

RW-480

PLOTBASE

Printer/Scanner

Reference

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The proper names of the Windows operating systems are as follows:

Microsoft[®] Windows[®] 95 operating system

Microsoft[®] Windows[®] 98 operating system

Microsoft[®] Windows[®] Millennium Edition

Microsoft[®] Windows NT[®] Server operating system Version 4.0

Microsoft[®] Windows NT[®] Workstation operating system Version 4.0

Microsoft[®] Windows[®] 2000 Professional

Microsoft[®] Windows[®] 2000 Server

Microsoft[®] Windows[®] XP Professional

Note:

"RW-480 PS" stands for "RW-480 Postscript Level 3 Compatible Option"

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Preface

This manual contains detailed instructions on the operation and maintenance of this machine. To get maximum versatility from this machine all operators should carefully read and follow the instructions in this manual. Please keep this manual in a handy place near the machine.

Please read the Safety Information in the "Copy Reference" manual before using this machine. It contains important information related to USER SAFETY and PREVENTING EQUIPMENT PROBLEMS.



Note: Parts of this manual are subject to change without prior notice. In no event will the company be liable for direct, indirect, special, incidental, or consequential damages as a result of handling or operation the machine.



Attention: Use of controls or adjustment or performance of procedures other than those specified in this manual might result in hazardous radiation exposure.



Declaration of Conformity

"The Product complies with the requirements of the EMC Directive 89/336/EEC and its amending directives and the Low Voltage Directive 73/23/EEC and its amending directives."



Caution: Network interface cables with ferrite core must be used for RF interference suppression.

Note to users in the United States of America

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio /TV technician for help.

Caution:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note to users in Canada**Note:**

This Class B digital apparatus complies with Canadian ICES-003.

Remarque concernant les utilisateurs au Canada**Avertissement:**

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Declaration of Conformity

Product Name: Printer/Scanner Controller
Model Number: Printer/Scanner Unit Type RW-480
Responsible party: Ricoh Corporation
Address: 5 Dedrick Place, West Caldwell, NJ 07006
Telephone number: 973-882-2000
This device complies with part 15 of FCC Rules.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

RW-480 PLOTBASE

This manual describes the programs RW-480 PLOTBASE and RW-480 SCANTOOL, which are parts of the RW-480 plot management system.

The client-server architecture of the RW-480 system allows each user connected to define their own print jobs and sets of drawings and to send them to RW-480 PLOTBASE for plotting. RW-480 PLOTBASE can process whole sets from documents or drawings, with a high degree of automation.

RW-480 PLOTBASE accepts print jobs from CAD systems, from archived data stock, from scanning systems such as RW-480 SCANTOOL or from other clients. The standard data formats supported are HPGL, HPGL/2, HP-RTL, Calcomp 906/907, TIFF, BMP, PCX, T6X, RLC, CIT, WMF and CALS. CGM, PDF and RW-480PS are optional formats. You can use the DWF/DWG/DXF format only, if you have installed an AutoCAD program on your PC.

The user can sort the print jobs in RW-480 PLOTBASE to their own criteria. The output parameters can be freely altered depending on the requirements. Individual requirements and repeat prints are possible when plotting the sets of drawings.

RW-480 SCANTOOL is the second program that is described in this manual. This program provides you with operating functions for the scanner and for processing the scanned-in drawings.

You can set numerous default values for scanning drawings: format size, resolution, mirror, invert, density etc. You can also edit the scanned drawings using an integrated image-editing program. If you wish, the scanned drawings are automatically assigned to a job order. You can adjust the print parameters beforehand. Finally, the job order is sent to the RW-480 PLOTBASE program for processing.

Please use it as a dedicated server.

Another manual is available:

RW-480 CLIENTS

This manual describes the installation and operation of RW-480 CLIENTS as well as two network protocols. It explains how you can use the Client to produce print jobs and send them from the workstations to RW-480 PLOTBASE. It also contains information about solving applications problems.

We wish you every success when working with RW-480 PLOTBASE and RW-480 SCANTOOL.

Guide to the manual

This manual contains all the information that you will need for the correct use of RW-480 PLOTBASE and RW-480 SCANTOOL, from a functional description to instructions for installation through to an overview of the shortcut keys. In detail, these are the following chapters:

RW-480 PLOTBASE and RW-480 SCANTOOL:

This chapter contains an outline description of the possible applications and functions of RW-480 PLOTBASE and RW-480 SCANTOOL.

Part I - Installation and Principles

Installation and operation:

Here you can read about what system requirements have to be created for RW-480 PLOTBASE and how to prepare for the installation. In addition, you are also explained how to set the necessary default values in the operating system. The folder structure of the installed program and the processing of jobs in RW-480 PLOTBASE are explained in the appendix.

Part II - RW-480 PLOTBASE

Start and quit program:

How to start and quit program.

Program window:

This page includes a figure that shows all the work areas of the program.

Program flow:

This section answers the question "How does the drawing pass into the job list of RW-480 PLOTBASE?" It describes the path of a drawing from being drawn to its preparation in the plot folder and editing in RW-480 PLOTBASE through to the printout.

Tools:

This section gives an overview of the large number of buttons available and which functions they can be used to carry out. These include the toolbars for Job, Entry and View as well as the

status bar. The so-called "signal lights" is also explained.

Configuration:

Here you can read which default values are possible and what you must look out for. You can also read how to activate the Autoplot mode or start manual print jobs.

Job list:

The job list displays an overview of which jobs have been printed and which are queued for plotting and what their status is. This chapter describes what significance the individual fields have and how you can prioritize the display of a selection of certain jobs.

Status display:

This chapter describes the status window in which the current status displays appear and how the current plotter can be stopped and restarted.

Job editor:

In the job editor you can alter the original plot settings for a job or an individual drawing or an individual entry. These include, e.g. the output format, the medium source (paper type) etc. or the number of copies to be printed.

Print job:

This chapter explains the two print modes "Automatic Print" and "Manual Print". Furthermore, it also explains how a plot can be interrupted and jobs can be deleted after they have been printed.

Part III – RW-480 SCANTOOL

This part of the manual contains all the information you require for correct use of RW-480 SCANTOOL, from a functional description through to an overview of the shortcut keys. These include the following chapters:

Introduction:

This chapter gives an overview of the possible applications and functions of RW-480 SCANTOOL.

Start and quit program:

As the title says.

Program window:

This page includes a figure that shows all the work areas of the program.

Default values:

Before beginning to use the program, you can set all the basic settings, which remain valid until they are explicitly changed again. In this chapter you can read about which individual settings are meant and what you must pay particular attention to.

Tools:

This section gives an overview of the large number of buttons available and which functions they can be used to carry out. These include the toolbar, the control bar and the status bar.

Key combinations:

An overview of all key combinations.

File management:

This section describes how you can load, and save drawings and what file formats the drawings can have.

Archive Management:

With RW-480 SCANTOOL it is possible to generate index data for external archive systems, which it then imports.

Scan:

This chapter describes the operating functions for the scanner. What is more, the default settings for the scan parameters and the scan process itself are also described.

Prepare print jobs:

This chapter describes how individual drawings can be automatically or manually compiled to form print jobs.

Drawing editor:

This chapter describes the RW-480 SCANTOOL drawing editor which, apart from a large number of functions, you can use to edit drawings using pixels and over large areas as well as to filter and align the drawings and insert your own text.

Conventions used in the manual

Two terms are used in the text to point out special circumstances or advantages or even to warn you against certain steps:



Note: You are free to decide whether you wish to follow the recommendation given in a note or not. Tips are usually used to draw your attention to special circumstances or even to point out useful commands or ones that are easily forgotten and overseen.



Attention: It is advisable to take particular notice of any possible problems marked with "Attention" to e.g. avoid problems with your data stocks, etc.

Part I - Installation

System requirements

Please read through the following recommendations carefully. They can be very helpful in finding the optimum hardware for your needs.

- **Operating system:**

Microsoft Windows XP Professional, ServicePack 2
Microsoft Windows 2000 Professional, ServicePack 4
Microsoft Internet Explorer 5.0 or higher

- **Processor:**

Intel Pentium 4, Pentium III, Celeron with min. 1 GHz
AMD Athlon with min. 1 GHz
Recommended Intel Pentium 4 with 2 GHz or more

- **Front Side Bus:**

Intel Pentium 4, Pentium III, Celeron with min. 400 MHz
AMD Athlon with min. 200 MHz
Recommended Intel Pentium 4 with 400 MHz or more

- **PCI Bus:**

The PCI bus system must meet up-to-date standards (PCI 2.0 or higher – 3.3 V or 5 V autoadaptive, maximum load 5 A). If your computer does not fulfill this standard, it is possible that the plotter controller will not be identified.

- **System memory:**

We recommend the following system memory rated to the maximum scan and plot length:

MB RAM in PC	recommended maximum scan length
256 MB	3000 mm
512 MB	6000 mm
768 MB	8000 mm
1024 MB	10000 mm
1536 MB	15000 mm
1536 MB+	15000 mm

- **Hard drive:**

The hard disk should have at least 10 GB free memory.

- **Network interface/Configuration:**

10/100 Base T Ethernet, the TCP/IP configuration is

necessary

- **CD ROM drive**
- **Floppy drive**
- **RW-480 Controller:**
Physical dimension: 142 mm x 122 mm
PCB dimension: 127 mm x 97 mm
- **Monitor:**
At least 1024 x 768 pixels resolution. Avoid computers with shared video memory.

Settings before installation

This chapter describes the settings for the operating systems Microsoft® Windows® XP Professional and Microsoft® Windows® 2000 Professional.

This refers to setting up user accounts and activating the Windows components required to use the RW-480 system.



Attention: These settings must only be made by a user with administrator rights.

The settings are nearly identical for the two operating systems "XP" and "2000" so that they are described in one chapter. Reference is made accordingly to possible differences.

Setting up user accounts

To avoid the risk of thoughtless changes to the administrator settings, use of the RW-480 PLOTBASE should be limited to users with restricted rights. If you want to set up other users in addition to the default setting for users with restricted rights, adjust the corresponding settings either before or after program installation. Proceed as follows:

1. Open the window "User accounts" using "Start - Control Panel - User accounts" [XP] / "Start - Settings - Control Panel - Users and passwords" [2000] and click on "Add" once.
2. Enter the new user under "User name" and then click on "Next".
3. In the next window, select the option "Restricted user", then click on "Finish".

Activating Windows components

The adjustments listed in the following are necessary for correct functioning of the RW-480 PLOTBASE and RW-480 SCANTOOL programs as well as for the connecting the clients.

Activate SNMP service

To use the SNMP service, you must adjust the following settings:

1. Open the window "Windows components" in "Start - Control Panel - Software - Add/Remove Windows components" [XP] / "Start - Settings - Control Panel - Software - Add/Remove Windows components" [2000].
2. Activate the option "Management and Monitoring Tools".
3. Click on "Next" and follow the instructions in the next windows.

Activate FTP protocol

To use the FTP protocol, you must adjust the following settings:

1. Open the window "Windows components" in "Start - Control Panel - Software - Add/Remove Windows components" [XP] / "Start - Settings - Control Panel - Software - Add/Remove Windows components" [2000].
2. Mark "Internet Information Services (IIS)" and click on the corresponding "Details" button.
3. Activate the option "File Transfer Protocol (FTP) Server". The options "Common files" and "Internet Information Services Snap-In" are automatically activated. When all three services are activated, press "OK" to confirm.
4. Click on "Next" and follow the instructions in the next windows.



Note: To use the FTP protocol, user accounts and groups have to be setup. The procedure is described in the chapter "Setting up user accounts". You also have to set up an FTP directory with defaults. But this is done after installation of RW-480 PLOTBASE and is described in the chapter "Setting up the FTP standard directory".

Activate LPR service

This setting is also necessary if you use the RW-480 PLOTCLIENT MAC. You must adjust the following settings to

use the PLR service:

1. Open the window "Windows components" in "Start - Control Panel - Software - Add/Remove Windows components" [XP] / "Start - Settings - Control Panel - Software - Add/Remove Windows components" [2000].
2. Activate the option "Other Network File and Print Services".
3. Click on "Next" and follow the instructions in the next windows.

Setting the start type

Once you have activated all the necessary services, now adjust the setting so that the "TCP/IP print server" and the "FTP publishing" automatically start up when the computer starts:

1. Open the window "Services" in "Start - System control - Management - Services" [XP] / "Start - Settings - System control - Management - Services" [2000].
2. Double click on the window "TCP/IP NetBIOS help program". In this window, adjust the option "Automatic" under "Start type", and enter "OK" to conclude.
3. Double click on the window "FTP Publishing". In this window, adjust the option "Automatic" under "Start type", and enter "OK" to conclude.
4. Close all windows.

Installation of the programs

The setup described here is used for the following installations:

- Driver software for the controller board
- RW-480 PLOTBASE
- RW-480 SCANTOOL
- RW-480 WINPRINT
- "Tools" directory for the RW-480 clients
- Microsoft .NET Framework
- LibCAD 2005
- Adjustment of the Windows Firewall

The installation steps are the same for operating systems Windows XP Professional and Windows 2000 Professional.

Installation of the PLOTCLIENTS is described in the manual "RW-480 CLIENTS".



Note: If you also want to use an AutoCAD on the server PC intended for RW-480 PLOTBASE, please install the AutoCAD before the RW-480 system so that the RW-480 installation can automatically adopt the required configuration for cooperation with AutoCAD.



Attention: Never start the files "setup.exe" and "set-uplauncherru.exe" with the context menu function "execute as"!

Proceed with installation as follows:

1. Fit the supplied controller board in your computer, then start Microsoft Windows 2000 or Windows XP as user with administrator rights.
Windows tells you automatically that new hardware has been found, and starts an installation wizard.
2. Answer the questions from the installation wizard with "No, not yet", then click on "Next".
3. Insert the supplied RW-480 CD.

If you haven't deactivated the Windows "Autorun" function for CDs, the RW-480 installation wizard starts, and Windows automatically finds the software to be installed for the controller board and starts installation. If the wizard does not start, start "setuplauncherru.exe" in the RW-480 CD directory "Launcher".

4. Finish driver installation with "complete".
5. Now choose your language in the RW-480 installation wizard.
The wizard opens a new display where you can read the information under "Step 1" if necessary.
6. In "Step 2", select option 1 "Install Autodesk DWF Viewer" and click on "Next" in the next window.
7. Read the information on the Autodesk DWF Viewer if necessary and click on "Next".
8. Consent to the Autodesk licence agreement and click on "Agreed".
9. Accept or change the target directory for installation, then click on "Install"
10. As soon as the Autodesk DWF Viewer installation has finished, conclude this part of installation with "End".
11. In "Step 2", selection option 2 "Install .NET Framework" and answer the following question with "Yes".
12. Consent to the .NET licence conditions, and click on "Install".
13. End .NET installation with "OK".
14. In "Step 2", select option 3 "Install LibCAD package" and click on "Next" in the LibCAD start window.
15. In the LibCAD dialogue, select your country, consent to the LibCAD licence conditions and click on "Next".
16. Accept or change the target directory for the LibCAD installation, then click on "Next".
17. Start LibCAD installation with "Next".
18. As soon as LibCAD installation is finished, finish this part of installation with "End".
19. In "Step 3", select option 1 "Install" for RW-480 PLOTBASE and click on "Next" in the RW-480 "Welcome" dialogue.
20. Click on "I accept" if you consent to the RW-480 licence agreements. Click on "I reject" if you do not consent and want to cancel installation. Then click on "Next".
21. Accept or change the target directory for RW-480 PLOTBASE

installation and indicate whether RW-480 WINPRINT should support clients on Windows 9x computers. Then click on "Next".

22. Now click on "install" to start installation.
23. First insert the supplied disk with the RSP licence files in your disk drive and press "OK" to confirm. If you have received the RSP files by eMail and saved them on your computer, then you will have noted the path to the backup directory, now use the search symbol with the magnifying glass to go to the corresponding directory with the licence file. Now select the new licence file (*.rsp) on the disk or hard disk and enter "Open" to confirm. Then click on "Install".
24. Press "Exit" to leave the licence manager window.
25. To conclude installation of RW-480 PLOTBASE, click on "Complete".
26. In "Step 4", select option 1 "Adjust firewall".
27. Answer the question with "Yes" to proceed with adjustment.
28. Enter "OK" to confirm.

Installation Problems

PC doesn't start

The Controller-Board is defective or not correctly fastened. Use another board.

Kernel driver does not start

Error in COMPAQ BIOS I. Note on COMPAQ computers: if the PC is equipped with at least 256 MB of RAM memory the controller does all the work.

Make sure that your COMPAQ PC has at least 256 MB of RAM memory.

Plotting speed too slow

- **Lack of system memory**

Ensure that your system has the recommended system memory capacity. Compare the details given in the section "System requirements".

- **CPU blocked by other application**

Shutdown other application.

- **Use of complex file formats**

Depending on the capacity of your computer, it can take a long time to process RW-480PS or CGM data. For better performance, use HPGL or TIFF file formats.

Settings after installation

If you want to send print jobs to RW-480 PLOTBASE with the ftp command, you must set up an FTP standard directory. You must also check the spool path entry for RW-480 WINPRINT which has just been installed.

The settings are nearly identical for the two operating systems "XP" and "2000" so that they are described in one chapter. Reference is made accordingly to possible differences.

Setting up the FTP default directory

You need the FTP default directory as spool directory if you want to send print jobs to RW-480 PLOTBASE with the ftp command. This setting should only be adjusted after installation of RW-480 PLOTBASE and RW-480 SCANTOOL - proceed as follows:

1. Open the "Start" bar and use the context menu to go to "My Computer" [XP] / Open the context menu at "My Computer" on the desktop [2000].
2. Select the context menu point "Manage", then double click on the option "Services and Applications".
3. Double click on "Internet Information Services" and then open the context menu at "FTP sites".
4. Select the context menu item "Properties" and change to the tab "Home Directory".
5. Activate the option "A directory located on this computer"; enter the "Local path" under the "Directory of the FTP site" - here the spool directory "[drive]:\spool".
6. Also activate the option "write" and "UNIX", then confirm with "OK".

Settings for RW-480 WINPRINT

After installation of RW-480 WINPRINT, you must check whether the spool path is correctly adjusted as follows:

1. Open the list of connected printers in "Start - Printers and fax machines" [XP] / "Start - Settings - Printers" [2000].
2. Mark the printer driver "RW-480WP" and open the menu point "Properties" in the context menu.

3. In "Configure" open the window "Spool path" and check whether the spool path stated here corresponds with the actual spool path for RW-480 PLOTBASE. If you have created the spool directory in another place, adjust the entry here accordingly.

Settings in Windows XP Explorer

Client computers should have access to some directories (Tools, Spool). These are then automatically enabled. To ensure that this enabling function works properly, deactivate the option "Use simple file sharing" in the Explorer menu "Tools - Folder options - View". Then click on the button "Adopt all".

Settings for the Response function

Users can be informed of successful completion of their jobs by an in-house or external mail system. For using the E-Mail option, Microsoft Outlook Express or Microsoft Outlook have to be installed on the server. Another prerequisite is that you have installed "Internet Mail" using the Windows setup.

Further information about installing your e-mail program can be located in the Windows Help or your mail program manual.

Settings for the DWF/DWG/DXF format

A full version from AutoCAD series 2000 to 2006 must be installed on the server computer as a prerequisite for printing DWF/DWG/DXF formats.

To print DWF/DWG/DXF files in a new paper format which does not correspond to the normal standard sizes, the following settings have to be adjusted in your AutoCAD program:

1. Open the plotter manager under "File – Plotter Manager".
2. Choose a *.pc3 file: the name can differ slightly depending on the AutoCAD version:

AutoCAD 2000: RW-480D6.pc3

AutoCAD 2000i, 2002: RW-480D7.pc3

AutoCAD 2004, 2005, 2006: RW-480D8.pc3

Open the file belonging to your AutoCAD version with a double click.

3. Change to the card "Device and Document settings". Choose the setting "Custom Paper Sizes (Printable Area)" under "User-defined Paper Sizes & Calibration".
4. Click on "Add".
5. A small help program now shows you the individual steps for configuring a new paper size. In the first window, just click on the "Next" button.
6. Now enter the width and height of the new format. You can also select the units of measurement: inches or millimeters. Click on "Next" to confirm all entries.
7. Now enter the printable area on the defined sheet. Enter values for all four edges: "Top", "Bottom", "Left" and "Right". Click on "Next" to confirm all entries.
8. Enter a name for the new format. This name will be offered later in the format selection. Then click on "Next".
9. Now enter a name for the .pmp file which saves the format attributes. Then click on "Next".

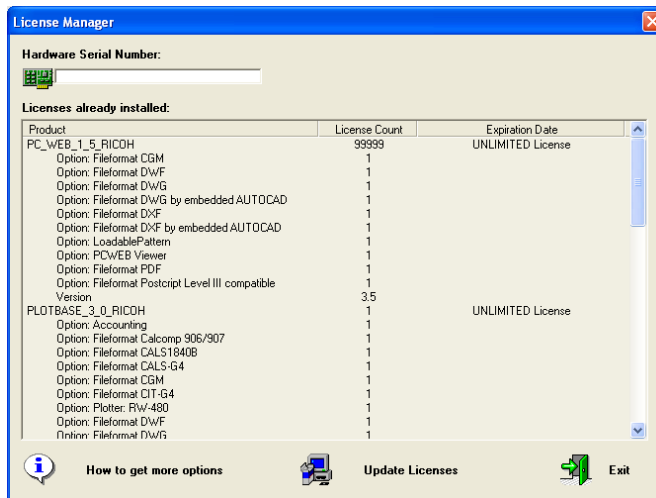
10. You do not need to make any adjustments in the last window. Just click on "Next".
11. The "Plotter Configuration Editor" is still open. Click on "OK" to close it.
12. Now copy the changed .pc3 file which you opened at the beginning into the program directory of RW-480 PLOTBASE (\\Program Files \ RW-480 \ RW-480 \ RW-480 PLOTBASE \ Program).
13. This new format is now available in RW-480 PLOTBASE.

Extend RW-480 licenses

You can extend the functions of this program. To do this, you must install a new license file, which you can obtain from your dealer or the manufacturer. To install the file you require local administrator rights for the RW-480 PLOTBASE computer. Install the file as follows:

1. First open a dialog with the menu command "Help – License Manager" or via "Start – Programs – RW-480 – RW-480 – RSP Manager".

The current licenses that are already installed are first listed in the window:



2. If you now wish to install the new license file, please click on "Update licenses".
3. You can see a small search symbol in the top of the window. Click on this symbol to open a file selection. Then select the new license file (*.rsp), which you have saved on you computer (or diskette) and confirm the selection with "Open".
4. You can now read through the window and check whether all the required options are contained in the file. Then click

on "Install" in the lower section of the window. You will then be asked whether you really want to install the license file and overwrite the old file. Confirm accordingly.

5. Restart RW-480 PLOTBASE so that you can use the new options.

Part II - RW-480 PLOTBASE

Start and quit program

To use all the functions of this program, you need to have the administrator rights for your computer.



Attention: RW-480 PLOTBASE cannot be used in multi-user mode. I.e., the program can only be accessed under one user name.

- **Start program**

At the end of the installation, the installation program sets up its own program group with the icon. To start RW-480 PLOTBASE, open the program from the "Start" bar or double click on the program symbol on the desktop:

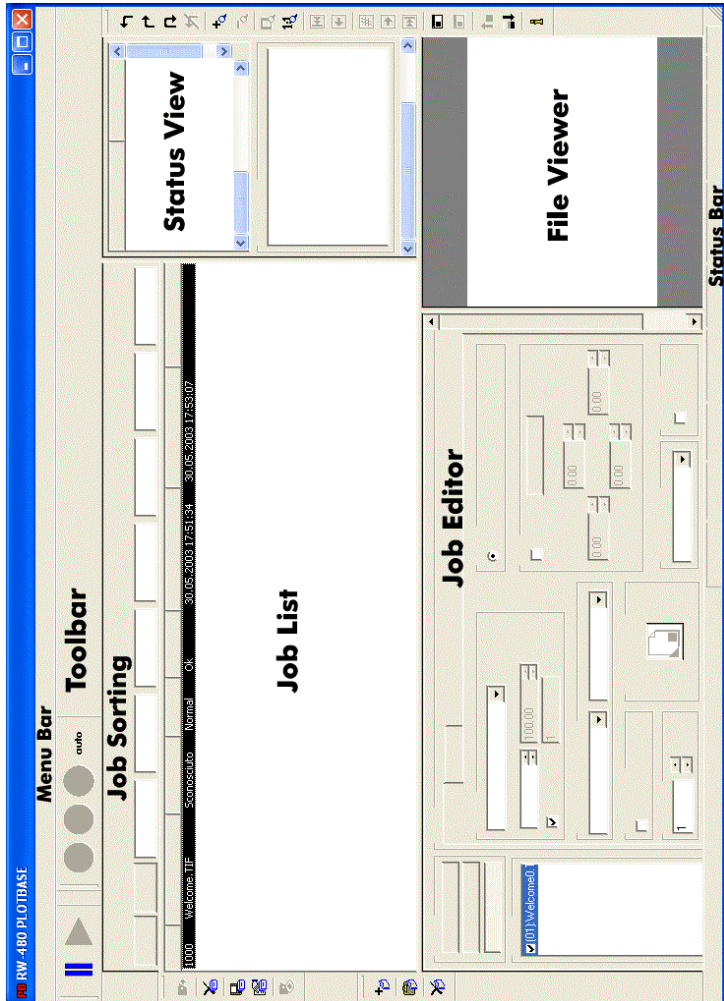


- **Quit program**

You can either quit RW-480 PLOTBASE via the menu bar with "File – Exit" or using the standard Windows keyboard shortcut "ALT+F4".

The following part of the manual describes the program's functions.

Program window



Program sequence

This chapter starts off by explaining a few important definitions which will be used in later chapters and also in the program interface. In addition, we explain the route taken by a drawing from compilation through to storage in the job list of RW-480 PLOTBASE, to give you a better understanding of the program environment.

Naming conventions

Job:

A job is a job order, which includes at least one entry or set of entries, which concern the combination of individual to be printed using the plotter. The job can be prepared by an RW-480 CLIENTS and can contain an unlimited number of entries.

User:

The user prepares the jobs using RW-480 CLIENTS or RW-480 SCANTOOL. The user can simultaneously be the client.

Entry:

An entry is a drawing with the corresponding description required for RW-480 PLOTBASE. This description contains all the information about the drawings such as the format, media type, number of copies, etc. Entries are put together in RW-480 CLIENTS to produce jobs or can also represent an individual job.

The entries or drawings can have the following file formats, which are identified by RW-480 PLOTBASE by their file extensions:

- Calcomp(*.906, *.907)
- CALS [to MIL-STD-1840B](*.cal)
- CALS [to MIL-STD-28002A](*.cal)
- Intergraph(*.cit; *.tg4)
- HP-GL [/2, RTL]..... (*.plt; *.rtl)
- PCX..... (*.pcx)
- RLC.....(*.rlc)
- T6X(*.t6x)

- TIFF (*.tif)
[Group 3,4; uncompressed; packbits; striped & tiled]
- Windows / OS2 Bitmaps (*.bmp)
- Windows Meta File (*.wmf)

The following are available as an optional:

- CGM (*.cgm)
- PDF, RW-480PS (*.pdf, *.ps)

You can only use the following formats if you have installed a full version from AutoCAD series 2000 to 2006 on the server:

- DWF (*.dwf)
- DWG (*.dwg)
- DXF (*.dxf)



Note: RW-480 PLOTBASE cannot print DWG and DXF files, that contain several single files.

SSL file:

The SSL file is produced automatically by RW-480 CLIENT when an order is prepared and contains all the information about the job itself as well as all the descriptions of the individual entries.

The SSL file is required by RW-480 PLOTBASE to print off a job on the plotter. If there is no .ssl file or the .ssl file is not complete, the program takes recourse to the so-called default .ssl file which is saved in a program directory and contains standard values for the printout.

RW-480 CLIENTS:

RW-480 CLIENTS are programs with which the user can collate drawings or entries to form jobs, to then print them via RW-480 PLOTBASE. For this job compilation, the job compiler enters all information for the individual entries in RW-480 CLIENT, which are required for the print. They are automatically written in an .ssl file. This information can include, e.g. format, media type, number of copies and border details. The .ssl file is sent to RW-480 PLOTBASE together with the drawing files.

Draftsman/woman:

The [technical] Draftsman/woman prepares the drawings for the client, which can later be collated by the user to form jobs.

From the drawing to the job

The following describes the path of a drawing from when it is prepared through to the RW-480 PLOTBASE job list. The work steps are illustrated functionally and not related to persons, i.e. several functions can be carried out by the same person. In this example, the RW-480 CLIENT is interfaced with the RW-480 PLOTBASE.



Note: More information on using RW-480 CLIENTS is given in the manual of the same name.

With the help of this section, the following graphic and the first chapter of the manual, you should be able to understand the tasks and possible applications of RW-480 PLOTBASE and the environment.

1. PRODUCTION:

The [technical] Draftsman/woman produces the drawing using an EDM, CAD or similar system and saves it in one of the formats, which have been described on page 38. A second possibility is to produce the drawing using RW-480 SCANTOOL and to save it in the suitable format.

2. TRANSFER:

The [technical] Draftsman/woman transfers the files with the drawings to the user, who uses RW-480 CLIENT to put together the print jobs. The files are then sent via the network [LAN, Intranet or Internet] to the directories provided.

3. DRAG & DROP:

The user fetches all the drawings intended for plotting into RW-480 CLIENT either using Drag & Drop or using the "Insert or add entry" functions.

4. SET CREATING AND PLOT SETTING:

The user puts together the drawings in RW-480 CLIENT to form jobs, assigns the priorities for the print, sets the formats, media types, border settings and much more and checks the drawing using the check view.

5. SENDING PLOT FILE:

As soon as the user has prepared the jobs, they automatically send it via the network [LAN] using the program command "File – Print SSL" to the directories provided, thus making it available for RW-480 PLOTBASE to print.

You can change or create a SSL file. Please ask your dealer or support technician for further details about creating a SSL file.

6. COLLECTION:

RW-480 PLOTBASE checks regularly whether new jobs are waiting. As soon as a job is available, it is read in by RW-480 PLOTBASE and immediately appears in the job list.

7. RW-480 PLOTBASE:

The jobs in are now available in the job list for plotting. However, before plotting you can still make changes to the print properties. You can accompany the automatic progression of the program using the status observations and the error control and can intercept at any time, if necessary for urgent jobs, to stop jobs or because of error messages.

Tools

This section gives you a brief overview of the program's tools, which you can activate using the four tool bars as well as the information, which is displayed in the status bar. All toolbars can be freely positioned at the sides, at the top below the menu bar and at the bottom below the status bar. You can blank out and insert the toolbars using the "View" menu.

The following chapter then explains the function and use of the signal lights. Furthermore, a brief section also explains the function of the right-hand mouse button, which you can use to comfortably start and carry out functions, without having to use the menu bar.

Job toolbar

The "Job" toolbar is located directly beneath the "File". The five buttons have the following significance:



Send job to the plotter



Delete job



Save job



Open job information



In the job list, jump to job currently being printed

Entry toolbar

The toolbar for editing an entry is located on the left-hand edge of the monitor after the program is started up for the first time



The buttons have the following significance:



Add entry at the end of the entry list



Insert entry in front of the marked position in the entry list



Delete entry from the entry list

Viewer toolbar

The viewer bar is located on the right-hand side of the monitor after the program is started for the first time, next to the preview window, in which the individual drawing is shown:



Attention: These settings have no effect on the printing result. You can just change the view of the picture in the file viewer.

The buttons have the following significance, moving from right to left:



Rotate drawing 90° to the left



Rotate drawing 90° to the right



Rotate drawing by 180°



Drawing in original position



Successively enlarge drawing



Successively reduce drawing



Switch over to zoom all of drawing



Switch over to 1:1 view of drawing



Multipage document: Show first page



Multipage document: Go back one page



Multipage document: Enter target page



Multipage document: Move forward one page



Multipage document: Show last page



Show drawing in black & white view



Show drawing in grey scale view



Show drawing in darker view



Show drawing in lighter view



Information about the overall settings of a drawing currently loaded

Pause function

The pause function enables you to quickly interrupt a print, if you want to make any changes or possibly make offline copies.



You can press this button when it is active (blue). After activation, the printing procedure is interrupted immediately after the next printout.



You can press this button when it is active (blue). After activating the pause is cancelled and the print is

continued.

RW-480 PLOTBASE signal lights

The RW-480 PLOTBASE signal lights show the status of a print job (three circles) and the printing mode (auto):



The three round areas describe the respective print status using three different colors:

- **Red field:**

A print problem is indicated if the left-hand field is red. The precise cause is described in the status window. The faulty job is marked red in the jobs list. Double click on the faulty job to see the error list.

- **Blue field:**

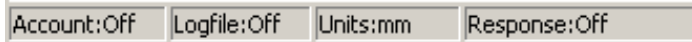
If the middle field is blue, this indicates that the user has to act. It can be a locked print, a sample print or a necessary operating of the bypass tray. These print jobs are also blue-marked in the job list.

- **Green field:**

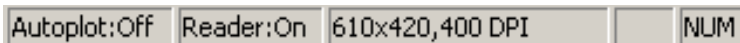
If the right-hand round area is green, a print is currently underway. This display goes off again as soon as all print jobs have been accepted and processed by the plotter. Click on the right-hand symbol surface "Auto" to activate or deactivate the automatic print mode. You can see a cross on this button, if the function is deactivated. In this case the print jobs arriving from other programs are not automatically sent to the plotter and are not automatically printed. But you can send a selected print job manually to the plotter using the menu command "Job – Print" or the command "Print" in the context sensitive menu.

Status bar

The status bar is located on the lower edge of the monitor and provides you with the following information:



- **Account:**
SDF (Standard Delimited Format) and form file for the account function is activated (On) or deactivated (Off). Presetting is "Off". This function is explained on page 69.
- **Log file:**
Logbook file is activated (On) or deactivated (Off). Presetting is "Off". This function is explained on page 69 (see "Response"). It is irrelevant for normal users.
- **Units:**
Current valid size unit: You can adjust the size unit in the configuration program. Presetting is "mm". This function is explained on page 69.
- **Response:**
The function is activated (On) or deactivated (Off). Presetting is "Off". This function is explained on page 69.



- **Autoplot:**
Currently set plot mode: On/Off. You can activate the Autoplot mode using the "Plotter" menu, the RW-480 PLOTBASE signal lights or using "CTRL + A". A more detailed explanation you get on page 133.
- **Reader:**
Activation of the reader (On/Off). Presetting is "On". A more detailed explanation you get on page 48.
- **...x..., ... DPI:**
Current size of the drawing in the units set and resolution in DPI.

- **NUM:**
Toggle the keypad functions (here: NUM).

Context menu

RW-480 PLOTBASE provides an additional comfortable mouse function for use during your work in the job list and in the entry list. In general, you carry out all work using the left-hand mouse button. In addition, you can also select so-called context menu commands using the right-hand mouse button, without having to move to the menu or toolbar. You open the menu using the right-hand mouse button and select the command using the left-hand mouse button.

The commands that you can select using the context menu are listed in the following. Cross-references to the chapters that explain the commands in more detail are given after these.

The following commands are in the job list:

- Plot,
- Priority [set], Pages 86, 83
- Status [set], Page 86
- Job info, Page 90
- [Job] delete, Page 135
- Cancel Job, Page 136

The following commands are in the entry list:

- [Entry] Delete, Page 109
- [Entry] Insert, Page 108
- [Entry] Add, Page 108

You can open a context menu in the edit fields of the "Sorting" in which you will find several standard commands: Undo, Cut, Copy, Delete, Select all.

Configuration

The following chapters describe how you can use the "Configuration" menu to alter the program settings.



Attention: The program can only be configured by a user with unlimited administrator rights. By contrast, the program can be operated by a user with limited rights. This user can then see all configuration settings, but only change the unit of measurement in the menu point "View – Units".

Reader

The interpreter's task is to check the validity and completeness of print jobs as they arrive in the spool directory.

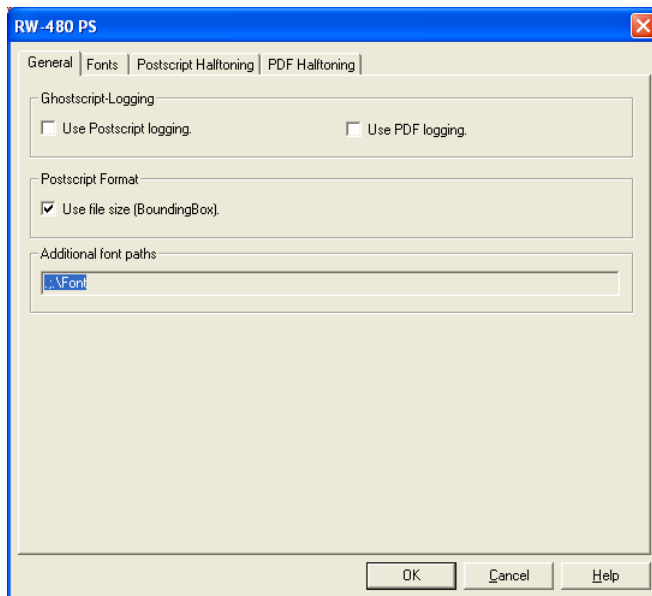
In the configuration menu you can activate or deactivate the reader by clicking on the menu command "Reader on/off". This function should only be activated in exceptional cases (troubleshooting). If the interpreter is deactivated, the print jobs are collected in the spool directory and are not transferred to the job list of RW-480 PLOTBASE.

RW-480PS and PDF (Options)

As an option, RW-480 PLOTBASE can also read the RW-480PS format and PDF format. You can open the settings for these formats using the "Configuration – RW-480PS Default settings" menu:

"General" tab

On the "General" tab you can alter the protocol and font path settings:



- **Ghostscript-Logging:**

You can use the Postscript or the PDF protocol. If you activate these options, the RW-480PS or PDF actions of the program are also logged. This gives the possibility of obtaining further information in case of problems. The file has the name `RATIO_PS.LOG`, is temporarily stored in the `TEMP` folder of Windows and can be opened using a simple text editor.

This function should only be activated after an error has

occurred in the PostScript or .pdf file. A constantly activated .log file takes up extra memory and impairs the performance of the program somewhat.

After activating the function, print the faulty drawing file again. You can then find the cause of the error in the .log file. Then deactivate the protocol function again.

But if a postscript file contains major errors, no protocol entry is created. In this case, the postscript file must be looked at in greater detail.

- **Postscript Format:**

The image size of a PostScript file can either be read out of the PostScript file or ascertained from the drawing data. Normally the image size is readout of the PostScript file: in this case there is a tick in the control box. This is the standard setting. But if you find that the drawing is only incomplete, then the image size can also be defined directly from the drawing data. In this case, deactivate the option "Use format size of file". This action proceeds automatically with the program if the PostScript file does not contain any data for the image size.

- **Additional font paths:**

The standard path only is initially given in the field. The font path refers to a folder, in which the fonts are stored. If you wish to refer to other font paths, ask your dealer or support technician.

"Fonts" tab

RW-480 PLOTBASE supports:

Type 0 = Composite Fonts

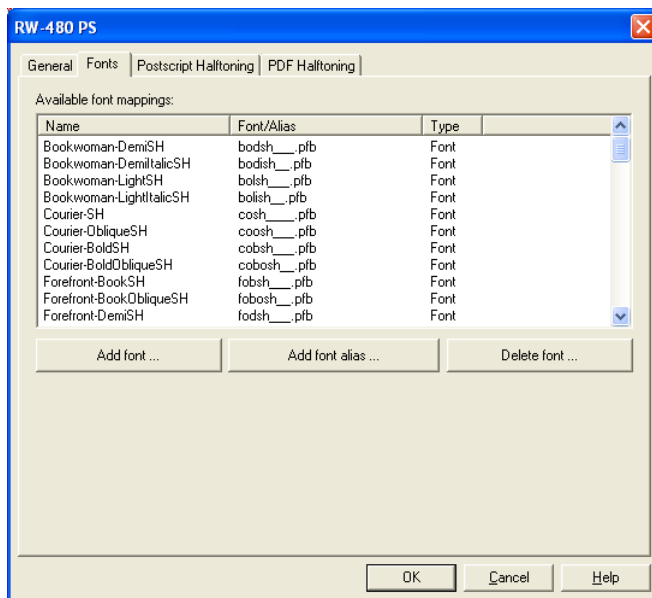
Type 1 = Basic RW-480PS fonts

Type 3 = user-defined fonts

Type 4 = Type 1 fonts with a BuildChar or BuildGlyph procedure

and TrueType Fonts under Windows.

The available fonts are listed on the "Fonts" tab, insert new Fonts or add aliases or delete fonts:



- **Available font mappings:**

The fonts currently available are given in the font list.

- **Add font:**

To add a font, carry out the following steps:

1. Click once on the "Add Font" button, to add a new font.
2. In the following dialog, click on the folder selection button, and change over into the required folder with

the additional fonts.

3. Click once on the font, which you wish to add and quit the dialog by clicking once on the "Open" button.
4. Enter the name of the selected fonts in the following window under the "Font Name", and close the whole dialog by clicking on OK.
RW-480 PLOTBASE includes the new font in the font list.



Attention: If you want to add fonts from the WINNT directory, you have to notice the following: The WINNT-directory is write-protected and therefore you can't select and add a font directly. At first you have to copy the font-files in an other directory (e.g. the temporary directory) and afterwards you can select the font-files from this directory using the dialogue which is described above.

- **Add font alias:**

A font alias is the reference to the font currently being used. As font names sometimes have different names due to different manufacturers and operating systems, in RW-480 PLOTBASE you can produce an alias for the various font names used by RW-480 PLOTBASE. In this way, RW-480 PLOTBASE can identify which font it must use even if the RW-480PS file uses a different name.

To add a font alias, follow the following steps:

1. Mark the font in the font list, for which you want to add an alias.
2. Click once on the "Add font alias" button, to add the alias.
3. Enter the name of the alias under which the font for the program should be able to be found. Enter the name of the file that is in the RW-480PS file [*.ps].
4. Quit the addition of the new alias with OK. RW-480

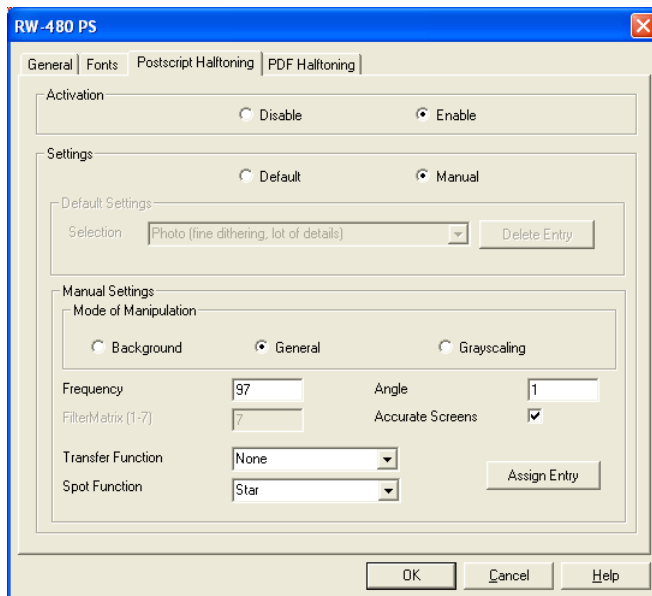
PLOTBASE enters the new alias in the font list.

- **Delete fonts:**

To delete a font or an alias, you only need to mark it in the font list and to click once on the "Delete Font" button.

"Postscript Halftoning" tab

Here you have several possibilities for manipulating the grey values in the RW-480PS file. Only make these changes if you have at least a basic knowledge of image editing. The tab appears as follows:



All settings are deactivated when you open this card for the first time. To be able to adjust the settings, you must first switch this module to "Enable". You can now select whether you wish to alter "Default" settings or "Manual" in the "Settings" area. The Default setting is preselected and the corresponding area is activated. You can now select one of the following standard settings from the "Selection" list:

- Photo (fine dithering, lot of details)

- Text (only black/white)
- large technical picture
- Technical picture
- Image/ picture

You will also find the names of the settings, which you have made and stored in the "Manual settings" area in this list. These individual settings can be removed again by clicking on the "Delete Entry" button.

To alter individual settings, you must first decide in the "Manual Settings" area to what extent you wish to manipulate the settings. You can choose from the following:

- **Background:**

Here you can determine the properties of the grey scale pattern. You can select the frequency, angle and spot function. These parameters are explained below.

- **General:**

Here you can manipulate all properties except for the filter matrix.

- **Greyscales:**

Here you can adjust the filter matrix and transfer scales. These parameters are explained in the following.

The parameters for manipulating the grey scales have the following effects:

- **Frequency:**

Is used to determine how often the grey value pattern is repeated. You can enter an integer number between 1 and 999. A frequency above 500 is only required in exceptional cases. Try and find out which frequency is sufficient for your graphic.

- **Filter matrix:**

This is used to determine how strong the brightness gradations between the grey scales are. Level 7 means a small grey scale gradation, Level 1 a large gradation.

- **Transfer function:**

The default setting is that no transfer function is carried out.

In addition, the settings "Invert" and 2 to 64 grey scales are available in the pull-down menu. The inversion causes a color inversion. I.e. in black & white images the black areas are shown white and the white areas are shown black. Alternatively, you can also select the number of the grey scale. The more grey scale is used, the more precise the grey scale gradations. The differences in brightness are more precisely reproduced in the graphic.

- **Spot function:**

Here you can select the basic pattern of the grey scale pattern from the pull-down menu, for example, star, ellipse, etc.

- **Angle:**

Here you can determine at what angle the individual objects of the grey scale pattern are relative to each other. Enter an angle between 0 and 90 degrees. We recommend that an uneven angle is used, as otherwise irritating patterns are produced in the graphic.

- **Accurate Screens:**

If you switch on this option, a very precise image is calculated and displayed. However, the complicated calculation slows down the processing.

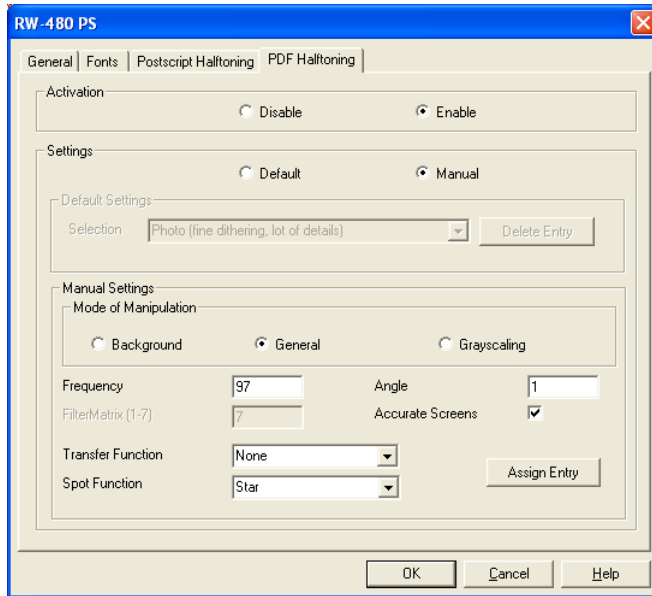
After you have altered all the settings, you can store them, so that you can use them again. Click on the "Assign Entry" button. A window opens, where you can enter a name for these settings.

The new name for the settings will be automatically inserted in the "Selection" list.

Later on you can search for your personal settings from the "Selection" list in the "Default Settings" using this name. This means that you do not have to repeatedly alter this individual setting.

"PDF Halftoning" tab

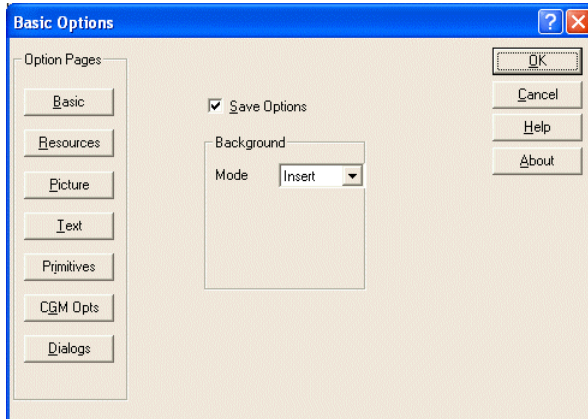
You can use this tab to manipulate the grey scale values in the PDF file:



The functions are the same as those already described in the previous chapter.

CGM (Option)

You can start the CGM settings using the "Configuration - CGM defaults" menu or via the keyboard shortcut "Ctrl + C":



The Help function for the individual CGM format settings can be opened using the HELP button. Here you can find detailed help for all buttons and settings from Inso Corporation which developed the CGM format.



Attention: In the "Dialogs" tab, "Option Dialog", the option "Always" must be activated. This setting guarantees that the dialog is shown. Do **not** use the "Never" option, because the dialog will never be shown again respectively it can only be activated again with huge effort.

Properties

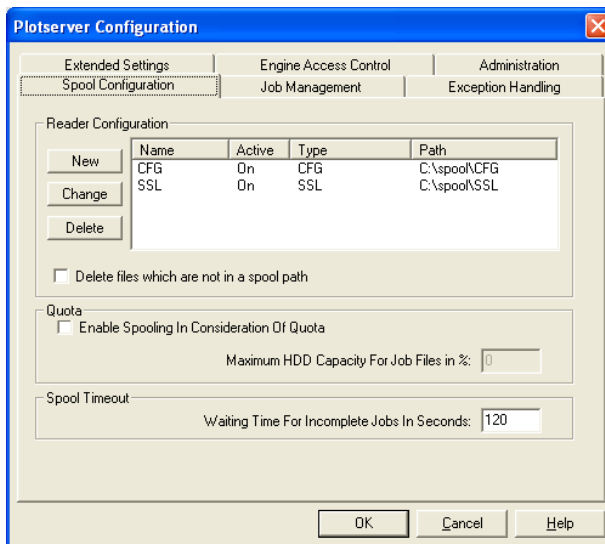
You can adjust further properties of the program using the "Configuration - Properties" menu. Each of the possible settings is described in their own section in the following.



Note: After you have altered the settings, you can use a test page to check whether the plotter has accepted the settings. To do this, select the menu command "Job – Test Page". You can examine the page produced in Preview window and then print it.

"Spool Configuration" tab

You can use this tab to alter the settings for the spool processes. The tab looks like as follows:



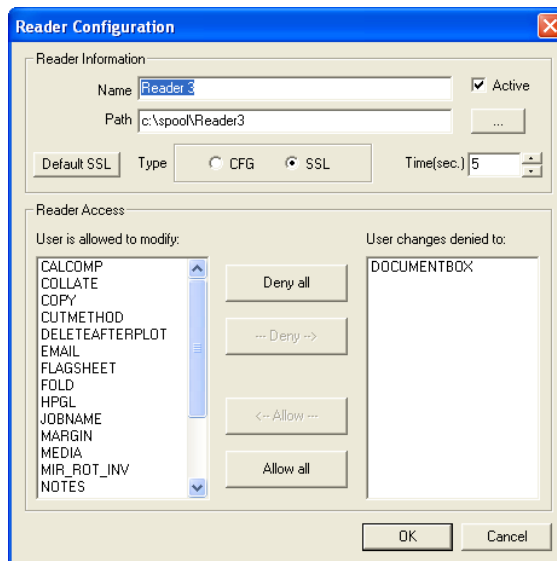
Reader Configuration:

The task of the reader is to interpret the job settings and to process them, that they can be used by the plotter.

Normally the PLOTCLIENT user can use all job settings. But maybe the administrator want to limit the user rights for certain PLOTCLIENTS. For example, he wants the drawings which are made in AutoCAD to be printed only in DIN A3. Then he can configure a Reader which doesn't allow or ignore the format setting in the PLOTCLIENT (in our example PLOTCLIENT HDI). Only the format settings of the Reader's Default.SSL will be considered. The default .ssl file is created automatically for every interpreter. It consists the default settings for the jobs. If a client has no access right for a setting the program will use the default setting of the Default.SSL. Further information about Default.SSL you can find on page 60.

You can create one or several own interpreters for every PLOTCLIENT program for individual configuration of the print job settings for the users of this program. The procedure of creating a reader and setting the access rights is as follows:

1. At first create a new Reader. Click "New".
2. In the next window do the following settings:



- **Name:**
Enter the Reader's name. The name should be logical.
- **Active:**
You can deactivate some Reader by clicking on the activated control box. Then currently sent jobs of this Reader won't be processed. That is of interest when the job list is filled or the jobs of certain Readers or PLOTCLIENTS shall not be processed. As soon as the Reader is activated again, the jobs that were sent from PLOTCLIENTS will be processed afterwards.
- **Path:**
In the spool directory a subdirectory will be created where the arriving jobs will be saved for the Reader. These directories can also be located on other computers. In field "Path" edit the name of the new subdirectory. If you haven't created this directory yet, you will be asked whether the program should create the new directory. Confirm it. As the directory has to be released in the network, a release name is necessary. Confirm the proposed name or enter a different name.
You also can enter an existing path or choose one clicking the browse button. Confirm your settings. Then you will be asked for the release name.
- **Default SSL:**
A Default.SSL file is created for every Reader with following purposes: Each job is sent with a SSL file or a CFG file where the print settings are set. Single drawing files can be copied in a CFG spool directory without CFG file. The Default.ssl settings will be overwritten by the job specific SSL- or CFG-file, as far as they are allowed by access rights. Is a CFG missing, are there missing entries in the CFG or SSL file or they may not be set, the corresponding settings of the Default.SSL are used. By clicking the Default.SSL button you open a dialog where you can preset defaults for arriving print jobs. The settings are equal to the job editor settings in RW-480 PLOTBASE. Further explanations about the settings you can find on page 92.

- **Type:**

There are basically two types of interpreter: .ssl and .cfg. SSL readers are used by PLOTCLIENTS which generate SSL files, (PLOTCLIENT/WIN, RW-480 SCANTOOL, PLOTCLIENT WEB). SSL can be used to collect and submit several files as one job. CFG readers are used for PLOTCLIENTS which do not generate SSL files but CFG files. To this class belong PLOTCLIENT HDI, PLOTCLIENT LPR, PLOTCLIENT FTP and WINPRINT.

- **Time (Sec.):**

Generally the program will react immediately on new jobs in the spool folder. In some cases it might happen that this method does not work (usually in mixed operating system environments). For this reason the program additionally checks periodically whether new jobs have arrived. The value specifies how often the reader should do that. If you expect very few jobs per hour, a value of half an hour or even one hour might still be ok..

- **Reader Access:**

In this area you can specify which print settings may be specified in PLOTCLIENT and which not. If the settings may not be specified by PLOTCLIENT and you still do specify the setting, this specific setting will be ignored by the reader. In the above left dialog there is a list of settings which are assigned to the print settings in the PLOTCLIENT.

Access rights	Corresponding settings in the job editor
CALCOMP	Default Additional – Calcomp Settings
COLLATE	Job – Collate
COPY	Default Specific – Copies Job – Job Copies
CUTMETHOD	Default Specific – Cut Mode
DELETEAFTERPLOT	Job – Delete
EMAIL	Job – e-mail
FLAGSHEET	Job – Job Flag Sheet

HPGL	Default Additional – HPGL Settings
JOBNAME	Job – Job Name
MARGIN	Default Specific – Border, Position
MEDIA	Default Specific – Mediatype
MIR_ROT_IN	Default Specific – Rotate, Invert Default Additional – Mirror
NOTES	Job – Notes
OUTPUTBIN	Default Specific – Media Source
OUTPUTSIZE	Default Specific – Formats, Width, Height
PRIORITY	Job – Priority
STAMP	Default Additional – Stamp
TEXT	Job – Account, Customer, Distribution
USER	Job – User Name

You will find a complete list of all settings in chapter "Job editor", page 92.

Default behavior is that the reader will allow PLOTCLIENT to specify all settings, therefore all settings are listed in the column "user may change". If you want to deny a specific setting you simply select it with the mouse and click on "Deny". If you want to deny all settings then click on "deny all". You can grant allowance with "allow" or "allow all", respectively.

If you are finished with that dialog, confirm with "OK".



Note: If you want to change the properties of a reader, first select the reader on the "Spool properties" tab and then click on "change". You can now edit all dialogs as described above. If you want to delete a reader, first select the reader and then click on "delete".

- **Delete files which are not in a spool path:**

Normally a client program sends to RW-480 the job file and

copies of the drawing files that are to be printed. These files are first stored in a spool directory and then automatically deleted by the program after processing.

However, the job file can also be changed in such a manner that original files stored in another computer can be accessed. Deletion of these files after processing by RW-480 may not be desirable. In this case the check box for the function described here should then be deactivated. On the other hand if the original files are to be deleted, then this function should be activated.

- **Quota:**

You can also limit the amount of hard drive memory used by the job files. In this way, you can prevent too much of the hard drive being used for the job files in the spool folder. You must first activate this function by clicking on the check box. Presetting is "0". Enter the maximum hard drive capacity for the job files in the activated field. If the "Quota" value is passed, the spool folder will be locked for further print jobs and it won't be released until having free capacity on the hard disc. If the given value is exceeded, the whole hard disc will be locked and will not be released before disc space is given by deleting for example processed print job files.

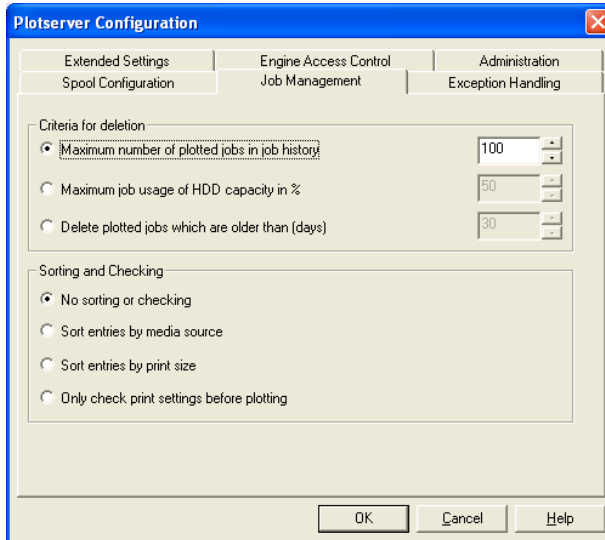
- **Spool Timeout:**

RW-480 PLOTBASE will start to print a job immediately. If RW-480 PLOTBASE has not yet received all of the job data, it will wait until the remaining data arrives.

You can limit this wait time (in seconds). If the wait time expires RW-480 PLOTBASE will not wait any longer but start the job and eventually print it incomplete.

"Job Management" tab

To ensure that too much hard drive capacity is not used and thereby maintain an adequate performance of the system, older processed jobs have to be deleted occasionally. You can use this tab to set when older jobs should be deleted:



To do this, select one of the following criteria:

- **Maximum number of plotted jobs in the job History:**
Any old jobs (with status "OK") exceeding this number are deleted. Use the arrow key to change the number given or overwrite the number.
- **Maximum job usage of HDD capacity in %:**
Enter the percentage size of the hard drive capacity to be used by the jobs. As soon as this hard drive capacity is exceeded, the older jobs (with status "OK") are deleted.
- **Delete plotted jobs which are older than (days):**
Enter the number of days the jobs shall remain in the job list. Jobs (with status "OK") plotted before these days will be deleted.

You can instruct RW-480 PLOTBASE to sort the jobs and make additional changes:

- **No sorting or checking:**

This is the default setting. Jobs will not pre-checked prior to plotting.

- **Sort entries by media source:**

This setting will reduce the number of roll-changes for the plotter and therefore will speed up the plotting.

All entries are sorted by the setting of "Media source". For example all entries on roll 1 will be printed first, then all entries on roll 2 etc.

If a roll is not present the following behavior depends on the setting "exception handling" as described below.

- **Sort entries by print size:**

The entries are sorted according to format size for easier transport of the stacked printouts. This also avoids having to change the roll.

- **Only check print settings before plotting:**

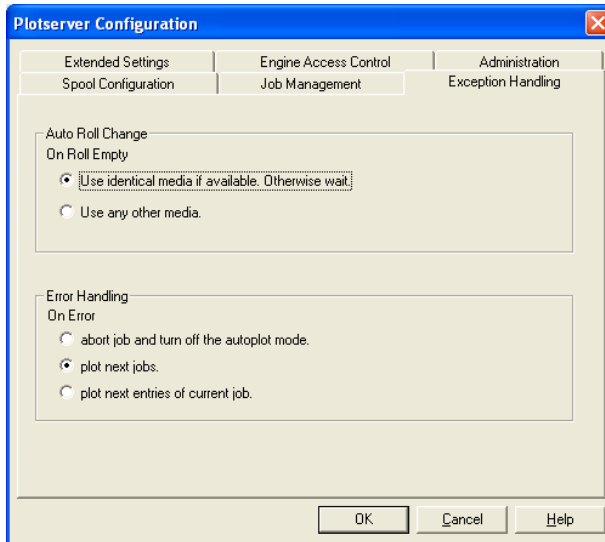
If this option is enabled, the whole job is checked prior to printing. It will be checked, if the whole job can be printed with the current plotter setup.

If the job cannot be printed with this setup the job is stopped and not sent to the plotter.

See also "Exception Handling" below.

"Exception Handling" tab

On this tab you can enter what the program should do if a plotter roll is empty or errors occur during the processing of the jobs:



- **On roll empty:**

It is regularly checked whether the rolls are filled. If a roll should run empty, a dialog appears to draw your attention to the problem. If you click on "Continue", the program then behaves as described under "Use any medium". The condition reported by the program is to be seen regardless of whether an job is currently being processed or not. Interruption of a print job, changes to the print settings or sending a print job using another full roll does not rectify this status. The status can be rectified either by using a new medium or by the program diverting to another roll already present in the plotter. You can select one of the following options which are used in case of an empty roll. The two options differ in the fact that for an empty roll, either the whole printing process can be stopped, or continued even with an empty roll. Both options are illustrated in the

following diagram.

Use identical media if available. Otherwise wait.: If you have activated this option, if a roll is empty the program checks the following question "Is an identical roll available in the plotter as substitute for the empty roll?" At first it does not matter whether this roll is needed for a pending entry or not. If an identical "substitute roll" is actually in the plotter, then the printing process can be continued without interruption. If no identical roll can be found, then the printing process is stopped and a message appears that a roll has run empty. If you now insert a new roll in the plotter, the message disappears automatically and the printing process continues. A second possibility is to click on "Next" in the message dialogue box to start processing the job on another roll. It is possible that the empty roll is specified as the paper source in the job settings. In this case, an error message and an error page would be printed. Additional error processing depends on the settings under "Error Handling".

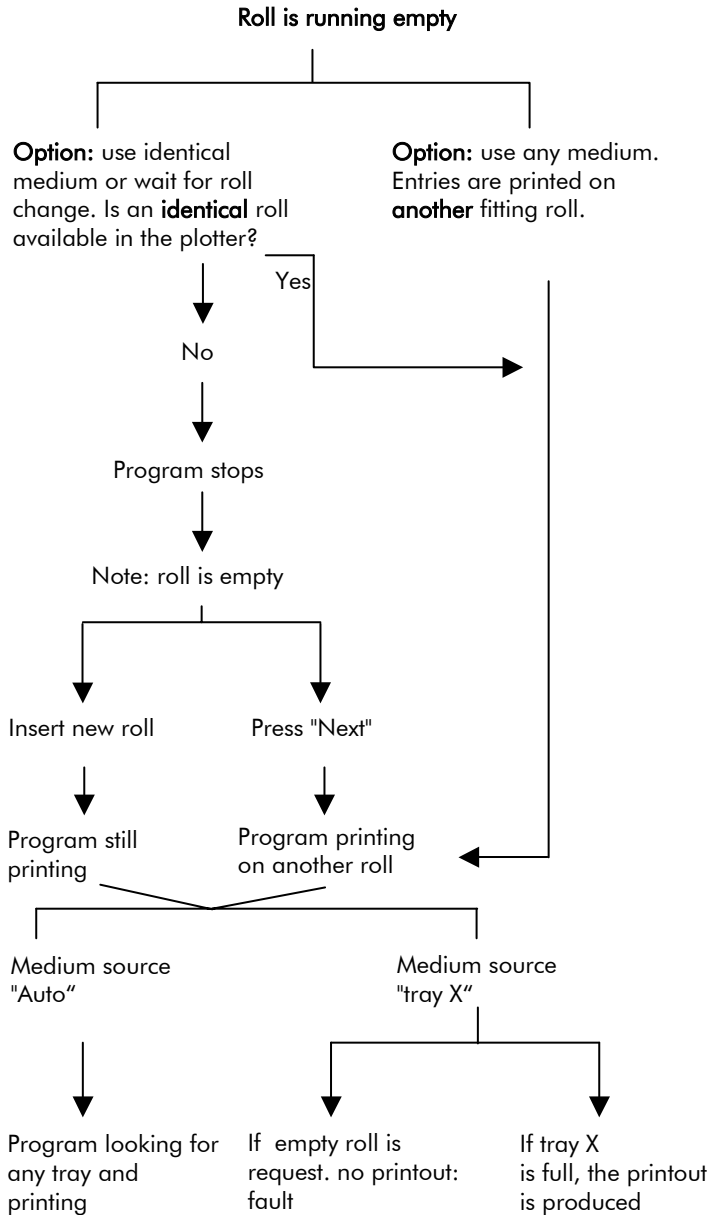


Note: If the "Media Source" option in the job editor is set to "auto", the job entry is printed on any roll with a compatible size.

Use any other media: If a roll has run empty, the printing process is not stopped but can be continued. The empty roll is ignored and the pending entries are printed on the other rolls as far as possible (see below).

Further processing now depends on the job settings. It is of course possible that this not replaced roll is demanded explicitly in an job. In this case an error message and an error page would be printed. The further behavior of the program then depends on the settings under "Fault processing".

But if you have selected the "auto" setting (any roll) in the job editor for an entry, then the entry is printed on any role with suitable attributes. This job is not necessarily dependent on the missing roll.



- **On error:**

You can choose between three options:

1. "abort job and turn off the Autoplot mode": The job is halted in case of an error and if the automatic plot mode is active, this is deactivated.
2. "plot next jobs": The second option is for the faulty job to be skipped and for the Autoplot mode to continue.
3. "...print next entries of current job": If you select the third option) the faulty entry will be left out and the following entries will be printed. If there are three or more than three faulty entries in this job the whole job will be left out and the next job will be printed.

"Extended Settings" tab

In this tab you can adjust the response, the job flag sheets, units and accounting settings:

The screenshot shows the 'Plotserver Configuration' dialog box with the 'Extended Settings' tab selected. The dialog has a blue title bar and a standard Windows-style layout with tabs and a scrollable content area. The 'Response' section includes a checked 'On/Off' checkbox, an unchecked 'Send A Response E-Mail' checkbox, and a 'Response Path' text field set to 'C:\spool\Response'. The 'Units' section has radio buttons for 'pixel', 'mm' (selected), and 'inches', along with a 'Pattern File' dropdown set to 'Drawing'. The 'Job Flag Sheet' section features 'Media' and 'Format' dropdowns set to 'plain paper' and 'Machine Default' respectively, and a 'Media Source' dropdown set to 'auto'. The 'Accounting' section has an unchecked 'On/Off' checkbox, two text fields for 'Path, name for sdf file' and 'Path, name for text file' (both set to 'C:\spool\Account\ACCOUNT.SDF' and 'C:\spool\Account\ACCOUNT.TXT' respectively), and an 'Accounting unit' dropdown set to 'mm'. At the bottom are 'OK', 'Cancel', and 'Help' buttons.

- **Response:**

The response function is used to give the PLOTCLIENT users access to the status of the jobs.

To activate the response click on the activation check-box. Additionally you are asked to specify the path to the response data. By default the response data in the spool folder.

Within PLOTCLIENT/WEB you can then browse the status of the jobs.

You can instruct the software to send an e-mail automatically every time the job is finished. The e-mail is sent to the creator of the job. This feature requires that a valid e-mail address is entered within the job editor.

For further information please refer to chapter "Job editor", page 92.

- **Units:**

You can set which size unit is to be used for your RW-480 PLOTBASE work: You can choose between "millimeters", "inches" and "pixels". The applicable units are then displayed in the status bar of the main program.

- **Pattern file:**

To ensure optimal print-out of your HPGL and HPGL/2 files you can specify the grey-scale pattern. This should be selected in keeping with your artwork master: Drawing or photo.

This setting only has an effect on print-out if the "Loadable Pattern" setting has been selected in the pin settings (see "Job Editor" - "Default Additional" tab - HPGL settings - "Misc" tab - Fill pattern).

- **Job Flag Sheet:**

The Job Flag Sheet contains information about the print job and will be printed together with it as last sheet. To do so, you must activate this function in the job editor ("Job Specific" tab, function: "Job flag sheet") by clicking on the control box "On". If an job cannot be printed, the job flag sheet informs you about the corresponding errors. If you have not activated the function "job flag sheet", instead an error page is printed when a processing error has occurred.

In the selection list to be found here, you can select a "medium" and a "medium source" for your job flag sheet and the error page. There are two rules for printing these pages:

when printing an job flag sheet, the selected medium source (roll) is considered, but the selected medium is ignored. The opposite applies to the error page. When printing an error page, the medium is considered but the medium source ignored. The following table shows the results of the settings in detail:

Media Source	Media	Results
Auto	Any	The job flag sheet and the error page are printed on the smallest fitting roll, regardless which medium is on it.
Auto	Paper, Transparency or Film...	The job flag sheet and the error page are printed on the smallest fitting roll with the chosen medium.
Roll 0,1 or 2	Any	The job flag sheet is printed on the selected roll, regardless which medium is on it. The error page is printed on the smallest fitting roll, regardless which medium is on it.
Roll 0,1 or 2	Paper, Transparency or Film...	The job flag sheet is printed on the selected roll, regardless which medium is on it. The error page is printed on the smallest fitting roll with the chosen medium.

In addition you have the possibility to set up the format of the job flag sheet. You can choose among ISO, ANSI, ARC formats and the plotter default. The plotter default depends on what format is inserted in the sheet cut tray.

- **Accounting:**

You must activate this setting if you wish to produce bills for the print jobs. Click on the check box, so that a tick appears. An "Account" folder is now produced automatically, in which an SDF file and a form file are saved.

Also stipulate which unit of measurement is to apply to the fields in the SDF file referring to the display of areas, such as the used or plotted area of paper. There is a choice between "millimetre" and "inch".

The paths and names of the SDF and form file are preset. The SDF and TXT files do not have to be saved in the account folder. You can also select other directories. Click on the button next to the respective field. You can then select a folder from the folder tree. The files are automatically produced following activation of the accounting function. They contain the following:

The form file [PB_ACCNT.TXT] can be read into any word processing program. The following details are saved for each individual job:

+++++
 Date: 05/11/2005 Time: 12:08:55

Job Number:
 Job Name:
 Priority:
 Original Filename:
 User Name:
 Customer:
 Account:
 Distribution:

Media: recycled paper
 Used Area:
 Plotted Area:

Media: plain paper
 Used Area:
 Plotted Area:

Media: film
 Used Area:
 Plotted Area:

Media: translucent
 Used Area:
 Plotted Area:

Operation Count
 Mirror:

+++++

1001;House21;C:\SPOOL\ss\House21.085955\House2.tif;;;joe;;;Normal;;ISO A4;;;0;0;0;623;71120;0;0;0;0;0;0;0;0;1;; 09:18:33;16/08/2001;House2.tif

Field	Explanation
Account	Account to which the job order is charged
CopyCount	Number of job copies printed
CostCenter	Cost center
Customer	Customer for whom the job order is intended
Date	Date of the print off
Distribution	Information, who is to receive the job
EntryName	Name of the entry in the character set
FilmPlottedArea	Film area used in cm^2 / inch^2 during the print including possible waste cm^2 / inch^2
FilmSize	Film format used for the print
FilmUsedArea	Printed film area in cm^2 / inch^2
FoldCount	Number of folds in the printed set of drawings
JobName	Name of the print job
JobNumber	Consecutive number of the print job
JobPlotter	Plotter, used for plotting

Field	Explanation
MirrorCount	Number of reflections in the printed set of drawings
Notes	Free comments on the job order
OriginalFileName	Original name of the entry file
PaperPlottedArea	Area of paper consumed in cm ² / inch ² during plotting including possible waste
PaperSize	Paper format used for plot
PaperUsedArea	Printed area of paper in cm ² / inch ²
Priority	Priority of the print job
RecycledPaperPlottedArea	Area of paper consumed in cm ² / inch ² during plotting including possible waste
RecycledPaperSize	Paper format used for plot
RecycledPaperUsedArea	Printed area of paper in cm ² / inch ²
RotateCount	Number of rotations in the printed set of drawings
StampCount	Number of stamp prints in the printed set of drawings
Time	Time printed
TransparentPlottedArea	Translucent area used in cm ² / inch ² when plotting including possible waste
TransparentSize	Translucent format used for plot
TransparentUsedArea	Printed translucent area in cm ² / inch ²
UsedTray	Used medium source
UserName	Name of the job producer
ZoomCount	Number of size changes in the printed set of drawings

"Engine Access Control" tab

With the function "User authentication" of the RW-480 plotter, you can check which user printed how much and also stipulate which users are allowed to print at all.

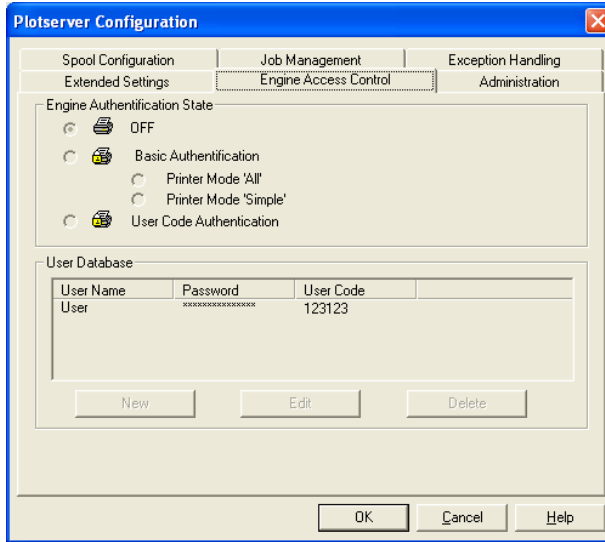
The following steps are necessary to use this function:

1. Activate the function "User authentication" at the RW-480 plotter.
2. Include all users intended for access control in the address book of the RW-480 plotter. To keep a better check on all used user names, it is advisable to enter the users with their network user names here. Please consult the corresponding manual for instructions on how to operate the plotter.
If you want to set up several users at once, note all users with the corresponding user codes and passwords for the next step in RW-480 PLOTBASE!
3. All users you have set up at the RW-480 plotter must also be set up in RW-480 PLOTBASE.
4. Restart RW-480 PLOTBASE and RW-480 SCANTOOL if you have set up users while the RW-480 system has been running, so that the two programs can synchronise with the plotter settings.



Note: The function "User authentication" is only active for as long as you have activated it at the RW-480 plotter! As soon as you deactivate the function at the plotter, the RW-480 programs run in normal mode again!

The "Engine Access Control" tab has the two sections "Engine Authentication State" and "User Database":



The upper section is only for your information and shows how the authentication is set up at the RW-480 plotter. The lower section contains the list of users that have been set up, which you can edit according to the settings at the plotter.

To delete a user that has already been set up, mark the user in the list and click once on "Delete".

To edit the password or user code for a user that has already been set up, mark the user in the list and click once on "Edit", to open the corresponding boxes for making the changes.

To set up a new user, click once on "New" and enter exactly the information details which you have noted from the procedure stated above for setting up the user at the RW-480 plotter!

No other pre-settings are necessary in RW-480 PLOTBASE. But in the job editor, it is necessary to enter a name in the "User name" box which is also allocated at the RW-480 plotter. A corresponding note can also be found in the necessary section of that manual.

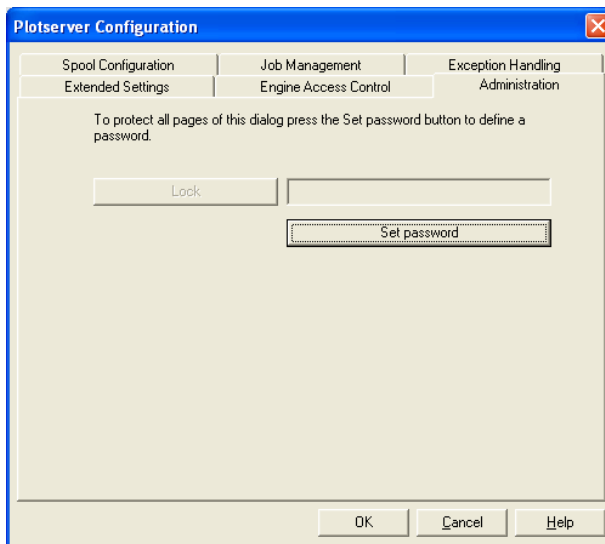
In RW-480 SCANTOOL, the users have to enter their password and user code immediately before scanning if the "User

authentication" is activated for the RW-480 plotter. You can find a corresponding note to this effect in the necessary section of that manual.

No pre-settings have to be made in the PLOTCLIENTS. Here it is only necessary to ensure that a name is entered in the "User name" box in the "Job specific" tab which is also allocated at the RW-480 plotter. A corresponding note can be found in the necessary section of the "RW-480 CLIENTS" manual.

"Administration" tab

You can protect the settings you have adjusted under "Properties" from unauthorized access. To do so, use the card "Administration":



Please find below instructions for setting up or changing a password, and how you can use the password to protect or release the settings in the "Properties" card.

- **Create new password:**

Please proceed as follows:

1. First of all, click on "Set up password".

2. Enter a password (at least 4 letters) in the following dialog.
3. Confirm this by entering it again in the line "Confirm new password".
4. Press "OK" to confirm. The system then tells you that the password has been changed. Press "OK" again to confirm.

- **Change password:**

Please proceed as follows:

1. Open the card "Administration" under "Properties".
2. Now click on "Set up password".
3. Enter both the old and the new password (at least 4 letters) in the following dialog and enter the new password once again in the bottom line.
4. Press "OK" to confirm. The system then tells you that the password has been changed. Press "OK" again to confirm.

- **Protect the "Properties" cards:**

1. Open the card "Administration" under "Properties".
2. Enter the password in the box of the "Administration" card and click on the button "Protect". The settings in the "Properties" dialogs are now protected by password.
3. You can see the protection function by the key which appears on the "Administration" card. In addition, all settings in the cards are deactivated.

- **Releasing the "Properties" cards:**

1. Open the card "Administration" under "Properties".
2. Enter the password in the box of the administration card and click on the button "Release". This releases the settings in the "Properties" dialogs so that they can be changed by any user. The protection symbol (key) on the "Administration" card is now crossed out.

Change language

When starting the program for the first time, your RW-480 software comes up in the language you selected on installation of the program.

But if you want to change the language of the program, you can do that quickly and easily in three steps in Windows without any further adjustments:

1. Open the language setting using the menu point "Configuration – Language".
2. Adjust the required language and press "OK" to confirm.
3. Start your RW-480 program again.

If you always want the program to appear in the language set as standard for your Windows operating system, under step 2 you should select the option "System" with the globe instead of a language.

Job History

All job planned for plotting or that have already been printed are automatically included in the job list:

Job Number	Job Name	Job Owner	Priority	Job State	Date	Plotted
1000	Welcome_		Normal	Ok	17.05.01 10:34:44	17.05.01 10:53:24
1001	auftrag1	mze	Normal	Ok	21.05.01 16:52:46	23.05.01 12:57:49
1002	TestPrint.tif		Normal	Pending	23.05.01 12:50:27	23.05.01 12:50:36

A print job contains at least one drawing including the corresponding detailed plotting information.

Special job types

Apart from normal jobs, there are also three special types:

- Locked prints
- Sample prints
- Manual (bypass tray)

These jobs are marked blue in the job list. Similarly you will see a blue signal in the signal lights. This color shows that the user has to do something before the job can be printed.

Locked Print

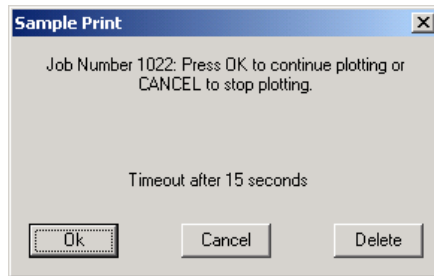
A locked print can be used if the drawings it contains are confidential. A security option is activated for the job in a client program. The user assigns a password for this job. Thus, only the user, who knows the password, can view and print this job in RW-480 PLOTBASE. As soon as the job has been printed it is automatically deleted.

Sample print

If a very extensive job with several sets of copies has been produced, it can be useful to print off a test print first, so that you can check the quality of the printouts.

After starting the print job each entry will be printed only once. Then the printing of this job will be stopped automatically so that you can check the sample prints for a while. In the same time a window will be opened where you can find several

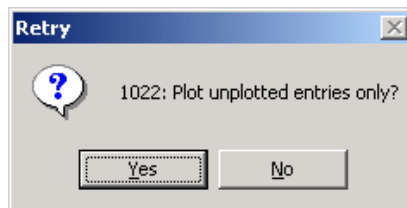
possibilities for the further action:




There are the following possibilities:

- **no action:**
If nobody acts the print job will be canceled and the following print jobs will be processed. You can restart the print job later (see below).
- **"OK"-Button clicked:**
You are satisfied with the quality of the sample prints so that the remaining entries can be printed.
- **"Cancel"-Button clicked:**
The print job will be canceled. It can be restarted later.

A canceled print job can be restarted manually (click "Plot" in the context menu of the job list). After that the following window will be opened:



If "Yes" is selected, the remaining entries will be printed. If you select "No" a sample print (each entry only once) will be printed again. In this case the window will be opened which has been described at the top. The possibilities of action have also been described.



Attention: If you want to restart the canceled print job you do not need to change and save the following print parameters: Sample Print, Collate, Output, Job Copies, Copies. Also you do not need to exchange, add or delete entries in the entry list. If you still change and save the the parameters the print job will be processed like a new one. If you select the settings "Locked Print" and "Sample Print" for your print job, not only is the password demanded before starting the first printing but also if you have canceled and restarted the print job once again.


- **"Delete"-Button clicked:**
The print job will be deleted.

Manual (bypass tray)

If the option "bypass tray" has been selected in the print job setting "medium source", you can place a medium in the plotter bypass tray by hand. For example, you can insert thick or colored paper which is not normally on the roll.

The procedure is as follows:

1. The print order appears marked in blue in the order list.
2. As soon as this print job has been processed by the program, the signal lights automatically activate a blue signal. This indicates that the user has to do something. This job has to be started by hand first of all (e.g. click on the "Print" button).
3. As soon as this print job has been started, the user is asked to insert a medium in the plotter bypass tray. Please ensure that the inserted medium measures at least 182 mm x 149 mm and is inserted upright. The printing process now starts automatically.



Caution: Start the print job first! Wait until the

program tells you to insert the medium in the bypass tray. The plotter will not print if you proceed the other way round.

An overview of the job characteristics

A job order has a total seven characteristics, which provide information about the job. In the normal state they are sorted by job numbers. In detail, the order characteristics provide the following information:

- **Job Number:**

This column contains the consecutive job number, which is automatically assigned by the program for each incoming job. The program starts with the number 1,000 with the first program run following installation and numbers through to 10,000,000. It then starts to count from 1,000 again.

This job characteristic cannot be altered.

- **Job Name:**

This is the name of the print job. It is assigned in RW-480 Clients.

- **Job Owner:**

This means the user, who e.g. has prepared the job in a Clients.

- **Priority:**

The priority is first entered by the user of the job in RW-480 Clients and shows which print jobs are to be printed in the job list with priority. The following levels of priority are available:

- Normal: If you do not classify jobs with a "high " priority, jobs with "normal" priority are processed quickly.
- High: This is a high priority level, which the user can assign in a client. It will be set for urgent jobs.
- Low: A job with this priority does not wait until all other jobs have been dealt with, but has three other priority levels before it, which are processed first.
- Wait: This is the lowest priority level. This priority shows that the print job literally "can wait". This job won't be

printed automatically. It has to be started manually in the job list. You can add this priority to a job, for example, if you want to change the print settings afterwards.

- Immediately: This is the highest priority level. This priority can only be set in RW-480 PLOTBASE and RW-480 SCANTOOL. The current print job will be interrupted until the job with priority "immediately" is done. You can use this priority, if you want to print out a scanned drawing immediately (copy function).

The following chapter describes how you can alter the priority.

- **Job status:**

This job characteristic can be used to obtain information about possible problems or plot errors during the job concerned. The different status conditions are listed below. Behind each status condition you can find an explanation and the color which is shown in the Job list:

OK (black)	The job has been printed.
Preparing data (dark green)	The job is prepared for printing.
Pending (blue)	The job is ready for printing.
Plotting (green)	The job is currently being printed.
Locked Print (light blue)	The job is protected by a password.
Manual (light blue)	The print job must be started manually. The job will be processed by the plotter not before you have put the medium into the bypass tray. Wait for the request to do so.
Sample Print (light blue)	A test print is to be made first.
Problem (red)	There is a problem; the job was not completed.
Cancel (red)	The job order has been canceled.

Further information on the status can be obtained by double clicking on the line of the job concerned with the mouse cursor. The program opens an info window, which contains

detailed information about the job status. This function is particularly useful if the "Problem" status is displayed. In the chapter "Error messages", page 137 you can get further information how to solve problems.

- **Date:**

The date refers to when the job concerned arrives in the plot folder, i.e. when RW-480 PLOTBASE receives knowledge of the job. If several jobs have the same priority, the job with the oldest date is printed first.



Note: A file format is used, which you have set in your operating system.

- **Plotted:**

This is the date and time of the printout.

Change job characteristics

Only the following job characteristics can be altered in the job list:

- **Priority**
- **Status**

Change the job characteristics priority and status as follows:

1. Mark the job line with the mouse cursor and open a context menu using the right-hand mouse button.



Note: You can also select several print jobs at once. The procedure is the same as for Windows 2000 Explorer. You can thus mark several print jobs and set all of them e.g. to the "Pending" status in one go.

2. Select the item you wish to change from the menu using the left-hand mouse button:

- **Priority:**

The user has possibly set one of the following priorities: normal, high, low, wait and immediately. If they have not assigned any priority, the job is assigned the priority "normal". In this program you can subsequently alter the priority.

Changing a priority is e.g. useful if you have to alter the job settings. To do this, set the job priority to "wait" and you can then alter the settings in your own time, without having to stop the whole plot process. Furthermore, you can also set jobs with an initially lower priority to a higher priority or to the priority "immediately", to effect a faster printout.

- **Status:**

Here you can assign the status "Pending" or "OK". If an error occurs during a job (status display "Problem"), you can first remove the error and then assign the "Pending" status again, to inform the program that the job can now be printed.



Note: If an error affects several print jobs, firstly you can remedy the error and then print all the jobs again with the command "Job – Restart "problem" Jobs."

The "OK" status can be assigned of you wish to see the job as completed and no longer want to print it off. You can then change the status to "Pending" to make a printout.

Sort list

The jobs are normally sorted by job number. However, you can also select another of the seven criteria given in the "Order by:" row. To do this, you only have to click on the option field next to a sort criteria.

Order by: ☒ Job Number ☐ Job Name ☐ Job Owner

Select Clear

If you have sorted the job list, RW-480 PLOTBASE draws

attention to the fact that the list is not shown according to the standard, i.e. according to consecutive job numbers, by the activated "Order by:" wording to the left of the criteria. If you do have the list displayed in standard mode, note the following Note:



Note: If the list is not displayed according to consecutive numbers, it can take a while to set up the list when new jobs arrive, because the jobs have to be inserted in the job list according to the correct sort criteria.

Activation of the individual sort criteria is shown as follows:

- **Job number:**
The list is displayed in its standard state. The smallest number is displayed first.
- **Job name:**
The jobs are shown in their alphabetical order starting with A.
- **User:**
The jobs are shown in the alphabetical order of the users' names, starting with A.
- **Priority:**
The jobs are displayed with those with the highest priority first. I.e. the job with the priority "Immediately" is in position No. 1.
- **Job status:**
When the jobs are sorted by status, they are displayed in the sequence "Problem, OK, Pending, etc.". I.e. the jobs, for which there were problems and for which the printout has thus not yet been completed are shown first.
- **Date:**
The job with the oldest date is in the first position. If jobs have the same date, the job with the earliest time is

displayed first.

- **Plotted:**

The plotted job with the oldest date is in the first position. If jobs have the same date, the job with the earliest time is displayed first.

Carry out selection

RW-480 PLOTBASE also allows you to only display specific jobs in the job list. All seven selection fields of the job list can be used to make a selection: "Job number" through to "Plotted".

Start selection

It is also possible to use several selection fields simultaneously for the query to make a selection.

Only two steps are necessary to make a selection:

1. Enter a value in at least one of the seven selection fields.
2. Click on the "Select" button.

The program immediately lists all jobs, which meet the selection criteria. The activated "Order by:" text is also displayed, which shows that the listed entries are for jobs in which the selection criteria has been limited, so that not all the available jobs are listed.

If several jobs meet the selection criteria, they are listed according to their consecutive number.

You can enter the following presets for making a selection:

- **Job number:**

When you make a selection here, you need certainly to enter the logic operator at the beginning: >, <, =, >= and <=.

You can thus enter any possible range of job numbers.

The characters are entered one after the other without a space, e.g.: >=1007. In the example, the print job with job

number 1007 and all other print jobs with a larger job number are to be shown.

- **Job name:**

Here you can either search for a complete job name or using the * (asterisk) operator. This operator can be used in place of a letter or a sequence of letters: E.g. you can search for all names, which begin with A by entering "A*" or search for a job name with an "o" in the middle by entering "**o*". The names are listed in alphabetic order.

- **User:**

When selecting according to users you proceed as for [job] name. You can also use the operator " * ", to replace a letter or a sequence of letters. The names are listed in a alphabetic order. If you have been used numbers, it is shown in a rising order.

- **Priority:**

To make a selection you enter the wording of the priority label: Normal, High, Low, Wait, Immediately. Using of operators is not possible.

- **Job status:**

To make a selection, enter the word for the status label. It is shown in the following order:

OK, Preparing data, Pending, Problem, Sample Print, Locked Print.

Jobs, which are ready for printing are shown in blue. Print jobs with the status "Sample Print" or "Locked Print" are shown in light blue. Jobs that have already been completed are black and jobs, in which problems occurred are displayed in red. Print jobs, which are currently being printed appear with a green bar.

- **Date:**

The following five operators can be used to specify the query: >, <, =, >= and <=.

The entry is made consecutive without spaces. Use the date format of your operating system.

- **Plotted:**

The instructions under "Date" apply here too.

Cancel selection

To cancel a selection and to view the complete job list, click once on the "Clear" button. The program now lists all the available jobs. The jobs are sorted according to their consecutive number as a standard, where you have not activated another sort criteria.

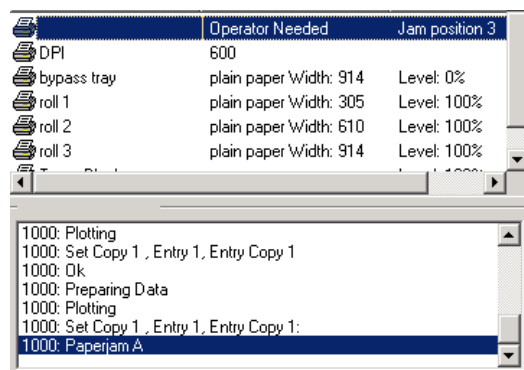
Job information

A comfortable way obtaining job information quickly is to use the job info window. You can open the info window in three ways:

- Open the window with a double click of the mouse on the job required.
- Mark the required job and select the menu item "Job - Job Info".
- Click on the required job with the right-hand mouse button and select the item "Job Info" from the menu.

Status display

The status display is a pure information window, in which you cannot make any entries and changes.



It contains information about the initialization of the plotter, the plotting sequence itself and any error situations that have occurred. The information for the current job is displayed with the consecutive job number, so that you can quickly allocate the status reports.

Job editor

You can use job editor to alter the settings for jobs and the entries contained within them. In addition, you can also add or delete entries.

The individual settings include for example format size, choice of printing medium, number of printed copies, etc.

To be able to edit the job settings in the job editor, you must first mark the relevant job in the job list. Only then does the job editor open and the applicable settings are displayed.

The altered settings for jobs or entries can be stored as follows:

- Click on the print job again in the job list. The program automatically asks whether you wish to save the previously made settings.
- Choose the command "Job - Save job" or click on the save button.

"Job" settings area

This section describes the general settings for all jobs, which can be adjusted on the two cards "Job Specific" and "Job Additional".

"Job Specific" tab

All the entries that the user has made in a RW-480 Client automatically appear in the "Job Specific" tab. You can alter these details:

The screenshot shows the 'Job Editor' window. On the left, under 'Job:', there are buttons for 'Job', 'Default', and 'Entry'. Below that, under 'Entries:', there is a list with one entry: '(01):Color Whee' which is checked. The main area is titled 'Data:' and has two tabs: 'Job Specific' and 'Job Additional'. The 'Job Specific' tab is active and contains the following fields and controls:

- Job Name:** A text field containing 'Welcome'.
- User Name:** A text field containing 'User'.
- Customer:** An empty text field.
- Account:** An empty text field.
- Notes:** An empty text area.
- Collate:** A checkbox labeled 'On' which is checked.
- Job Copies:** A numeric spinner set to '1'.
- Sample Print:** A checkbox labeled 'On' which is unchecked.
- Distribution:** An empty text field.
- Page Order:** A dropdown menu set to 'Auto'.
- Output:** A dropdown menu set to 'front'.
- Job Flag Sheet:** A checkbox labeled 'On' which is unchecked.
- Priority:** A dropdown menu set to 'Normal'.
- Plotter:** A dropdown menu set to 'auto'.
- e-mail:** An empty text field.
- Delete:** A checkbox labeled 'On' which is unchecked.

- **Job name:**

This is where the name of the plot job is displayed, which the user has selected. You can enter maximum 50 characters. Please do not use the following characters: " /n /r

- **User name:**

This field displays the name of the employee who has put the plot job together and sent it for printout. You can enter maximum 50 characters.



Note: Insofar as the function "User authentication" is activated at the RW-480 plotter, make sure that the user name here is identical with the user which has been set up there, otherwise the print job will not be carried out! To keep a better check on all used user names, it is advisable always to take the user names used in the network.

- **Customer:**

This is the name of the customer for whom the plot job is being carried out. You can enter maximum 50 characters.

- **Account:**

The account number of the customer is entered here. This can be an account number that is allocated in-house or an in-house invoice recipients. You can enter maximum 50 characters.

- **Notes:**

This field is free for you to make comments. You can enter maximum 50 characters. Please do not use the following characters: " /n /r

- **Distribution:**

In this field you can enter who is to receive a copy of the job. You can enter maximum 50 characters. Please do not use the following characters: " /n /r

- **Collate:**

Activate this field if the plot job is to be printed out sorted.

Sorted means that the entries of an order are printed out as follows when several copies are required:

E.g. you have the entries A, B and C. Three copies of each are to be produced. With activated sort ("On") the print outs are in the sequence A, B, C - A, B, C - A, B, C. If the printout is not sorted, the complete number of entries are printed out: A, A, A - B, B, B - C, C, C.

- **Page order:**

Here you can adjust the sequence in which the printed entries lie in the output stack. But the sequence of printouts in the output stack depend not only on the printing sequence but also on which output the plotter is using.

auto:

The print order depends on the selected tray. The order of the sheets in the resulting stack does not depend on the selected output tray. It is forward (1, 2, 3, 4, ...) in case of tray "upper" and in case of tray "lower".

standard:

The set entries are printed out in the order they are shown in the job editor (1, 2, 3 ...). The order of the sheets in the resulting stack depends on the selected output tray: If the "upper" tray is selected, the order of the sheets in the stack is the same as the print order: 1, 2, 3, 4 ... If the "lower" tray is selected, the order of the sheets in the stack is reversed: ... 4, 3, 2, 1.

reverse:

The set entries are printed out in reverse order (... 4, 3, 2, 1). The order of the sheets in the resulting stack depends on the selected output tray: If the "upper" tray is selected, the order of the sheets in the stack is the same as the print order: ... 4, 3, 2, 1. If the "lower" tray is selected, the order of the sheets in the stack is reversed again. The result is the original: 1, 2, 3, 4 ...

- **Priority:**

This shows what priority the job has been given by the user: Normal, High, Low, Waiting, Immediately.

- **Job Copies:**

Here you can enter the number of job copies.

- **Job flag sheet:**

The job flag sheet contains information about the print job and is printed together with the print job. Lots of information on the job flag sheet depend on the entries in the job editor. Click on the control box "On" to activate this function in the job editor.

You can also enter further information in the comments field below it, however with a maximum length of 50 characters. Please do not use the following characters: " /n /r.

- **Plotter:**

This setting cannot be altered. The RW-480 plotter is preset.

- **E-mail:**

Use of the e-mail function must be switched on in the default values. In addition you have to set some configurations - see also chapter "Settings for the Response function".

Here you can instruct the program to automatically send an e-mail or a message to the user on successful completion of the print job. To send an e-mail, enter the e-mail address of the user.

- **Sample Print:**

If a very extensive job with several sets of copies has been produced, it can be useful to print off a test print first, so that you can check the quality of the printouts. After starting the print job each entry will be printed only once. Then the printing of this job will be stopped automatically so that you can check the sample prints for a while.

You can find further information about the sample print on page 80.

- **Output:**

The list box contains two different options for the output of the plot at the plotter: upper and lower. It is presetted that the plot is issued at the top. When selecting an output also notice your "Page order" setting. It also influences the order of the print outs in the output. For further information see "Page order".

- **Delete:**

If you activate this option, the job is deleted after printed out.

"Job Additional" tab

Use the "Job Additional" card to adjust the settings for "Combine" and "Document Server":

"Combine" refers to grouping together drawings for joint printout on one single sheet. In this way, you can have up to 16 drawings printed out on one single sheet.

The "Document Server" is a memory unit in the plotter where RW-480 PLOTBASE can send one or several documents for later printout. The documents are saved in the document server memory until they are printed out directly at the plotter, or the job is deleted in the document server. The documents saved in the document server cannot be sent to printing by RW-480 PLOTBASE!

Combine

- **Quantity:**

Adjust how many pages you want to print on the sheet. There is a choice of 2, 4, 8 or 16 pages.

- **Paper Size:**

Enter the size of the sheet of paper where the individual pages are to be printed together.



Note: Custom paper sizes are not supported for the feature "Combine"!

- **Media type:**

Use this selection menu to choose the media type for printing the summarized pages: any, paper, transparency, film and environment paper. The choice depends on what you have put on the rolls of your plotter.

- **Media Source:**

Select one of the shafts with the rolls for the different print materials (paper, film, etc.). The rolls can differ in width.

If you choose the "auto" setting, the plotter chooses the medium supply corresponding to the format size of the drawing. If this medium has been used up, the plotter chooses the roll with the next larger format.

You can use the manual feed option to insert a special medium in the plotter. The print job is marked blue in the job list.

- **Direction:**

Finally, indicate the order for printing the individual pages on the sheet. The "Z" direction prints the pages line by line arranged from left to right until the line is full, before beginning with the next line. The "И" direction arranges the pages in columns from top to bottom until the column is full, before beginning with the next column.

Document Server

If the corresponding job is not to be printed directly but sent to the plotter's document server, activate the function with "on". Your job can contain several drawings and depends on how much memory is available in your plotter's document server. Consult your plotter manual for details if necessary. Adjust the following settings:

- **File Name:**

Give an unequivocal file name to the job being sent to the document server.

- **User Name:**

Also give the job a user name. This additional information is particularly useful if several users send jobs to the document server.

- **Password:**

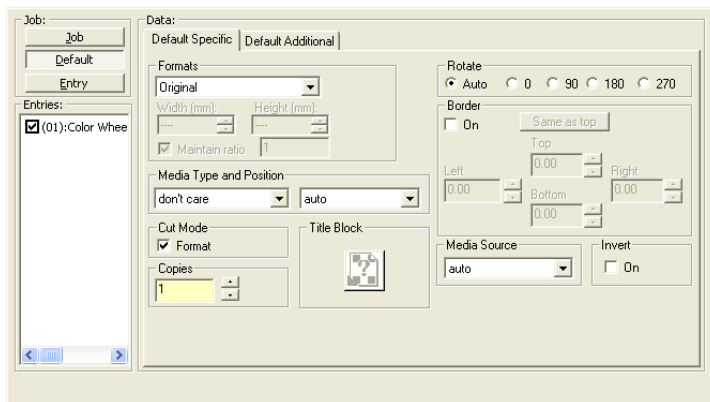
If you only want your job to be printed on the plotter by you, you can protect it with a password. To do so, click on the "Change" button and enter your password twice. As soon as the plotter selects the print command for the corresponding job, the plotter will demand the password stated here.

"Default" settings area

The following chapters explain which default settings you can enter in the Job Editor. The changed settings in the "Default" settings area always only affect new entries made in a print job. The previous settings apply for older entries.

"Default Specific" tab

On the "Default Specific" tab you can enter the basic setting for all new entries to be added for a job.



Note: The changed settings on the card "Default" always only affect new entries made in a print job.

- **Formats:**

Use this section of the tab to select the drawing format, for the drawing print. Apart from "Original", "Window" and "Percent", you will also find the drawing formats that are the usual standards used: ISO A, ANSI A-E and ARC A-E.

Note: If you use the bypass tray to place paper or adding another medium to the plotter by hand, you

can use all formats, also ISO B, C. However you have to place the drawing in the "2portrait" position.

Original: In the "Original" format setting the program obtains the format size from the original drawing file. This is the preset.

If you use the "Window" format setting, you can freely adjust the format width and height values, whereby the format size is given by the window value. The freely adjustable settings apply both to the orientation as well as the format size and the format border:

X-Scaling Format width

Y-Scaling Format height

Percent: If you want to scale the drawing set the format to "Percent". In this case, the "Scale" input fields are activated and you can enter any values between 1.0 and 999.0.

If you choose one of the standard ISO, ANSI or ARC formats, you can accept the dimensions or change them as you require:

Format: First set the required format. You can now alter the format width ("X-scaling") and the format height ("Y-scaling") values as you wish. If the entered values are not corresponding with the standard formats, the menu entry will change to "window".

The value x in the "Maintain ratio" window represents the side proportions "width = $x \cdot$ height ". If you activate the "Maintain ratio" option, you can only alter the values above it for the width, i.e. the X-scaling. The Y-scaling, or height is then adjusted automatically, i.e. the drawing is scaled proportionally. This can be useful e.g. if you know that the printout of a drawing is too large for the paper size available. In this case, activate the "Maintain ratio" option and reduce the value x slightly, to obtain a proportionally correct printout. The "Maintain ratio" option is already activated as a standard setting.

- **Scaling:**

The X-Scaling input fields only become active, if you have selected "Percent" as the format. You can print out the

drawing in a free format of 1.0 % to 999.0 % of the original. The input field for Y-scaling is automatically filled with the value of the X-scaling, if you have activated the "Maintain ratio" option. If you then want to enter the Y-scaling value independently, you must deactivate the "Maintain ratio" option. In this case, you must consider that the drawing will appear distorted.

- **Media type and position**

Use this menu to select which type of media the drawing is to be printed on: Don't care, Plain Paper, Translucent, Film or Recycled Paper. The selection depends on what roll of medium you have fed in the plotter. You can use "position" to adjust the symbolic position on the paper if the picture is to be printed on a paper format which is much larger than the drawing size. E.g. if you have a ISO A4 drawing, which is printed in original size on ISO A1, you can fix here where the drawing is to be positioned on the larger sheet.

- **Cut mode:**

If you have **not** activate this option, the plotter trims the drawing immediately after the last data has been printed. This results in optimum paper or medium use, because it produces the smallest amount of waste.

If you want the printout to always be trimmed to a standard format, no matter how much space remains unprinted, activate "Format". The plotter then always trims to the next larger format. This can be a disadvantage if e.g. a drawing is only around 0.5 cm larger than a ISO A5 page is printed on a ISO A4 page and thus almost 50 % of the sheet remains unused.

- **Copies:**

You can enter any number of copies between 1 and 999 to be printed by the job .

- **Rotate:**

Here you can say whether the drawing is to be rotated or not during plotting. Rotations of 0°, 90°, 180° and 270° are possible. When set to "Auto", RW-480 PLOTBASE rotates automatically if this results in less waste paper.

- **Border:**

If you want a white border around the drawing, activate the field "On" and enter the required spacing for all side borders. The maximum border is 499, 99 mm (19,68 inch, 11811 Pixel). The current dimensional units are given in the status bar at the bottom of the monitor.

- **Media Source:**

Here you can select the trays in which the rolls with the different Printing materials (plain paper, film, etc.) are located. They can also have varying widths.

If you select the "Auto" setting, the plotter chooses the media source, which matches the format size of the drawing. Should this input tray be empty, the plotter uses the tray (roll) with the next largest format. The option "bypass tray" can be used for putting in a special medium like thick or colored paper. The job will be marked blue in the job list.

The remaining procedure is described on page 82.

If you want to cancel this job in the meantime, select the job in the job list and hit with right mousebutton (context menu) the command "cancel job".

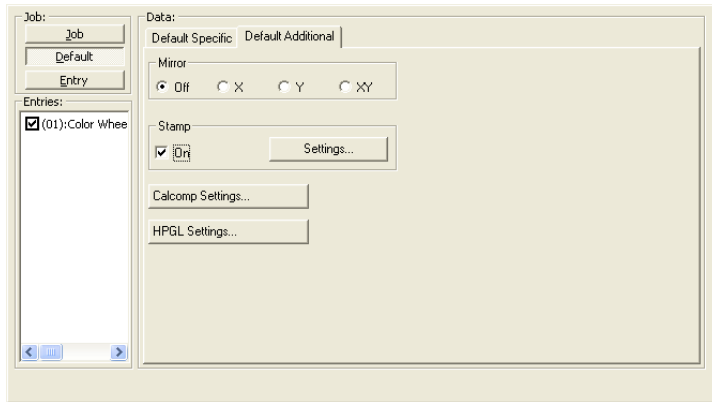
- **Invert:**

If you activate this option, the drawing is inverted, black and white colors are swapped.

"Default Additional" tab

Use the card "Default Additional" to enter details for stamping and for HPGL and Calcomp pens.

The stamp editor and the pen settings (Calcomp, HPGL) are each explained in their own chapter. Please read the separate "Stamp editor" section at the end of this Chapter from Page 109 ff. and the separate chapter on "Pen settings " from Page 116 ff.



- **Mirror:**

In this area you can set whether the drawing is to be mirrored or not during plotting. The individual fields mean the following:

OFF: The drawing is not mirrored during plotting.

X: The drawing is mirrored horizontally.

Y: The drawing is mirrored vertically.

XY: The drawing is mirrored about both axes simultaneously; equates to a 180° rotation.

You usually use these settings if the drawing has been scanned and saved with a mirror inversion. This is especially important if a translucent medium has been scanned with mirror inversion to increase the contrast.

"Entry" settings area

You can read here, which adjustments can be made for an individual entry.

To begin altering the settings of an entry you must mark it in the left-hand entry list. The "Specific" and "Additional" tabs are then opened and can be edited. If you want to change back to the job settings or defaults, click once on the "Job" or "Defaults"

button above the entry list.

The settings are on the two cards "Specific" and "Additional". They are essentially identical with the cards described above for the "Default" section. If you want to make entries in the "Specific" tab, read the information given for the "Default Specifics " tab from Page 99.

If you want to alter the settings on the "Additional" tab, read the details for the "Default Additional" given on Page 102 ff.

As already mentioned, the settings for the sections "Default" and "Entry" are essentially identical. But the "Entry" section does not offer all pen settings. You can open a tab for the pen settings on the "Additional" tab. To do this, click on the "Pen settings" button. The button is only active if the entry is an HPGL or Calcomp file. When an entry or drawing is marked, the program automatically recognizes the format and opens either the Calcomp or the HPGL settings automatically when the button is clicked. Please read the separate Sections on the pen settings for Calcomp pens from Page 125 and the HPGL pens from Page 117.

Entry information

Before you can begin with a possible change to the settings, you can view a summary of all the currently loaded settings. Proceed as follows:

1. Mark the job whose entries you want to look at in the job list above the job.
2. Mark the required drawing in the entry list to the left of the required drawing.
3. Click on the white "i" for information display in the "View" toolbar:



For most file formats you can only see the "Drawing" tab. The "Drawing" card contains information about the drawing format,

size and number of colors.

The tabs "General" and "Pens" appear only, if you open a HPGL- or a Calcomp drawing file. The "General" card contains information about general pen settings (pen source, pen scaling, filling samples) which you can change in the job editor. Please read the separate Sections on the pen settings for Calcomp pens from Page 125 and the HPGL pens from Page 117.

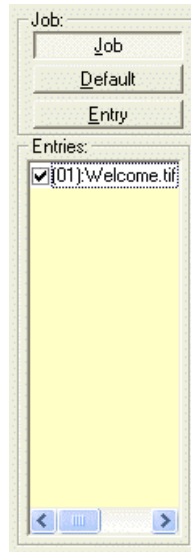
The tab "Pens" informs you of the pen settings. There can also be two symbols which inform you of the setting status: The red exclamation marks point out that the pen is used with several pen sizes and only the last set pen size can be shown. The green check shows, that a pen is used for the current drawing.

Activate / deactivate entries

By default all entries in a job will be printed. Therefore you find a marked checkbox in front of every entry. If you want to select specific entries for printing just select them there.

Add entries

A job usually already contains all the setting entries to be printed off. However, you may wish to enter another setting value, because changes were made at the last minute or the entry was simply forgotten. You can add this entry to the list of entries, which you can see in the job editor on the left-hand side page:



Newly inserted entries can have the following file formats, which are identified by RW-480 PLOTBASE from the file extension:

- Calcomp (*.906, *.907)
- CALS [to MIL-STD-1840B] (*.cal)
- CALS [to MIL-STD-28002A] (*.cal)
- Intergraph (*.cit; *.tg4)
- HP-GL [/2, RTL] (*.plt; *.rtl)
- PCX (*.pcx)
- RLC (*.rlc)
- T6X (*.t6x)
- TIFF (*.tif)
[Group 3,4; uncompressed; Packbits; striped & tiled]
- Windows / OS2 Bitmaps (*.bmp)
- Windows Meta File (*.wmf)

The following are also available as an optional:

- CGM (*.cgm)
- PDF, RW-480PS (*.pdf, *.ps)

You can only use the following formats if you have installed a full version from AutoCAD series 2000 to 2006 on the server:

- DWF.....(*.dwf)
- DWG(*.dwg)
- DXF.....(*.dxf)



Note: RW-480 PLOTBASE cannot print DWG and DXF files, that contain several single files.

Apart from the standard options using the "Job editor" menu, you have three other possible ways of adding a new entry. You can either use the button, the context menu using the right-hand mouse button or you can move the drawing into the entry list using "Drag & Drop":

Adding using button

To add an entry with the help of the button, proceed as follows:

1. Mark an entry in the entry list, before or after the new entry is to be entered.
2. Click on the relevant button on the Entry toolbar. If the new entry is to be inserted after the marked entry, click on:



If the new entry is to be inserted in front of the marked entry, click on:



The program opens a file selection window.

3. Select the required file, which has one of the above file formats and confirm with "OK". You can now mark several files to insert lots of drawings in one go, as in Windows Explorer.

Add using the right-hand mouse button

To add an entry using the right-hand mouse button, proceed as follows:

1. Mark an entry in the entry list before or after which the new entry is to be inserted.
If you do mark an entry, new entries are always inserted at the end of the list.
2. Keep the mouse cursor on the entry list and click the right-hand mouse button. The following commands are offered: Delete, Insert, Add.
3. If the new entry is to be inserted in front of the marked entry, select "Insert". If the new entry is to be inserted after it, choose "Add".
The program opens a file selection window.
4. Select the required file, which has one of the above file formats and confirm with "OK". As in Windows Explorer, you can now mark several files to insert lots of drawings in one go.

Add using Drag & Drop

To add an entry using Drag & Drop, proceed as follows:

1. Open Windows Explorer and arrange the two windows of RW-480 PLOTBASE and Explorer so that they are positioned next to each other or on top of each other.
2. Mark an entry from the RW-480 PLOTBASE to be inserted after the new entry.
If you want to insert a new entry in front of an existing entry, mark the entry in the entry list before the existing entry.
If you do not mark any entry, new entries will always be inserted at the end of the list.
3. Change to the folder in Explorer that contains the file entry that you want to add as the new entry.
4. Click on the required file with the left-hand mouse button and while holding the mouse button pressed down, drag

the file to the RW-480 PLOTBASE entry list. You can also add several drawings by holding down the Ctrl key, click on all the required files and drag them to the entry list.

In this case, by adding a new entry for the job, the basic settings that you prepared for the job concerned on the "Default Specific" tab are correct, c.f. page 92. If you want to alter these basic settings, mark the new entry, after you have added it, and make the settings on the tab "Specific".

Add entries several times

Sometimes, a customer job order is such that an entry has to be printed several times with different settings: e.g. if an entry is to be plotted once with A0 format on paper and the second time with A1 format on a translucent medium. To do this, you can also add an entry several times.

Delete entries

If you want to delete an entry from the list, use one of the three following possible methods:

- Mark the entry in the entry list that you want to delete and select the menu item "Job Editor – Delete Entry".
- Mark the entry to be deleted and click on the following button once:



- Mark the entry to be deleted, click on the right-hand mouse button and choose "Delete" using the left-hand mouse button.

File Viewer

You can load a drawing in preview window, which is located on the right-hand side next to the job editor, by selecting it in the job editor using the mouse. To do this you must activate the "File Viewer" option in the "View" menu. You can still change the view

by using the tools in the "View" toolbar. These have already been explained on Page 43.

Stamp editor

You can define as many stamps as you like per drawing. The stamp settings can be altered on two levels. To configure a stamp for an individual entry, select the "Additional" tab under "Entry". Now click on the "Settings" button under "Stamp". The same button can be found in the "Defaults" area on the "Default Additional" tab. The settings in the "Defaults" area are basic settings, in which the following must always be noted:



Note: The changed settings on the card "Default" always only affect new entries. Entries already included in a job retain their settings.

In stamp editor you have two tabs in which you can alter settings. These are the "Settings" and "Data" tabs.

Make stamp

This chapter describes how you can name and save new stamps.

Proceed as follows to configure a new stamp:

1. The first stamp entry is preliminarily named "000". Click on the following symbol to edit the stamp name:



2. You can now delete the existing name entry and enter your own name for the first stamp.
3. You can now either enter your own settings for the stamps, as described in the following chapters or use an existing stamp configuration. To do the latter, click on the "Open" button under "Configurations". Now select a configuration

that you have saved previously (read the following chapter "Stamp Configurations") from the file selection. Now save this configuration by clicking on the button with the same name; i.e. "Save". This configuration is now saved under the marked stamp name in the "Select Stamp" window.

4. You can produce as many stamps as you wish for a drawing. If you now also want to configure an additional new stamp, click on the following button:



5. Enter a name and set the desired configurations, as already described under Step 3.

Stamp Configurations

The stamp settings are usually saved for specific entries. This means that these settings only apply for one entry or a limited number of entries. However, you can also save a stamp configuration in its own "Stamp File". It can then be used at any time for producing a new stamp, which you would like to use for other entries.

The stamp files have the file extension [*.stp] and it is advisable that this extension is always retained.

Should you want to start the configuration, you must use the "Open" button. The "Open", "Save [as]" or overwrite old stamp files steps are the same as those used in general file management.

Edit or delete stamp

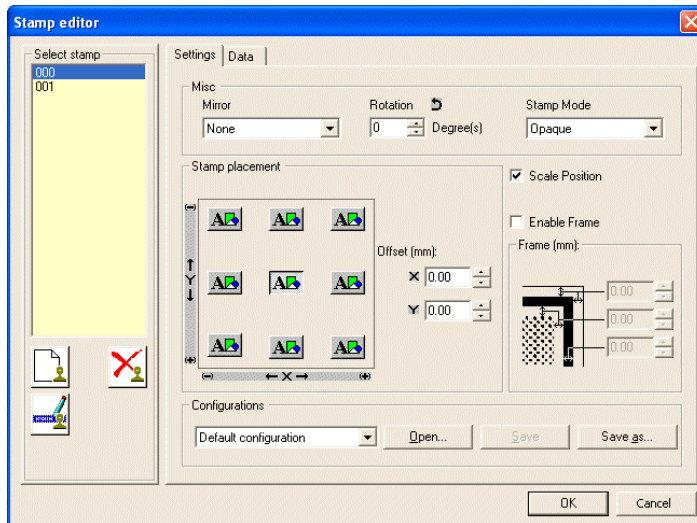
If you want to make changes to the stamp configurations produced, first click on the correct stamp in the "Select stamp" window and then change the settings. If you now change to another stamp or close the window by clicking on "OK", all the settings are saved.

To delete a stamp, first mark it and then delete it by clicking on the following button:



"Settings" tab

General details, e.g. on mirroring, rotation, stamp type and stamp position are made in the "settings" tab:



- **Mirror:**

The standard orientation of the text is always the reader direction. You can mirror the text here in four ways:

- None: The text is not mirrored and is in the reader direction.
- X-mirror: The text is mirrored horizontally.
- Y-mirror: The text is mirrored vertically.
- XY-mirror: The text is mirrored about both axes simultaneously, which equates to a rotation of 180°.

- **Rotation:**

The standard orientation of the text is always the reader direction. Here you can alter the text rotation of in 1° steps.

- **Stamp mode:**

The standard setting for the type of stamp is always

"Opaque". There are three possible settings:

- Opaque: The stamp overwrites the area of the drawing beneath it.
- Transparent: In the "Transparent" setting the inserted stamp lies "beneath" the existing drawing, which means that parts of the stamp can be overwritten.
- Inverting: In the overlap between stamp and drawing displays, the colors are inverted. For example, black stamp text is then shown in white.

- **Stamp placement:**

This is where you fix the actual position of the stamp on the drawing. The frame equates to the drawing, so that you can choose from the entries for the nine positions from "top", "centered" to "bottom".

In addition, you can shift this fixed position in the field to the right of it by a valid size unit. You've got to be aware that you don't place the stamp outside the drawing because in that case it won't be printed or it will be printed only partially. You set the currently valid size units for RW-480 PLOTBASE in the configuration program and it is displayed at the bottom of the screen in the status bar.

- **Scale position:**

With the "Scale position" you determine whether the stamp always retains its position relative to the edge of the drawing when the size is changed or whether the distance to the edge of the drawing is to be enlarged or reduced.

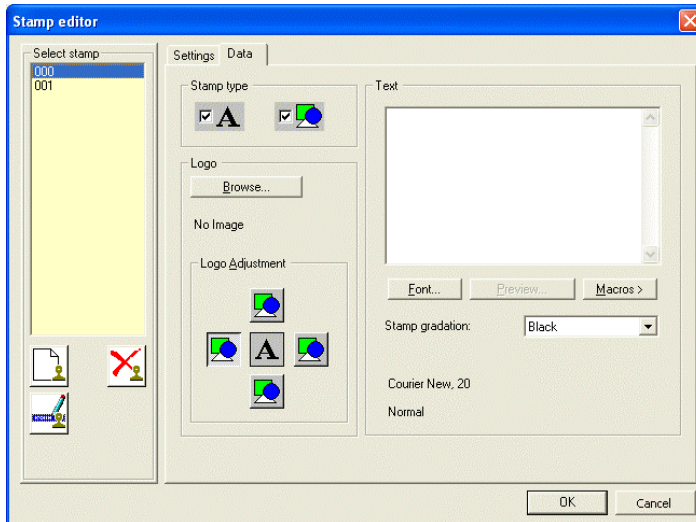
- **Enable Frame:**

Activate the "Enable frame" field if you want a stamp frame to be printed. Three default settings can be set for the stamp frame. Here too, the settings refer to the currently valid size unit, which you can see in the status bar:

- Upper setting – stamp border: With the upper of the three settings you set the distance of the stamp to the edge of the drawing.
- Middle setting – Stamp content: The middle setting gives the distance of the stamp content to the stamp frame.
- Lower setting: The lower setting is used to fix the thickness of the stamp frame.

"Data" tab

On the card "Data", the order compiler stipulates the stamp content. On this card you can enter the text and the text attributes, and select a logo.



- Stamp type:**
 Before you can begin to enter the settings or change the other fields, you must first select the stamp type: "A" activates the box "Text". Use the colored symbol to enter the program in which a logo is to be inserted.
- Text:**
 In this text field you can enter the text to be "Printed" with your stamp. In the text field you can edit in the same way as in common word processing programs.
- Font:**
 The font "Lucida Sans Unicode" is used as default font. The "Font" button opens the usual Windows dialogue for the font attributes. You cannot change the color: "black" is preset.
- Preview:**
 Use the "Preview" button if you want to view the stamp again

before the final print. In this window you can move the directional arrows to move from side to side and enlarge or reduce the view using "+" and "-". The left-hand mouse button can be used to enlarge a selected area.

However, the preview only applies to the stamp itself and the arrangement of its logo and its text. The preview does not show you the stamp's position on your drawing, which you set on the "settings" tab!

- **Macros:**

You can use a macro to enter a text field, which is not filled out until printed. In the preview you can only see the field function. The following macros are available:

- **Date:** With this macro, RW-480 PLOTBASE inserts the date of the plot. In the preview you can just see the current date because the plot date isn't known.
- **File title:** This macro gives the file name of the drawing how it is saved in the SSL directory of the server PC (e.g. house003.tif).
- **Count:** This macro is suitable if you have lots of drawings or entries with the same stamp text and you want to differentiate between them by numbering them.
- **Time:** This macro inserts the time the drawing was stamped.
- **Server name:** This macro inserts the server PC name, where RW-480 PLOTBASE is installed.
- **Account:** This macro inserts the text of the job editor field "Account" in the stamp.
- **Creation appl:** This macro gives the name of the application which is used for creating a job (e.g. RW-480 PLOTCLIENT WIN).
- **Customer:** This macro inserts the text of the job editor field "Customer" in the stamp.
- **Distribution:** This macro inserts the text of the job editor field "Distribution" in the stamp.
- **Job name:** This macro inserts the text of the job editor field "Job name" in the stamp.
- **Notes:** This macro inserts the text of the job editor field "Notes" in the stamp.
- **User name:** This macro inserts the text of the job editor

field "User name" in the stamp.

- **Stamp gradation:**

This option is only available, if you select stamp type "opaque" or "transparent". There are four different intensities: Black, dark gray, gray and light gray. Default is "black".

- **Logo:**

Select a graphic using the "Browse" button, which is to appear in the stamp as a logo. For example, the firm logo. The file formats that can be used are: BMP, Calcomp, CALS, CGM (optional), CIT, EPI (optional), EPS (optional), HPGL, HPGL/2, HPGL-RTL (s/w), PCX, PDF (optional), PS (optional), RLC, TG4, T6X, TIFF G4 and WMF. You can select from four possible positions for the logo relative to the text: above, below, right or left of the text. Select a position by clicking on it.

Pen settings

You can change the pen settings on two levels. On the one hand in the "Default" area on the "Defaults Additional" tab and on the other in the "Entry" area on the "Additional" tab. The settings in the "Defaults" area are basic settings, for which the following must always be noted:



Note: The changed settings on the "Default" card always only affect new entries for the current print job. Existing entries already in the job retain their settings.

You can only change pen settings if the entry has either a HPGL/2 or Calcomp file format.

In the "Defaults" settings you must use the separate "Calcomp settings" and "HPGL settings" buttons, because a job can contain several drawings with different formats.

If you alter the settings for an entry, RW-480 PLOTBASE immediately identifies the format and automatically opens the

respective HPGL or CalComp tabs via the "pen settings..." button.

View the changes

RW-480 PLOTBASE has an additional function, which allows you to look at the changes to the pen widths and some of the pen colors before printing in the File Viewer, if changes have been made to a certain entry. To do this, proceed as follows:

1. Activate the view using the "View - File Viewer" menu item.
2. Mark an entry in the entry list.
3. In the job editor change to the "Additional" tab and open the "Pen Settings".
4. Make your changes.
5. Now change to the "Misc" tab and activate the pen source as "Custom".
6. Quit the pen settings.
7. Select the entry which has just been changed. The changes can be seen in the file view. Remember that you may have to change the view, for example if you want to recognize a slight change in the pen thickness.



Note: It is possible that if you change colors you will not see any large changes in the File Viewer, for example when you only change from 50% grey to 60% grey. Clear changes are e.g. visible if you set the color of all pens to "white", but then you don't have to print the drawing either!

HPGL and HPGL/2 pen settings

You can stipulate numerous pen attributes in the cards which are saved in an HPGL configuration file (*.hcf).

To create a new configuration file, adjust the settings in the cards and press "OK" to save them. You can save certain special

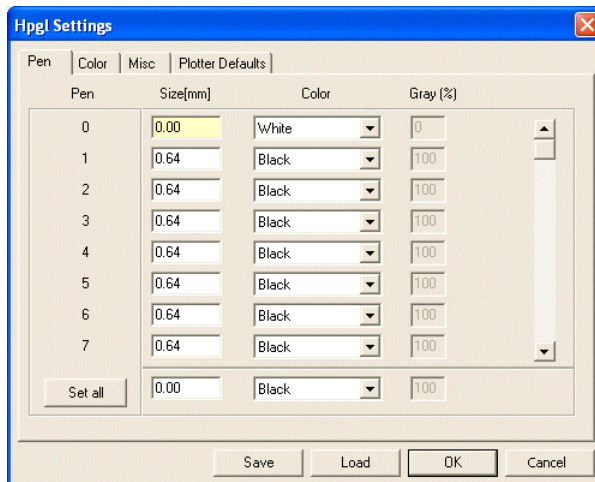
settings under a unique name so that you can use them again later:

1. Click on the button "Save".
2. Choose the directory and a file name. The file suffix is ".hcf".
3. Press "OK" to confirm. The dialog window closes.

Press "Load" to open one of the saved configuration files again for use as default for new configurations.

HPGL and HPGL/2 - Pens

The pen attributes are set in the "Pen" tab:



- **Pen size:**

Enter the pen widths directly in the first column under "size" using the keyboard. The maximum values that you can enter depend on the size unit, which you set in the configuration program. The current valid size unit is given in the status bar at the lower edge of the screen.

If you want to "switch off" a pen, you can enter the pen widths as "0" or set the pen color as "white".

- **Pen color:**

Select the pen color in the second column under "color". Click on the arrow to the right of the color setting and drag the mouse to the desired color. If you want to "switch off" a pen, you can enter the pen color as "white" or the pen widths as "0".

The individual pen colors here only represent a grey scale value: e.g. "yellow" can be represented by 0 % grey, "red" with 50 % grey and blue with 80 % grey, etc. Several pens may also have the same color and thus the same grey scale. This has the advantage that you can simultaneously change the grey scale value for several pens, if you have assigned a different grey scale to a color in the "Colors" tab. You can set which grey scale a color represents on the "Colors" tab.

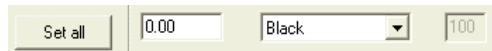
- **Grey scale:**

The grey value can only be changed if you have chosen "grey" as the color. The changes are also made directly using the keyboard.

If the plotter is definitely to use the pen attributes from the entry's SSL file, you must activate the "file" field on the "Misc" tab as the pen and/or color source.

- **Set all:**

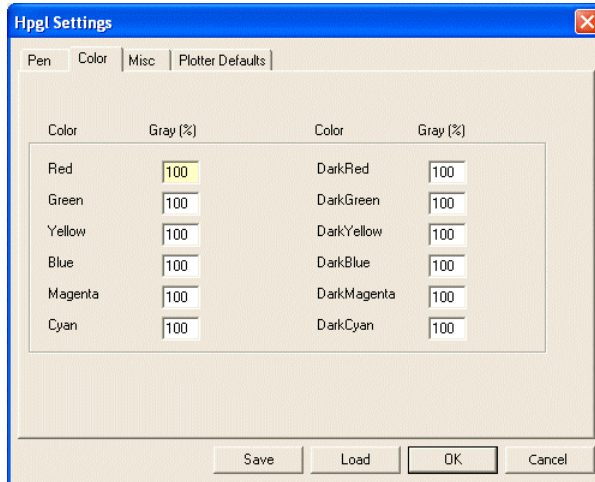
With "Set all" the program offers you a comfortable way of simultaneously setting the pen attributes for the pens 1 to 255. Pen 0 must always be set manually. First set the pen widths, the pen color and the grey scale and then click on "Set all" once:



The image shows a horizontal control panel with a light beige background. On the left is a button labeled "Set all". To its right are three input fields: a text box containing "0.00", a dropdown menu currently showing "Black" with a small downward arrow, and a text box containing "100".

HPGL and HPGL/2 - Colors

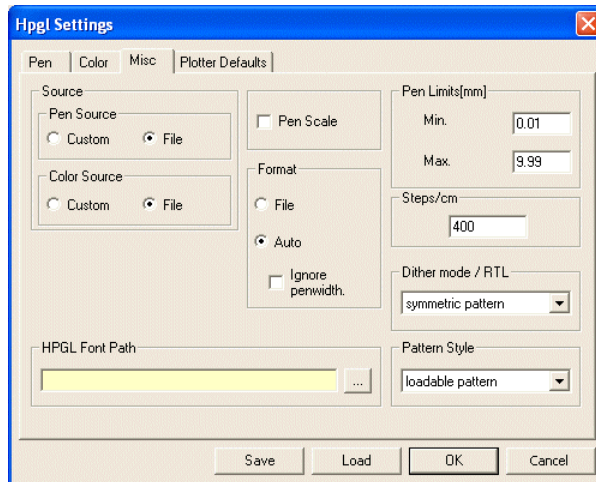
To assign the required grey scale to each of the individual colors, open the "Color" tab:



In this window you can change the grey scale, which has been assigned to each color. Alternatively you can adjust all pens to "grey" on the card "Pens" and there you can set the individual grey values for each pen.

You can change the percentage value directly using the keyboard. Click on "OK" to quit the window and your settings are saved. If you do not want to save your changes, quit the window with "Cancel".

HPGL and HPGL/2 - Misc



- **Pen Source/ Color Source:**

The following description applies to both pen source and color source.

If you activate "File", the details for pen thickness or pen color are taken from the plot file being printed. If no settings have been adjusted here, the plotter reverts to the standard defaults on the card "Plotter settings".

If you activate "Custom", the printout uses your settings from the first two cards "Pen" and "Color".

- **Pen Scale:**

Activate the check box, if the pen widths are to be scaled with the drawing. To avoid possible loss of information during the printout, you must ensure that you have entered at least one minimum pen width in "Pen Settings" if the drawing is to be reduced in size and at least one maximum pen width if the drawing is to be enlarged.

- **Clipping:**

The trim command removes the white edges on the border of the drawing. Most plotter languages differ from each other in many ways to a greater or lesser extent – including with respect to the section, which, put simply, refers to the

paper size.

This fact means that unwished for printing results are obtained, if a drawing is only printed in sections or in the most unfavorable case a white sheet of paper comes out of the plotter.

The "Trim" function" is considered in the context of the widely used reference plotter "HP DesignJet 1055 / HP 1055 CM ": If you activate the check box, the drawing is printed in exactly the same way as it was printed on the "HP DesignJet" plotter. However, unwished for printing results can result, if the plotter language of your plotter differs greatly from that of the "HP DesignJet".

If you deactivate the function, RW-480 PLOTBASE looks for the drawing dimensions itself and thus guarantees that the whole drawing is plotted.

- **Ignore pen widths:**

You can only activate this option if you have not activated the "Trim" option.

Activate the option, e.g. in case of a drawing that is exactly ISO A4 size to guarantee that it is printed on an A4 sheet and not on a printout with the next format because the pen widths are too large and the A4 format is slightly exceeded, causing unnecessary wastage.

In all cases where a drawing has exactly the same size as a standard formats, you can ensure that this drawing is printed off on this format and thus avoid unnecessary waste paper.

- **Pen Limits:**

- **Min:**

Using the keyboard, enter the minimum pen widths. The entry here affects all HPGL pens.

As there are plotters in which even at the finest resolution the individual pixels are not reliably reproduced, a minimum pen size is indispensable in these cases.

The pen thickness must be sufficient for reliable reproduction of individual pixels even in the finest resolution.

Should one of your settings not cover the plotter circumstances and no longer guarantee the printout of a drawing object, RW-480 PLOTBASE automatically adjusts the pen widths.

– **Max:**

Using the keyboard, enter the maximum pen widths. The entry affects all HPGL pens.

Analog to the problem with the minimum pen widths, you can set the maximum thickness that the pen draws, e.g. to prevent the drawn objects from overlapping when printed. Setting the maximum pen widths on the other hand is less seldom necessary.

Should one of your settings not cover the plotter circumstances and no longer guarantee the printout of a drawing object, RW-480 PLOTBASE automatically adjusts the pen widths.

- **Steps:**

Some time ago, most plotters had stepper motors, which ran at a varying number of steps per centimeter. In the meantime, the standard is 400 steps per centimeter. The RW-480 PLOTBASE therefore enters 400 as a default value, which does not normally have to be altered. Nevertheless, it is sometimes advisable to ask the customer what step number per centimeter they are used to working with to guarantee plot consistency. Furthermore, it can be necessary to make a change to reduce the DPI, to release more system memory for large drawings:



Attention: If you enter a larger value, you will obtain a smaller drawing: The entry 1 equates to 0.25 %. Example: if you enter 401, the drawing is reduced to 99.75 %.

- **HPGL Font path:**

This entry informs you in which folder the fonts are to be used when printing HPGL files. The path is preselected.

- **Dither mode / RTL:**

Grey value patterns for HP .rtl files can be selected here. You can choose between the grey value patterns "symmetric pattern" or "diffusion pattern". Test them and see which pattern best suits your graphic. To do this, you have to

reload the drawing in the File Viewer after each change.

- **Patternstyle:**

You have a choice of four filling patterns to influence a pure vector graphic diagram so that you can produce printouts which are optimized for your plotter type.

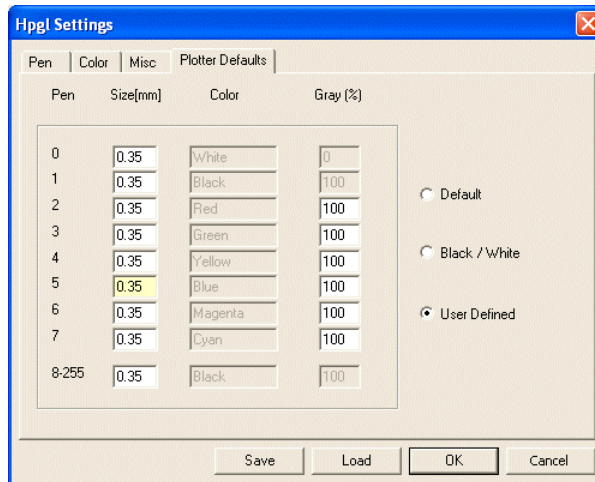
"Round" means that a certain colored area is filled with a certain number of filled circles, which are given a certain arrangement on the area, to achieve the intended color saturation.

In "Random" on the other hand a percentage of color saturation is determined for the same colored area, which is then converted into the necessary number of pixel, which are randomly arranged over the area to achieve the intended color saturation.

Which is why that when circle patterns are overlapped, the covered areas can not be as clearly identified as if two random patterns are overlapped.

In addition, you can also select the grey value patterns "symmetric pattern" and "loadable pattern". As the name suggests, the "symmetric pattern" produces a symmetrical grey value pattern. If you select the "loadable pattern" as the grey value pattern, a pattern is loaded. Try and see which pattern produces the best printing results.

HPGL and HPGL/2 - Plotter Defaults



These settings are the standard defaults or plotter defaults. They are only used if you have activated the setting "file" on the card "Misc" in the sections "Pen source" and "Color source" but there are no details for pen thickness and pen color in the corresponding plot file!

If instead of these presets you want to use special settings for your current print jobs, instead of "File" you must activate "Custom" at this point, where you can then adjust your individual settings on the cards "Pen" and "Color". The settings have the following meanings:

- **Default:**

If you activate "Default", the plotter uses the settings stipulated here for the printout. They correspond to the standard values of an HP DesignJet 1055 and cannot be changed.

- **Black / White:**

The printout is produced in black-and-white. Any possible grey shades are ignored. But the pen size can be changed.

- **User Defined:**

You can change the pen thickness and the grey shades,

apart from the black and white pens: these settings are saved as presets.

Calcomp pen settings

In the cards you can define numerous pen attributes which are saved in a Calcomp configuration file (*.ccf).

To generate a new configuration file, adjust the settings in the cards and press OK to save.

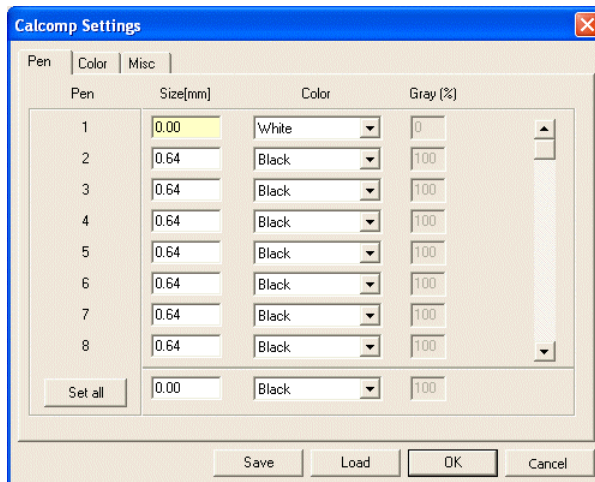
You can save special settings under a unique name so that you can use them again later:

1. Click on the button "Save".
2. Choose the directory and a file name. The file suffix is ".ccf".
3. Press "OK" to confirm. The dialog window closes.

Press "Load" to open one of the saved configuration files again for use as default for new configurations.

Calcomp - Pens

The pen attributes are set on the "Pen" tab:



- **Size:**

The pen widths are entered directly using the keyboard in the first column under "Size". The maximum values that can be entered depend on the size unit, which you set in the configuration program. The current valid size unit is shown in the status bar at the bottom of the monitor.

If you want to "remove" a pen, you can set the pen widths as "0" or as the pen color "white".

The standard values for the pen widths of the 16 Calcomp pens are given in the appendix (Chapter "CalComp commands and pens").

- **Color:**

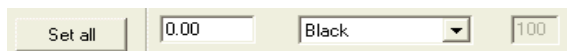
Select the pen color from the second column under "color". Open the pull down menu and select the required color. If you want to "remove" a pen, you can set the pen color as "white" or the pen widths as "0". You can set the grey shade that a color represents on the "Colors" tab.

- **Grey:**

The grey scale can only be adjusted if you have selected "grey" as the color. Here too the changes are made directly using the keyboard.

- **Set all:**

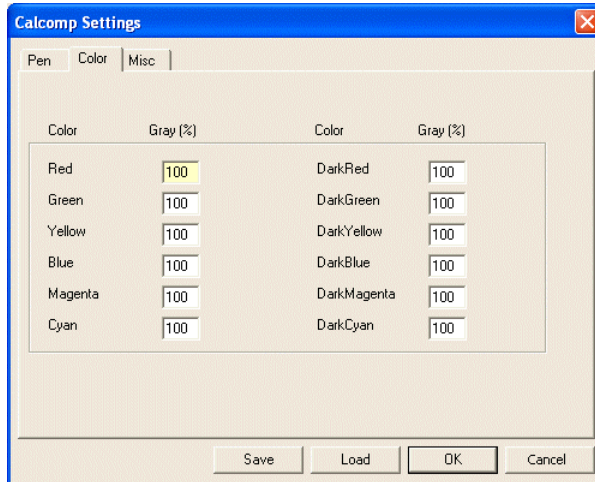
The "Set all" option allows you to set the pen attributes for all 16 pens simultaneously. To do this, first set the pen widths, the pen color and the grey scale and then click on "Set all" once:



The image shows a horizontal control panel with four elements: a button labeled "Set all", a text input field containing "0.00", a dropdown menu currently showing "Black", and a text input field containing "100".

Calcomp - Colors

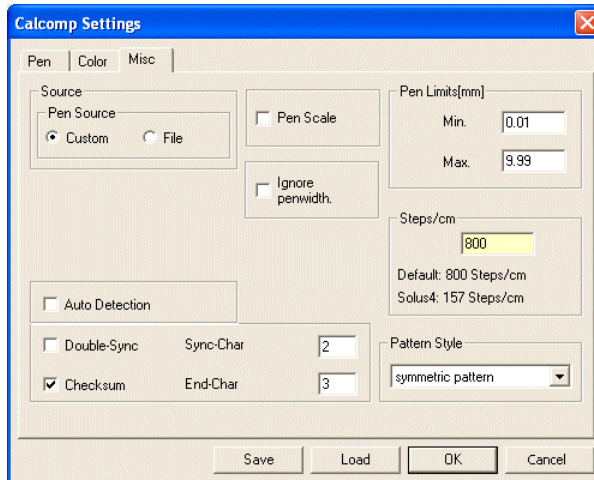
To assign the required grey scale to each individual color, open the "Color" tab:



The change to the percentage figure is made directly using the keyboard. Quit the window with "OK" and your changes will be saved. If you do not wish to save your changes, quit the window with "Cancel".

In this window you can change the grey scale, which has been assigned to each color. If you do not want to change each color, you can tab set all pens to "Gray" on the "Pen" tab and then set the individual grey values for each pen.

Calcomp - Misc



- **Pen Source:**

If you activate the field "File", you tell the plotter that the printout should use the pen thickness entered in the plot file belonging to the entry, and not the settings on the card "Pen". If no pen widths are defined, the program uses your settings.

If you activate "Custom" your settings are always used.

- **Pen Scale:**

Activate this field if the pen widths are to be scaled at the same time as a drawing is scaled. To avoid the possible loss of information when printed ensure that have set at least one minimum pen width if the drawing is to be reduced in size and at least one maximum pen width, if the drawing is to be enlarged by scaling.

- **Ignore pen widths:**

Activate this option, e.g. if a drawing is exactly the same size as a ISO A4 sheet, to guarantee that it is plotted on an A4 sheet and not on the next larger format because the pen widths were too large causing the drawing to slightly exceed the A4 format, thereby causing unnecessary waste paper.

In this way, you can ensure that a drawing that has exactly the same size as a standard format is printed on this size paper thereby avoiding an unnecessary waste of paper.

- **Pen Limits:**

- **Min:**

Enter the minimum pen widths using the keyboard. The information entered here affects all CalComp pens.

As there are plotters in which even at the finest resolution the individual pixels are not reliably reproduced, a minimum pen size is indispensable in these cases. Should one of your settings not cover the plotter circumstances and no longer guarantee the printout of a drawing object, RW-480 PLOTBASE automatically adjusts the pen widths.

- **Max:**

Using the keyboard, enter the maximum pen widths. The entry affects all CalComp pens.

Analog to the problem with the minimum pen widths, you can set the maximum thickness that the pen draws, e.g. to prevent the drawn objects from overlapping when printed. Setting the maximum pen widths on the other hand is less seldom necessary. Should one of your settings not cover the plotter circumstances and no longer guarantee the printout of a drawing object, RW-480 PLOTBASE automatically adjusts the pen widths.

- **Step sizes:**

Some time ago, most plotters had stepper motors, which ran at a varying number of steps per centimeter. In the meantime, the standard is 800 steps per centimeter. The RW-480 PLOTBASE therefore enters 800 as a default value, which does not normally have to be altered. Nevertheless, it is sometimes advisable to ask the customer what step number per centimeter they are used to working with to guarantee plot consistency. Furthermore, it can be necessary to make a change to reduce the DPI, to release more system memory for large drawings:



Attention: If you enter a larger value, you will obtain a smaller drawing: The entry 1 equates to 0.125 %. Example: if you enter 801, the drawing is reduced to 99.875 %.

- **Pattern style:**

Three types of patterns are defined for Calcomp drawings, in which the "Pattern" command is used.

"Round" means that a certain colored area is filled with a certain number of filled circles, which are given a certain arrangement on the area, to achieve an intended color saturation.

In "Random" on the other hand a percentage of color saturation is determined for the same colored area, which is then converted into the necessary number of pixels, which are randomly arranged over the area to achieve the intended color saturation.

Which is why that when circle patterns are overlapped, the covered areas can not be as clearly identified as if two random patterns are overlapped. The recommended default setting is therefore "random", because you can achieve the best results.

As the "round" setting has been installed as a standard to date, this option has been retained of you do not see the need to print the same drawings differently in future.

Finally, you can also select the grey value pattern "symmetric pattern". As the name suggests, the "symmetric pattern" produces a symmetrical grey value pattern. Try and see which pattern produces the best printing results for your graphic. Try and see which pattern produces the best printing results.

- **Synchronization**

Synchronization is used to check the completeness of the Calcomp—files, which have been sent from the application program. Four pieces of information are used for the synchronization settings:

- Sync char
- End char
- Double Sync
- check sum

You can either let RW-480 PLOTBASE determine the values or you can enter the necessary settings yourself. If the program is to determine the values, activate "Autodetection". We recommend that you do not alter the standard values if you want to enter the settings yourself. Should you nevertheless want to make a change or to find out more on the topic, compare the settings with those in your CAD system or read the following section in the "CalComp Inc." manual:

"CALCOMP - ONLINE REFERENCE MANUAL" in the section "Data Message Format".

The standard settings are:

Sync character:	2	→ [setting from 0 to 127 possible]
End character:	0	→ [setting from 0 to 31 possible]
Double Sync:	OFF	
Test sum:	OFF	

The following two examples serve as possible comparisons:

- **AutoCAD:**

Sync character:	22
End character:	13
Double Sync:	ON
Test sum:	ON

- **FordCAD:**

Sync character:	2
End character:	3
Double Sync:	OFF
Test sum:	ON

Print job

The following chapters explain how you can manually or automatically plot an order. It also explains how jobs can be interrupted or deleted.



Attention: If you want to use the bypass tray, please use the following procedure: Start the print job first! Wait until the program tells you to insert the medium in the bypass tray. The plotter will not print if you proceed the other way round. More detailed information about the procedure is available on page 82.

Set plot mode

There are two types of program sequence to choose from for the plot mode. Either you let the program run in "Autoplot" mode or you yourself ensure that the jobs are sent to the Plotter. However only one of the two operating modes is possible:



Note: As long as you run RW-480 PLOTBASE in "Autoplot" mode, you cannot send individual jobs to the printer manually using the "Job - Plot" menu item. Bypass tray (manual) is only possible if the "Autoplot" mode is not active.

Automatic plot mode

In the active Autoplot mode, jobs with the "ready" status are automatically processed and sent to the plotter. The sequence in which the jobs are processed depends on the priority of the jobs. If the jobs have the same priority, the job number is taken into consideration. Even when the Autoplot print mode is active, "Problem jobs" marked in red, jobs with the "Wait" priority or jobs marked in blue needing the user to do something, are not printed automatically.

The "Autoplot" mode is either set using the "Plotter" menu, by clicking on the "Autoplot" button in the RW-480 PLOTBASE signal lights or using "CTRL + A". On the left you can see the activated button and on the right the deactivated button in the PLOTBASE signal lights:



You can see in the status line whether the Autoplot mode is "ON" or "OFF".

It is also possible to alter the job characteristics of jobs at any time, even during the "Autoplot" mode. You can choose one of the following procedures:

1. If you only want to alter the settings for individual jobs, it is advisable to set their priorities to "Wait" first. Mark the order, open the context menu with the right-hand mouse button and choose "Priority – wait". All other orders continue and you can make your changes to the "waiting" order in your own good time. As soon as you are ready, simply set the priority back.
2. If lots of jobs need changing at once, you can switch off the "Autoplot" mode and change the priority of all the jobs to be altered to the "Wait" priority and then reset the "Autoplot" mode. You now have time to alter the waiting jobs while the other jobs are processed by RW-480 PLOTBASE.

Manual plot mode

If you do not want RW-480 PLOTBASE to independently process the jobs, deactivate the Autoplot mode using the "Plotter - Auto Plot" menu or by clicking on the "Autoplot" button of the RW-480 PLOTBASE signal lights. The "Autoplot" button now has a line through it.

If you want to send a job to the plotter in this mode, first mark the job in the job list. You can start the print function by

- Selecting the menu command "Job - Plot",

- Click on the relevant button or
- Open the context menu using the right-hand mouse button and select "Plot".



Note: If the function "User authentication" is activated at the RW-480 plotter, you now have to enter your user name and user code before you can continue plotting. If you do not have your user name and user code, ask your administrator how these are set up at the RW-480 plotter!

The actual function "User authentication" is described in the section "'Engine Access Control' tab" from page 75.

Interrupt plotting

If a fault in the plotter or an error in the plot sequence make it necessary to stop the plotter, you have three possible options:

- **Press the pause key:**

The pause button is useful if you want to interrupt the printing process briefly. For example, if you want to make (offline) copies.

As soon as you click on the button with the Pause symbol shown in the following, plotting is immediately interrupted. The activated symbol is blue.



The current job order has not been completed. You can now continue plotting by clicking on the following button.



- **Quit Autoplot mode:**

The Autoplot mode is used for automatic processing of the print jobs. If you want to interrupt the printing process for longer, for example to check the settings of the print jobs or to change a roll, deactivate the Autoplot mode by clicking on the "Auto" button in the signal lights. It looks like this when it is deactivated:



The print job which has already begun is completed. The printing process is then stopped. You can now make any necessary changes to the other jobs.

- **Cancel creation:**

If an individual job only is to be terminated, select the command "Job – Cancel job".

Delete job

Use one of the following four methods if you want to delete a job from the list:

- Mark the job in the job list that you want to delete and select the menu item "Job - Delete".
- Mark the job in the job list that you want to delete and click on the following button:



- Mark the job to be deleted with the mouse, click on the right-hand mouse button and select "Delete".
- The fourth possible method is to leave all the jobs in the job list and to update the job list automatically using your History setting in the configuration program. There you can set the maximum number of jobs to be included in the list. The oldest jobs are deleted.

Reload plotter

This command is used if the plotter has failed to initialize. This can happen e.g. if you have already started RW-480 PLOTBASE, but forgot to switch on the plotter. In such a case let RW-480 PLOTBASE run, switch on the plotter and once the plotter has warmed up go to the "Plotter" menu and select "Reload Plotter". This reloads the plotter driver. Renewed plotter loading can also be necessary in cases, in which the plotter has had to be switched off due to a malfunction.

Error messages

As soon as the status "Problem" is shown in the job list, you can read a error message in the status window or by making a double click on the job entry. In this chapter reasons for errors and solutions to solve problems are appointed.

In the status windows also errors are appointed, which arise because of a wrong handling or malfunction of the plotter. To remedy the malfunction of the plotter, please use the Copy Reference Manual.

If you can't remedy an error, although you have taken the suggested solution into account, ask your administrator.

- **Kernel out of memory**

The main memory is too small. Shut down all programs, which are opened additionally and which are not used at the moment. If the error message appears furthermore, it is useful, to increase main memory of your PC.

- **Driver is too old**

You installed an older driver version for the Controller Board. Install the current version.

- **Kernel timeout**

Communication between the program and the plotter is disturbed. This error can have many reasons: machine has been switched off in the meantime, while printing a error appears and so on. Remove the error, which caused the problem. Thereafter you can start the printing again. After this, you can start the printing process again.

- **Plot Error**

Pay attention to further error messages and advices which are shown in the status window. As far as they are not shown, try to send the job to the plotter again. Otherwise ask your dealer or a support technician.

- **Plotter could not reserved**

RW-480 PLOTBASE can't use the plotter. It could be, that the interrupt button on the plotter display has been activated. Further reasons could be, that the plotter is just making use of its own printer functions (copy function, test plot etc.).

- **Scaling data is invalid**

It's a defective image file or a internal program error. Check the image file in the file viewer or in a image editor.

- **The image doesn't fit on the selected medium in any tray**

The image does not fit on the plotter roll, which has the selected medium. Install a bigger roll, do it without creating borders or scale the image to a smaller size.

- **Any existing media produces too much paperloss. Load a medium that fit.**

The automatic roll selecting can't find a roll, on which the unused part of the sheet is smaller than the permissible limit. Install a fitting roll or set a bigger border for the image.

- **You have selected a tray that doesn't contain the selected medium.**

The user has selected a medium/roll combination which is not available in this tray. Change the medium or the tray.

- **There is no tray with the selected medium.**

Choose an other medium or install a roll with the medium.

- **Error: JobFlagsheet image/description file: ... does not exist**

Installation is defective or it has been damaged. Install the program again.

- **Due to errors the set resulted in no prints**

Check the job editor, if all entries are present and the

images are shown correctly in the file viewer. If errors are appearing, you have to substitute the defective images. If the images seem to be perfect, ask your dealer or a support technician.

- **Due to errors the plot control thread shut down:...**
An internal program error or processing error appears. Reload your plotter ("Plotter – Reload Plotter"). Thereafter the last step will be repeated automatically.

- **Due to errors the set splitting thread shut down:...**
See above.
- **Due to errors the plotter work thread shut down:...**
See above.
- **An error occurred during set splitting:...**
During set splitting an error appears. Maybe files are missed or defective. Create a new set and check in the editor, if the image are shown perfectly.
- **Set splitting was stopped due to a heavy error:...**
See above.
- **A set was plotted out incomplete after a break of set splitting:...**
Because of an error during the set splitting the job can't be printed through and through. Maybe files are missed or defective. Create a new set and check in the editor, if the image are shown perfectly.
- **At least one sheet of the set was canceled:...**
Because you have canceled a job one or more entries have not been printed. Repeat if you want the printing.
- **At least one sheet of the set failed:...**
Printing was made, but one or more entries didn't have been printed. The reasons can be manifold: files are defective, processing error of the plotter, wrong or missing plotter roll, printing settings can't be used and so on. Check at first if the images are shown perfectly. In this case, check, if the selected printing settings in the job editor match to the settings of the plotter. Example: The image is bigger than the selected plotter roll.
- **Queue default SSL-File not found:...**
The Default-SSL file can't be found. Maybe it has been deleted in the spool folder. Copy the Default-SSL in the folder \RW-480\Plotbase and insert it in the folder where it has been missed.

- **Plausibility Error:...**

This error message, which is completed by further informations in the status window, means, that the selected printing settings in the job editor don't match to the settings of the plotter. Maybe you have selected a medium which isn't installed in the plotter or the image is bigger than the width of the plotter roll. Change either the settings in the job editor, the image itself or the settings of the plotter.

- **Sheet ID: ... is not part of this SSL. Cancel this job...**

A job has been canceled. Through there not every entry has been printed. You tried printing this job again. Thereby you have been asked, if you want to print the whole job again or just the missing entries. After you had chosen the latter option this error message appeared. The reason is, that the entries have been deleted. Try to print the complete job again.

- **Error while opening the Ssl file ... - while processingcode at:...**

Maybe a file is missing or it is defective. Try to open all images in the file viewer. If one of the entries fails, you can delete the defective entry and print the job again. If the images are shown in the file viewer in spite of the error message, it will be an internal program error. Ask your dealer or a support technician.

- **Error while reading file: ...**

See above.

- **Set2Single terminates job ... , because there's no entry to generate.**

There are no entries in the job. You have to create a new job.

- **Module Set2Single could not find the file: ...**

A file is not available. A certain, preselected time of waiting is observed until this error message appears. You have to create a new job.

- **Module Set2Single could not find the file: ... and thus terminated job ...**

The job was canceled after a missing file wasn't found.

- **Module Set2Single terminates job ... , because the processing of file ... causes an unhandled exception.**

The job was canceled, because of a defective file or missing license for a file format.

Restart "problem" jobs

In the menu "job" there is an option "restart problem jobs".

By this command you can retry all jobs that are in state "problem" (indicated by a red color).

So you can first resolve the reason for a common problem of several jobs and then retry all simultaneously.

Part III - RW-480 SCANTOOL

Introduction

RW-480 SCANTOOL is an important user program of the RW-480 system. This application enables you to comfortably and easily use the scanner. The scanned documents can be edited in a drawing editor, before they are collated in print jobs and then passed onto the RW-480 PLOTBASE for plotting.



Attention: The scan function is optional. You can get this option from your dealer. Other functions of RW-480 SCANTOOL are always usable.

Operating modes

The functions and tools available within this program enable different applications. The following three typical procedures are explained as examples:

- **Scan – edit drawing– save:**

A drawing is first scanned in (see Chapter "Scan"). The scanned file is automatically loaded into the File Viewer and can now be edited (see Chapter "Edit drawings ") using the editor, which can be used for example to rotate or mirror the image. Components of the image can also be deleted or text added. The file is then saved in any folder. Alternatively an existing file could be loaded instead of a scanned file, it is then edited with the editor and then saved. In this procedure, the RW-480 SCANTOOL was primarily used to edit a drawing.

- **Scan – edit drawing– prepare job order:**

A drawing is first scanned again and then edited. The first two steps are identical with the procedure described above. Instead of only saving the edited drawing, you can also prepare a job order (see also Chap. "Prepare job order "). But first you set several default values for the printout. You can e.g. determine the number of copies, the print medium, and the format size. You then send the job order to the RW-

480 PLOTBASE. There, the job order is read automatically and passed on to the plotter. Finally, the drawing is printed on the plotter.

A special default setting can be used to scan in several drawings consecutively. Repeated manual activation of the scanner is not necessary. After being scanned, the drawings are automatically assigned to a job order. In this case however it is not possible to edit the drawings first.

- **Load files– edit drawings – prepare job order:**

As already described, instead of the scanned drawings, you can also load files (Chap. "File management") and edit them using the editor (Chap. "Drawing editor"). Instead of only saving the files, you can now prepare a job order for one or several drawings. To do this, select the files that you want to assign to a job order.

Start and quit program

Although you had to install RW-480 PLOTBASE and RW-480 SCANTOOL as a user with administrator rights, you only need standard user rights to use the program.

- **Start program**

The installation program installs its own program group towards the end of the installation. Start RW-480 SCANTOOL using the Windows Start menu.

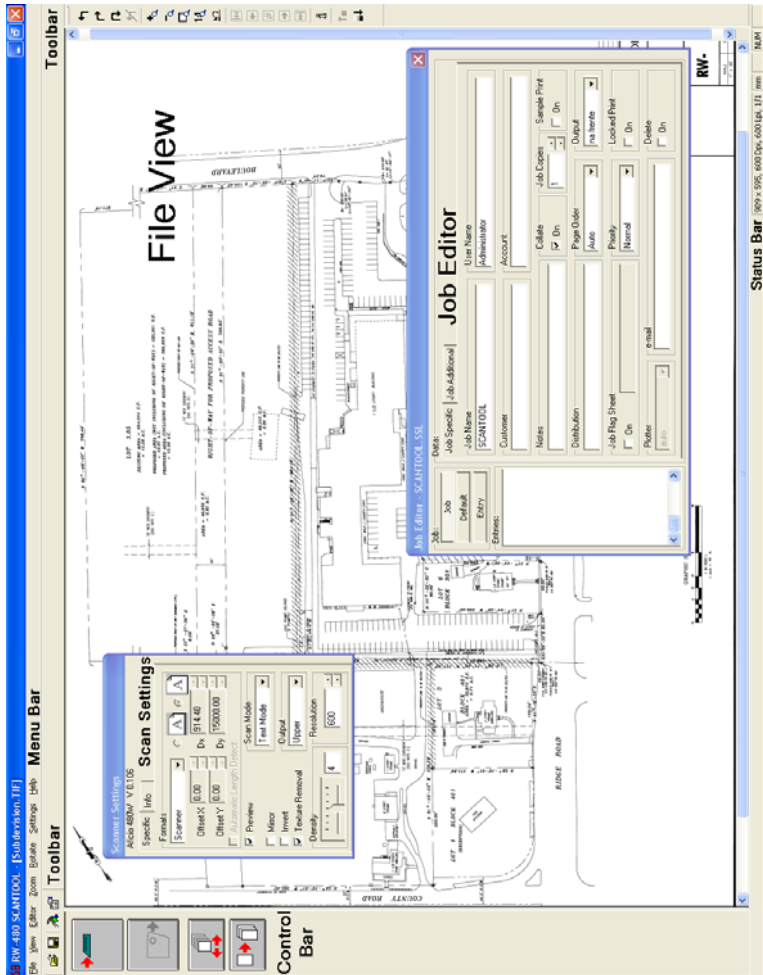
After the program has been started, the program window, the job editor and the scanner settings are opened.

- **Quit program**

Quit RW-480 SCANTOOL either using the "File - Exit" menu or using the usual Windows keyboard shortcut "ALT+F4".

The following part of the manual describes the program functions.

Program window



Default values

Before you begin working, you should set the general default values, which remain valid until you explicitly alter them again. The scanners settings are described in the chapter "Scan" and the settings for the job order in the chapter "Prepare job order".

Options

You can open the options window via the "Settings - Options" menu or using the following button from the toolbar:



You will find the two following tabs:

- Format
- General

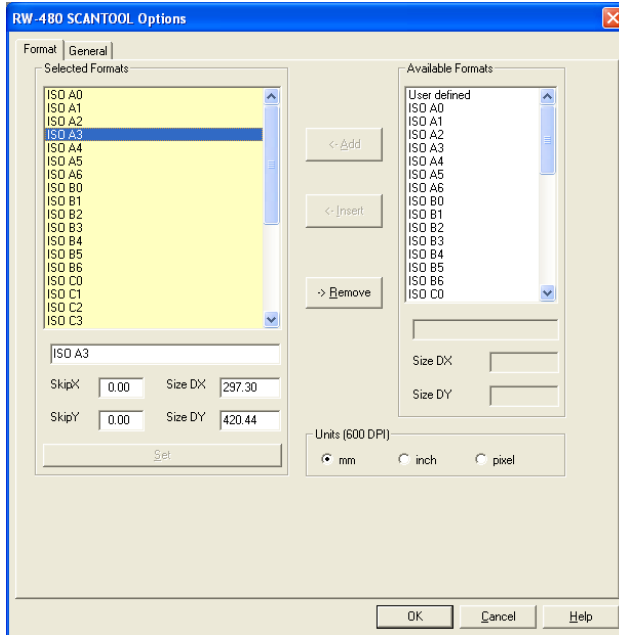
"Format" tab

Select the drawing formats you require for your work from the "Format" tab and alter them according to your requirements. All formats that you set here appear in the selection menu of the scanner dialogs. You also determine the valid size unit.



Note: After starting the program for a second time, RW-480 SCANTOOL automatically accepts the formats that you have set in the program RW-480 PLOTBASE. Nevertheless, you can set your own formats or even exclude individual formats for the scanner.

To manually add or remove the individual formats, proceed as follows: Mark the required format in the right-hand list of "Available formats" and click on the "Add" button. The format is now included in the list of "Selected formats". The required formats can also be transferred directly to the list with a double-click of the mouse:



Note: The "Add" button always adds the selected formats at the end of the list. On the other hand, if you use "Insert" a format is inserted in the list in front of the format currently marked.

Proceed as above for each format you want to use. It is also possible to include a format several times, if you require different drawings with different sizes and border settings.

With "Remove", you delete a format from the "Selected formats" list.

As soon as a format has been included in the "Selected formats" list you can edit it. To do this, mark the relevant format in the list. You can now alter the name, format size and border settings.

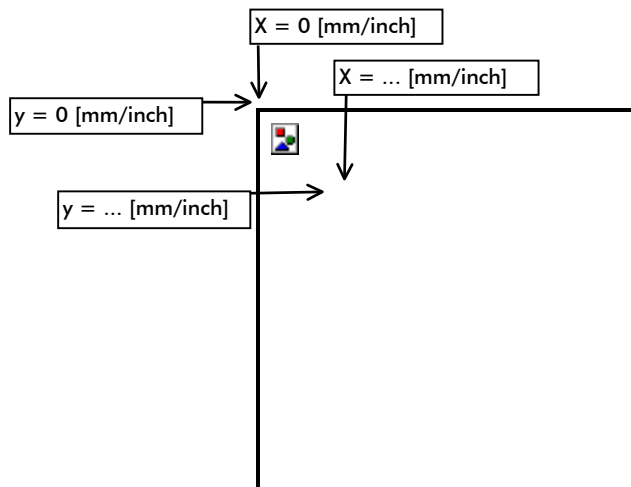
ISO A1			
SkipX	0.00	Size DX	594.60
SkipY	0.00	Size DY	840.93
Set			

- **Change name:**

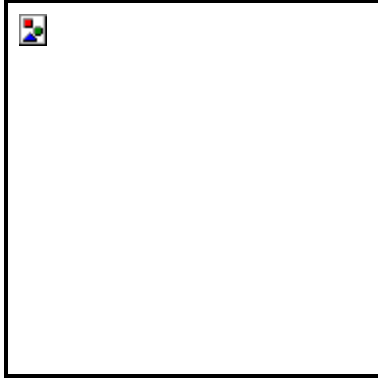
You can change names in the upper field.

- **Set format borders (x and y values):**

The format border settings (x and y values) are explained using the following example:



If the drawing is not to be scanned at the top left-hand point ($x = 0$, $y = 0$) of the sheet, because e.g. it has a relatively large border you can stipulate the top left-hand point at which the scanning process begins using the x and y values. The top and left-hand edge of the original is ignored by the scan:



To delete the undesired borders use the drawing editor. There you can find tools for cutting the borders.



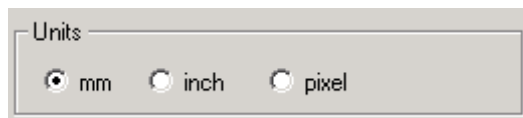
Attention: Bear in mind that these are presets, which are saved for a format setting. If you want to change an image only once, set the format border in the "Scan Settings" tab.

- **Change format size:**

You can change the format size under "DX" and "DY". "DX" means the page width and "DY" the page height.

- **Fix size unit:**

The valid size unit for all the work carried out in RW-480 SCANTOOL is set in the bottom right-hand of the "Format" tab. You can choose from the size units "mm", "inch" and "pixel":



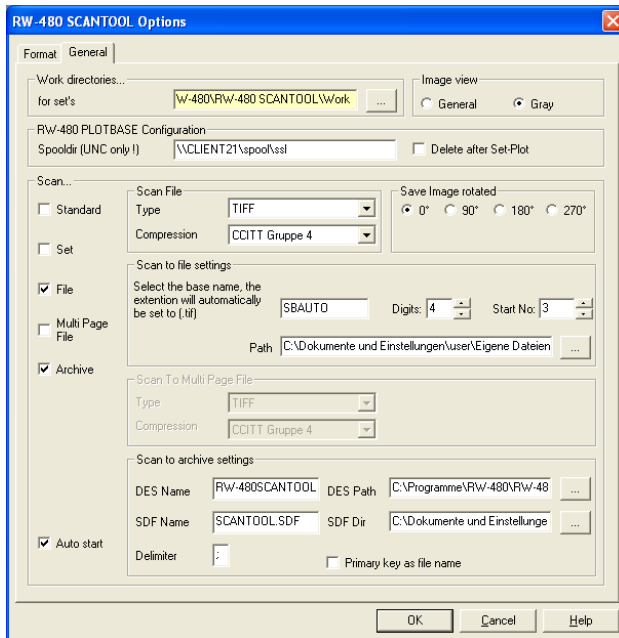
Note: The changed size unit does not become valid,

when it appears in the status bar at the bottom edge of the screen, until you have quit the window with "OK".

"[600 DPI]" shows that 600 DPI is the standard value in RW-480 SCANTOOL and that all conversions refer to 600 DPI when the size unit is changed.

"General" tab

The "General" tab is used to enter various plot and scan settings, which apply in general for all the work carried out with the program e.g. setting the file and access paths:



Working folder for sets

The path of the "Work" working folder is automatically entered after installation. This is where the print jobs are stored with drawing files and SSL files, which have been produced in RW-480 SCANTOOL. A folder with the same name as the print job is set up for each job order. You can change the folder path by clicking on the button to the right of the input fields. The

program opens a window in which you can adjust the required folder.

RW-480 Plotbase configuration

The spool path is also entered automatically after installation. The print jobs that contain the information for the printout of the drawing files are stored in this folder with all the drawing files. They are produced by the program after a print job has been completed. These SSL files are read out by RW-480 PLOTBASE and further processed. You can change the folder path by clicking on the button to the right of the input fields. The program opens a window in which you can select the required folder.

If you activate "Delete after Set-Plot", the SSL files produced in the folder by this program are deleted after printing.

Image view

These settings concern the display of a drawing on the screen. You can choose from the options "Normal" and "Gray":

- **Normal**

In this selection the screen display loses quality when reduced in size. The advantage is that you can scale the drawing more quickly.

- **Gray**

In this option, RW-480 SCANTOOL displays the most information when the drawing is scaled. The drawing is displayed with more realistic details. This setting is the standard setting.

"Scan..." window

In this area of the window you can determine what happens with the scanned drawings.

- **Standard:**

The scanned drawings are opened in the File Viewer where they can be edited.

- **Set:**

The scanned drawings are entered in the job editor and thus

belong to a job order.

- **File:**
The scanned drawings are saved as files.
- **Multipage File:**
You can scan in several pages one after the other and save them together in a .tiff or .pdf file. More detailed information is available in the section "multipage file".
- **Archive:**
It is possible to generate index data which describe the scanned drawings. They are for external archive systems, which import the data.

The settings Set, File and Archive can be activated simultaneously. The options are explained again in detail in the following.



Note: The Archive settings are explained in chapter "Archive Management", page 169.

- **Standard scan settings**
If you choose the standard settings, a normal scan process is carried out. The drawing is scanned and automatically opened in the File Viewer for further editing. The scanner settings that you entered in the "Scanner Settings" are used. You can open this dialog in the "View – Scanner settings" menu.
- **Set scan settings**
You activate "Set" if you want to prepare a set of drawings that contains several drawings that belong together immediately after scanning. Your scanned drawings are then automatically stored as entries in a job order. In addition, you can also activate the "Autostart" option in the lower part of the window. Activating the "Autostart" field is useful if you scan several drawings one after the other. RW-480 SCANTOOL adds the first drawing as an entry in the job order and is immediately ready for the next scan, without

any other settings being required. This has the advantage that you can remain at the machine and can scan all drawings after each other, without having to press the scan button for each drawing.

In the tab "Settings – Options – General", area "Scan File", you can additionally select a file format (partly with compression) for the scanned files. The TIFF format is preselected.

"Scan to file" settings

The scanning results can be saved in a file. Use this function to do so. The following settings are possible:

- **Save rotated image:**

If you want to save the drawing in portrait or landscape format, you can set the necessary rotation here. However, remember that all the scanned drawings will be saved in this form.

Other information is required for the file scan, which you enter in the "Scan to file settings" area of the window:

- **Basic name, digits and starting number:**

Give the drawing/s a basic name. Each scanned drawing is given this file name. If you scan in several drawings at once and want to back them up as files, you also assign the starting number, which is to be appended consecutively to the first part of the file name. Then, enter, how many character items this file number should have. Maximum 4 digits are allowed, which equates to the starting number 0001. RW-480 SCANTOOL always saves the files as TIFF Group 4 with the extension "*.tif": SBAUTO0001.tif



Note: The length of the file name should always be based on the operating system and network capacities.

Note for later scanning processes: The program retains the settings after each scan until you change them again.

Example: If you have given your first scan job with 47 drawings the basic name "Engineering", the following scan with 55 architectural drawings is given the same basic name and are numbered consecutively from 48. Change the setting if you leave the files on the hard drive and want to be able to more easily differentiate between the jobs at a later date.

- **Enter path:**

Finally, you must also enter the folder in which the files are to be stored. You can change the folder path by clicking on the button to the right of the input field. The program opens a window in which you can enter the required folder. As a standard, the program displays "[Drive]:\Program Files\RW-480\RW-480\RW-480 SCANTOOL\SCANTOFILE".

Scan File

In the tab "Settings – Options – General", area "Scan File", you can additionally select a file format (partly with compression) for the scanned files. The TIFF format is preselected.

Multipage file

This function allows you to save several scanned pages together in one .tiff or .pdf file. The exact procedure for generating multiple page files with and without "Autostart" function is as follows:

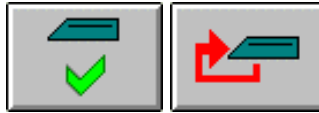
- **With active "Autostart" function:**

If you activate the "Autostart" function, the document placed in the scanner feed tray is fed automatically into the machine and scanned. You do not have to click on the "Scan" button for every single document. The "Autostart" function is especially interesting when scanning a larger quantity of documents. The disadvantage is that you cannot change the scanning settings in between.

The procedure is as follows:

1. Activate "Multipage file" and "Autostart" on the card "General".
2. Choose your "File Scan" settings" - see page 155.

3. Choose your "Scan multipage file" settings. You can choose the .tiff or .pdf format. For the .tiff format, you can also choose one of the compression methods.
4. Press the "Scan" button in the operating bar. Two new buttons also appear here:



You can use the left-hand button to cancel generation of the multipage file, now or later. You can use the right-hand button to repeat a failed scanning procedure (document inserted incorrectly, wrong document, etc.).

5. Place the document in the scanner feed draw. Now place the other documents in the scanner feed draw one after the other. They are fed automatically into the machine and scanned. Once the file is complete, click on the "End" button

- **Without "Autostart" function:**

The advantage of the deactivated "Autostart" function is that you can adjust the scanning settings in the meantime. The procedure is as follows:

1. Activate "Multipage file" on the card "General. Ensure that the "Autostart" function is deactivated.
2. Choose your "Scan to File settings" - see page 155.
3. Choose your "Scan multipage file" settings. You can choose the .tiff or .pdf format. For the .tiff format, you can also choose one of the compression methods.
4. Press the "Scan" button in the operating bar. Two new buttons also appear here:



You can use the left-hand button to cancel generation of the multipage file, now or later. You can use the right-hand button to repeat a failed scanning procedure (document inserted incorrectly, wrong document, etc.).

5. Place the paper in the scanner feed tray. As soon as you have scanned the first page, the "Quit" button appears so that you can cancel generation of the multipage file now or later. In addition, the "Repeat" button appears so that you can repeat a failed scanning procedure (document inserted incorrectly, wrong document, etc.)
6. Now place other documents in the scanner feed tray one after the other; click on the "Scan" button for every document in the feed tray. Once the file is complete, click on the "End" button.

Autostart

The "Autostart" option is located in the lower part of the window. The "Autostart" field is useful to activate if you want to scan several drawings consecutively and back them up as files. RW-480 SCANTOOL saves the first drawing and immediately and automatically starts a new scan process, without any further settings being required. This has the advantage that you can remain standing at the machine and can push in all the drawings one after the other, without having to press the scan button for each drawing.

If you want to change the scanner settings in between, you must work with deactivated "Autostart" function.

Change language

When starting the program for the first time, your RW-480 software comes up in the language you selected on installation of the program.

But if you want to change the language of the program, you can do that quickly and easily in three stages in Windows without any further adjustments:

1. Open the language setting using the menu point "Settings – Language".
2. Adjust the required language and press "OK" to confirm.
3. Start your RW-480 program again.

If you always want the program to appear in the language set as standard for your Windows operating system, under point 2 you should select the option "System" with the globe instead of a language.

Tools

This section gives you a brief overview of the program tools, which you can activate using the toolbar and the control bar and about the information, which is displayed in the status bar. A separate chapter describes the drawing editor due to the extent of its functions. See the next chapter from Page 187.

Toolbar

The toolbar is located directly beneath the menu bar and provides the following tools:



File open



File save



Open drawing editor. See from page 187.



Open options window



Open program information

View bar

















The toolbar is located directly in the File Viewer. It makes the following tools available:



Attention: These settings have no influence on the printing. You can just change the view in the file viewer.

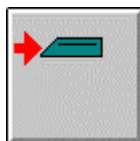


Rotate drawing 90° to the left

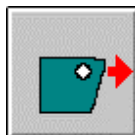
	Rotate drawing 90° to the right
	Rotate drawing through 180°
	Drawing in original position
	Successively enlarge drawing
	Successively reduce drawing size
	Switch drawing to zoom all
	Drawing in View 1:1
	View previous
	Multipage document: Show first page
	Multipage document: Forward one page
	Multipage document: Enter page number
	Multipage document: Back one page
	Multipage document: View last page
	Display drawing in view lighter
	Display drawing in view darker
	For drawing information, see also page 166.

Control bar

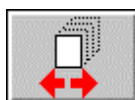
The following functions are available in the control bar:



Start scan. Read the chapter on "Scan" from P. 165



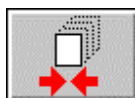
Dispatch job order. Read more in the chapter "Prepare job order " from P. 179



Load or set up new set of drawings. For more details read the chapter "Prepare job order " from P. 179



Assign drawing to the job order.



Complete preparation of the set of drawings. Refer to chapter "Prepare job order ", P. 179



Quit scan

Status bar

The status bar is located on the lower edge of the screen and provides you with the following information:

215.90 x 279.40, 300 Dpi, 300 Lpi, 1/1 mm

In detail, they mean the following: Image size, resolution in Dpi, resolution in Lpi, number of pages, Size units.

Key combinations

The following lists all the keys and key combinations:

Main screen

- F5:** Close file, also CTRL+C
- F7:** Send job order to RW-480 PLOTBASE
- F8:** Close job order (set)
- F9:** Add entry to the set of drawings
- ALT + F4:** Quit program
- CTRL + C:** Close the file
- CTRL + G:** Open the "Settings Options" window
- CTRL + O:** Open drawing
- CTRL + S:** Save drawing as
- CTRL + +:** Darken drawing in view
- CTRL + -:** Brighten drawing in view

Keypad:

- : Pan to the right in the enlarged drawing
- ←: Pan to the left in the enlarged drawing
- ↑: Pan upwards in the enlarged drawing
- ↓: Pan downwards in the enlarged drawing
- 0:** Switch to zoom all
- 1:** Switch to View 1:1
- +**: Zoom out drawing in view
- :** Zoom in drawing in view

Drawing editor

ESC + mouse: For operations, in which you drag a rectangle or window on the drawing with the mouse (e.g. zoom window, cut, and similar), you can undo the rectangle or window by pressing ESC or clicking the right-hand mouse button.

SHIFT: As long as you hold the SHIFT key depressed, the editor enlarges the drawing to 3:1.

SHIFT + mouse: For operations, in which you drag a rectangle or window on the drawing with the mouse (e.g. zoom window, cut, and similar), you can simultaneously press the SHIFT key, to position the rectangle with pixel accuracy (unit depends on your setting: pixels, mm, inches).

CTRL + C: Copy [Editor]

CTRL + V: Insert

CTRL + X: Cut

CTRL + Z: Undo

Keypad:

→: Pan to the right in the enlarged drawing

←: Pan to the left in the enlarged drawing

↑: Pan upwards in the enlarged drawing

↓: Pan downwards in the enlarged drawing

0: Switch to zoom all

1: Switch to View 1:1

+: Zoom out on drawing [Editor]

-: Zoom in on drawing [Editor]

File management

This chapter describes how you can open, close and save drawings. It also describes further comfortable tools such as file information and the configurable file display.

Load drawings

Load a drawing using the "File - Open" menu. Your drawings can have the following, some optional, file formats:

- Calcomp (*.906, *.907)
- CALS [after MIL-STD-1840B] (*.cal)
- CALS [after MIL-STD-28002A] (*.cal)
- Intergraph (*.cit; *.tg4)
- HP-GL [1/2, RTL] (*.plt; *.rtl)
- PCX (*.pcx)
- RLC (*.rlc)
- T6X (*.t6x)
- TIFF (*.tif)
[Group 3,4; uncompressed; packbits; striped & tiled]
- Windows / OS2 Bitmaps (*.bmp)
- Windows Meta File (*.wmf)

The following are available as an optional:

- CGM (*.cgm)
- PDF, RW-480PS (*.pdf, *.ps)

You can only use the following formats if you have installed a full version from AutoCAD series 2000 to 2006 on the server:

- DWF (*.dwf)
- DWG (*.dwg)
- DXF (*.dxf)



Note: RW-480 PLOTBASE cannot print DWG and DXF files, that contain several single files.

You can also load multipage documents (PDF, RW-480PS,

HPGL, HPGL/2, Tiff). There is no limitation to the number of pages per document. You can edit multipage documents in exactly the same way as you edit documents with one page.

File Viewer

You can change the view of the loaded drawings using the view bar tools (see page 160).

File information

You can obtain information about the drawing currently loaded. To do this, select the command "File - Info" or click the following button:



More information about the opening window you can get on page 104.

Save drawings

If you have made changes to your drawing you can save them using the "File – Save as" menu or using the usual Windows keyboard shortcut "CTRL+S". You must enter a file name. A copy of the drawing file is usually produced so that the source file is not changed. For example, this allows you to print off various edited variants of one file. You can of course also save the changes in the source file, which is however then overwritten.



Note: When saving, do not forget that some formats can only be read but cannot be saved.

RW-480 SCANTOOL can save the following file formats:

- CALS [after MIL-STD-1840B].....(*.cal)
- CALS [after MIL-STD-28002A](*.cal)

- Intergraph(*.cit; *.tg4)
- HPGL/HPGL2 (*.rtl)
- PCX..... (*.pcx)
- PDF..... (*.pdf)
- RLC..... (*.rlc)
- T6X..... (*.t6x)
- TIFF (*.tif)
- TIFF (Multipage) (*.tif)
- Windows / OS2 Bitmaps (*.bmp)



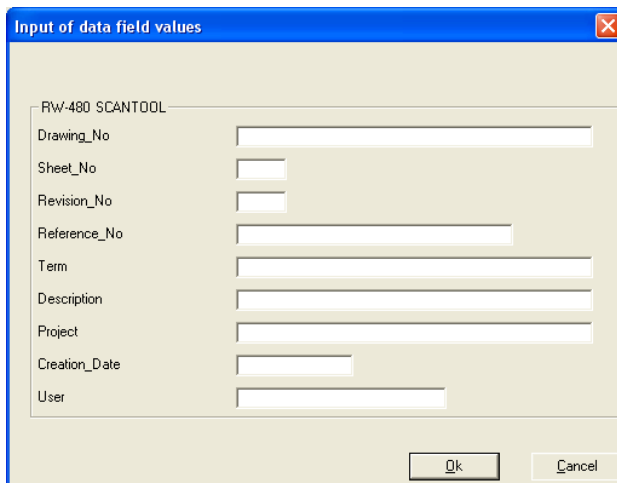
Note: A more precise definition of the file formats you can use is given in the appendix.

Archive Management

With RW-480 SCANTOOL it is possible to generate index data which describes the scanned drawings. They are for external archive systems, which it then imports. These index data are for example the working date, the project name or the name of the editor. In order to use this facility, two basic steps are required in setting it up:

1. In "Options", the presets for "Archive" must be entered. To do this, open the Options offering "Settings, Options". Change to the "General" card, activate "Archive" in the "Scan ..." field and enter your "Archive Scan Settings". Please see p. 169ff.
2. All the file data must be entered in the entry screen. It will be noted that an entry does not have to be made in every box. This will be determined by your field configuration in the DES file.

The screen given by the program look like this:



Input of data field values

RW-480 SCANTOOL

Drawing_No

Sheet_No

Revision_No

Reference_No

Term

Description

Project

Creation_Date

User

Ok Cancel

In the following two sections you can see what presets are necessary.

Specifying Presets

If you wish to select the settings for the filing or to change the settings, enable the "Archive" field in the dialog "Settings – Options – General". The activated option causes the automatic opening of the entry screen after each scanning. You can get more detailed information in chapter "File management".

In addition, RW-480 SCANTOOL requires the following additional preset information:

- **DES name and path:**

A .des file is available as an example. This determines how the entry screen is to be structured. All the fields described in the DES file entered will be displayed on the input screen.

You can create your own DES file to change the entry screen. Read chapter "Creating descriptive database file", p. 221 for it.

If you create a new DES file, the next step is to inform RW-480 SCANTOOL which directory to look in for the DES file.

- **SDF name and path:**

After scanning, RW-480 SCANTOOL creates an archive file ending with *.sdf, where the data of the registration screen are saved. The SDF file created can however be imported in any database system. If an SDF file already exists, each new drawing data will add to it until you start a new archive file by allocating a new name.

Name and path of the SDF file is already preselected. If you want to create a new SDF file, allocate a name to the archive file and define the directory in which the archive files are to be stored.

- **Delimiter:**

In the SDF file the data are separated by delimiters. Here you enter the character you wish to use to separate the data records in the SDF file.

- **Primarykey as file name:**

The field, which have been selected in the DES file as Primarykey, is used as file name. Example: If the field "drawing number" is the Primarykey, the drawing number stands at the first position of the file name. The specification

of the Primarykey is described in chapter "Creating descriptive database file", p. 221.

- **Scan File:**

In the tab "Settings – Options – General", area "Scan File", you can additionally select a file format (partly with compression) for the scanned files. The TIFF format is preselected.

Filing Drawings

If you want to archive drawings you have to select settings and you have to entry data in a entry screen. This is described in the previous chapter. Either the entry screen can be opened manually or it can, if you have activated "Archive" in the settings, be opened automatically after each scan process. That is why there are two ways in which a drawing can be filed. They are described in the following chapters.

Manually filing drawings

Here, you file a drawing "manually" on the pop-up menu:

1. Open the options with "Settings - Options" and change to the card "General".
2. Allocate the file record a name with the extension *.SDF and type in the directory in which the record is to be stored.
3. Tell RW-480 SCANTOOL which descriptive database file (*.DES) is to be used to structure the entry screen and in which directory this file is located.
4. Load the required drawing.
5. Open the database entry screen with the option "File - to Archive" or with "CTRL + A".
6. Enter your data and save it by clicking on "OK".

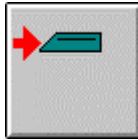
If you wish to archive several drawings, repeat steps 4 to 6. All the drawings will be written to the same SDF file. If you wish to

create a new SDF file, enter a new name under Options. Please see page 169.

Filing drawings after scanning

If you wish to file drawings immediately after scanning them, the following steps are necessary:

1. Open the options with "Settings - Options" and change to the card "General".
2. Before starting scanning, activate "Archive" in Options. To do this, open Options with "Settings - Options" and change to the card "General".
3. Allocate the archive file name with the extension *.SDF and enter the directory in which the file is to be saved.
4. Tell RW-480 SCANTOOL which descriptive database file (*.DES) is to be used to structure the entry screen and in which directory this file is located.
5. Start scanning by placing the drawing in position and clicking on the scanning toolbar button



6. As soon as the scanning process has been completed and the drawing appears in the file view, the database entry screen will automatically be opened so that you can enter your details for filing the drawing you have just scanned. If you scan in further drawings, the database entry screen will automatically be opened as soon as each individual scan has been completed. The "Autostart" option can also be activated.

Scan

This chapter describes scanning. You will find out which settings are required and how you can start the actual scanning process. If you would still like to print off one or several scanned drawings, you should first read the chapter "Prepare print jobs", Page 179.

Set scan parameters

Before you begin to scan, set the necessary parameters. To do this, open a dialog window with two tabs using the menu command "View – Scanner settings".

"Specific" tab

On this tab, you can enter the format, resolution and density settings, inter alia:

- **Formats:**

Select the drawing format in which the drawing is to be scanned from the selection menu. Apart from the standard options, "Scanner", "Window" and "User defined" you will also find the drawing formats, which you have already set as your default values in the "Settings - Options", "Formats" tab, c.f. page 148.

In the case of the format setting "Scanner", the scanner automatically recognizes the format width and format length of the inserted drawing.

If you select one of your previously set formats, the format size and format border values are used in the scan. However, you can also change the format borders. The format border settings (x border, y border) have the following purpose: If the drawing is not to be scanned at the top left-hand point (x border =0, y border =0) of the sheet, for example because they produce a relatively large border, then you can determine the new top left-hand point at which the scanning process begins, by setting the new x and y borders. The top and left-hand borders of the original are then ignored by the scan. You can get more detailed information on page 150.

The orientation as portrait or landscape format can be freely adjusted. In addition, you can activate the "Automatic length detect". In this case, only the format width set is retained. The length of the scanned drawing is then oriented to the lower edge of the drawing. The scanning process ends there.

If you use the "window" format setting, you can set all the values (orientation, format size, format border) in the area as you wish:



Landscape format



Portrait format

X-border format border from the left

Y-border format border from top

DX Format width

DY Format height

If the document is smaller than the defined scanning area, the scanned drawing is shown on the left in the scanning results: there is then a white margin on the right.

The setting "user defined" in the format list is used for stipulating scanned areas which deviate from the standard format. In contrast to the "window" function, the scanned drawings are scanned in such a way that the scanned drawing is always in the middle of the scanned results. If the document is smaller than the total scanning area, the scanning results show white margins on the left and right. You can adjust the format width (DX) and format height (DY) as you want. The maximum width is 914 mm (36 inch). You can only scan drawings of this size using this function.

Format margins cannot be adjusted. You can use the "Automatic length detection" feature (see above). In this case, the "DY" box (format height) is deactivated.

- **Mirror:**

The drawing is mirrored horizontally about the x-axis. You will usually need these settings if the drawing is scanned and

saved on the wrong side. This is primarily of significance if a translucent medium has been scanned in on the "wrong" side (back to front), to increase the contrast.

- **Invert:**

The colors black and white are swapped.

- **Remove textures:**

If you use this option you can remove textures in a scanned drawing.

- **Output:**

You have two possibilities for the output of your printouts on plotter RW-480: upper and lower. The standard setting is output at the top.

- **Scan mode:**

There are several scanning modes available, which should be tested before using:



The "Character mode" should be used for black & white drawings. The "Photo 70L/I" to "Photo 270L/I" modes are used for documents with photographs or graphics with complex shading. The more "Lines per inch" are shown, the more differentiated the simulated image of the grey values of a photo or another original. Finally, you can also select the "Character/Photo" mode. Use this mode if the original to be scanned has text as well as photos.

- **Density:**

There are 7 steps for setting the density (brightness). Step 1 produces a dark scan result, step 7 a light scan result.

- **Resolution:**

This is where you set the resolution with which the scanner is

to scan the drawing. A higher resolution usually produces better results, but also a larger quantity of data. The scanning process takes longer for higher resolutions.

When it comes to resolution, consider the following relations: The higher the resolution setting from 600 dpi, the smaller the width you can scan. The following list demonstrates the relation between resolution setting and possible scanning width:

Resolution	maximum scanning width
600 dpi	914,4 mm
900 dpi	609,6 mm
1200 dpi	457,2 mm
1800 dpi	304,8 mm
2400 dpi	228,6 mm

The maximum possible scanning length also depends on the resolution setting. The higher the resolution setting from 600 dpi, the smaller the length you can scan:

Resolution	maximum scanning width
600 dpi	15000 mm
1200 dpi	7500 mm
2400 dpi	3750 mm



Note: As a guideline for scanning documents, we recommend compliance with the following system memory prerequisites with regard to the maximum scanning length:

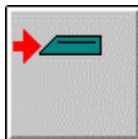
MB RAM in PC	recommended maximum scan length
256 MB	3000 mm
512 MB	6000 mm
768 MB	8000 mm
1024 MB	10000 mm
1536 MB	15000 mm
1536 MB+	15000 mm

"Info" tab

All the scanner driver status and error messages appear on this tab.

Start scanning process

After you have set all the parameters, the scanner is switched on and the drawing is ready, you can start the scan. To do this, click on the following button in the control bar:



Place the drawing in the bypass tray how it is described in the "Copy Reference" Manual.



Note: If the function "User authentication" is activated at the RW-480 plotter, you now have to enter your user name and user code before you can continue scanning. If you do not have your user name and user code, ask your administrator how these are set up at the RW-480 plotter!

The actual function "User authentication" is described in the section ""Engine Access Control" tab" from page 75.



Attention: If the sleep mode of the plotter is activated, you have to deactivate it before scanning. Read the notes in the "Copy Manual" of the plotter for it.

After the scanning process is completed, the drawing is loaded in the File Viewer. You can now edit the drawing (see chapter "Drawing editor", Page 187). Back up drawing using the keyboard shortcut "CTRL+S" or the relevant save button. If you wish to produce a job order for the scanned drawing, first read the chapter "Prepare print jobs ", Page 179.

Cancel scan

You can cancel the scanning process at any time by clicking once on the STOP button in the control bar:



In the "Autostart" mode - see page 158 - this button has two functions:

- If you click this button **during** the scan process the scan process for the current drawing will be canceled and a new one will be started after you have put on the next drawing.
- If you click the button **after** the scan process the "Autostart" mode will be canceled.

Produce files

You might wish to save the scanned drawings as files in a folder of your choice. In the settings ("Settings - Options - General"), select the "File" option. In addition, you should also make the changes to the file scan settings described on page 155 onwards.

If you have also activated the "Autostart" option in the "Settings - Options" window, you can now scan any number of drawings consecutively, without having to click on the scan button again for each drawing.

With RW-480 SCANTOOL, you can also scan in and plot whole sets of drawings. What you have to do and watch out for is described, inter alia, in the following chapter "Prepare print jobs".

Prepare print jobs

This program enables you to scan in and plot individual drawings or even whole sets of drawings. You can scan in any number of drawings one after the other, have them automatically entered in the job editor and set this as a job order. Apart from the automatically collated job list, you can also produce a set of drawings yourself. The latter procedure has the advantage that you can edit the individual drawings again with the drawing editor before assigning them to the job order. This chapter describes how to produce sets of drawings for a job order.



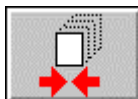
Note: The terms Job, Entry, etc. used in this chapter are explained in the chapter "Naming conventions", page 38.

When allocating a drawing to a job order manually and automatically, most of the steps involved are similar. Nevertheless they are described in two sections to ensure clarity.

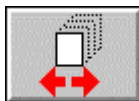
The following describes automatic allocation. If you want to allocate a drawing manually, please refer to page 183.

Allocate drawings automatically

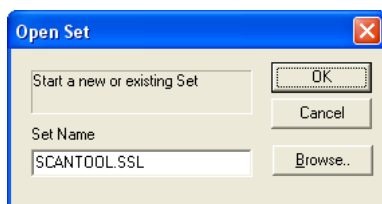
1. When first starting the program, the job editor opens with the job that you last edited. If you do not want to edit it any more, you must first close it by clicking on the following button:



2. To open a existing set of drawings or to create a new one, click on the same button which has changed its appearance:

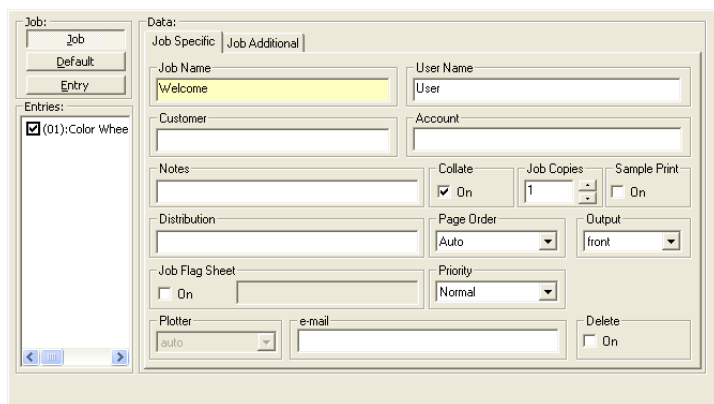


3. A window opens, in which you select a existing set name or give a new set of drawings (job order) a name.




The name can have maximum 40 letters. The file extension "*.ssl" is appended automatically. To select an existing set of drawings for changing or extending, use "Browse" to go to the corresponding defined folder. Confirm with "OK".

4. Next the job editor is opened automatically:



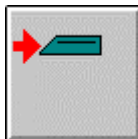
All the settings for further processing the print job in RW-480 PLOTBASE and the printout are set in the job editor. The job name has already been entered. Now enter other settings. Apart from the "Locked" option the possible settings are described in chapter "Job editor", Page 92.

Activation of the "Locked" option is useful, for example, if the drawings contained in the job order should not be available for anyone to see. As soon as you activate this setting activate, you will be asked by a dialog box to enter a password for the job order. Only use alphanumeric characters. The drawings are not displayed in RW-480 PLOTBASE after the print job has been sent. They can only be edited and printed off in RW-480 PLOTBASE by the user (i.e. by you), who knows the password.



Note: A further exceptional feature is the priority setting "immediately". This is the highest priority level. This priority can only be set in RW-480 PLOTBASE and RW-480 SCANTOOL. The current print job in RW-480 PLOTBASE will be interrupted until the job with priority "immediately" is done. You can use this priority, if you want to print out a scanned drawing immediately (copy function).

5. You can now begin to scan in the drawings. First check the scanner's default values - see also page 172 ff. Now select "Set" in the options - see "Settings - Options". If you have activated this option, the scanned drawings are automatically saved as entries in the job order. Place the drawing in the scan feed.
6. Click on the scan button in the control bar, to start the scan:



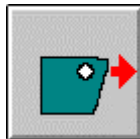
The drawing is scanned and automatically accepted in the list of drawing sets. If you have activated the additional option "Autostart" in the options ("Settings – Options"), the scanner is automatically reactivated after each scan run.

You then no longer need to click the scan key each time and can insert all the drawings in the scanner, one after the other.

7. Quit the scan run by clicking on the stop key:

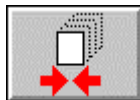


8. If you now want to send the job order to RW-480 PLOTBASE for printing, click on the following button:

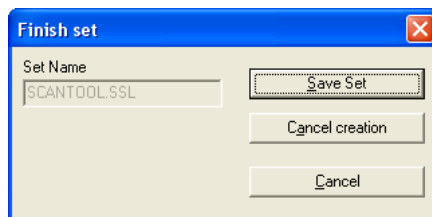


If you save the job order, you can also print it off at a later time. The save is described in the following steps.

9. You can then close the job editor by clicking on the following button in the control bar:



10. The window for saving your settings now opens:



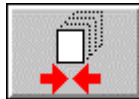
If you want to save the job order, click on the "Save set".

You can now change the job order again at a later time or print it off again. If you want to cancel the job, click on "Cancel creation". If you close the dialog and want to continue to edit the set of drawings, click on "Cancel".

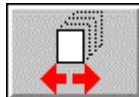
Allocate drawings manually

You can allocate both loaded files as well as scanned in drawing files. The procedure is as follows:

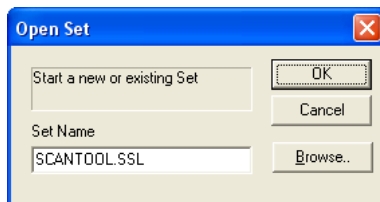
1. When first starting the program, the job editor opens with the job that you last edited. If you do not want to edit it any more, you must first close it by clicking on the following button:



2. To open a existing set of drawings or to create a new one, click on the same button which has changed its appearance:



3. A window opens, in which you select a existing set name or give a new set of drawings (job order) a name.



The name can be maximum 40 letters long. The file extension "*.ssl" is appended automatically. To select an existing set of drawings for changing or extending, go to the

relevant defined folder using "Browse". Confirm with "OK".

4. The job editor then opens:

The screenshot shows the 'Job Editor' dialog box. It has two tabs: 'Job' and 'Data'. The 'Job' tab is active, showing 'Job Name' as 'Welcome' and 'User Name' as 'User'. The 'Data' tab is also visible, showing 'Collate' checked, 'Job Copies' as 1, 'Page Order' as 'Auto', 'Priority' as 'Normal', and 'Output' as 'front'. There are also fields for 'Customer', 'Notes', 'Distribution', 'Job Flag Sheet', 'Plotter', 'e-mail', and 'Delete'.

All the settings for the further processing in RW-480 PLOTBASE and the printout are set in the job editor. The job name has already been entered. You can now enter further settings. Apart from the "Locked Print", the possible settings are described in chapter "Job editor", Page 92. It is useful to activate the "Locked Print" option if for example the drawings in the job order are not to be made accessible for anybody to look at. As soon as you activate this setting you are asked in a dialog to enter a password for the job order. Only use alphanumeric characters. The drawings are not displayed in RW-480 PLOTBASE after the print job is sent off. They can now only be edited and printed off in RW-480 PLOTBASE by the user (i.e. by you), who knows the password.

Note: A further exceptional feature is the priority setting "immediately". This is the highest priority level. This priority can only be set in RW-480 PLOTBASE and RW-480 SCANTOOL. The current print job in RW-480 PLOTBASE will be interrupted until the job with priority "immediately" is done. You can use this priority, if you want to print out a scanned drawing immediately (copy

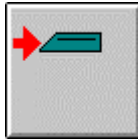
function).

5. You now have two possible ways of accessing drawings that you want to save in the job editor save. You can either load drawing files or scan in drawings. Load a drawing using the "File - Open" menu or using the following toolbar button:



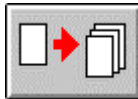
You can now change the drawing using the drawing editor - see page 187.

If you wish to scan in a drawing, check the scanner's default values first - see also page 172 ff. Place the drawing in the scanner feed. Click on the scan button in the control bar:



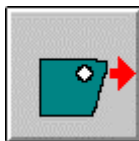
Here too, you can also change the drawing using the drawing editor - see page 187.

6. Now assign the drawing to the job order (set of drawings), by clicking on the following button in the control bar:



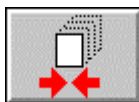
Repeat steps 4 and 5 if you want to add several drawings to the set of drawings.

7. If you now want to send the job order to RW-480 PLOTBASE for printing, click on the following button:

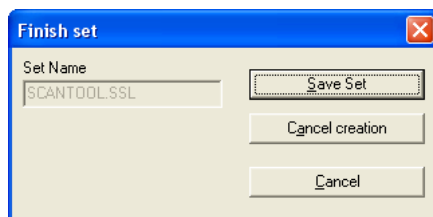


If you save the job order, you can also send it at a later time or change it again. The save is described in the following steps.

8. Close the job editor if the job order is complete and no more changes are to be made:



9. The window for saving your settings now opens:



If you want to save the job order, click on "Save set". You can now change the job order again at a later time or print it off again. If you want to cancel the job, click on "Cancel creation". If you want to edit the set of drawings again, click on "Save set".

Drawing editor

The following section describes the drawing editor of RW-480 SCANTOOL. You can read how to set your default values and edit the required drawing.

Start and quit the drawing editor

Start the drawing editor either via the "Editor – Start the editor" menu or by clicking on the relevant toolbar button:



The drawing editor is started and immediately loads the drawing loaded in the preview window of the main program.

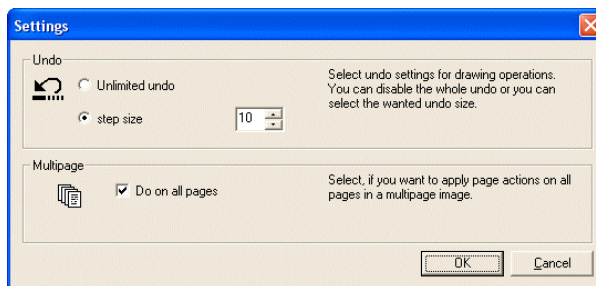
Quit the drawing editor via the "File – Exit" menu or using the keyboard shortcut "ALT+F4".

Set the default values

Before you begin your work in the drawing editor, you can set several default values. The changes concern the general settings and the "Insert mode":

General settings

Using the menu command "Options - Common" you open a dialog window:



- **Undo:**

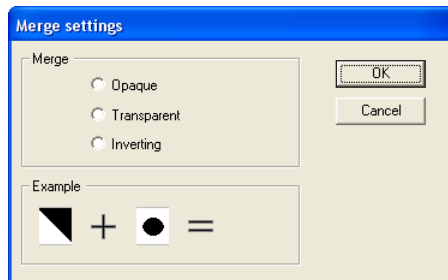
In "Undo", you stipulate how many work steps in the program can be undone. If an unlimited number of steps are to be able to be undone, activate the "Unlimited undo" option. However, the number of steps also depends on the size of your computer's memory. Using the other option, "Step size" you can fix a certain number of steps that can be undone.

- **Multipage options:**

Here you can activate an option so that certain actions not only affect the page currently being edited in a multipage document, but on all the pages of the document. You can thus significantly reduce the time spent working on these documents.

Determine insert mode

The first default setting deals with the way in which an inserted object is to be placed on the drawing. Open the window via the "Edit - Clipboard merging" menu:



You can select between the entries "Opaque", "Transparent" and "Inversion". You can see what effect insert has in the "Example" field situated directly beneath it. If you select "Opaque", the inserted object overwrites the area beneath it. If you select "Transparent" the inserted object lies "under" the existing image, so that parts of the inserted data can be overwritten. It is only in the third option, "inverting" that both the drawing as well as the inserted object can be identified in the end result, because the overlapping areas can be displayed inverted.

Edit drawings

The following pages describe how to edit a drawing: Cut out any number of areas, copy, insert again, overwrite and insert text - and all in different grey scale values and view orientations. Furthermore, you can also read how to realign a drawing that has shifted during the scan and how to remove possible contaminations.

File information

You can obtain information about the drawing currently loaded. To do this, select the command "File – Info" or click the following button:



More information about the opening window you can get on page 104.

The toolbar

The following gives an overview of the whole toolbar including a brief description. The following sections describe how to use the buttons:



Cut area



Copy area to clipboard



Insert area from clipboard





















Cut area from drawing and delete the rest
["Crop"]



Undo last command



Zoom center of cut out

	Zoom window selected with the mouse
	Successively enlarge cut out area
	Successively reduce cut out area
	Switchover to zoom all
	Switchover to View 1:1
	Zoom drawing width extents
	Zoom drawing height extents
	Rotate drawing 90° in counter-clockwise direction
	Rotate drawing 90° clockwise
	Rotate drawing through 180°
	Mirror horizontally
	Mirror vertically
	Enter text
	Use pen
	Use erase
	Draw lines
	Fill area [black]
	Delete area [white]



Invert whole area



Filter drawing



Align drawing



Multipage documents: Go to first page



Multipage documents: Back one page



Multipage documents: Enter certain page



Multipage documents: Forward one page



Multipage documents: Go to last page



Change drawing in black & white



Change activated drawing



Set drawing darker



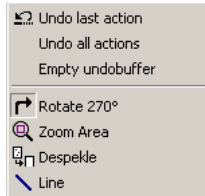
Set drawing lighter



File information

The mouse

RW-480 SCANTOOL has an additional comfortable mouse function for you to use while working in the drawing editor. In general, you carry out all your work using the left-hand mouse button. In addition, you can use the right-hand mouse button to open a window with which you can quickly start and execute, without having to pull down the menus or use the toolbar. You simply open the window with the right-hand mouse button and select the required command with the left-hand mouse button. The window is usually divided into two blocks after several operations:



In the top block you can undo the last commands. Your last commands are listed in the lower block.

Deskew and despeckle drawing

Before you begin with the actual work, it may be necessary for you to align the drawing first because it has slipped during the scan. Sometimes a drawing also has contaminations, which should be removed.

- **Deskew**

A slipped drawing is very easy to align. Simply select "Deskew" from the "Image" menu or the corresponding button from the menu bar:



You can now set the mouse at any point on the drawing and drag the mouse in the required direction. The program aligns the drawing along this "mouse line".



Note: If the drawing is very large and/or complex and its display requires a large memory space, the aligning can take somewhat longer. In such a case the program gives you a corresponding message and you can cancel this function.

- **Despeckle**

If the drawing is contaminated after the scan, you can remove it with a filter. Select "Despeckle" from the "Image" menu or the relevant button from the menu bar:



The program opens a window, in which you can enter which areas are to be deleted from what number of pixels and less: If e.g. you enter 7 pixels, all areas with a size of 7 x 7 pixels and less are deleted.

Merge Image

You can also use the drawing editor to "combine" a vector drawing with an already loaded drawing:

Assume you have a plot of land on the old drawing, on which a railway line is to run in the future.

In this case the new drawing only has to contain the railway line and can then be easily positioned at the required location on the old drawing using the "Merge Image" function.

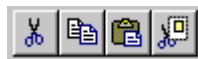
Select "Merge Image" from the "Image" menu:

After selecting the menu, a selection window opens from which you can select the drawing to be combined with the already loaded drawing. You can only load vector drawings in HPGL and Calcomp format.

When you have selected the drawing, it is "attached" to the mouse cursor and you can position it where you want. The drawing is transparent when inserted. The insert mode cannot be changed.



Cut, crop and copy

With the following buttons you can – seen from left to right -




- Cut out an area defined with the mouse
- Copy an area defined with the mouse to the clipboard
- Reinsert the copied area last copied to the clipboard
- Cut out an area selected with the mouse and delete the rest of the drawing

Only two commands are required to cut or copy an area:

1. First click on the button  or .
2. Using the mouse, drag a relevant-sized rectangle at the required position in your drawing.
RW-480 SCANTOOL cuts out the area or copies it to the clipboard.

The drawings copied to the clipboard or drawing cut outs can also be inserted in all other Windows applications as a Bitmap.

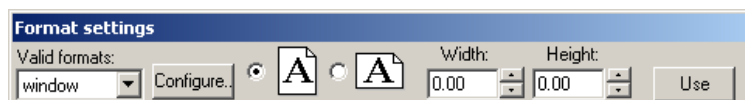
To reinsert an area and position it at the required position, proceed as follows:

1. Click on the button .
2. Position the mouse cursor on the drawing at the required position and click the left-hand mouse button.
RW-480 SCANTOOL inserts the cut out section at the indicated position.

If you only want to retain the area selected with the mouse and delete the rest of the drawing, you only need to click on the second button with the small pair of scissors, mark the area on the drawing and let go – only the required area remains on the drawing:



This is the basic "Crop" function if you don't want to use the following "Format settings" input window.



Here you can set a freely selected rectangle, to then retain it from the rest of the drawing. You can either do this by entering freely selected measurements or you can select an existing or already predefined format from the list of "Valid formats". If the

required format is not included in the list, you can select it using the "Configure" button. The program then opens the "Formats" tab, which you have already seen in the "Settings – Options" under the "Settings" menu. When you have selected the format, decide on the format orientation: Portrait or Landscape. Then click on "Use", position the rectangle and close the command with a click on the left-hand mouse button.

Undo and delete clipboard

Use the following button to undo the last command.



In the default values of the drawing editor you were able to set the maximum number of commands that the program should remember, c.f. p. 188. If you want to delete the steps saved in the clipboard to release memory capacity, select the "Edit – Empty Undobuffer" menu. RW-480 SCANTOOL has its own, faster clipboard for this. If another application wants to fetch the [RW-480 SCANTOOL -] data from the clipboard, RW-480 SCANTOOL transfers the data into the Windows clipboard.

As long as the data is not requested by another application, it remains in the RW-480 SCANTOOL - clipboard, and you are asked when leaving the drawing editor, whether the data is to continue to remain available for other applications, i.e. whether it should be transferred to the Windows clipboard.

You can delete the Windows clipboard using the "Edit – Empty clipboard" menu item.

Select view and change position

You can choose from thirteen possible options for setting the view with respect to size and position:



From left to right, the buttons have the following meanings:

- Enlarge a position about the center
- Enlarge a section defined with the mouse
- Successively enlarge section
- Successively reduce section
- Return to zoom extents
- Switch to view 1:1
- Zoom drawing to side width
- Zoom drawing to side height
- Rotate drawing 90° counter-clockwise
- Rotate drawing 90° clockwise
- Rotate drawing 180°
- Mirror horizontally
- Mirror vertically

The last five buttons refer to rotate and mirror. These commands change the view and position of the drawing, but they also change the whole drawing. When closing the drawing, the program therefore asks whether the changes should be saved.

Use of the buttons is easy: apart from the two magnifying glasses, you only have to click on the required button and the command is executed directly.



: If you want to enlarge a position about the center, click on the first magnifying glass from the left and then on the required position in the drawing. The program enlarges by one step and places the position concerned in the center of the screen.



: To enlarge a certain section, first click on the second magnifying glass from the left and then drag a rectangle of any size at the required position on the drawing. The program enlarges the section enclosed by the rectangle by one step. You can enlarge a section as often as you like without having to click on the magnifying glass again.

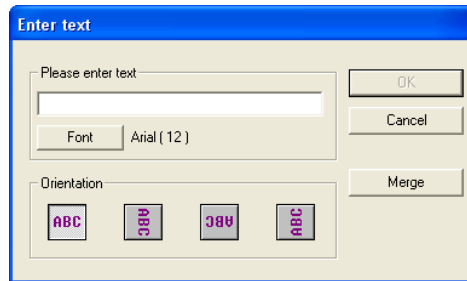
Insert text

If you want to insert text into the drawing, you can either open

the input window via the "Tools – Enter text" menu item or you can click once on the relevant button:



The window that then opens is for entering text, formatting text, alignment and to determine the insert mode:



- **Text input:**

Enter your free text in the top left-hand field. The length of the text depends on the font size you have selected. You can only enter one line of text; the program does not wordwrap text.

The font size currently set is shown directly below the input field to the right of the "Font " button.

- **Orientation:**

If you don't want to position the text as a standard, you can rotate it clockwise through 90°, 180° or 270°.

- **Font:**

To change the text attributes, click on the "Font" button below the text input field. In this window you can change all the font settings as you are used to doing in other Windows programs: Font, font type, font size and font effects.



Note: The font color is permanently set to "black" and cannot be changed.

- **Merge:**

Open the window using the "Insert mode" button. Choose between "Opaque", "Transparent" and "Inverting". In the "Example" field directly beneath the window you can see what the effect of the insert is. If you select "Opaque", the inserted text overwrites the area beneath it. If you select "Transparent" the inserted text lies "beneath" the existing drawing, whereby parts of the inserted text can be overwritten. Only the third option, "Inverting" can the both the drawing as well as the inserted text be recognized in the end effect, because the overlapping areas are displayed inverted.



Note: Changing the insert mode via the text input window does not change your defaults. Both settings are independent of each other. The setting here only applies for the test insert.

Use pen and eraser

Apart from the text tool, there are six other possible ways to change the drawing:



The buttons are easy to use. Simply click once on the required button and enter the necessary pen or eraser widths in the input window. You can now use the tool with the set width.

Draw lines

If you want to draw lines, you can either open the input window via the "Tools – Line" menu item or you can click once on the corresponding button:



Enter the line widths in pixels, inches or centimeters in the input

window and draw directly with the mouse, without having to close the window. This has the advantage that you can draw several different line sizes and do not have to reopen the menu every time. The current valid size unit is displayed in the status bar at the bottom of the screen.

Fill area, delete and invert

There are there tools with which you can edit large areas of a drawing:



The buttons mean the following from left to right:

- Fill area [black]
- Erase area [white]
- Invert area

Use of the buttons is the same in all three cases. Activate the required tool and drag a rectangle on the drawing with the mouse. The command is executed directly.

Examine multipage documents

When printing multipage documents, you must ensure that all the pages of the documents have the same size and that you can only print all the pages at once. There is no "from page to page" setting for the printout.

You can move about in multipage documents using the following buttons:



Go to first page of the document



Go back one page



Move forward one page

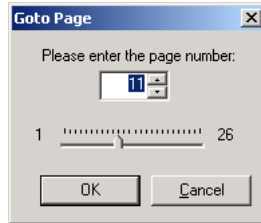


Go to last page of the document



Enter certain page

If you use the last button, a dialog opens in which you can directly enter the page you wish to go to:



Grey scale or black & white

There are two possible ways of displaying a drawing: black & white or in grey scale, for which four tools are available:



You can execute the following functions, from left to right:

- Display drawing in black & white
- Display drawing in grey scale
- Set drawing darker if it is displayed in grey scales
- Set drawing brighter if it is displayed in grey scales

The buttons are very easy to use: you only have to click on the required button once and the command is executed directly.

Part IV - Appendix

Overview of the file formats

In the following chart all file formats are listed. The standard formats are listed in the first chart and the optional formats in the second. In the column "Read" you can see, whether file formats can be opened and read in the program. In column "Write" you can get the information whether file formats can be created after scanning or editing.

Format	related documentation	color depth	compr.	read	write	remark
TIFF	"Tagged image file format – TIFF, Revision 6.0", Adobe Developers Association	b/w	uncompressed	yes	yes	RW-480 SCANTOOL can write a Multipage TIFF
			CCITT/3 1D			
			FAX CCITT G3			
			FAX CCITT G4			
			PackBits			
BMP	Windows/OS/2 Bitmap format	b/w	uncompressed	yes	yes	size limits apply
PCX	"PCX format, version 2.x-5.x", ZSoft Paintbrush	b/w	uncompressed	yes	yes	size limits apply
			RLE runlength coded			
T6X	"The T6X file format", Ratio Entwicklungen GmbH	b/w	FAX CCITT G4	yes	yes	
RLC	no formal reference – different market standards	b/w	RLE runlength coded	yes	yes	16 bit size limits

Format	related documentation	color depth	compr.	read	write	remark
CALS	DODISS, Department of Defense Index of Specifications and Standards					
	MIL-STD-1840B	b/w	FAX CCITT G4	yes	yes	
	MIL-STD-28002A	b/w	FAX CCITT G4	yes	yes	
CIT	"SDN 84-007 / Version 3.2.0", Intergraph Corporation	b/w	FAX CCITT Group 4	yes	yes	
		b/w	FAX CCITT Tiled- Group 4	yes	yes	
HPGL, HPGL/2	"The HPGL and HPGL/2 command set", Hewlett Packard	256 pens Palette Color 8 bit	as specifie d in referenc e	yes	no	
HP-RTL	"HP-RTL, Raster Transfer Language", Hewlett Packard	b/w 1 bit	HP-RTL	yes	yes	
		grey 4 bit	HP-RTL	yes	no	
		Palette color 8	HP-RTL	yes	no	
		RGB 24	HP-RTL	yes	no	
Calcomp	"Calcomp 906/907 controller", Calcomp	16 pens b/w	Calcom p	yes	no	
WMF	Windows Metafile, Microsoft			Yes	no	

The following file formats are optional. You can only use the DWF/DWG/DXF formats if you have installed a full version from the AutoCAD series 2000 to 2006 on the server:

Format	related documentation	color depth	compr.	read	write	remark
DWF	Autodesk			yes	no	
DWG	Autodesk	tbd		yes	no	
DXF	Autodesk			yes	no	
RW-480PS	"PostscriptLevel III Compatible Option"	b/w	PS, EPS	yes	no	
		Palette color 4	PS, EPS			
		grey 4	PS, EPS			
		grey 8	PS, EPS			
		Palette color 8	PS, EPS			
		RBG 24	PS, EPS			
PDF	"PDF – Portable document format", Aladdin Enterprises	b/w	PDF	yes	no	
		Palette color 8	PDF			
		RBG 24	PDF			
	Compatible with Acrobat Reader Version 5	b/w	acc FAX CCITT	yes	yes	Multipage PDF, can be written by RW-480 SCANTOOL
CGM	"NIST CGM ATA, Release 2.0 ", National Institute of Standards and Technology, Gaithersburg, MD 20899	b/w	CGM	Yes	No	Reference: "Interpreter Test Specification, Reference Pictures", National Institute of Standards and Technology
		Palette color 8	CGM			
		RGB 24	CGM			

Installation on Windows XP with SP 2

This section describes, how to use RW-480 PLOTBASE on Windows XP Professional with Service Pack 2 and how to configure the new security features of Windows XP.

Installing the Service Pack 2 from Microsoft on Windows XP Professional will lead to non-working RW-480 system. The operator has to modify the system settings of Windows XP.

The following steps explain how to solve that problem:

1. Install Windows XP Professional with Service Pack 2 [for Windows XP] as described by Microsoft.
2. Install RW-480 Version 3.5 as usual.



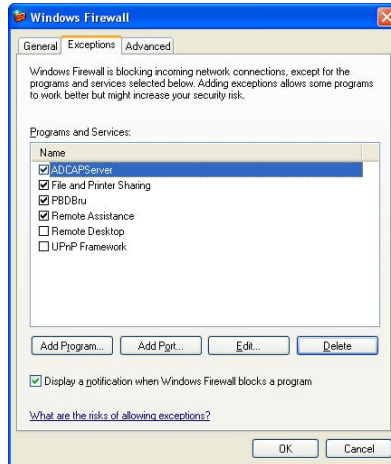
Attention: Do not install elder versions on Windows XP with Service Pack 2! If you have an elder version, get an update to the above versions first.

3. Start RW-480 PLOTBASE.
You will be alerted that RW-480 PLOTBASE does access the network. This is a solid and tested feature and necessary for RW-480 PLOTBASE to work.
4. Answer the dialogs for "ADCAPServer" and "PBDBru" with "Unblock":



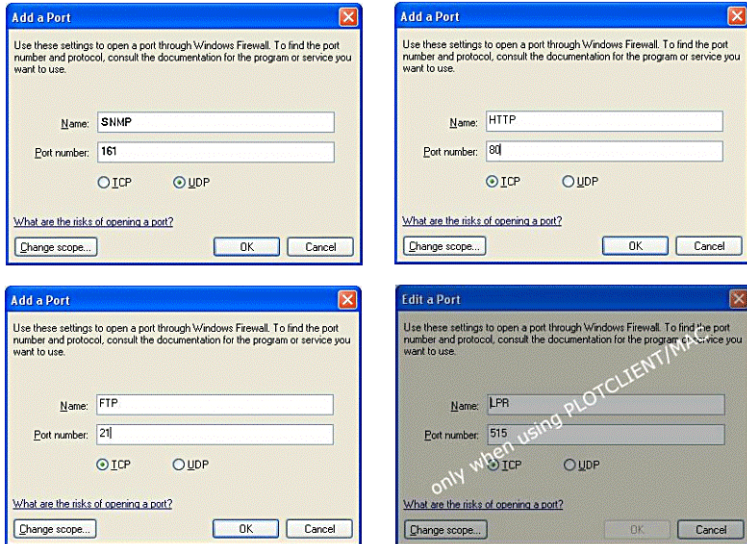


5. Shutdown again RW-480 PLOTBASE and wait 10 seconds.
6. Open "Start - Control Panel - Windows Firewall - Exceptions":

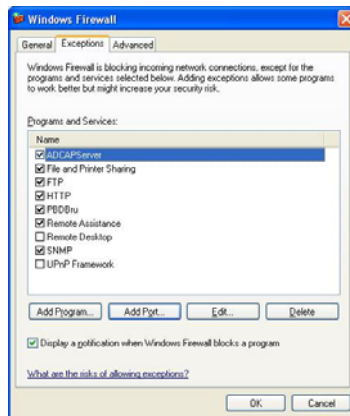


7. Add following three ports:

Name	Port	Type	Comment
SNMP	161	UDP	-
HTTP	80	TCP	-
FTP	21	TCP	-
LPR	515	TCP	Only required when using PLOTCLIENT MAC or lpr to send plot files



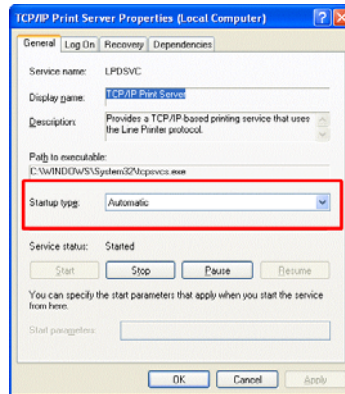
The new ports will automatically be added to the list of ports:



8. If you want to use RW-480 PLOTCLIENT MAC you have to make sure that the "TCP/IP Print Server" service is started. If you do not want to use the PLOTCLIENT MAC continue with step 9.

You can start the service manually by starting it in the Control Panel. However, we recommend to change this service to automatic in order to have it up and running automatically after future Server reboots:

Open "Start - Control Panel - Administrative Tools - Services - TCP/IP Print Server" and change the "Startup Type" to "Automatic":



9. Finally reboot your system.
All required settings have been done to run RW-480 on Windows XP Professional with Service Pack 2.

PLOTBASE directory

The main directory "Program files" also contains the sub-directories for the program RW-480 PLOTBASE. The subfolders or the files contained in them have the following functions:

Data:

The drawing data are saved in this directory until the print job is deleted.

Program:

This folder contains important program files such as the main program "PBRU.EXE".

Samples:

This folder contains example files.

SSL:

RW-480 PLOTBASE uses this folder as a working folder for the SSL files, which are currently being edited. You cannot use this folder; it is solely for internal program applications.

RW-480 PLOTCLIENT WEB:

This subfolder contains the program files for RW-480 PLOTCLIENT WEB.

Under **RW-480 SCANTOOL** you will find various directories of the program.

Archive:

Here you can find the SDF files and drawing files, which can be imported in a data base system.

Program:

This contains important program files which must not be changed.

Scan To File:

This is where the graphics scanned in RW-480 SCANTOOL can be found, which can be saved to this folder using the ScanToFile command.

Work:

This is where the print jobs are stored with the drawing files and SSL files, which have been produced in RW-480 SCANTOOL. A

folder is set up for each job order, which contains the name of the print job.

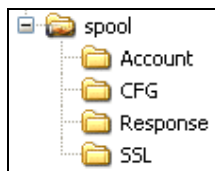
Tools:

This is where the installation programs for the following clients are located:

- RW-480 PLOTCLIENT HDI/ADI
- RW-480 PLOTCLIENT WIN
- RW-480 WINPRINT
- RW-480 PLOTCLIENT MAC
- RW-480 PLOTCLIENT LPR
- Plugins for RW-480 PLOTCLIENT WEB

This folder is automatically shared for other workstations during installation. This enables you to access the installation programs and to install the clients on your computer.

Spool directory



The Spool directory can be on any PC in your network. A subdirectory is created for each Reader. It's called according to the Reader's name. There are two types: CFG and SSL directories.

Cfg subfolder:

RW-480 PLOTBASE fetches the drawings from this folder in the configuration format CFG or Embedded SSL, which have been stored here by an RW-480 CLIENT or other clients. The drawings are usually sent with a corresponding CFG file. However, drawings that do not have a CFG file stored in this folder can also be edited. In this case, a "Default.ssl" file is used for the further processing, and which already exists in the CFG folder. This is also used if the CFG file is incomplete. The Cfg

subfolder is usually a folder that can be reached via a network.

SSL subfolder:

Except of the Default.ssl empty. The clients send the SSL jobs to this folder, which are then fetched by RW-480 PLOTBASE for editing and plotting. The SSL files arriving in this folder refer to new subdirectories produced for each job, which have the same name as the files themselves and contain the drawings for the job.

Example:

Job file:	[C]:\spool\ssl\test.00123.ssl
Drawings:	[C]:\spool\ssl\test.00123\building.tif
	[C]:\spool\ssl\test.00123\floor.plt ...

The SSL subfolder SSL is typically a folder that can be accessed from the network.

Account:

This folder will only be created, if you have activated it in "Configuration - Properties - Extended" settings. PLOTBASE then saves two files for accounting. One is the form file [*.TXT] and a database SDF file [*.SDF]

Response:

The folder names are named with the user names. In this folder there are files which contain the current status of the jobs in an encrypted way.

Jobs in the subdirectories

This section briefly describes how RW-480 PLOTBASE identifies and accepts jobs. It is intended to provide you with an insight into the "Contents" of the new subdirectories.

Generally there are two different folder types: SSL and CFG.

Here are SSL- and CFG-Files including the according plot files.

In addition one DEFAULT.SSL file is saved there.

CFG- and SSL files contain settings which contain the specific plot parameters.

CFG files are always paired with one plot file.

SSL files contain the settings for a complete job of maybe more

than one plot file.

In most cases these files are automatically created by the PLOTCLIENT programs and put into the spool folder.

Both types of files may also be saved manually in the spool folder accompanied by the plot files. This is described in the chapter "manual copy of SSL and CFG jobs".



Note: CFG- and SSL-files contain the parameters for the print-outs. CFG files are sent with single drawing-files, whereas SSL-files define the properties of complete drawing sets. Normally, these files are created by client-programs automatically. Both file types can be created also by yourself. To do so you have to use the CFG- and SSL-commands, which are described in the Technical Manual.

When reading the SSL files and starting the jobs, RW-480 PLOTBASE proceeds as follows. The program reads the incoming SSL file at second intervals and checks whether the file will become larger, i.e. further entries are added or not. RW-480 PLOTBASE does not start processing the job until the SSL file stops growing.

SSL based jobs

The SSL-folder is for jobs that are sent to RW-480 PLOTBASE by RW-480 CLIENTs or other own applications, which produce SSL files. The following work steps are carried out when an "SSL job" is received:

1. A subdirectory for the new job will be created automatically where you copy the drawing files. The name consists of the job file name and a internal number.
2. As soon as RW-480 PLOTBASE registers the job in the SSL-folder, it reads the incoming SSL file at regular steps until it identifies it as having been completely written. If this SSL file does not contain all the necessary properties, the program also reads in the "Default.ssl" in the main RW-

480 PLOTBASE folder, to complete the job configuration.

3. After that a new SSL file will be created. For that the existing Default.ssl file will be overwritten by the SSL file of the job. If there are faults in the SSL file, the settings are not complete or has the job creator no access rights for a setting, the settings of the Default.ssl will be used.
4. The SSL file is processed in the SSL working folder "RW-480 PLOTBASE\ SSL" and only deleted with the drawings if you delete the job from the job list in RW-480 PLOTBASE or have it deleted by the program in accordance with the history setting.

CFG based jobs

If a CFG based job is received, the following work steps are carried out:

1. First the program searches for a plot file which has been sent by a client. After that a CFG file of same name will be searched in the CFG folder. Same happens if a ESSL file (Embedded SSL, specific form of CFG file) is sent.
2. Now a new SSL file is created. For that the existing default.SSL is merged with the new SSL file. In case the new SSL file is incomplete, erroneous or the settings may not be specified by the PLOTCLIENT, then that data is taken from the default.SSL.
3. The corresponding drawing file is moved to the CFG working folder "Data".
4. The new SSL file is processed in the SSL working folder and together with the drawings, is not deleted until you delete the job in the job list in RW-480 PLOTBASE or have it deleted by the program in accordance with the configuration setting.

Copying SSL and CFG jobs manually

You can copy SSL files or CFG files which you have created by yourself or by a 3rd party application into the CFG or SSL folder respectively.

In case of CFG the rule is: Either copy just the plot file into the folder or copy both CFG file and plot file into the folder.

If there are more than one CFG or SSL folders make sure the correct access rights and defaults are used.

- **SSL jobs:**

If you want to copy a SSL file and a plot file into a SSL spool folder, you must first create a folder and then copy the plot data into the folder. Name of folder and name of SSL file must be same. After that copy the SSL file and the data folder into the SSL spool folder.

- **CFG jobs:**

If you copy a CFG file and a plot file into a CFG folder, it is important to copy the CFG file first and then the plot file.

You can also copy the plot file alone (with no CFG file) into the CFG folder. In that case all defaults will be used.

The following processing of SSL and CFG jobs has already been described in the previous chapters.

HPGL/2 commands and pens

In this chapter we have listed all the HPGL and HPGL/2 commands that the program fully or partially supports:

+ = command is fully supported

~ = command is partially supported

- **Configuration and status group:**

DF	=	+
IN	=	+
IP	=	+
IR	=	+
IW	=	+
PG	=	+
RO	=	+
SC	=	+

- **Vector Group:**

AA	=	+
AR	=	+
AT	=	+
CI	=	+
PA	=	+
PD	=	+
PE	=	+
PR	=	+
PU	=	+
RT	=	+

- **Polygon Group:**

EA	=	+
EP	=	+
ER	=	+
EW	=	+
FP	=	+
PM	=	+
RA	=	+

RR = +
WG = +

• **Line and Fill Attributes Group:**

AC = +
FT = +
LA = ~
LT = +
PW = +
RF = +
SM = +
SP = +
UL = +
WU = +

• **Character Group:**

AD = ~
CP = +
DI = +
DR = +
DT = +
DV = +
ES = +
LB = +
LO = +
SA = +
SD = ~
SI = +
SL = +
SR = +
SS = +
TD = +

• **Technical Graphics Extensions:**

BP = +
CT = +
DL = +
MC = +
PS = +

- **Palette Extension:**

CR = +
NP = +
PC = +
SV = +
TR = +

- **Dual-Context Extension:**

No commands are supported

- **Digitizing Extension:**

No commands are supported

- **Default values for HPGL pens:**

All 256 HPGL pens have the pen thickness 0.35 mm as their default value.

They have the following default values as colors:

<u>Pen</u>	<u>Color</u>
0	white
1	black
2	red
3	green
4	yellow
5	blue
6	magenta
7	cyan
8-255	black

Calcomp commands and pens

In this chapter we have listed all the Calcomp commands and their implementation status in RW-480 PLOTBASE. The standard pen widths for the 16 Calcomp pens are given at the end of the chapter.

+ = command is fully supported

– = command is not supported

- **951 Commands:**

paper cutter	–
top of form	–
async	–
start of plot	–
force plot	–
plot copies	+
plotter select	–
negate	–
pattern fill	–
hatch	–
setpat	–
setpen	+

- **Electrostatic Extensions:**

newpen	–
color sequence	–
extended pattern fill	–
area fill	black/white
color modify	–
extended setpen	–
xsetpen	black/white
extended setpat	–
diskIO	–
setlevel	–
newlevel	–
raster fill	–
pixel	–
plot status	–

- **Symbols Commands:**

font selection	+ [not all symbols]
symbol string count	+
plotter symbol scaling	+
controller symbol scaling	+
symbol characteristics	+
extended characters	+
select symbol set 0-4	+
plotting symbol from selected symbol set	+
user defined symbol	+
erase user symbol set	+

- **Circles Commands:**

chordal tolerance	+
circle command for circles	+
circle command for arcs	+

- **Dashlines Commands:**

dash bypass	+
dashline	+

- **Additional Commands:**

no operation	+
pass through 8 bits direct to plotter	
no operation	+
newplot	-
manual	-
pause	-
operator message	-
operator message with pause	-

- **Calcomp pen default values:**

Calcomp pens, currently 16 of them, have the following default values for the pen width:

Pen	Pen width in mm	Pen width in pixels
1	0.06	1
2	0.13	2
3	0.19	3

Pen	Pen width in mm	Pen width in pixels
4	0.25	4
5	0.32	5
6	0.38	6
7	0.44	7
8	0.51	8
9	0.57	9
10	0.64	10
11	0.70	11
12	0.76	12
13	0.83	13
14	0.89	14
15	0.95	15
16	1.02	16

Creating descriptive database file

Before you can save data in an archive, a descriptive database file with the extension *.DES must be set up in the program. You can either use an existing DES file or create your own file.



Note: The file must always have the name and be stored in the directory which you have previously entered a DES name and DES path during the setting up procedure. Please see page 169.

DES files are in simple ASCII format. They can therefore be created with a conventional editor.

Rules for File Creation

It is easy to create files. You need only follow these eleven rules:

1. Every valid line begins with a " = ".
Lines which start with any other character, will be ignored.
2. Comments and comment lines start with a semicolon ";".
All the characters following a semicolon will thus be ignored.
3. Spaces are always ignored.
4. An archive box and its configuration always comprise so-called "key words" and their values.
5. Key words must always be enclosed in equals signs (=).
6. An archive box is created with the key word =Name=.
7. An archive file is configured with the key word =TYPE=.
8. With the key word =FLAG= you have the option of determining the form in which data is entered and displayed in an archive box.
9. You must define at least one unique primary key word in each DES file.

10. No distinction is made between upper and lower case letters.
11. If a key word is used more than once, the word last entered will overwrite the value of the existing one.

The following is an example of a valid archive box with its corresponding configuration:

```
=NAME=operator  
=TYPE=string, x20  
=FLAG=required, upcase
```

With this example, you will have generated an archive box in which the name of the operator is entered, which must not exceed a length of 20 letters. With the flags, you have specified that the entry of the name is obligatory and that the entry will be converted to upper case letters.

The following paragraph lists the key words that are available.

Description of the Key Words

There are five key words available to you, namely:

1. =NAME= for creating a new archive box
2. =TYPE= for configuring the archive box
3. =FLAGS= defines the form of an archive box
4. =HEIGHT= defines the height of an archive box
5. =PRIMKEY= provides a search key for working in the archive

=NAME=

With this key word, you generate an archive box in which you enter a name:

```
=NAME=field name
```

You can select any name you wish as a "Field Name". The following criteria must however be met:

1. Do not use accented letters (ä, ü, etc.)

2. Do not use special characters or symbols.
3. For separation use an underscore "_" and not a space.
4. If possible, do not exceed 16 characters.
5. The acceptable name length is determined by the database driver. It is recommended however that no more than 16 characters be used.

Once the NAME has been allocated for an archive box, the sequence of the corresponding configuration is immaterial. Allocation of the configuration is completed as soon as a new archive box is described.

=TYPE=

For each archive box a field type must be defined. This is achieved by the key word

=TYPE=string, x255

Six definitions are available: string, date, integer, longint, logical, volume.

→ **string:**

If the user is to be permitted to enter a string of characters in an archive box, define the field type as a "string". Additionally, the permitted length of the string must be entered, prefixed with an "x".

If, for example, you have the archive box with the name "Operator" into which the user may only enter his name with a maximum of 20 characters, the syntax will be:

=NAME=Operator

=TYPE=string, x20

→ **date:**

The current date is entered by the program using the syntax "DATE". The field type can be extended by the following instructions:

%d → day of the month

%m → month of the year

%y → year

Example:

=NAME=date
=TYPE=date,%d.%m.%y

In this example, the archive box will automatically have the date displayed in the format < day.month.year >. A corresponding date would be for example: 07.08.01

=NAME=Datum
=TYPE=date,%y-%m-%d

The data format is <year-month-day>. The date would look like as follows: 01-08-07

→ **integer:**

If you wish the field only to accept whole numbers, allocate the type "integer" to the field. When "integer" is used, only whole numbers in a limited range may be entered, e.g. from -32768 to +32767. For very large numbers, the field type "longint" is available.

The field type "integer" contains no supplementary parameters.

Example:

=NAME=sequential number
=TYPE=integer

→ **longint:**

If you wish to cover a larger range of numbers than is possible with the field type "integer", use a "longint".

The "longint" field type contains no supplementary parameters.

→ **logical:**

This field type is a toggle which will accept only two values, e.g. yes/no, on/off, home/abroad:

=NAME=delivery
=TYPE=logical, home/abroad

If you leave the space after "logical" blank in the "TYPE" command, the program automatically enters TRUE or FALSE.

→ **volume:**

With the field type "volume", you instruct the program directly to display the number in the archive box which has been automatically allocated to the record in question.

This field type contains no supplementary parameters.

=FLAGS=

The key word =FLAGS= serves to define the form of input and display of an archive box. Should you wish to allocate several flags to one archive box, you need only to add them, one after the other, separated by commas. It is not necessary to repeat the initial key word each time.

=NAME=operator

=TYPE=string, x20

=FLAGS=required, leftjust, upcase

There are 10 options open to you:

Required	the user <i>must</i> make an entry if the record is to be saved
LeftJust	texts and numerals are justified left in the archive box
RightJust	texts and numerals are justified right in the archive box
Centered	texts and numerals are centred in the archive box
LeftAlign	texts and numerals are aligned to the left in the archive box
RightAlign	texts and numerals are aligned to the right in the archive box
ShowOnly	the archive box is only displayed and cannot be altered by the user
Hidden	the archive box is not displayed and remains hidden from the user in the background

The following four flags can only be used for strings
[=TYPE=string]:

Uppcase	the user's text entry is converted to UPPER CASE letters, and saved
Lowcase	the user's text entry is converted to lower case letters, and saved
IBMANSI	the text is converted from IBM to ANSI characters
ANSIIBM	the text is converted from ANSI to IBM characters

The conversion from one character set to another is of significance where data records have to be exchanged between different operating systems [e.g. DOS ↔ Windows] where the one [Windows] text is save in ANSI and the other [DOS] in IBM format.

=HEIGHT=

To define the height of an archive box, or the number of lines it contains, use the syntax "=HEIGHT=":

=NAME=description
=TYPE=string, x200
=HEIGHT=3

The user can enter a description of the drawing in this archive box extending over three lines but not exceeding 200 characters.

=PRIMKEY=

Each descriptive database file [*.DES] must contain at least one unique primary key. In this context, the term unique means that all the records in the archive must be clearly unambiguous in at least one archive box. The simplest example of this would be the sequential numbering of all records.

In addition, each archive can contain additional search keys which, however, do not have to be unique.

For the primary key, you need the syntax "=PRIMKEY=" which designates an archive box which you have generated with the key word =NAME=:

=PRIMKEY=drawing number

In this example ARCBASE indicates that the data records are clearly distinguishable by the number in the "Drawing Number" box.

The following rule applies for the primary key: The sequence of the entries after the syntax "**=PRIMKEY=**" must move from the "non-unique" to "unique" → from the sub-assembly, through components, to the component number!

Example of a database description

The screenshot shows a Windows-style dialog box titled "Input of data field values". Inside the dialog, there is a label "RW-480 SCANTOOL". Below this label, there are nine text input fields arranged vertically, each with a label to its left: "Drawing_No", "Sheet_No", "Revision_No", "Reference_No", "Term", "Description", "Project", "Creation_Date", and "User". The "Drawing_No" field is the longest. At the bottom right of the dialog, there are two buttons: "Ok" and "Cancel".

The above screen would have to be described with the following DES file:

```
=NAME=drawing no.
=TYPE=string,x30
=FLAGS=required
=NAME=sheet no.
=TYPE=string,x3
=FLAGS=required
=NAME=revision no.
=TYPE=string,x3
=FLAGS=required
```

=NAME=subject no.
=TYPE=string,x20
=NAME=naming
=TYPE=string,x30
=NAME=description
=TYPE=string,x200
=NAME=project
=TYPE=string,x30
=NAME=creation date
=TYPE=string, x15
=NAME=creator
=TYPE=string,x15
=PRIMKEY=drawing no.,page no.,revision no.

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