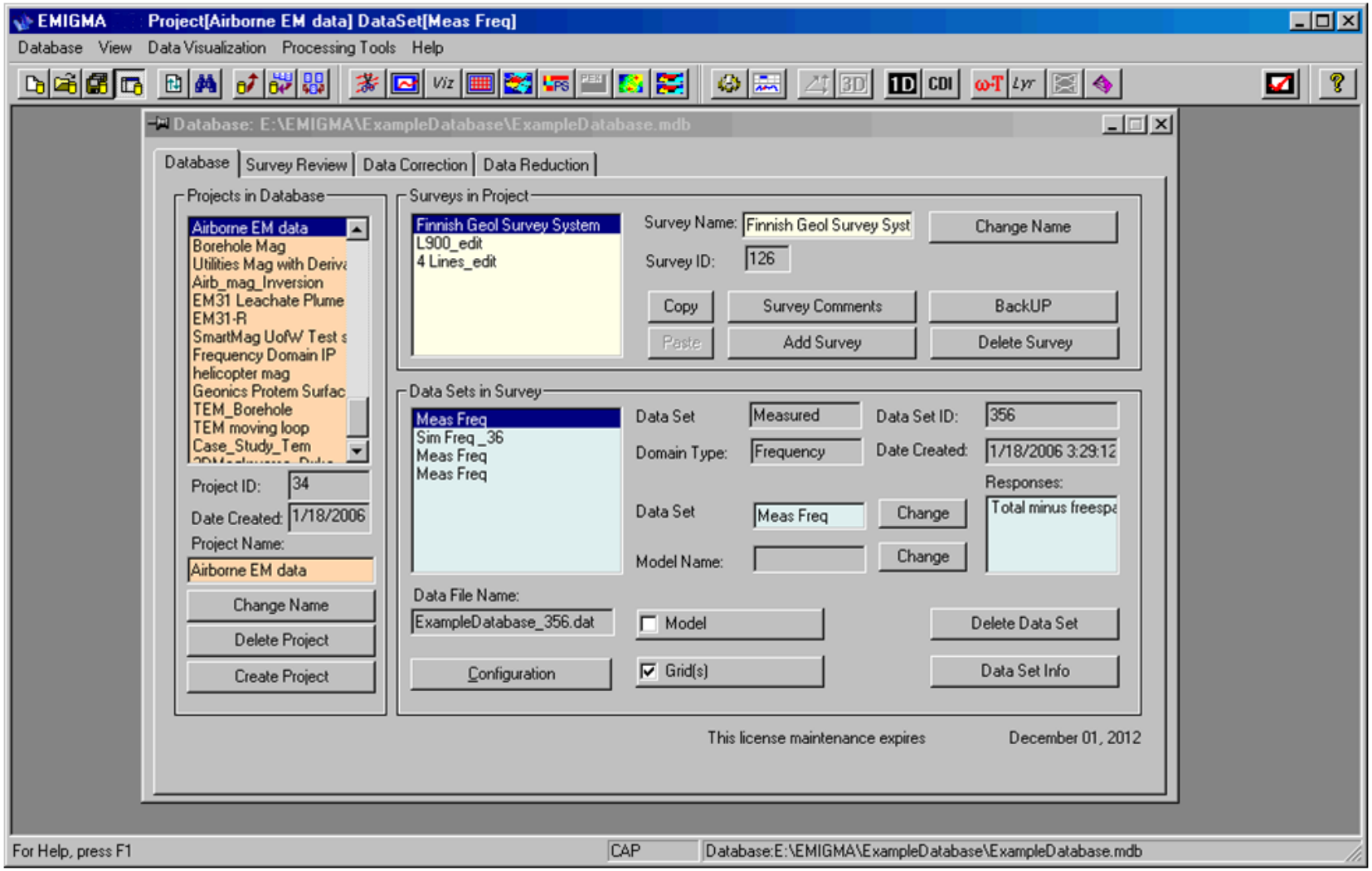
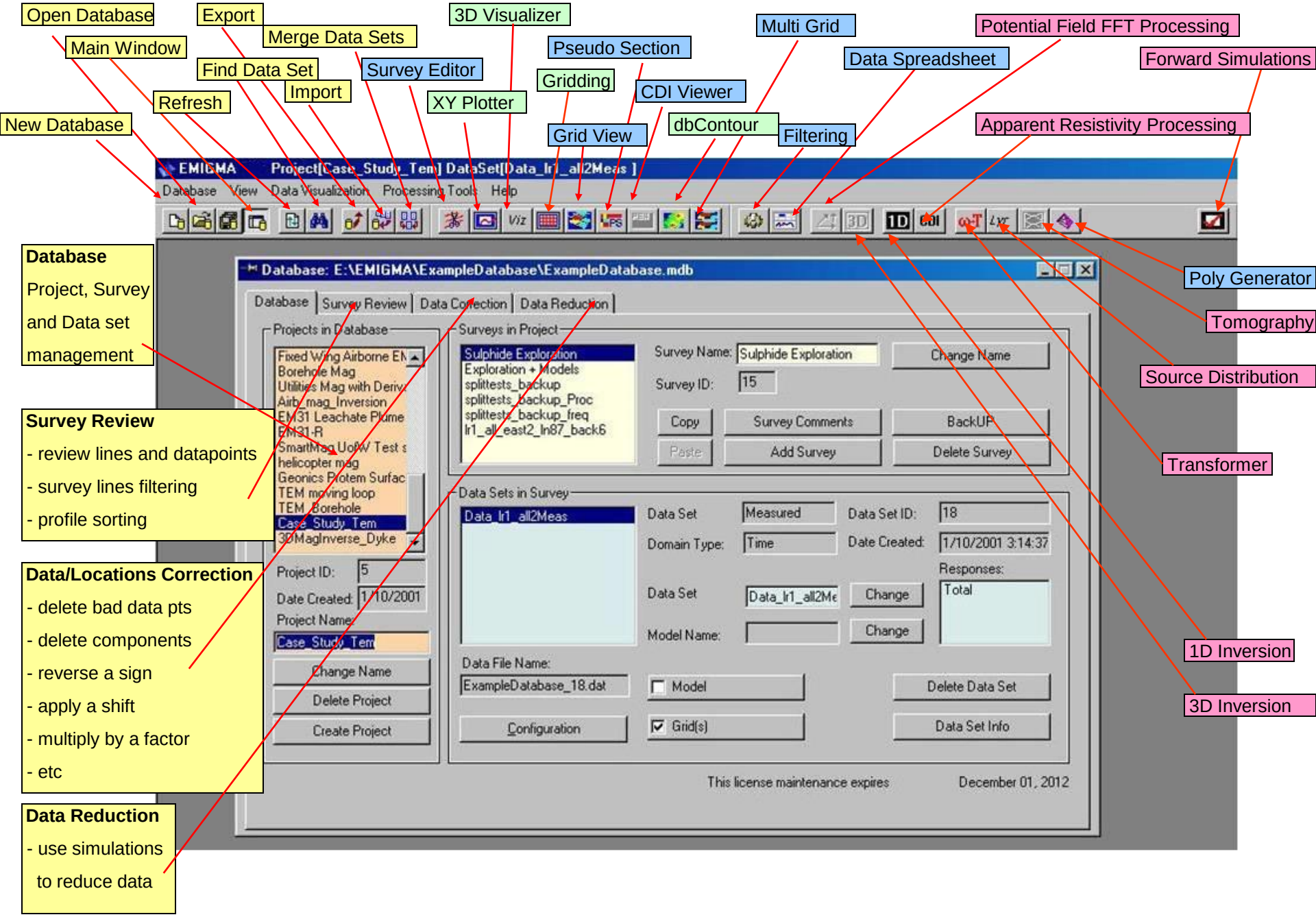
EMIGMA – Airborne FEM Premium edition




Open Database
Main Window
Export
Merge Data Sets
Find Data Set
Import
Refresh
New Database
Survey Editor
3D Visualizer
XY Plotter
Gridding
Pseudo Section
CDI Viewer
Grid View
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Multi Grid
Filtering
Potential Field FFT Processing
Data Spreadsheet
Forward Simulations
Apparent Resistivity Processing
Poly Generator
Tomography
Source Distribution
Transformer
1D Inversion
3D Inversion
EMIGMA
Database
View
Data Visualization
Processing Tools
Help
Database: E:\EMIGMA\ExampleDatabase\ExampleDatabase.mdb
Database
Survey Review
Data Correction
Data Reduction
Projects in Database
Surveys in Project
Sulphide Exploration
Survey Name:
Change Name
Survey ID:
Copy
Survey Comments
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Add Survey
Delete Survey
Data Sets in Survey
Data_lr1_all2Meas
Data Set
Measured
Data Set ID:
18
Domain Type:
Time
Date Created:
1/10/2001 3:14:37
Responses:
Total
Change
Model Name:
Project ID:
Date Created:
Project Name:
Case_Study_Tem
Change Name
Delete Project
Create Project
Data File Name:
ExampleDatabase_18.dat
Model
Delete Data Set
Configuration
Grid(s)
Data Set Info
This license maintenance expires
December 01, 2012
Database
Survey, and Data set management
Survey Review
- review lines and datapoints
- survey lines filtering
- profile sorting
Data/Locations Correction
- delete bad data pts
- delete components
- reverse a sign
- apply a shift
- multiply by a factor
- etc
Data Reduction
- use simulations to reduce data

Importing Airborne FEM Data

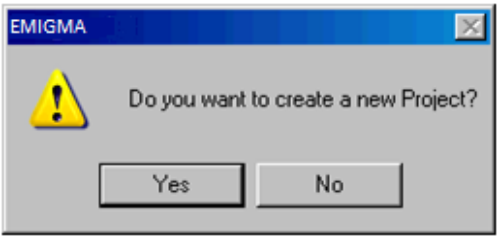
EMIGMA imports Airborne FEM data including:

- IMPULSE HEM

Data is imported in ASCII columnar format. Data files must have X, Y, Z (altimeter) and frequency data (inphase and quadrature). Data files must have a line header, but if you do not have one you will be able to build a header inside the import wizard. Line labels are required to identify each line of data in the file.

Data Imports

Select the Data Import button

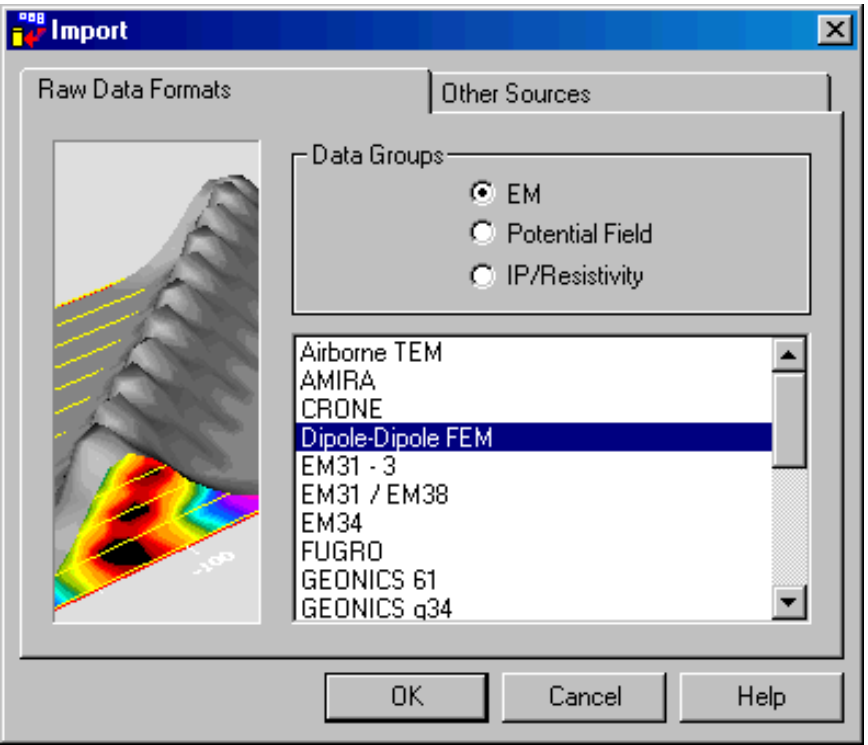


You will be asked if you want to create a new Project.

Select **Yes**

Type in the name of the New Project e.g. Airborne FEM.

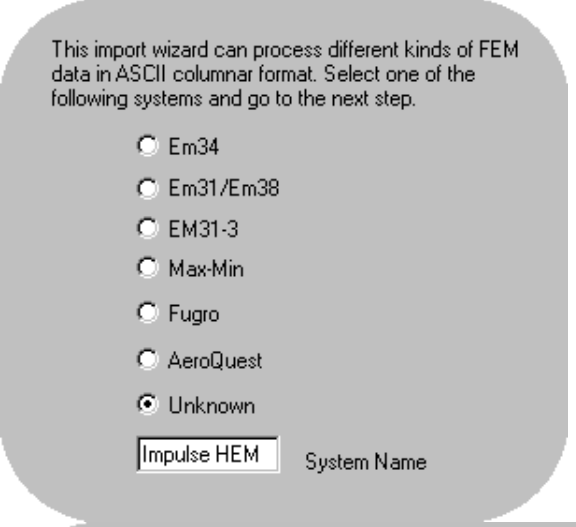
Select **OK**



Select the data type from the Import Utilities. Select **DIPOLE-DIPOLE FEM**. This is a generic data import that will allow you to select the appropriate parameters for any FEM data set.

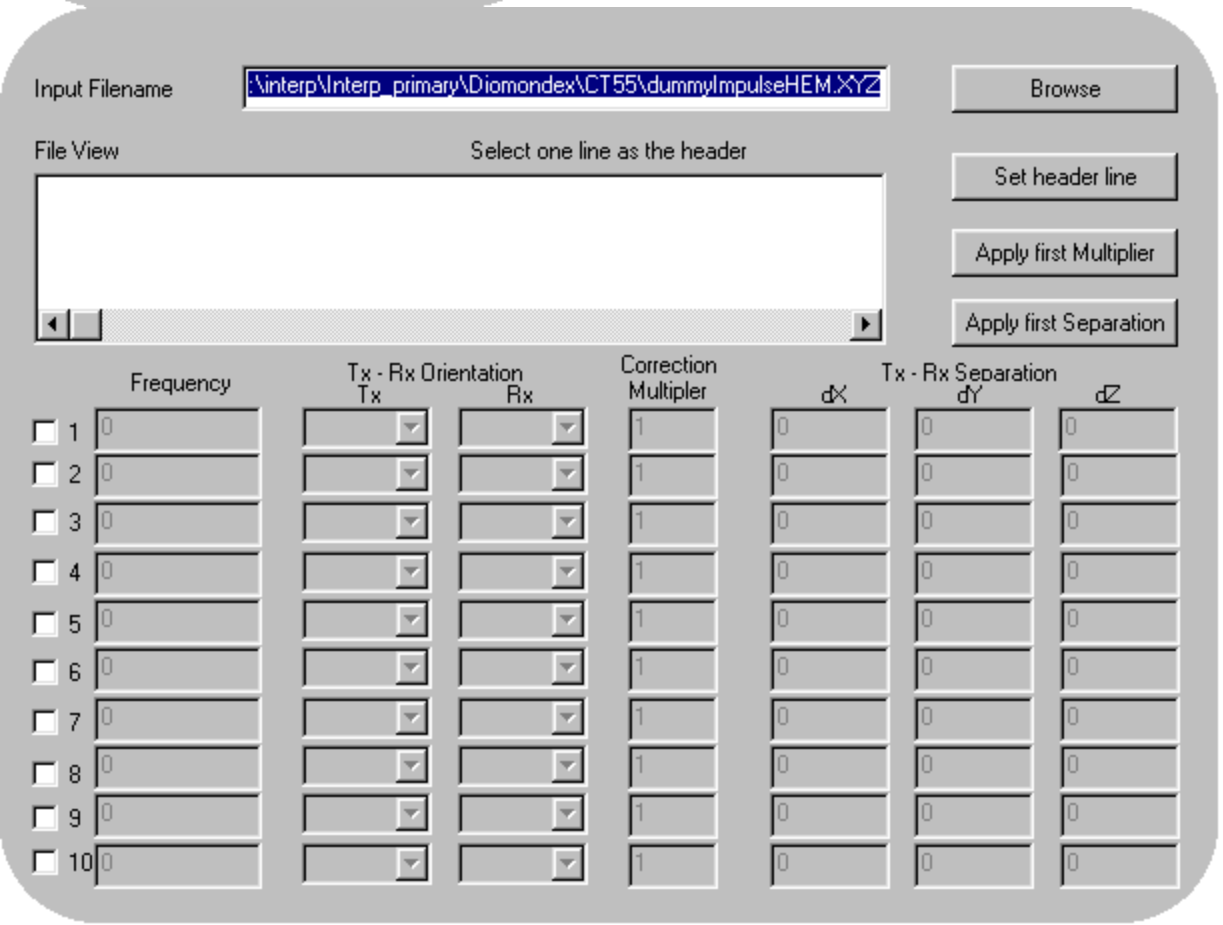
Select **Import file**

Data Imports



Select your data type from the list or select Unknown if it does not exist on the list and type in the name of your System.

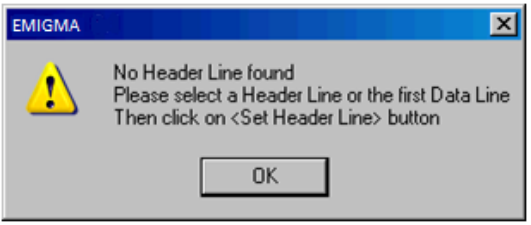
Select **Next**



Import Wizard Step 1

Browse for your data file

Data Imports



You may get the following messages:

No Header Line found.

You will be asked to chose an appropriate line as a header - Select **OK**

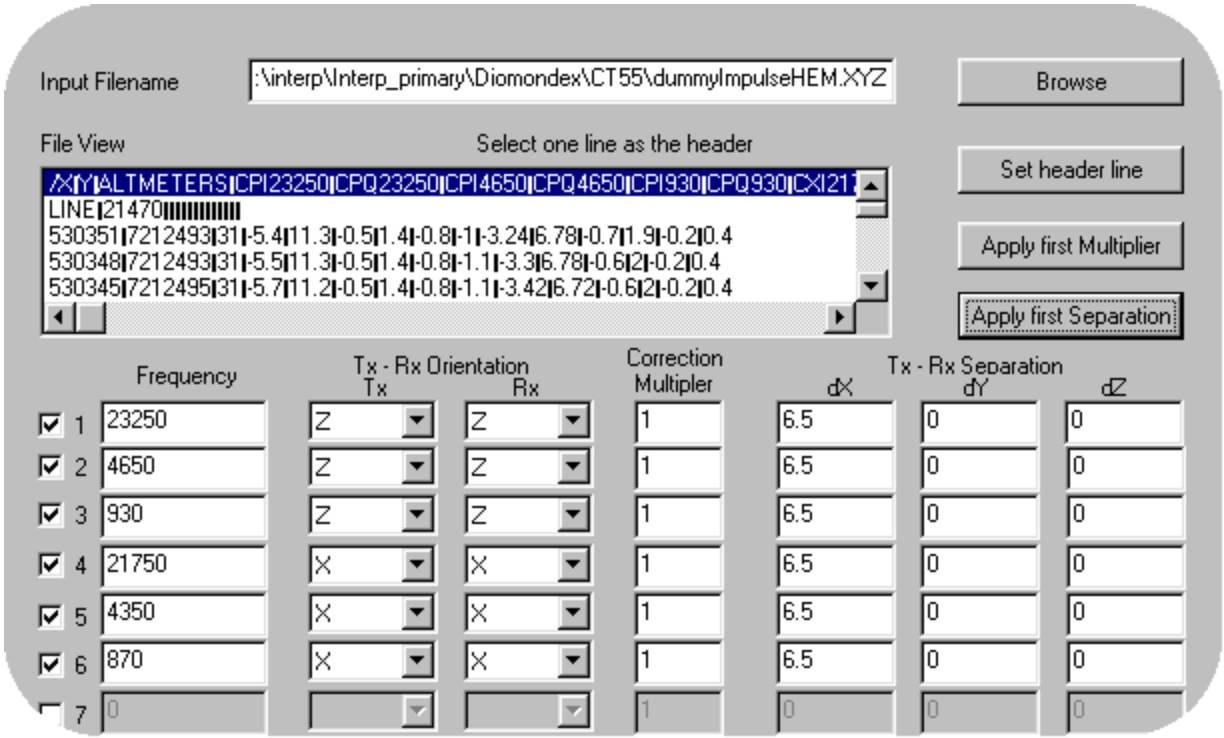
Select the header line. If you do not have a header line, select the first line of data and the **Set header line** button. Also press this button, if you need to modify a header.

You will be asked if you want to change the header selection - Select **Yes**

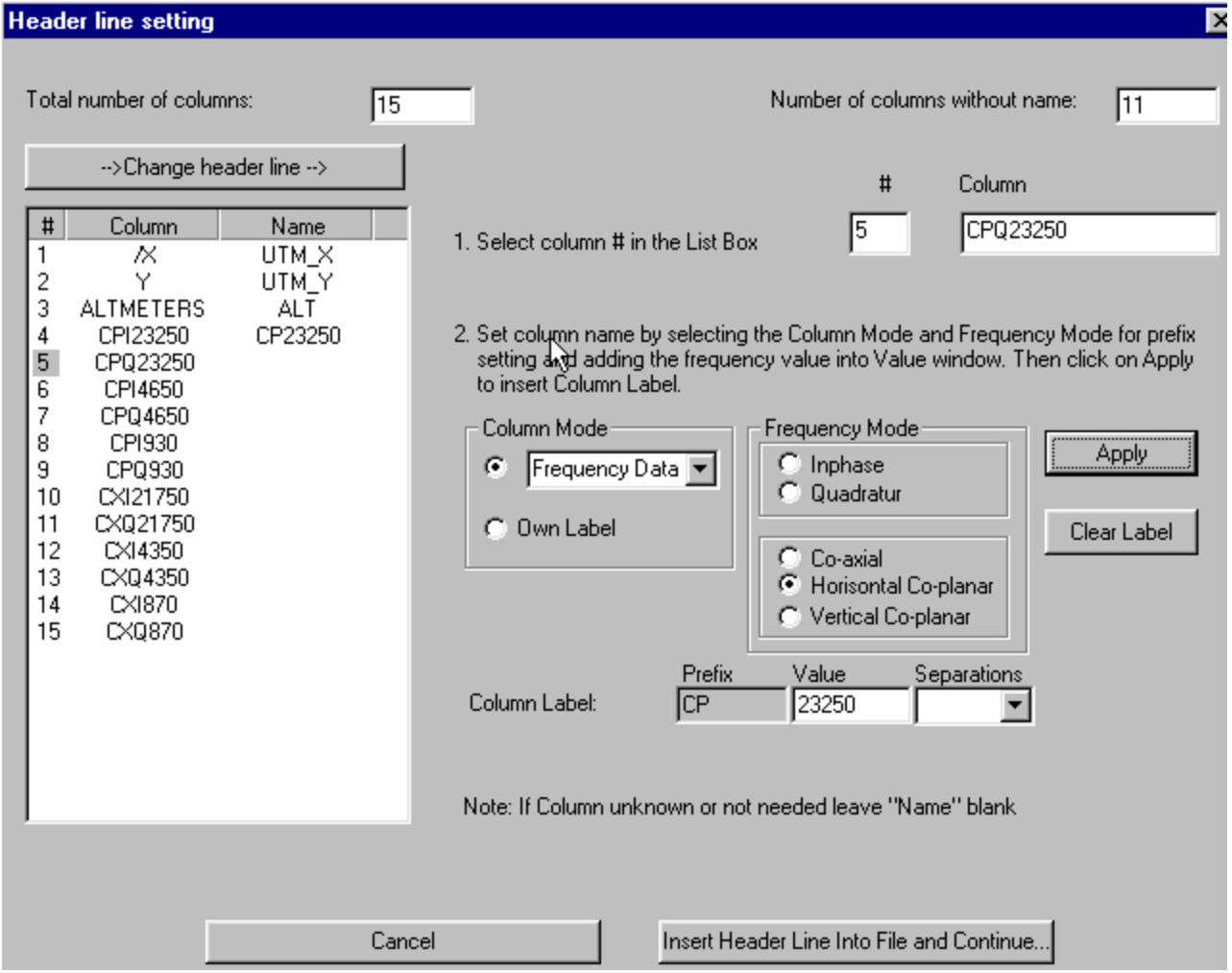
The frequencies, Tx-Rx orientation, and Separation will be set for you and can be modified.

ZZ=Vertical Coplanar and XX=Horizontal Coaxial

If you need to modify the Tx-Rx Separation, you can type in the separation for the first frequency and then use the **Apply first Separation** button.



Data Imports



If you have a column that is not being used in the import, give it a label of **UNKNOWN** and the EMIGMA program will know to ignore this column.

You can also type in your **Own Label**.

When you have changed all the columns, select **Insert Header Line Into File and Continue**. You will have the option of overwriting your original survey or giving it a new file name.

Changing Header Line

Select the **Column #** the selected column will be blue.

Chose the appropriate label under **Column Mode**

Apply

To set a frequency:

Select **Frequency Data** in the Column Mode section

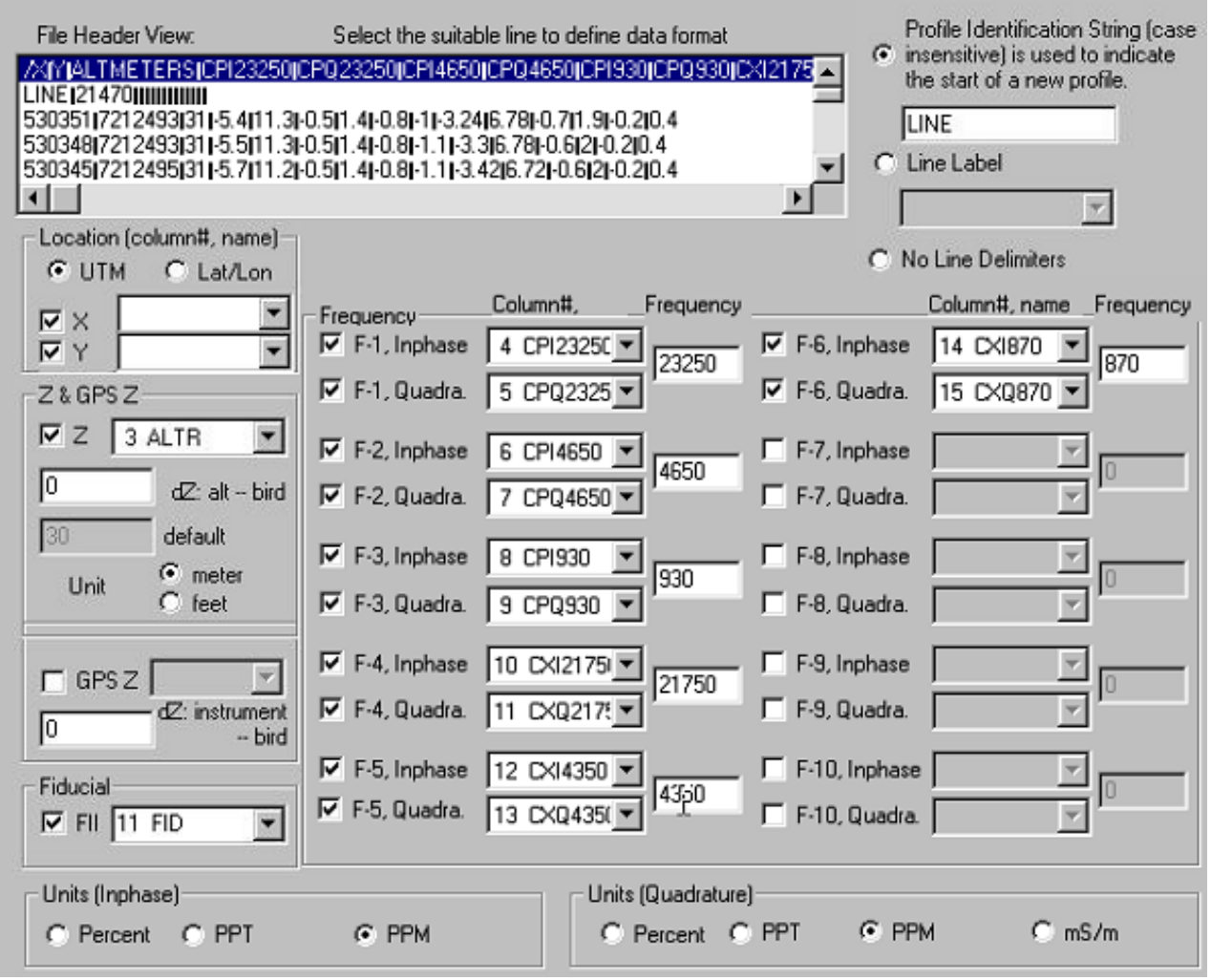
Select the **Frequency Mode**:

Inphase or Quadrature

Co-axial, Horizontal Co-planar or Vertical Co-Planar

Apply

Data Imports



Frequencies – the columns containing your frequency data will be selected for you. If they are incorrect, you can select the appropriate column with the combo box.

Units Select the units for the Inphase and Quadrature. For the Impulse HEM system the units should be PPM for both phases.

Location

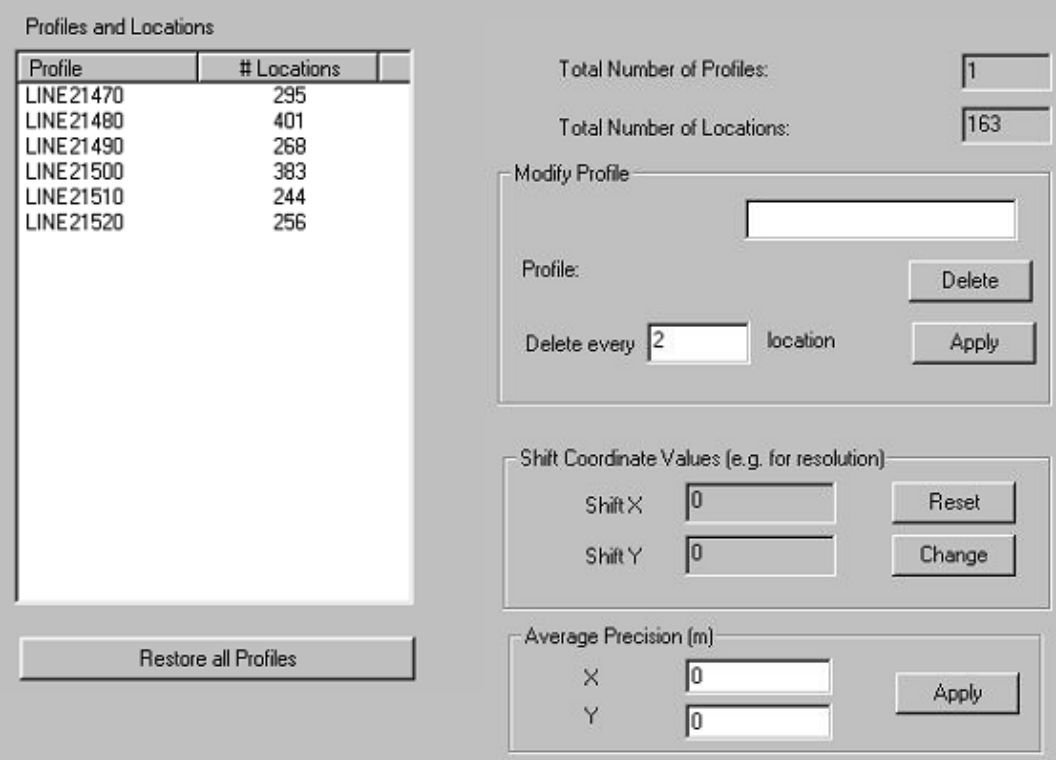
The X and Y columns will be detected. If they are incorrect, you can select the appropriate column with the combo box. You can also specify whether the coordinates are UTM or Latitude/Longitude.

Z & GPS Z The altimeter column will be selected

Set the **dZ** = the height of the altimeter instrument minus the height of the bird housing the Tx and Rx

Select the **units** for altimeter from meters or feet.

GPS Z if you have GPS Z data you can select the column and input the dZ = height of the GPS instrument minus the height of the bird.



Data Imports

Profiles and Location - The profiles being imported and the number of locations per profile will be displayed.

Total number of Profiles as well as **Total Number of Locations** are displayed for your information.

Average Precision - Specifies how close two locations need to be before they are considered the same location.

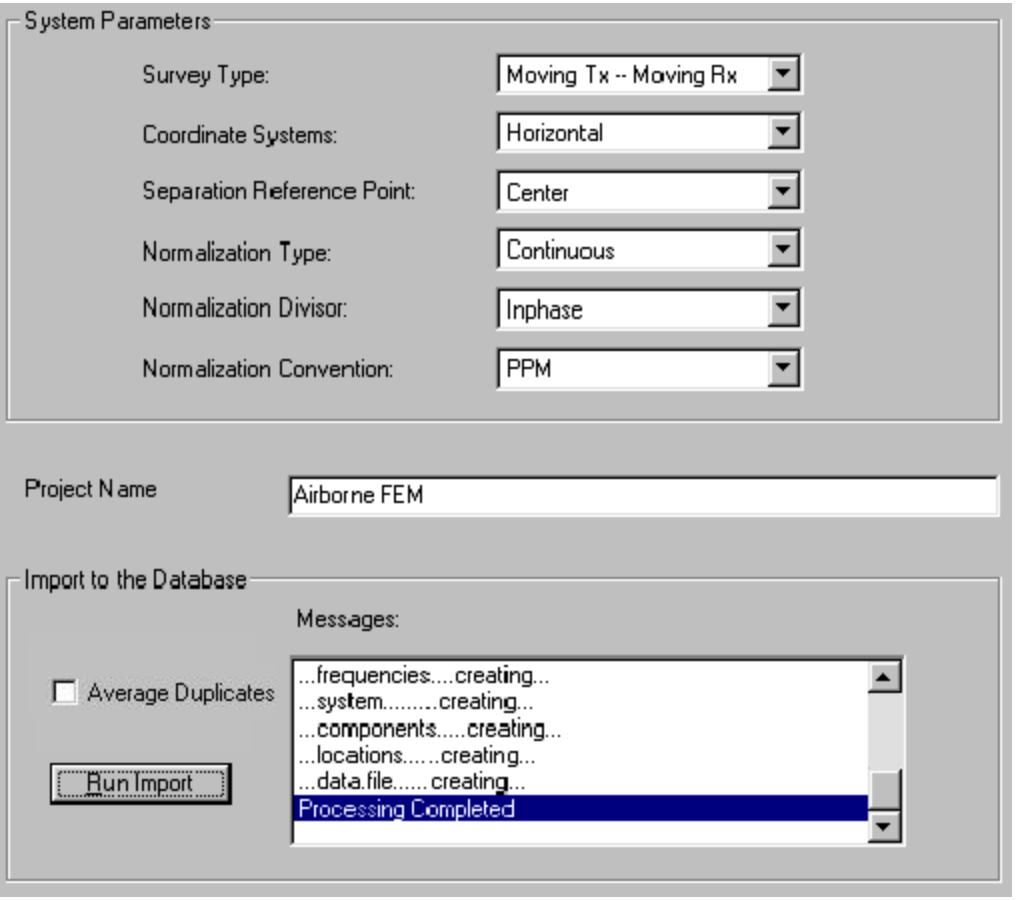
Deleting Profiles – Select the profiles you wish to delete from the Profile and Location Box. To multiple select, use your shift and Ctrl keys. Then select **Delete.**

Decimation – You can delete every nth position from your data by selecting the profile(s) you want to modify from the Profile and Location Box, select the n value in the Delete every box and **Apply**.

Note – You can delete and decimate your data as well as apply a number of other more advanced compression techniques once you have imported your data into your EMIGMA database, so it is a good idea to import all of your data.

Shift Coordinate Values – You can apply a shift to your X and/or Y coordinates. This is useful to shorten your UTM coordinates for ease of display, or if you are providing proprietary data to others and want to remove the true coordinate values you can apply a shift to X and Y.

Data Imports



System Parameters The system parameters for the system you chose will be displayed and can be modified.

Project Name The Project Name you entered earlier will be displayed and can be modified.

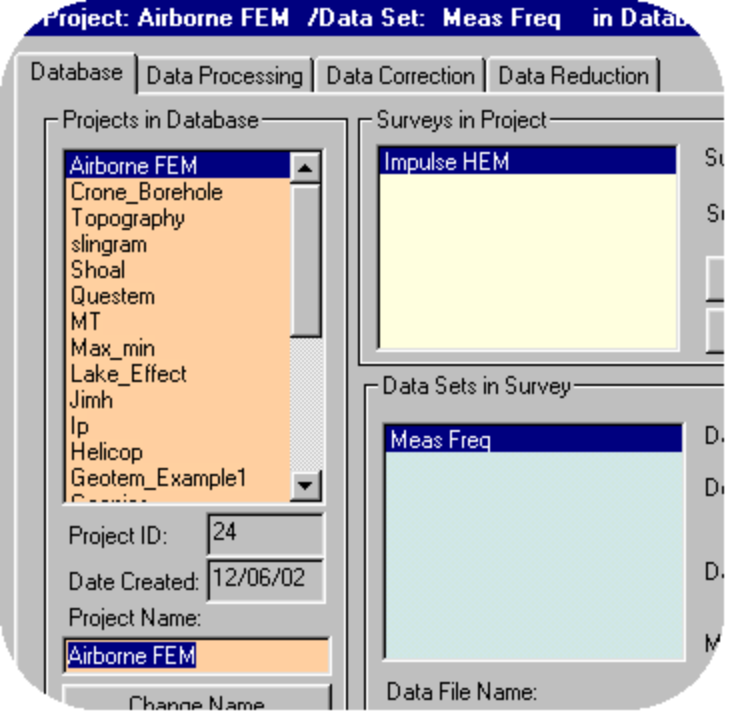
Average Duplicates Select this option to have the data values averaged for duplicate locations.

Select **Run Import**

Messages The status of the import will scroll before you. When you see Processing Completed, you know that the import has successfully completed.

Select **Finish**

Data Imports



System Parameters

Your data will be be imported into your EMIGMA database as a new Survey and Data Set ready to plot, model and invert.

Technical Documents

Included on your EMIGMA CD-ROM is a suite of tutorials, Power Point presentations, technical abstracts, newsletters and manuals. Most of these materials will be copied to your machine during installation.

*.\EMIGMAv10\Documents

\Manual
\Technical
\Tutorials

These files are also available by on the Downloads page at http://www.petroseikon.com/resources/index.php

Technical Support

Support Department

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support@petroseikon.com

Feedback

Your comments and feedback are always welcome and are helpful in making a better product for all users.