Working with Charts

General remark.   The menu and the toolbar of chart are visible if the chart window is activated. A window is activated (becomes the foreground window) when:
  the window is first opened
  or a user switches to the window by selecting it with the mouse.

Creating and Opening Charts

A new chart can be created only in a form of a Temporary Chart from the windows with output data. **Only one Temporary Chart can be opened in the program**. At any time Temporary Chart can be saved to a file with the '.pg' extension.
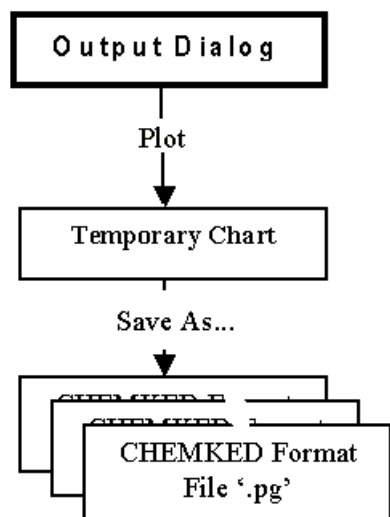

Chart files with the `.pg` extensions can be opened in Chemked using the **Open** item from the **File** menu. The appearance and features of Temporary Chart and other charts are identical.
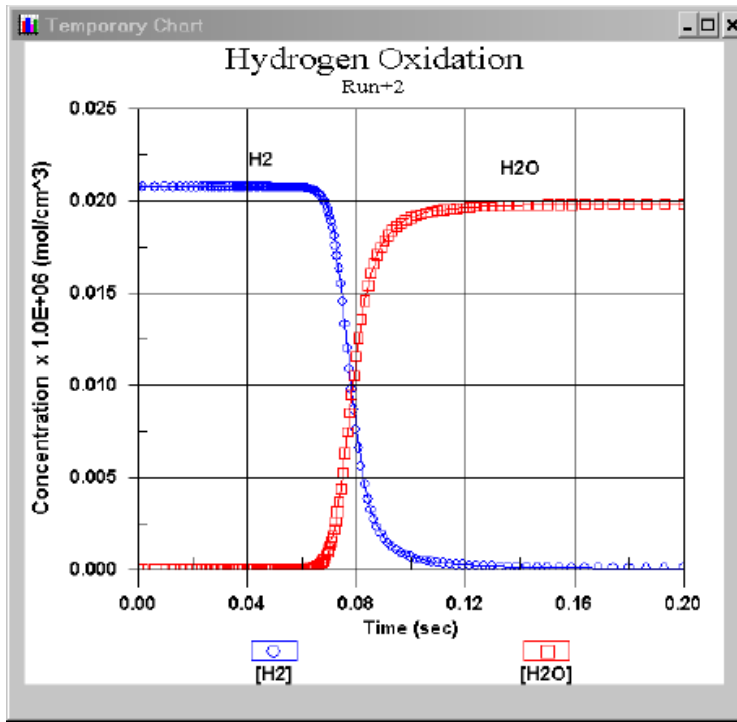
Text Elements

An example of chart text elements is shown in the figure.
  Main title: Hydrogen Oxidation
  Subtitle: Run#2

Axis labels: Concentration x 1.0E+06 (mol/cm^3), Time (sec)
Legend: [H2], [H2O]
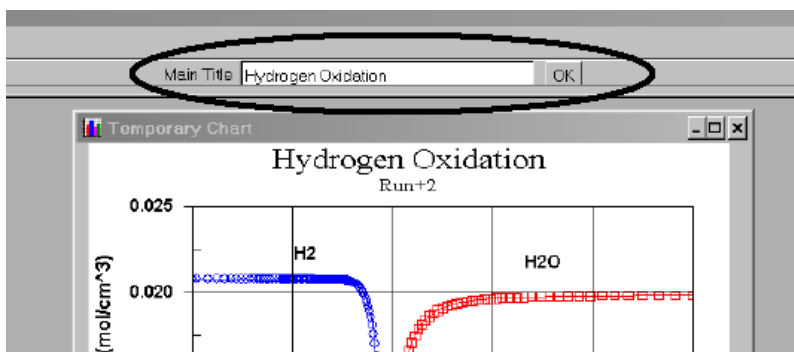Chart annotations: H2, H2O

Hot Spots of Text Elements
All the text elements have hot spots. If the mouse cursor is hovered over such a spot the cursor is displayed as a hand.

Editing Text Elements
1. Click area of the element you want to edit. The text box and the OK button appear on the top of the main window.
2. Type text in the text box; click OK.

Text box for editing text elements

If you enter a blank space in a text element this text element will not be visible. To view locations of the invisible elements,
    choose **View > All Chart Texts**
    or on the toolbar, click the **All Chart Texts** button**.**

Adding New Chart Annotation
1. Choose **Edit > New Annotation**
    or on the toolbar, click the **New Annotation** button.
The text box and the OK button appear on the top of the main window.
2. Type text in the text box, click OK. The annotation appears in the chart.

Annotations can be moved by clicking and dragging on the left edge of the annotation with the left mouse button; the mouse cursor will be transformed to a cross. Drag the cursor to a new position and release. The annotation will be placed at this position.

Note. An annotation may have the length up to 255 characters.

Subsets

In charts, numeric data is stored as *X,Y* subsets. Each subset is displayed as a line with points. This section describes some operations that can be performed on subsets.

Hot Spots of Points
The points of lines have hot spots. If the mouse cursor is hovered over a point, the cursor is displayed as a hand. If you click on this point it will be covered with the chart pointer (a square). You can move the pointer from point to point and from subset to subset using the LEFT, RIGHT, UP or DOWN keys.

Selecting a Subset
To select a subset, double click any point of this subset or the subset label in the legend. The line and the points of the selected subset are highlighted with a Selection Color. Click the chart area or press the Esc key to deselect this color.

Viewing X,Y Values
To view the *X,Y* values of each point of a subset,
    choose **View** > **X,Y Values > Show**
    or right click mouse on the chart area, then from the pop-up menu choose **X,Y Values > Show**.
The values will be displayed in text boxes on the top of the chart; they correspond to the current position of the chart pointer in the line. You can view the X,Y values of all points of the subset by moving the pointer from point to point.

Deleting a Subset
1. Select the subset you want to delete.
2. Choose **Edit > Delete**
    or press the Del key.

Copying a Subset
1. Select the subset you want to copy.
2. Choose **Edit > Copy**
    or on the toolbar, click the **Copy** button.
The X,Y values of the subset will be copied to the clipboard.

 You can view these values.
1. Choose **File** > **New > Text Document**.
A window with empty text document will open.
2. Activate the window by clicking on it.
3. Choose **Edit > Paste**
    or on the toolbar, click the **Paste** button
    or right click mouse on the text document area and then choose **Paste** from
the pop-up menu.
In the text document you will see text similar to this:

```
!CHEMKED  Nov 27 2012  14:15:41
!Temporary Chart
"Temperature (K)","H2O, S (J/K mol)",""
   3.00000000E+02   1.89036045E+02
   4.00000000E+02   1.98784861E+02
   5.00000000E+02   2.06529227E+02
   6.00000000E+02   2.13045595E+02
   ...
   ...              ...
   3.80000000E+03   3.00692247E+02
   3.90000000E+03   3.02226855E+02
   4.00000000E+03   3.03727533E+02
```

You can print this document or save it to a file.

Pasting a Subset
To use this method you should have X,Y values of a subset already stored in the
clipboard. These values should be presented as two columns of numbers of any
format. The delimiter between the numbers in a row is blank space. Two words in
the first row are interpreted as names of X and Y axes. Rows with the
exclamation mark (!) at the start of the line will be omitted.

Carry out the following steps to paste the subset.
1. Activate the chart by clicking in the chart area.
2. Choose **Edit > Paste**
    or on the toolbar, click the **Paste** button.
A line with points appears in the chart.

Important.   When the logarithmic axis is used, negative values are not displayed.

Zooming

To scale (zoom/unzoom) a chart using the mouse cursor, click and drag over an area to select a rectangle and release the mouse button. The selected area will be expanded to the whole chart area. To zoom out again, use the corresponding item of the Pop-up menu, or press the Esc key.
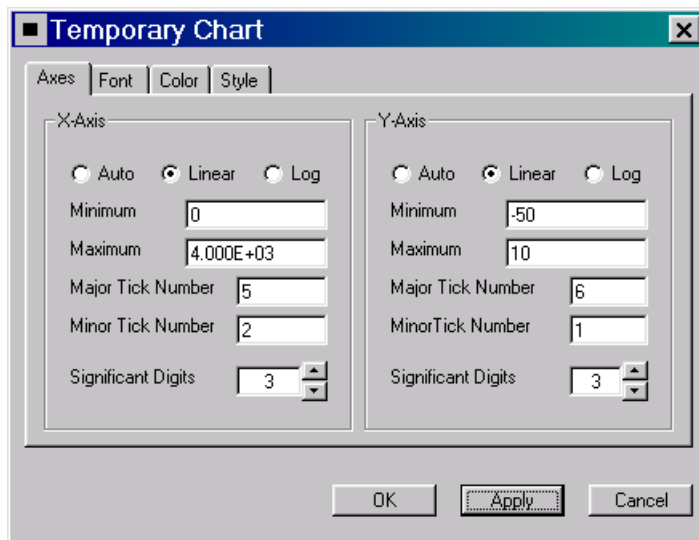
Editing Chart

The program has a number of tools for editing charts. The menu captions for the tools should be descriptive enough to allow for their use. This section covers those options presented in the Customization dialog. To open the dialog,
    choose **View** > **Customization dialog**
    or right click mouse on the chart area and then choose **Customization dialog** from the pop-up menu.
 In the Customization dialog you may:
* Select types of axes.
* Select scales, minor and major tick numbers.
* Set font type and font size for the different parts of chart.
* Set colors for the different parts of chart.
* Set drawing style of each subset: type, size and color for lines and points.

Customization dialog

Printing Chart

Choose **File** > **Print**
or on the toolbar, click the **Print** button.
The print dialog appears; then follow the dialog instructions.

Remark --
The user can't choose size of image; the image is automatically rescaled to a certain size depending on the size and orientation of printer paper.
If you want to have more flexible printing options you can use other tools (for example, Microsoft Word or Excel). Charts can be exported from Chemked in bitmap or metafile Windows formats, either to the clipboard or to a file using the **Export** item of the **File** menu.