

# *QCTool*

*QCTool* is a software package for data quality control prior to advanced processing and interpretation. Having been conceived as a preprocessing stage of *EMIGMA*<sup>®</sup>, our geophysical modeling and interpretation platform, it has turned into a universal tool that can be used practically in any field where data analyses and handling are involved.

The standard license of QCTool offers import and export capabilities, time and date channels, extended spreadsheet, plotting and mapping functionalities. It also includes more advanced data processing tools, such as merging and appending files, data filtering, and interpolation. The evaluation version can be downloaded from our website [www.qc-tool.com](http://www.qc-tool.com) and is valid for 30 days.

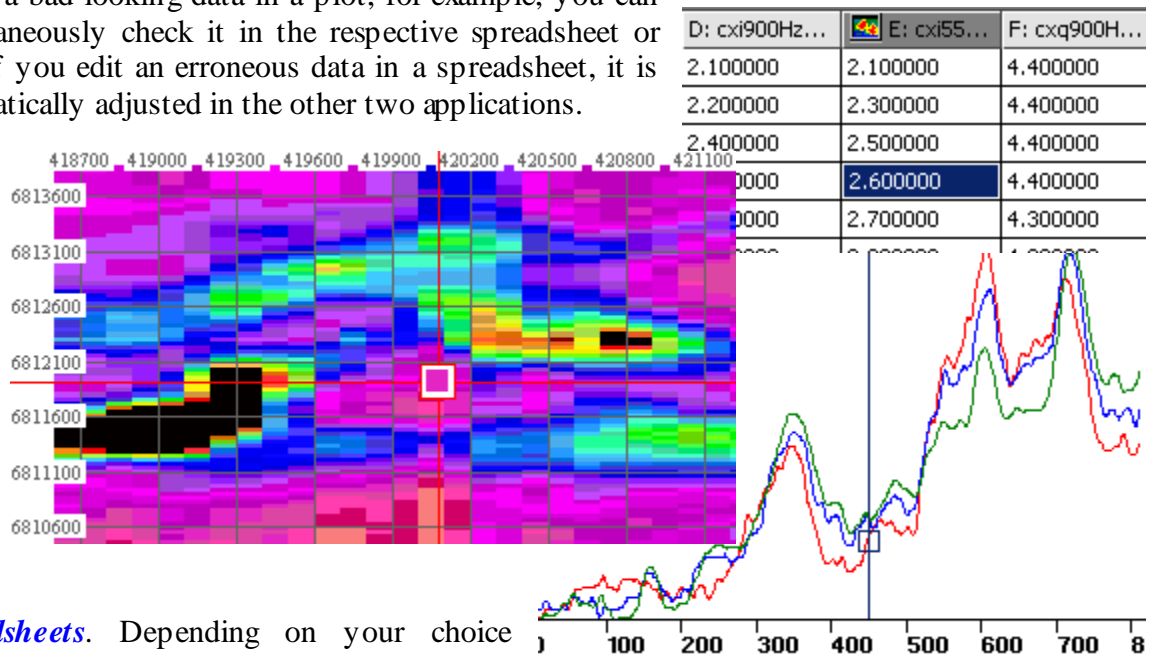
QCTool can be run on Windows 98, Windows NT, Windows 2000, Windows XP (Home or Professional) or Windows Vista and is entirely a Windows style program.

## Basic Functionalities

**Import.** QCTool permits import of data sets no matter what their size is. As of now, a number of formats are allowed: ASCII XYZ, binary XYZ, Geosoft GBN, Scintrex CG3/CG5 Dump and others designed to meet the specific requirements of various customers. The import procedure is fully automated and easy to manage.

Data is kept in the storage format of your choice whether it be double or single precision (float), short or long integer or date or degree formats.

**Data Display.** There are three ways of data representation: spreadsheets, plots, and grids. All the three are interrelated and can easily be brought up for viewing at the same time. If you come across a bad-looking data in a plot, for example, you can simultaneously check it in the respective spreadsheet or grid. If you edit an erroneous data in a spreadsheet, it is automatically adjusted in the other two applications.



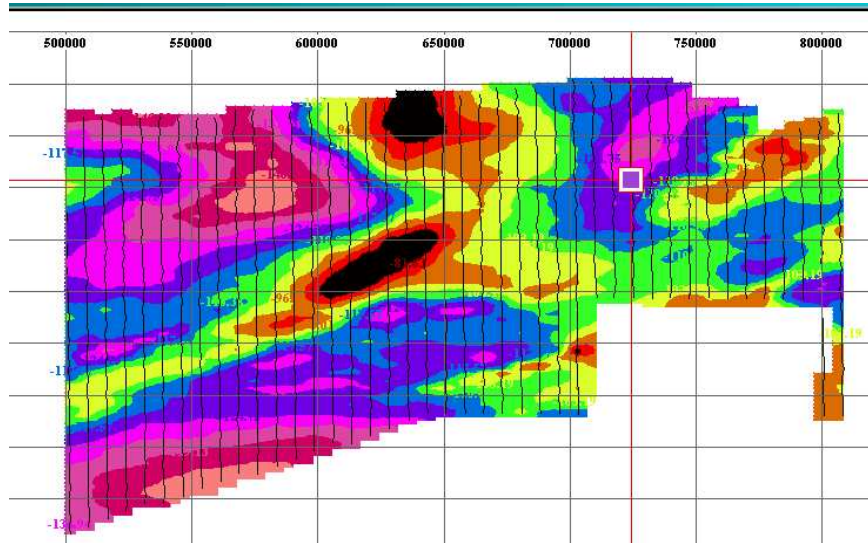
**Spreadsheets.** Depending on your choice during the import procedure, you can have your data represented as a single table of an unlimited “depth” or divide them into as many smaller tables as the number of data subsets in your original file. The links between the tables differ from those used in similar applications, like Excel, due to the strict data structuring in QCTool. This feature makes it easier to work with large sets of data and saves much of your time. The spreadsheet format offers all standard functionalities usually available in the like applications.

Very handy is the Formula Calculator that can be displayed at a click of the mouse to furnish you with the most commonly used mathematical functions.

**Plots.** Plots are generated automatically. With them, editing data takes no time since errors are visible to the naked eye. Deleting any point on the plot will produce the same changes in the respective table or grid. You can plot as many channels as necessary to view them all at the same time; you can cut your plots into segments; switch between lines, channels, and curves; zoom in and out; change plot appearance, remove trends – all at a split of the moment.

**Grids (2D Displays)** The gridding tool provides numerous convenient functionalities.

You can view and adjust profiles, apply different methods of interpolation, change draw modes, draw and customize contours. You can also superimpose your grid on a calibrated map (with calibration provided within QCTool), change from the vector to raster formats, move grid elements, measure the distance between different points, customize grid appearance and much more.



2D data displays may be made of any column (parameter) versus any other 2 parameters quickly and easily. You may show simply the parameter at the data points (x,y), interpolate the data onto regular grids using either square or rectangular grid cells. A very accurate local interpolation technique called Natural Neighbour is allowed or the more conventional global Minimum Curvature technique. Interpolated grids may be shown as equal range (traditional) or equal area (weight). Contours may be made and filled plus many other mapping capabilities which are integrated with 2D plot presentations.

**Mapping:** QCTool is not designed as a mapping software product but does provide some basic mapping capabilities to aid in the analyses of data which can be related to maps.

**Transverse Mercator Calculator.** For your convenience, a special tool is designed allowing you to convert UTM into Latitude/Longitude and vice versa, with the result added into a separate column in the spreadsheet. Lambert and Polar Projections are also provided. Over 20 ellipsoid datums are provided and if you need a different one then we can provide it assuming we are given a reasonable size order.

### **Additional Functionalities**

**Merging Files.** With QCTool, you can merge as many data sets as necessary and have the missing values interpolated to get the full and consistent picture of your survey. This can be done with data of different types or from different instruments but have a common data for linking such as time or date or temperature.

***Append Files.*** With QCTool, you can append new data to old data. This is useful when you collect data on different days or at different times and what to bring them together.

***Data Interpolation.*** An excellent tool to fill up the gaps in your data, data interpolation is especially useful when you merge two or more files and there are a lot of missing data as a result. The only thing you have to do is to select the necessary data points to interpolate and all the rest will be done for you.

***Data Sorting.*** Allows sorting of your data at various levels

***Data Filtering.*** Data Filtering uses 7 kinds of filters: low pass, high pass, band pass, band removal, mean, median and Gaussian. You can plot unprocessed versus filtered data, transform time-domain data into frequency-domain, and adjust filter settings to optimize the result.

***Trend Removal.*** Many instruments have drift in the measurements, so an easy to use drift correction is provide. Data shifting is also provided as sometimes instruments need to be shifted in sequence when compared to other parameters.