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## **Part III - RW-240 SCANTOOL**

## Introduction

RW-240 SCANTOOL is an important user program of the RW-240 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-240 PLOTBASE for plotting.



**Attention:** The scan function is optional. You can get this option from your dealer. Other functions of RW-240 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-240 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-

240 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-240 PLOTBASE and RW-240 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-240 SCANTOOL using the Windows Start menu.

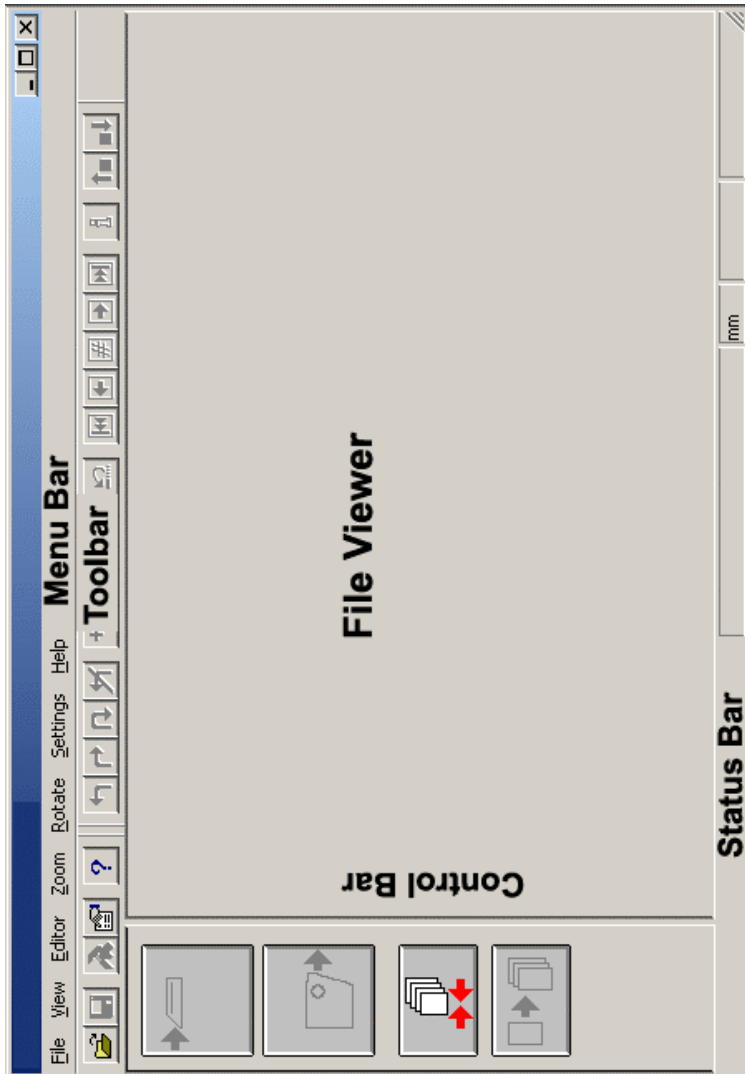
After the program has been started, the program window, the job editor and the scanner settings are opened.

- **Quit program**

Quit RW-240 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

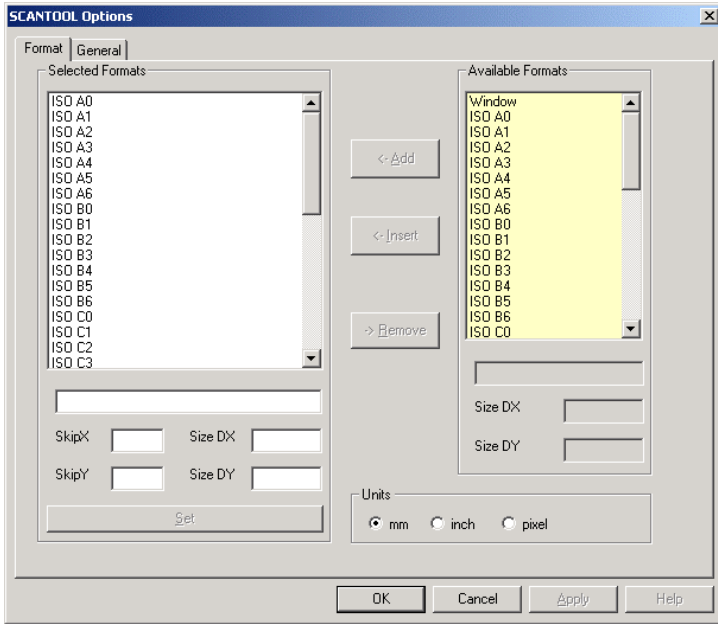
Select the drawing formats you require for your work from the "Format" tab and alter them according to your requirements. All formats that you set here appear in the selection menu of the scanner dialogs. You also determine the valid size unit.



**Note:** After starting the program for a second time, RW-240 SCANTOOL automatically accepts the formats that you have set in the program RW-240 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.

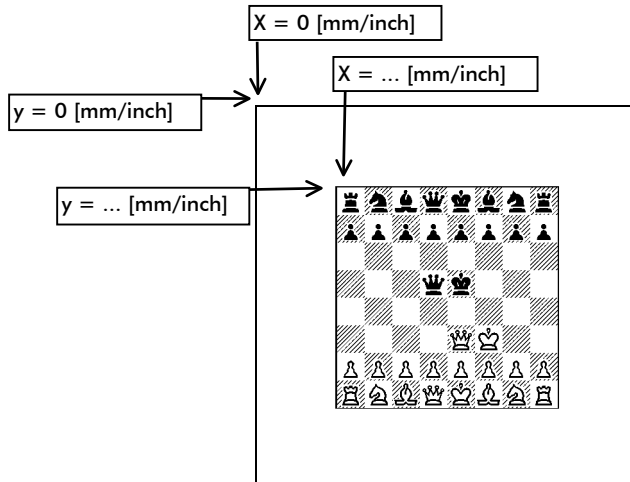
ISO|A1

SkipX 0.00 Size DX 594.60

SkipY 0.00 Size DY 840.93

Set

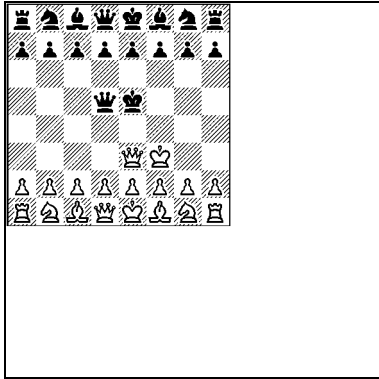
- **Change name:**  
You can change names in the upper field.
- **Set format borders (x and y values):**  
The format border settings (x and y values) are explained using the following example:



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:

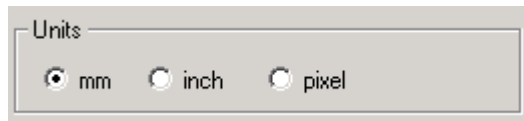


To delete the undesired borders use the drawing editor (see Page 198). There you can find tools for cutting the borders.



**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 (see page 175).

- **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-240 SCANTOOL is set in the bottom right-hand of the "Format" tab. You can choose from the size units "mm", "inch" and "pixel":



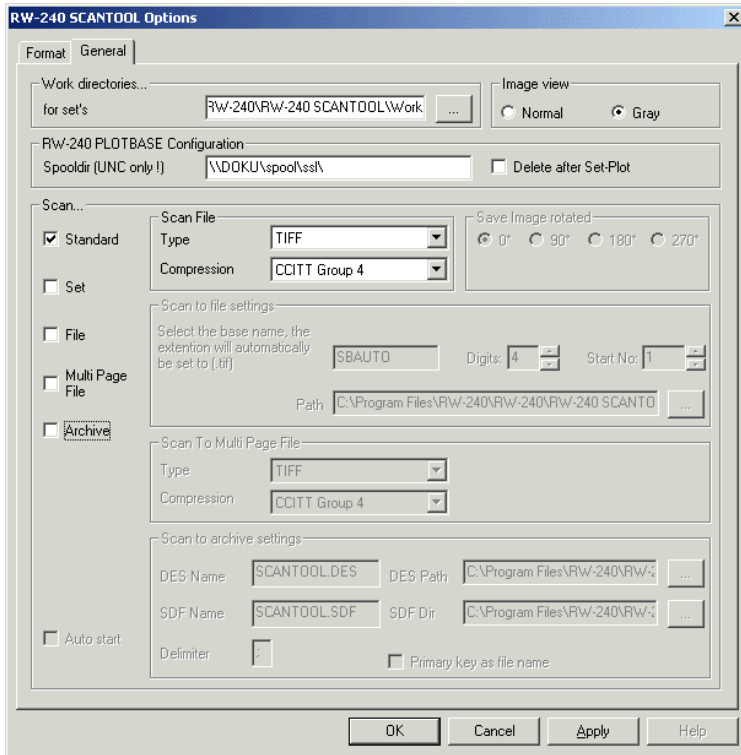


**Note:** The changed size unit does not become valid, when it appears in the status bar at the bottom edge of the screen, until you have quit the window with "OK".

"[600 DPI]" shows that 600 DPI is the standard value in RW-240 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-240 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-240 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-240 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-240 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 171.

- **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-240 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.

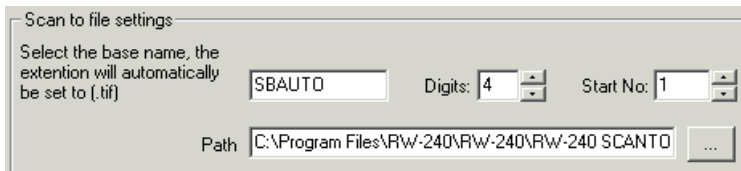
"Scan to file" settings

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 following 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-240 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-240\RW-240\RW-240 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 157).
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 157).
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-



240 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.

## 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 192.

## Toolbar

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



File open



File save



Open drawing editor. See from P. 192.



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.



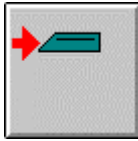
Rotate drawing 90° to the left

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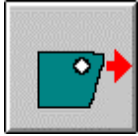
	Rotate drawing 90° to the right
	Rotate drawing through 180°
	Drawing in original position
	Successively enlarge drawing
	Successively reduce drawing size
	Switch drawing to zoom all
	Drawing in View 1:1
	View previous
	Multipage document: Show first page
	Multipage document: Forward one page
	Multipage 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 168.

## Control bar

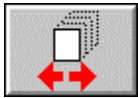
The following functions are available in the control bar:



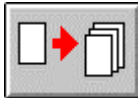
Start scan. Read the chapter on "Scan" from P. 167



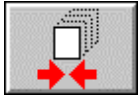
Dispatch job order. Read more in the chapter "Prepare job order " from P. 184



Load or set up new set of drawings. For more details read the chapter "Prepare job order " from P. 184



Assign drawing to the job order.



Complete preparation of the set of drawings. Refer to chapter "Prepare job order ", P. 184



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-240 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]

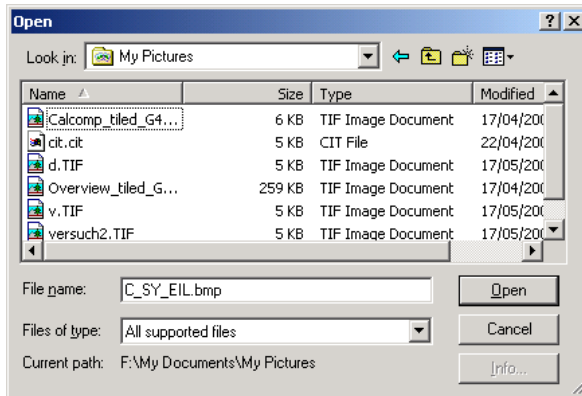
**-**: Zoom in on drawing [Editor]

## 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 [/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-240PS ..... (\*.pdf, \*.ps)

The following are available with AutoCAD 2000, 2000i, 2002 or 2004 installed on the server:

- DWG .....(\*.dwg)
- DXF.....(\*.dxf)



**Note:** A more precise definition of the file formats that can be used is given in the appendix.

You can also load multipage documents (PDF, RW-240PS, 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 162).

## 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 108.



## 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-240 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)



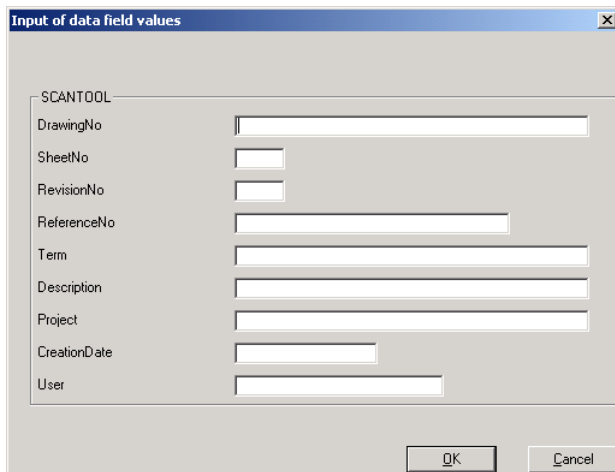
**Note:** A more precise definition of the file formats you can use is given in the appendix.

## Archive Management

With RW-240 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. 171ff.
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:



The screenshot shows a dialog box titled "Input of data field values" with a close button (X) in the top right corner. The dialog box contains a list of fields for data entry, each with a corresponding text input box. The fields are: DrawingNo, SheetNo, RevisionNo, ReferenceNo, Term, Description, Project, CreationDate, and User. At the bottom right of the dialog box, there are two buttons: "OK" and "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-240 SCANTOOL requires the following additional preset information:

The image shows a dialog box titled "Scan to archive settings". It has four main input fields: "DES Name" with the value "SCANTOOL.DES", "DES Path" with the value "C:\Program Files\RW-240\RW-?", "SDF Name" with the value "SCANTOOL.SDF", and "SDF Dir" with the value "C:\Program Files\RW-240\RW-?". Below these fields is a "Delimiter" field containing a colon character ":" and a checkbox labeled "Primary key as file name" which is currently unchecked.

- **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. 223 for it.

If you create a new DES file, the next step is to inform RW-240 SCANTOOL which directory to look in for the DES file.

- **SDF name and path:**

After scanning, RW-240 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. 223.

- **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-240 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.

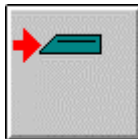
5. Open the database entry screen with the option "File - to Archive" or with "CTRL + A".
6. Enter your data and save it by clicking on "OK".

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 p. 171.

### **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-240 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

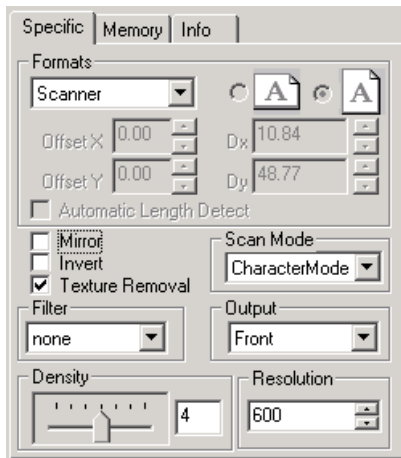
This chapter describes scanning. You will find out which settings are required and how you can start the actual scanning process. If you would still like to print off one or several scanned drawings, you should first read the chapter "Prepare print jobs ", Page 184.

### Set scan parameters

Before you begin to scan, set the necessary parameters. To do this, open a dialog window with three 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. P. 150.

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 152.

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:**

The RW-240 scanner offers one possibility for the scanned drawing output: at the top.

- **Scanning 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.

- **Filter:**  
By using this smoothing filter you can improve the quality of your image.  
**None:** No filter is used.  
**MTF:** Enhances the appearance of fine lines and easily blurred images.  
**Smoothing:** Smooths the image by blurring the focus.
- **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.  
**Maximum resolution depends on original paper size:**  
The maximum resolution of the scanner depends on the width of the original paper. For example, the format A0 with a width of 841 mm has a resolution of 652 dpi. The length of the original paper doesn't matter. The maximum length in each resolution is restricted to 6000 mm.

Even if the original paper size of two drawings are the same, the attainable resolution can be different. The resolution also depends on the paper direction (landscape or portrait): The width of a drawing in landscape direction is bigger than the width of a drawing in portrait direction.

Size	Scan Width (mm)	Max. Resolution (dpi)
Max	914	600
ISO A0 Portrait/ISO A1 Landscape	841	652
ISO A1 Portrait/ISO A2 Landscape	594	923
ISO A2 Portrait/ISO A3 Landscape	420	1200
ISO A3 Portrait/ISO A4 Landscape	297	1200
ISO A4 Portrait	210	1200

Size	Scan Width (inch)	Max Resolution (dpi)
ANSI E Portrait /ANSI D Landscape	34	635
ANSI D Portrait /ANSI C Landscape	22	981
ANSI C Portrait /ANSI B Landscape	17	1200
ANSI B Portrait /ANSI A Landscape	11	1200
ANSI A Portrait	8.5	1200
ARC E Portrait /ARC D Landscape	36	600
ARC D Portrait /ARC C Landscape	24	900
ARC C Portrait /ARC B Landscape	18	1200
ARC B Portrait /ARC A Landscape	12	1200
ARC A Portrait	9	1200

### **Maximum paper size depends on the resolution:**

For example, the original paper width is 457 mm, if you set the resolution to 1200 dpi. That's the maximum width if you use this resolution setting. The length of the original paper doesn't matter. The maximum length in each resolution is 6000 mm.

Resolution (dpi)	Max Paper Width (mm)
1200	457
1100	498
1000	548
900	609
800	685
700	783
600	914
500	914
400	914

Resolution (dpi)	Max Paper Width (inch)
1200	18
1100	20
1000	22
900	24
800	27
700	31
600	36
500	36
400	36

## "Memory" tab

On this tab you can determine how much system memory can be used for the scan.

Memory Settings			
Format	A0	A1	A2
Width	840.89	594.60	420.44
Count	1	2	4
Length	1430.1	2023.4	2861.5

Unit  
 DIN     ANSI     ARC

Memory Settings.  
 These settings will show how many units of the shown Format are able to be scanned in worst case.

Alloc Mem  MB

**Attention:** The memory size settings require several settings to have been made in the control panel first, which only the administrator can carry out. The procedure is explained in chapter "RW-240 SCANTOOL settings", page 24.

You can adjust the following settings in the "Memory" tab:

1. In the "Alloc Mem" field you enter how much system memory is available for the scan. The default setting is 80 MB. You will already have selected the standard format size and resolution for the drawings in the "Specific" tab.
2. Select a unit for the commonly used formats: ISO, ANSI or ARC.
3. The "Memory settings" now shows you how many copies of a drawing could be scanned in various formats and how long the scanned drawings can be. These are the results

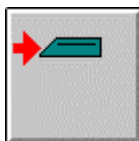
that can be guaranteed. However, it is probable that during low or average loading of your computer large formats will be able to be scanned without any problems. You therefore only have to reserve a large memory space if you want to be extra certain that the images will be properly scanned even if a large proportion of the system capacity is used.

### "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.



**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 Chap. "Drawing editor", Page 192). 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 184.

## 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 160) 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 157 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-240 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.



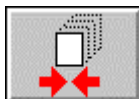
**Note:** The terms Job, Entry, etc. used in this chapter are explained in the chapter "Naming conventions", page 49.

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 p. 188.

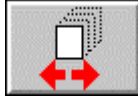
## Allocate drawings automatically

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:

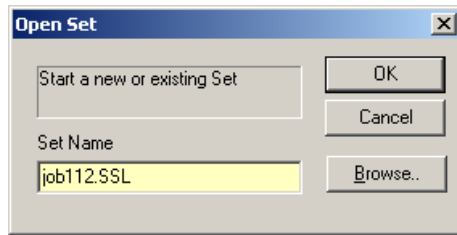


2. To open a existing set of drawings or to create a new one, click on the same button which has changed its appearance:



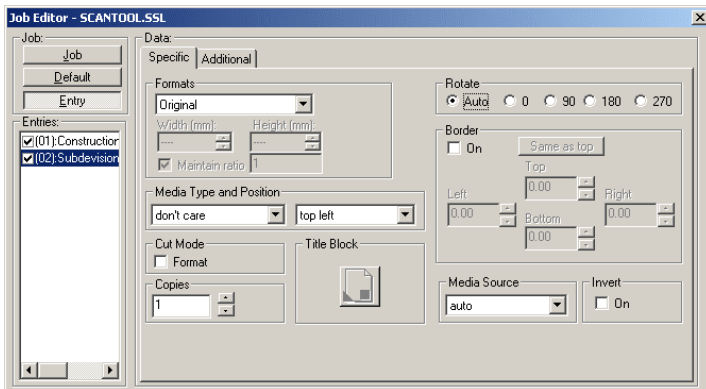


3. A window opens, in which you select an existing set name or give a new set of drawings (job order) a name.




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:



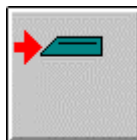
All the settings for further processing the print job in RW-240 PLOTBASE and the printout are set in the job editor. The job name has already been entered. Now enter other settings. Apart from the "Locked" option the possible settings are described in chapter "Job editor", Page 98.

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-240 PLOTBASE after the print job has been sent. They can only be edited and printed off in RW-240 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-240 PLOTBASE and RW-240 SCANTOOL. The current print job in RW-240 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 P. 175 ff.). Now select "Set" in the options ("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:



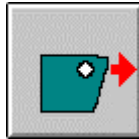
The drawing is scanned and automatically accepted in the list of drawing sets. If you have activated the additional option "Autostart" in the options ("Settings – Options"), the scanner is automatically reactivated after each scan run.

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:

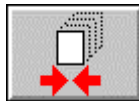


8. If you now want to send the job order to RW-240 PLOTBASE for printing, click on the following button:

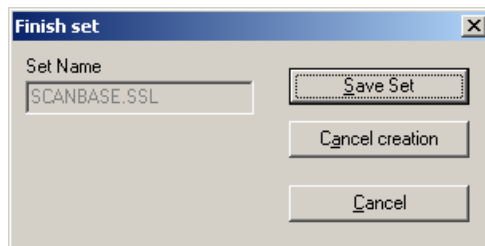


If you save the job order, you can also print it off at a later time. The save is described in the following steps.

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:

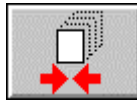


If you want to save the job order, click on the "Save set". You can now change the job order again at a later time or print it off again. If you want to cancel the job, click on "Cancel creation". If you close the dialog and want to continue to edit the set of drawings, click on "Cancel".

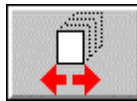
## Allocate drawings manually

You can allocate both loaded files as well as scanned in drawing files. The procedure is as follows:

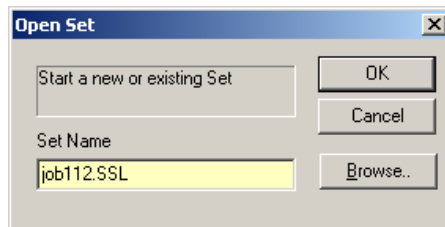
1. When first starting the program, the job editor opens with the job that you last edited. If you do not want to edit it any more, you must first close it by clicking on the following button:



2. To open a existing set of drawings or to create a new one, click on the same button which has changed its appearance:

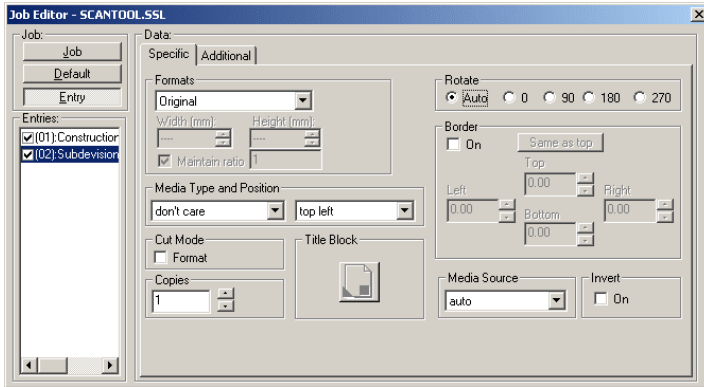


3. A window opens, in which you select a existing set name or give a new set of drawings (job order) a name.



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:



All the settings for the further processing in RW-240 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 98. 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-240 PLOTBASE after the print job is sent off. They can now only be edited and printed off in RW-240 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-240 PLOTBASE and RW-240 SCANTOOL. The current print job in RW-240

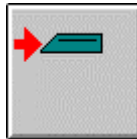
PLOTBASE will be interrupted until the job with priority "immediately" is done. You can use this priority, if you want to print out a scanned drawing immediately (copy function).

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 P. 192).

If you wish to scan in a drawing, check the scanner's default values first (see also P. 175 ff.). Place the drawing in the scanner feed. Click on the scan button in the control bar:



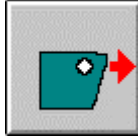
Here too, you can also change the drawing using the drawing editor (see P. 192).

6. Now assign the drawing to the job order (set of drawings), by clicking on the following button in the control bar:



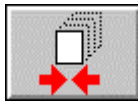
Repeat steps 4 and 5 if you want to add several drawings to the set of drawings.

7. If you now want to send the job order to RW-240 PLOTBASE for printing, click on the following button:

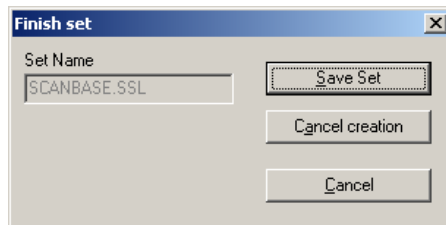


If you save the job order, you can also send it at a later time or change it again. The save is described in the following steps.

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-240 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.

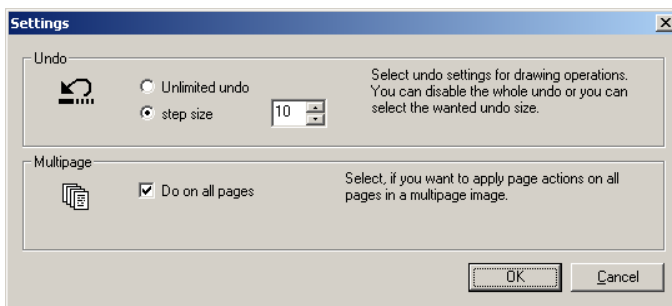
Quit the drawing editor via the "File – Exit" menu or using the keyboard shortcut "ALT+F4".

### 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:**

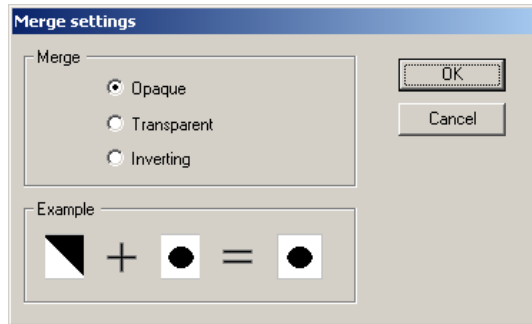
In "Undo", you stipulate how many work steps in the program can be undone. If an unlimited number of steps are to be able to be undone, activate the "Unlimited undo" option. However, the number of steps also depends on the size of your computer's memory. Using the other option, "Step size" you can fix 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 108.

## 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