

**graphwrite**

**COLLABORATORS**

	<i>TITLE :</i> graphwrite		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		August 5, 2022	

**REVISION HISTORY**

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# Chapter 1

## graphwrite

### 1.1 GRAPHWRITE GUIDE

GRAPHWRITE IS PROGRAMMED BY:

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Graphwrite file can be found in:

IDCMP BBS ++39-542-25983 / 2:332/405.0 FIDONET  
2400 to 28800 baud

AMINET:

directory MISC/SCI

MY HOMEPAGE (ftp link):

<http://www.geocities.com/SiliconValley/Lakes/4277>

see for GRAPHxxx.LHA

EXCUSE ME FOR MY BAD ENGLISH!!!!!!!!!!!!

\*\*\*\*\*

PUBLIC DOMAIN VERSION.

\*\*\*\*\*

GRAPHWRITE USE INSTRUCTION

INSTALLATION

CONFIGURATION

WHAT'S THE PROGRAM CAN DO?  
FILE INPUT FORMAT  
DOS INTERFACE  
MENU DESCRIPTION  
FITTING  
OUTPUT WINDOW  
ENCAPSULATED POSTSCRIPT OUTPUT  
USING GRAPHWRITE  
AREXX INTERFACE  
COPYRIGHT

## 1.2 install

INSTALLATION:  
-----

You must make a directory es. GRAPHWRITE and explode the compressed file in this directory, after you copy the contents of the directory Gfont in FONTS:.

N. B. reqtools.library for os 2.0 must be present in LIBS: directory.

## 1.3 serve

WHAT THE PROGRAM CAN DO?:  
-----

The program is a X/Y charts creator with fitting possibility, from ASCII file input.

It is possible to make, to lay, to print, to fit and to export charts.

## 1.4 formato

INPUT FILE FORMAT:  
-----

Graphwrite can handle two different file-format:  
ASCII and CSV.

Input ASCII:

Input data file in ASCII form must have the above format:

---

```
x1 y1
x2 y2
x3 y3
x4 y4
.. ..
Xn Yn
```

Input CSV:

This format is the export standard for spreadsheet (procalc etc.)  
The format for CSV file must be:

```
"x1","y1",
"x2","y2",
"x3","y3",
.....,
"xn","yn"
```

Is very important the file is free from any other text so you must export from the spreadsheet program only the data block (must be two columns for x and y and any amount of rows).

## 1.5 lancio

```
***** DOS INTERFACE *****
```

The program can be started from shell and is possible to specify a command line.

command line syntax:

```
GRAPHWRITE [filename] [COMMAND1 data COMMAND2 data ....]
```

COMMANDS:

```
MAX <xmax> <ymin> specify the max of x and y axis
MIN <xmin> <ymin> " the origin " " " " "
TITLE <title> " charts title
NOTE <note> " charts note
LEG <string legend> " charts legend
MAXTIK <x> <y> " the step of numbered axis tik
MINTIK <x> <y> " the step of unnumbered axis tik
MAXGRID " the numbered axis tik grid
MINGRID " the unnumbered axis tik grid
CONFIG <configfile> " the configuration file used by graphwrite. The
configuration files are generated by the program.
```

Es.

```
>graphwrite dati MAX 3 1 LEG string TITLE abcd
```

when program start, it load file "dati" and draw the chart with the supplied title ("prova") and legend ("stringa"); the axis max vale are 3 (x), 1 (y).

also:

```
>graphwritemain dati CONFIG myconfig
```

The prog. load the datafile "dati" and use the configuration file "myconfig" for parameter.

The program can used as charts module for your programs.

for example ( C code ):

```
.....  
system("graphwrite datafile commands .....");  
.....  
ecc.
```

Now try to doubleclick on the "example" icon, for start the program with datafile "dati1" and configuration file "config2".

## 1.6 menu

```
***** PROGRAM MENU *****
```

PROJECT

PARAMETER

GRAPH

OTHER\_FUNC

## 1.7 project

PROJECT MENU:

-----

LOAD:

load a datafile.

EDIT DATA:

edit the current datafile (current dataset).

The c:ed editor are used.

DATASET:

let you to specify in what dataset you want to operate (load, edit ecc.).

DEL DATA:

Erase current dataset (specified by dataset command).

PRINT:

print to printer or ILBM file the current chart.

PLOT:

Plot the charts with encapsulated postscript (EPS) format in a file.

---

ABOUT:  
Program about.

QUIT:  
exit program.

## 1.8 parameter

PARAMETER MENU:

-----

CONFIG:  
ORIGIN:

X:  
X axis origin  
Y:  
Y axis origin  
default is 0 0 .

SCALE:  
XMAX:  
insert xaxis max value.  
YMAX:  
insert yaxis max value.

If not specified are used the max value of x and y in all the datafile loaded.

UNITS:  
open a window for insert the measure unit of the axis tik and the relative grids.

FIT:  
POINT:

you can change in the current dataset circle, rectangle, asterisc or none as data point indicator.  
Also you can change her sizes.

LINETYPE:  
you can change in the current dataset the line charts linetype.

COLORS:  
to change color of dataset.

## 1.9 config

\*\*\*\*\* CONFIG \*\*\*\*\*

LOAD config:

---



Load a program configuration file which contains all the menu modifiable parameter.

SAVE config:

Save the current program configuration in a file.

P.S. you must don't include the char "@" in all the charts text (title, note .....) because this char is used by the program during his work.  
If you write in a chart text the char "@" and save a configuration file, when you try to load this the program fail the operation.

## 1.10 fit

\*\*\*\*\* FITTING \*\*\*\*\*

P.S. Fittings are performed on the current selectioned dataset.

Select:

-----

Open a window in which is possible select one of the 22 fit-functions available in the program.

FUNCTION N. 20 polinomial fitting:

Is opened a requester in which you must write the polinomial Degree (max 9).

Best polinomial fit:

Inserting a 0 degree is calculated the best correlation polinomial degree (correlation 1 is the best, this function can determine higher polinomial degree).

After are visualized the calculation data, clicking "print" in requester the polinomial data are printed.

FUNCTION N. 21 lagrange interpolation:

A N degree lagrange polinomy is used, N is the number of the interpolation point.

Lagrange interpolation is very good in the middle data point but fail at the chart x extremum.

FUNCTION N. 22 interpolation by spline:

This interpolation is very good to interpreter data point.

Best-fit:

-----

The program calculate what is the function (no 20, 21, 22) whith the best correlation coefficient.

Calculate:

-----

The program ask you a X value and show to you the relative Y value of the fit function for this x value.

Save curve-fit:

-----

You can save the point of the interpolation curve of the current dataset in a file ASCII of x/y data.

Is asked you the name of output file, the X initial value, the X final value and the number of curve point to save.

Integrate:

-----

Allow you integration (through simpson rule) of the curve-fit between your supplied integration limits (X0,X1).

## 1.11 fitting

Fitting is a mathematic procedure which allow you to determine a mathematic function which is rappresent the point (datafile) loaded. That function can be displayed with the datafile point for see the difference. see

FIT:  
for more.

## 1.12 graph

\*\*\*\*\* MENU GRAPH: \*\*\*\*\*

KIND:

Only x/y charts for this version.  
In a future i will include bar, pie, ... charts.

TITLE:

Let you insert title text and change Titlefont.

NOTE:

Let you insert note text and change notefont.

AXIS:

Let you insert x/y axis text and change his font.

LEGEND:

Let you insert legend texts and change his position.

DRAW:

Draw the chart.

## 1.13 other

\*\*\*\*\* MENU OTHER\_FUNC \*\*\*\*\*

STDDEV:

calculate the standard deviation for the current DATASET

VARIANCE:

calculate variance for the current DATASET

INTEGRATED CURVE:

generate the integrated curve of the current DATASET and put it in a successfully selected DATASET or in DiskFile

**DERIVATED CURVE:**

generate the derivated curve of the current DATASET and put it in a successfully selected DATASET or in DiskFile

**HELP FOR ....:**

OnLineHelp, after the selection of this you have to click on the desired gadget, menu or part of graph to have the description of this.

## 1.14 output

\*\*\*\*\* OUTPUT WINDOW: \*\*\*\*\*

Gadget "draw", "load", "dataset", "fit" in the output window let you to draw chart, load data, change current dataset and select a fit function.

-Modify the chart:

Clicking on the chart components you can open the relative modify window.

ex.

Clicking on the axes are opened the units window (see menu command UNITS).

## 1.15 eps

\*\*\*\*\* ADOBE ILLUSTRATOR 1.1 OUTPUT \*\*\*\*\*

Selecting the menu command PLOT you can save the chart in a file with adobe illustrator 1.1 format.

With this option you can import graphwrite chart from dtp prgram and others.

See

FONT:

## 1.16 font

\*\*\*\*\* FONT: \*\*\*\*\*

GRAPHWRITE use a Bitmap font, the font supplied with that program in a directory gfont if copyed in FONTS: and used for charts permits you to use stndard vectorial font supplied with art-expression program, when you import a EPS file generated by Graphwrite.

New font installation:

-----  
For compatibility with art-expression you must install two kind of font. One is vectorial and used by art-expression (Adobe type 1) and one is Bitmap used by system.

You must Copy the bitmap font in directory FONTS: and the vectorial font

---

in the art-expression fonts directory (Aefonts).  
 The two kind fonts must have the same name for graphwrite (currente name in FONTS:) and for art-expression (name present in a fontlist file used by prog.).

ex. bitmap font = Times.font, vect font = TI.pfb (normal),  
 TIB.pfb (bold), TII.pfb (italic), TIBI.pfb (bolditalic) the art-expression fontlist must contain:

```
.....
TI.pfb Times
TIB.pfb Times-Bold
TII.pfb Times-Italic
TIBI.pfb Times-BoldItalic
.....
```

Uppercase letter are important.

## 1.17 uso

```
***** GRAPHWRITE USE ←
*****
```

Making first chart:

-----

```
-load graphwrite program.
-select LOAD and select "data" file
-select DATASET and click on "2"
-select LOAD and select "data1" file
-select DATASET and click on "3"
-select LOAD and select "data2" file
```

click on DRAW gadget

Now you can change parameter and more.....

If you click on the chart,  
 see output window  
 If you want to use graphwrite as extern drawing module see  
 start from dos  
 .

Click here if you want draw a chart

## 1.18 configura

```
***** GRAPHWRITE CONFIGURATION *****
```

Load (double clicking his icon) program "graphconfig".  
 Graphconfig allow you to change screen mode and the menu font of graphwrite.  
 Exiting from program the new configuration are saved in a file "graph.config"  
 which must be present in the same directory of graphwrite.

## 1.19 copyright

Copyright and other legal stuff  
 =====

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## 1.20 arexx

### AREXX INTERFACE

Graphwrite can accept the following arexx commands:

AREXXPORT= GRAPHWPORT

COMMAND    PAR    DESC

LOAD    filename N    load file named filename; (filename must be in the same directory of graphwrite); N=filetype: 1=ASCII 2=CSV

DRAW                    draw graph

DATASET    N            select the current dataset N  
 TITLE     string        change the title of the graph  
 NOTE      string        "    "    note    "    "    "  
 XTITLE    string        "    "    x\_axis title  
 YTITLE    string        "    "    y\_axis title

```
LEGEND      string  change the title of the current dataset inside the legend
LEGENDPOS   N        N: 1=top_right 2=bottom_center 3=top_center 4=extern_right
COLOR       N        N = color number for the current dataset
MINTIKX     N        distance between the smaller axis tik
MAXTIKX     N        "      " " " greather "      "
MINTIKY     N        "      " " " smaller "      "
MAXTIKY     N        "      " " " grather "      "
MAXX        N        change max for x axis
MAXY        N        "      "      Y      "
MINGRID     N        minimum GRID: 1 activated; 0 disactivated
MAXGRID     N        maximum GRID; 1      "      0      "
ORX         N        x axis origin
ORY         N        y axis origin
FIT         N (N N)  select fitting function:
                N=type of fitting function (0=bestfit, 1->22= fnc, 23=none)
                if N=20 (polinomial) you have to add polinomial degree (0->9)
```

if you want see an example of arexx-script double-click on the icon REX  
(be sure graphwrite is started)