

Appendix D Installing and Setting up the plot manager

©Friedrich: Grafis – Help, Edition 2017

The plot manager is a stand-alone windows program. It can be used independently from any GRAFIS installation. This program runs on operating systems Windows XP/7/8 or 10. It can also be used on older PCs.

Installing the plot manager

The installation is started using the program PLOT-MGR!.EXE. This file is found either on the Grafis CD or on the local Grafis workstation in the folder \GRAFIS\HILFEN. Double clicking the *.EXE file will start the installation.

The plot manager requires an independent directory on the plotter server – e.g. C:\PLOTTER. The plot server is the computer to which the plotter is connected. If the plot server is to be controlled via a network, the directory must be enabled or it should be a directory on the net drive. A target directory is requested at the beginning of the installation.

After the installation is complete, the plot manager setup will start, see Picture D-1.

Setup the options in the following categories *Plot command*, *Plot.bat - Configuration* and *Options* according to the existing system.

If the plotter is connected to a serial interface COMx:, the following parameters must also be selected: baudrate, parity and protocol. These are found in *Use mode command*.

If the plotter is connected via USB or a network, select *Send via Windows Printer Driver* and activate *Show plot command*.

The scroll bar *Calculate plot time* specifies the criteria which the plot manager uses to calculate the estimated plotting time.

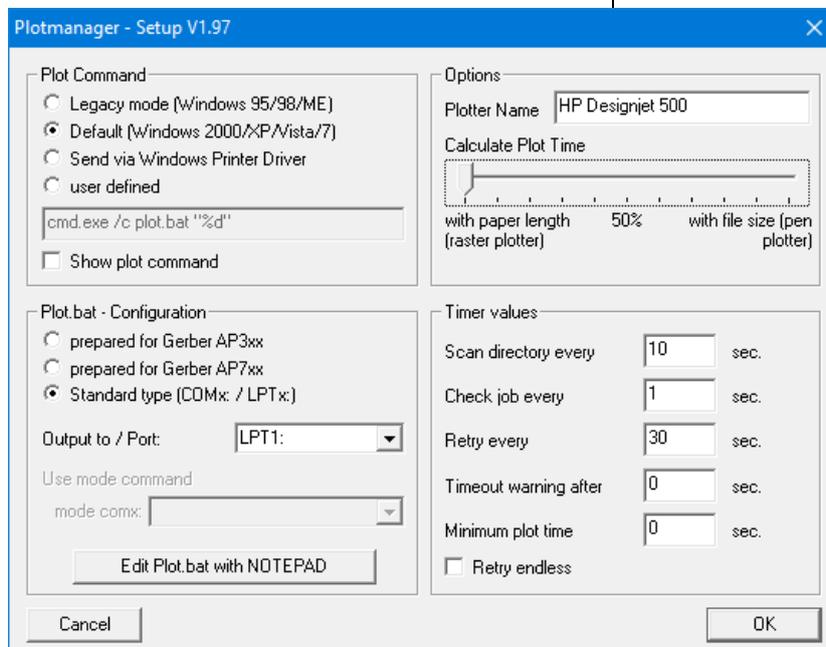
The remaining settings should be left unaltered.

All settings and options are saved in the PLOT-MGR.INI file in the current folder. An explanation of each option in this file is to be found at the end of this text.

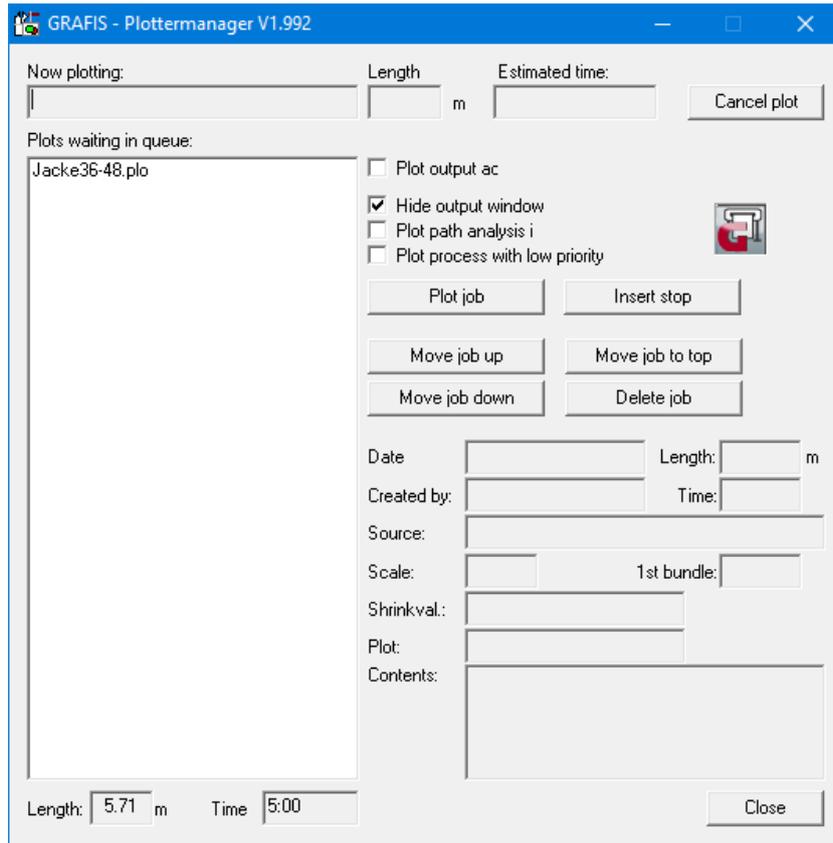
The installation program adds an icon to the Auto start folder so that the plot manager starts automatically after user login.

The following files are required for setup and use of the program if the plot manager should not or cannot be installed with the installation tool: PLOT-MGR.EXE (plot manager program), PLOTCTL.EXE (remote control program), SETUPMGR.EXE (plot manager setup program). These files

are copied to a folder for future use as the enabled target folder for plot files in the network. The PLOTMGR.EXE program file should be linked in the Auto start folder for automatic start up. Then, run SETUPMGR.EXE to complete PLOT.BAT setup and software configuration.



Picture D-1



Picture D-2

Plot manager options

The plot manager user interface is illustrated in Picture D-2. The options are as follows

Plotting active

The plot manager is set to stand-by mode. The current directory is scanned every 10 seconds for new plot jobs. If new plot jobs arrive they will be processed automatically.

Hide output window

All plot job commands are issued in a DOS window. At the beginning, it is possible to make this DOS window visible for control purposes by de-activating this option. An intermediate setting for this switch is available which always shows the DOS window without reduction. Thus, the plot process runs with total system load. This option is required if the data does not arrived sufficiently fast at the plotter (only for very slow PCs).

Plot path analysis in LOG file

For control purposes, the plot manager runs an automatic log file (PLOTMGR.LOG). This file captures every plot job processed with name, date, time and plot duration. Set this option if further information (total line length, pen up length, number of pen select commands, etc.) is required. This additional information can also be found in PLOTMGR.LOG

Plot process with low priority

If the computer is used for other applications as well, it is useful to run the plot process with low system load. For this purposed activate this option. An intermediate state of this switch is available which is reserved for special applications.

Cancel plot

The current plot job is aborted.

Plot picture

Sends the selected plot file to the plotter.

Insert pause

A pause command is inserted in the list before the selected plot job. The plot manager de-activates automatically and waits for user input.

Move up

Moves the selected plot job up one position.

Move to 1st position

Moves the selected plot job to the first position. It will be executed as the next job.

Move down

Moves the selected plot job down one position.

Delete picture

Deletes the selected plot job.

Further displayed information:

Now plotting

This plot is in process.

Length

Length of the plot in meters.

Estimated time

Estimated data transfer time - this is the time that the plot manager needs to transfer the data. It is not the actual plotting time. These two values are only the same when the plotter has a small memory i.e. is not able to store the plot file. If the plot manager is in non-stop use, the estimated data transfer time is very close to the plotting time.

The following information is always given for the plot selected on the left of the list.

Creation

Date and time of the plot job creation

Created by (*)

The user name of the plot jobs creator.

Length (*)

Plot length in meters

Time

Estimated output time

Source (*)

Source file from which the plot was issued

Scale (*)

Scale of the plot (e.g. 1:1 for original size or 1:5 for minis)

1st bundle (*)

If a marker is being plotted, the number of the first bundle in the marker is shown here.

Contents (*)

If a chain of markers is being plotted, the list of the markers is shown here.

(*) This readout appears only when the Grafis Layplan program generates the job file. These displays are empty if the Grafis Patternmaking program has generated the job files.

At the bottom of the list there are two additional readout displays. These are for the total plot length and the total plot time of the complete list of job files.

Starting the plot manager

To create plot jobs in the Grafis Patternmaking and Marker making programs, the plot manager does not need to be active. Only the plot manager directory must be available. If this directory is located on a separate PC, it must be running. The plot manager has to be started when plot jobs are to be plotted. The close button (upper right corner) minimizes the plot manager to prevent a shut down during plotting. To shut down the plot manager use the *Close* button in lower right corner. This button is only available when no current job is being processed.

If the plot manager should always be on standby, create a shortcut to the plot manager program in the auto start folder. The installation sets this up automatically.

Configuring the plot manager in Grafis

In the Grafis plot window, click on the *Settings* button to the right of the selected plotter. Click *Edit* in the new window and enter the target drive and directory in the display *connected to*. End the entry with '\ ' e.g. 'P:\ ' or 'C:\PLOTTER\ ' if the plotter is connected to the PC. If the option *job file* has been selected, job files are generated for the plot job. This displays more detailed information about the plot job in the plot manager. Click *Edit* again and close this box with *OK*. All plots generated with this plotter setting will be sent to the selected target directory. File names are generated automatically. As each plotter will have own plotter settings you can work with any number of plot managers and therefore any number of plotters. Alternatively, a single plotter with various settings (different tools, velocity, paper width etc.) can also be used.

Access to the plot manager in a network

A network plot server PC is recommended in companies with a large number of plots per hour. This can be a simple PC (minimum 133 MHz) with Windows operating system. More than one plotter can be connected to this PC depending on the number of serial and parallel ports available. Each plotter must have its own directory for its own plot manager. This directory can also be located on the network if the server is running around the clock. The advantage here is that plots can be generated even if the plot server PC is switched off. The PC can then be switched on when plotting should start. A remote check of the plot manager can be achieved using PLOTCTL.EXE. This program allows users to check the status (with a slight time delay) of the plot manager from any where on the network. PLOTCTL.EXE must be located in the same directory as PLOTMGR.EXE.

Please note: the plot manager may only be started once. It may only be started on the plot server. The remote check program, on the other hand, can be started as often as required.

Activating the plotting process using 'WINSPOOL' for USB plotters or through network (Printerport)

Plotters connected via USB or network (Printerport) do not have the ability for a direct data transfer interface. In this case, Grafis offers the possibility of using the option 'WINSPOOL:' to relay the plot files through a Windows printer driver. A Windows printer driver for the selected plotter must be installed which supports the PASSTHROUGH of the plot files. Generally the standard plotter drivers from Windows or driver from HP fulfil this requirement.

If the driver does not fulfill this requirement or there is no driver for the selected plotter, install the Windows device 'Generic/Text only' or 'HP/Hewlett Packard HPGL-2-Plotter', see Picture D-3.

To start the plotting process using 'WINSPOOL:' complete the following sequence:

- Start the plot manager
- Click the button right of the command line.
- Enter 'WINSPOOL:'.
- Click the button right of the command line to save entry.
- A popup window with all available printer drivers appears. Choose the driver for the selected plotter or alternatively 'Text only' or 'Hewlett Packard HP-GL-2 Plotter'.
- Confirm with OK.

If the driver does not support PASSTHROUGH, an error message appears. In this case, repeat the above sequence using the printer driver 'Generic/Text only'

The PLOTMGR.INI options in detail

Under certain circumstances, further options of the plot manager in PLOTMGR.INI can be adapted for the plotter or the local situation. Here is a short explanation of options that cannot be changed via the plot manager window.

COMMAND

Contains the plot command that will be executed with each plot job.

NAME

Contains the name of the plotter. This name will be shown in the title bar of the plot manager and can be used to differentiate between several plotters.

PLOTBYTES

The plot manager stores the number of plot bytes processed.

PLOTSECONDS

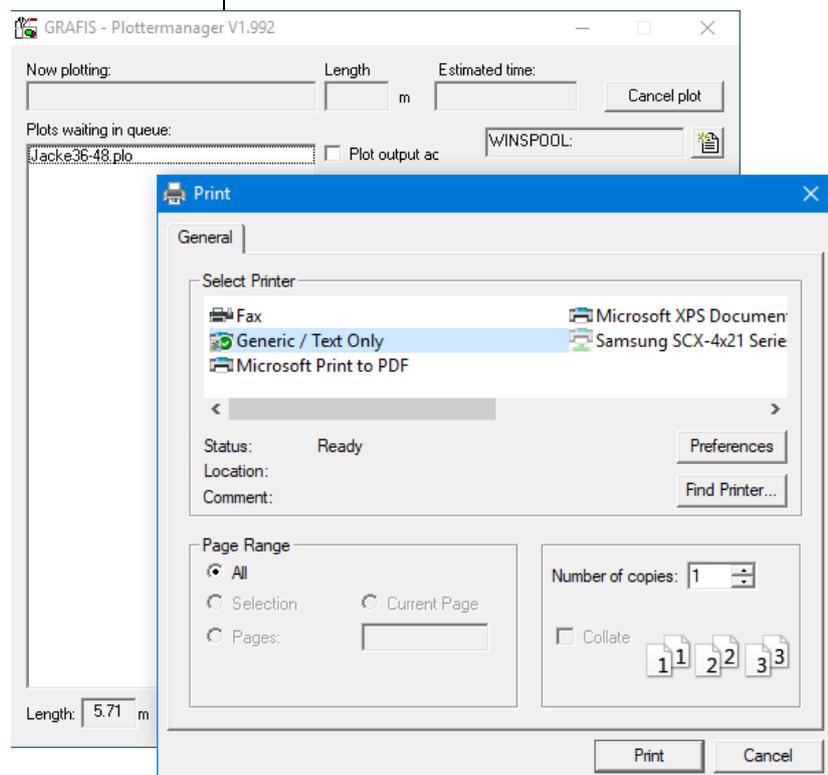
The plot manager stores the time in seconds of the plots processed. The two values PLOTBYTES and PLOTSECONDS are used to calculate the estimated plot time.

PLOTMMETER

The plot manager stores the length in millimetres that have been plotted. The two values PLOTMMETER and PLOTSECONDS are used to calculate the estimated plot time.

TIMECALCBYTES

Contains the weighting value for the calculation of the estimated plot time. The value range from 0 to 100. 100 calculates the time based on file size only (PLOTBYTES). 0 calculates the time based on plot length only (PLOTMMETER; advantageous for ink jet plotters). A value in between are a mixture of the two.



Picture D-3

PLOTTIMER

Contains the time interval in seconds for checking the plot directory for new jobs. It is also the maximum pause time between job.

RETRYTIMER

Contains the time interval in seconds for the start of a retry after an error message.

CHECKTIMER

Contains the time interval in seconds for checking the status of the current job.

SHOWCMD

When this is set to '1', the plot command line will be shown in the plot manager window. Then it can be changed from the user interface.

MINSECONDS

Contains the minimum amount of time that plot job needs. This command can be used to detect errors.

RETRYENDLESS

Raise the retry output to endless. Normally the plot manager stops after three attempts.

Configuration example: Encad Cadjet 2 is connected to a Grafis PC and additional Grafis workstation PCs in the network

The Encad Cadjet 2 is connected to the PC via a parallel port. If an additional printer is needed, the PC requires a second parallel port (LPT2:). The following configuration is recommended:

Create the folder C:\CADJET for the plot manager in the directory C:\. The folder 'Cadjet' is a shared folder and has read/write access that can be secured using a password. Copy the file PLOTMGR.EXE to this folder. The PLOTMGR.INI contains following command line:

```
COMMAND=c:\command.com
        /c copy %d lpt2:
```

In the GRAFIS.INI at this PC add the entry MANAGER=C:\CADJET under the heading [PRINTER]. In the Grafis Layplan program under plotter setup, enter 'C:\CADJET\' in the display field *connected to*.

Now configure the additional Grafis workstation PCs. Search for the 'Cadjet' folder and connect to drive P: using a right mouse click. Do not forget the option 'restore connection'. Enter 'P:\' in the display field *connected to* of plotter setup in Grafis at these additional workstation PCs.

The estimated plot time averages a few seconds because the plotter has enough memory to store multiple plot files. It goes with the real plot time only if the plotter is under continuous operation.

Configuration example: Algotex plotter connected to a separate PC and additional Grafis workstation PCs in the network

Algotex plotters are supplied with a configured PC or are connected to an available PC (WaveJet and WindJet series). The plotter driven by a self-contained plotter control program that runs on Windows. This program is monitoring a folder for incoming HPGL plot files, e.g. c:\algotex\hpgl. This folder is entered in the setup of the plotter control program.

Create a directory C:\PLOTTER on the plotter PC. Enable this folder as shared folder 'Plotter' in the network. The additional Grafis workstation PCs have access to this folder as described above. Drive P: is connected. Copy the following files to C:\PLOTTER on the plotter PC: PLOTMGR.EXE, PLOTCTL.EXE, the additional help program FILEEXST.EXE (to be found under C:\GRAFIS\HILFEN) and a PLOT.BAT. The PLOT.BAT contains the following:

```
@echo off
copy '%1' c:\algotex\hpgl\plot.hpg
fileexst.exe          c:\algotex\hpgl\plot.hpg
```

The program FILEEXST.EXE stops the execution of PLOT.BAT as long as the specified file exists. The Algotex plot program deletes the file as soon as the plot is finished.

Add the following command to PLOTMGR.INI:

```
COMMAND=plot.bat %d
```

Set the value TIMECALCBYTES=0. The estimated plotting time will be calculated based on the plot length in millimetres. This value is comparatively accurate.

Configure the additional Grafis workstation PCs as above. Additionally an icon to the program P:\PLOTCTL.EXE should be added to each desktop so that the workstation user has access to the plot queue to view and change the queue.

Configuration example: Gerber AP320 plotter connected to a separate plotter PC, additional Grafis workstation PCs in the network and a file server with plot files on drive H:

Create the folder H:\AP320 on drive H:. Copy the files PLOTMGR.EXE, PLOTCTL.EXE and APCHECK.EXE (to be found under C:\GRAFIS\HILFEN) to this folder. Install the Gerber plot program PLOTGBER to folder C:\GERBTEST on drive C:. Additionally copy the file GBSHIFT.EXE to C:\GERBTEST.

Add the following entries to the file PLOTMGR.INI:

```
COMMAND=plot.bat %d
TIMECALCBYTES=100
RETRYENDLESS=1
```

The PLOT.BAT contains the following:

```
@echo off
copy '%1' c:\gerbtest\plot.0$$
c:
cd \gerbtest
copy gbshift.ini gbshift.ret
gbshift.exe plot.0$$
plotgber.exe plot.0$$ 2
h:
cd \ap320
apcheck.exe
if exist error.log copy
    c:\gerbtest\gbshift.ret
    c:\gerbtest\gbshift.ini
del c:\gerbtest\plot.0$$
```

Set the value TIMECALCBYTES=100. The estimated plotting time will be calculated based on the size of the plot file. This value is comparatively accurate. Additionally, a special plot driver file (ap320.plt) is required for the Grafis workstations. It contains the exactly determined feed length. This file can be requested from the Grafis Hotline or the Grafis dealer. Configure the additional Grafis workstation PCs as above. The target directory should be 'H:\AP320\', where H: is connected automatically on login.

Configuration example: HP Designjet 510 using the HPGL-2 option connected to a network

The HP plotter is assigned an IP number automatically during installation. This is used by the PC printer driver to access the plotter. Install the driver included with the HP plotter. Send a test plot to plotter via the Windows driver.

Install the plot manager as described above. Select the option *Show plot command* during the setup (in the SETUPMGR program). After starting the plot manager activate the plot command prompt by clicking the adjacent button. Enter 'WINSPOOL:'. Save the entry by clicking the adjacent button again. A popup window with all available printer drivers appears. Choose the previously installed HP driver (HP Designjet) and confirm with *OK*.

If the HP driver does not support PASSTHROUGH, additionally install the standard Windows driver 'Generic/Text only' to the same network interface as the HP driver. Choose this from the popup window instead of the HP driver and confirm with *OK*.