

User Guide

TIME

Geotechnical Instrumentation and Monitoring

Version 8.091



Time – Geotechnical Instrumentation and Monitoring – Version 8.091
User Guide

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TIME - GEOTECHNICAL INSTRUMENTATION AND MONITORING

The **Time** module is used for the monitoring of piezometric data over time. Time uses a Graphical User Interface (i.e. with windowing) that is compatible with Microsoft Windows 7, 8 and 10.

Time uses the Geo, X3D and SM2 libraries created by Sobek Technologies Inc. for data editing, the definition of the presentation style, and viewing and editing graphic results. Please refer to the Geo, X3D and SM2 guides for all details.

1. LAUNCHING THE TIME MODULE



Double-click on this icon to open the **Time** module.

The connection to the database can be done directly when calling Time by entering the following string as target. The string will be:

C:\Geotec80\Bin\Time.exe username/password@odbc:connection_alias

See paragraph 2 of chapter 2 of the X3D guide for all the details about the connection to a database. Once the connection to a database is done, the user can execute a data query to produce the graphic output.

When **Time** is first launched, the following files are loaded from **C:\Geotec80\Style:**

- the markers file **geotec8.mrk**;
- the patterns file **geotec8.ptn**;
- the style file **TimeSobek_Eng.sty** which is a model showing the current piezometer over several years.

The user can begin working with this initial presentation, or open another style file included with the software. He can modify the style file and save it in a new presentation. In subsequent loadings, Time opens the style, markers and patterns files that were in use when last closed.

2. FILE, EDIT, INSERT AND VIEW MENUS

None of the options of the **File**, **Edit**, **Insert** and **View** menu is specific to Time. The detailed description of each option of these menus is done in chapters 2, 3, 4, and 5 of the X3D library guide.

3. TOOLS MENU

The options of the **Tools** menu are used to define the utilisation parameters of Time and to edit the graphic components produced by Time: the characteristics of the graphic page, of the graphs, legends, axes, markers and patterns used. All these options are described in details in chapter 6 of the X3D library guide.

Options is specific to Time. It is presented in paragraph 3.3. The definitions of the graphs and curves are presented succinctly in the following paragraphs.

3.1. Definition of the graphs



The list of graphs is established and updated in the graph editing window opened by selecting the **Graphs...** option of the **Tools** menu or by clicking the button shown on the left. More details about the graph editing are available in paragraph 4 of chapter 6 of the X3D guide. Figure 1 shows the graph editing window in Time.

The table in this window contains the graphs defined in the style file. Each graph is identified by a unique number in the **#** column. The first graph is always **Page** with **# 0**. This graph represents the graphic page and cannot be deleted.

The primary graph (with a positive **#**) whose **#P** cell is **0** must be **PIEZOMETRIC_LEVEL**. The **Left**, **Width**, **Right**, **Bottom**, **Height** and **Top** fields define its position and dimension. The user can modify those values.

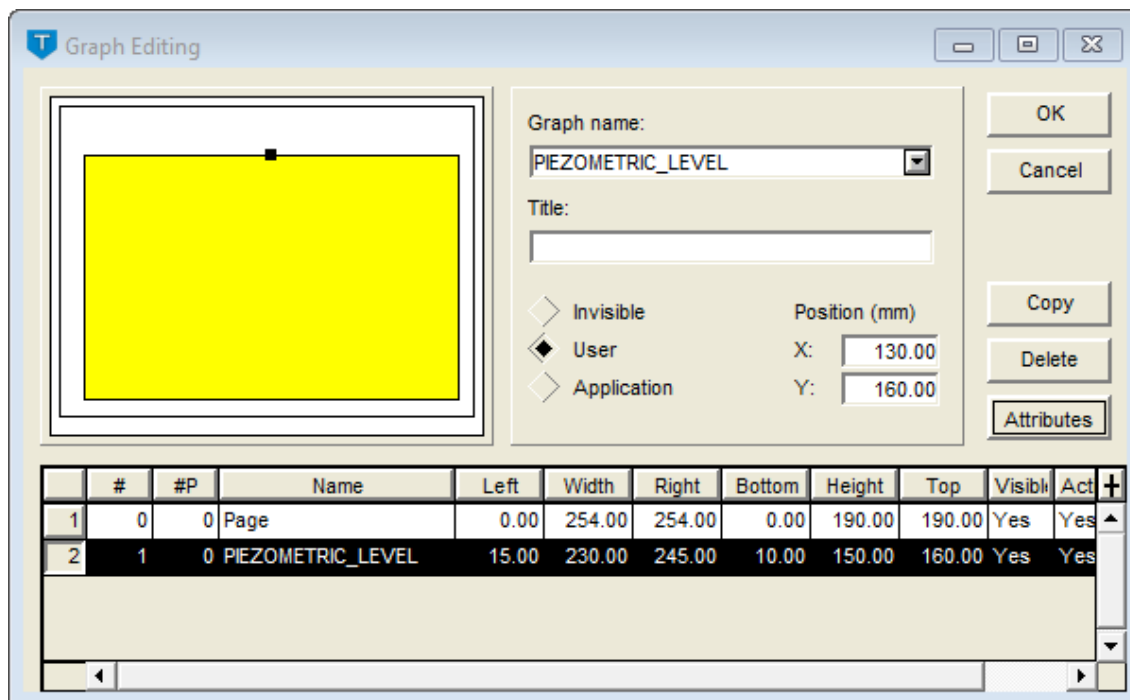


Figure 1 - Graph editing window

The user can select the fields to represent via the curves editing window (see paragraph 3.2).

The user can also define a graph whose name is not in the scrolling list to add objects in the space occupied by this graph. These objects are usually general information such as the site number, the company logo, etc. Chapter 4 of the X3D library guide describes object editing.

3.2. Definition of the curves



The list of curves of a graph is established and updated in the legend and curves editing window opened by selecting the **Legend** option of the **Tools** menu or by clicking on the button shown here. More details about the legend and curves editing are available in paragraph 5 of chapter 6 of the X3D guide. Figure 2 shows the curves editing window for the PIEZOMETRIC_LEVEL graph.

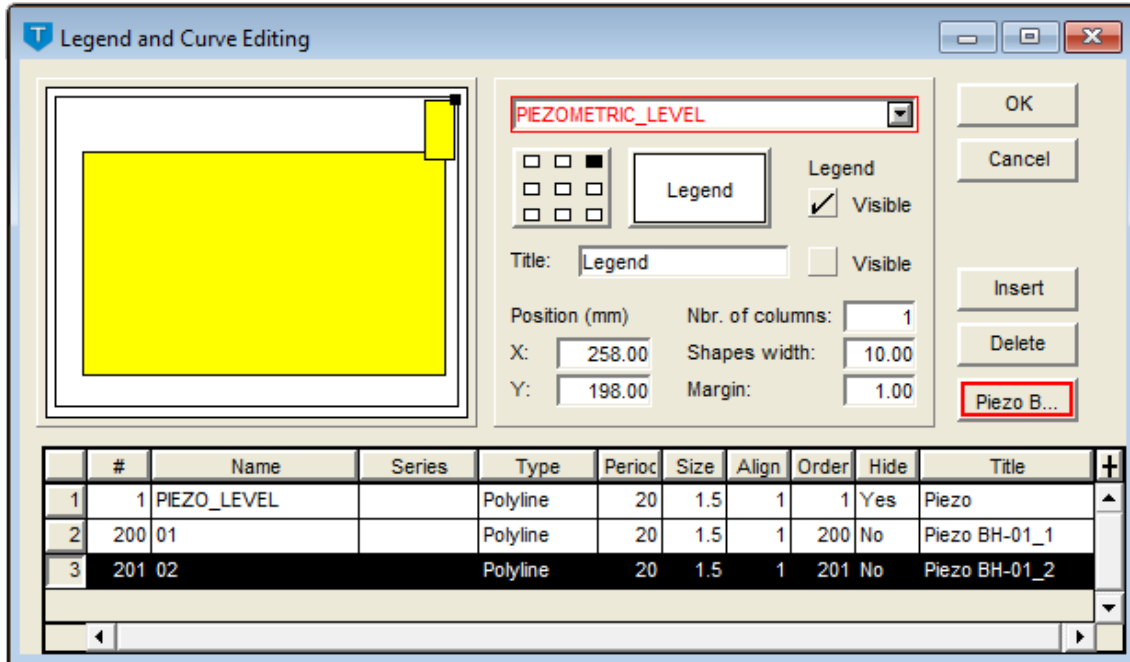


Figure 2 - Curves editing window

Depending on the option selected (see paragraph 3.3), predefined curves with a number equal or greater than **100** (superimposed years) or **200** (not superimposed years) are automatically generated based on the query.

The user can define the curve to display. Generally, the PIEZO_LEVEL or the PRESSURE is selected in the scrolling list associated to the **Name** field, which shows the list of fields from the PIEZOMETRIC_LEVEL table. The curve title will be used in the legend, for all predefined curves. The year (**curves 100**) or the concatenation of the boring and piezometer numbers (**curves 200**) are automatically generated.

The **type** of curve has no impact. The data are always displayed as polylines. The drawing attributes that the user can modify are:

- The line; the polyline connecting the position of each measurement will have the line attributes;
- The marker; the position of each measurement will be accentuated by the chosen marker.

3.3. Options



The **Options** item of the **Tools** menu or this button opens the options window for data display, illustrated in figure 3. The user can define the data selection parameters. The options are saved in the style file.

The first tab is for **Piezometers**. The inclinometers and profilometers will be added in the future.

- Upon **navigating**, the user can choose to display only the data from the **current piezometer** or from **all selected piezometers** at once.
- When only one piezometer at a time is displayed, the **years** on the X-axis can be **superimposed**. The time axis is then from January to December. The predefined curves are numbered from **100 and up**.
- If the years are not superimposed, the time axis is not fixed but goes from the smallest date to the greatest. The predefined curves are numbered from **200 and up**.

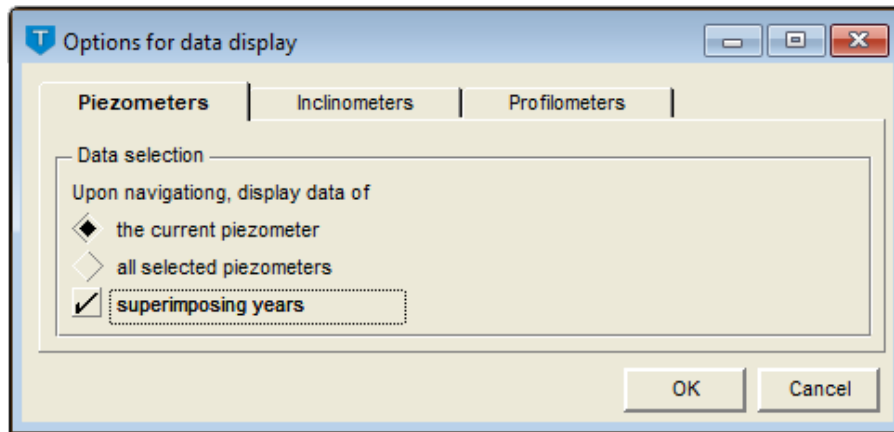



Figure 3 – Options for data display

4. DATA MENU

The options of the **Data** menu are detailed in chapter 7 of the X3D guide. The options are mainly used to retrieve data in the tables of the **Geotec** database. In Time, the default retrieval (**simple query**) is done on the **Piezometer** table.

In Time, the data entry options available in the **Data** menu (**Entry** option) and with the buttons of the application toolbar () are those of **Site**, **Boring**, **Piezometer**. The user first inserts the sites, followed by the borings related to the sites, then the piezometers. Some fields are mandatory and are identified by different background and text colors, defined in the preferences editing window (see paragraph 7 of chapter 6 of the X3D guide).

5. WINDOW AND HELP MENUS

None of the options of the **Window** and **Help** menus is specific to Time. A detailed description of each option of these menus is done in chapter 8 of the X3D guide.

6. INTERACTIVE EDITING

In the graph, the user can click with the right button of the mouse to display the contextual menu shown in figure 4.

The first item is used to **create** a new record in the PIEZOMETRIC_LEVEL table.

By placing the cursor on a curve, the **Information** option of the interactive menu opens the PIEZOMETRIC_LEVEL entry form on the current data. Double-clicking on data has the same role.

It is also possible to launch the Site, Pro, Log or Lab modules of Geotec to show the current data.

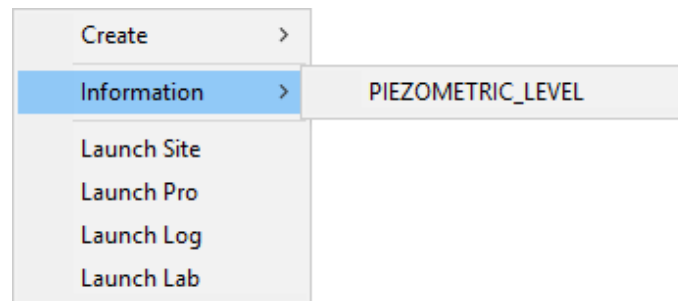


Figure 4 - Interactive menu