2D-Graphik-Control

Version 1

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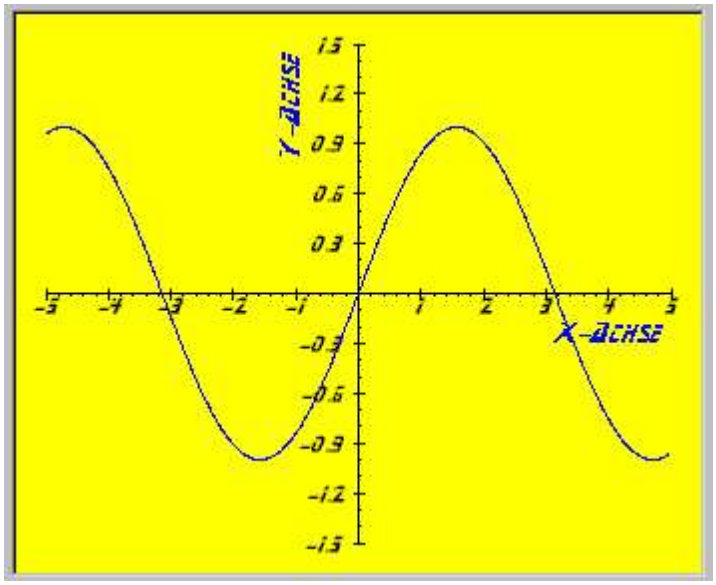

Via this 2D-Graphic-Control equations (for example: *sin(x)*) or truth tables can quite simply drawn. In one coordinate system any number of equations and truth tables – also mixed – are possible.

Content

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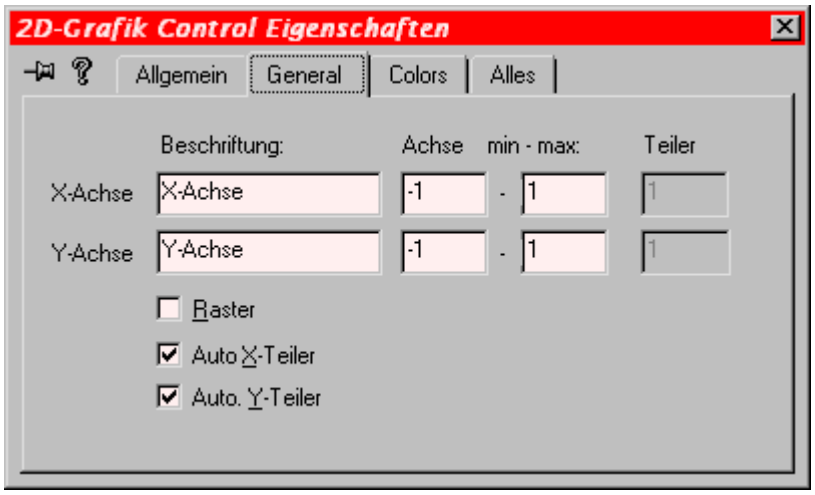
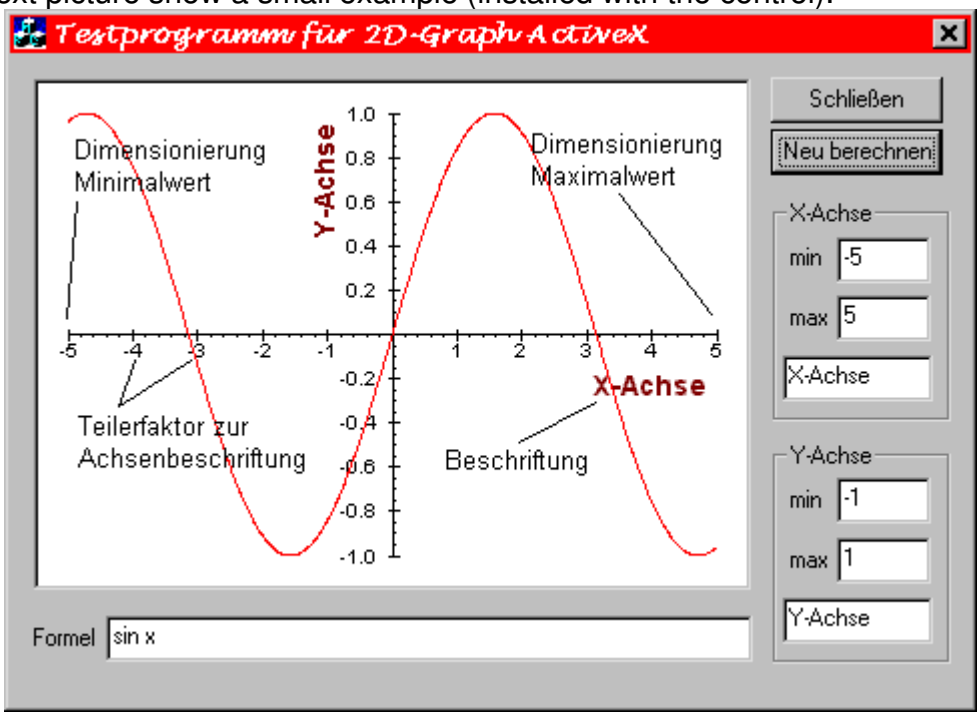
Properties Dialog



In this dialog you can setup the most important parameters (for x and y axis separately):

- labels (“Beschriftung”)
- dimensioning of the axis (minimum and maximum)
- divider (“Teiler”) or an automatic divider (“Auto X-Teiler” / “Auto Y-Teiler”)
- grid (“Raster”)

The next picture show a small example (installed with the control):



Properties

Appearance

Syntax

short Appearance

Description

Draw a box around the output. This property depends also from BorderStyle!

Appearance	*BorderStyle*	*Description*
0	0	no box
1	0	3D box
0	1	2D box (only a black bounding box)
1	1	3D box

BackColor

Syntax

COLORREF BackColor

Description

Change the background color. COLORREF is a RGB value.

BorderStyle

Syntax

short BorderStyle

Description

Set the look of the bounding box. It depends also from Appearance.

Appearance	*BorderStyle*	*Description*
0	0	no box
1	0	3D box
0	1	2D box (only a black bounding box)
1	1	3D box

Grid

Syntax

BOOL Grid

Description

TRUE	Draw some dashed lines over the output area
FALSE	Draw only the divider near the x/y axis

The divider of the grid will be set by XDelta and YDelta property. Also the divider may be calculated by the control if XautoDelta and/or YAutoDelta are set to TRUE.

XText

Syntax

```
char *XText
```

Description

Caption of x axis. This is an optional setting.

YText

Syntax

```
char *YText
```

Description

Caption of the y axis. This is an optional setting.

XMaximum

Syntax

double XMaximum

Description

Maximum value of the x axis

XMinimum

Syntax

double XMinimum

Description

Minimum value of the x axis

YMaximum

Syntax

```
double YMaximum
```

Description

Maximum value of the y axis

YMinimum

Syntax

double YMinimum

Description

Minimum value of the y axis

XAutoDelta

Syntax

```
BOOL XAutoDelta
```

Description

If TRUE, the x divider will be automatically calculated by the control.

YAutoDelta

Syntax

```
BOOL YAutoDelta
```

Description

If TRUE, the y divider will be automatically calculated by the control.

Color

Syntax

COLORREF Color

Description

Color of the coordinate system. COLORREF is a RGB value.

XDelta

Syntax

double XDelta

Description

Divider of the x axis for the grid.

Note

Has no effect if XAutoDelta is set to TRUE

YDelta

Syntax

double YDelta

Description

Divider of the y axis for the grid

Note

Has no effect if YAutoDelta is set to TRUE

MMTwipsModus

Syntax

```
BOOL MMTwipsModus
```

Description

Experimental, do not use

BFont

Syntax

*char *BFont*

Description

Font name for coordinate system

Note

To label the coordinate system you can use two fonts:
- optional caption of x- and y-axis: BFont
- for labeling divider or grid: WFont

The divider will be always labeled!

WFont

Syntax

*char *WFont*

Description

Font name for divider and / or grid

Note

To label the coordinate system you can use two fonts:

- optional caption of x- and y-axis: BFont
- for labeling divider or grid: WFont

The divider will be always labeled!

BFontColor

Syntax

COLORREF BFontColor

Description

Color of coordinate system caption

BFontHeight

Syntax

short BFontHeight

Description

Font height of coordinate system caption

WFontHeight

Syntax

short WFontHeight

Description

Font height of divider labels

BFontBold

Syntax

BOOL BFontBold

TRUE	fat
FALSE	normal

Description

Font option for the coordinate system caption

BFontItalic

Syntax

BOOL BFontItalic

TRUE	italic
FALSE	normal

Description

Font option for the coordinate system caption

WFontBold

Syntax

BOOL WFontBold

TRUE	fat
FALSE	normal

Description

Font option for the divider labels

WFontItalic

Syntax

BOOL WFontItalic

TRUE	italic
FALSE	normal

Description

Font option for the divider labels

WFontTransparent

Syntax

BOOL WFontTransparent

TRUE	Background will not changed (transparent mode)
FALSE (default)	Background will be cleared before writing text

Function

Syntax

*char *Function*

Description

Any mathematical function will be accepted e.g. "1/x*sin(x)" is valid property.

Only one function can be set as a property all other functions must be set by the methods of this control. The control set the id number of this function to 0.

FunctionColor

Syntax

COLORREF FunctionColor

Description

Color for the function with the id number 0. (see above: Function)

Separator

Syntax

```
char *Separator
```

Description

With the function AddTableFromFile you can load text files which includes X-Y values. But before you can load a file with AddTableFromFile you must set the separator character. This can be a semicolon, a comma, a tab, ...

Note

The control will use only the first character of the given string

TableFile

Syntax

```
char *TableFile
```

Description

File name of a text file with x-y values. Every line with a X-Y pair in the file generate a new entry in the truth table. The separator character should set before with the property: Separator. The control set the identifier of this truth table to 0.
See also: AddTable

XAxisMode

Syntax

short XAxisMode

Description

Position of the x axis

Mode	*X Axis*
0 (default)	normal
1	always at bottom
2	always at top

YAxisMode

Syntax

short YAxisMode

Description

Position of the y axis

Mode	*Y Axis*
0 (default)	normal
1	always at the right side
2	always at the left side

TableDrawMode

Syntax

short TableDrawMode

Description

Drawing mode of the truth table

Mode	*Description*
0 (default)	normal (every point will be merged by a line with the next point)
1	draw only points

TableLinesDontUse

Syntax

```
long TableLinesDontUse
```

Description

The control read over this number of lines if it read a text file. (for: AddTableFromFile)

TableColAsXAxis

Syntax

```
long TableColAsXAxis
```

Description

Row of X-Axis if there are more rows in the file (for: AddTableFromFile)

TableColAsYAxis

Syntax

```
long TableColAsYAxis
```

Description

Row of Y-Axis if there are more rows in the file (for: AddTableFromFile)

TableXFormula

Syntax

```
char *TableXFormula
```

Description

Formula to calculate the x axis if the ocx read a truth table from a text file.This means, every x value will be first converted by this formula. (for: AddTableFromFile)

TableYFormula

Syntax

```
char *TableYFormula
```

Description

Formula to calculate the y axis if the control read a truth table from a text file.This means, every y value will be first converted by this formula. (for: AddTableFromFile)

Functions

AddFunction

Syntax

```
void AddFunction(short id, char *function, COLORREF color);
```

Parameter	*Description*
id	any number (1...), the id: 0 is reserved by the property “Function”
function	mathematical function, e.g. "1/x*sin(x)"
color	color of this function

Description

A mathematical function will be calculated and immediately drawn.

DeleteFunction

Syntax

```
void DeleteFunction(short id);
```

Parameter	*Description*
id	ID (1...), which was used in "AddFunction"

Description

The function with the selected ID number will be deleted.

ResetGraph

Syntax

```
void ResetGraph(void);
```

Description

All functions and all truth tables will be deleted

AddTable

Syntax

*void AddTable(short id, char *name, COLORREF color);*

Parameter	*Description*
id	any number (1...), the id: 0 is reserved by the property “TableFile”
name	any name for the truth table
color	color of this graph

Description

A new truth table will be created. The x-y values can be set after.

DeleteTable

Syntax

```
void DeleteTable(short id);
```

Parameter	*Description*
id	any ID (1...), which was set in "AddTable()"

Description

Delete the truth table with the selected ID number.

AddTableEntry

Syntax

```
void AddTableEntry(short id, double x, double y);
```

Parameter	*Description*
id	any ID (1...), which was set in "AddTable()"
x	X value
y	Y value

Description

With this function you set one x/y pair into the selected truth table (selection by the the ID number)

Note

The control don't sort the values. All values are shown in the order they are added into the truth table.

AddTableFromFile

Syntax

```
void AddTableFromFile(char *filename, short id, char *name, COLORREF color);
```

Parameter	*Description*
filename	file name
id	any ID (1...)
name	name of the truth table
color	color of the new graph

Description

A new truth table will be created and all x/y pairs will be read from the text file (every line there must be one x-row and one y-row). You should set a separator character before with the property "Separator".

ShowPropertyPage

Syntax

```
void ShowPropertyPage(void);
```

Description

Show the property page

Copy

Syntax

```
void Copy(void);
```

Description

Copy the graphic as a bitmap into the clipboard

UserDraw

Syntax

void UserDraw(long HDC, long x, long y, long width, long height);

Parameter	*Description*
HDC	Graphic device handle from Windows API
x	x position
y	y position
width	width
height	height

Description

Use this in your draw function in SDI and MDI applications (e.g. in OnDraw() in MFC apps)