

## Working with Calibration

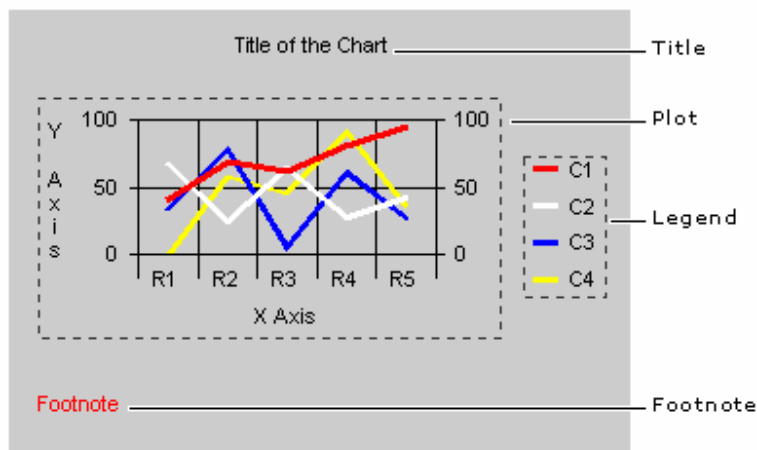
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## 1 Parts of the MSchart

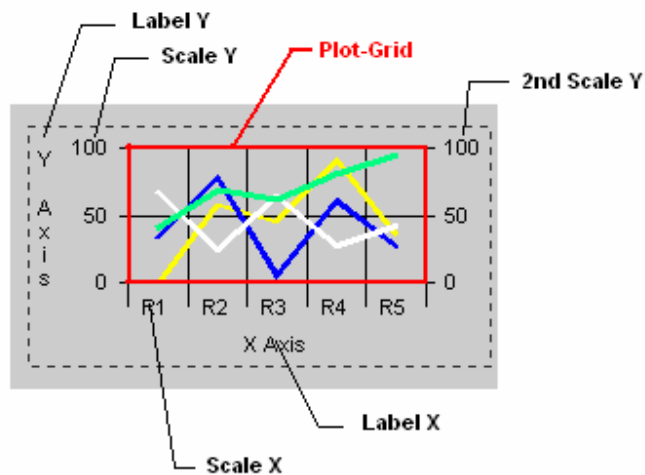
MSchart has deferent parts: title, plot, legend and footnote.

Each region has his own dimentions depending on the settings of the Font, textdirection, ...

The plot area has also elements like : Y axis label, X axis label, scale x, scale y , (sometimes 2<sup>nd</sup> scale Y) AND the **PLOT-GRID**.



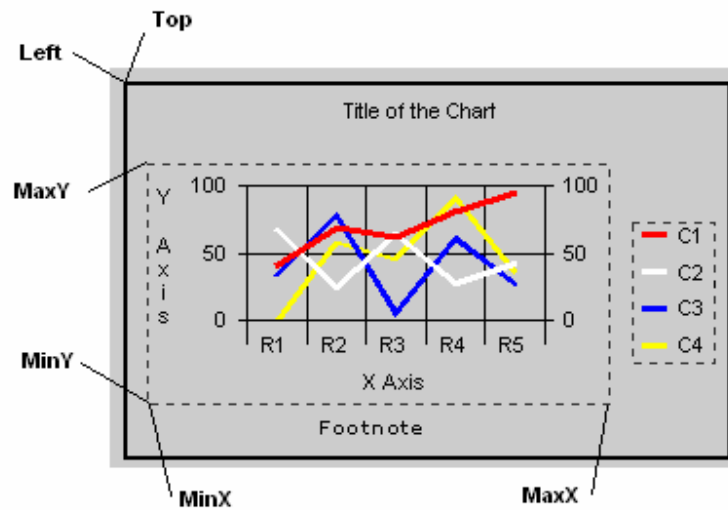
Because we are not setting the droplines **IN** the chart but above the chart with frames, we must know the exact place of the **PLOT-GRID** in the plot area.



When the developer ( not the user !! ) changes the size of one of the parts in the chart: font or add an area like footnote, the dimension of the plot-grid changes !

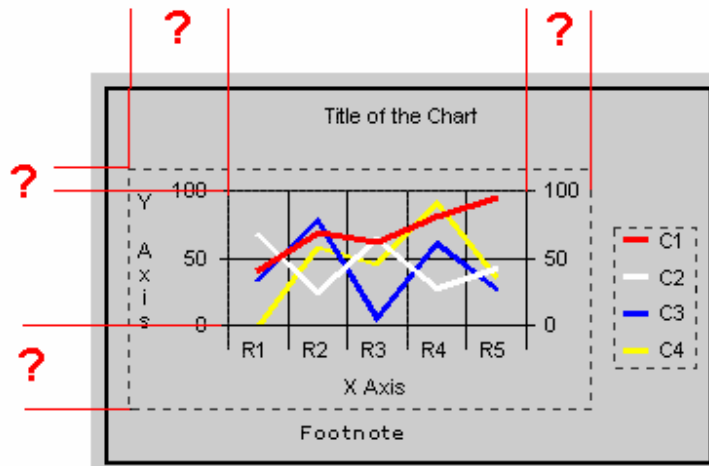
## 2 What we have

We can capture the dimensions (properties) of the chart (top and left) and the plot area (MaxX, MinX, MaxY and MinY) but not the dimension of the plot-grid.

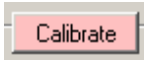


### 3 What we must search

So we have to search for the dimension of the distance between plot and plot-grid (axis title + axis scale).



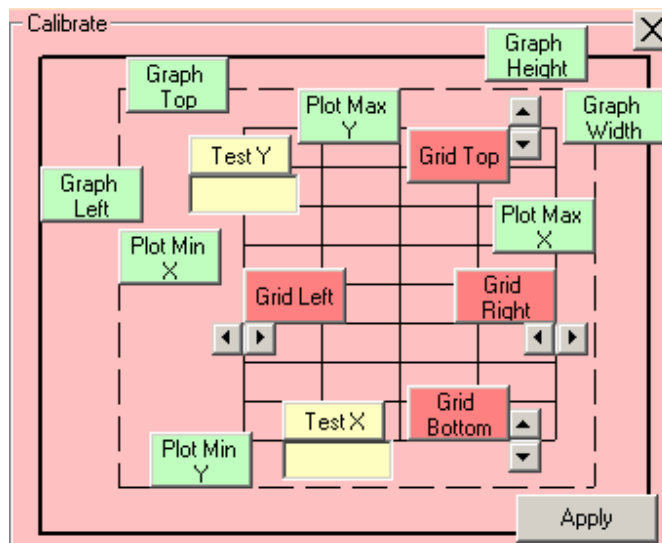
This can only be done manually with a calibration tool.  
This tool is only for the developer !!! when he sets the fonts, other areas,...

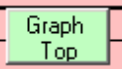
You can set the tool hidden for the users by setting the command button  his property: Visible= False.


For the developer: set the button visible at startup by uncommenting the code line in the FrmSplash:

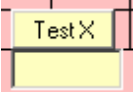
“ frmMainMenu.ComCalibrate.Visible = True”

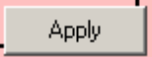
### 3.1 Calibration tool parts




Green commands  = what we have in properties.

Red commands and scrollbar  = what to search.


Yellow commands  = test the calibration with a value.

Command "Apply"  = use the calibrated values in the program.

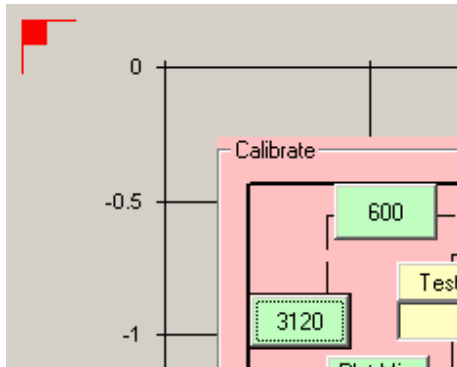
X  = close the calibration frame.

### 3.2 How

#### 3.2.1 Known values

Click on a command button to show the calibration cursor .

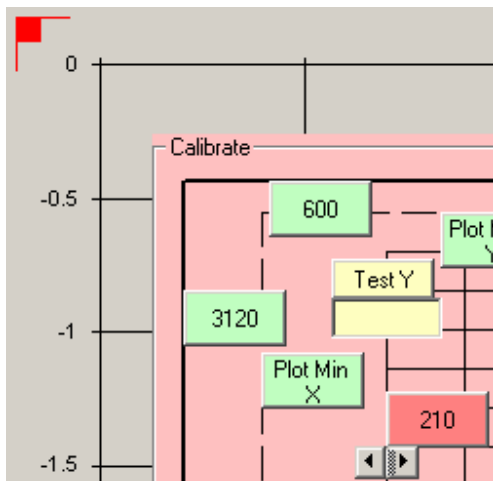
The caption of the command will show you the value of the property.



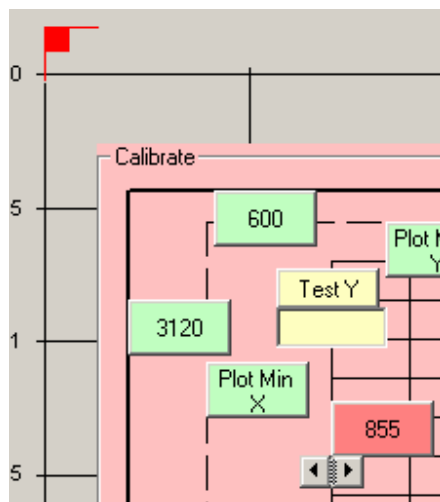
### 3.2.2 Calibration

Click on the calibration commands to set the cursor on this value .

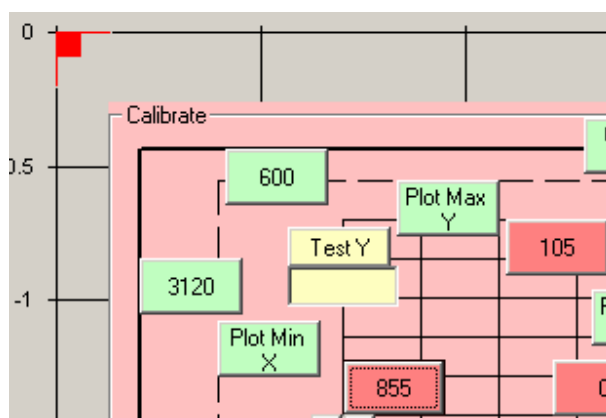
When a value is set in a previous calibration the the value is shown and the cursor is on that position.



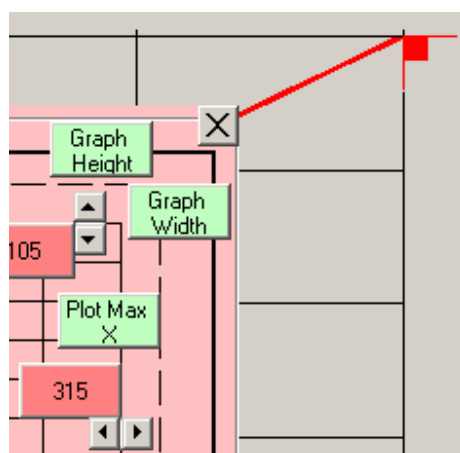
Click the scrollbar until the cursor is in the wright position for that calibration.  
Grid Left =



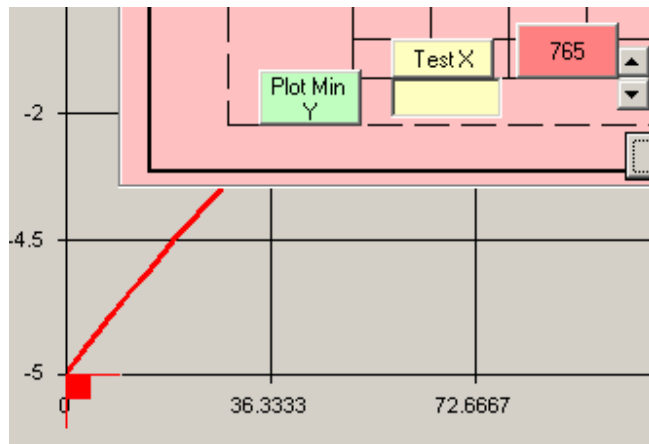
Grid Top =



Grid Right =

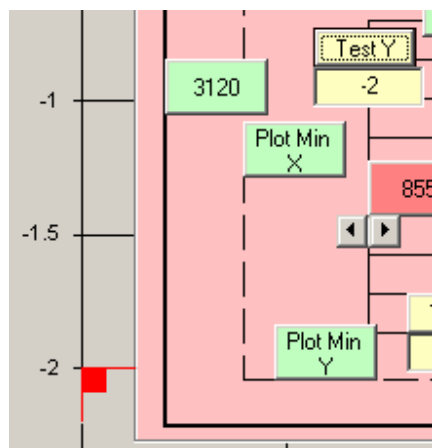


Grid Bottom =



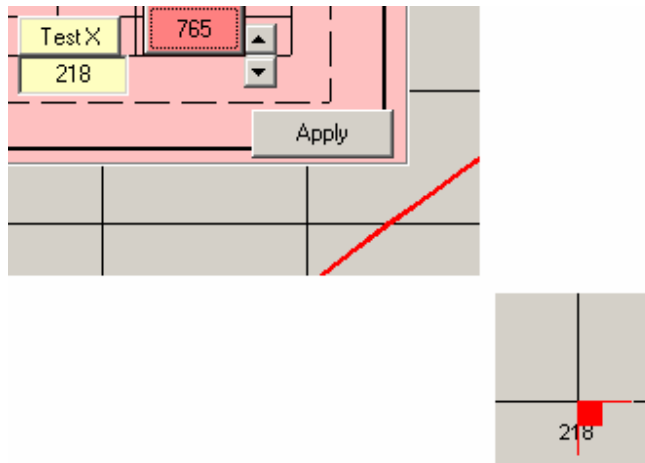
### 3.2.3 Test

Test the calibration by entering a value in the yellow textboxes and click on the command.  
Y =




X =





### 3.2.4 Keep settings

Click on  to use the values.

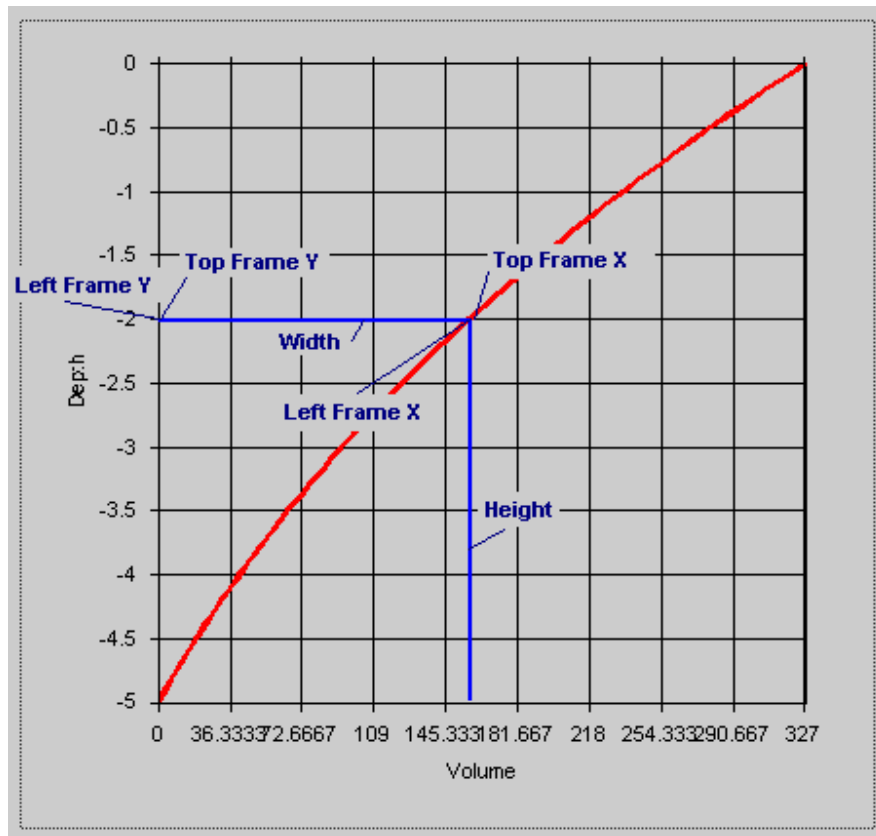
They will be set in the the var's=

```
Public PLOTGRIDleft As Integer
Public PLOTGRIDright As Integer
Public PLOTGRIDtop As Integer
Public PLOTGRIDbottom As Integer
```

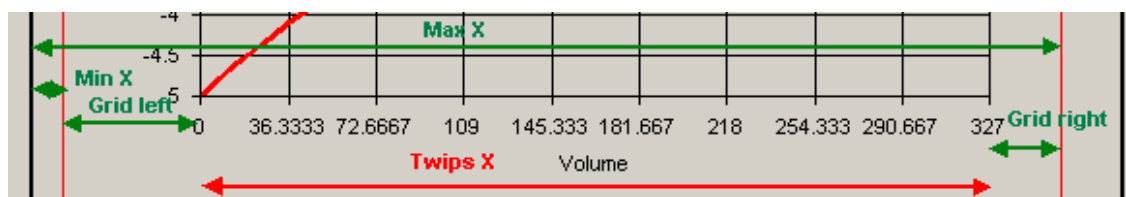
When you close the program, it will ask you if you want to save the schanges. These values will be saved in the "settings.ini" file in the programs folder.

```
"[ PLOTGRIDleft ]"
855
"[ PLOTGRIDright ]"
315
"[ PLOTGRIDtop ]"
105
"[ PLOTGRIDbottom ]"
765
```

## 4 What must be calculated



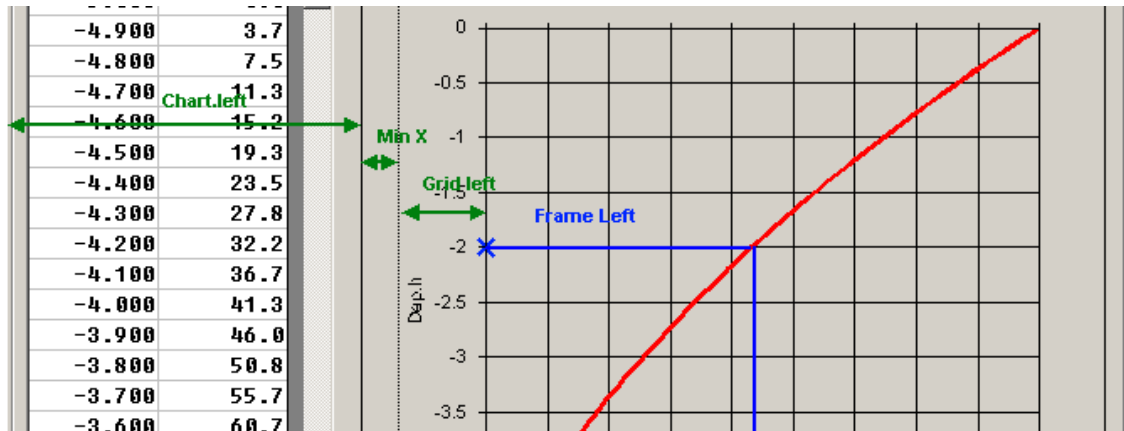
### 4.1 Twips /unit



$$TWIPs_x = \text{Cdbl}(\text{PLOTmaxX} - \text{PLOTminX} - \text{PLOTGRIDleft} - \text{PLOTGRIDright}) / \text{Abs}(\text{Xmax} - \text{Xmin})$$

$$TWIPs_y = \text{Cdbl}(\text{PLOTmaxY} - \text{PLOTminY} - \text{PLOTGRIDtop} - \text{PLOTGRIDbottom}) / \text{Abs}(\text{Ymax} - \text{Ymin})$$

## 4.2 Position Lines



With FrameGraphRTLy

.Left = ChartFraTESCalc.Left + PLOTminX + PLOTGRIDleft

.Top = ChartFraTESCalc.Top + (ChartFraTESCalc.Height - PLOTmaxY) +

PLOTGRIDtop + \_

(Abs(Abs(Ymax) - Abs(CDbl(txtRTimeDepth.Text))) \* TWIPSy)

.Width = (VOLUME - Xmin) \* TWIPsx

.Visible = True

End With

With FrameGraphRTLx

.Left = FrameGraphRTLy.Left + FrameGraphRTLy.Width

.Top = FrameGraphRTLy.Top

.Height = (Abs(Ymin) - Abs(CDbl(txtRTimeDepth.Text))) \* TWIPSy

.Visible = True

End With