

ScamaxScan+ Manual

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Introduction

Contents

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[Features \(ScamaxScan+\)](#)

[Package contents](#)

[System requirements](#)

This chapter contains detailed information about product options and technical prerequisites.

Editorial

Thank you for purchasing this product, a highly powerful software for document capture.

ScamaxScan+ is a software for scanning and capturing documents. It is also available as SCAMAXScan, an entry level version bundled with Inotec Scanner products. SCAMAXScan is limited to two project templates and provides a smaller number of export formats. The Plus version provides image editing functions and an enhanced set of export methods.

This manual refers to SCAMAXScan+, throughout. Since the features available in SCAMAXScan are a subset of those contained in SCAMAXScan+, you may find this manual useful as a ScamaxScan reference, nonetheless.

Please read this manual carefully before actually using the software. It will provide an initial and comprehensive overview of all the functions offered.

The manual is based on the assumption that you are familiar with popular Microsoft applications (e.g. Word, Excel). ScamaxScan+ uses a similar user interface layout, so you should be able to control this software, very quickly.

Please also read and accept our [general terms of license](#), before installing this software.

Last but not least, we hope you enjoy reading this manual and - even more so - enjoy using ScamaxScan+!

Features (ScamaxScan+)

In this manual, only ScamaxScan+ features will be described and explained in detail. ScamaxScan (with its somewhat reduced functionality) is not covered separately.

The following list of features indicates the major differences between ScamaxScan and ScamaxScan+:

- Supports all Inotec Scanners
- Batch scanning using Quick mode or Project mode
- Immediate document inspection on screen
- Multistream mode
- Project templates (job profiles) (max. 2 project templates possible with ScamaxScan, unlimited with ScamaxScan+)
- Patch code recognition
- Document separation by patchcode, barcode, or manually (not available with ScamaxScan)
- Image processing (not available with ScamaxScan)
- Image enhancement (not available with ScamaxScan)
- Indexing (not available with ScamaxScan)
- Blank page detection
- Stamping
- Statistics module (not available with ScamaxScan)
- Unlimited volume (ScamaxScan: 100 pages max. per batch)

All functions listed above are also available - without any restriction - in the trial version of ScamaxScan+. Please refer to the [30 day trial version](#), for more details. Should you have any further questions, please contact our support department:

InoTec Organisationssysteme

Biedrichstraße 11
D- 61200 Wölfersheim

E-Mail: support@inotec.eu

Hotline : +49 (0)6036 9708 0

Contents of package and CD

The ScamaxScan+ package contains the following:

- ScamaxScan+ software
- ScamaxScan+ German manual (digital)
- ScamaxScan+ English manual (digital)
- Printable patch codes
- CD/DVD case packaging
- USB dongle (optional, not required when using software activation)

In addition to the help files embedded in the software, the CD also contains additional versions of the user manual, as printable PDF files.

The product CD also includes a selection of common patch codes, which are frequently used to separate document batches. Simply print these on paper and insert them into document piles, prior to scanning.

System requirements

The minimum system requirements for a ScamaxScan+ PC are as follows:

- Dual core CPU
- 2 GB RAM
- 300 GB free hard disk space
- Windows 7, Windows 8, Windows 10, Windows 11 (32 & 64 bit)
- Microsoft .NET Framework 4.X Runtime

Our recommendations for a high performance set-up are as follows:

- Multi-core CPU:
The use of more than two CPU-cores will not generally speed up operation. However, more recent versions of ScamaxScan+ (as of late 2021) will allow [Threading](#), during batch finalization. Therefore, having more than two CPU-cores may speed up batch finalization, however, it will not improve scanning performance.
- Highest possible clock rate (> 3 Ghz) per core:
During scanning, it is the maximum single-core clock rate which limits throughput.
- 8 GB RAM:
A maximum of 4 Gbyte will be used by ScamaxScan+.
- SSD system drive:
ScamaxScan+ executables should be installed on an SSD ...
- > 500 GB free space on another SSD or another SSD-partition:
This is where temporary batches should be stored. By default, ScamaxScan+ will use the drive it was installed on. However, you may easily change this setting, see chapter *Program settings*, section [Directories](#).
- We recommend using Windows 10 or Windows 11.

Getting started

Contents

- Program installation
- 30-day trial version
- Program start, licensing
- The program window
- Modes of operation
- Quick mode (diagram)
- Your first scan (in quick mode)
- Project mode (diagram)
- A sample project (using the wizard)

This chapter will guide you through the installation of the software and will cover ScamaxScan+'s user interface and basic operating modes.

Program installation

In order to install ScamaxScan+ onto your computer, either place the CD-ROM in the CD drive or download the current version.

After inserting a CD, installation will usually start automatically. If not, you may also start the installation program manually.

Begin by choosing your setup language. Confirm with **OK**.

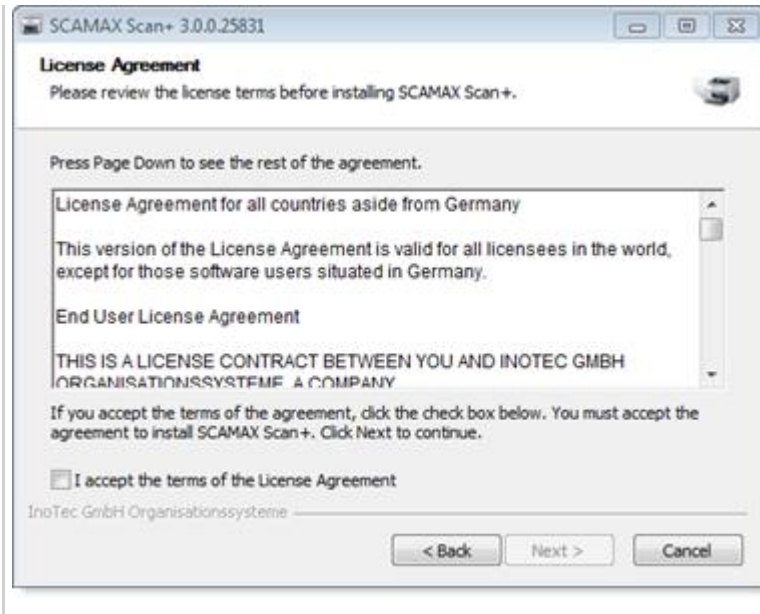


A setup wizard will guide you through the entire installation.



Click **Next** to begin the installation.

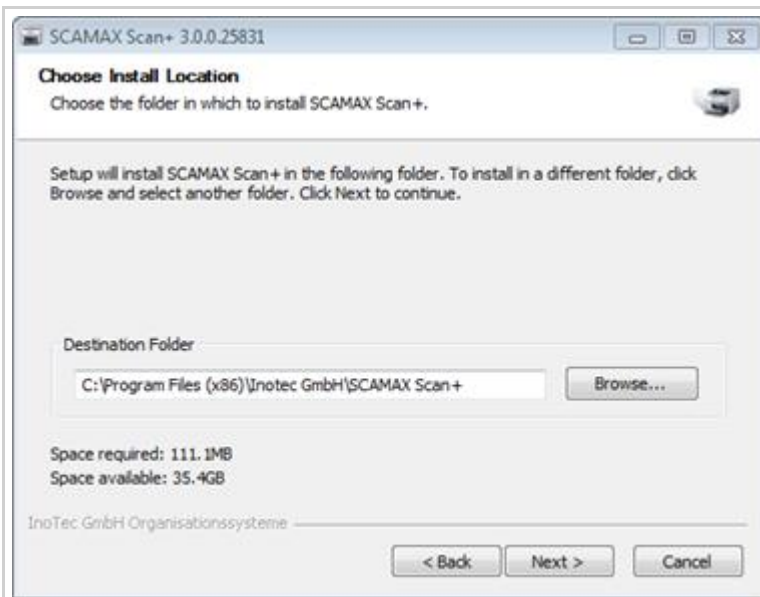
License agreement:



The wizard will ask you to accept InoTec's general terms of license.

Confirm by ticking "*I accept ...*" and then clicking *Next*.

Target directory for program files:



Choose a target directory (the location on your hard drive where the ScamaxScan+ program files will be installed).

It will usually be *ok* to accept the folder suggested by the wizard.

Click *Next* to continue.

Abbyy FineReader installation (optional):

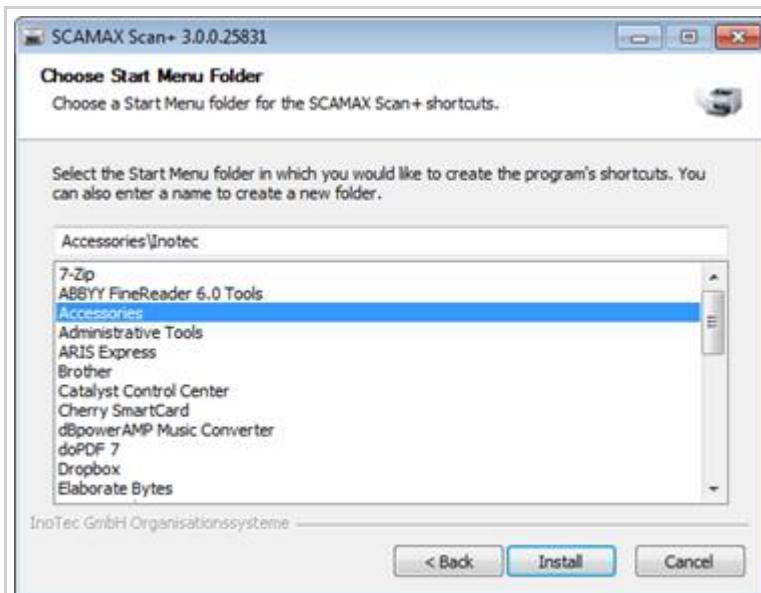


The ScamaxScan+ installation procedure will now offer you the option of additionally installing Abbyy FineReader Corporate Edition 11 (all necessary files are included on the installation CD, a separate Abbyy license is however required).

Please deselect this option if you are not in possession of a valid Abbyy license key.

Click **Next** to continue.

Start menu folder:



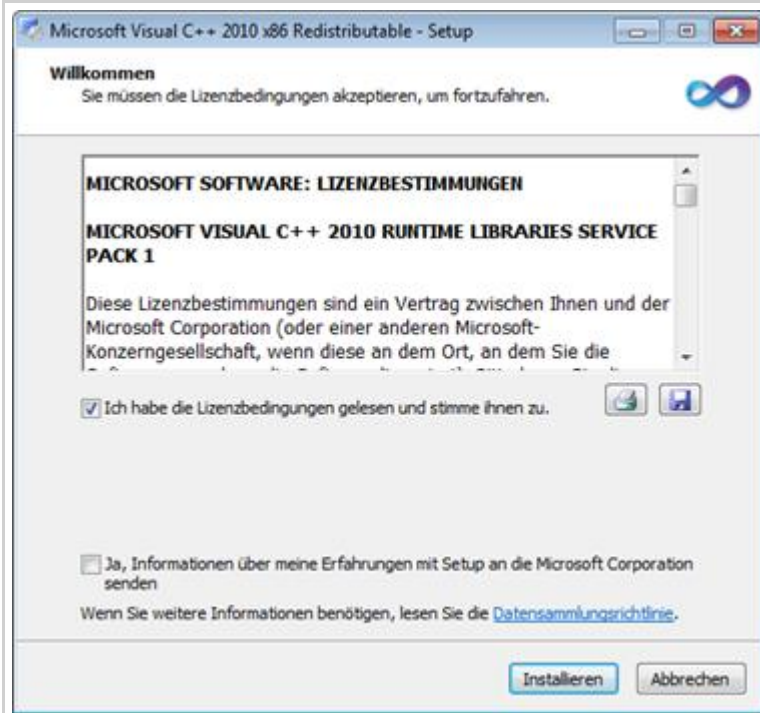
Select a suitable start menu folder. By default, ScamaxScan+ program shortcuts will be placed at the top level of the start menu. In this example, however, we have selected the *Accessories* subfolder.

When done, continue the installation by clicking **Next**.

ScamaxScan+ will now check if all required system libraries are present:

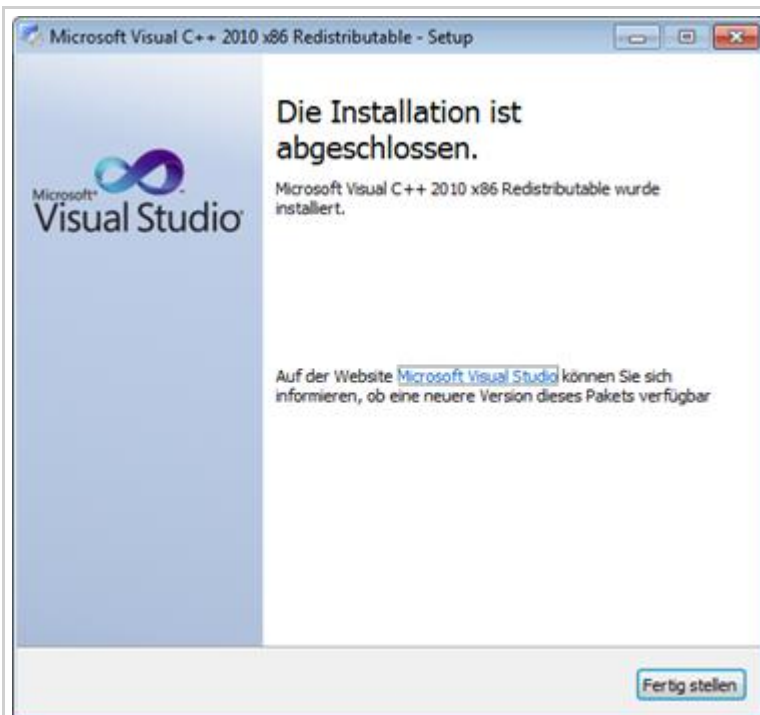
- If they are, installation will continue with step *ScamaxScan+ installation continues*, further below:
- If not, the installation script will branch out and launch the installation of *Windows C++ runtime* components.

Windows C++ runtime:



You will need to accept a (separate) licensing agreement with Microsoft.

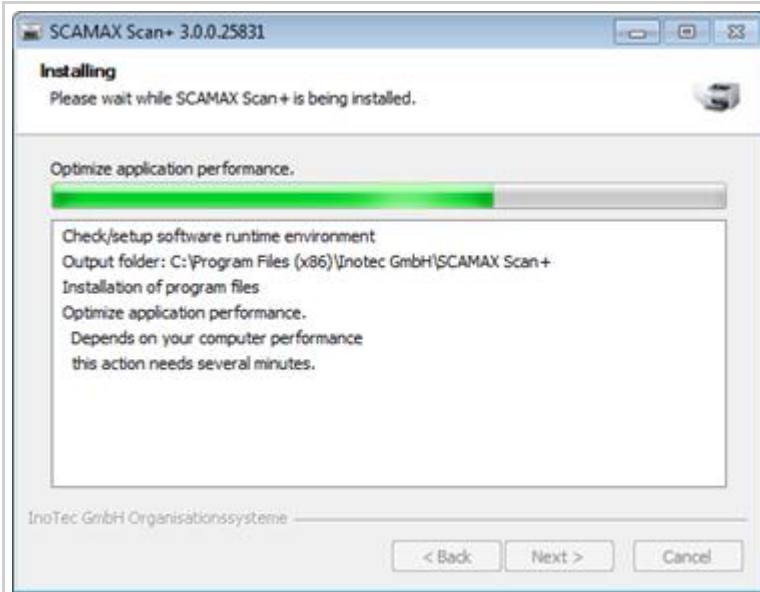
Windows C++ runtime installation complete:



Click *Finish* to close.

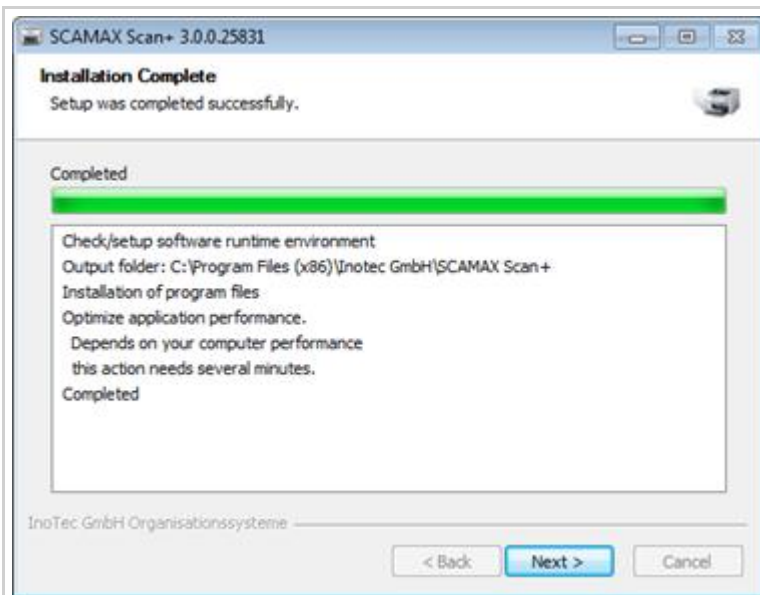
ScamaxScan+ installation continues:

The ScamaxScan+ setup wizard will wait until the Microsoft Windows C++ installation has completed ...



... and will then proceed, automatically.

ScamaxScan+ installation complete:



Program installation may take a while, the ScamaxScan+ installation wizard will eventually confirm that it has finished.

If all looks well, press **Next** to conclude the setup procedure.

Close the installation wizard:



Click *Finish* to terminate the installation wizard and return to the operating system.

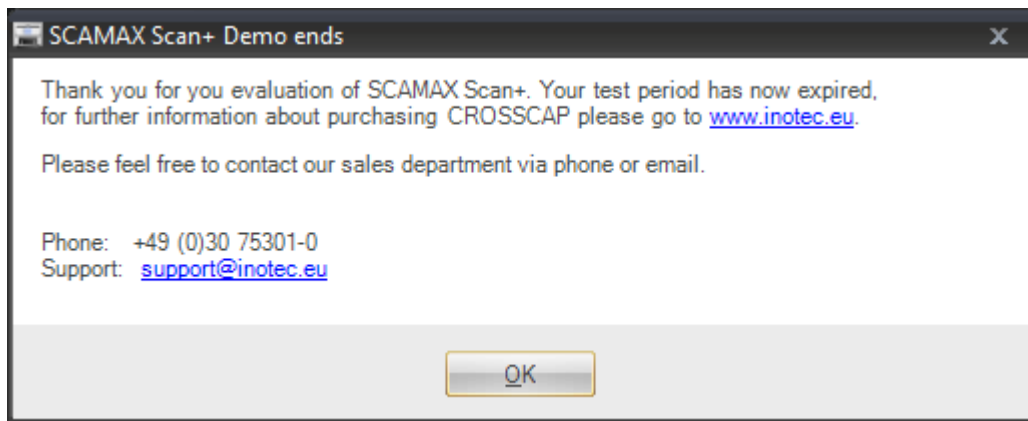
If your version of ScamaxScan+ has been shipped with a dongle, please make sure to connect it to one of your computer's USB-ports, before starting the application. Otherwise, ScamaxScan+ will switch to trial mode.

If your version of ScamaxScan+ was shipped without licensing dongle, a licensing dialogue will be shown on first application start. For details, please refer to the separate section on [Program start and licensing](#).

30-day-trial version

You may test ScamaxScan+ extensively and at no cost, prior to purchasing the software. The current version of ScamaxScan+ is available for download from our website: www.inotec.eu.

The only difference between the trial version and the full version of ScamaxScan+ is that a timer will count down for 30 days, starting on the first day of use. During this time, all ScamaxScan+ functions are available without restriction. After 30 days, ScamaxScan+ will inform you that the trial period has ended, the application will refuse to start and will show you the following notice:



If you would like to continue using ScamaxScan+ after the trial period has ended, we will be happy to receive your order. Alternatively, you may request an extended trial period, please see chapter [Program start, licensing](#), for more details.

The full version of ScamaxScan+ is shipped with either a USB dongle or with a software license key, both of which will cancel the countdown function and re-activate the program.

Program start, licensing

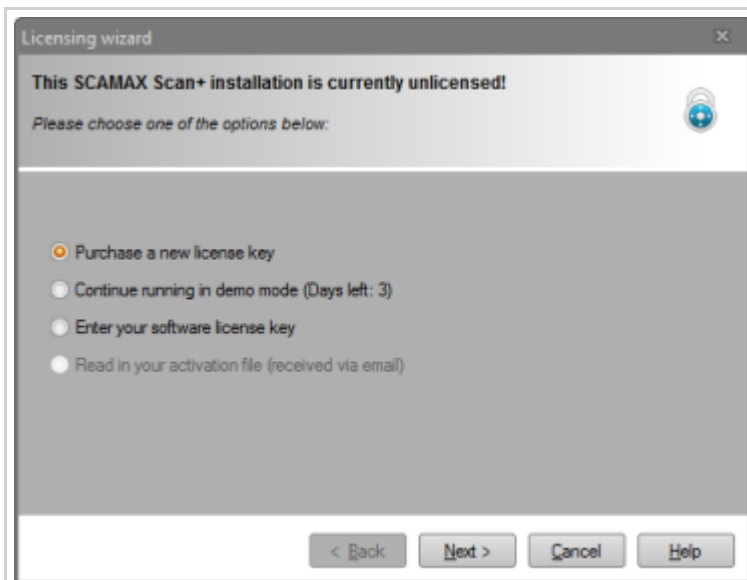
Program start

Just as with other Windows™ applications, you may start ScamaxScan+ from the start menu, from within the Windows explorer or from an icon on the desktop.

If the application does not start or if you receive error messages, please contact our [support](#) department.

Licensing options

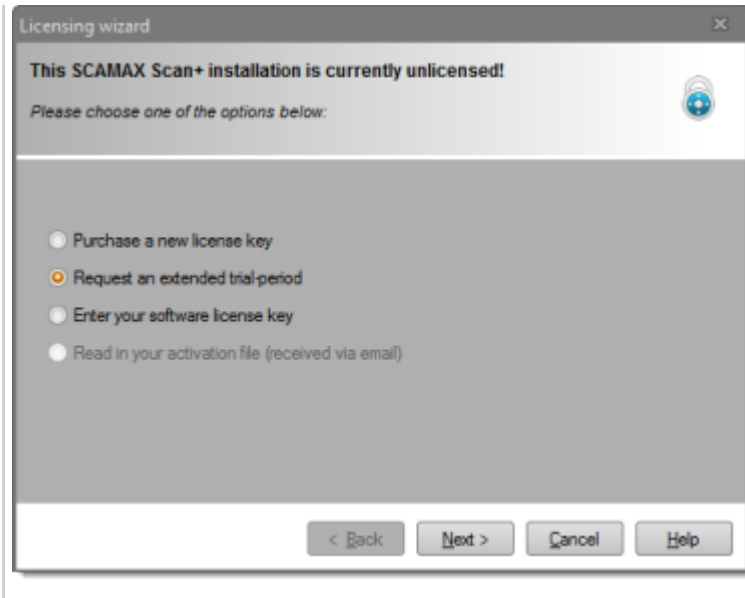
If a hardware dongle has not been shipped with your version of ScamaxScan+ (or if the dongle has not yet been plugged in), then the following licensing message will appear, during program launch:



The licensing procedure will branch out differently, depending on your choice.

Select the desired option, then press **Next**.

If your trial-period has expired (more than 30 days since installation) and you are not yet properly licensed, then the following, slightly different licensing message will appear:



The licensing procedure will branch out differently, depending on your choice.

Select the desired option, then press *Next*.

Please refer to the sections below, for more details:

1) You are not in possession of a valid licensing key and have decided to purchase ScamaxScan+:

Purchase a new license key

2) You are not in possession of a valid licensing key but wish to continue testing ScamaxScan+:

Continue running in demo mode

3) You are in possession of a valid licensing key and now want to apply and activate your license:

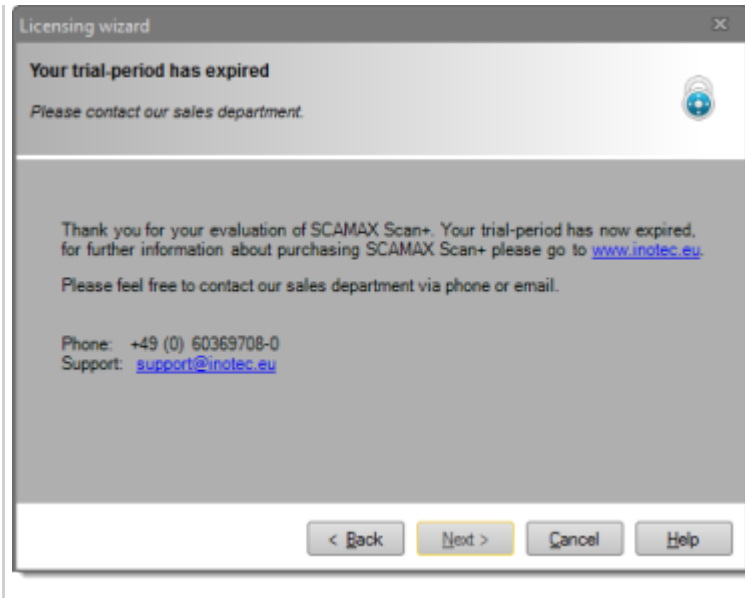
Enter your software license key

*) Your trial-period (30 days) has expired and you wish to continue testing ScamaxScan+.

Request an extended trial period

1) Purchase a new license key

You are not in possession of a valid licensing key and have decided to purchase ScamaxScan+:



Unfortunately, ScamaxScan+ cannot be purchased on-line.

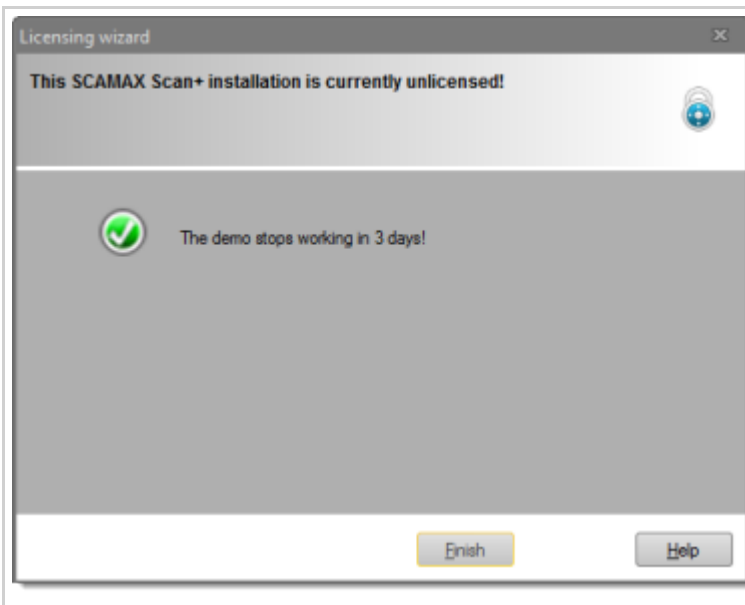
Instead, please contact our sales department, either by mail or phone.

More information about purchasing ScamaxScan+ may be found on our website: www.inotec.eu.

Clicking **Next** will return you to the main screen of the licensing wizard.

2) Continue running in demo mode

You are not in possession of a valid licensing key but wish to continue testing ScamaxScan+:

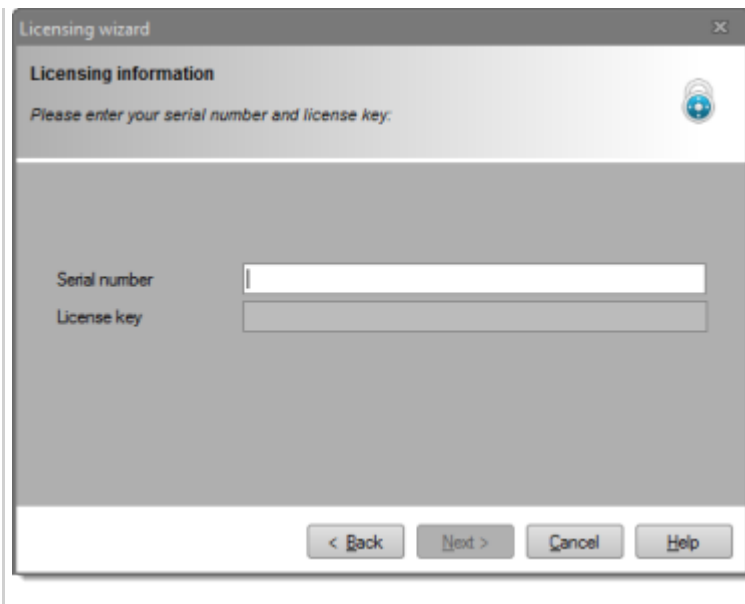


ScamaxScan+ will report the number of days remaining for your trial period. Clicking **Finish** will close the licensing window and launch the application.

In demo/trial mode, all ScamaxScan+ functions are available, without restriction. Enjoy!

3) Enter your software license key

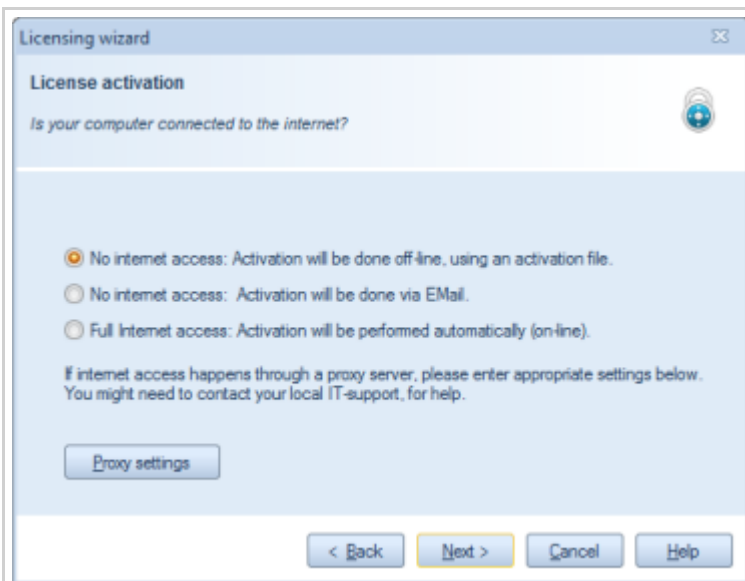
You are in possession of a valid licensing key and now want to apply and activate your license:



Firstly, you will need to enter global licensing information (serial number, license key), which you should have received when purchasing ScamaxScan+.

Enter both items, then press *Next*.

In order to confirm the license and lock it to this installation, ScamaxScan+ will now initiate a *license activation* procedure.



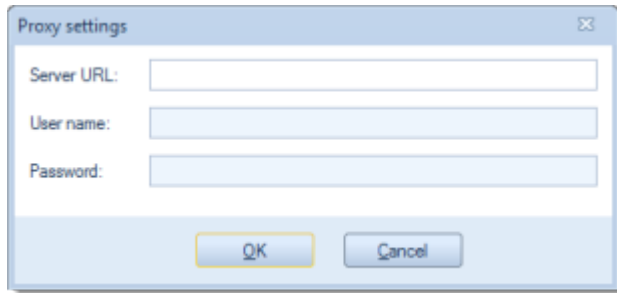
To begin with, ScamaxScan+ will ask you about the type of internet connection available ("how is this PC connected to the internet?").

Depending on your selection, license activation will be performed differently:

- via the licensing wizard (full internet access, please see note on *proxy settings*, below),
- via e-mail exchange from this PC (limited internet access) or
- via e-mail exchange from some other PC (no internet access) .

The first method is the most convenient, all three methods are detailed further below.

Select the desired option, then press *Next*.

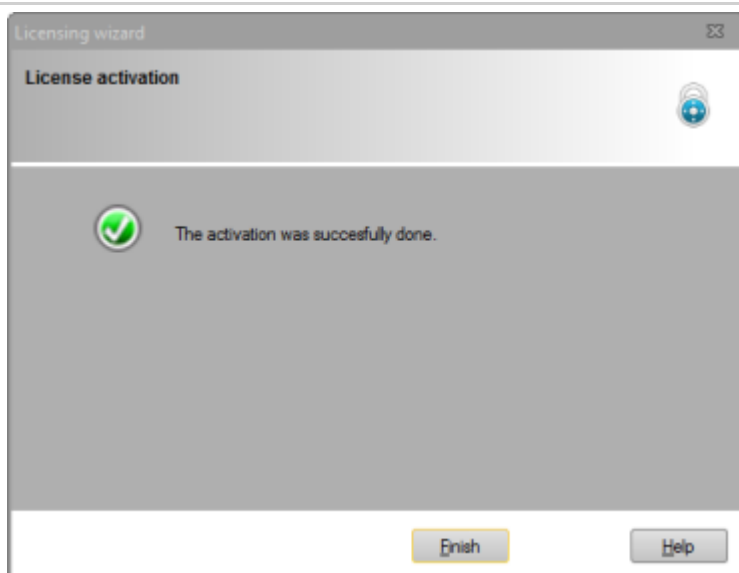


When using the *Full internet access* option, additional proxy settings might need to be set. If in doubt, please contact your local IT-support for help and advice.

If applicable, enter your proxy server address and your server credentials, then click **OK**.

Enter your software license key (*full internet access*):

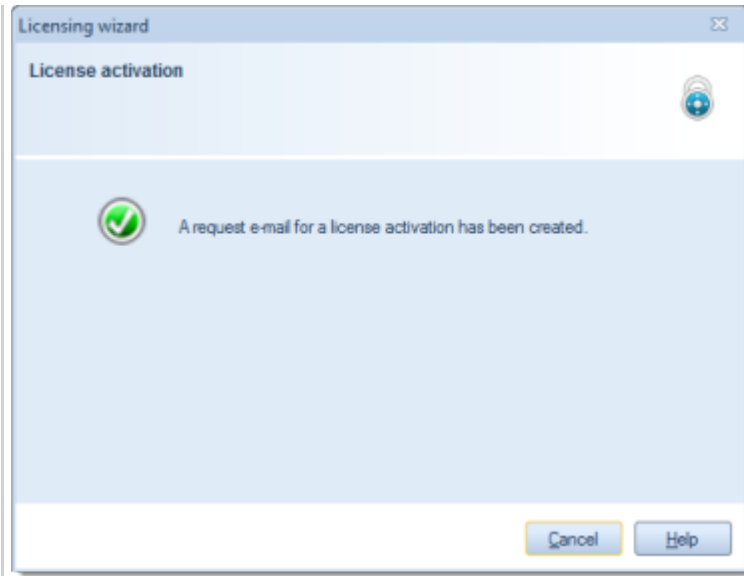
There is nothing more to do: ScamaxScan+ has automatically performed product activation, in the background. Congratulations, your product is now fully licensed and ready for use.



Clicking **Finish** will close the licensing wizard and launch the application.

Enter your software license key (*limited internet access*):

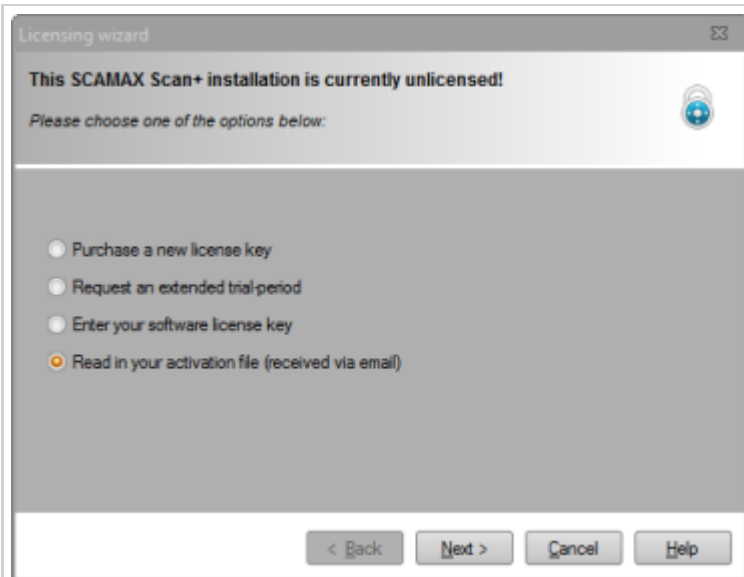
After selecting this option, a separate window (from an e-mail application) should appear elsewhere on screen and present you with a draft e-mail containing all that is required to initiate license activation: an activation request file, the correct mail addressee and a return mail address. All you need to do is to press the **Send** button, the mail will be sent and the mail-window will close.



You may also close the ScamaxScan+ licensing wizard for now (by clicking *Cancel*), until the activation key is finally received (it will be returned as an activation file attached to an e-mail).

Open your e-mail application and regularly check for incoming mail. Eventually, you should receive the ScamaxScan+ licensing response. Detach the attached activation file or save a copy to any convenient location.

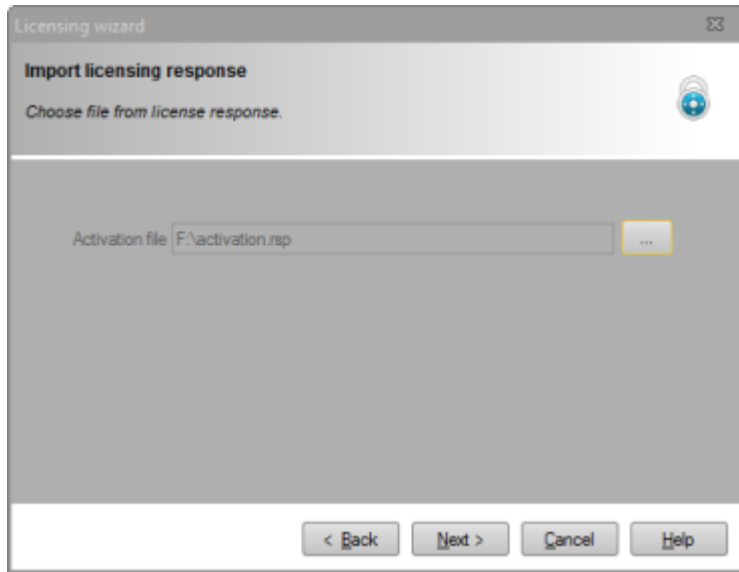
Next, re-start ScamaxScan+.




The licensing wizard will present an additional option:

- Read in your activation file.

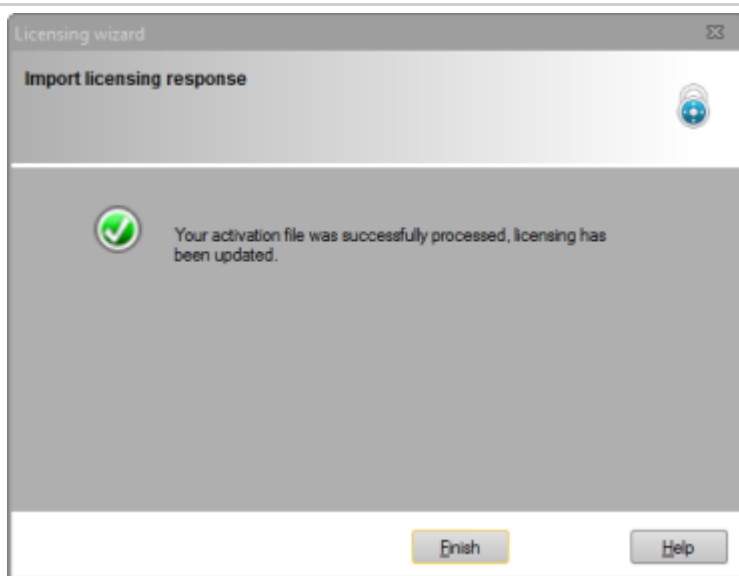
Select this option, then press *Next*.



You will now need to direct the licensing wizard to the location where you stored the activation file, in the previous step.

Either enter the full file path and file name manually, or use the button at the end of the entry box  to start a file browser.

Once the activation file has been properly identified, press **Next**.

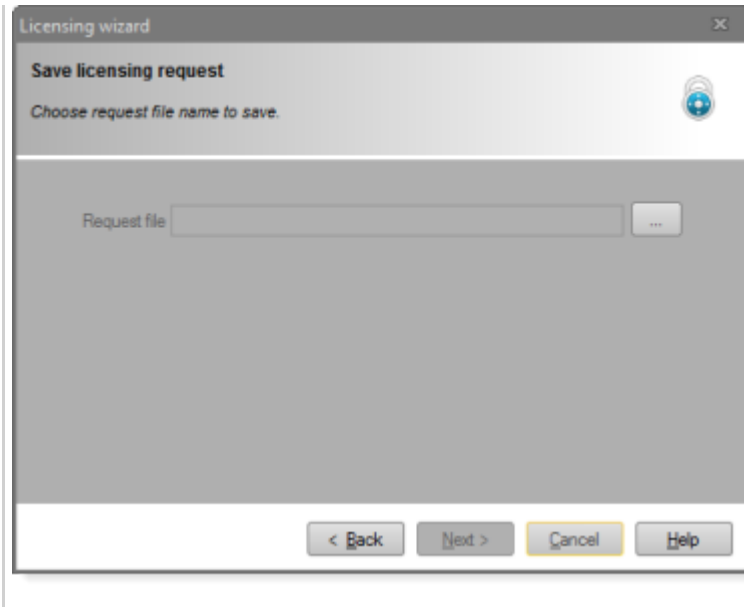


Congratulations, your product is now fully licensed and ready for use.


Clicking **Finish** will close the licensing wizard and launch the application.

Enter your software license key (*no internet access*):

This step will generate a licensing request file, which you will subsequently need to send off via e-mail, from some other PC.



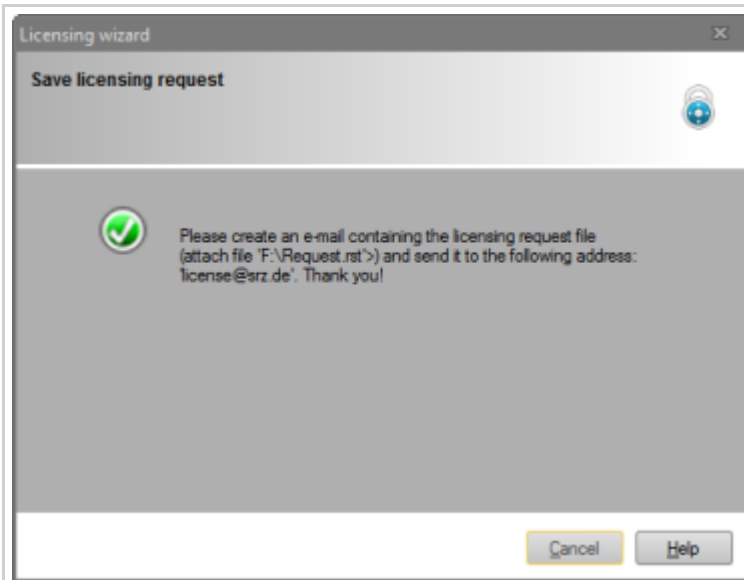
Choose a location for saving the licensing request file. This might be some location on one of the internal hard drives or (more conveniently) a portable USB (thumb) drive.

Either enter the full file path and file name manually, or use the button at the end of the entry box  to start a file browser.

Press **Next** to save the request file.

After creating the licensing request file, you will need to move or copy this file to a PC with internet access. On that PC, create and send off an e-mail containing the following:

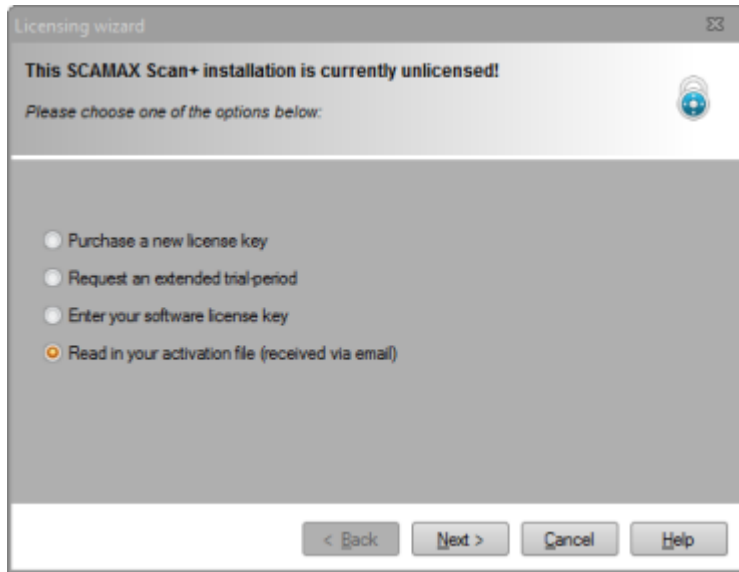
- the activation request file (as attachment)
- the correct mail addressee (license@srz.de)
- a valid return mail address.



You may close the ScamaxScan+ licensing wizard for now (by clicking **Cancel**), until the activation key is finally received (it will be returned as an activation file attached to an e-mail).

Check for incoming mail regularly. Eventually, you should receive the ScamaxScan+ licensing response.

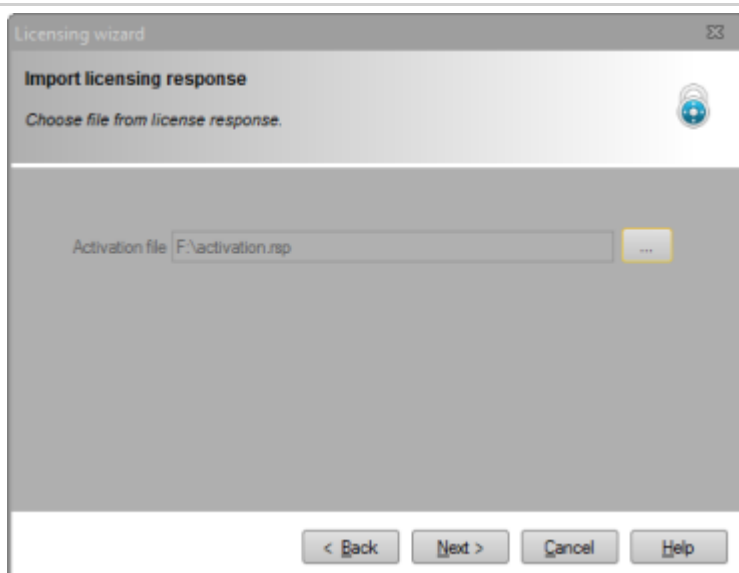
Save a copy of the activation file to a portable USB (thumb) drive, or to a common network drive, if available. Whichever method you choose, you will need to make the activation file available on the PC running ScamaxScan+. Next, re-start ScamaxScan+.



The licensing wizard will show an additional option:

- Read in your activation file.

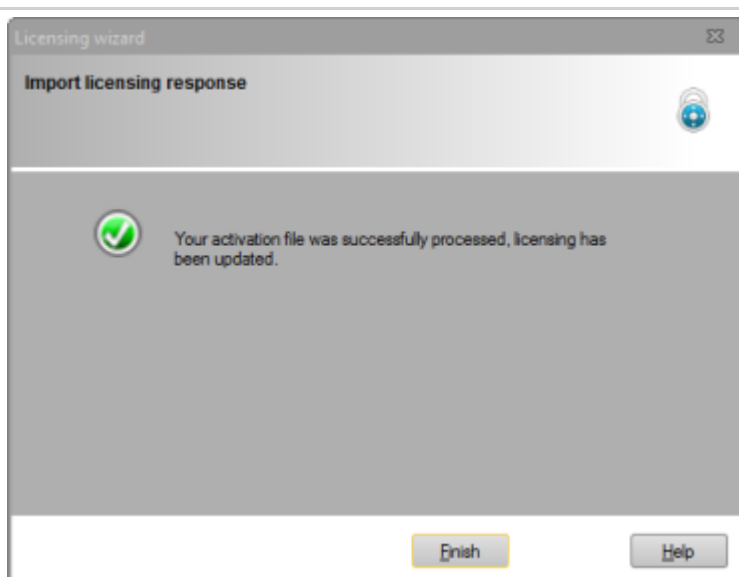
Select this option, then press **Next**.



You will now need to direct the licensing wizard to the location where you stored the activation file, in the previous step.

Either enter the full file path and file name manually, or use the button at the end of the entry box [...] to start a file browser.

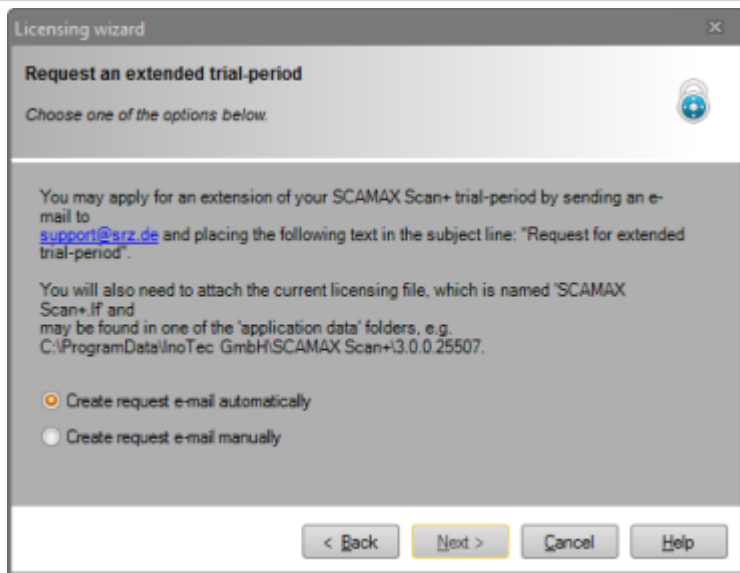
Once the activation file has been properly identified, press **Next**.



Congratulations, your product is now fully licensed and ready for use.

Clicking **Finish** will close the licensing wizard and launch the application.

*) Request an extended trial period



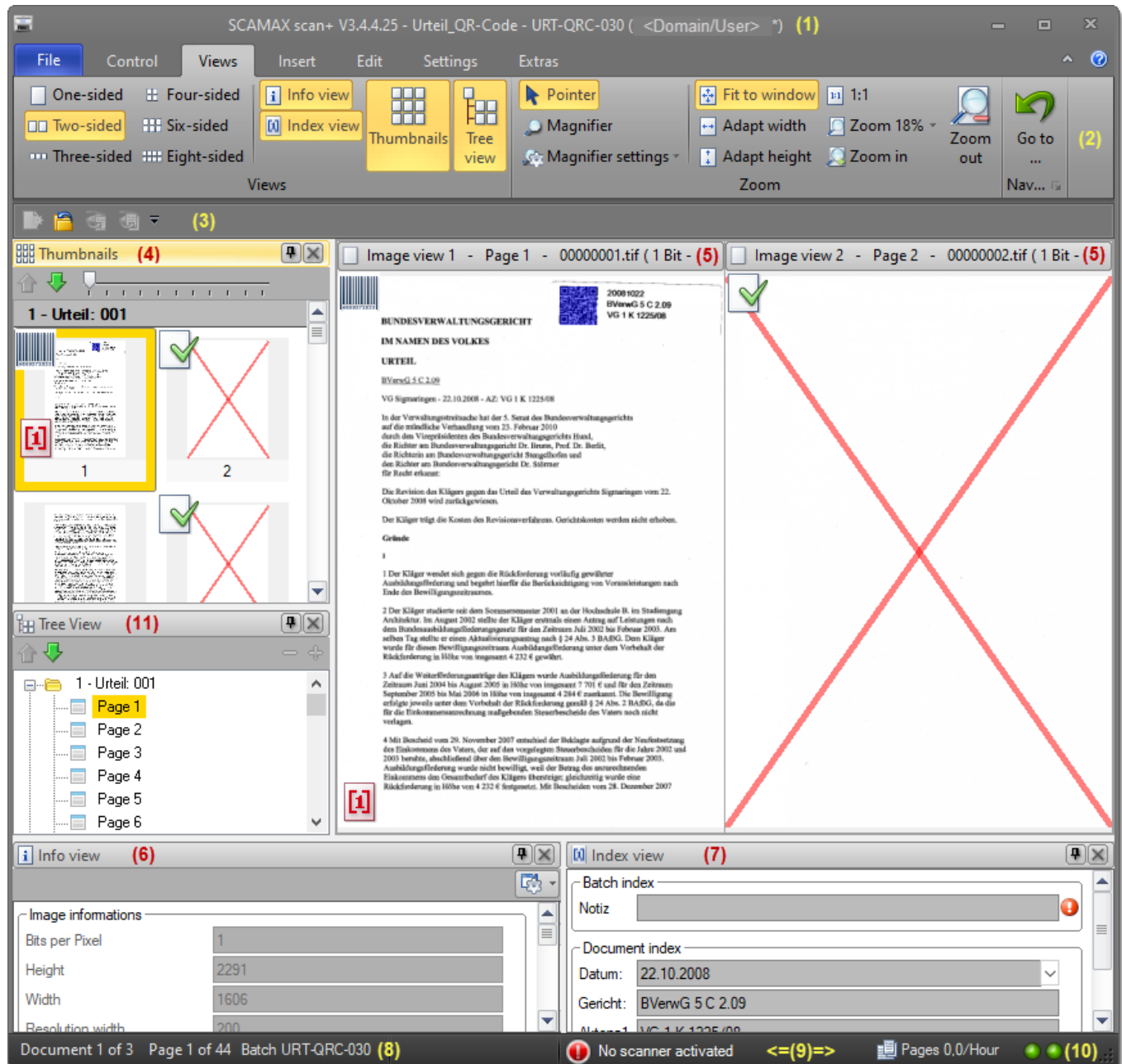
Option *Create request e-mail automatically* will proceed according to the instructions for *Enter your software license key (limited internet access)*, outlined further above.

Option *Create request e-mail manually* will proceed according to the instructions for *Enter your software license key (no internet access)*, outlined further above.

Please note that the e-mail addressee, the subject line and the attached file need to be changed according to the instructions on screen, as shown to the left.

The program window

Typical appearance of the main program window, when running ScamaxScan+:



1. Title bar

The application name, its version and (if in project mode) the current project template and batch name are displayed in the title bar. Additionally, the Windows machine / domain name and the currently logged in user will be shown in brackets.

2. Menu bar

All functions available through the main menu have been grouped into tabbed

ribbons. Also, icons within each of these ribbons have been grouped according to common functionality. Icons will become active or inactive (in which case they will fade and turn grey), depending on the current program situation: The scan buttons, e.g., will be inactive if a scanner has not yet been selected.

3. Quick access toolbar

You may copy all of your favourite program functions to a freely configurable *quick access toolbar*.

4. Thumbnail view window

Image previews of all scanned documents are displayed in the thumbnail view window. You may browse through your scanned images or select single or multiple images, in order to copy, edit or delete them. Multiple images may be selected in the same way that multiple items are selected in other Windows applications.



Pressing *Ctrl-A* will select all images available, while *Ctrl + left mouse click* (on several thumbnails) will select a set of individual images. *Shift + left mouse click* on two or more thumbnails will select a range of images including the two outermost thumbnails highlighted.

Once you have selected the required images, right clicking them with the mouse will open a context menu containing commands such as Cut, Copy and Insert. Alternatively, you may also use classic keyboard shortcuts such as *Ctrl-X* to cut, *Ctrl-C* to copy and *Ctrl-V* to paste images.

Images may be highlighted and then moved across the batch, by pressing the green *up* or *down* arrows.

The thumbnail preview is updated automatically whenever new image data is received.

5. Image view window

This will display up to eight images on one monitor screen. If duplex mode is used for scanning, we recommend the two sided view: The front of the scanned pages will be displayed in image view 1, their reverse sides in image view 2.

6. Info view

This window will show (technical) detail information about any image highlighted in the thumbnail view.

7. Index view

If indexing information is used in the current project, this window will show all index

fields and their values.

8. Batch status information

This section displays the current document number and the total document count, the current page number and the total page count (across all documents) and the batch name.

9. Scanner status information

This section shows the currently selected scanner and indicates whether it is operational (green check mark) or not available (red cross). Also, during scan operations, this section will show an average page throughput (as number of pages per hour).

10. Process manager status display

Reflects the current status of the process manager. The left lamp refers to overall operating status (black: not started or stopped, green: active and waiting, amber: active and processing), whereas the right lamp indicates the process manager's error status (green: no problems so far, red: there has been a problem).

In case of a red indicator lamp, you should consult the (more detailed) [process manager monitor screen](#).

11. Tree View

This will display an abstract view of the current batch, organized as sets of documents and pages. This view is intended to give you an overview of the current batch structure, rather than image details.

Images may be highlighted and then moved across the batch, by pressing the green *up* or *down* arrows.

The *tree view* is updated automatically whenever new image data is received.

Please note: The majority of ScamaxScan+'s on-screen functions will display *tool tips*. These are faded in after a short delay, as soon as the mouse hovers over a button or icon.

Modes of Operation

ScamaxScan+ has two main modes of operation. There are significant differences between these two modes.

Quick Mode

Quick mode is used to quickly scan a few documents whenever there are no requirements for a special output file structure or for barcode and text recognition. Quick mode is active whenever no batch is running. A "Quickmode" watermark is shown in the image window(s), for as long as quick mode is active.

When operating in quick mode, automatic image processing and other advanced functions are unavailable. However, tools for viewing scanned images, manually modifying images or inserting pages are available in quick mode as well as in project mode.

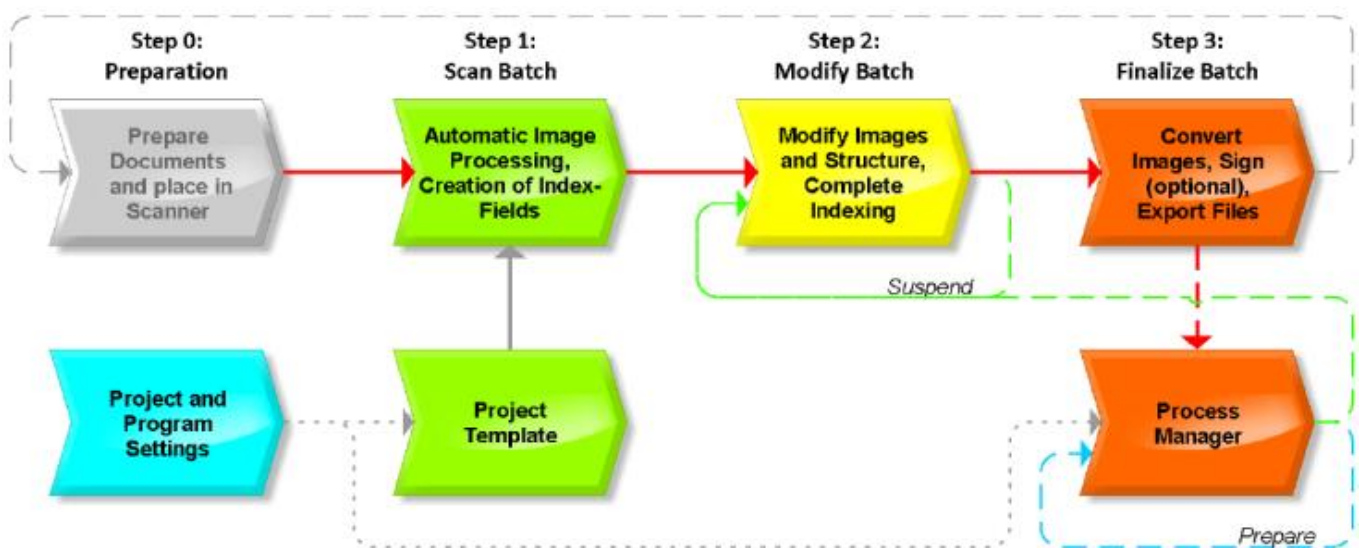
The next section contains a diagram describing the [process of scanning in quick mode](#), followed by [detailed instructions for your first scan](#).

Project Mode

Project mode requires you to pre-configure scan jobs by choosing appropriate project settings. Project templates will store these project settings and will let you execute them repeatedly and whenever required.

For example, if you usually scan your documents with a resolution of 300 dpi, scan for bar codes (e.g. to insert document separators) and finally save the product as PDF file(s), you will first need to store these project settings in a project template. After that, you may run any amount of batch jobs based on this template.

Here's a diagram illustrating the sequence of events, when operating in project mode:



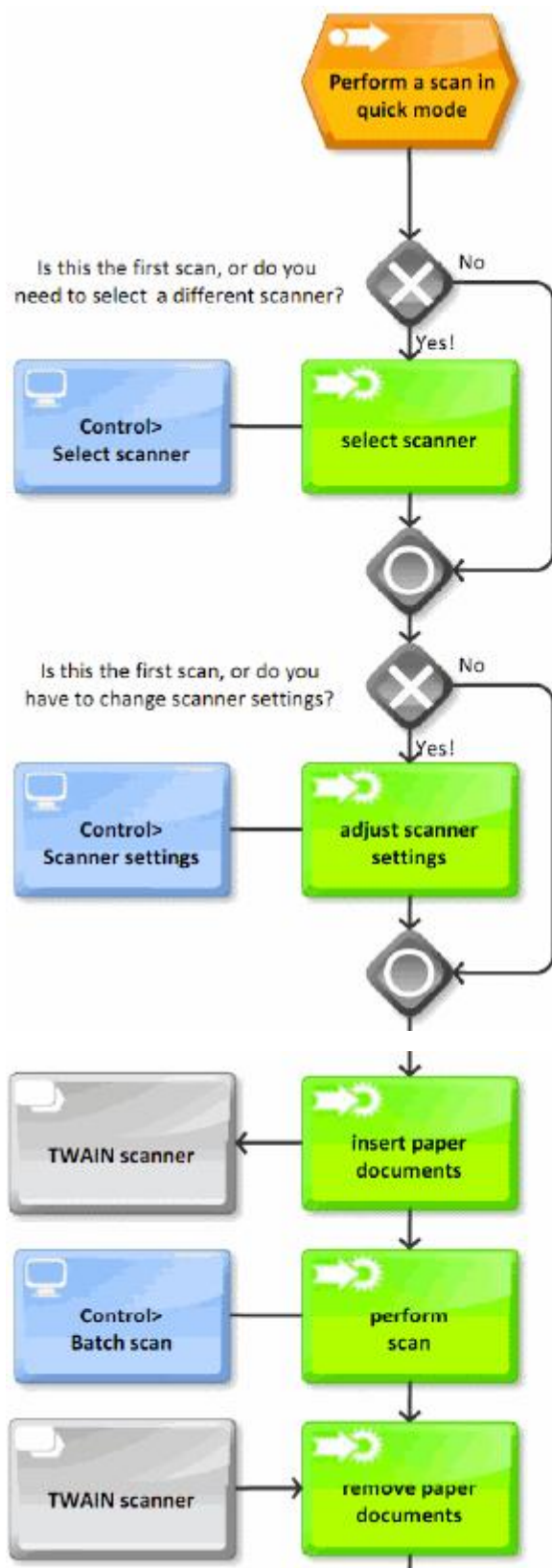
Project templates can be created in one of two ways. Either by using the project template wizard, which will guide you through the entire process, or by making all required settings individually and by yourself, in expert mode (more flexible, but for experienced users only).

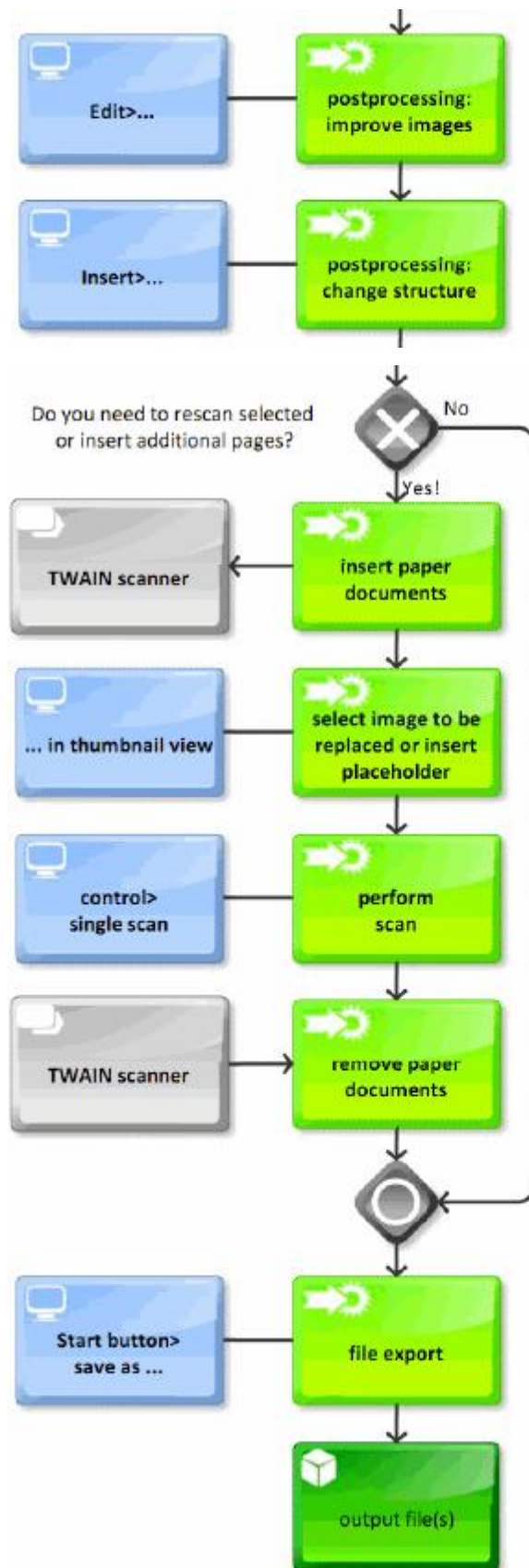
Towards the end of this chapter, you will find a diagram describing the [process of running a batch job](#), followed by [detailed instructions for setting up your first project](#) (using the project template wizard).

The chapter on [project settings](#) provides detailed information on all available project parameters. In the appendix, you will find an [advanced sample project](#), which will be set up in expert mode, not using the wizard.

Closing projects (finalization) may be performed within the main ScamaxScan+ application, or by using a specialized background task called process manager, which will also allow job-scheduling. You will find more and detailed information about this feature in a separate chapter labelled [process manager](#).

Quick mode (diagram)



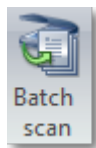


Your first scan (quick mode)

In quick mode, you may scan an unlimited number of pages and save the resulting images in a file format of your choice. Here's how to proceed:

Starting the scan:

In order to begin with scanning, insert a paper document into your scanner and click button *Batch scan* (from toolbar *Control*).



Depending on the type of scanner selected, ScamaxScan+ will now either open the scanner's driver settings dialogue, or the program will directly proceed with scanning:

- If the scanner's driver settings dialogue opens, you will be able to make appropriate changes right here and now.
- If ScamaxScan+ proceeds with scanning, then any changes to scanner settings will have to be made prior to scanning. Please find more information on [scanner settings](#) in the chapter on *Menu bar functions*.

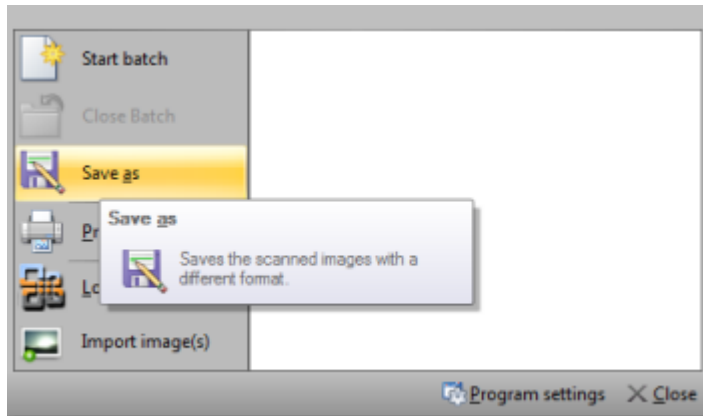
Once the scan has been performed, corresponding images will appear in the *thumbnails* and *image views*. If the scanner is capable of duplex scanning, then two images will be produced, one for the front and one for the reverse side of each paper document (sheet).

At this point, you may either scan additional documents or proceed to image editing. You will find appropriate tools on the [edit](#) ribbon.

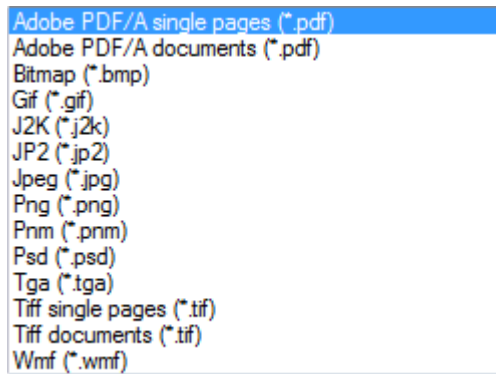
If you need to change the order of the images scanned, or if you want to delete images, you will find appropriate tools in the [insert](#) ribbon. Some additional and specialist tools are available here, e.g. for inserting placeholders or for applying stamps.

Saving the export files

At this point in time, all images are kept in temporary storage, only. In order to permanently save these images to disk, you will need to switch to the *File* menu and select the **save as** option from the start menu:



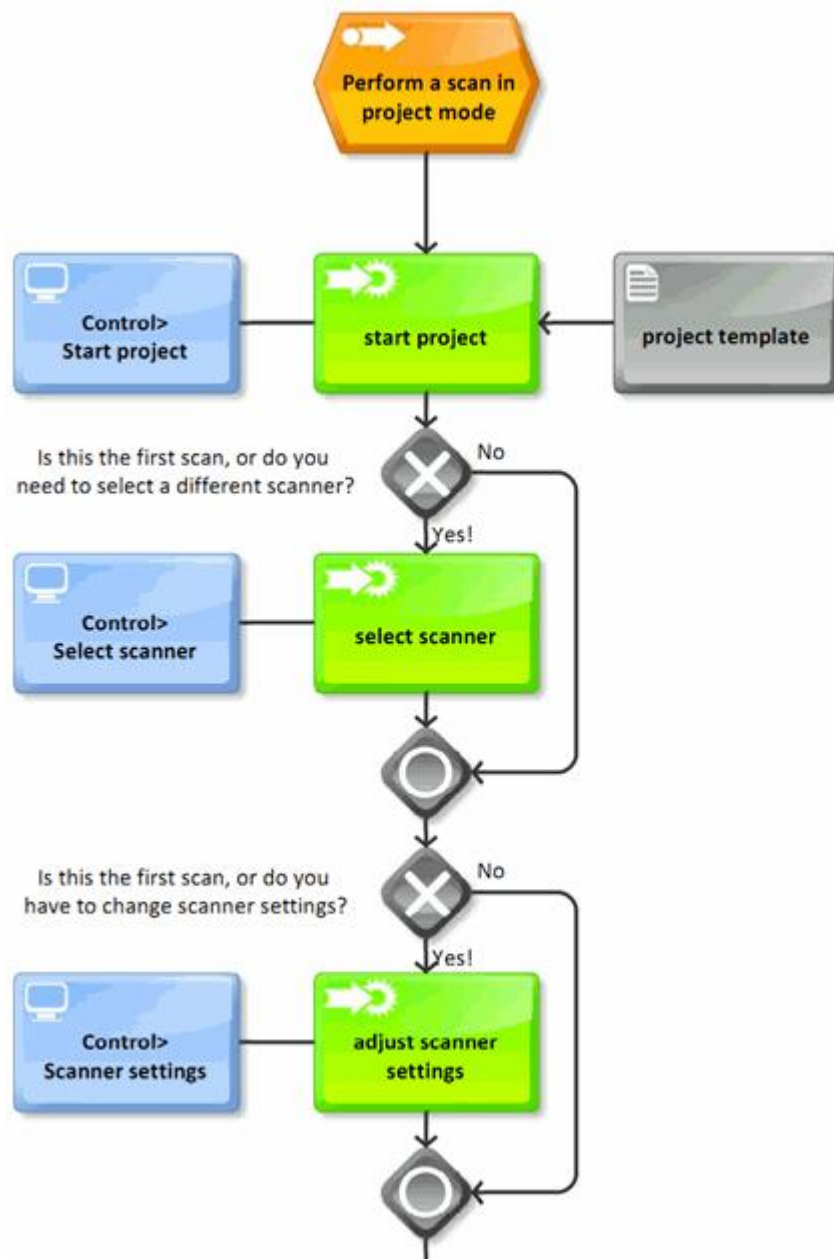
The *save file* dialogue will be shown. Browse to the desired storage location and enter a suitable file name. From the file options drop-down list, select the file format (file type) to be used. The list of available file formats will be as follows:

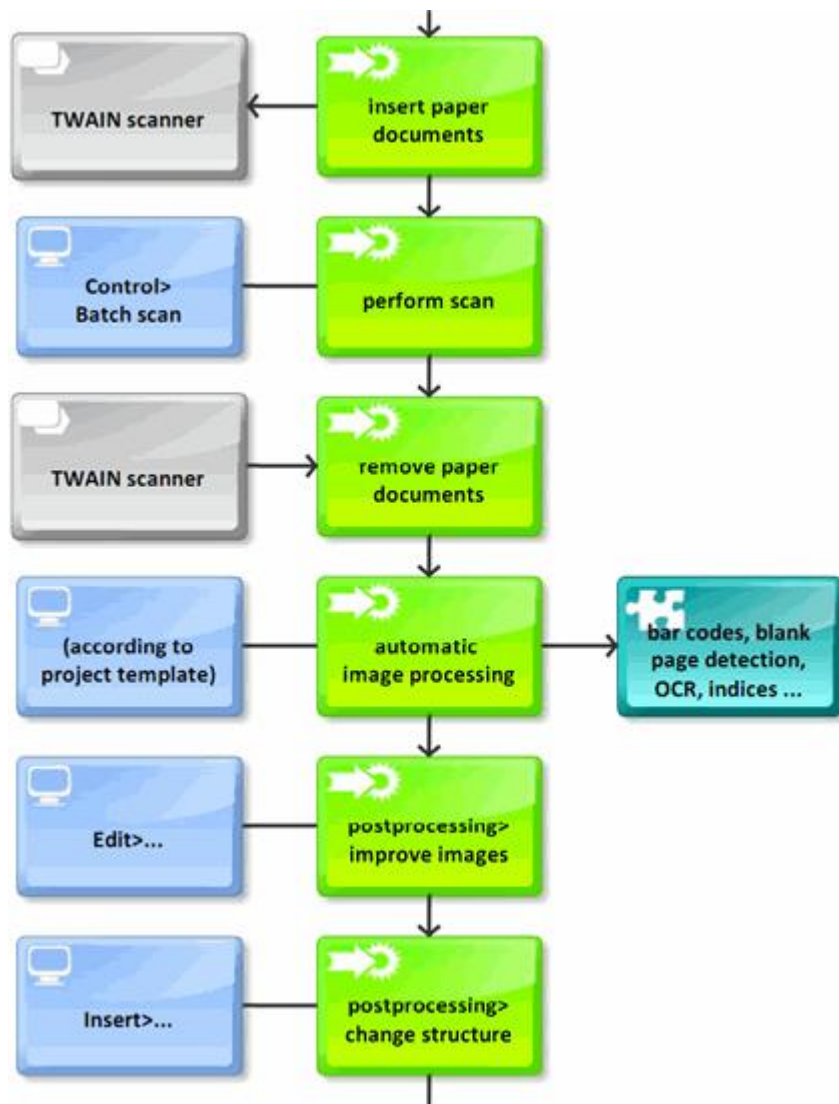


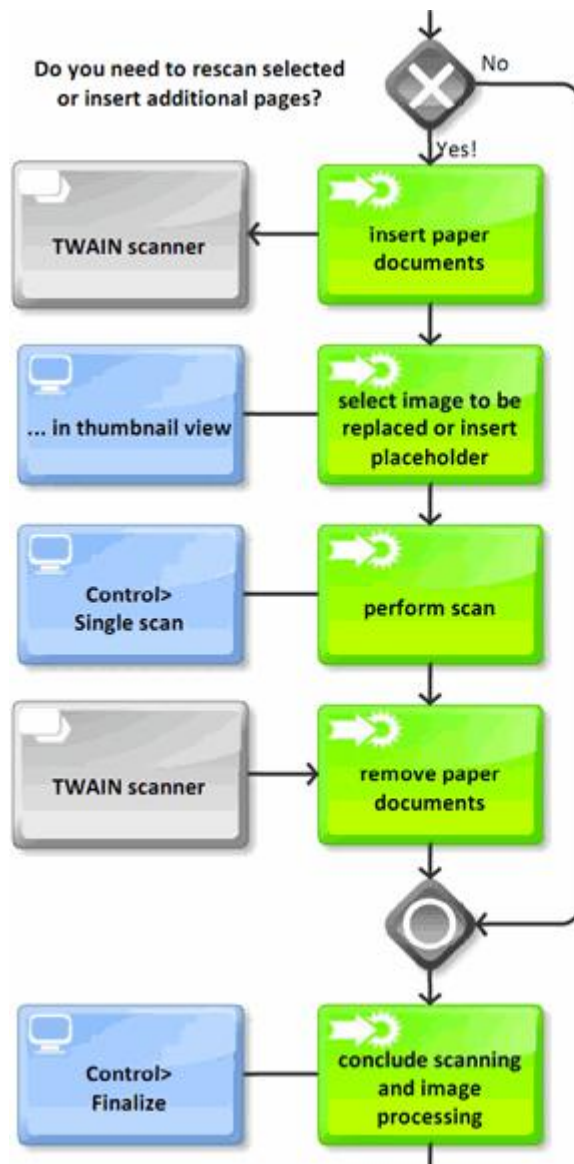
⚠ Please note: Only file types: "Adobe PDF/A-Documents (*.pdf)" and "TIFF-Documents (*.tif)" will allow for writing multiple images into one single output file. Choosing any of the other file formats will invariably result in one separate file per image!

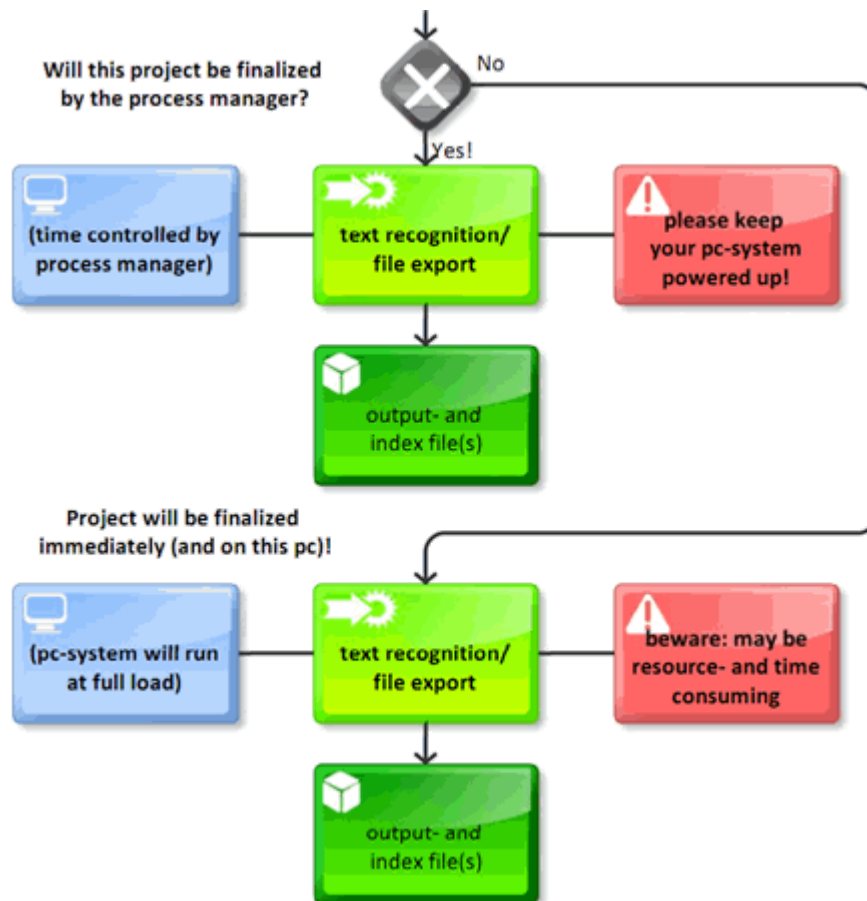
Congratulations! You have successfully saved your captured data and are now capable of running further scan jobs. Please note, however, that you have only used Quick Mode, so far. In order to make use of the full ScamaxScan+ functionality, you should switch to project mode, as soon as possible. For more information on this, please refer to the section on [modes of operation](#).

Project mode (diagram)









A sample project (wizard)

Let's pretend we need to run a scan job with the following requirements:

A4 paper documents need to be scanned **on both sides**, with a resolution of **300 dpi** and in **black & white**. **Blank pages** are not supposed to appear in the output files.

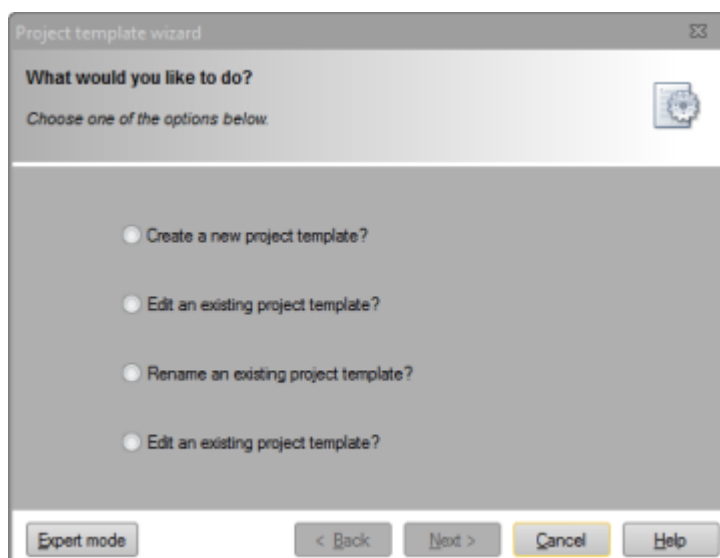
The paper documents in question are folders with personal files. Once scanned, these need to be stored in **PDF/A format**.

The stack of documents needs to be digitized in such a way that **each personal file is stored as an individual file on disk**. To this end, separator sheets with **patch codes** on them have been inserted into the pile of documents, ahead of every personal file.

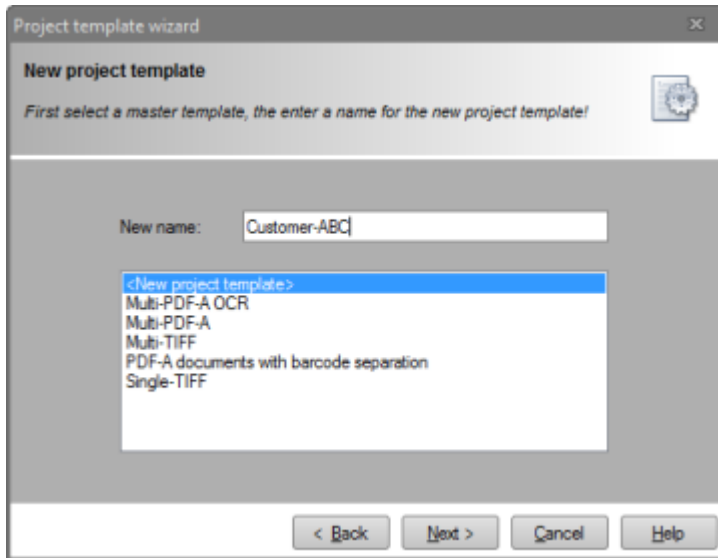
In order to quickly find any of the scanned content at some later date, the resulting **PDF/A files need to be text-searchable**.

Let us now see how ScamaxScan+ can be used to cover this scenario. quick mode will be of little help here (since bar codes need to be recognized), so we'll use Project mode instead. And because it's easier to start with, we'll use the wizard to generate the project template required. Here's how to proceed:

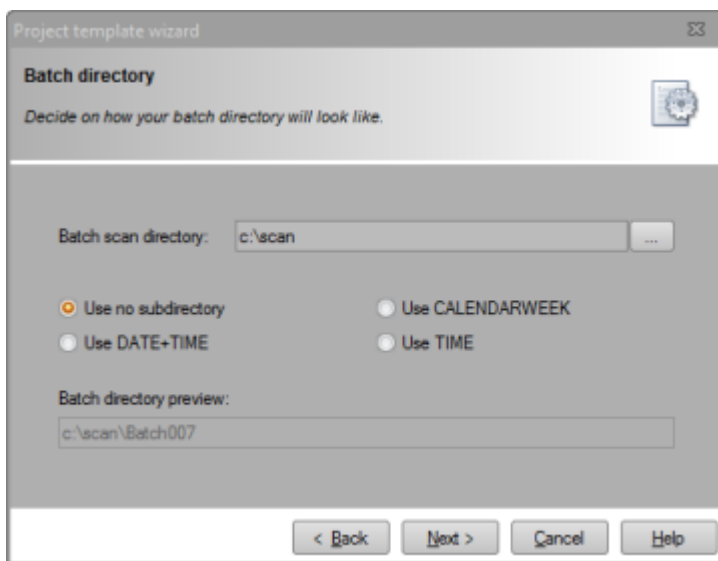
- Please start your copy of ScamaxScan+.
- Change the project settings mode to *wizard*: Click on the lower half of icon *Project settings* (in the *Settings* toolbar) and tick *Wizard*.
- Now click on the top half of icon *Project settings*, which will start the wizard. A window will open, with several options on how to proceed. Select *Create a new project template* and confirm by pressing *Next*.



- The next screen will present you with a list of available project templates. Since we will be creating an entirely new template, you should not select any of the existing templates, but instead enter a new name for the template, for example **Customer-ABC**.




- The next screen requires you to enter a description for the template. A detailed description might be very helpful in cases where scan operators frequently change places and you need to provide them with background information and instructions for the scan job on hand. For the purposes of this test project, it will suffice to enter just any short text. Then, click *Next*.
- The following screen contains some directory options:



The path used for saving the export files at the end of this project is made up of several different components:

- 1) the *project scan directory*
- 2) an optional subdirectory based on date and time information (which we will not use here)
- 3) a further subdirectory based on the batch name

For *Project scan directory*, either enter a directory path manually (for example *C:\scan\customers*), or use the button for extended entry: , which will allow you to define the path using the directory browser.

Since this example requires no further subdirectories, please select option *Use no subdirectory*.

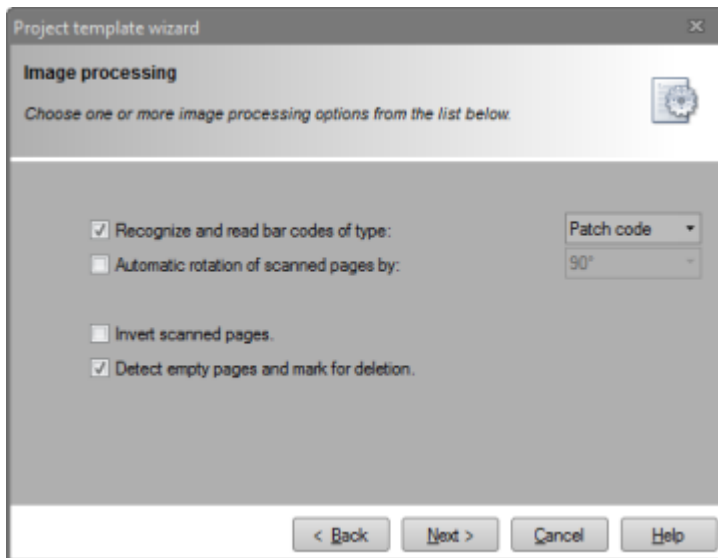
The resulting path used for saving the export files at the end of this project will therefore be: *C:\scan\customers\<batch name>*

⚠ Especially when using network drives, please make sure that the user executing a ScamaxScan+ project has full read and write access to the target directory!

In our example, every personal file is supposed to be stored as a separate output file. In order to achieve this, separator sheets have been added to the pile of documents. Patch codes on those separator sheets will have to be recognized by ScamaxScan+, and the program is expected to begin a new output file, in response.

Please perform the following settings, on the next wizard screen (*Image processing*):

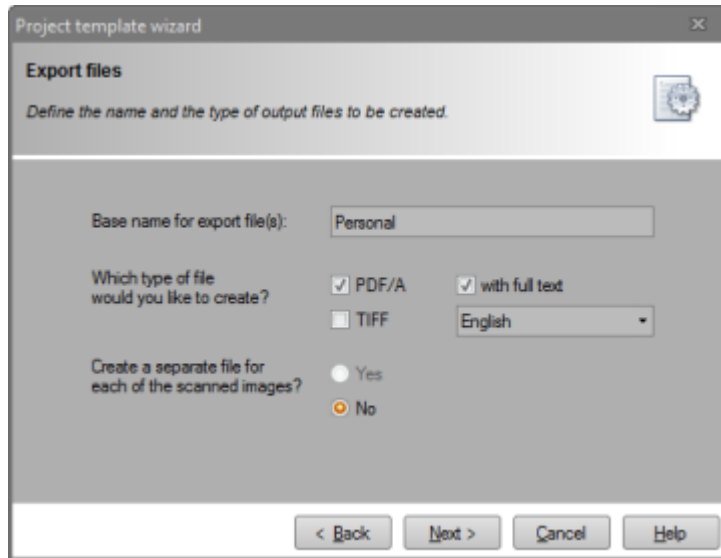
- Tick the option *Read bar code on scanned page* and select *Patch code*, from the drop-down list at the end of the same line. Additionally, tick the option *Detect empty pages and mark (for deletion)*. Confirm your changes by pressing *Next*.



- Which brings us to the finalization and file output section (i.e. exporting files). To begin with, enter a suitable name for the output files (in row *Base name for export file(s)*), such as *Personal*. This base name will be automatically suffixed with a document counter, at project runtime.

Our sample scenario calls for the generation of searchable PDF/A files. Therefore, you will need to select *PDF/A*, as the type of file to generate, and add the option *with full text*. The latter option will switch text recognition on and add embedded text to the output files. Set the corresponding language option (below the tick box) to the source language of your paper documents, for best recognition results.

Finally, since ScamaxScan+ is capable of creating more than one file type simultaneously, please make sure that the *TIFF* option (default) is deselected. Confirm your changes by pressing *Next*.



- You will now be presented with a final confirmation page (*Save project template*). If you are happy with what you have entered, then confirm by pressing *Finish*. Your new project template has been saved and is ready for use.

Starting and closing a batch job

- To start a new batch job, switch over to the *Control* toolbar and click on *Start batch*. From the list of project templates, select the one you just created. After pressing *OK*, the batch will be started.
- Next, you will need to select a scanner (*Select scanner* on toolbar *Control*). Please find more information on this in the section on *Scanner selection* (in chapter *Menu bar functions, Control toolbar*).
- Start scanning by clicking *Batch scan*. The scanner will begin to operate and the screen will begin to fill with scanned images. During scanning, only the *Stop scanner* icon remains active.
- Finally, when all paper documents have been scanned, click on *Finalize* (on toolbar *Control*). ScamaxScan+ will now process the scanned batch and write output files to the directory specified.

Menu bar functions

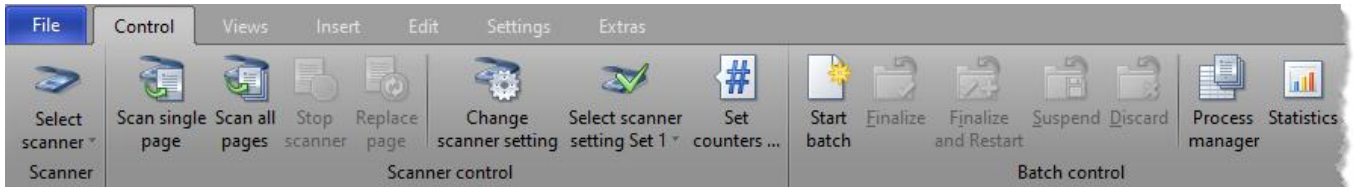
Contents

- Main menu
- File menu
- Control toolbar
- Views toolbar
- Insert toolbar
- Edit toolbar
- Settings toolbar
- Extras toolbar
- Keyboard shortcuts
- Quick access toolbar

This chapter will introduce you to the main menu. You will learn how to navigate to the various menu items and how to customize your workspace (using the *Quick access toolbar* and *Keyboard Shortcuts*).

Main menu

You will find the main menu, also known as the *menu bar*, at the top of the [program window](#). In order to provide more clarity, all functions available through the main menu have been grouped into categories and are displayed as *tabbed ribbons*. These categories are [File](#), [Control](#), [Views](#), [Insert](#), [Edit](#), [Settings](#) and [Extras](#) and will be discussed in more depth, later in this chapter.

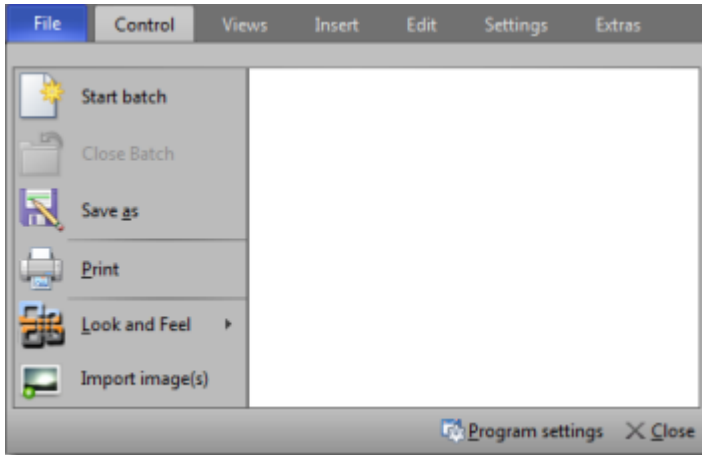


If you require a larger preview window for viewing documents or if you do not want the menu icons to be displayed permanently, you may right click on the menu bar and select option **Minimize the Ribbon** (revert to normal settings by ticking this option once more).

This option will reduce the standard menu bar to just a single line of menu categories. Whenever you click on one of the menu categories, the ribbon will temporarily reappear in full size.

Additionally, you may also want to configure the [quick access toolbar](#) or a set of personalized [keyboard shortcuts](#) and use these in addition or as an alternative to the standard menu.

File menu

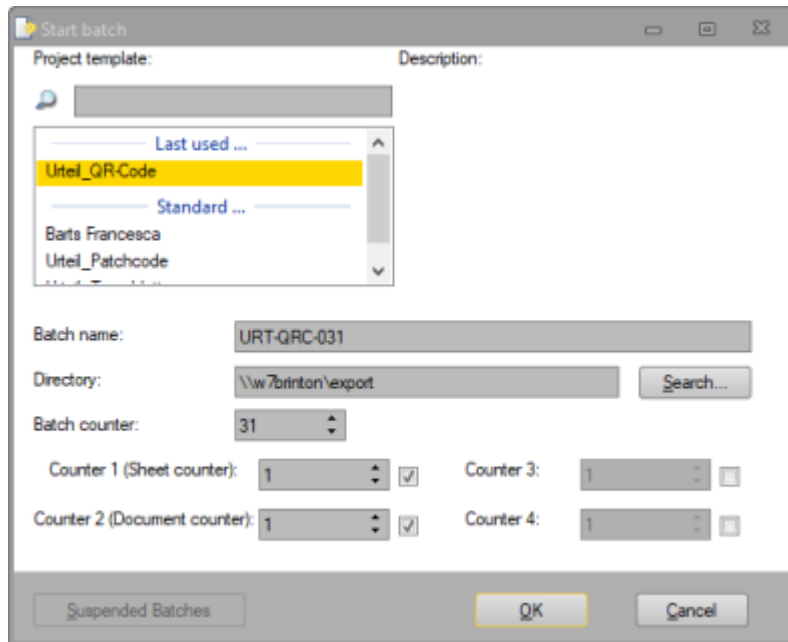


Descriptions are from top to bottom:

Start batch

The following screen will present the most recently used project template (*Last used ...*) as the basis for a new batch.

If you wish to use one of the other templates, select the desired template from the list (*Standard ...*) by clicking on its name once (this will cause the template name to be highlighted). You may also search for a template, by entering all or part of the template name into the search bar above the list.



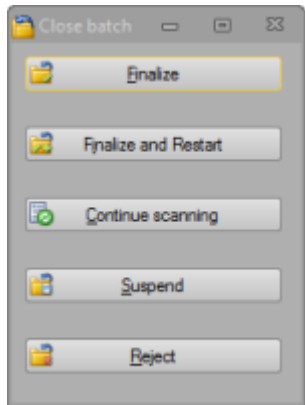
The settings below the template selection box will change according to the project template highlighted.

Depending on template settings, the fields for *Batch name*, *Directory* and/or *Batch counter* may be write-protected.

Clicking *OK* will use the current settings to start a new batch. ScamaxScan+ is now in project mode and waiting for incoming images.

Close batch

Opens the following dialogue:



Only the two uppermost buttons, *Finalize* and *Finalize and Restart*, will cause the batch to be finally closed (and export files to be written to disk).

The exact meaning of each of the five options is as follows:

Finalize

Closes the batch, executes all required processes (or transfers them to the Process manager) and returns ScamaxScan+ to quick mode.

Finalize and restart

Closes the batch, executes all required processes (or transfers them to the Process manager) but keeps ScamaxScan+ in project mode. ScamaxScan+ will automatically open a new batch based on the previously used project template.

Continue scanning

Returns you to the current batch job, for additional scanning or image processing.

Suspend

The current batch will be saved but not processed any further, right now. No files will be output.

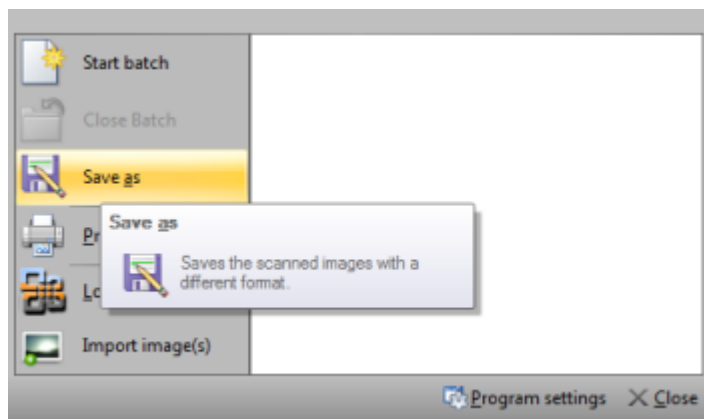
To reopen a suspended project at some later time, click on the *Suspended Batches* button in the *Start batch* dialogue (see above). Please note: For the *Suspended Batches* button to become active, you will need to select the appropriate project template, beforehand.

Discard

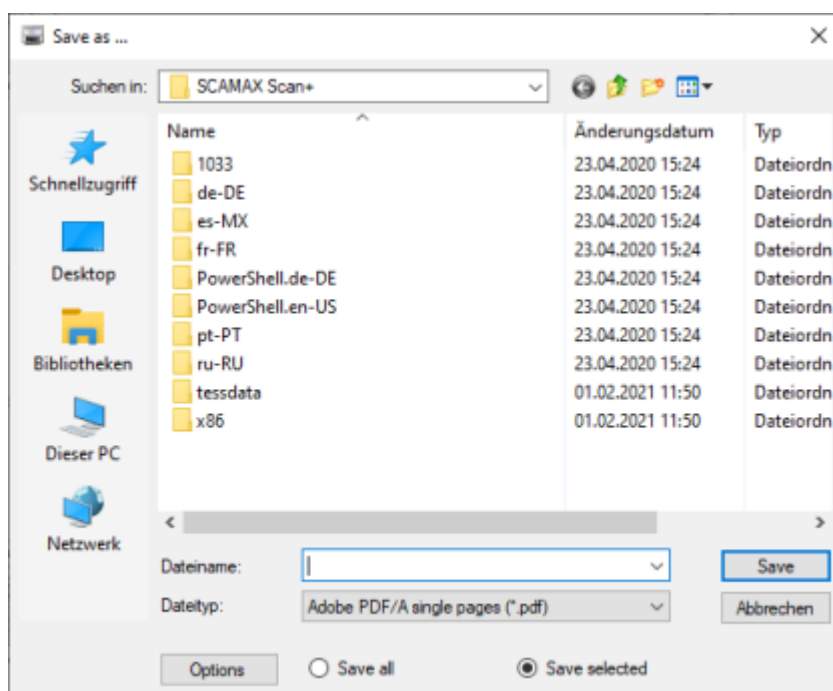
This command cancels your present batch job and returns ScamaxScan+ to quick mode. All scanned images will be lost, no files will be output.

Save as

All or selected images will be written to disk. Especially useful when in quick mode.

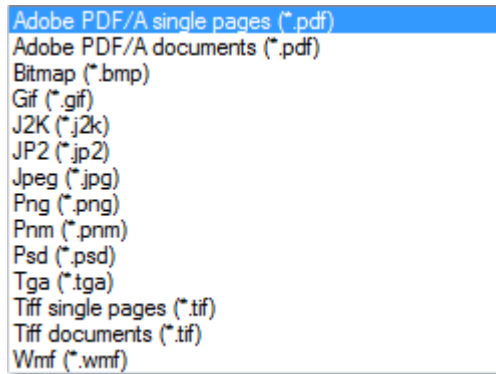



Browse to the desired storage location and enter a suitable file name. ScamaxScan+ will add automatic file numbering when exporting multiple images.



Save selected will only save images to disk which you have highlighted beforehand, whereas *Save all* will save all images, regardless of highlighting.

From the *file type* drop-down list, select the desired file format to be used. The list of available file formats is as follows:




 Please note: Only file types: "Adobe PDF/A-Documents (*.pdf)" and "TIFF-Documents (*.tif)" will allow for writing multiple images into one single output file (i.e. *multi-page output files*). Choosing any of the other file formats will invariably result in one separate file per image!

Depending on the *file type* chosen, the *Options* button will become active. For PDF and TIFF files, you may choose the following:

- PDF: compression settings, PDF-Version, default settings for Navigation, Zoom and Page Layout in PDF-viewers.
- TIFF: compression settings.

Print

Launches the Windows print dialogue.

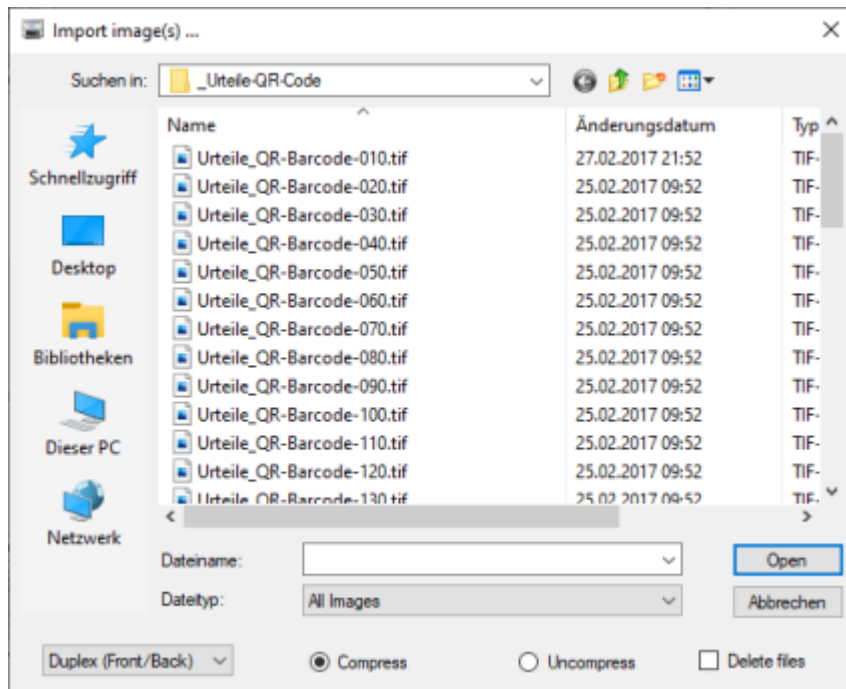
 Please note: By default, all image files will be sent to the printer! Highlighting / selecting images in the thumbnail view will not reliably control print output. As a work-around, please use the "current page" setting, or enter specific page numbers / page number ranges to be printed.

Look and Feel

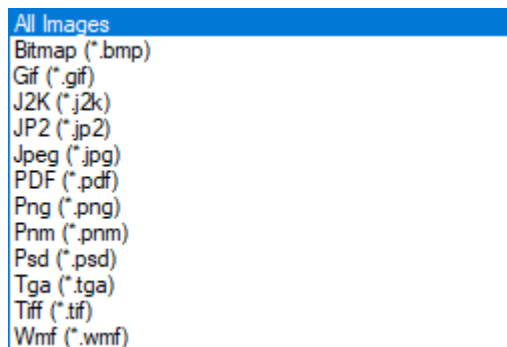
Changes the color scheme used by ScamaxScan+. You may choose between a blue, a black or a silver theme.

Import image(s)

Rather than scanning physical documents, existing image files may be imported into ScamaxScan+. These files will behave just like scanned images and can be modified and processed as usual.



Use the *File type* drop-down list to select a specific file format for import. Selecting *All Images* will show and import images with any of these formats:



Import Options:

Simplex / Duplex

When scanning, the scanner will also supply information whether an image originates from the front side or from the back side of a document. This information is missing, when importing images as files.

Instead, a simulation is used to add this information:

Simplex (front): Marks all incoming pages as front pages.

Simplex (Back): Marks all incoming pages as back pages.

Duplex (Front / Back): Alternately marks incoming pages as front and back pages, beginning with a front page.

Duplex (Back / Front): Alternately marks incoming pages as front and back pages, beginning with a back page.

Compress / Uncompress

Compress will internally store all incoming grayscale or color images as compressed JPEG files.

Uncompress will store all incoming images as uncompressed files. Caution: This option will inflate compressed files.

Delete Files

Check this option to have the source images deleted from disk, directly after file import.

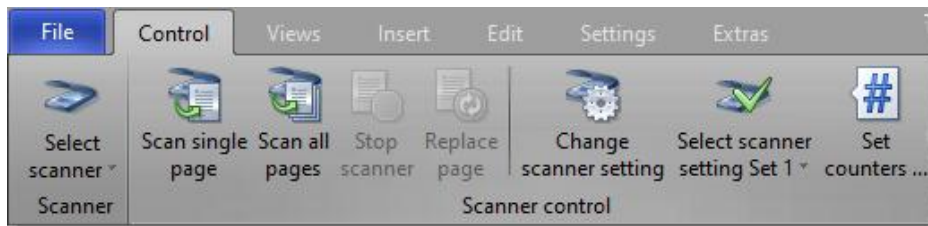
Program settings

Opens the Program settings dialogue. For more details, please refer to chapter [Program settings](#).

Close

Shuts down the application.

Control toolbar

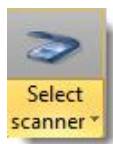


Descriptions are from left to right (left half of ribbon, **right half** further below):

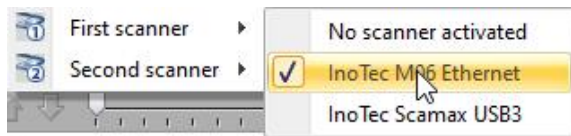
Scanner:

Select scanner

ScamaxScan+ provides you with two scanner slots, each of which may be assigned to a different scanner. At least one of the two scanner slots needs to be properly configured for the scan process to work (otherwise the *Single scan* and *Batch scan* buttons will remain inactive). Assigning and switching scanners is done through the *Select scanner* button:



Click the bottom half of this button to open the following scanner selection dialog (Please note: Only INOTEC scanners are offered for selection as the *First scanner*):

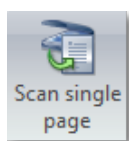


Once you have configured both of the scanner slots, you may switch back and forth between the two devices by clicking the top half of the *Select scanner* button. The currently active scanner device will also be displayed in the scanner status display at the bottom of the program window.

If a scanner is physically connected but does not show up in the list, there might be a configuration problem.

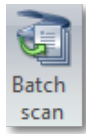
Scanner control:

Single scan



Scans a single *page* and then stops the scanner. Please note: *Page* refers to a physical sheet of paper, so in duplex mode, two images will be generated.

Scan all pages



Scans the current document pile until there is no paper left in the ADF (Automatic Document Feeder) of your scanner. Please note: Flat bed scanners typically do not have an ADF.

Stop scanner



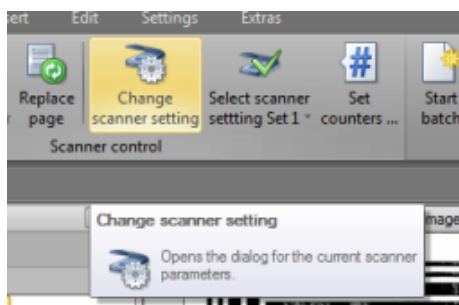
The scanner will stop scanning, as soon as possible. You may use *Scan all pages* to restart the scan.

Replace page



Replaces the selected page (highlighted in the thumbnails view) with image(s) coming from the scanner. When scanning in simplex mode, only the current image will be replaced, when scanning in duplex mode, the current and the following image will be replaced.

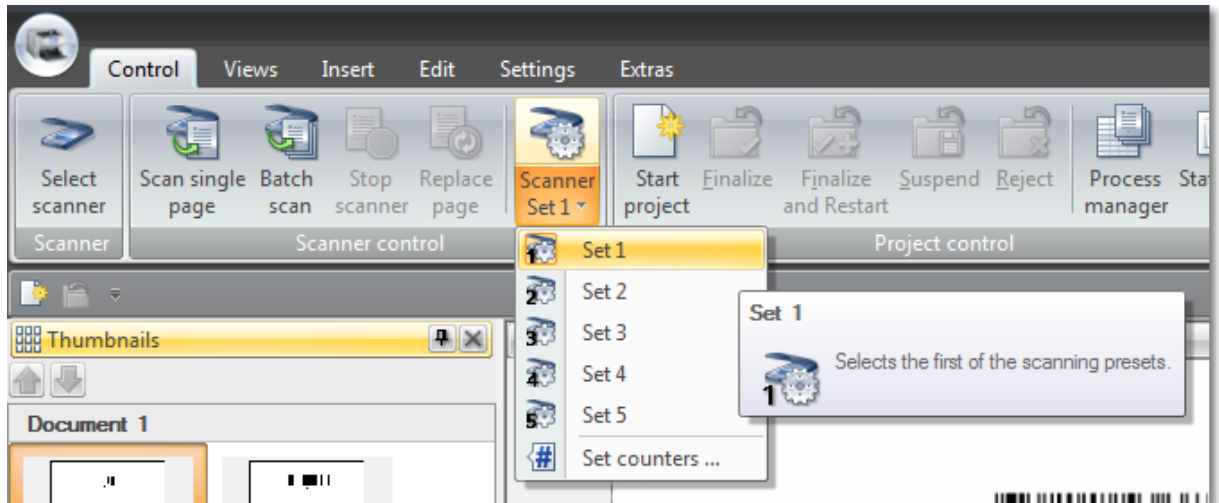
Scanner settings



Opens the (currently selected) scanner's built in settings dialog.

Changes made here are usually lost whenever the scanner is powered down. Therefore, these settings might have to be re-applied each time the scanner is initialized.

Scanner set 1 ...

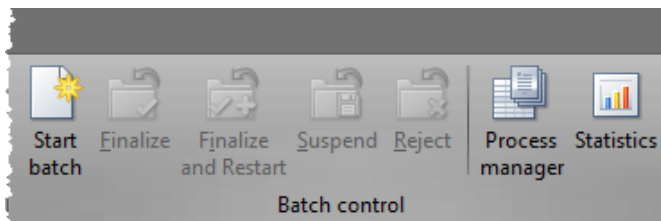


If supported (some scanner drivers do not provide this functionality), you may define scanner settings and save them as presets. ScamaxScan+ will apply these settings when scanning in project mode.

Clicking this button lets you choose from a list of scanner presets. In order to make changes to presets, first select a preset and then open your scanner driver dialog. All settings made will be saved to the preset.

Set counters ...

The current values of the scanner's internal counters may be changed, here (the *InoTec ScaMax M06* features four internal counters, other brands may offer less or no internal counters).



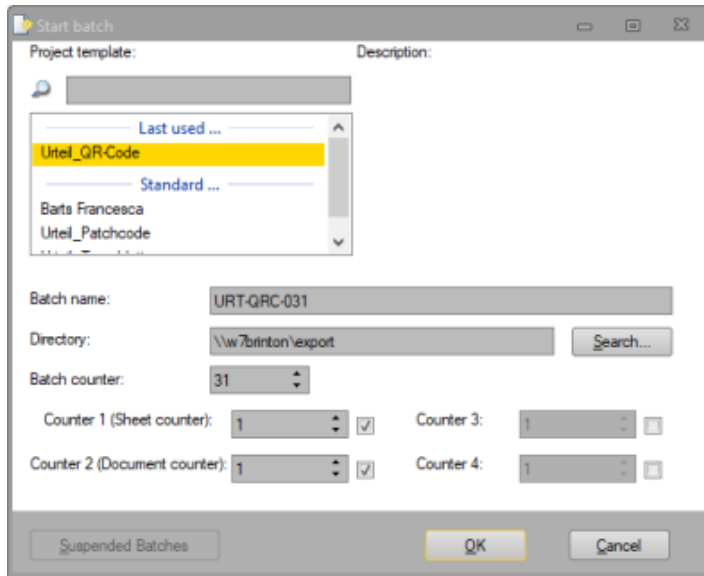
Descriptions are from left to right (right half of ribbon):

Batch control:

Start batch



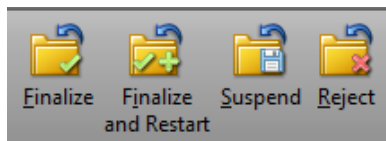
Opens the dialogue for selecting a project template and starting a new batch job:



For detailed information on starting batch jobs, please refer to the section on [Starting and closing batches](#), in the *appendix*.

Close batch

In order to terminate an active batch job, use one of these four icons:



Only the two leftmost controls, *Finalize* and *Finalize and Restart*, will cause the batch to be finally closed (and export files to be written to disk).

The exact meaning of each of the four controls is as follows:

Finalize

Closes the batch, executes all required processes (or transfers them to the Process manager) and returns ScamaxScan+ to quick mode.

Finalize and restart

Closes the batch, executes all required processes (or transfers them to the Process manager) but keeps ScamaxScan+ in project mode. ScamaxScan+ will automatically open a new batch based on the previously used project template.

Suspend

The current batch job will be saved and not processed any further. No files will be output.

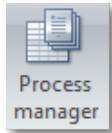
To reopen a suspended batch at some later time, click on the *Suspended Batches* button in the *Start batch* window (see above). Please note: For the *Suspended batches* button to become active, you will need to select the appropriate

project template, beforehand.

Reject

This command cancels your present batch job and returns ScamaxScan+ to quick mode. All scanned images will be lost, no files will be output.

Process manager



This button opens the process manager window. You will be able to see how many batches have been completed and which jobs have not yet been processed. You may also manually (re)start waiting jobs (before the scheduled starting time specified in the *Program settings*), stop active jobs or purge completed jobs from the list.

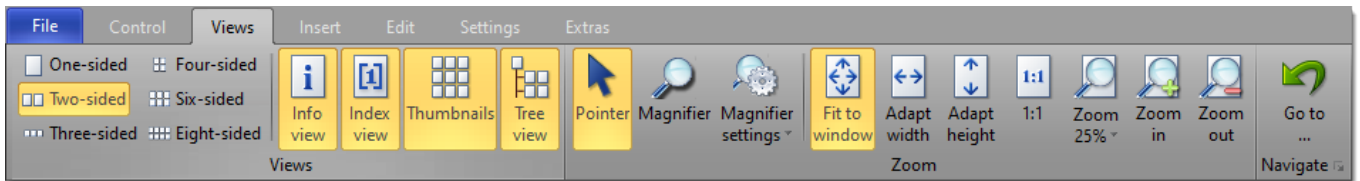
Please find more information on this topic in a separate chapter, [Process manager](#).

Statistics



Opens a window containing statistical data. ScamaxScan+ will log all activities when running a project, this table will give you summary information on all recent batches.

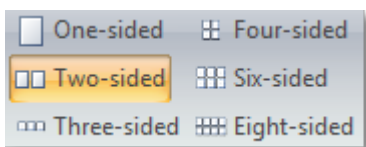
Views toolbar



Descriptions are from left to right:

Views:

One-sided, Two-sided, ... Eight-sided



Displays one, two or more pages, in the main *Image view*.

We recommend using the *Two-sided* view when performing duplex scanning. This will ensure that the front and the rear sides of scanned and imported pages are consistently displayed as pairs, side-by-side.

Please note: The *Image view* cannot be moved or "docked", unlike the other views below.

Info view



Shows or hides the *Info view*. The *Info view* will display detailed (technical) image information.

Please note: The *Info view* may be moved about by "dragging" its title bar with the mouse. It can either be left separated ("floating") or it can be attached ("docked") to other views.

Index view



Shows or hides the *Index view*. The *Index view* will display index information, if index fields have been defined.

Please note: The *Index view* may be moved about by "dragging" its title bar with the mouse. It can either be left separated ("floating") or it can be attached ("docked") to other views.

Thumbnails



Shows or hides the *Thumbnails view*. *Thumbnails* provide a low-resolution preview of all scanned and imported images. Additionally, images may be modified using thumbnails. To do so, right click on one or more (highlighted) thumbnail images, this will open a context menu with further options.

Please note: The *Thumbnails view* may be moved about by "dragging" its title bar with the mouse. It can either be left separated ("floating") or it can be attached ("docked") to other views.

Tree view



Shows or hides the *Tree view*. The *Tree view* will display an abstract view of the current batch, organized as sets of documents and pages. This view is intended to give you an overview of the current batch structure, rather than image details.

Please note: The *Tree view* may be moved about by "dragging" its title bar with the mouse. It can either be left separated ("floating") or it can be attached ("docked") to other views.

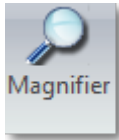
Zoom:

Pointer



This is the normal viewing mode. Press this button to return from the *magnifier mode* described below.

Magnifier



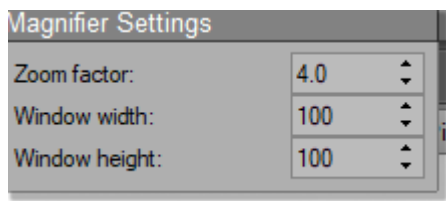
Use the magnifier to get a better look at a specific area of an image, without zooming the entire image view.

Use the *Pointer* icon (see above) to return to normal viewing mode.

Magnifier settings



Change the settings for the magnifier:



Fit to window



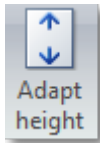
Resizes scanned images to fit exactly into the image view window (images will be displayed in their entirety and without any scrollbars).

Adapt width



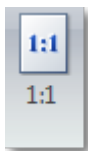
Resizes the scanned image to exactly match and fill the image view window's width (with no horizontal scrollbar being displayed).

Adapt height



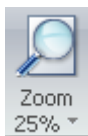
Resizes the scanned image to exactly match and fill the image view window's height (with no vertical scrollbar being displayed).

1:1



Displays images in their original resolution. One pixel on the monitor corresponds to one pixel in the image.

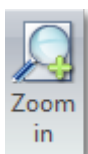
Zoom



Pressing the bottom half of this button presents a drop-down list of fixed zoom levels, for you to choose from.

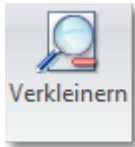
Pressing the top half of this button steps through all zoom levels available.

Zoom in



Pressing this button zooms in to the image by one zoom level.

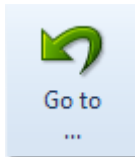
Zoom out



Pressing this button zooms out of the image by one zoom level.

Navigate:

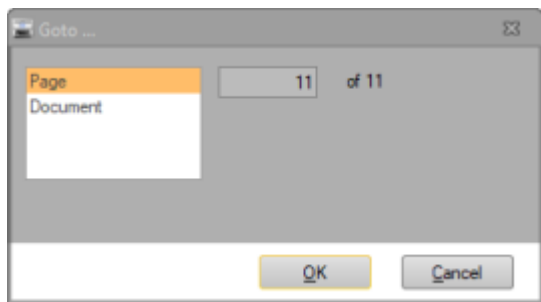
Go to ...



Will take you directly (jump) to a desired *page* or *document*, without having to scroll up or down through the entire batch.

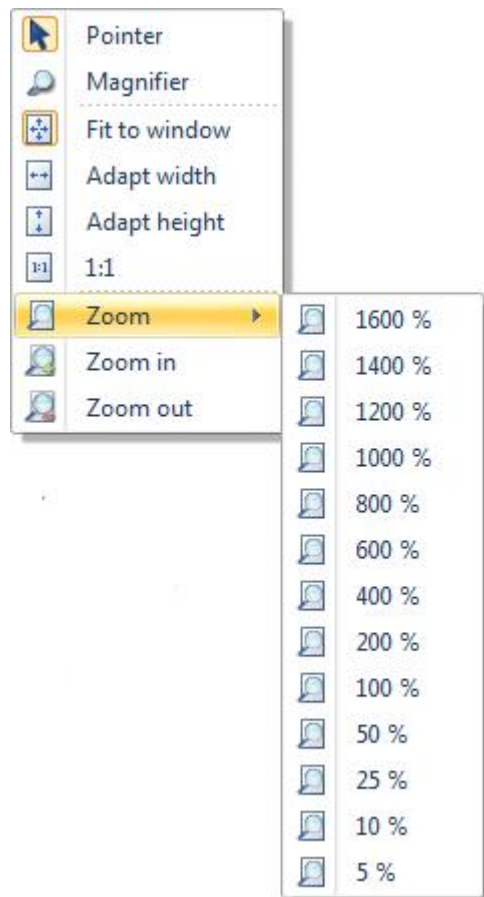
This function can also be invoked by double-clicking the *batch status information*, at the bottom left of the program window.

The following dialogue will appear:



Select *Page* or *Document*, enter the desired page or document *number*, then press *OK*.

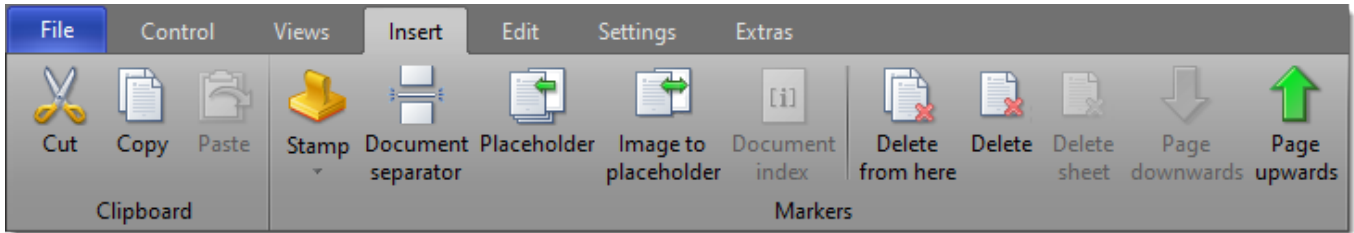
Context menu (Image view)



Right clicking an image in the main image view will open the context menu shown above.

Use this as an alternative for invoking most of the functions available from the views toolbar.

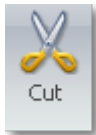
Insert toolbar



Descriptions are from left to right:

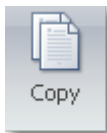
Clipboard:

Cut



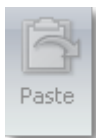
Removes all selected images (i.e. all those with marked/highlighted thumbnails) from the image view and places them in the Windows clipboard.

Copy




Copies all selected images (i.e. all those with marked/highlighted thumbnails) to the clipboard. The selected images remain in their original position in the image view.

Paste



Pastes clipboard data into the current project. Please note: You may also paste image data originating from other applications.

 ScamaxScan+ will simply ignore unsupported image formats or damaged files. Therefore, if pasted items do not appear in the image and thumbnail views, be sure to check for unsupported file formats or corrupted image data.

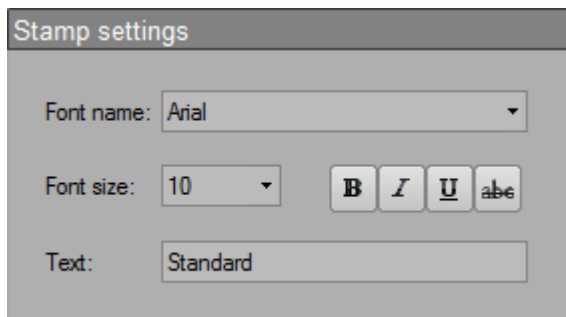
Markers:

Stamp



Pressing the upper half of this button will place a predefined text label (stamp) at the top left of the current image. Once placed, the label can be grabbed and moved around the image. Also, the size of the label box may be modified, double clicking the label will allow text editing.

Pressing the lower section of this button will allow you to change font and text properties, as well as modifying the default text.



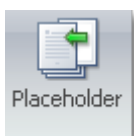
Please note: as soon as another image is selected/highlighted, the *stamp* will be merged with the current image and can no longer be edited or moved.

Document separator



Inserts a Document separator either ahead of or behind the image highlighted in the thumbnail view (depending on the current setting for *document separator position*, in [program settings](#)). In order to remove a separator, highlight the appropriate image and simply press the *Document separator* button again.

Placeholder



Inserts one or more placeholders ahead of the current image. A placeholder will be replaced with a new image, at some later stage (mark a placeholder, then use the *Replace page* command from the *Control* toolbar to replace a

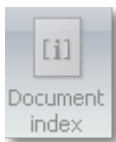
placeholder with a newly scanned image).

Image to placeholder



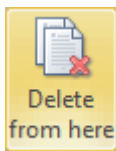
Converts the currently selected (thumbnail) image into a placeholder. The source image will be lost.

Document index



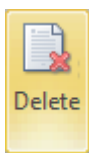
(Feature not yet available, this control is inactive)

Delete from here



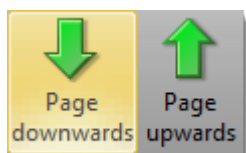
Deletes all images in the range from the currently selected thumbnail(s) to the end of the batch, including selected thumbnail(s).

Delete



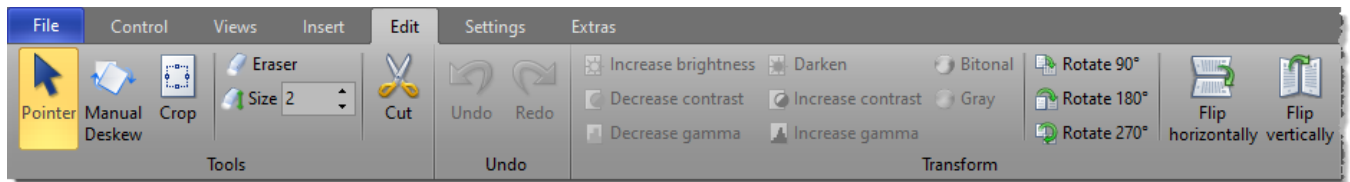
Deletes all currently selected images (i.e. all those with marked/highlighted thumbnails).

Page downwards, Page upwards



Individual images may be highlighted and then moved across the batch, by pressing the green *up* or *down* arrows.

Edit toolbar

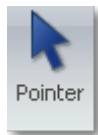


Descriptions are from left to right (this is the left half of ribbon, the **right half** may be found further below).

Please note that some of the icons shown below may display differently on your screen, due to limited screen space.

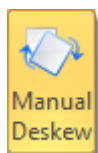
Tools:

Pointer



This is the default operating mode (nothing will be modified). Press this button to revert from destructive editing modes, such as crop, cut or erase.

Manual Deskew



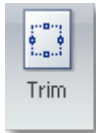
After activating the *Manual Deskew* button, the cursor will change like this:



indicating that ScamaxScan+ is waiting for input.

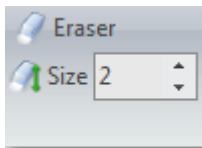
Next, use the cursor to draw a reference line on the image which needs to be deskewed: Press the left mouse button, keep pressed to draw the line and release when the reference line is properly positioned. The length of the reference line is irrelevant, it should however be horizontally aligned with the (skewed) content on the image. The image will now be rotated upright.

Crop



After activating the *Crop* button, the cursor will change into a crosshair. After drawing a frame around the image area to be preserved, all image data outside the frame will be deleted.

Eraser



Use the eraser to remove unwanted items from an image (e.g. traces of dust and dirt or staple marks). You may choose between three different eraser sizes.

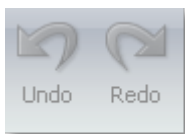
Cut



On operating the *Cut* button, the cursor will change into a crosshair. After drawing a frame around an image area to be cleared, all image data inside the frame will be removed from the image.

Undo:

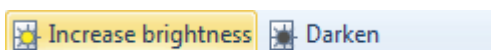
Undo/Redo



Allows you to undo and redo up to 20 previous editing actions.

Transform:

Increase brightness, Darken



Increases or decreases the brightness of the selected image.

Decrease contrast, Increase contrast



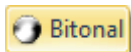
Increases or decreases the contrast of the selected image.

Decrease gamma, Increase gamma



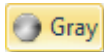
Increases or decreases the gamma-value of the selected image.

Bitonal



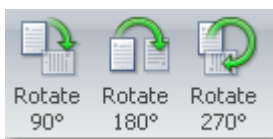
Converts a color or grayscale image into a bitonal (black and white) image.

Gray



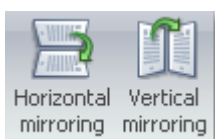
Converts a color image into a grayscale image.

Rotate 90°, 180° and 270°

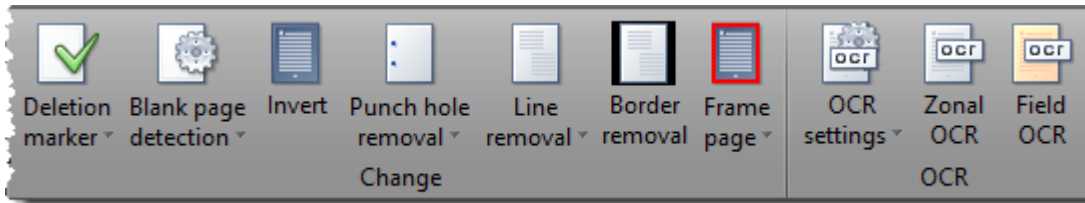


Rotates the image clockwise, by the angle specified.

Flip horizontally / vertically



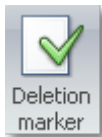
Flips (mirrors) the current image, along its horizontal or vertical axis.



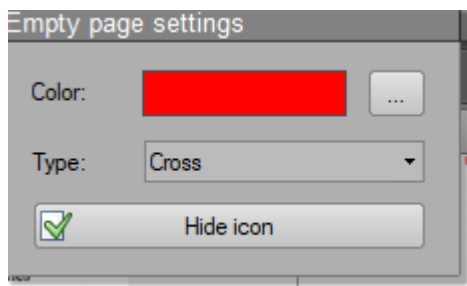
Descriptions are from left to right (right half of ribbon):

Change:

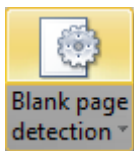
Deletion marker



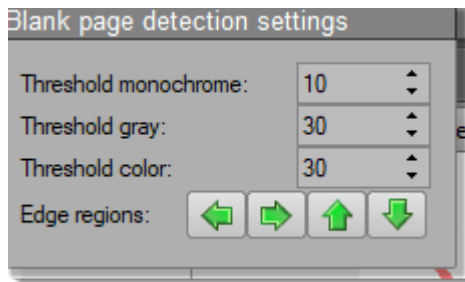
When pressing the top half of this button, ScamaxScan+ will insert or remove deletion markers (existing markers will be toggled) for all images highlighted. Press the lower section of this button to change the color and the type of marker applied:



Blank page detection

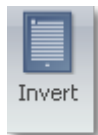


When pressing the top half of this button, ScamaxScan+ will perform automatic blank page detection for all images highlighted. Pressing the lower section of this button will allow you to change detection thresholds:



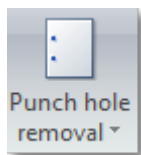
By default, ScamaxScan+ will exclude all areas close to the image's edges, from blank page detection. Press one or more of the green arrows to selectively include the areas close to the corresponding edge of the page.

Invert



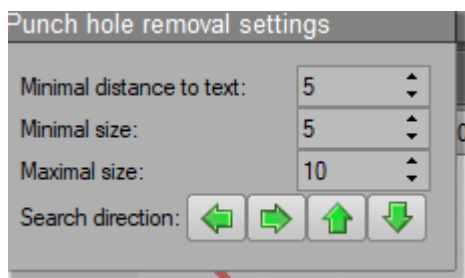
Inverts colors, i.e. changes a positive image to a negative, and vice versa.

Punch hole removal

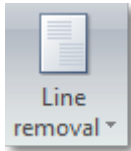


Upon pressing the top half of this button, ScamaxScan+ will remove traces of punch holes from an image (works with 1 Bit black and white scans, only).

Press the lower section of this button to specify limiting factors, such as which margins to examine (*Search direction*), distance to text content or maximum and minimum hole size allowed:

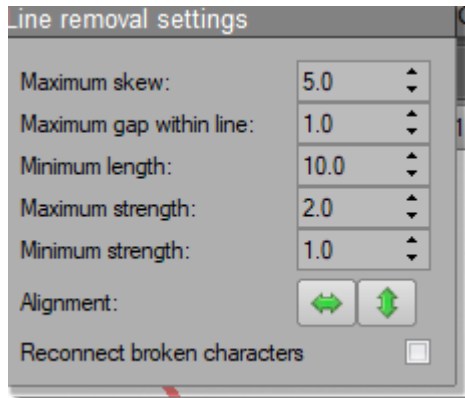


Line removal

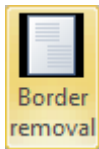


Horizontal and vertical lines are removed from the scanned image (works with black and white scans, only).

Pressing the lower section of this button will allow you to specify various limiting factors:

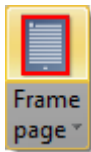


Border removal

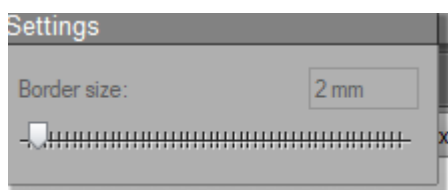


Border removal will automatically crop an image, if shadows / lines / smudges are detected around its edges.

Frame page

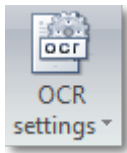


Pressing the top section of this button will place a white frame around the perimeter of an image (to mask unwanted borders or shadows). Press the bottom section of this button to set the width of the frame. Please use the slider to change the value.



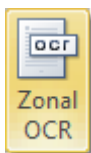
OCR:

OCR settings




Allows you to set the language to be used during text recognition (applies to all batch, zonal, field OCR). Additionally ticking *Deskew* will cause ScamaxScan+ to vertically align images before OCR is performed, which will improve text recognition results.

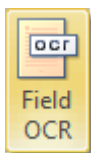
Zonal OCR



Operating this button will turn zonal OCR on and off (toggle). When turned on (the *Zonal OCR* button will be highlighted and the cursor will change into a crosshair), you may specify an area to be searched for text by drawing a frame around it (i.e. drag the crosshair whilst keeping the left mouse button pressed). After releasing the left mouse button, OCR will be performed and the resulting text will be placed in the Windows clipboard.

 Please note: You may specify search areas and perform OCR repeatedly, for as long as zonal OCR is active. However, any text recognized during the most recent OCR pass will overwrite any text previously placed in the Windows clipboard. Therefore, you will not be able to collect text from different recognition areas in the Windows clipboard, instead you will have to move the contents from the Windows clipboard to your target application immediately, after each of the OCR passes.

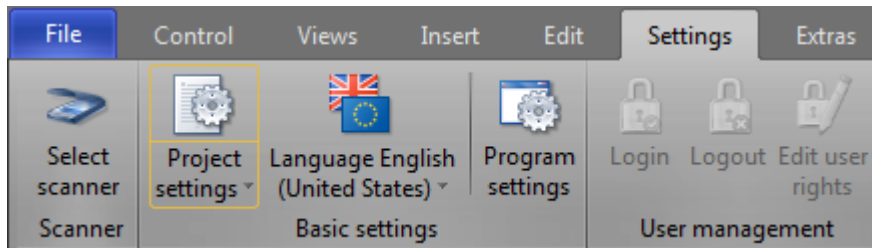
Field OCR



Operating this button will turn field OCR on and off (toggle). When turned on (the *Field OCR* button will be highlighted and the cursor will change into a crosshair), you should first select an index field, by clicking into it. Then, in the image view, you may specify an area to be searched for text by drawing a frame around it (i.e. drag the crosshair whilst keeping the left mouse button pressed). After releasing the left mouse button, OCR will be performed and the resulting

text will be placed in the selected index field.

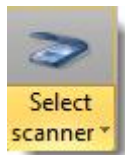
Settings toolbar



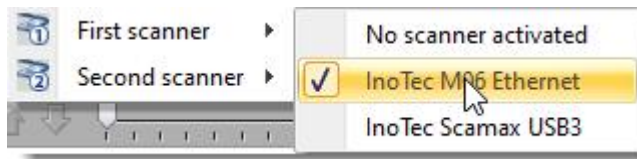
Descriptions are from left to right, and by section:

Scanner:

Select scanner



Click this button to open the following scanner selection dialog:

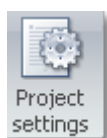


In this dialog, all TWAIN scanners that are recognized by both the operating system and by ScamaxScan+ as being operational are offered for selection.

If a scanner is physically connected but not shown in the list, there might be a configuration problem.

Basic settings:

Project settings



Clicking the lower half of the *Project settings* button will allow you to permanently choose between expert mode or the use of the wizard, for creating and modifying project templates. Depending on your choice, clicking the upper section of the *Project settings* button will either start the wizard (which will guide you through an abridged process of setting up a project), or you will be presented with a comprehensive list of project settings, where you will have to check and make all necessary settings and adjustments by yourself (more

flexible, but for experienced users only). For more details, please refer to the separate chapter on [Project settings](#).

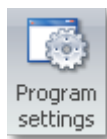
Two more options are available from the lower half of the *Project settings* button, *Export project templates* and *Import project templates*. Use these to transfer project templates to and from another PC.

Language



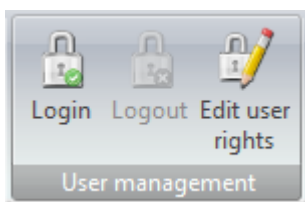
ScamaxScan+ features six localized versions. Clicking the upper half of this button flips the application language through all of the available languages, clicking the lower half presents you with a list of languages to choose from, instead.

Program settings



Opens the program settings dialog. Please refer to the separate chapter on [Program settings](#), for more information.

User management:



Managing user rights is a method of restricting access to certain parts of the program functionality by preventing access to respective icons. This might prove helpful, for example, when customizing the software for Scan-Operators: More complex and intricate program functions (such as those required for creating and editing project templates) can be selectively deactivated and thus hidden.

ScamaxScan+ user management has no effects outside of the boundaries of this application. The Windows operating system and all other Windows applications will remain unaffected by any of the settings described below.

User management can be turned on or off globally, in the program settings (section:

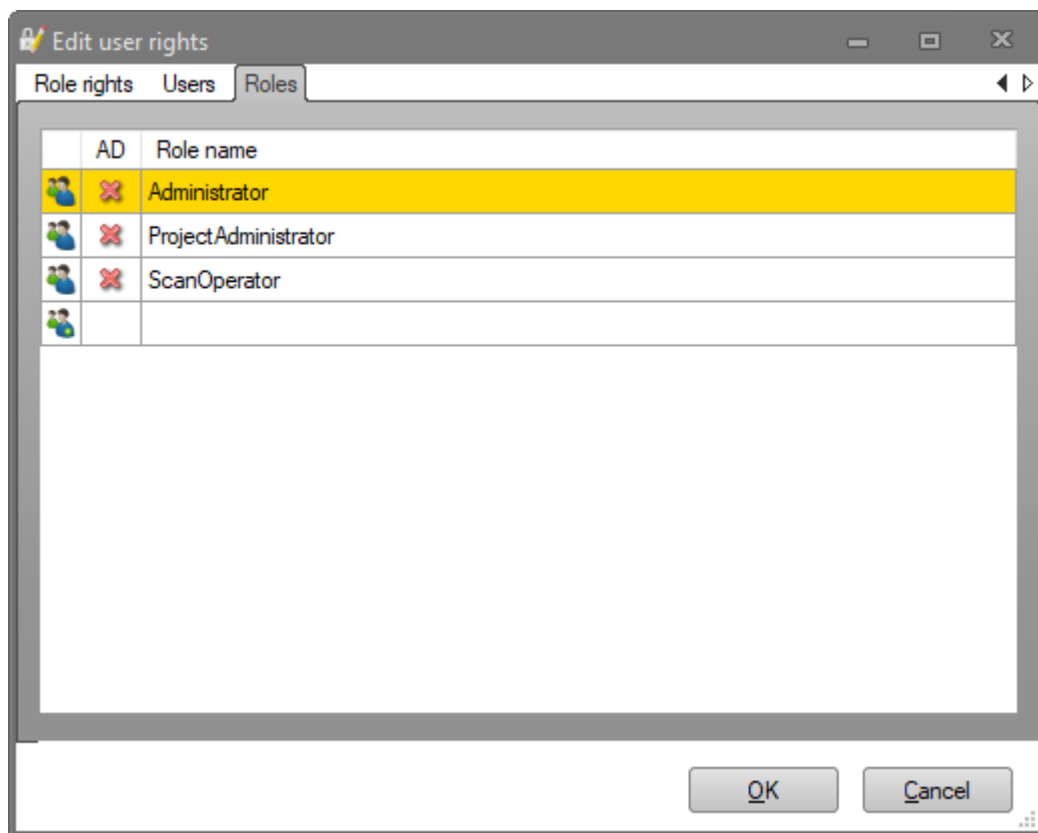
Display settings). Please refer to the separate chapter on [Program settings](#), for more information.

Once turned on, any user with Windows Administrator rights (either for the local machine, or for the current Windows domain) may configure ScamaxScan+ user management.

Edit user rights

This section allows for creating users and roles, editing role rights and assigning users to roles.

Roles:



Use the Roles tab to show existing user groups (roles) and to create additional or delete obsolete roles.

Three roles are provided by default:

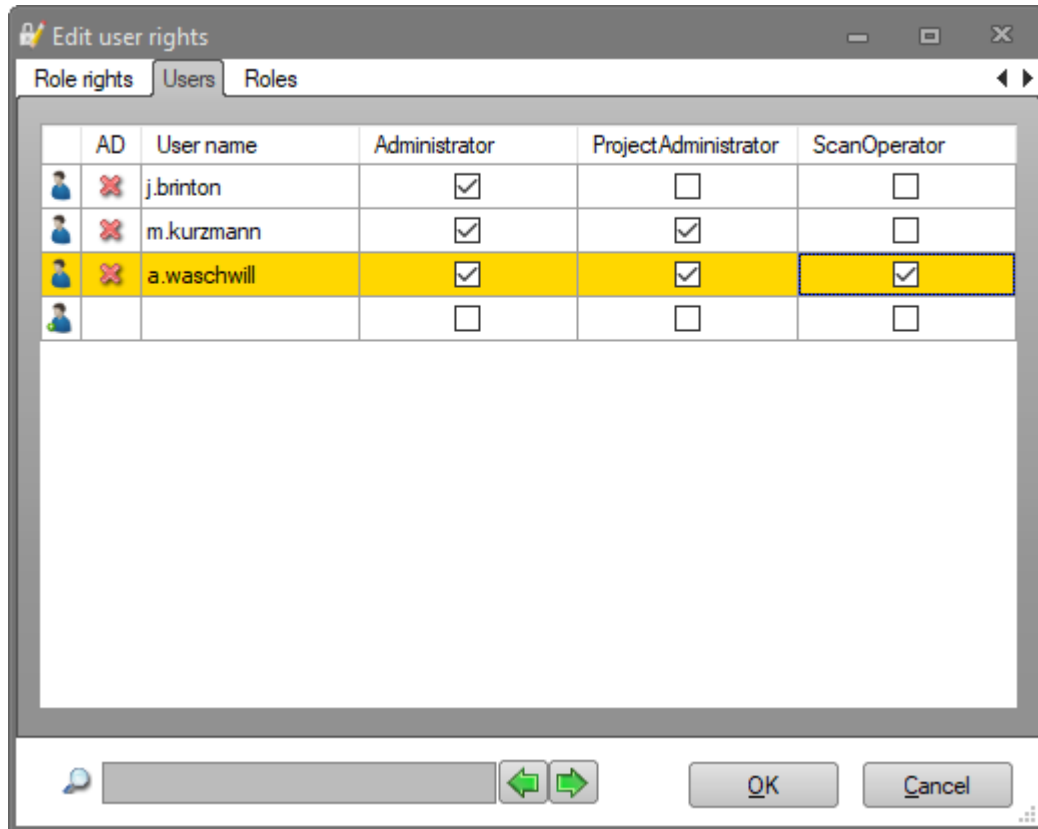
- Administrator: typically has access to ScamaxScan+ system- and user management
- ProjectAdministrator: typically has access to the Settings and Extras toolbars
- ScanOperator: typically has access to Control, Views, Insert and Edit toolbars

You may create additional roles by entering a new role name into the empty, lowermost line and then pressing *Enter*.

If the new role name can be found as a user group in an attached Windows AD (Active Directory), it will be marked as such in column *AD*.

Also, all members of that group will be automatically imported into ScamaxScan+ and appear on the *Users* tab, below

Users:



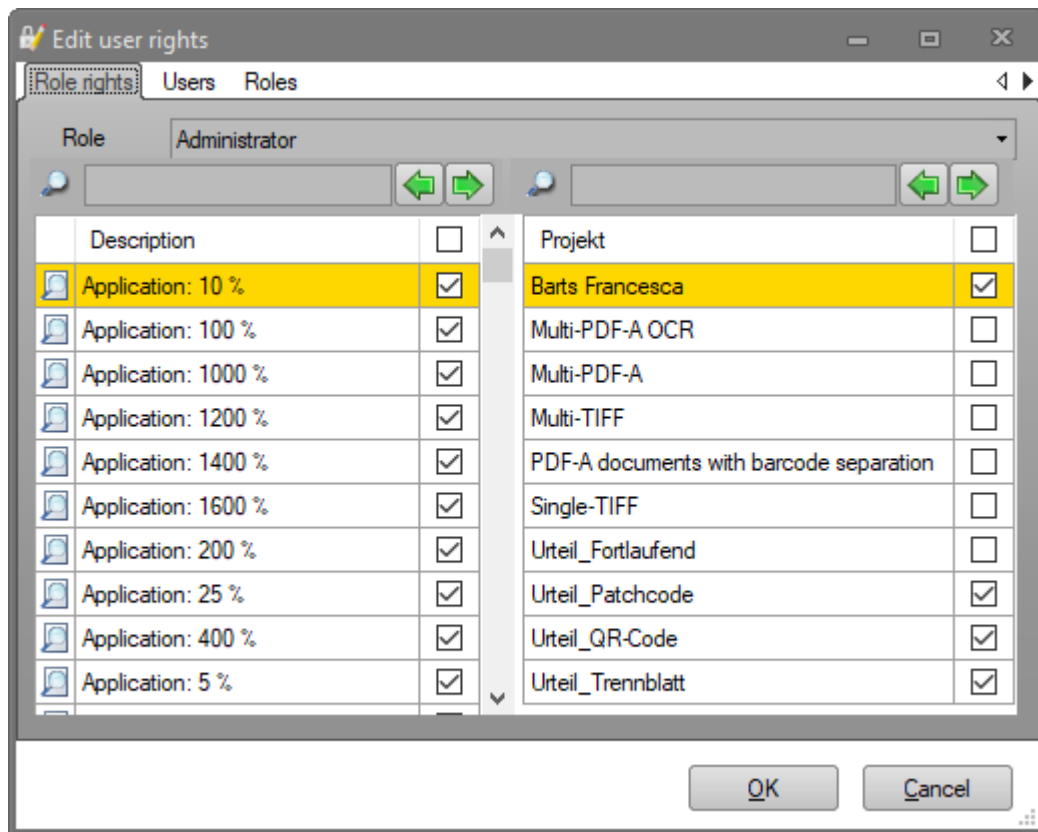
The *Users* tab will allow an administrator to assign one or more roles to a user (if a user is assigned to several roles, then their respective rights will be cumulative).

You may create additional users by entering a new user name into the empty, lowermost line and then pressing *Enter*.

If a username has been imported as a member of a group from the Windows AD (see above), it will be checkmarked in column *AD*.

Role rights:

Though the names of the three default roles imply certain restrictions, any of the configurable rights may be arbitrarily assigned to them. This is done through the *Role Rights* tab and also applies to any newly created roles:



Select one of the existing roles to edit (from the drop-down list at the top). Then, grant or remove access to any of the functions from the list on the left-hand side, by checking or unchecking appropriate check-boxes. Operating the check-box in the uppermost row (labelled Description) will collectively turn all access rights on or off.

Apart from granting or removing rights, you may also assign project templates to one or more roles. The list on the right-hand side will show all presently available project templates, checking or unchecking them will either make them accessible or hide them from view, for the current role.

Login

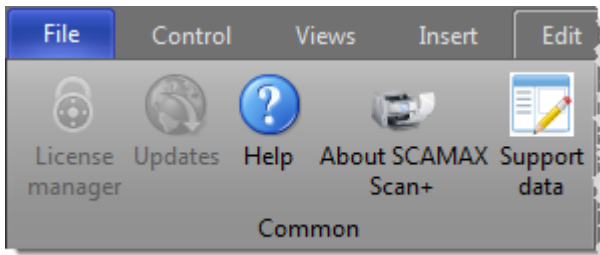
Use this button to log on as a different ScamaxScan+ specific user. Doing so will apply the rights restrictions associated with that user (depending on the roles he or she has been assigned).

⚠ Important: Logging into ScamaxScan+ user management is only possible if the user has a Windows password assigned. Windows accounts without password protection cannot be used.

Logout

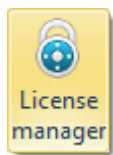
Use this button to log out of ScamaxScan+ user management.

Extras toolbar

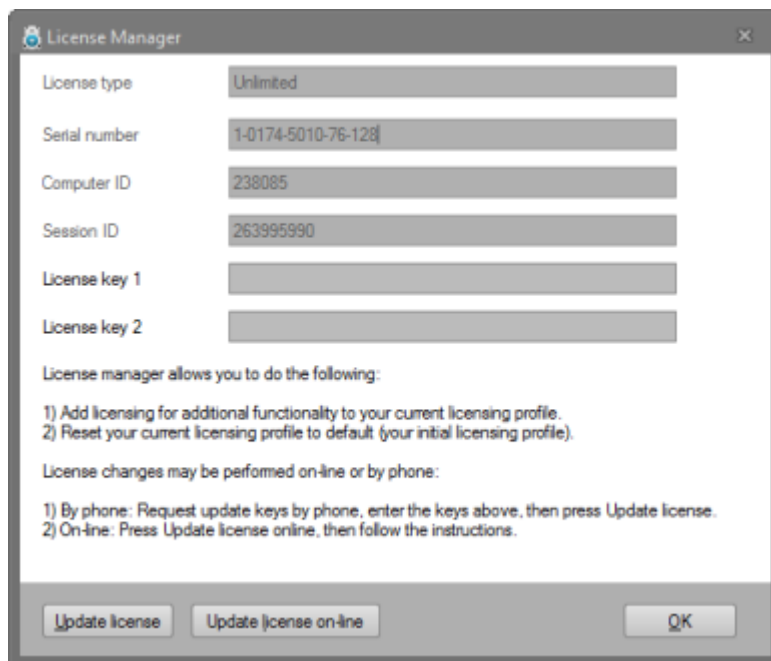


Descriptions are from left to right:

License manager

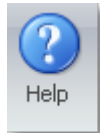


Launches the license manager. This icon is only available if software licensing is active, i.e. whenever a licensing dongle is not in use. The following dialogue will be shown:



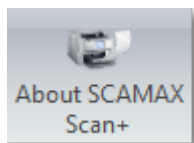
The license manager will allow modifications and extensions to the current licensing scheme, either immediately (on-line), by telephone, or via an exchange of e-mails.

Help



Opens the local help file.

About ScamaxScan+

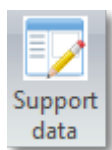


The following window will open:

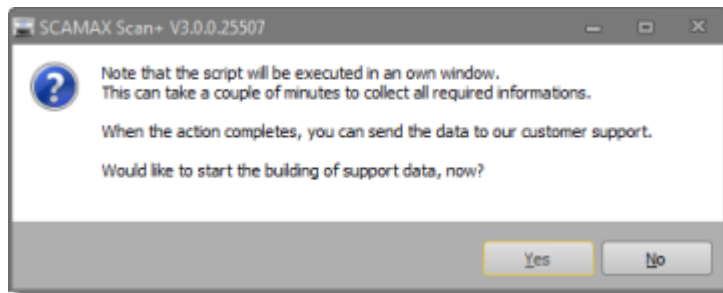


This screen provides information about the software, the current ScamaxScan+ version number, the dongle ID plus a button labelled *Credits*. After pressing the *Credits* button, some of the technologies used in ScamaxScan+ will be listed, together with their key developers. Press Ok to close the *About* screen.

Support data



The following dialogue will open:



If you wish to report a software bug or have a persistent technical problem, then please answer *Yes* and send the archive file (*.ZIP) created by this script to *support@inotec.eu*, accompanied by a detailed description. Please also supply your daytime phone number and a return e-mail adress.

Keyboard shortcuts

As an alternative to the main menu and the quick access toolbar (which are both operated with the computer's mouse), you may also define any number of *keyboard shortcuts* (aka *hot-keys*).

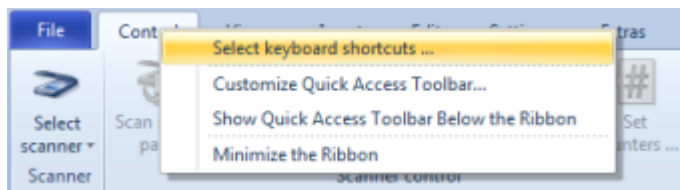
Controlling an application with a computer-mouse is usually considered more intuitive, however, keyboard shortcuts tend to be faster.

Keyboard shortcuts can be created for all functions available through the ScamaxScan+ main menu.

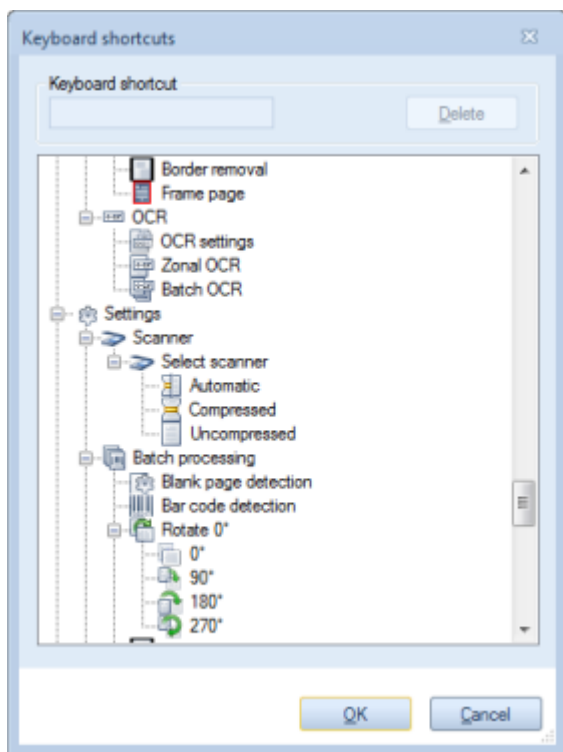
Adding keyboard shortcuts

Place the mouse cursor somewhere over the main menu and perform a *right hand click*.

The following context menu will be shown:



Next, click *Select keyboard shortcuts ...*, the following dialogue will appear:



Procedure:

- Identify and highlight (click once) the function you would like to invoke through

- a keyboard shortcut.
- Place the cursor in the *Keyboard shortcut* field (click once) and press the desired key (or combination of keys), on the computer's keyboard.
- Repeat for all keyboard shortcuts required.
- Press *OK* when done with all keyboard shortcuts.
- If keyboard shortcuts has been assigned successfully, they will be shown in brackets behind the respective control.

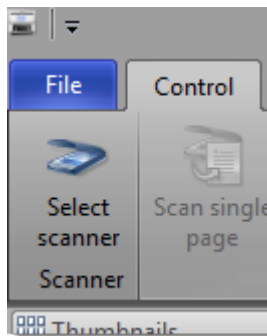
Quick access toolbar

You may use the quick access toolbar to customize your ScamaxScan+ installation. Using the quick access toolbar will usually also speed up work. The customized menu bar will provide access to all frequently used controls without having to switch back and forth between toolbars (ribbons), in the main menu.

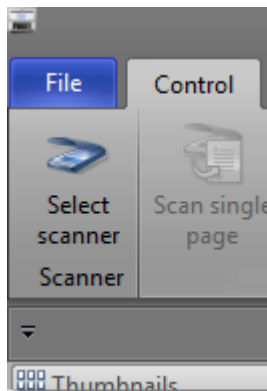
You may pick every control available within the ScamaxScan+ main menu and copy it to the quick access toolbar.

Positioning the quick access toolbar

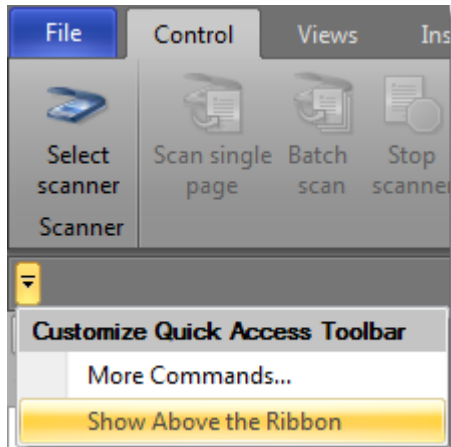
Immediately after program installation (since it has not been configured yet), the quick access toolbar is displayed as just a small arrow. Depending on the current settings, you will find the arrow either in the top left corner of the program window, to the right of the ScamaxScan+ logo:



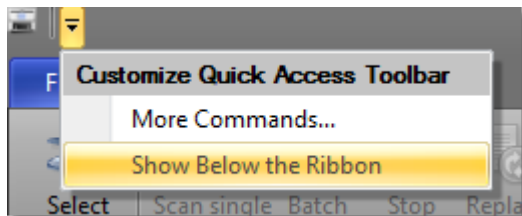
or under the main menu, to the far left:



The following screenshots show the dialogue which will be displayed after clicking the arrow. In the first example, the quick access toolbar is located directly under the main menu, so a command *Show Above the Ribbon* is offered.

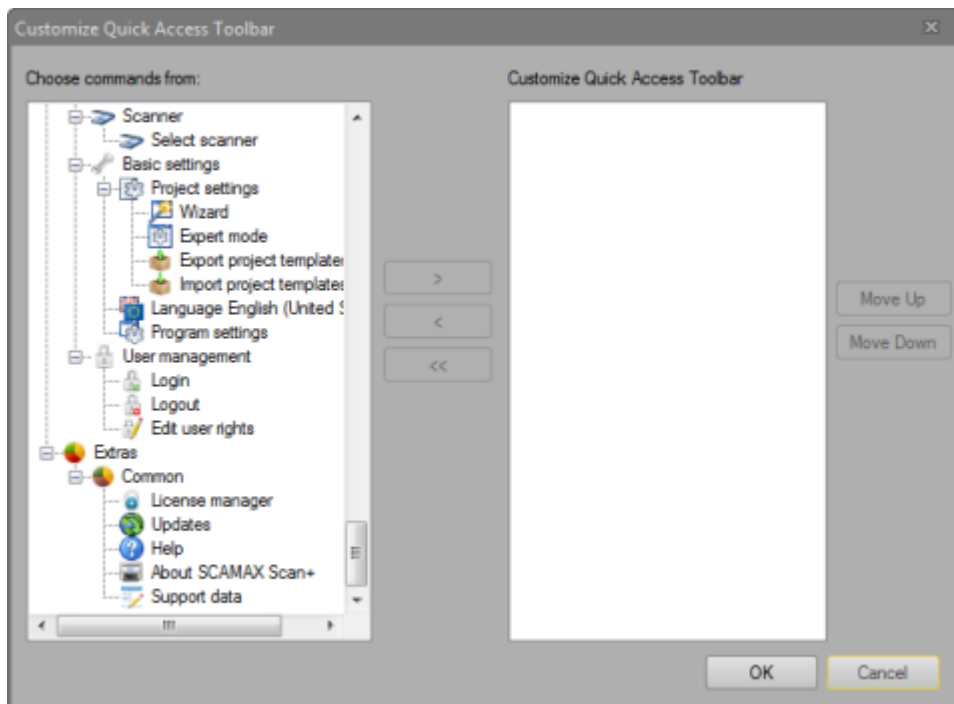


If the toolbar is already above the menu ribbon, then the dialog will show the *Show Below the Ribbon* command, instead.



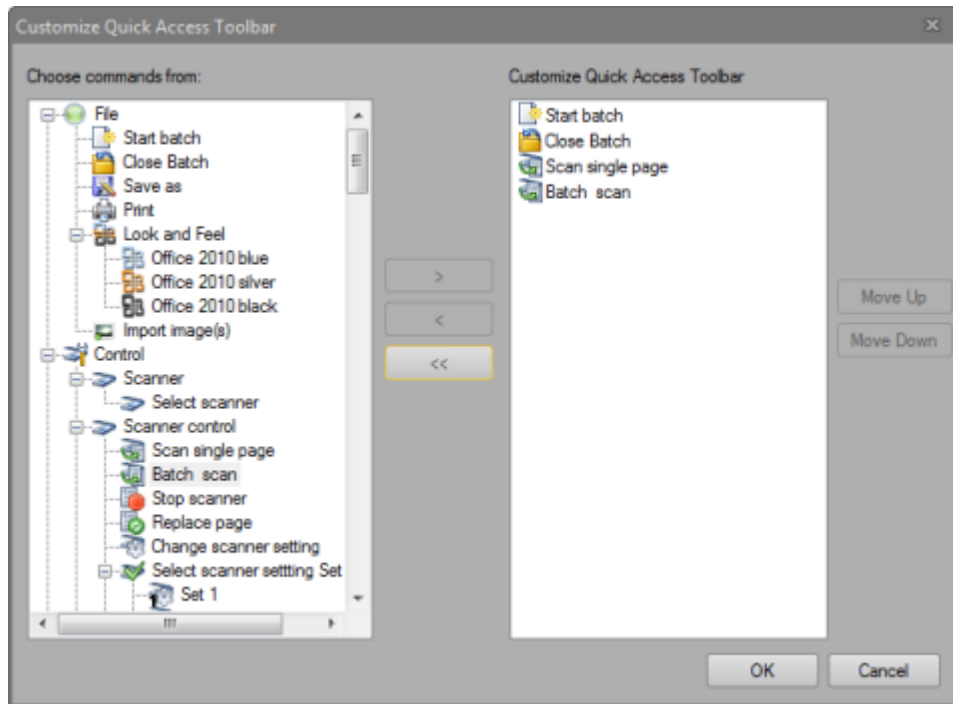
Customizing the quick access toolbar

To begin placing controls in the quick access toolbar, first click the small arrow (as described above) and then the *More commands...* option (an alternative method using the context menu is described far below). The following window will open:



On the left side of the window there is a list (labelled *Choose commands from:*) with all controls available from the main menu. It has a tree structure which is in accordance with the main menu's toolbars and functional groups.

You may now select any one control on the left and copy it into the *Customize Quick Access Toolbar* window on the right, by clicking on the button with the right-facing arrow **>**. Repeat as often as necessary. Eventually, the window will look something like this:

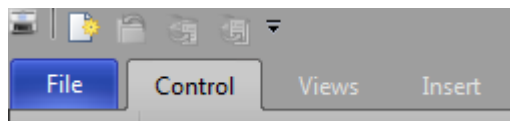


To delete unwanted controls, select an entry in the right-hand window and click on the button with the left-facing arrow **<**.

Unfortunately, it is not possible to select more than one entry at a time. However, an additional button with a double arrow to the left **<<** is available, which will delete all (!) controls in the right pane.

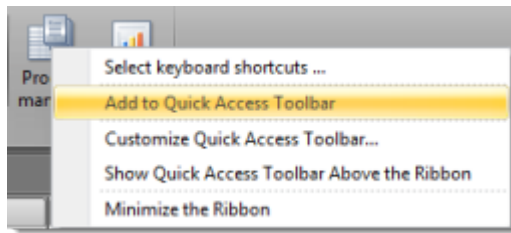
The controls in the quick access toolbar list can be moved up and down by highlighting them and operating the *Move Up* or *Move Down* button. The control at the top of the list will later be displayed on the outer left side of the quick access toolbar.

After clicking *OK*, the resulting quick access toolbar will look something like this:



Customizing the quick access toolbar (alternative method)

Another method for customizing the quick access toolbar makes use of the context menu: Right-clicking any control button from the main menu will present the following option: *Add to Quick Access Toolbar*.



Program settings

Contents

[Common settings](#)

[Error handling settings](#)

This chapter covers all program-related (global) settings. After an initial ScamaxScan+ installation, you should check these and modify them as necessary.

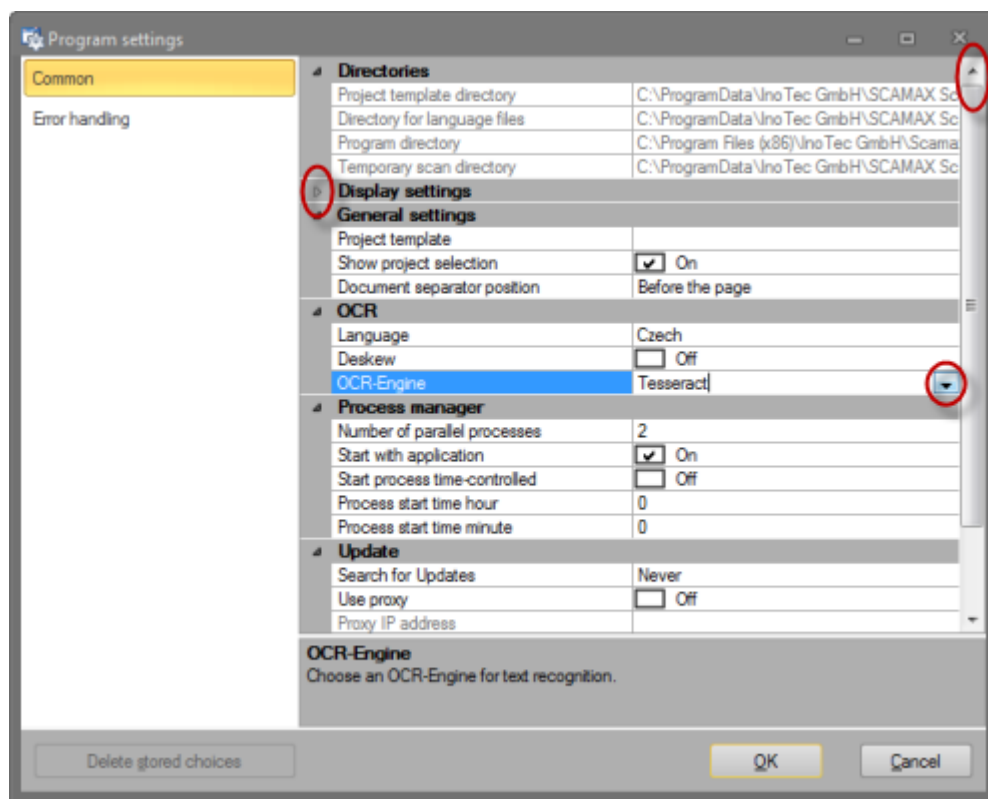
Common settings

Contents

[Directories](#)
[Display settings](#)
[General settings \(program\)](#)
[OCR \(program settings\)](#)
[Process manager](#)
[Update function](#)


To access and change any of the *Common settings*, please first choose *Settings* from the main menu, then click *Program settings*. A new window will appear.

In the left column of the window, make sure that *Common* is selected. You will now find all *Common* settings on the right side of the window, organized into sections. These will be discussed in detail, further below ...



How to navigate the *Common settings* menu:

- Each of the sections (*Directories*, *Display settings*, *OCR* etc.) may be collapsed and re-opened by clicking the symbol in front of the section name.
- The entire list may be moved up and down by using the scrollbar on the right side of the window.
- All sections are organized into two columns: The left column lists the parameters available for that section, the column on the right side shows their current value (text, numbers, variables). In many instances, you will be able to change these values simply by clicking them (which switches them to edit mode) and entering a new value.
- Whenever a direct entry of values is not allowed, a click on the righthand column

will either open up a drop-down menu with values to choose from (as is the case for OCR-Engine, in section OCR, in the screenshot above) or the button for an extended menu will be shown, like so: .

General settings (program)

General settings	
Project template	
Show project selection	<input type="checkbox"/> Off
Enable counter view	<input type="checkbox"/> Off
Disable quick mode	<input type="checkbox"/> Off
Delete statistic	360 Day(s)

Project template

Selecting one of the project templates, here, will force ScamaxScan+ to fire up in project mode and immediately start a new batch based on that project template. If you always use the same project template, this will definitely be a time saver.

Show project selection

Instead of directly starting a project (with no choice of a project template, as described above), you may instruct ScamaxScan+ to fire up in project mode and present the project template selection dialogue. This dialogue will ask you for the template to be used.

Enable counter view

Suppresses the display of scanner counters, in the project template selection dialogue.

Disable Quick mode

Disables scanner controls in quick mode and forces ScamaxScan+ to fire up in project mode, instead. Intended to prevent users from inadvertently scanning large batches without having selected a project template, beforehand. Useful if your users rarely or never use quick mode.

Delete statistic

Sets the time period after which older statistics data are deleted. Please select a duration which exceeds your maximum reporting periods, so you will have sufficient time to view and export ScamaxScan+ statistics, before any relevant data are deleted.

Display settings


Display settings	
User management on/off	<input checked="" type="checkbox"/> On
Quality thumbnail view	Normal
Multi stream behaviour	<input type="checkbox"/> Off
Decreased display quality	<input type="checkbox"/> Off

User management on/off

This option will globally turn user management on or off. For further configuration options, please refer to the section on [User Management](#) (see *Settings Toolbar* in chapter *Menu bar functions*).

Quality thumbnail view

Allows a choice of resolution with which thumbnails are displayed (*normal* or *good*).

 Please note! Choosing a higher resolution will increase the load on your system! We recommend to use the *normal* setting, whenever possible.

Multi stream behaviour

Since the display of multistream data can be confusing (up to three images will be displayed per side), this option will reduce this to just one channel, the bitonal (b/w) channel, during scanning. Please note that image and export functions are not affected, and remaining multistream channels will still be processed as desired. After scanning, all images will be displayed as usual.

Decreased display quality

Setting this option to *On* will reduce display quality during scanning. Please note that image and export functions are not affected and after scanning, all images will be displayed as usual.

Process manager

Before first use, you must properly configure the process manager, like so:

▼ Process manager	
Start with application	<input checked="" type="checkbox"/> On
Number of parallel processes	2
Days after a batch is deleted	3 Day(s)
Start process time-controlled	<input checked="" type="checkbox"/> On ▼
Process start time hour	0
Process start time minute	0

Start with application

When this option is *On*, the process manager will be launched together with the main ScamaxScan+ application. Use this setting if batches need to be finalized in the background immediately after scanning.

Number of parallel processes

Limits the number of batches the process manager can process in parallel. Though you may enter an arbitrary value here, if too high, your input will be reduced to a system-specific, maximum value (which is also the default value).

Entering less than the maximum amount of processes is recommended in all instances where the process manager will be competing for system resources with other programs (e.g. when running the process manager at the same time as new ScamaxScan+ batches).

If the process manager will run during off-hours only (using the scheduling options below) it will have all system resources available to it. In this case, it is advisable to set the process count to the maximum possible value (i.e. leave it at its default value).

Days after a batch is deleted

Enter the number of days after which temporary batches will be automatically deleted. Please note that temporary batch data is required if a batch needs to be re-opened, e.g. for amending and re-finalising a batch. As soon as older batches have been deleted, you no longer have this option.

Since temporary batches contain large amounts of image data, you will eventually need to delete them, since they will take up too much disk space, otherwise.

Start process time-controlled

This option will turn scheduling on, i.e. the process manager will fire up at the time specified below.

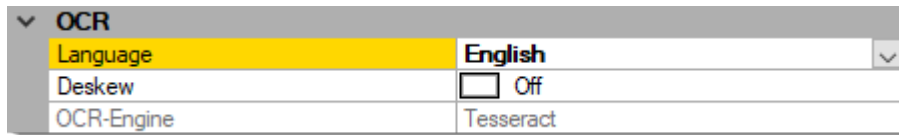
Process start time Hour, Minute

Enter the desired start time for the process manager, in 24 hour format. (Hour: 0-23, Minute: 0-59). The process manager will be started at the time specified and will begin finalizing all waiting batches.

Please note: ScamaxScan+ will need to remain up and running for scheduling to work. Scheduling is performed within ScamaxScan+, not using the Windows scheduler!

Please find more information in the separate chapter on the [Process manager](#).

OCR (program settings)



Language

The text recognition language should match the language used in your documents, in order to achieve best recognition results.

Deskew

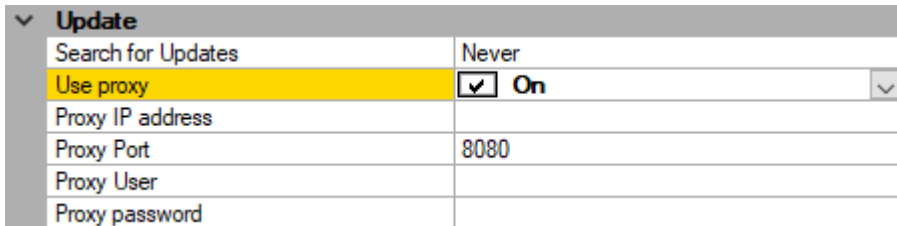
Automatically straightens up the image. This usually improves text recognition significantly. It is recommended to leave this function activated, whenever possible.

Select OCR-Engine

By default, ScamaxScan+ uses open-source engine *Tesseract* for text recognition (Tesseract is developed and maintained by GoogleCode).

Update function

The update function ensures that the most up-to-date version of the ScamaxScan+ software is used.



Update	
Search for Updates	Never
Use proxy	<input checked="" type="checkbox"/> On
Proxy IP address	
Proxy Port	8080
Proxy User	
Proxy password	

Search for updates

Determines the frequency with which to search for new versions of ScamaxScan+. This process operates in the background and notifies you only if a new version of the software is available.

Use proxy

Determines if a proxy should or must be used to connect to the Internet. If you are a private user with a direct connection to the Internet, you should always select *Off*. In which case all of the following settings are irrelevant and will become inactive.

Proxy IP address

This is where you can enter the IP address of the proxy server.

Proxy port

The proxy port is specified here. This is usually port 8080.

Proxy user

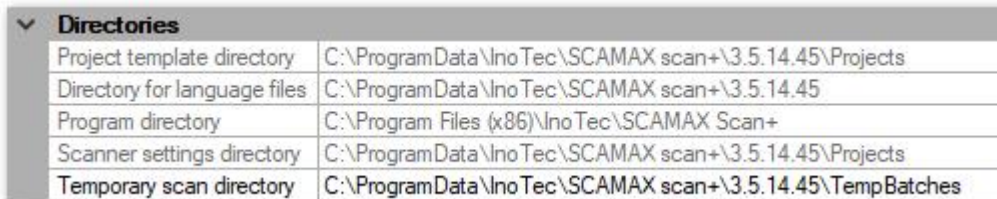
If necessary, enter a user name for authorization on your proxy server.

Proxy password

Enter the password that is assigned to the user name for authorization on the proxy.

If you are not sure which values to enter, please contact your system administrator.

Directories



▼ Directories	
Project template directory	C:\ProgramData\InoTec\SCAMAX scan+\3.5.14.45\Projects
Directory for language files	C:\ProgramData\InoTec\SCAMAX scan+\3.5.14.45
Program directory	C:\Program Files (x86)\InoTec\SCAMAX Scan+
Scanner settings directory	C:\ProgramData\InoTec\SCAMAX scan+\3.5.14.45\Projects
Temporary scan directory	C:\ProgramData\InoTec\SCAMAX scan+\3.5.14.45\TempBatches

Most of the ScamaxScan+ directories cannot be changed by the user and are displayed for reference only. With one exception:

Temporary scan directory

This directory contains the temporary image files created whenever ScamaxScan+ performs a scan.

Since this directory may become very large, due to scanned batches accumulating, there is an option to relocate this directory elsewhere, for example to a non-system drive on the same PC.

To do so, either paste the desired path straight into this field, thereby overwriting the default path setting, or use the button for the extended menu (at the end of this line) to launch a directory browser.

Error handling settings

Contents

[Error handling](#)

[File](#)

ScamaxScan+ registers various application and system events and will record these in a ScamaxScan+ log file and/or in Windows event logging. You can use the following options to determine the amount of detail generated.



The settings described in this section are not required during normal operation and will therefore not be discussed in detail. In the case of persistent problems with our product, you will receive more information and detailed instructions from our support department.

File

File	
Log mode for files	Roll
Files in history	3
File size	300 KB
Max. file size	10 MB
Duration in roll mode	60 s

Specify the type, number and size of ScamaxScan+ log files produced.

Log files will usually be created here: C:\ProgramData\InoTec\SCAMAX Scan+\3.3.X.YY\Logs

Log mode for files

Specifies the type of log file created. New log files are created at program launch. Options are:

- *Close* - will create a single log file and fill it with logging data up to *Max. file size* (see below), then stop.
- *Roll* - will create multiple log files and fill each of them with logging data up to *Max. file size* (see below).
- *Wrap* - will create a single log file and fill it with logging data up to *Max. file size* (see below).
After that, it will continue to write to the same log file and will overwrite a special, reserved section with current logging data. Thus, logging information created directly after program launch is retained and available in combination with data from the end of the logging run. The amount of information logged after program launch is specified as the *Duration in roll mode* - please see below.

Files in history

Specifies how many log files should be retained. Older and excess log files are deleted.

File size

Specifies the initial file size in kilobytes (KB).

Max. file size

Specifies the maximum file size of each log file. Please note: Maximum file size is entered as megabytes (MB).

Duration in roll mode

Refers to logging mode *Wrap*: Specifies the duration of logging directly after program launch, which will be retained in the log file. Specified in seconds.

Error handling

▼ Error handling	
Log level for files	Off
Log level	Error
▼ File	
Log mode for files	Fatal error
Files in history	Error
File size	Warnings
Max. file size	Informative
Duration in roll mode	Debug
	Detailed

Log level for files

Determines the level of detail used in ScamaxScan+'s own log files (see: [File](#)).

You may choose from the following options:

- *Off* - no logging is performed
- *Fatal error* - only fatal errors (application crashes) are recorded
- *Error* - all application errors are recorded
- *Warnings* - all of the above plus application specific warnings are recorded
- *Informative* - all of the above plus application run-time information is recorded
- *Debug* - all of the above plus application debugging information is recorded
- *Detailed* - all of the above plus verbose application debugging information is recorded

Starting with *Off*, the system load created by the logging process will increase and will be at it's maximum when selecting *Detailed*.

Log level

Determines the level of detail used for logging entries in the operating system's event log.

The selection options are the same as for *log level for files*, above.

⚠ Please note: For common PC systems, a logging level of *Warnings* is the deepest logging level which can be run without program operation being seriously impaired. *Informative*, *Debug* and *Detailed* will usually slow down the application beyond practical use.

Project settings

Contents

- [01-Common](#)
- [02-Name](#)
- [03-Scanner](#)
- [04-Presets](#)
- [05-Image processing](#)
- [06-Index fields](#)
- [07-Directories](#)
- [08-Export](#)

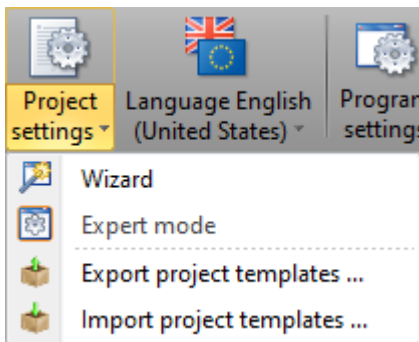
This chapter will provide you with the information required for configuring project templates.

Quick mode will allow you to quickly and easily scan a small amount of documents. However, only Project mode will give you full access to the wealth of features available in ScamaxScan+ (see chapter *Getting started*, [Modes of operation](#)).

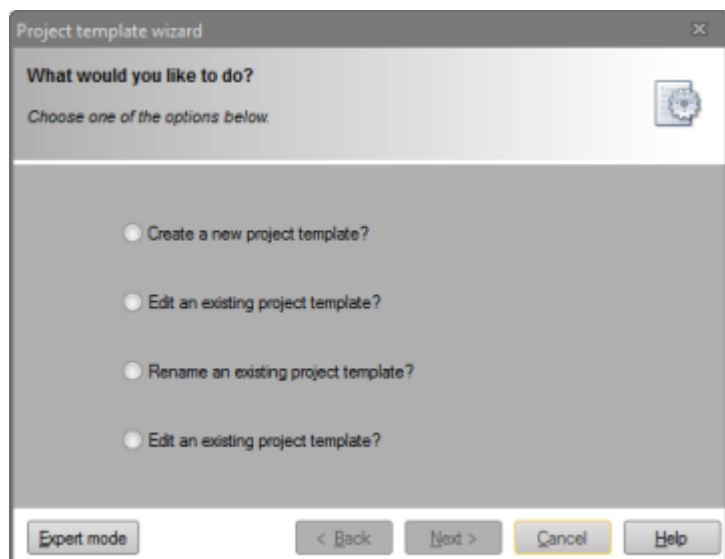
First, you will need to input all appropriate project settings into a project template, then you may use that template to start and control your batches ...

Project templates may either be created using a project template wizard (which will guide you through an abridged process of setting up a project), or by using expert mode (more flexible, for experienced users only). This chapter deals with expert mode only.

Clicking on the lower half of the *Project settings* button (on the *Settings toolbar*) will allow you to permanently choose between expert mode or the use of the wizard.

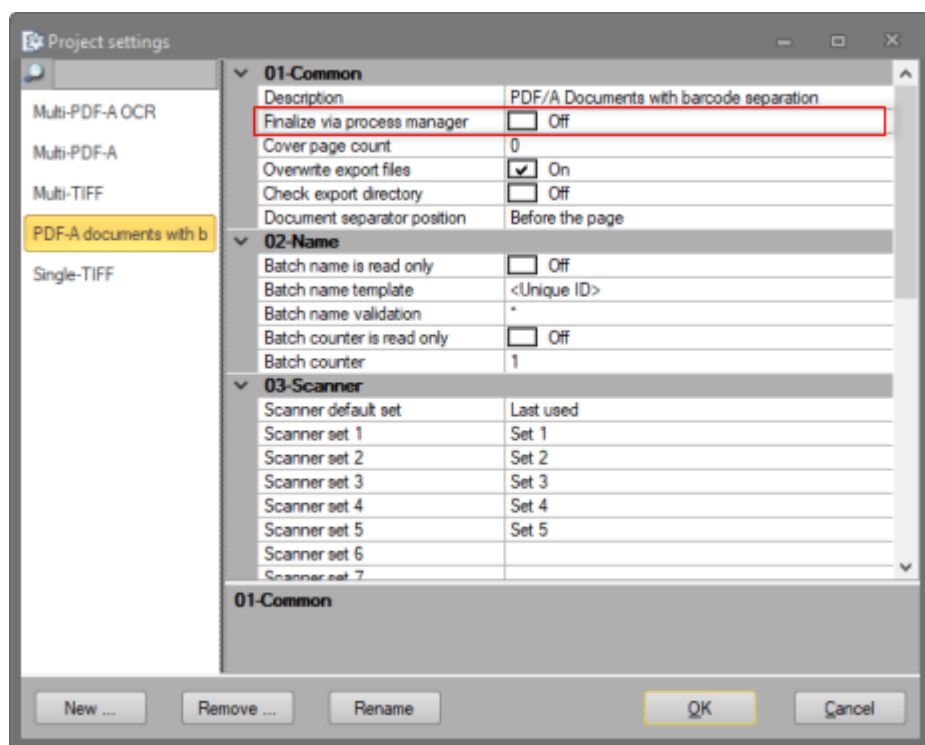


Depending on your choice, clicking the upper section of the *Project settings* button will either start the wizard ...



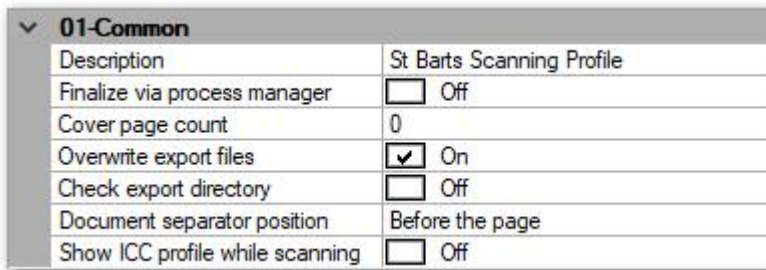
(You may temporarily switch to expert mode from within this window, by pressing button *Expert mode*.)

... or present you with a comprehensive list of project settings (in expert mode!):



The sections on the right side of this window will be discussed individually, below.

Common (project)



▼ 01-Common	
Description	St Barts Scanning Profile
Finalize via process manager	<input type="checkbox"/> Off
Cover page count	0
Overwrite export files	<input checked="" type="checkbox"/> On
Check export directory	<input type="checkbox"/> Off
Document separator position	Before the page
Show ICC profile while scanning	<input type="checkbox"/> Off

Description

Enter a description for your template. A short description will be generally helpful, but a detailed description will be particularly helpful in cases where you need to provide scan operators with background information and special instructions for this template.

Finalize via process manager

Setting this option to **On** will forward every batch based on this template to the process manager (rather than finalizing it within the ScamaxScan+ main application).

See [Using the Process Manager](#) in section *Process Manager*, for more details.

Cover page count

Enter the amount of pages you wish to use as cover pages (note: one cover sheet equals two cover pages!).

Overwrite export files

This setting controls the behaviour when ScamaxScan+ encounters existing files with identical file names, during export:

- If this setting is **On**, ScamaxScan+ will overwrite existing files without confirmation or error message.
- If this setting is **Off**, ScamaxScan+ will abort the export process and present an error message.

Check export directory

This setting controls the behaviour when ScamaxScan+ encounters existing directories and paths, during export:

- If this setting is **On**, ScamaxScan+ will abort the export process and present an

- error message.
- If this setting is *Off*, ScamaxScan+ will continue with export, without confirmation.

Document separator position

This option specifies whether document separators are placed ahead of or behind an image.

In the majority of cases, the (default) setting will be *Before the page*.

Show ICC profile while scanning

If ICC profile data is supplied by the scanner, this setting will decide whether such data will be ignored or immediately applied to incoming images (*On* will apply ICC profiles *on the fly*, *Off* will ignore ICC profile data and use the original image).

Please note that processing ICC profile data will consume PC resources and might therefore slow scanning down.

Name

▼ 02-Name	
Batch name is read only	<input type="checkbox"/> Off
Batch name template	<Fixed text: Batch><Batch counter>
Batch name validation	*
Batch counter is read only	<input type="checkbox"/> Off
Batch counter	6


Please note: During Project mode, an additional option labelled *Batch name* will be displayed, which you may use to change the current batch name.

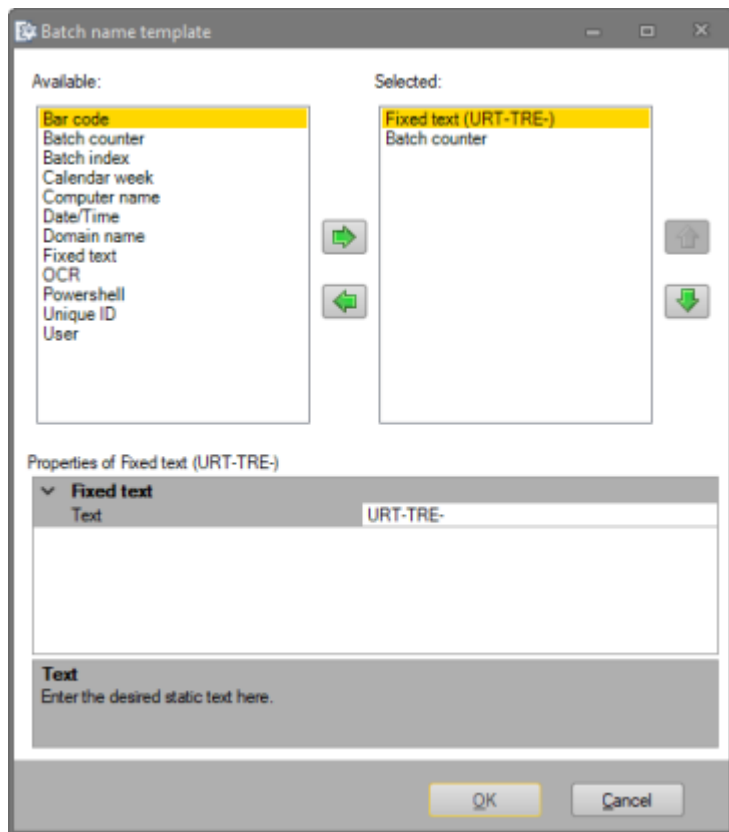
Batch name is read only

- If this setting is *On*, then the batch name created by the *Batch name template* (see below) is write protected.
- If this setting is *Off*, then the batch name created by the *Batch name template* (see below) may be changed, when starting a new batch.

Batch name template

The rule for computing the batch name. The resulting name will be used as default whenever this project template is put to use. If *Batch name is read only* is set to *Off* (see above), then the default batch name may be changed by the user.

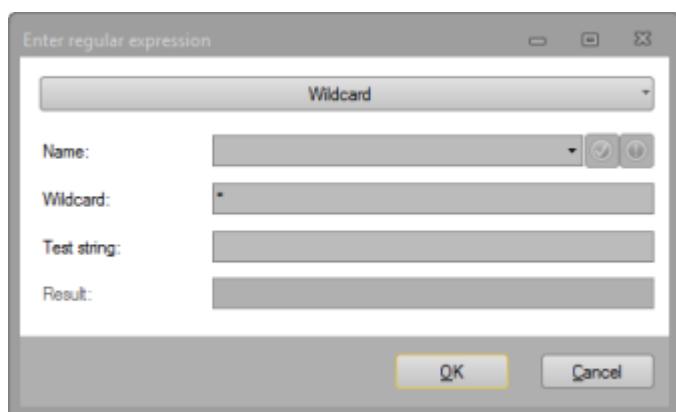
The batch name identifies your batch during and after processing. You may use *variables* such as date, calendar week, batch counter, etc. and/or enter a fixed text. If you click on the  button, an extended dialog with three windows will open.



The left window contains the list of available functions and *variables*, which you may add to the list of selected items, on the right. After highlighting any of the items in the right window, the bottom window will show detail settings, for this variable or function.

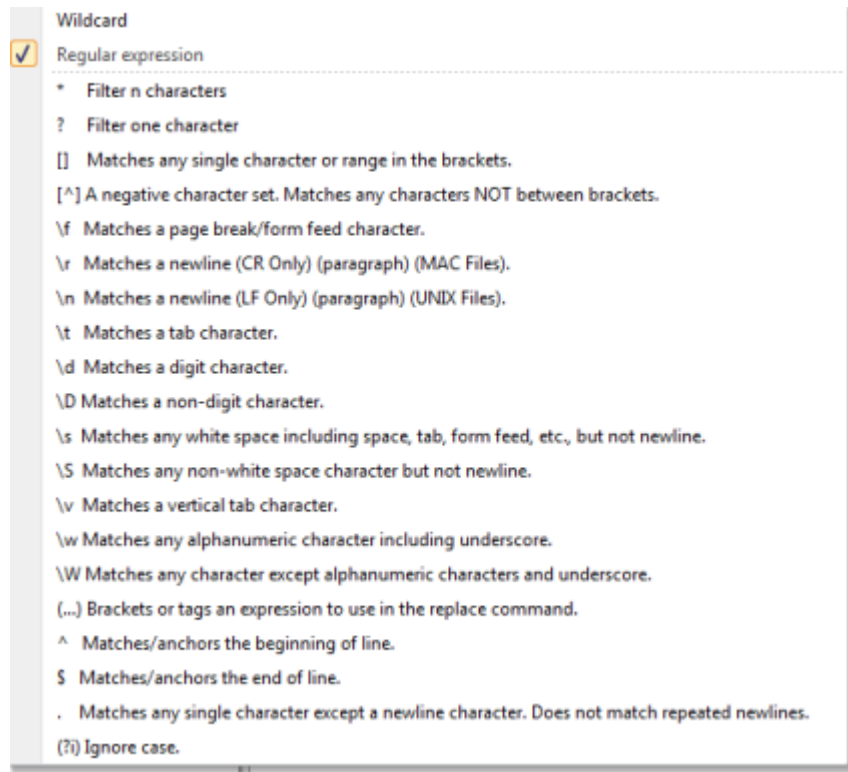
Batch name validation

If *Batch name is read only* is set to *Off* (see far above), then the default batch name may be manually changed, whenever starting a new batch. In this case, *Batch name validation* can enforce proper formatting of batch names, either by using simple wildcard characters or through (more elaborate) regular expressions:



Regular expression / Wildcard (elongated button)

This button will let you switch between wildcard mode and the use of regular expressions. It will also provide assistance when developing new regular expressions. Simply choose one of the expression fragments offered, this will be inserted into your regular expression (see below), at the current cursor position:



Name (optional)

Label your regular expression, once you have compiled and tested it. This will later allow re-use of this expression, in other project templates.

- Enter a name for the expression, then click the green checkmark to save a new expression.
- Select and re-use an existing expression by choosing from the drop-down list.
- Delete any expression by first selecting it and then clicking the button labelled with a cross.

Regular expression / Wildcard (input field)

Either enter a regular expression manually or assemble it from the list of expression fragments described above.

For more and detailed information please refer to the separate section on

Regular expressions, in the appendix.

Test string & Result

Use these two fields to perform a test of the current regular expression: After entering a *Test string*, the *Result* field will either return the successfully validated test string or show the following error message: *Filter doesn't match!*

Batch counter is read only

- If this setting is *On*, then the batch counter (see below) is write protected.
- If this setting is *Off*, then the batch counter (see below) may be changed, when starting a new batch.

Batch counter

The value shown will reflect the current value of the batch counter. ScamaxScan+ will automatically increment the *Batch counter* for every new batch created.

If *Batch counter is read only* is set to *Off* (see above), then this value may be overwritten in order to (pre-)set it to any desired value. When reducing the counter, please make sure that there are no (old) temporary batches using this batch counter value!

Scanner

03-Scanner	
Scanner default set	Last used
Scanner set 1	Set 1
Scanner set 2	Set 2
Scanner set 3	Set 3
Scanner set 4	Set 4
Scanner set 5	Set 5
Scanner set 6	
Scanner set 7	
Scanner set 8	
Scanner set 9	
Scanner set 10	
Endorser string top	
Endorser string bottom	
Create info page	

Scanner default set

Select the default scanner preset which will be applied whenever a new batch is started.

Last used
Set 1
Set 2
Set 3
Set 4
Set 5
Set 6
Set 7
Set 8
Set 9
Set 10

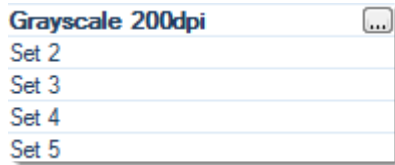
Either choose from one of the available scanner presets (see the next section, *Scanner sets*), or have the program apply the preset which was most recently used (*Last used*).


Scanner set 1, Scanner set 2, ... Scanner set 10 (Scanner presets)

Scanner presets allow you to label and store scanner settings you frequently use and recall them from within a batch job. Please note that not every scanner driver will support scanner presets (in which case all changes to scanner settings will have to be handled via the scanner's TWAIN interface).

Before scanner sets can be configured, the target scanner needs to be on-line and must have been selected with the *Select scanner* button, on the *Control* or *Settings* tab. Please refer to section [Control Toolbar](#), if in doubt.

On the right hand side of this section, you can define custom programming and labelling for each of the scanner sets:



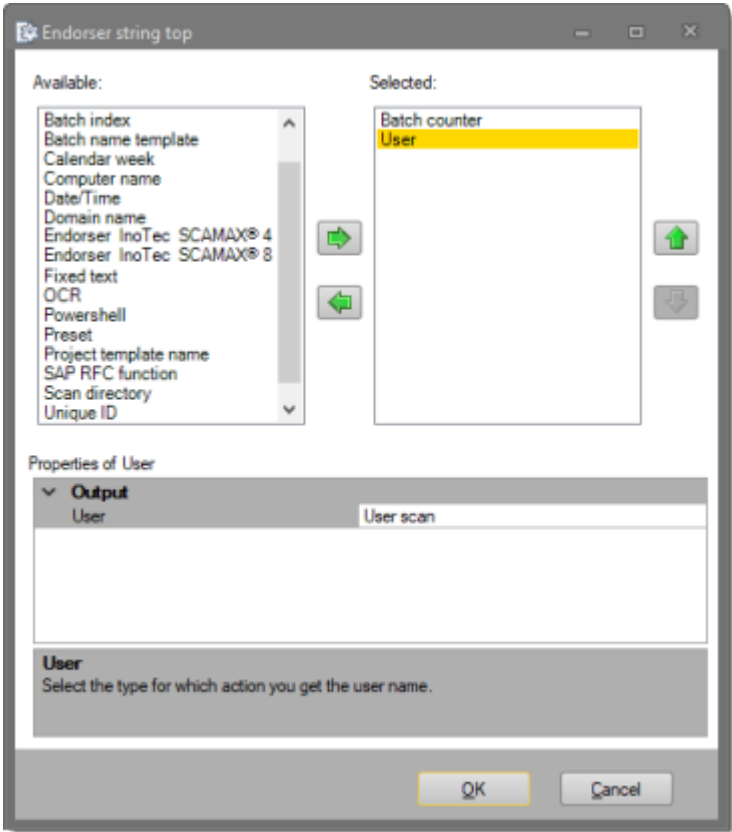
- Step 1: Enter a new label for a scanner preset by highlighting the existing label (e.g. *Set 1*) and then replacing it with some other, ideally self explanatory text (e.g. *Grayscale 200dpi duplex*).
- Step 2: Use the button for the extended menu  to launch the currently attached scanner's TWAIN interface, then change settings as required. After all necessary changes to scanner settings have been made, close the TWAIN interface (usually with *OK*).
- Step 3: Make changes to other scanner presets as desired, then commit all changes to the project template (by repeatedly pressing *OK* until the *Project settings* dialogue has disappeared).

ScamaxScan+ has tracked and memorized all settings you made from within the scanner's TWAIN interface. These settings will now be applied (i.e. sent to the scanner) whenever this scanner set is used as the *Scanner default set* or whenever the user presses the *Select scanner setting* button, for this particular scanner set.

Endorser string top, Endorser string bottom

The endorser string is passed to the attached scanner at the beginning of each new batch. It will either be printed on all front pages (*Endorser string top*) or rear pages (*Endorser string bottom*), provided the scanner is equipped with a printing option - not all scanners are.

You may use any of the available variables (such as date/time, calendar week, batch counter and/or fixed text) for compiling an *Endorser string*. For more and detailed information on variables, please refer to [Use of variables](#), in the *Appendix*.



The left window contains the list of *available* variables, which you may add to the list of *selected* variables, on the right. After highlighting any of the selected variables in the right window, the bottom window will show detail settings, for this variable (*Properties of ...*).

Two items are offered in the left section (*Available*), which appear nowhere else, within ScamaxScan+: *Endorser InoTec SCAMAX® 4x3* and *Endorser InoTec SCAMAX® 8x1*. These variables are specially designed for use with these scanners and amongst other things, they will allow you to add dynamic content to endorser strings (such as page or document counters).

Create info page

Based on an RTF template (the contents of which can be freely arranged and formatted), this function will create one or more pages with batch information and send them to the current user's Windows default printer, for output.

The resulting paper output can be used to identify scanned document piles and will simplify handling later on in the process, e.g. when archiving paper documents.

Input	
Count of copies	1
RTF filename	C:\ProgramData\InoTec GmbH\SCAMAX
Print definition	<Text replacement: #0><Text replaceme
Trigger	When first page
Page number	1

⚠ Please note: Windows default printers are user-dependent and may need to be changed and properly

configured, before using this function. Any Windows printer can be used, this includes *quasi-printers* such as print-to-PDF drivers ...

Input:

Count of copies

Enter the number of copies required.

RTF filename

Enter the path and the filename of the RTF template to be used. This RTF file needs to exist before proceeding with the *Create info page* function.

You may place any amount of *placeholders* anywhere in the RTF template. These placeholders will be replaced with the current content of ScamaxScan+ variables, whenever the *Create info page* function is triggered.

Placeholders need to be distinguishable from other, regular text, therefore it is advisable to use unusual strings such as *#1\$* (placeholder one), *#2\$* (placeholder two), and the like.

Placeholders, surrounding text and any other RTF content may be arranged and formatted as desired.

Print definition

Each print definition assigns one or more ScamaxScan+ variables to one of the placeholders in the RTF template. You will need to create as many *print definitions* as there are placeholders in the RTF template.

You may use any of the available variables (such as date/time, calendar week, batch counter and/or fixed text). For more and detailed information on variables, please refer to [Use of variables](#), in the *Appendix*.

Trigger

Choose one of the following conditions to trigger the *Create info page* function:

- *None / inactive* - temporarily deactivates / silences the *Create info page* function.
- *Page 1 scanned* - will create info page(s) as soon as the first page has been scanned.
- *Page N scanned* - will create info page(s) as soon as the *nth page* has been scanned.
- *Scanning finished* - will create info page(s) as soon as the *Finalize*

button is pressed.

- *Batch processed* - will create info page(s) after batch processing has been completed.

Page number

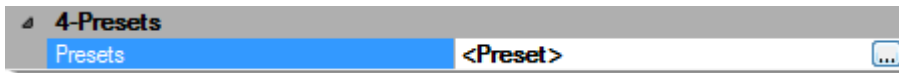
Enter the page number for triggering the *Page N scanned* function on the *nth page*, here.

Has no effect (and does not need to be changed) if any other trigger was chosen.

Presets

You may assemble a set of ScamaxScan+ variables into a preset combination of variables. Such *Presets* may later be included as variables themselves, in many of the batch settings. At runtime, a *preset* will be expanded to the original set of variables defined here.

Any number of presets with any number of variables may be defined.



Use the button for the extended menu  to enter the preset configuration dialogue.


Creating a preset



Name

Begin by giving your new preset a suitable name.

Template list

The  button will open an extended dialogue with a list of all variables available (you may use and configure any number of variables).

For more and detailed information please refer to the section on the [Use of variables](#), in the appendix.

Image processing

Contents

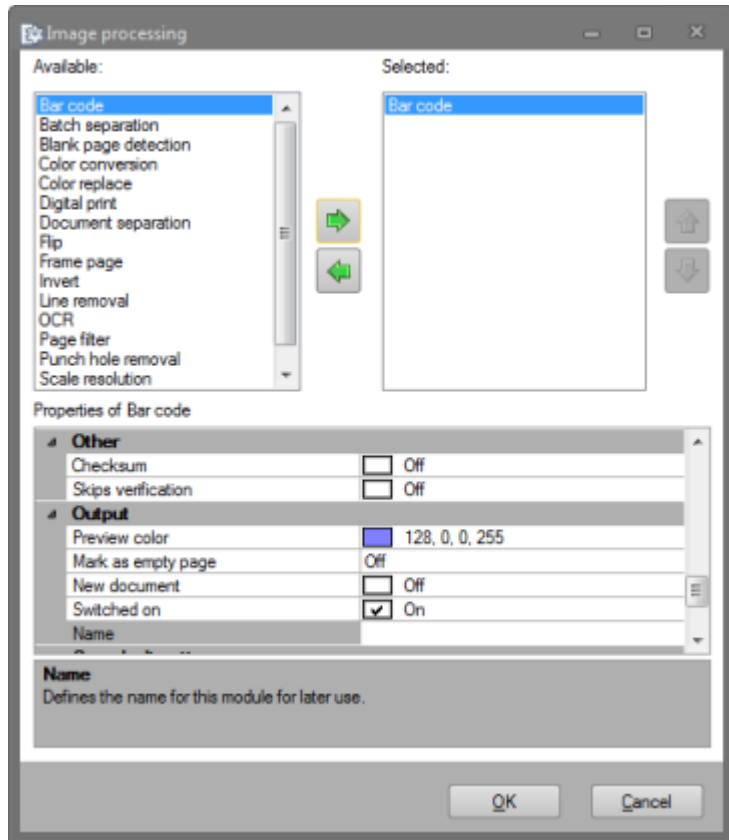
- Bar code
- Bar code from scanner
- Batch separation
- Blank page detection
- Color conversion *
- Color detection *
- Color replace
- Digital print
- Document separation
- Flip *
- Frame page *
- Invert *
- Line removal *
- OCR
- Page filter
- Punch hole removal *
- Scale resolution *
- Split page

Please note that a subset of image processing tools is also available during export. These tools have been marked with an *, in the list above.



This is where all the functions available for automated image processing are enabled and configured.

After clicking the  button, an extended dialogue with three windows will open.



On the left side (*Available*), select the desired function and copy it to the right window (*Selected*) using the button labelled with an arrow to the right. Repeat as often as necessary.

After clicking on any of the selected functions in the right window, the bottom window will show you the detail options for this function. In the following sections, these options will be discussed in detail.

Bar code

Bar codes are an efficient and safe method for extracting index and control information from a document pile. Patch codes, for example, may be used to signal a new document, while other bar code types can also be used to transfer metadata.

▼ Bar code type		
Automatic detection 1D	<input checked="" type="checkbox"/>	On
Codabar	<input type="checkbox"/>	Off
Code 128	<input type="checkbox"/>	Off
Code 32	<input type="checkbox"/>	Off
Code 39	<input type="checkbox"/>	Off
Code 93	<input type="checkbox"/>	Off
Data Matrix	<input type="checkbox"/>	Off
EAN13	<input type="checkbox"/>	Off
EAN 8	<input type="checkbox"/>	Off
Interleaved 2 of 5	<input type="checkbox"/>	Off
Patch code	<input type="checkbox"/>	Off
PDF417	<input type="checkbox"/>	Off
Plus 2	<input type="checkbox"/>	Off
Plus 5	<input type="checkbox"/>	Off
QR Code	<input type="checkbox"/>	Off
UPC A	<input type="checkbox"/>	Off
UPC E	<input type="checkbox"/>	Off
▼ Filter		
Image preparation		
Search area		0 areas
Encoding		us-ascii
Bar code filter		
Only patch code pages		None
Processing on page		Both pages
Processing on nth page		2
Ignore identical bar codes	<input type="checkbox"/>	Off
Ignore monochrome pages	<input type="checkbox"/>	Off
Ignore gray scale pages	<input type="checkbox"/>	Off
Ignore color pages	<input type="checkbox"/>	Off
Ignore blank pages	<input type="checkbox"/>	Off
Ignore first document page	<input type="checkbox"/>	Off
Ignore cover pages	<input checked="" type="checkbox"/>	On
▼ Other		
Bar code engine		Engine 1
Checksum	<input type="checkbox"/>	Off
Skips verification	<input type="checkbox"/>	Off
Timeout		5 s
▼ Output		
Preview color	<input type="color" value="#0000FF"/>	128, 0, 0, 255
Mark as empty page		Off
New document	<input type="checkbox"/>	Off
Must contain bar code	<input type="checkbox"/>	Off
Switched on	<input checked="" type="checkbox"/>	On
Name		
▼ Search direction		
Quality		Accurate
Horizontal	<input checked="" type="checkbox"/>	On
Vertical	<input type="checkbox"/>	Off
Diagonal	<input type="checkbox"/>	Off

Bar codes found during a batch run are identified by their name (as specified in the *Output* section, far below) plus their respective search area (as specified in the *Filter* section, below).

Bar code values can be accessed elsewhere, either by using the *Barcode* variable (in combination with the desired bar code name and search area number), or through an index field fed from that bar code definition.

Bar code type:

This section contains all bar code types recognized by ScamaxScan+. You will find a detailed description for most of these bar code types in the scanner glossary in the appendix, listed under [Bar code engine 1D](#) and [2D bar codes](#).

Please deselect "Automatic detection 1D" and enable individual bar codes from the list, if you wish to limit barcode detection to specific 1D bar code types.



Please note: Creating more than one bar code definition (i.e. adding *Barcode* more than once, to the list of image processing options) will cause an increase in CPU load. Depending on system resources available, this may lead to a noticeable decrease in batch processing speed. Make use of *Filter* options, to speed up processing again.

Filter:


Image preparation

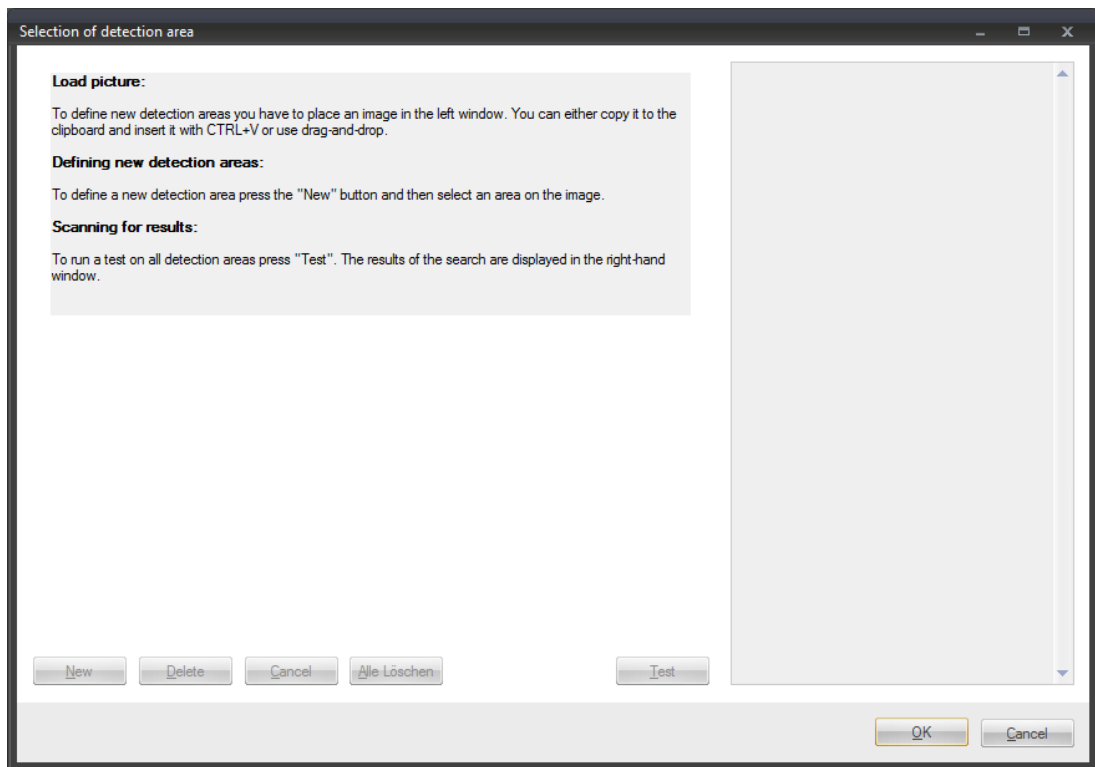
Several image processing functions (listed below) are available for temporarily modifying images, prior to bar code detection. Please note that any image processing specified here will not be applied to any of the finalized/exported images and their effect will not become visible in ScamaxScan+'s image views.

For details, please refer to respective sections in this chapter:

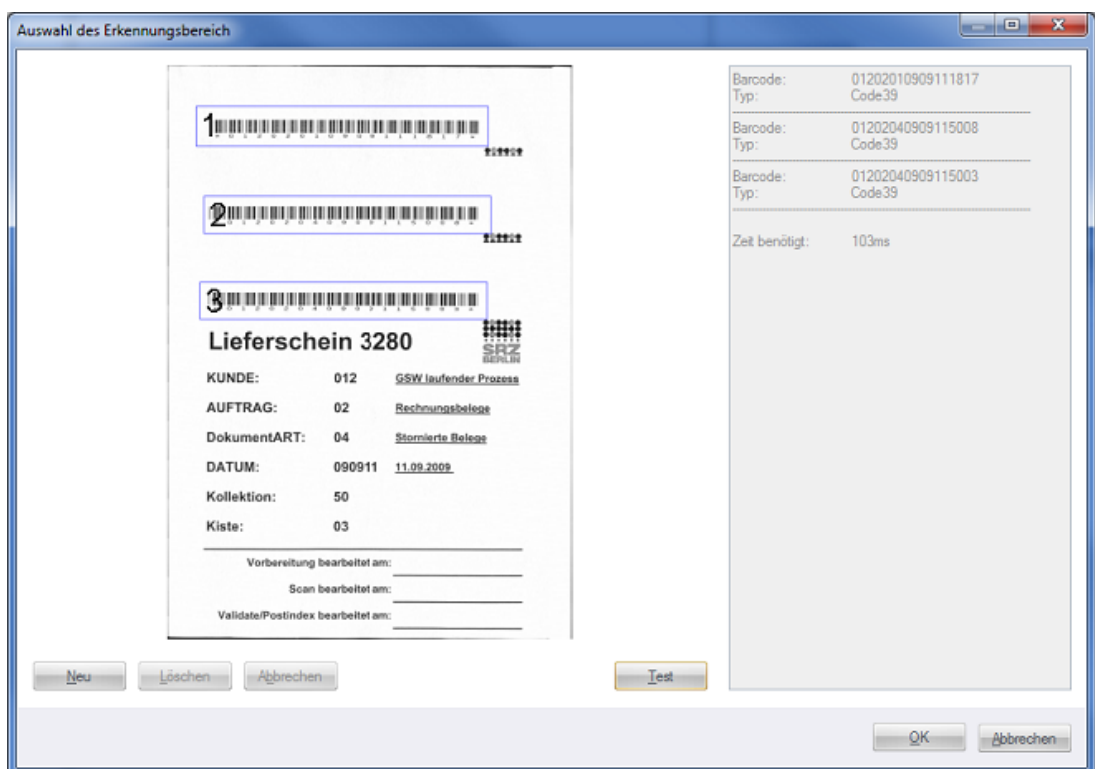
- [Color conversion](#)
- [Color detection](#)
- [Color replacement](#)
- [Invert](#)
- [Line removal](#)
- [Punch hole removal](#)

Search area

You may define one or more image regions to which the search for bar codes will be limited. Press the  button for an extended menu, which will open the following window:



Before any search areas may be defined, you will need to copy a sample image from the file system into this window, either by using drag and drop or by using Windows hotkeys (e.g. Ctrl-C, Ctrl-V). Only files of type TIFF, GIFF, JPEG and PNG will be accepted and displayed.



In order to define a new search area, first press button **New**, then draw a suitable window around the search area, using the mouse. Make sure to define

search areas that are significantly larger than the bar codes themselves, to allow for page flutter, during scanning. Repeat as often as necessary.

The frames surrounding search areas may be resized, moved or deleted. Please note that each search area is assigned a unique area ID number.

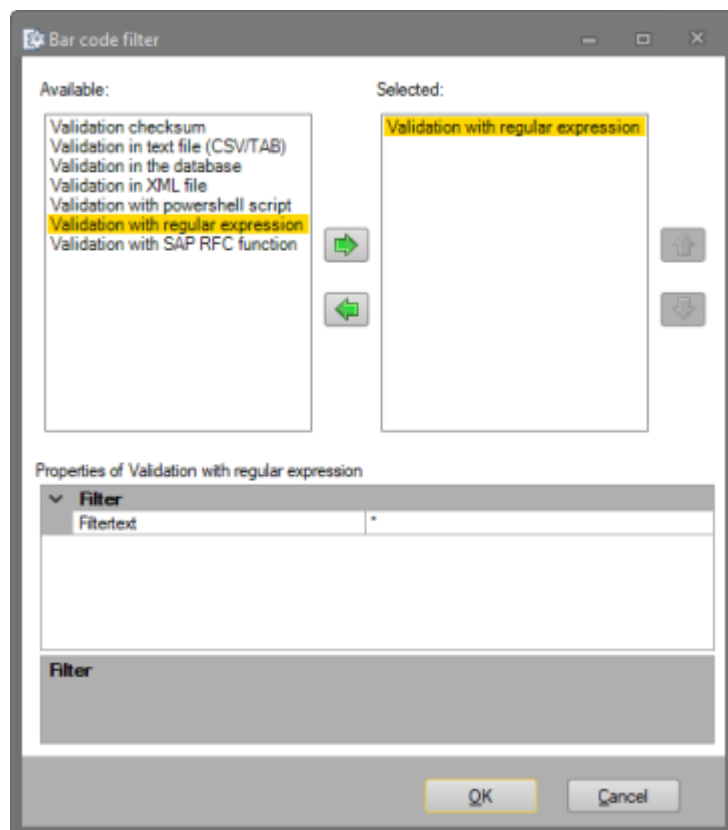
The button labelled *Test* will run a bar code search across all search areas. The results (if any) will be shown in the right window, as well as the time required for the test run.

Encoding

Determines the character set used to interpret bar code values.

- 1D bar codes are usually very limited with respect to what type of characters they can encode (typically *US-ASCII*).
- 2D bar codes are capable of handling a multitude of international and extended code sets, simply select from the list.

Bar code filter



The filtering options shown here correspond to those available for index validation. Therefore, please refer to the section on [Validation \(Index\)](#) in chapter *Index fields*, for more details.

Only patch code pages

Forces bar codes to be detected only on pages also containing a patch code. Has no effect when set to *None*. When set to *All* or some specific patch code type, this setting will effectively turn recognition of this particular bar code off, for all other pages.

Processing on page

Limits the search (for this bar code definition) to certain pages. The better the search is restricted, the less system resources will be used and batch execution will speed up.

Possible choices are:

Processing on page	Both pages
Processing on nth page	Both pages
Ignore identical bar codes	Front page
Ignore monochrome pages	Rear page
Ignore gray scale pages	First page in batch
Ignore color pages	First page in document
Ignore blank pages	Nth page in batch
Ignore first document page	Nth page in document

Please note: *Nth page in batch* and *Nth page in document* operate in conjunction with the *Processing on nth page* setting described next ...

Processing on nth page

Periodically performs a search for bar codes on each nth image of the current batch or document, depending on how Nth page processing was specified in the *Page Processing* settings above. Enter the desired page count here.

Ignore identical bar codes

Subsequent bar codes of the same value and within the boundaries of the current document will be ignored.

Ignore monochrome pages, Ignore gray scale pages, Ignore color pages

Specifically applies to multistream mode. If any of these three filters are set to *On*, then bar code search and recognition is turned off for the respective page types. Please note that combining all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn off bar code recognition all together, since there is nowhere left to search.

Ignore blank pages

Turns bar code search and recognition off, for all pages with a deletion marker.

Please note that bar codes, too, can create deletion markers (see *Mark as empty page*, below), so this setting might interfere with other bar code definitions on the same page.

Ignore first document page

Causes this function to skip the first page of every document (which usually is the page triggering document separation).

Ignore cover pages

Turns bar code search and recognition off, for cover pages.

Other:

Bar code engine

Choose from one of three available bar code engines. Depending on the properties of bar codes to be scanned, it may be advisable to switch to bar code engine 2 or 3, rather than using default engine 1:

Engine 1:

The first of two *Atalasoft* bar code engines included in ScamaxScan+. Works best with 1D bar codes.

Engine 2:

The second of two *Atalasoft* bar code engines included in ScamaxScan+. Works best with 2D bar codes.

Zxing:

Bar code engine made by *Zxing*. Works best with QR-Codes, especially with those created with Zxing software.

Checksum

Will apply an algorithm to validate bar codes with optional checksums (e.g. Code 39).

Has no effect on bar codes having integral checksum handling (such as Code 128).

Skip verification

Will turn validation of checksums *off* for bar codes with integral checksum handling.

Timeout

Will abort the search for barcodes, after a specified amount of seconds. Of use whenever ScamaxScan+ erroneously searches for barcodes in rasterized or hatched document areas. Please not that this setting only works in combination with bar code engine 2 (see above).

Output:

The options in the *Output* section determine how ScamaxScan+ will react whenever it detects and correctly validates a bar code.

Preview color

This option will highlight all bar codes recognized, with the color specified here. Enter the desired color as an RGB hex value (preceded by a transparency value), or pick one of the colors from the various sets provided.

Mark as empty page

With this option set to anything but *Off*, this image will be marked for deletion whenever ScamaxScan+ detects the bar code specified.

Setting *automatic* will cause ScamaxScan+ to also omit any further images associated with the bar code, from export (e.g. not only the front side, but also the reverse side of a page with a patchcode on it).

In certain multistream scenarios, some scanners will not provide accurate metadata for scanned images, making it impossible for ScamaxScan+ to intelligently decide which images to delete. As a work-around, you may instead specify a fixed number of subsequent images (1 to 5 pages) to be marked for deletion.

New document

Whenever ScamaxScan+ detects an image containing the bar code specified, a document separator will be placed here and ScamaxScan+ will increment the document counter by 1.

Must contain bar code

If this option is set to On, ScamaxScan+ will stop scanning and ask for a bar code value whenever this bar code is not found, on incoming pages. Effectively enforces bar code input for every page in the batch.

Switched on

Switches this module on or off. Turning this function *off* will preserve all settings, for later use (as opposed to removing the function). Useful when developing or troubleshooting project templates.

Name

You may label this particular bar code definition, which will make it easier to distinguish it from any other bar code setups created. If no custom name is assigned, ScamaxScan+ will automatically enumerate bar code definitions.

Search direction:

You may select the required accuracy and orientation for bar code search and recognition. Selecting the lowest possible detection accuracy and disabling unwanted search orientations will speed up the system.

Quality

The possible levels of recognition quality are:

- Fast - lowest CPU load
- Accurate - default, moderate CPU load
- Best - highest CPU load, color and grayscale
- Best (monochrome) - highest CPU load, bitonal

Horizontal

ScamaxScan+ will only search for 1D bar codes which are horizontally aligned

Vertical

ScamaxScan+ will only search for 1D bar codes which are vertically aligned

Diagonal

ScamaxScan+ will only search for 1D bar codes which are diagonally aligned

Bar code from scanner

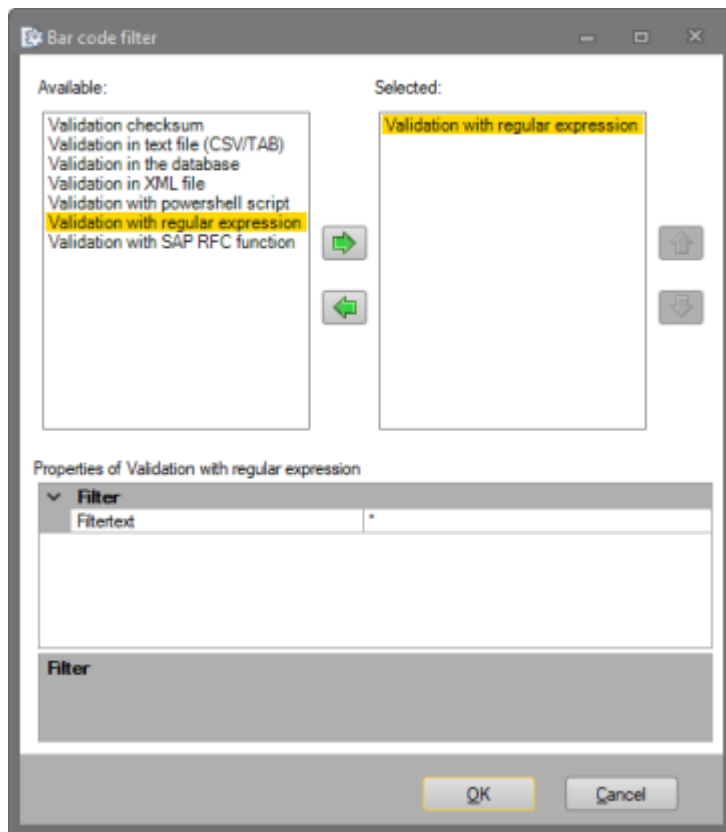
Rather than letting ScamaxScan+ perform bar code recognition, this function will import / re-use any bar code data detected by a scanner.

For this function to work properly, the scanner must obviously be capable of processing bar codes. Also, the scanner needs to be appropriately configured, ahead of any batch run.

▼ Filter	
Bar code filter	
Processing on page	Both pages
Processing on nth page	2
Ignore identical bar codes	<input type="checkbox"/> Off
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore blank pages	<input type="checkbox"/> Off
Ignore first document page	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
▼ Output	
Preview color	<input type="color" value="#800080"/> 128, 0, 0, 255
Mark as empty page	Off
New document	<input type="checkbox"/> Off
Must contain bar code	<input type="checkbox"/> Off
Remove unassigned bar codes	<input type="checkbox"/> Off
Switched on	<input checked="" type="checkbox"/> On
Name	

Filter:

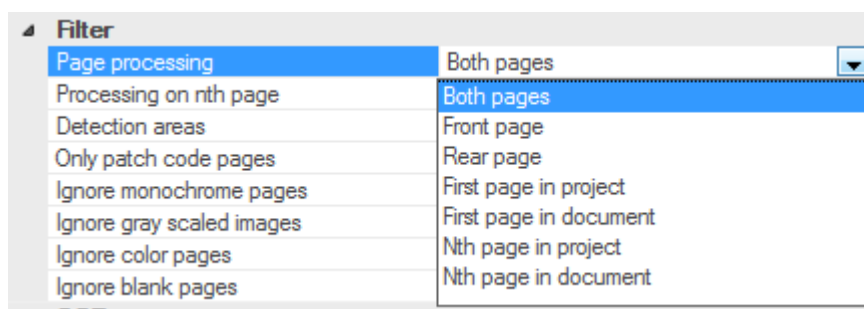
Bar code filter



The filtering options shown here correspond to those available for index validation. Therefore, please refer to the section on [Validation \(Index\)](#) in chapter *Index fields*, for more details.

Processing on page

Limits the search for bar codes to certain pages (the better the search is restricted, the less system resources will be wasted and project execution will speed up). Possible choices are:



Please note: *Nth page in project* and *Nth page in document* operate in conjunction with the *Processing on nth page* setting described next ...

Processing on nth page

Periodically performs a search for bar codes on each nth image of the current

batch or the current document, depending on how *Nth page* processing was specified in the *Processing on page* settings above. Enter the desired page count here.

Ignore identical bar codes

If set to *On*, then subsequent bar codes of the same value and within the boundaries of the current document will be ignored.

Ignore monochrome pages, Ignore gray scale pages, Ignore color pages

Specifically applies to multistream mode. If any of these three filters are set to *On*, bar code search and recognition is turned off for the respective page types. Please note that combining all three options *Ignore monochrome pages*, *Ignore gray scale pages* and *Ignore color pages* will effectively turn off bar code recognition all together, since there is nowhere left to search.

Ignore blank pages

If set to *On*, then bar code search and recognition is turned *off* for all blank pages (reduces CPU-load).

Ignore first document page

Causes this function to skip the first page of every document (which usually is the page triggering document separation).

Ignore cover pages

Turns bar code search and recognition off, for cover pages.

Output:**Preview color**

This option will highlight all bar codes recognized, with the color specified here. Enter the desired color as an RGB hex value (preceded by a transparency value), or pick one of the colors from the sets provided.

Mark as empty page

If set to *Off*, then images containing bar codes will never be marked for

deletion. If set to anything other than *Off*, images will be marked for deletion whenever ScamaxScan+ detects the bar code specified here.

Setting *Automatic* will cause ScamaxScan+ to omit all additional images usually associated with the image containing the bar code (e.g. not only the front side, but also the reverse side of a page with a patchcode on it), from export.

In certain multistream scenarios, some scanners will not provide accurate metadata for scanned images, making it impossible for ScamaxScan+ to intelligently decide which images to delete. As a work-around, you may specify a fixed number of subsequent images (1 to 5 pages) to be marked for deletion, instead.

New document

Whenever ScamaxScan+ detects an image containing the bar code specified, a document separator will be placed here and ScamaxScan+ will increment the document counter by 1.

Must contain bar code

If this option is set to On, ScamaxScan+ will stop scanning and ask for a bar code value whenever this bar code is not found, on incoming pages. Effectively enforces bar code input for every page in the batch.

Remove unassigned bar codes

Will remove all superfluous bar code data originating from the scanner (and thus clean up ScamaxScan+ metadata).

Switched on

Switches this module on or off. Turning this function *off* will preserve all settings, for later use (as opposed to removing the function). Useful when developing or troubleshooting project templates.

Name

You may label this particular bar code definition, which will make it easier to distinguish it from any other bar code setups created. If no custom name is assigned, ScamaxScan+ will automatically enumerate bar code definitions.

Split Page

Split page will split images into several images of the next smaller format. For example, if you scan the front page of a DIN A3 sized document, then *Split page* will automatically split this image into two DIN A4 images. If you scan the front and rear page of a DIN A3 sized document, then the result will be 4 DIN A4 images.

▼ Filter	
Processing on page	Both pages
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore blank pages	<input type="checkbox"/> Off
Ignore first document page	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
▼ Output	
Paper format	A3 (297 x 420 mm)
Orientation	Landscape
Sort	<input type="checkbox"/> Off
Switched on	<input checked="" type="checkbox"/> On

Filter:

Processing on page

Perform this function on ...

- Both sides
- Front pages
- Rear pages

Ignore monochrome pages, Ignore gray scale pages, Ignore color pages

Specifically applies to multistream mode. If any of these three filters are set to **On**, then this function is turned off for the respective page types. Please note that combining all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn execution off, all together, since there are no images left to process.

Ignore blank pages

Turns this function off, for all blank pages.

Ignore first document page

Causes this function to skip the first page of every document (which usually is the page triggering document separation).

Ignore cover pages

Turns this function off, for cover pages.

Output:

Paper Format

Select the format (paper-size) to be split. This restricts the *split page* function to images of exactly this size, other formats will be ignored. For example, if only a few A3 leaflets in a predominantly A4 sized document pile need to be split, select A3 as the *Paper Format*.

Orientation

Select *landscape* for horizontal and *portrait* for upright page orientation.

Sort

If set to On, resulting pages will be sorted into a logical sequence. Logical sorting corresponds to the sequence which would result from folding the original page.

Switched on

Switches this module on or off. Turning this function *off* will preserve all settings, for later use (as opposed to removing the function). Useful when developing or troubleshooting project templates.

Digital print

Digital print will automatically and persistently place additional, custom text on scanned images (as opposed to the Stamp tool, which needs to be operated manually).

Whereas an *Endorser* leaves a physical mark on pages passing through a scanner, *Digital print* will only modify scanned images, i.e. the resulting image data.

Filter	
Processing on page	Both pages
Processing on nth page	2
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore blank pages	<input type="checkbox"/> Off
Ignore first document page	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
Output	
Append	<input type="checkbox"/> Off
Text color	<input checked="" type="checkbox"/> Black
Background color	<input type="checkbox"/> Transparent
Text position	Top side
Font bold	<input type="checkbox"/> Off
Font italic	<input type="checkbox"/> Off
Font strikeout	<input type="checkbox"/> Off
Font underline	<input type="checkbox"/> Off
Font size	10
Font family	Arial
Text	
Switched on	<input checked="" type="checkbox"/> On

Filter:

Processing on page

Perform this function on ...

- Both sides
- Front pages
- Rear pages

Ignore monochrome pages, Ignore gray scale pages, Ignore color pages

Specifically applies to multistream mode. If any of these three filters are set to **On**, *digital print* is turned off for the respective page types. Please note that combining all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn off *digital print*, all together, since there are no images left to process.

Ignore blank pages

Turns this function off, for all blank pages.

Ignore first document page

Causes this function to skip the first page of every document (which usually is the page triggering document separation).

Ignore cover pages

Turns this function off, for cover pages.

Output:

Append

Text may either be placed within the existing image area (where it may collide with image data), or in additional, appended image area. If this option is activated (*On*), additional image area will be added and *Digital print* will be placed within that area. The location of the appended image area is specified by the *Text position* setting, below.

Text color

Specifies the text color to be used. Either enter the color code manually (RGB hex value) or use the color picker applet, to the right of the input field.

Background color

Specifies the background color to be used. Either enter the color code manually (RGB hex value) or use the color picker applet, to the right of the input field.

Text position

Specifies where the *Digital print* is placed or where image area with the *Digital print* is appended. Possible choices are:

- Top side
- Bottom side
- Left side
- Right side

Font bold

Use bold text.

Font italic

Set text to italics.

Font strikethrough

Use strikethrough text.

Font underline

Use underlined text.

Font size


Choose the desired font size, from the drop-down menu.

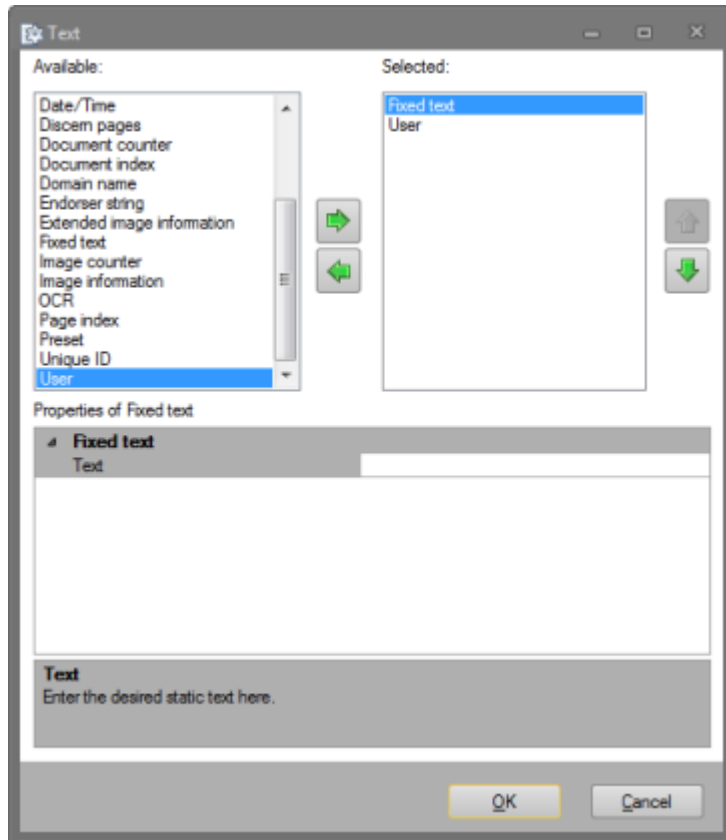
Font family

Choose the desired font family, from the drop-down menu.

Text

The *digital print* function can output fixed text, dynamically created text or a mixture thereof.

Click the  button at the end of the text input line to access all available text options:



The left window contains the list of available *variables*, which you may add to the list of selected variables, on the right. After highlighting any of the selected variables in the right window, the bottom window will show detail settings, for this variable.

Switched on

Switches this module on or off. Turning this function *off* will preserve all settings, for later use (as opposed to removing the function). Useful when developing or troubleshooting project templates.

Document Separation

This function will periodically insert a Document separator, after a specified number of scanned pages.

Document separation	
Page count	0
Output	
Trigger filter	
Switched on	<input checked="" type="checkbox"/> On

Document separation:

Page count

Specify the number of pages before inserting the next document separator.

Output:

Trigger filter

The filter expression entered here will be applied to all bar codes recognized. As soon as the filter expression matches a bar code, document separation will be toggled *on* or *off*, depending on its current state.

Please note: the triggering bar code will not insert a *document separator*, it merely turns this function *on* or *off*! The insertion of *document separators* is invariably controlled by the *page count* setting, above ...

All incoming bar codes are examined. The first bar code to match the filter criteria specified here will toggle *document separation*. Bar codes not matching these filter conditions will be ignored and skipped.

The default entry is an *asterisk*:

*

and will accept any bar code value.

If the *Bar code filter* begins with a *caret* (roof) character, however:

^

then the entire filter string will be interpreted as a regular expression, which allows for flexible filtering.

For more and detailed information please refer to the section on [Regular expressions](#), in the *Appendix*.

Switched on

Switches this module on or off. Turning this function *off* will preserve all settings, for later use (as opposed to removing the function). Also determines the initial state if the *barcode toggle* feature is used (see *Trigger filter* above).

Color detection *

▼ Filter	
Processing on page	Both pages
Ignore blank pages	<input type="checkbox"/> Off
Ignore first document page	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
▼ Output	
Color conversion format	Monochrome 1Bit
Threshold	0.001
Switched on	<input checked="" type="checkbox"/> On

This function will selectively convert color images into black & white or grayscale images, if no discernible color content is found.

Color detection searches for differences in RGB (red, green, blue) values, across each image. If RGB values for all pixels in an image are equal for each pixel, then this image has no discernible color content and is converted into into a black & white or grayscale image. If RGB values are substantially different, then the image is left untouched (and kept as a color image).

Filter:

Processing on page

Perform this function on ...

- Both sides
- Front pages
- Rear pages

Ignore blank pages

Turns this function off, for all blank pages.

Ignore first document page

Causes this function to skip the first page of every document (which usually is the page triggering document separation).

Ignore cover pages

Turns this function off, for cover pages.

Output:

Color conversion format

Select the target color-depth:

- *Monochrome 1 Bit* - recommended for plain text or text with line graphics
- *Grayscale 8 Bit* - recommended for graphical content with color gradients

Threshold

Increase the threshold to make this function more tolerant to differences in RGB values.

In other words, increasing this value will make *color detection* less sensitive.


Switched on

Switches this module on or off. Turning this function *off* will preserve all settings, for later use (as opposed to removing the function). Useful when developing or troubleshooting project templates.

(* This image processing function is also available during export. Use if one or more export formats need to be modified selectively.)

Color replace

Persistently replaces an existing color value (*Old color*) with a new color value (*New color*).

Filter	
Processing on page	Both pages
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore blank pages	<input type="checkbox"/> Off
Ignore first document page	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
Output	
Old color	 255, 0, 0
New color	<input type="text"/> 255, 255, 255
Color tolerance	2
Switched on	<input checked="" type="checkbox"/> On

Filter:

Processing on page

Perform this function on ...

- Both sides
- Front pages
- Rear pages

Ignore gray scale pages, Ignore color pages

Specifically applies to multistream mode. If any of these two filters are set to *On*, then this function is turned *off* for the respective page type. Please note that combining both options *Ignore gray scale pages* and *Ignore color pages* will effectively turn off execution all together, since there are no images left to process.

Ignore blank pages

Turns *color replacement* off for all blank pages.

Ignore first document page

Causes this function to skip the first page of every document (which usually is the page triggering document separation).

Ignore cover pages

Turns this function off, for cover pages.

Output:

Old color

Specifies the color to be replaced. Either enter the color code manually (RGB hex value) or use the color picker applet, to the right of the input field.

New color

Specifies the color to be inserted. Either enter the color code manually (RGB hex value) or use the color picker applet, to the right of the input field.

Color tolerance

Allows for color tolerances, when specifying the color to be replaced. In the example above (*Color tolerance* = 2), RGB color values deviating from the *Old color* value by a count of plus or minus 2 will also be replaced with the *New color*.

Switched on

Switches this module on or off. Turning this function *off* will preserve all settings, for later use (as opposed to removing the function). Useful when developing or troubleshooting project templates.

Color conversion *

This function will persistently perform a conversion of color-depth.

Filter	
Processing on page	Both pages
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore blank pages	<input type="checkbox"/> Off
Ignore first document page	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
Output	
Color conversion format	Monochrome 1Bit
Switched on	<input checked="" type="checkbox"/> On

Filter:

Processing on page

Perform this function on ...

- Both sides
- Front pages
- Rear pages

Ignore monochrome pages, Ignore gray scale pages, Ignore color pages

Specifically applies to multistream mode. If any of these three filters are set to **On**, color conversion is turned off for respective page types. Please note that combining all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn off color conversion all together, since there are no images left to process.

Ignore blank pages

Turns color conversion off for all blank pages.

Ignore first document page

Causes this function to skip the first page of every document (which usually is the page triggering document separation).

Ignore cover pages

Turns this function off, for cover pages.

Output:

Color conversion format

Please specify the target color depth:

- Monochrome 1 Bit
- Grayscale 8 Bit
- Color 24 Bit

Switched on

Switches this module on or off. Turning this function *off* will preserve all settings, for later use (as opposed to removing the function). Useful when developing or troubleshooting project templates.

(* This image processing function is also available during export. Use if one or more export formats need to be modified selectively.)

Invert *

The *Invert* function is used to change the polarity of an image, i.e. it converts a normal image into a negative, and vice versa.

▼ Filter	
Processing on page	Both pages
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore blank pages	<input type="checkbox"/> Off
Ignore first document page	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
▼ Output	
Switched on	<input checked="" type="checkbox"/> On

Filter:

Processing on page

Perform this function on ...

- Both sides
- Front pages
- Rear pages

Ignore monochrome pages, Ignore gray scale pages, Ignore color pages

Specifically applies to multistream mode. If any of these three filters are set to **On**, *image inversion* is turned off for the respective page types. Please note that combining all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn off *image inversion* all together, since there are no images left to process.

Ignore blank pages

Turns this function off, for all blank pages.

Ignore first document page

Causes this function to skip the first page of every document (which usually is the page triggering document separation).

Ignore cover pages

Turns this function off, for cover pages.

Output:

Switched on

Switches this module on or off. Turning this function *off* will preserve all settings, for later use (as opposed to removing the function). Useful when developing or troubleshooting project templates.

(* This image processing function is also available during export. Use if one or more export formats need to be modified selectively.)

Blank page detection

This function will detect blank pages (i.e. pages without any discernible content) and either mark them for deletion or delete them immediately.

Blank page detection		
Left edge	<input type="checkbox"/>	Off
Right edge	<input type="checkbox"/>	Off
Top edge	<input type="checkbox"/>	Off
Bottom edge	<input type="checkbox"/>	Off
Threshold monochrome		10
Threshold gray		30
Threshold color		30
Filter		
Delete blank page	<input type="checkbox"/>	Off
Processing on page		Both pages
Ignore monochrome pages	<input type="checkbox"/>	Off
Ignore gray scale pages	<input type="checkbox"/>	Off
Ignore color pages	<input type="checkbox"/>	Off
Ignore first document page	<input type="checkbox"/>	Off
Ignore cover pages	<input checked="" type="checkbox"/>	On
Output		
New document	<input type="checkbox"/>	Off
Switched on	<input checked="" type="checkbox"/>	On

Blank page detection:

Left edge, Right edge, Top edge, Bottom edge

If neither of these options are active, ScamaxScan+ masks incoming images with an approx. 1.5 cm wide margin, around all four edges of the image. This will minimize incorrect blank page detection due to punch holes, staple marks or shadows/smudges along the edges.

Activating one or several of these options will selectively extend the recognition area, towards that edge of the image. If e.g. text (or other content, like page numbers) will occasionally appear at the bottom edge of an image, you should activate the *Bottom edge* option.

Threshold monochrome, Threshold gray, Threshold color

Specifies the threshold level for blank page detection, for each of the image categories above. Enter the desired threshold level as a percentage.

Please note: this is a synthetic (not blackness) value based on a distinction between a page's content and its "optical background noise". The underlying algorithm ensures that even tinted or slightly smudged pages are accurately identified as empty pages.


Filter:

Delete blank page

If this option is set to *On*, any blank pages found will be immediately removed (as opposed to being marked, for later omission).

If this option is set to *Off*, blank pages will merely be marked for deletion, rather than being removed immediately.

Pages marked for deletion will continue to be displayed in thumbnail and image views (and are marked, e.g. with a red, diagonal cross), but they will not be exported.

 Please note: If blank pages are removed using the "Delete blank page" option, they will no longer appear in the application's statistics. If this will cause issues with any billing based on ScamaxScan+ statistics, please do not use this option (i.e. set it to *Off*)!

Processing on page

Perform *blank page detection* on ...

- Both sides
- Front pages only
- Rear pages only

Ignore monochrome pages, Ignore gray scale pages, Ignore color pages

Specifically applies to multistream mode. If any of these three filters are set to *On*, *blank page detection* is turned off for the respective page types. Please note that combining all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn off *blank page detection*, all together, since there are no images left to process.

Ignore first document page

Causes this function to skip the first page of every document (which usually is the page triggering document separation).

Ignore cover pages

Turns this function off, for cover pages.

Output:

New document

If this option is set to *On*, ScamaxScan+ will insert a document separator,

whenever a blank page is detected.

Switched on

Switches this module on or off. Turning this function *off* will preserve all settings, for later use (as opposed to removing the function). Useful when developing or troubleshooting project templates.

Line Removal *

Line removal will detect horizontal and/or vertical lines and then remove them. Works with monochrome images only.

▼ Filter	
Processing on page	Both pages
Ignore blank pages	<input type="checkbox"/> Off
Ignore first document page	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
▼ Line removal	
Maximum skew	5
Maximum gap within line	1
Minimum length	10
Maximum strength	2
Minimum strength	1
Remove horizontal lines	<input checked="" type="checkbox"/> On
Remove vertical lines	<input type="checkbox"/> Off
Repair letters	<input type="checkbox"/> Off
▼ Output	
Switched on	<input checked="" type="checkbox"/> On

Filter:

Processing on page

Perform this function on ...

- Both sides
- Front pages
- Rear pages

Ignore blank pages

Turns this function off, for all blank pages.

Ignore first document page

Causes this function to skip the first page of every document (which usually is the page triggering document separation).

Ignore cover pages

Turns this function off, for cover pages.

Line removal:

Maximum skew

Specifies the maximum angle of rotation allowed. If skewed beyond this value, lines will not be removed.

Maximum gap within line

Specifies the maximum gap length (in mm) allowed. If they contain longer gaps, lines will not be removed.

Minimum length

Specifies the minimum line length (in mm) allowed. If lines are shorter than this, they will not be removed.

Maximum strength

Specifies the maximum line width (in mm) allowed. If lines are wider than this, they will not be removed.

Minimum strength

Specifies the minimum line width (in mm) allowed. If lines are narrower than this, they will not be removed.

Remove horizontal lines

Restricts *Line removal* to horizontal lines.

Remove vertical lines

Restricts *Line removal* to vertical lines.

Repair letters

If this option is set to On, ScamaxScan+ will attempt to fix letters and numerals which were damaged during line removal. Aimed to improve readability and subsequent text recognition.

Output:

Switched on

Switches this module on or off. Turning this function *off* will preserve all settings, for later use (as opposed to removing the function). Useful when developing or troubleshooting project templates.

(* This image processing function is also available during export. Use if one or more export formats need to be modified selectively.)

Punch hole removal *

Punch hole removal will detect any smudges or shadows caused by punch holes and then remove them. Works with monochrome images only.

Filter	
Processing on page	Both pages
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input checked="" type="checkbox"/> On
Ignore color pages	<input checked="" type="checkbox"/> On
Ignore blank pages	<input type="checkbox"/> Off
Ignore first document page	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
Output	
Switched on	<input checked="" type="checkbox"/> On
Punch hole removal	
Distance to text body	5
Minimum size	5
Maximum size	5
Left edge	<input checked="" type="checkbox"/> On
Right edge	<input checked="" type="checkbox"/> On
Top edge	<input type="checkbox"/> Off
Bottom edge	<input type="checkbox"/> Off

Filter:

Processing on page

Perform this function on ...

- Both sides
- Front pages
- Rear pages

Ignore monochrome pages, Ignore gray scale pages, Ignore color pages

Specifically applies to multistream mode. If any of these three filters are set to *On*, *punch hole removal* is turned off for the respective page types. Please note that grayscale and color pages are permanently turned off, by default, since this function will only perform on black & white images.

Ignore blank pages

Turns this function off, for all blank pages.

Ignore first document page

Causes this function to skip the first page of every document (which usually is the page triggering document separation).

Ignore cover pages

Turns this function off, for cover pages.

Output:

Switched on

Switches this module on or off. Turning this function *off* will preserve all settings, for later use (as opposed to removing the function). Useful when developing or troubleshooting project templates.

Punch hole removal:

Distance to text body

The minimum distance from the text body (in mm) beyond which punch holes will be removed.

Minimum size

The smallest diameter (in mm) above which a hole will be considered a punch hole and removed.

Maximum size

The largest diameter (in mm) below which a hole will be considered a punch hole and removed.

Left edge

Detect punch holes at the left margin only.

Right edge

Detect punch holes at the right margin only.

Top edge

Detect punch holes at the top margin only.

Bottom edge

Detect punch holes at the bottom margin only.

(* This image processing function is also available during export. Use if one or more export formats need to be modified selectively.)

Frame Page *

Frame page will automatically place a white frame around the perimeter of an image.

▼ Filter	
Processing on page	Both pages
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore blank pages	<input type="checkbox"/> Off
Ignore first document page	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
▼ Output	
Frame size	0 mm·10 ⁻¹
Switched on	<input checked="" type="checkbox"/> On

Filter:

Processing on page

Perform this function on ...

- Both sides
- Front pages
- Rear pages

Ignore monochrome pages, Ignore gray scale pages, Ignore color pages

Specifically applies to multistream mode. If any of these three filters are set to **On**, *frame page* is turned off for the respective page types. Please note that combining all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn off *frame page* all together, since there are no images left to process.

Ignore blank pages

Turns this function off, for all blank pages.

Ignore first document page

Causes this function to skip the first page of every document (which usually is the page triggering document separation).

Ignore cover pages

Turns this function off, for cover pages.

Output:

Frame size

Enter the width of the border (as tenths of a mm - a value of 20 will result in a 2 mm white border).

Switched on

Switches this module on or off. Turning this function *off* will preserve all settings, for later use (as opposed to removing the function). Useful when developing or troubleshooting project templates.

(* This image processing function is also available during export. Use if one or more export formats need to be modified selectively.)

Page Filter

Page filter is a method for collectively deleting certain page types, across an entire batch.

▼ Filter	
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore blank pages	<input type="checkbox"/> Off
Ignore first document page	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
▼ Output	
Discard page	Rear page
Switched on	<input checked="" type="checkbox"/> On

Filter:

Ignore monochrome pages, Ignore gray scale pages, Ignore color pages

Specifically applies to multistream mode. If any of these three filters are set to *On*, *page filter* is turned off for the respective page types. Please note that combining all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn off *page filter* all together, since there are no images left to process.

Ignore blank pages

Turns this function off, for all blank pages.

Ignore first document page

Causes this function to skip the first page of every document (which usually is the page triggering document separation).

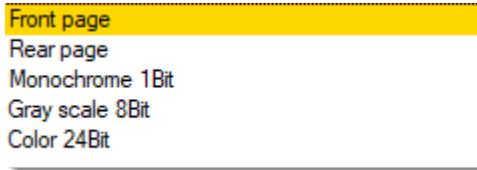
Ignore cover pages

Turns this function off, for cover pages.

Output:

Discard page

Specify which type of pages to remove. The options are as follows:



- **Front page, Rear page:** Remove all front or rear pages.
- **Monochrome 1Bit, Gray scale 8Bit, Color 24Bit:** Remove all pages of the color type selected.

Switched on

Switches this module on or off. Turning this function *off* will preserve all settings, for later use (as opposed to removing the function). Useful when developing or troubleshooting project templates.

Scale resolution *

Scale resolution will persistently convert images to a different image resolution.

▼ Filter	
Processing on page	Both pages
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore blank pages	<input type="checkbox"/> Off
Ignore first document page	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
▼ Output	
Resolution	100 DPI
Switched on	<input checked="" type="checkbox"/> On

Filter:

Processing on page

Perform this function on ...

- Both sides
- Front pages
- Rear pages

Ignore monochrome pages, Ignore gray scale pages, Ignore color pages

Specifically applies to multistream mode. If any of these three filters are set to **On**, *scale resolution* is turned off for the respective page types. Please note that combining all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn off *scale resolution*, all together, since there are no images left to process.

Ignore blank pages

Turns this function off, for all blank pages.

Ignore first document page

Causes this function to skip the first page of every document (which usually is the page triggering document separation).

Ignore cover pages

Turns this function off, for cover pages.

Output:

Resolution

Enter the desired image resolution (in dots per inch).

Please note: If the desired image resolution exceeds the actual image resolution, interpolation will be applied.

Switched on

Switches this module on or off. Turning this function *off* will preserve all settings, for later use (as opposed to removing the function). Useful when developing or troubleshooting project templates.

(* This image processing function is also available during export. Use if one or more export formats need to be modified selectively.)

Flip *

Flip Image will perform mirroring of scanned images, along the axis specified.

Filter	
Processing on page	Both pages
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore blank pages	<input type="checkbox"/> Off
Ignore first document page	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
Mirror	
Axis	Horizontal
Output	
Switched on	<input checked="" type="checkbox"/> On

Filter:

Processing on page

Perform this function on ...

- Both sides
- Front pages
- Rear pages

Ignore monochrome pages, Ignore gray scale pages, Ignore color pages

Specifically applies to multistream mode. If any of these three filters are set to **On**, *flip image* is turned off for the respective page types. Please note that combining all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn off *flip image* all together, since there are no images left to process.

Ignore blank pages

Turns this function off, for all blank pages.

Ignore first document page

Causes this function to skip the first page of every document (which usually is the page triggering document separation).

Ignore cover pages

Turns this function off, for cover pages.

Mirror:

Axis

Specify whether the image should be flipped vertically or horizontally.

Output:

Switched on

Switches this module on or off. Turning this function *off* will preserve all settings, for later use (as opposed to removing the function). Useful when developing or troubleshooting project templates.

(* This image processing function is also available during export. Use if one or more export formats need to be modified selectively.)

Batch separation

Batch separation is controlled through bar codes and will terminate the current batch (and optionally start a new one), from within a document pile / batch.

Filter	
Bar code filter	*
Processing on page	Both pages
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore blank pages	<input type="checkbox"/> Off
Ignore first document page	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
Output	
Mark as empty page	<input type="checkbox"/> Off
Batch separation action	Finalize and Restart
Switched on	<input checked="" type="checkbox"/> On

Filter:

Bar code filter

All incoming bar codes are examined. The first bar code to match the filter criteria specified here will trigger *batch separation*. Bar codes not matching these filter conditions are ignored and skipped.

The default entry is an *asterisk*:

*

and will accept any bar code value.

If the *Bar code filter* begins with a *caret* (roof) character, however:

^

then the entire filter string will be interpreted as a regular expression, which allows for flexible filtering.

For more and detailed information please refer to the section on [Regular expressions](#), in the *Appendix*.

Processing on page

Limits batch separation to certain pages. Possible (and self explanatory) choices are:

- Both pages
- Front page
- Rear page

Ignore monochrome pages, Ignore gray scale pages, Ignore color pages

Specifically applies to multistream mode. If any of these three filters are set to *On*, *project separation* is turned off for respective page types. Please note that combining all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn off *project separation* all together, since there are no images left to process.

Ignore blank pages

Turns this function off, for all blank pages.

Ignore first document page

Causes this function to skip the first page of every document (which usually is the page triggering document separation).

Ignore cover pages

Turns this function off, for cover pages.

Output:**Mark as empty page**

If ScamaxScan+ finds a valid batch separator, the page containing the triggering bar code is marked for deletion and will not be included in the output file.

Batch separation action

Specifies what happens after the detection of a batch separator:

Suspend

The current batch is saved but not finalized, no output files are created. ScamaxScan+ will return to Quick mode.

This option is useful if just a single batch separator is placed at the end of each scanned document pile, in which case the batch will be saved for further (manual) modification, without any further operator intervention.

To reopen a suspended batch for editing, click on the *Suspended batches* button in the *Start batch* window. Please note: For the *Suspended batches* button to become active, you will need to select the appropriate project template, beforehand.

Suspend and start new batch

The current batch is saved but not finalized, no output files are created. A new batch is started (see the section on *Automatic batch start* in [Starting and closing batches](#), in the Appendix).

This option is intended for automatically splitting document piles into several (partial) batches.

To reopen one of the suspended batches for editing, click on the *Suspended batches* button in the *Start batch* window. Please note: For the *Suspended batches* button to become active, you will need to select the appropriate project template, beforehand.

Finalize

Either performs all export processing immediately or passes the current project on to the process manager (depending on what was specified in the project template). After that, ScamaxScan+ will return to Quick mode.

This option is useful if just a single batch separator is placed at the end of each scanned document pile, in which case the batch will be finalized, without any further operator intervention.

Finalize and restart

Either performs all export processing immediately or hands the current batch over to the process manager (depending on what was specified in the project template). Next, a new batch is opened (see the section on *Automatic batch start* in [Starting and closing batches](#), in the Appendix).

This option is intended for automatically splitting document piles into several batches.

Switched on

Switches this module on or off. Turning this function *off* will preserve all settings, for later use (as opposed to removing the function). Useful when developing or troubleshooting project templates.

OCR (Project)

Configures the ScamaxScan+ text recognition engine to only process specific areas within images (*zonal OCR*). Retrieved text may be filtered and then passed on as index information (to external systems) or used for control purposes (within the current batch).

Filter	
Image preparation	
Processing on page	Both pages
Processing on nth page	2
Detection areas	0 detection areas
Only patch code pages	None
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore blank pages	<input type="checkbox"/> Off
Ignore first document page	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
OCR	
Numbers only	<input type="checkbox"/> Off
Character list	... ~ ~ ~ ~ ~
Control characters	Ignore control characters
Language	German
Deskew	<input type="checkbox"/> Off
Output	
Preview color warning	<input checked="" type="checkbox"/> 128, 255, 0, 0
Preview color	<input checked="" type="checkbox"/> 128, 0, 0, 255
Must contain text	<input type="checkbox"/> Off
Character string filter list	
New document	<input type="checkbox"/> Off
Mark as empty page	Off
Switched on	<input checked="" type="checkbox"/> On
Name	1

Filter:

Image preparation

Selected image processing functions (listed below) are available for temporarily modifying images, prior to text recognition. Please note that any image processing specified here will not be applied to finalized/exported images.

For details, please refer to respective sections in this chapter:

[Color conversion](#)

[Color detection](#)

[Color replacement](#)

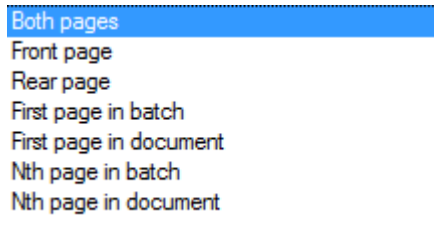
[Invert](#)

[Line removal](#)

[Punch hole removal](#)

Processing on page

Limits the search for recognizable text to certain page types. The better the search is restricted, the less system resources will be used and project execution will speed up. Possible choices are:




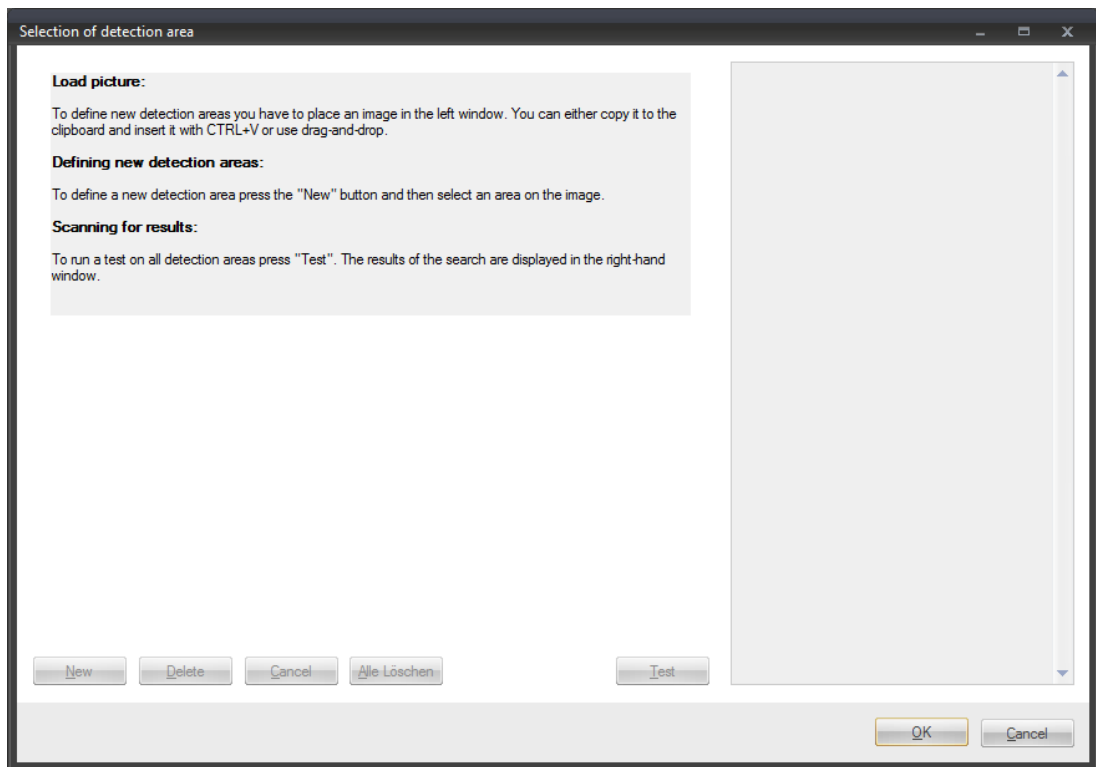
Please note: *Nth page in project* and *Nth page in document* operate in conjunction with the *Processing on nth page* setting described next ...

Processing on nth page

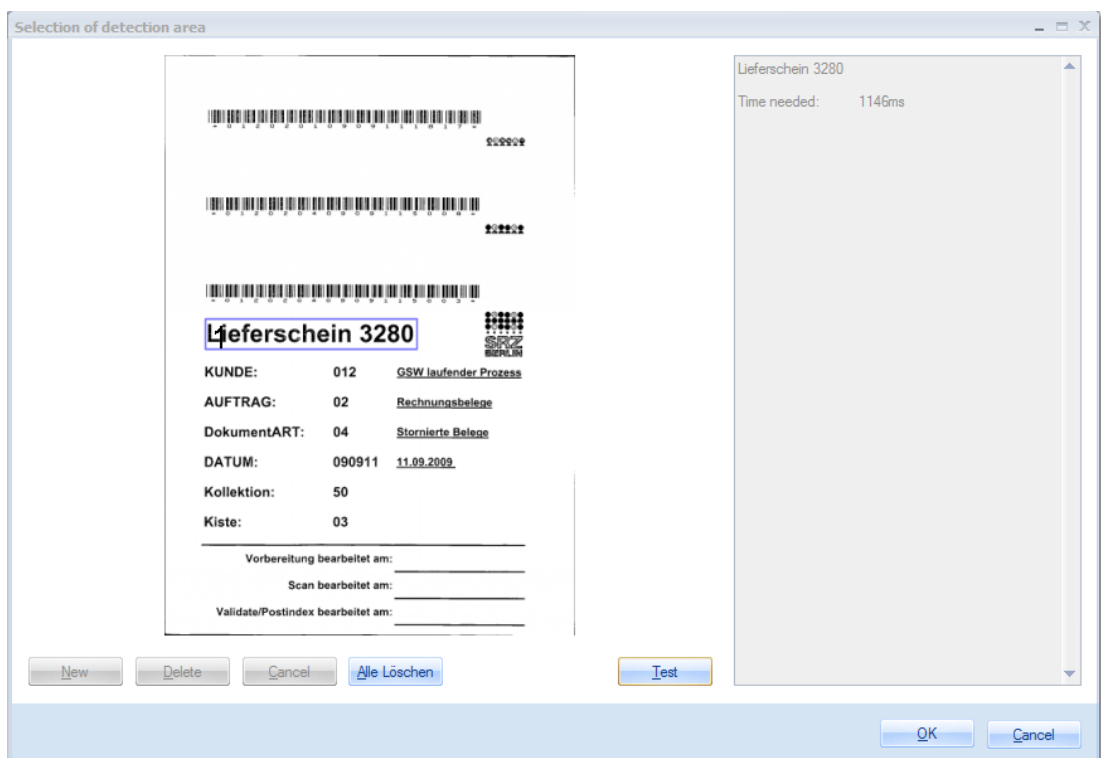
Periodically performs a search for recognizable text on each nth image of the current project or document, depending on how Nth page processing was specified in the *Processing on page* settings above. Enter the desired page count here.

Detection areas

You may define one or more image regions to which the search for recognizable text will be limited. Press the  button for an extended menu, which will open the following window:



Before any search areas may be defined, you will need to copy a sample image into this window, either by using *drag & drop* or by using Windows hotkeys (e.g. Ctrl-C, Ctrl-V). Only files of type TIFF, GIF, JPEG and PNG will be accepted and displayed.



In order to define a new search area, first press button **New**, then draw a suitable window around the search area, using the mouse. Make sure to define search areas that are larger than the text area itself, to allow for

flutter. Repeat as often as necessary.

The frames surrounding search areas may be resized, moved or deleted. Please note that each search area is assigned a unique area ID number.

The button labelled *Test* will run a text search across all search areas. The results (if any) will be shown in the right window, as well as the time required for the test run.

Text found and recognized during a project run is identified by its respective search area. The actual text can be retrieved by using the *OCR* variable in combination with the desired area ID number. The resulting text may then be used as index data, or for file naming.

Only patch code pages

Turns OCR search and recognition *off* for all pages not containing patch codes. Has no effect when set to *None*. When set to *All* or some specific patch code type, this setting will turn text recognition off for all other pages.

Ignore monochrome pages, Ignore gray scale pages, Ignore color pages

Specifically applies to multistream mode. If any of these three filters are set to *On*, text recognition is turned off for the respective page types. Please note that combining all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn off OCR, all together, since there is nowhere left to search.

Ignore blank pages

Turns text recognition off, for all blank pages.

Ignore first document page

Causes this function to skip the first page of every document (which usually is the page triggering document separation).

Ignore cover pages

Turns this function off, for cover pages.

OCR:

Numbers only

With this option set to *On*, *number only* will enhance the recognition of numerals by replacing ambiguous alpha characters, like so:

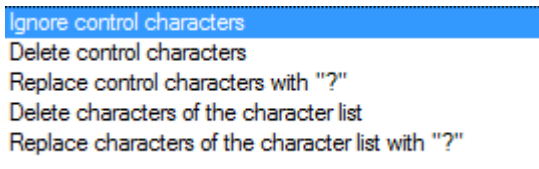
'Ü'>'0', 'O'>'0', 'I'>'1', 'l'>'1', 'B'>'8', 'ó'>'6', '?'>'7'

Character list

Characters in this list can either be removed from recognized text, or replaced with a dummy character. Enter all characters to be replaced/removed without any delimiters, one after another. This list is only used by the *Control characters* option, below.

Control characters

Specifies how control characters (non-printable characters such a carriage returns) or characters from the *Character list* (see above) are treated:



- *Ignore control characters*: control characters will remain in the output text string, but are not acted upon.
- *Delete control characters*: control characters will be omitted from the resulting output string.
- *Replace control character with "?"*: control characters in the output text string will be replaced with a question mark.
- *Delete characters from the character list*: characters from the character list will be deleted from the output text string.
- *Replace characters from the character list with "?"*: characters from the character list will be replaced with a question mark.

Language

Set the OCR language to the source language of your paper documents, for best recognition results.

Deskew

Deskew will attempt to vertically align images and thus improve text recognition results. It is recommended to activate this option, whenever possible.

Output:

The options in the *Output* section determine how ScamaxScan+ will react, whenever it detects recognizable text.

Preview color warning

Will highlight any text not properly recognised by the ScamaxScan+ OCR engine, with the color specified. Enter the desired color as an RGB hex value (preceded by a transparency value), or pick one of the colors from the drop-down list.

Preview color

Will highlight all text successfully recognized with the color specified. Also serves as a means of differentiation, if multiple OCR functions have been defined. Enter the desired color as an RGB hex value (preceded by a transparency value), or pick one of the colors from the drop-down list.

Must contain text

If this option is set to On, ScamaxScan+ will stop scanning and ask for input of a text value, whenever this text recognition definition results in an empty result. Effectively enforces text input for every page in the batch.

Character string filter list

Use this function to compare any text found with a set of filter criteria. Text not matching the filter conditions will be discarded.

The default entry is an *asterisk*:

*

and will accept any text.

If the *Character string for comparison* begins with a *caret* (roof) character, however:

^

then the entire filter string will be interpreted as a regular expression, which allows for flexible filtering.

For more and detailed information please refer to the section on [Regular expressions](#), in the *Appendix*.

New document

Whenever text is found which matches the filter string above, a Document separator will be inserted and ScamaxScan+ will increment the document counter by 1.

Mark as empty page

With this option set to On, this image will be marked for deletion whenever ScamaxScan+ detects the text specified.

Using the setting *automatic* will cause ScamaxScan+ to also omit any images associated with this page, from export (e.g. not only the front side, but also the reverse side of a page with the desired text on it).

In certain multistream scenarios, some scanners will not provide accurate metadata for the scanned images, making it impossible for ScamaxScan+ to intelligently decide which images to delete. As a work-around, you may instead specify a fixed number of subsequent images (1 to 5 pages), to also be marked for deletion.

Switched on

Switches this module on or off. Turning this function *off* will preserve all settings, for later use (as opposed to removing the function). Useful when developing or troubleshooting project templates.

Name

You may label this particular text recognition definition with a name of your choice, which will make it easier to distinguish it from other text recognition setups created. If no custom name is assigned, ScamaxScan+ will automatically enumerate text recognition definitions.

Index fields

Contents

[On/Off \(Index\)](#)
[Date/Time \(Index\)](#)
[Float \(Index\)](#)
[Integer \(Index\)](#)
[Person \(Index\)](#)
[Button, Separator](#)
[String \(Index\)](#)
[Validation \(Index\)](#)

Index fields are used to capture, process and forward additional information (metadata) relating to the images scanned.

Index data may be automatically extracted from images (text strings, bar code values, technical image information) or manually assigned (such as keywords and notes).

Index fields are initialized at the beginning of every new batch and may either be filled with data immediately and automatically while scanning, or manually, after scanning has completed.

When a batch is finalized, index data may be exported to the file-system as a separate index file, or it may be embedded as metadata, into certain file-types. Index data may also be used to dynamically create export paths and filenames.

Internally, index data is used for labelling document separators (in the *thumbnails view*), as soon as at least one *document index field* has been defined. ScamaxScan+ will use the first (top) index field, if several index fields have been defined. If no *document index fields* are defined, document labelling will instead use the values created by barcode or OCR recognition.

Index fields may be defined on a batch-, document- or page level.

- *Index fields* assigned on a page level may contain different data for each image/page.
- *Index fields* assigned on a document level may contain different *index data* for different documents. However, the data contained within one *document index field* will always remain the same, across all pages/images of that document. Therefore, changes made to a *document index field* on any page within a document will change that data, for the entire document.
- *Index fields* assigned on a batch level may only be filled with one data item, per batch. Therefore, changes made to a *batch index field* anywhere within a batch will change that data, for the entire batch.


Handling is identical, for all three levels of index fields (*Batch index*, *Document index*, *Page index*). A *Batch index field* will be discussed here, as an example:

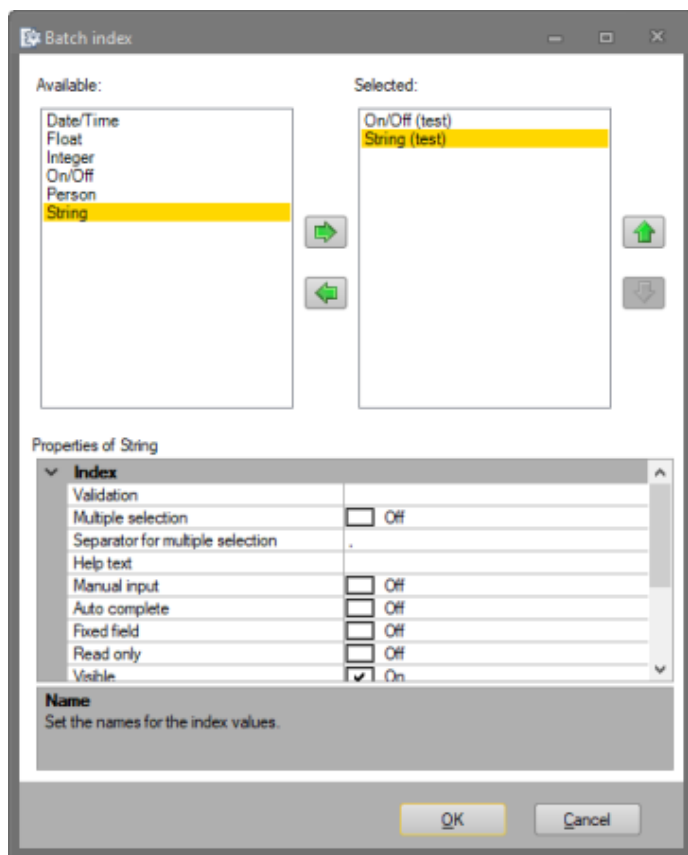
Creating index fields:

Open *Project settings* (from the *Settings* toolbar). Here you will find a section covering *Index fields*.

06-Index fields	
Index update on page action	On
Index update on empty page change	On
Batch index	
Batch index start page	1
Document index	
Document index start page	1
Page index	

Batch Index, Document Index, Page Index

Create index fields by first selecting the desired index level (here: batch index). Then, use the  button to open the extended dialogue:



On the left side (*Available*), select the desired index type and copy it to the right window (*Selected*) by using the button labelled with a green arrow to the right. Repeat as often as necessary. If you wish to remove an entry from the right windows (*Selected*), highlight the entry and operate the button labelled with a green arrow to the left.

After highlighting one of the selected index types in the right window, the bottom window (*Properties of ...*) will show you detail options for this function. On the following pages, these options will be discussed in more detail. Generally, the following data types may be used:

On/Off

An index field of type *On/Off* can only assume two boolean values, *true* or *false*.

Date/Time

An index field of type *Date/Time* can assume values based on date and/or time.

Float

An index field of type *float* can assume numerical values with decimal places.

Integer

An index field of type *integer* can only assume whole-numbered values. i.e. numbers without decimals.

Person

An index field of type *person* will accept different name formats, e.g. names pulled from a directory service.

String

An index field of type *string* will accept any text strings containing printable characters and numerals.

Index update on page action

If set to *On* (default), this option will force an index refresh whenever pages are added, moved or deleted.

Index update on empty page change

If set to *On* (default), this option will force an index refresh whenever deletion markers are set or removed.

Batch Index start page

Sets the page for pre-filling batch index fields with their *Default values*. Usually, this is set to page 1, but it may also be set to higher page numbers, e.g. if batch index values need to be fetched from barcodes on page 3 of a batch.

Document Index start page

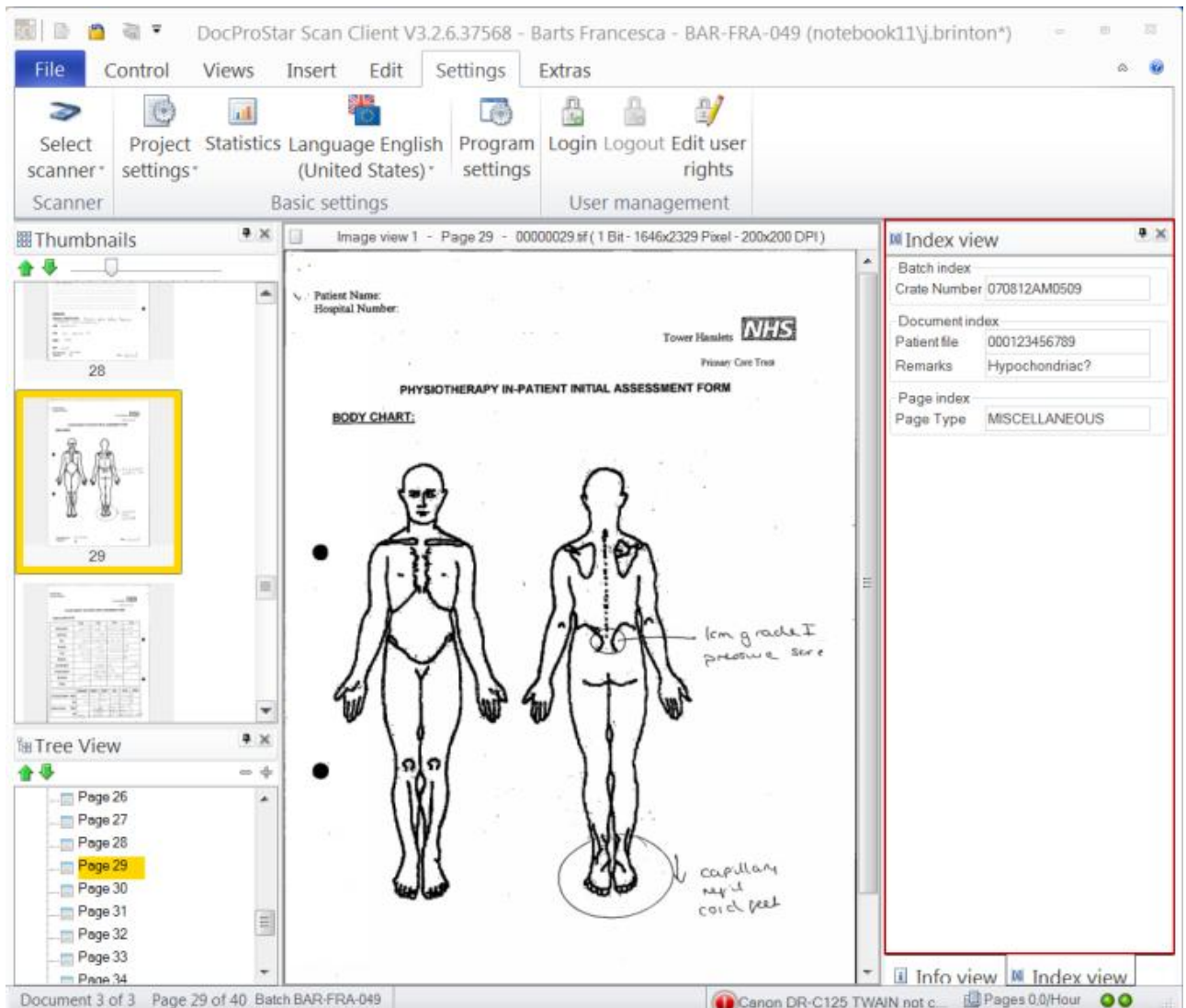
Sets the page used to pre-fill document index fields. Usually set to the first page of a document, but may also be set to higher page numbers, e.g. if document index values need to be fetched from barcodes on page 3 of each document. Also determines the page displayed when using Ctrl-PageUp or Ctrl-PageDown, to browse

through documents.

Performing indexing:

In order to assign values to index fields, scan your documents as usual. Index fields may be filled automatically, e.g. by detecting bar codes or by recognising text, or manually, by editing data in index fields, using the *Index view*. Both methods may be used in combination.

To display the index data form, activate the *Index view* from the *Views toolbar*.



After you have entered (or corrected) all of the desired index values, finalize the batch. Depending on your project template, an index file may be generated and/or index values are used to define path- and filenames ...

Creating index file(s):

For more information, please refer to *Index file*, in the section on *Export options*.


On/Off (Index)

Index	
Validation	
Form factor width	1
Hide label	<input type="checkbox"/> Off
Help text	
Manual input	<input type="checkbox"/> Off
Fixed field	<input type="checkbox"/> Off
Read only	<input type="checkbox"/> Off
Visible	<input checked="" type="checkbox"/> On
Name	
Display name	
Default value	
Check empty pages	<input checked="" type="checkbox"/> On

Index:

Validation

Validation performs a check of index values, e.g. by comparing them to external data (from files or databases) or by examining them with a regular expression. Index values failing validation will be rejected and flagged as requiring input.

The  button at the end of the input line will open an extended dialogue with a list of all validation options available. For more detailed information, please refer to the separate section on [Validation \(Index\)](#), in this chapter.

Form factor width

Sets the width for this index field. Enter any value between 0.1 (10% of the available width) and 1.0 (100% of the available width). Please note: Values below 0.1 and above 1.0 will result in a program error.

Provided the widths of subsequent Index fields add up to less than or exactly 1.0 (100%), then these fields will be placed on the same line within the index window (e.g., if two subsequent index fields have a form factor width of 0.5 each, they will be placed on the same line).

Hide label

Usually, the index field's *Display name* (see below) is used for labelling an index field. If set to ON, this setting will suppress such labelling, so only the field's entry / display box will be shown.

Help text

Enter a short explanatory text which will help operators to understand the

nature and the handling of this particular index value.

The *Help text* will appear during indexing, whenever a user hovers the mouse pointer over this index field, for a short while.

Manual input

If set to *On*, this option will force manual input of an index value. When receiving images from a scanner, ScamaxScan+ will stop and prompt the user for input, whenever this index field needs updating.

Fixed Field

If set to *On*, this option will carry over the index value entered here, to all documents or pages further down the batch. This can be of help whenever large amounts of identical index values need to be entered.

Carry over will be stopped if an index value is encountered which has already been modified by the user. Otherwise, all index values will be replaced, right up to the end of the current batch.

Read only

Whenever index fields are automatically filled with values from reliable sources (such as bar codes or databases), they can be protected against further changes by setting them to *Read only*. They will then be shown in grey and cannot be modified by users.

Visible

Whenever index fields contain items which users are not supposed or not required to see (such as interim results or sensitive data), they can be hidden from sight by setting this flag to *Off*. Though these fields will disappear from the index view, they will still perform as a valid source of index data, e.g. when exporting index files.


Name, Display Name

The *Display name* will appear during data entry and should be chosen with the ScamaxScan+ user/operator in mind.

Name is not displayed anywhere else in ScamaxScan+, but it can be used as an alternative caption, for reference purposes. It could, e.g., contain the name of a (target-) database column this index field corresponds to. When later pulling data from index fields, e.g. during export, there is a choice of retrieving either the *Name*, *Display Name* or *Content* of an index field.

Default value

Use the *Default value* to automatically assign index values, e.g. through bar code or text recognition.

The  button will open an extended dialogue with a list of all variables available (you may use any number of variables). For more and detailed information please refer to the section on the [Use of variables](#), in the appendix.

Check empty pages

If set to *On*, this will apply the index settings above to all incoming pages, including blank pages. If this is undesired or causes problems, you should set this option to *Off*, which will exclude blank pages.

Date/Time (Index)

▼ Date/Time	
Input format	Free entry
Input format string	ddMMyy
Output format	Free entry
Output format string	yyyyMMdd
▼ Index	
Validation	
No input needed	<input checked="" type="checkbox"/> On
Form factor width	1
Hide label	<input type="checkbox"/> Off
Help text	
Manual input	<input type="checkbox"/> Off
Fixed field	<input type="checkbox"/> Off
Read only	<input type="checkbox"/> Off
Visible	<input checked="" type="checkbox"/> On
Name	
Display name	
Default value	
Default list	
Check empty pages	<input checked="" type="checkbox"/> On

Date/Time:

Input format

Choose from one of these formats (for data input):

MM.DD.YYYY
D.M.YYYY
YYYY.MM.DD
YYYYMMDD
DD.MM.YYYY HH:MM:SS
D.M.YYYY H:M:S
YYYY.MM.DD HH:MM:SS
YYYYMMDDHHMMSS
HH:MM:SS
H:M:S
HH:MM:SS
HHMMSS
Free entry

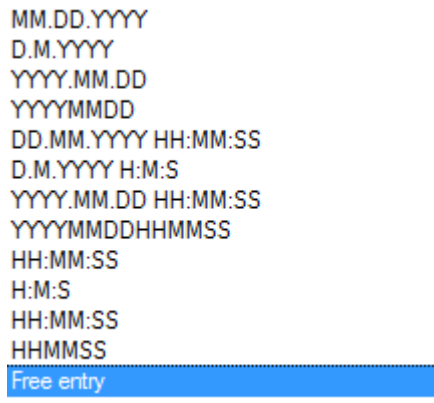
Free entry will allow for custom Date/Time formatting, using the *Input format string* below.

Input format string

Enter your custom Date/Time input formatting string here. This format will only be used if *Input format* has been set to *Free entry*, above.

Output format

Choose from one of these formats (for data export):



Free entry will allow for custom Date/Time formatting, using the *Output format string* below.

Output format string


Enter your custom Date/Time output formatting string here. This format will only be used if *Output format* has been set to *Free entry*, above.

Index:

Validation

Validation performs a check of index values, e.g. by matching them to external data (from files or databases) or by comparing them with minimum or maximum values. In the case of date/time fields, these are also internally checked for valid data (i.e. date values according to the Gregorian calendar).

Index values failing validation will be rejected and the index field will be flagged as requiring input.

The  button at the end of the input line will open an extended dialogue with a list of all validation options available. For more detailed information, please refer to the separate section on [Validation \(Index\)](#), in this chapter.

No input needed

Since "nothing" is a generally invalid value for date/time fields, validation will fail whenever a date/time index field is left empty. The *No input needed* option will override validation in these cases and thus allow empty values.

Form factor width

Sets the width for this index field. Enter any value between 0.1 (10% of the available width) and 1.0 (100% of the available width). Please note: Values below 0.1 and above 1.0 will result in a program error.

Provided the widths of subsequent Index fields add up to less than or exactly 1.0 (100%), then these fields will be placed on the same line within the index window (e.g., if two subsequent index fields have a form factor width of 0.5 each, they will be placed on the same line).

Hide label

Usually, the index field's *Display name* (see below) is used for labelling an index field. If set to On, this setting will suppress such labelling, so only the field's entry / display box will be shown.

Help text

Enter a short explanatory text which will help operators understand the nature and the handling of this particular index value.

The *Help text* will appear during indexing, whenever a user hovers the mouse pointer over this index field, for a short while.

Manual input

If set to *On*, this option will force manual input of an index value. ScamaxScan+ will prompt operators for input, whenever a new batch is started.

Auto complete

For use with *Default list*, further below. Will switch the *Default list* from a drop-down menu to an *Auto complete* mechanism. After entering the first characters, *Auto complete* will suggest matching items, more characters will narrow down the selection even further.

Fixed Field

If set to *On*, this option will carry over the index value entered here, to all documents or pages further down the batch. This can be of help whenever large amounts of identical index values need to be entered.

Carry over will be stopped if an index value is encountered which has already been modified by a user. Otherwise, all index values will be replaced, right up to the end of the current batch.

Read only

Whenever index fields are automatically filled with values from reliable sources (such as bar codes or databases), they can be protected against further changes by setting them to *Read only*. They will then be shown in grey and cannot be modified by users.

Visible

Whenever index fields contain items which users are not supposed or not required to see (such as interim results or sensitive data), they can be hidden from sight by setting this flag to *Off*. Though these fields will disappear from the index view, they will still perform as a valid source of index data, e.g. for exporting index files.


Name, Display Name

The *Display name* will appear during data entry and should be chosen with the ScamaxScan+ user/operator in mind.

Name is not displayed anywhere else in ScamaxScan+, but it can be used as an alternative caption, for reference purposes. It could, e.g., contain the name of a (target-) database column this index value corresponds to. When later pulling data from index fields, e.g. during export, there is a choice of retrieving either the *Name*, *Display Name* or *Content* of an index field.

Default value


Use the *Default value* to automatically assign index values, e.g. through bar code or text recognition.

The  button will open an extended dialogue with a list of all variables available (you may use any number of variables). For more and detailed information please refer to the section on the [Use of variables](#), in the appendix.

Default list

Default list will constrain index values to a predefined list of values. Values not in this list will be rejected.

List values can either be presented as a drop-down list or be selected using an *Auto complete* mechanism (see above).

The  button will open an extended dialogue with a list of all variables available (you may use any number of variables). For more and detailed information please refer to the section on the [Use of variables](#), in the appendix.

Check empty pages

If set to *On*, this will apply the index settings above to all incoming pages, including blank pages. If this is undesired or causes problems, you should set this option to *Off*, which will exclude blank pages.

Float (Index)


▼ Index

Validation	
Decimal place	2
Form factor width	1
Hide label	<input type="checkbox"/> Off
Help text	
Manual input	<input type="checkbox"/> Off
Auto complete	Off
Fixed field	<input type="checkbox"/> Off
Read only	<input type="checkbox"/> Off
Visible	<input checked="" type="checkbox"/> On
Name	
Display name	
Default value	
Default list	
Check empty pages	<input checked="" type="checkbox"/> On

Index:

Validation

Validation performs a check of index values, e.g. by comparing them to external data (from files or databases) or by examining them with a regular expression. Index values failing validation will be rejected and flagged as requiring input.

The  button at the end of the input line will open an extended dialogue with a list of all validation options available. For more detailed information, please refer to the separate section on [Validation \(Index\)](#), in this chapter.

Decimal place

Enter the amount of decimal places required.

Form factor width

Sets the width for this index field. Enter any value between 0.1 (10% of the available width) and 1.0 (100% of the available width). Please note: Values below 0.1 and above 1.0 will result in a program error.

Provided the widths of subsequent Index fields add up to less than or exactly 1.0 (100%), then these fields will be placed on the same line within the index window (e.g., if two subsequent index fields have a form factor width of 0.5 each, they will be placed on the same line).

Hide label

Usually, the index field's *Display name* (see below) is used for labelling an index

field. If set to ON, this setting will suppress such labelling, so only the field's entry / display box will be shown.

Help text

Enter a short explanatory text which will help operators understand the nature and the handling of this particular index value.

The *Help text* will appear during indexing, whenever a user hovers the mouse pointer over this index field, for a short while.

Manual input

If set to *On*, this option will force manual input of an index value. ScamaxScan+ will prompt operators for input, whenever a new batch is started.

Auto complete

For use with *Default list*, further below. Will switch the *Default list* from a drop-down menu to an *Auto complete* mechanism. After entering the first characters, *Auto complete* will suggest matching items, more characters will narrow down the selection even further.

Fixed Field

If set to *On*, this option will carry over the index value entered here, to all documents or pages further down the batch. This can be of help whenever large amounts of identical index values need to be entered.

Carry over will be stopped if an index value is encountered which has already been modified by a user. Otherwise, all index values will be replaced, right up to the end of the current batch.

Read only

Whenever index fields are automatically filled with values from reliable sources (such as bar codes or databases), these values can be protected against further changes by setting them to *Read only*. They will then be shown in grey and cannot be modified by users.

Visible

Whenever index fields contain items which users are not supposed or not required to see (such as interim results or sensitive data), they can be hidden from sight by setting this flag to *Off*. Though these fields will disappear from the index view, they will still perform as a valid source of index data, e.g. for

exporting index files.


Name, Display Name

The *Display name* will appear during data entry and should be chosen with the ScamaxScan+ user/operator in mind.

Name is not displayed anywhere else in ScamaxScan+, but it can be used as an alternative caption, for reference purposes. It could, e.g., contain the name of a (target-) database column this index value corresponds to. When later pulling data from index fields, e.g. during export, there is a choice of retrieving either the *Name*, *Display Name* or *Content* of an index field.

Default value


Use the *Default value* to automatically assign index values, e.g. through bar code or text recognition.

The  button will open an extended dialogue with a list of all variables available (you may use any number of variables). For more and detailed information please refer to the section on the [Use of variables](#), in the appendix.

Default list

Default list will constrain index values to a predefined list of values. Values not in this list will be rejected.

List values can either be presented as a drop-down list or be selected using an *Auto complete* mechanism (see above).

The  button will open an extended dialogue with a list of all variables available (you may use any number of variables). For more and detailed information please refer to the section on the [Use of variables](#), in the appendix.

Check empty pages

If set to *On*, this will apply the index settings above to all incoming pages, including blank pages. If this is undesired or causes problems, you should set this option to *Off*, which will exclude blank pages.


Person (Index)

Index	
Validation	
Form factor width	1
Hide label	<input type="checkbox"/> Off
Help text	
Manual input	<input type="checkbox"/> Off
Auto complete	Off
Fixed field	<input type="checkbox"/> Off
Read only	<input type="checkbox"/> Off
Visible	<input checked="" type="checkbox"/> On
Name	
Display name	
Default value	
Default list	
Check empty pages	<input checked="" type="checkbox"/> On

Index:

Validation

Validation performs a check of index values, e.g. by comparing them to external data (from files or databases) or by examining them with a regular expression. Index values failing validation will be rejected and flagged as requiring input.

The  button at the end of the input line will open an extended dialogue with a list of all validation options available. For more detailed information, please refer to the separate section on [Validation \(Index\)](#), in this chapter.

Form factor width

Sets the width for this index field. Enter any value between 0.1 (10% of the available width) and 1.0 (100% of the available width). Please note: Values below 0.1 and above 1.0 will result in a program error.

Provided the widths of subsequent Index fields add up to less than or exactly 1.0 (100%), then these fields will be placed on the same line within the index window (e.g., if two subsequent index fields have a form factor width of 0.5 each, they will be placed on the same line).

Hide label

Usually, the index field's *Display name* (see below) is used for labelling an index field. If set to ON, this setting will suppress such labelling, so only the field's entry / display box will be shown.

Help text

Enter a short explanatory text which will help operators understand the nature and the handling of this particular index value.

The *Help text* will appear during indexing, whenever a user hovers the mouse pointer over this index field, for a short while.

Manual input

If set to *On*, this option will force manual input of an index value. ScamaxScan+ will prompt operators for input, whenever a new batch is started.

Auto complete

For use with *Default list*, further below. Will switch the *Default list* from a drop-down menu to an *Auto complete* mechanism. After entering the first characters, *Auto complete* will suggest matching items, more characters will narrow down the selection even further.

Fixed Field

If set to *On*, this option will carry over the index value entered here, to all documents or pages further down the batch. This can be of help whenever large amounts of identical index values need to be entered.

Carry over will be stopped if an index value is encountered which has already been modified by a user. Otherwise, all index values will be replaced, right up to the end of the current batch.

Read only

Whenever index fields are automatically filled with values from reliable sources (such as bar codes or databases), these values can be protected against further changes by setting them to *Read only*. They will be shown in grey and cannot be modified by users.

Visible

Whenever index fields contain items which users are not supposed or not required to see (such as interim results or sensitive data), they can be hidden from sight by setting this flag to *Off*. Though these fields will disappear from the index view, they will still perform as a valid source of index data, e.g. for exporting index files.


Name, Display Name

The *Display name* will appear during data entry and should be chosen with the ScamaxScan+ user/operator in mind.

Name is not displayed anywhere else in ScamaxScan+, but it can be used as an alternative caption, for reference purposes. It could, e.g., contain the name of a (target-) database column this index value corresponds to. When later pulling data from index fields, e.g. during export, there is a choice of retrieving either the *Name*, *Display Name* or *Content* of an index field.

Default value


Use the *Default value* to automatically assign index values, e.g. through bar code or text recognition.

The  button will open an extended dialogue with a list of all variables available (you may use any number of variables). For more and detailed information please refer to the section on the [Use of variables](#), in the appendix.

Default list

Default list will constrain index values to a predefined list of values. Values not in this list will be rejected.

List values can either be presented as a drop-down list or be selected using an *Auto complete* mechanism (see above).

The  button will open an extended dialogue with a list of all variables available (you may use any number of variables). For more and detailed information please refer to the section on the [Use of variables](#), in the appendix.

Check empty pages

If set to *On*, this will apply the index settings above to all incoming pages, including blank pages. If this is undesired or causes problems, you should set this option to *Off*, which will exclude blank pages.


Integer (Index)

Index	
Validation	
Form factor width	1
Hide label	<input type="checkbox"/> Off
Help text	
Manual input	<input type="checkbox"/> Off
Auto complete	Off
Fixed field	<input type="checkbox"/> Off
Read only	<input type="checkbox"/> Off
Visible	<input checked="" type="checkbox"/> On
Name	
Display name	
Default value	
Default list	
Check empty pages	<input checked="" type="checkbox"/> On

Index:

Validation

Validation performs a check of index values, e.g. by comparing them to external data (from files or databases) or by examining them with a regular expression. Index values failing validation will be rejected and flagged as requiring input.

The  button at the end of the input line will open an extended dialogue with a list of all validation options available. For more detailed information, please refer to the separate section on [Validation \(Index\)](#), in this chapter.

Form factor width

Sets the width for this index field. Enter any value between 0.1 (10% of the available width) and 1.0 (100% of the available width). Please note: Values below 0.1 and above 1.0 will result in a program error.

Provided the widths of subsequent Index fields add up to less than or exactly 1.0 (100%), then these fields will be placed on the same line within the index window (e.g., if two subsequent index fields have a form factor width of 0.5 each, they will be placed on the same line).

Hide label

Usually, the index field's *Display name* (see below) is used for labelling an index field. If set to ON, this setting will suppress such labelling, so only the field's entry / display box will be shown.

Help text

Enter a short explanatory text which will help operators understand the nature and the handling of this particular index value.

The *Help text* will appear during indexing, whenever a user hovers the mouse pointer over this index field, for a short while.

Manual input

If set to *On*, this option will force manual input of an index value. ScamaxScan+ will prompt operators for input, whenever a new batch is started.

Auto complete

For use with *Default list*, further below. Will switch the *Default list* from a drop-down menu to an *Auto complete* mechanism. After entering the first characters, *Auto complete* will suggest matching items, more characters will narrow down the selection even further.

Fixed Field

If set to *On*, this option will carry over the index value entered here, to all documents or pages further down the batch. This can be of help whenever large amounts of identical index values need to be entered.

Carry over will be stopped if an index value is encountered which has already been modified by a user. Otherwise, all index values will be replaced, right up to the end of the current batch.

Read only

Whenever index fields are automatically filled with values from reliable sources (such as bar codes or databases), these values can be protected against further changes by setting them to *Read only*. They will be shown in grey and cannot be modified by users.

Visible

Whenever index fields contain items which users are not supposed or not required to see (such as interim results or sensitive data), they can be hidden from sight by setting this flag to *Off*. Though these fields will disappear from the index view, they will still perform as a valid source of index data, e.g. for exporting index files.


Name, Display Name

The *Display name* will appear during data entry and should be chosen with the ScamaxScan+ user/operator in mind.

Name is not displayed anywhere else in ScamaxScan+, but it can be used as an alternative caption, for reference purposes. It could, e.g., contain the name of a (target-) database column this index value corresponds to. When later pulling data from index fields, e.g. during export, there is a choice of retrieving either the *Name*, *Display Name* or *Content* of an index field.

Default value


Use the *Default value* to automatically assign index values, e.g. through bar code or text recognition.

The  button will open an extended dialogue with a list of all variables available (you may use any number of variables). For more and detailed information please refer to the section on the [Use of variables](#), in the appendix.

Default list

Default list will constrain index values to a predefined list of values. Values not in this list will be rejected.

List values can either be presented as a drop-down list or be selected using an *Auto complete* mechanism (see above).

The  button will open an extended dialogue with a list of all variables available (you may use any number of variables). For more and detailed information please refer to the section on the [Use of variables](#), in the appendix.

Check empty pages

If set to *On*, this will apply the index settings above to all incoming pages, including blank pages. If this is undesired or causes problems, you should set this option to *Off*, which will exclude blank pages.

Button, Separator

These two items may be used to add the following features to your index view:

Button

Adds a button for launching some PowerShell-script.

Separator

Adds a horizontal separator line.


String (Index)

Index	
Validation	
Form factor width	1
Hide label	<input type="checkbox"/> Off
Multiple selection	<input type="checkbox"/> Off
Separator for multiple selection	,
Help text	
Manual input	<input type="checkbox"/> Off
Auto complete	Off
Fixed field	<input type="checkbox"/> Off
Read only	<input type="checkbox"/> Off
Visible	<input checked="" type="checkbox"/> On
Name	
Display name	
Default value	
Default list	
Check empty pages	<input checked="" type="checkbox"/> On

Index:

Validation

Validation performs a check of index values, e.g. by comparing them to external data (from files or databases) or by examining them with a regular expression. Index values failing validation will be rejected and flagged as requiring input.

The  button at the end of the input line will open an extended dialogue with a list of all validation options available. For more detailed information, please refer to the separate section on [Validation \(Index\)](#), in this chapter.

Form factor width

Sets the width for this index field. Enter any value between 0.1 (10% of the available width) and 1.0 (100% of the available width). Please note: Values below 0.1 and above 1.0 will result in a program error.

Provided the widths of subsequent Index fields add up to less than or exactly 1.0 (100%), then these fields will be placed on the same line within the index window (e.g., if two subsequent index fields have a form factor width of 0.5 each, they will be placed on the same line).

Hide label

Usually, the index field's *Display name* (see below) is used for labelling an index field. If set to ON, this setting will suppress such labelling, so only the field's entry / display box will be shown.

Multiple selection

For use with the *Default list*, further below. Will switch operation of the *Default list* from accepting only one selection to accepting several items. If *Multiple selection* is turned *On*, items are delimited by the *Separator for multiple selection* specified below.

Separator for multiple selection

Enter a delimiter for use with *Multiple selection* (see above). One or more characters may be used.

Please note that the input field is locked, if *Multiple selection* is turned *Off*.

Help text

Enter a short explanatory text which will help operators understand the nature and the handling of this particular index value.

The *Help text* will appear during indexing, whenever a user hovers the mouse pointer over this index field, for a short while.

Manual input

If set to *On*, this option will force manual input of an index value. ScamaxScan+ will prompt operators for input, whenever a new batch is started.

Auto complete

For use with *Default list*, further below. Will switch the *Default list* from a drop-down menu to an *Auto complete* mechanism. After entering the first characters, *Auto complete* will suggest matching items, more characters will narrow down the selection even further.

Fixed Field

If set to *On*, this option will carry over the index value entered here, to all documents or pages further down the batch. This can be of help whenever large amounts of identical index values need to be entered.

Carry over will be stopped if an index value is encountered which has already been modified by a user. Otherwise, all index values will be replaced, right up to the end of the current batch.

Read only

Whenever index fields are automatically filled with values from reliable sources (such as bar codes or databases), these values can be protected against further changes by setting them to *Read only*. They will be shown in grey and cannot be modified by users.

Visible

Whenever index fields contain items which users are not supposed or not required to see (such as interim results or sensitive data), they can be hidden from sight by setting this flag to *Off*. Though these fields will disappear from the index view, they will still perform as a valid source of index data, e.g. for exporting index files.


Name, Display Name

The *Display name* will appear during data entry and should be chosen with the ScamaxScan+ user/operator in mind.

Name is not displayed anywhere else in ScamaxScan+, but it can be used as an alternative caption, for reference purposes. It could, e.g., contain the name of a (target-) database column this index value corresponds to. When later pulling data from index fields, e.g. during export, there is a choice of retrieving either the *Name*, *Display Name* or *Content* of an index field.

Default value


Use the *Default value* to automatically assign index values, e.g. through bar code or text recognition.

The  button will open an extended dialogue with a list of all variables available (you may use any number of variables). For more and detailed information please refer to the section on the [Use of variables](#), in the appendix.

Default list

Default list will constrain index values to a predefined list of values. Values not in this list will be rejected.

List values can either be presented as a drop-down list or be selected using an *Auto complete* mechanism (see above).

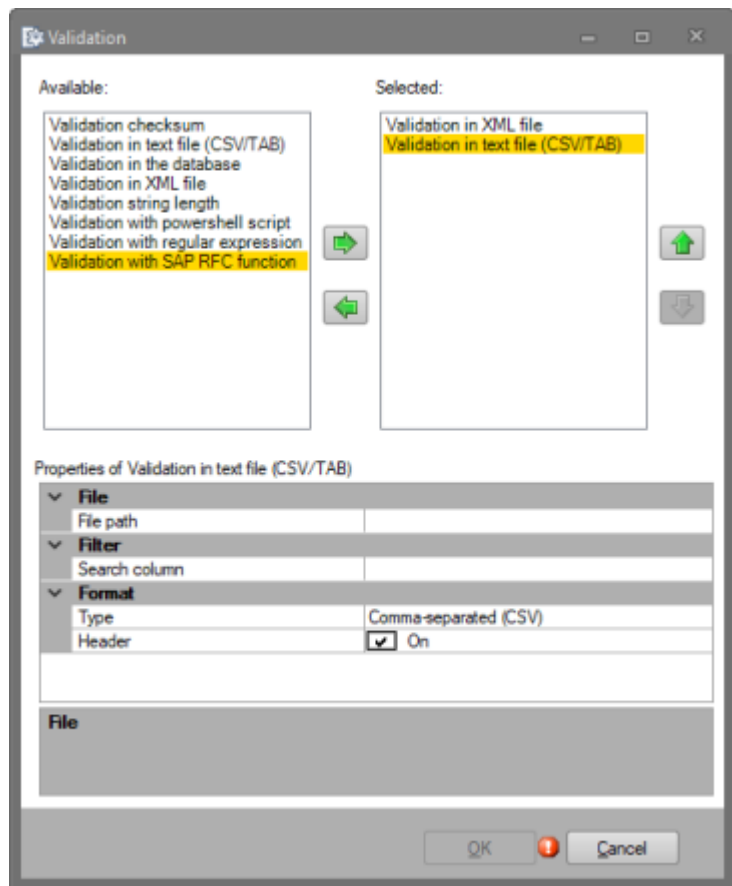
The  button will open an extended dialogue with a list of all variables available (you may use any number of variables). For more and detailed information please refer to the section on the [Use of variables](#), in the appendix.

Check empty pages

If set to *On*, this will apply the index settings above to all incoming pages, including blank pages. If this is undesired or causes problems, you should set this option to *Off*, which will exclude blank pages.

Validation (Index)

Validation performs an extended check of index- or bar code values, e.g. by matching them to external data (from files or databases) or by applying a specialized algorithm (for calculating and verifying checksums).

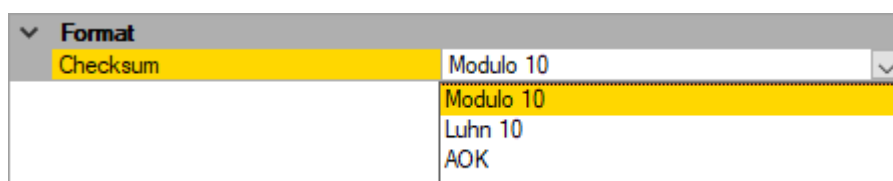


On the left side (*Available*), select the desired function and copy it to the right window (*Selected*) by using the button labelled with an green arrow to the right. Repeat as often as necessary. If you wish to remove an entry from the right window (*Selected*), highlight the entry and operate the button labelled with an green arrow to the left.

After highlighting one of the selected functions in the right window, the bottom window (*Properties of ...*) will show you the detail options for this function.

Validation checksum

Specialized algorithms (hard-coded into ScamaxScan+) are used to calculate and verify index value checksums.



Three different algorithms are currently available:

- **Modulo 10**
- **Luhn 10**
- **AOK** (proprietary)

Validation in text file (CSV/TAB)

Validation is performed using values from a table contained in an external text-file. The current index value is matched with all values from a specific table column. Values within table rows need to be delimited with either a comma or semi-colon (CSV-format) or with a tab-character (TAB-format).

File	
File path	
Filter	
Search column	
Format	
Type	Comma-separated (CSV)
Header	<input checked="" type="checkbox"/> On

File:

File path

Full directory path and file name of the text file.

Filter:

Search column

If the *Header* option (see below) is turned *On*, enter the exact name of the search column, as specified in the header row. If the *Header* option is turned *Off*, you will need to enter the number of the search column, instead (columns are numbered from left to right).

Format:

Type

Specify the type of the of text file (i.e. the delimiter used): *Comma-separated (CSV)* or *TAB-separated (TAB)*.

Header

If the table has a header-row containing names for all table columns, turn this option *On*. If there is no such header-row (and the first row contains data), turn this option *Off*. This option determines whether a column name (*On*) or a column number (*Off*) needs to be entered as *Search column*, above.

Validation in the database:

Compares the current index value with all entries contained in a database column. If the value is found, it will be accepted, if not, it will be rejected.

The *Properties of ...* section will vary depending on the database type (*Oracle* or *ODBC*) selected:

Connection	
Database provider	ODBC
ODBC source	
Table	
Filter	
Search column	

Connection	
Database provider	Oracle
Server	
User	
Password	
TNS Listener	
Table	
Filter	
Search column	

Connection:

Database provider

Select the type of database connection desired. Options are:

- **ODBC** - connect to any database supporting Microsoft's ODBC
- **ODBC Query** - as above, but also apply your own SQL Query
- **Oracle** - connect to Oracle with the built-in database provider
- **Oracle Query** - as above, but also apply your own SQL Query

ODBC-Source (*ODBC* or *ODBC query*)

Select an ODBC connection for the target database, from the drop-down list.

You will need to set up a suitable ODBC user- or system-DSN beforehand, using the 32-Bit ODBC-Manager.

A system DSN is preferable, but will require administrative rights to the

scan- and index PCs.

Server, User, Password, TNS Listener (*Oracle or Oracle query*)

Enter all required Oracle user credentials.

Table

Select the name of the database table. If the database connection has been established properly, you will be presented with a drop-down list of available tables.

Filter:**Search column** (*ODBC or Oracle*)

Enter the name of the table's target column.

SQL query (*ODBC query or Oracle query*)

Enter your SQL query.

Validation in XML file

Validation is performed using values contained in an external XML-file.

File		
File path		
Filter		
Name of the XML element		

File:**File path**

Full directory path and file name of the XML-file.

Filter:**Name of the XML element**

Enter the exact name of the XML element containing the values to be checked against.

Validation maximum date (Date/Time only)

Validation is performed on the basis of some maximum date and time. The index-value is accepted if it's value is before that limit and rejected if its beyond the specified value:

Index	
Validation type	Fixed
Maximum date	4/20/2020 2:53:34 PM

Index

Validation type

Choose between *Fixed* and *Relative*. *Fixed* will ask for an absolute date and time. *Relative* will accept an offset value instead, which will implement a tracking / rolling limit.

Maximum date

Enter the maximum date and time allowed. Use the calendar applet at the end of the input line.

Offset

Enter the maximum date as an offset to the current date and time.

Enter as 0 (zero) or as plus or minus any amount of days.

- 0 (zero) corresponds to the current date and time (now).
- Plus an amount of days (e.g. +5 or 5) corresponds to the current time and to a date in the future.
- Minus an amount of days (e.g. -5) corresponds to the current time and to a date in the past.

Validation minimum date (Date/Time only)

Validation is performed on the basis of some minimum date and time. The index-value is accepted if it's value is beyond that limit and rejected if its before the specified value:

Index	
Validation type	Fixed
Minimum date	4/20/2020 2:54:28 PM

Index

Validation type

Choose between *Fixed* and *Relative*. *Fixed* will ask for an absolute date and time. *Relative* will accept an offset value instead, which will implement a tracking / rolling limit.

Minimum date

Enter the minimum date and time allowed. Use the calendar applet at the end of the input line.

Offset

Enter the minimum date as an offset to the current date and time.

Enter as 0 (zero) or as plus or minus any amount of days.

- 0 (zero) corresponds to the current date and time (now).
- Plus an amount of days (e.g. +5 or 5) corresponds to the current time and to a date in the future.
- Minus an amount of days (e.g. -5) corresponds to the current time and to a date in the past.

Validation string length

Validation is performed on the basis of a minimum and maximum length of the index-value tested. The index-value is accepted if its length is within the limits specified below:

Index	
Minimum length	0
Maximum length	255

Index:

Minimum length

Enter the minimum length required (0-255).

Maximum length

Enter the maximum length required (0-255).


Validation with powershell script

Validation is performed by running a powershell script:



Output:

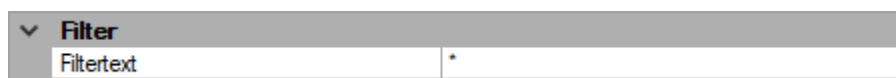
Script text

Either supply the path and filename to an externally stored powershell script or enter the complete powershell code, right here. The  button will provide a larger edit box, if necessary.

Validation with a regular expression

Validation is performed by applying a regular expression or a simple rule containing wildcard characters.


The default rule is just a single wildcard, an asterisk (*), which will pass/accept any value:

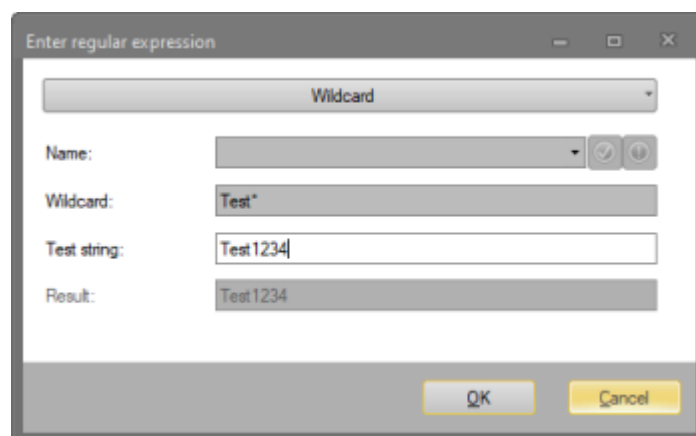


Filter:

Filter text

You may enter filter rules directly, by entering or pasting them into the input field supplied.

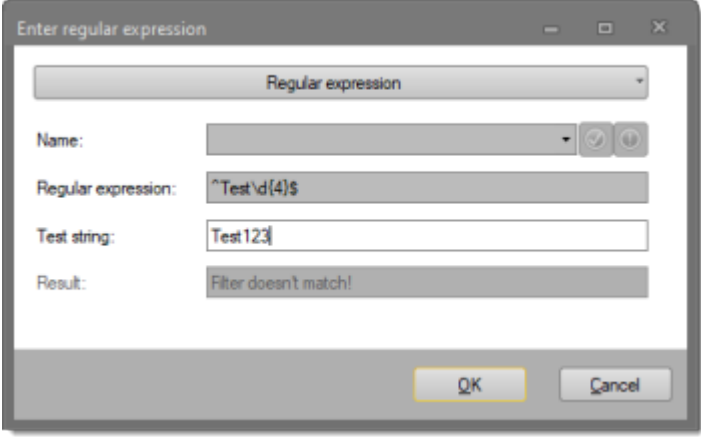
The  button will launch a wizard which will guide you through creating and testing new filter rules:



You may save expressions, if you intend to re-use them elsewhere within

ScamaxScan+ (optional). Simply provide a suitable *Name* and press the button with a green checkmark, right next to it.

Press the button labelled *Wildcard* to switch to regular expressions. Press this button again (now labelled *Regular expression*), if you wish to return to using wildcards.



You may find more information on regular expressions in sections [Use of variables](#) and [Regular Expressions](#), in the *Appendix*.

Validation with SAP RFC function

Compares the current index value with the contents of a SAP database. This type of validation relies on a so-called RFC function, which has to be set up in the SAP system, beforehand. If the index value is confirmed, it will be accepted, if not, it will be rejected:

Function	
Parameters	
Function name	
Result field name	
Server	
Server name	
User name	
Password	
Client name	
System ID	
System Nr	

Function:

Parameters, Function name, Result field name

Enter all details for the RFC function you wish to use.

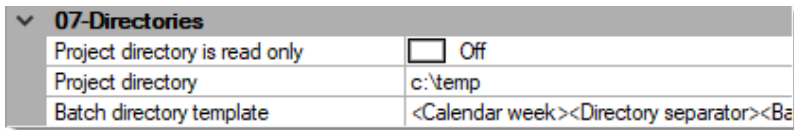
Server:

Server name, User name, Password, Client name, System ID, System Nr

Enter the SAP server to be used, plus all necessary information and credentials required to log in to that server.

Directories

Define the storage location and folder structure to be used for file output, during export.




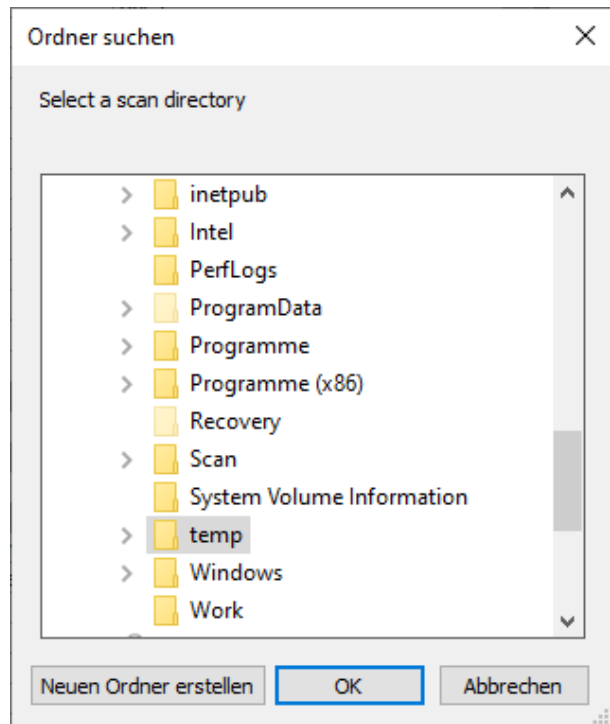
Project directory is read only

Protects the default project directory (pre-selected below) from modification, when starting a new batch.

Project directory

Specifies the base location used for all export operations within this project template. Files created during export can only be written into the project directory itself or into directories below this directory. You may type or paste a new directory path directly into the edit field. You can also use the Windows directory browser:


Clicking  at the end of the input line opens the Windows directory browser.

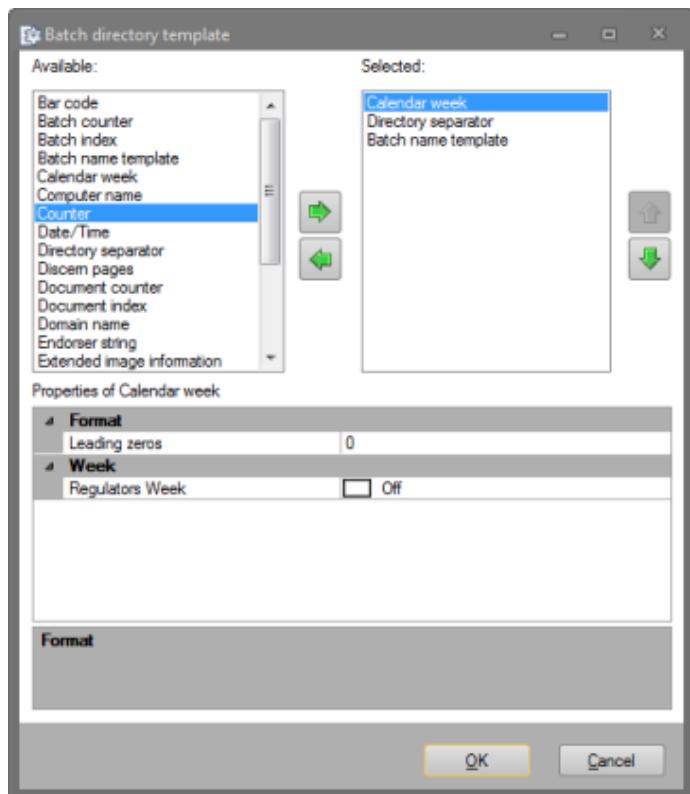


The currently selected *project directory* will be highlighted. Browse to and select a new destination directory, then press OK.

Batch directory template

You may combine a wide range of *variables* and *index values* to create dynamic and complex folder structures below the *project directory* defined above.

After clicking the  button, an extended dialog with three panes will open.



The top left pane contains a list of available variables, which you may add to the list of already selected items, on the right. After clicking on any of the selected variables in the top right pane, the bottom pane will show you detail settings, for that variable.

For more details, please see the section on [Use of variables](#), in the appendix.

Relationship between project directory, batch directory template, export subdirectories and filenames

Whenever running a new batch, the *project directory*, the *batch directory template*, the *export subdirectory* and the *filename* will be joined together to determine the destination paths and filenames of output files, during finalization (the file name extension, however, is invariably determined by the export format chosen).

The following graphic illustrates the interdependencies. Please note the dual appearance of the *batch name template*, in this example.

project directory\batch directory template\file name

project directory:

remains unchanged during the course of a project, e.g. d:\scans\customers

batch directory template:

may contain variables, e.g. <calendar week>+"\"+<batch name template>

file name:

may contain variables, e.g. <batch name template>+"-"+<image counter>

batch name template:

may contain variables, e.g. <fixed text> (e.g. "client") +<batch counter>

e.g. d:\scans\customers\55\client001\client001-033.pdf

Items assigned in this section (*Batch directories*) are shown in shades of green, items assigned within export definitions are shown in blue.

The *batch directory template*, as well as the *export subdirectory* may be left unassigned (empty), however, this is recommended only for special cases (e.g. when feeding files into a transfer directory, for import by other systems) or for environments with very low output volumes.



Please note: Since the batch name is frequently a component of both, the batch directory and the name used for output files, they will both (!) change as soon as the batch name template is modified (see [batch name](#)) or the resulting batch name is overwritten at the start of a batch.

Export

Contents

BMP Document
GIF Document
Index file
J2K Document
JP2 Document
JPG Document
PDF/A Document
PNG Document
PNM Document
Powershell-Export
Execute program
PSD Document
Send mail
Send mail via SMTP
Signal file
TGA Document
TIFF Document
TXT Document
WMF Document
Word file
XML Document


08-Export	
Max. Threads	1
Export	<Index file><PDF/A Document>

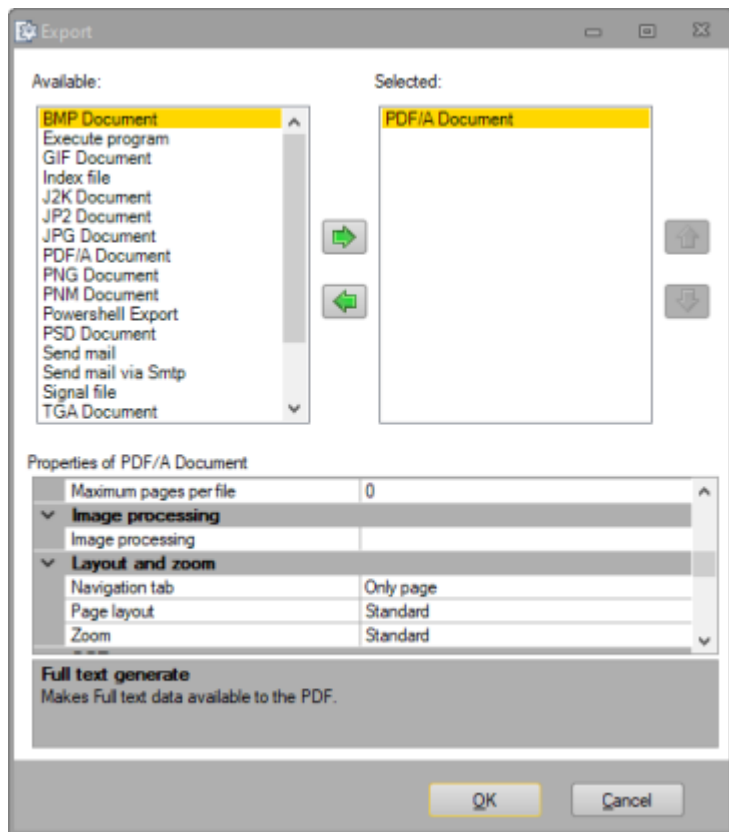
Max. Threads

Threads allow parallelization during batch finalization, i.e. they will spread the processing load across several CPU-cores. More specifically, as soon as more than one *Max. Threads* (default) is specified, ScamaxScan+ will attempt to process several documents within a batch in parallel, rather than processing the entire batch sequentially, as with just one *Thread*.

Depending on the structure of the batch to be processed and the amount of CPU-cores available, increasing *Max. Threads* may result in a notable acceleration of batch finalization. However, too large a value for *Max. Threads* may also cause an overload. Predicting the exact behaviour of your particular ScamaxScan+-setup is near impossible, we therefore recommend to identify the optimum number of *Max. Threads* through own experimentation.

Export

Click on the  button at the end of the input line labelled *Export*, an extended dialog with three different window sections will open.



On the top left side (*Available*), first select the desired export option and then copy it to the top right window (*Selected*) by using the button labelled with an arrow to the right. Repeat as often as necessary.

After clicking on any of the selected functions in the right window, the bottom window will show detail options for this function. In the following sections, these option lists will be discussed in detail.

Image processing

In addition to performing image processing on incoming images, it is also possible to automatically modify output files. Use if one or more export formats need to be modified selectively.

Each export format may be individually processed using a subset of the full toolset described in the section on [Image Processing](#).

The Image processing functions available during export are as follows:
[Border removal](#), [Color conversion](#), [Color detection](#), [Digital print](#), [Deskew](#),
[Despeckle](#), [Flip](#), [Frame page](#), [Invert](#), [Line removal](#), [Punch hole removal](#), [Rotate](#), [Scale resolution](#).

BMP Document

Windows Bitmap (.BMP) or device-independent bitmap (.DIB) is a two-dimensional bit-mapped graphic format which was developed for the Microsoft Windows and OS/2 operating systems and was introduced with Windows 3.0. The default file extension is .bmp, or, less frequently, .dib.

▼ Filter	
Ignore blank pages	<input checked="" type="checkbox"/> On
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
▼ Image processing	
Image processing	
▼ Output	
Gray scale compression	RLE
Subdirectory	
Filename	<Image counter>
File extension	.bmp

Filter

Ignore blank pages

If set to *On*, export is turned off for all blank pages.

Ignore monochrome pages

If set to *On*, export is turned off for all monochrome pages received in multistream mode.

Ignore gray scale pages

If set to *On*, export is turned off for all gray scale pages received in multistream mode.

Ignore color pages

If set to *On*, export is turned off for all color pages received in multistream mode.

Please note: checking all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn export completely off, since there are no images left to process.

Ignore cover pages

This setting will exclude any cover pages, from export.

Image processing

Image processing

In addition to performing image processing on all incoming images, it is also possible to selectively modify output files. Each export format may be individually processed using a subset of the full toolset described in the section on [Image Processing](#).

The tools available during export are as follows:

[Color conversion](#), [Color detection](#), [Digital print](#), [Flip](#), [Frame page](#), [Invert](#), [Line removal](#), [Punch hole removal](#), [Scale resolution](#).

Output

Gray scale compression (*None*, *RLE*)

Turns compression for gray scale images on (*RLE*) or off (*None*).

Subdirectory

Exporting into a file system may be performed using a dynamic directory structure, which can be constructed from a multitude of strings and [variables](#).

File name

Filenames may be dynamically composed from a multitude of strings and [variables](#). However, this file-format can only be exported as one file per image. Please refer to the section on [Single- and Multipage Export](#), in the appendix.

File extension

You may change the default file extension to your liking. Please note that this may interfere with other applications and your operating system.

GIF Document

GIF, for Graphics Interchange Format, is a graphics format with lossless compression for images with low color depth (up to 256 different colors per single image). The default file extension is .gif.

▼ Filter		
Ignore blank pages	<input checked="" type="checkbox"/>	On
Ignore monochrome pages	<input type="checkbox"/>	Off
Ignore gray scale pages	<input type="checkbox"/>	Off
Ignore color pages	<input type="checkbox"/>	Off
Ignore cover pages	<input checked="" type="checkbox"/>	On
▼ Image processing		
Image processing		
▼ Output		
Subdirectory		
Filename	<Image counter>	
File extension	.gif	

Filter

Ignore blank pages

If set to *On*, export is turned off for all blank pages.

Ignore monochrome pages

If set to *On*, export is turned off for all monochrome pages received in multistream mode.

Ignore gray scale pages

If set to *On*, export is turned off for all gray scale pages received in multistream mode.

Ignore color pages

If set to *On*, export is turned off for all color pages received in multistream mode.

Please note: checking all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn export completely off, since there are no images left to process.

Ignore cover pages

This setting will exclude any cover pages, from export.

Image processing

Image processing

In addition to performing image processing on all incoming images, it is also possible to selectively modify output files. Each export format may be individually processed using a subset of the full toolset described in the section on [Image Processing](#).

The image processing tools available during export are as follows:
[Color conversion](#), [Color detection](#), [Digital print](#), [Flip](#), [Frame page](#), [Invert](#), [Line removal](#), [Punch hole removal](#), [Scale resolution](#).

Output

Subdirectory

Exporting into a file system may be performed using a dynamic directory structure, which can be constructed from a multitude of strings and [variables](#).

File name

Filenames may be dynamically composed from a multitude of strings and [variables](#). You will find further information in the section on [Single- and Multipage Export](#), in the appendix.

File extension

You may change the default file extension to your liking. Please note, however, that this may interfere with other applications and your operating system.

Index File

▼ Filter		
Ignore blank pages	<input checked="" type="checkbox"/>	On
Ignore monochrome pages	<input type="checkbox"/>	Off
Ignore gray scale pages	<input type="checkbox"/>	Off
Ignore color pages	<input type="checkbox"/>	Off
Ignore cover pages	<input checked="" type="checkbox"/>	On
▼ Output		
Subdirectory		
Filename	<Batch name template>	
File extension	.idx	
▼ Structure		
Header		
Document line		
Document line end		
Page line		
Front page line		
Back page line		
Footer		

Filter

Ignore blank pages

If set to *On*, export is turned off for all blank pages.

Ignore monochrome pages

If set to *On*, export is turned off for all monochrome pages created in multistream mode.

Ignore gray scale pages

If set to *On*, export is turned off for all gray scale pages created in multistream mode.

Ignore color pages

If set to *On*, export is turned off for all color pages created in multistream mode.

Please note that checking all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn export completely off, since there are no images left to process.

Ignore cover pages

This setting will exclude any cover pages, from export.

Output

Subdirectory

Exporting into a file system may be performed using a dynamic directory structure, which can be constructed from a multitude of strings and [variables](#).

File name

Filenames may be dynamically composed from a multitude of strings and [variables](#).

Within a batch, changing filenames will close (save) the current index file and create a new one. You may find further information on this behaviour in the section on [Single- and Multipage Export](#), in the appendix.

File extension

You may change the default file extension to your liking. Please note, however, that this may interfere with other applications and your operating system.

Structure

Header, Document line, Document line end, Page line, Front page line, Back page line, Footer.

Index file metadata may be dynamically composed from a multitude of strings and [variables](#).

Depending on the output level / line chosen, metadata will be written once or several times, per index file:

- **Header, Footer:** These lines are written once per index file, at the top and at the end of each index file.
- **Document line, Document line end:** These lines are written repeatedly, after each document separator encountered.
- **Page line, Front page line, Back page line:** These lines are written repeatedly, once for each new image (type) encountered.

Please note that document and page lines will be processed in sequence, from the beginning of a batch, towards its end.

Empty output lines (lines with no variables defined) are skipped and will not produce any output, at all. However, lines with variables in them will be

consistently (and repeatedly) added to the index file, even if e.g. index fields yield empty content.

All of the output lines above will not automatically force new lines, within the index file. There is a special variable for this, *Newline*, which needs to be manually added wherever you wish to insert a new line.

The resulting hierarchical structure for an exported Index file might look like this:

```
Header (batch) ...
    Document line (document 1) ...
        Page line (page 1) ...
        Page line (page 2) ...
    Document line end (document 1) ...
    Document line (document 2) ...
        Page line (page 3) ...
        Page line (page 4) ...
        Page line (page 5) ...
    Document line end (document 2) ...
...
Footer (batch) ...
```

Because of this structure, *Index files* can also be used to create custom XML-style output files.

Creating an index file

1. Add *index file* to the export options selected.
2. Define the structure of the index file: Decide which items should be saved at what level (header, document, page or footer) of the index file. You may use a variety of variables and index fields for this function.

As an example, in order to select a previously defined batch index, proceed as follows:

1. Click the extended menu at the end of the line labelled *Header*. For each index file created, this line will only be output once, at the very top of the index file.
 2. Select *Batch index*.
 3. Next, select the desired index name from the *Index name* dropdown menu.
 4. Repeat this process as often as necessary. You may add an unlimited number of index values, per level / line.
3. In the next step, you may specify a subdirectory for the index file as well as a

file name. If you do not create an additional subdirectory, your index file will be saved in the path specified by the *Project directory* and the *Batch directory template*.

4. Finally, specify a name and a file extension for the index file (e. g. .txt).

J2K Document

JPEG 2000 is a standard (ISO 15444) for image compression based on discrete wavelet transformation (DWT). Just like the better-known JPEG, it was developed by the Joint Photographic Experts Group. JPEG 2000 can handle lossless as well as lossy compression and achieves a very good compression rate for photo-like images. The default file extension is .j2k.

▼ Filter	
Ignore blank pages	<input checked="" type="checkbox"/> On
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
▼ Image processing	
Image processing	
▼ Output	
Compression ratio	16
Subdirectory	
Filename	<Image counter>
File extension	.j2k

Filter

Ignore blank pages

If set to *On*, export is turned off for all blank pages.

Ignore monochrome pages

If set to *On*, export is turned off for all monochrome pages created in multistream mode.

Ignore gray scale pages

If set to *On*, export is turned off for all gray scale pages created in multistream mode.

Ignore color pages

If set to *On*, export is turned off for all color pages created in multistream mode.

Please note that checking all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn export completely off, since there are no images left to process.

Ignore cover pages

This setting will exclude any cover pages, from export.

Image processing

Image processing

In addition to performing image processing on all incoming images, it is also possible to selectively modify output files. Each export format may be individually processed using a subset of the full toolset described in the section on [Image Processing](#).

The image processing tools available during export are as follows:
[Color conversion](#), [Color detection](#), [Digital print](#), [Flip](#), [Frame page](#), [Invert](#), [Line removal](#), [Punch hole removal](#), [Scale resolution](#).

Output

Compression ratio

Enter the desired compression ratio as 1:x. Default is 1:16, higher values generate smaller file sizes.

Subdirectory

Exporting into a file system may be performed using a dynamic directory structure, which can be constructed from a multitude of strings and [variables](#).

File name

Filenames may be dynamically composed from a multitude of strings and [variables](#). However, this file-format can only be exported as one file per image. Please refer to the section on [Single- and Multipage Export](#), in the appendix.

File extension

You may change the default file extension to your liking. Please note, however, that this may interfere with other applications and your operating system.

JP2 Document

JPEG 2000 is a standard (ISO 15444) for image compression based on discrete wavelet transformation (DWT). Just like the better-known JPEG, it was developed by the Joint Photographic Experts Group. JPEG 2000 can handle lossless as well as lossy compression and achieves a very good compression rate for photo-like images. The default file extension is .jp2.

▼ Filter	
Ignore blank pages	<input checked="" type="checkbox"/> On
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
▼ Image processing	
Image processing	
▼ Output	
Compression ratio	16
Subdirectory	
Filename	<Image counter>
File extension	.jp2

Filter

Ignore blank pages

If set to *On*, export is turned off for all blank pages.

Ignore monochrome pages

If set to *On*, export is turned off for all monochrome pages created in multistream mode.

Ignore gray scale pages

If set to *On*, export is turned off for all gray scale pages created in multistream mode.

Ignore color pages

If set to *On*, export is turned off for all color pages created in multistream mode.

Please note that checking all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn export completely off, since there are no images left to process.

Ignore cover pages

This setting will exclude any cover pages, from export.

Image processing**Image processing**

In addition to performing image processing on all incoming images, it is also possible to selectively modify output files. Each export format may be individually processed using a subset of the full toolset described in the section on [Image Processing](#).

The image processing tools available during export are as follows:
[Color conversion](#), [Color detection](#), [Digital print](#), [Flip](#), [Frame page](#), [Invert](#), [Line removal](#), [Punch hole removal](#), [Scale resolution](#).

Output**Compression ratio**

Enter the desired compression ratio as 1:x. Default is 1:16, higher values generate smaller file sizes.

Subdirectory

Exporting into a file system may be performed using a dynamic directory structure, which can be constructed from a multitude of strings and [variables](#).

File name

Filenames may be dynamically composed from a multitude of strings and [variables](#). However, this file-format can only be exported as one file per image. Please refer to the section on [Single- and Multipage Export](#), in the appendix.

File extension

You may change the default file extension to your liking. Please note, however, that this may interfere with other applications and your operating system.

JPG Document

One of the leading standards for exchanging images on the Internet is the efficient compression technology developed by the Joint Photographic Experts Group (JPEG), which can handle images with up to 16 million colors. JPEG massively reduces storage space through lossy compression. However, with excessive compression, quality will become less acceptable and compression artifacts (noise) may appear. JPEGs are recommended for photos but not for graphics and diagrams. The default file extension is .jpg.

▼ Filter	
Discard pages marked for deletion	<input checked="" type="checkbox"/> On
Discard monochrome pages	<input type="checkbox"/> Off
Discard gray scale pages	<input type="checkbox"/> Off
Discard color pages	<input type="checkbox"/> Off
Discard cover pages	<input checked="" type="checkbox"/> On
▼ Image processing	
Image processing	
▼ Output	
JPEG factor	Auto
Embed profiles	<input type="checkbox"/> Off
Subdirectory	
File name	<Image counter>
File extension	.jpg

Filter

Ignore blank pages

If set to *On*, export is turned off for all blank pages.

Ignore monochrome pages

If set to *On*, export is turned off for all monochrome pages created in multistream mode.

Ignore gray scale pages

If set to *On*, export is turned off for all gray scale pages created in multistream mode.

Ignore color pages

If set to *On*, export is turned off for all color pages created in multistream mode.

Please note that checking all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn export completely off, since

there are no images left to process.

Ignore cover pages

This setting will exclude any cover pages, from export.

Image processing

Image processing

In addition to performing image processing on all incoming images, it is also possible to selectively modify output files. Each export format may be individually processed using a subset of the full toolset described in the section on [Image Processing](#).

The image processing tools available during export are as follows:
[Color conversion](#), [Color detection](#), [Digital print](#), [Flip](#), [Frame page](#), [Invert](#), [Line removal](#), [Punch hole removal](#), [Scale resolution](#).

Output

JPEG factor

Sets the compression factor for JPEG. The default value is *Auto*, which will select the right value depending on image properties. You may overwrite *Auto* with a fixed compression setting (in the range from 1 - low quality / small file size to 100 - high quality / larger file size), if required. Typically, a value of 75 is a good compromise between resulting image quality and output file-size.

Embed profiles

If ICC profile data is supplied by the scanner, this setting will decide whether such profiles are either embedded into exported files (and ignored, otherwise) or applied to image data, prior to export (*On* will embed ICC profiles, *Off* will apply ICC profile data).

Subdirectory

Exporting into a file system may be performed using a dynamic directory structure, which can be constructed from a multitude of strings and [variables](#).

Filename

Filenames may be dynamically composed from a multitude of strings and

variables. However, this file-format can only be exported as one file per image. Please refer to the section on *Single- and Multipage Export*, in the appendix.

File extension

You may change the default file extension to your liking. Please note, however, that this may interfere with other applications and your operating system.

PDF/A Document

PDF/A is an ISO (International Organization for Standardization) standard for long-term archiving of digital documents and a variant of the widely used Portable Document Format (PDF). The default file extension is .pdf.

▼ Description	
Title	
Subject	
Author	
Keywords	
Document bookmark	
Bookmark	
▼ DocYard	
Conversion service	<input type="checkbox"/> Off
▼ Filter	
Ignore blank pages	<input checked="" type="checkbox"/> On
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
Maximum pages per file	0
▼ Image processing	
Image processing	
▼ Layout and zoom	
Navigation tab	Only page
Page layout	Standard
Zoom	Standard
▼ OCR	
Full text generate	<input type="checkbox"/> Off
Language	German
Deskew	<input type="checkbox"/> Off
▼ Output	
JPEG factor	75
JPEG2000 factor	16
JBIG2 encoding mode	Lossless
Monochrome compression	Fax G4
Gray scale compression	JPEG
Color compression	JPEG
PDF-Version	PDF/A-1B
Subdirectory	
Filename	<Batch name template>
File extension	.pdf
▼ PDF Compressor	
PDF Compressor	<input type="checkbox"/> Off

Description

Title, Subject, Author, Keywords

Data entered here will be embedded as PDF metadata. Whenever the exported PDF file is opened with a suitable PDF viewing or editing software, this metadata will be shown in the file's *Document properties*.

Each metadata item / line may be constructed from any combination of strings and ScamaxScan+ *variables*.

User defined fields

In addition to the four standard metadata fields shown above, you may add additional fields. In the final PDF file, these fields will be listed in a dedicated section for *user defined fields*, whenever viewed with a suitable PDF viewer.

In order to create such fields, you will have to specify a (unique) field name and some field value, for each of them. *Field values* may be dynamic and can be constructed from any combination of fixed strings and ScamaxScan+ *variables*.

Document bookmark, Bookmark

Data entered here will be embedded in the PDF file as a separate bookmark list. When the exported PDF file is opened with a suitable PDF viewing or editing software, this list / navigation tree will become accessible through the the navigation pane. Effectively, you are creating a custom index ...

Each metadata item / line may be constructed from any combination of strings and ScamaxScan+ *variables*.

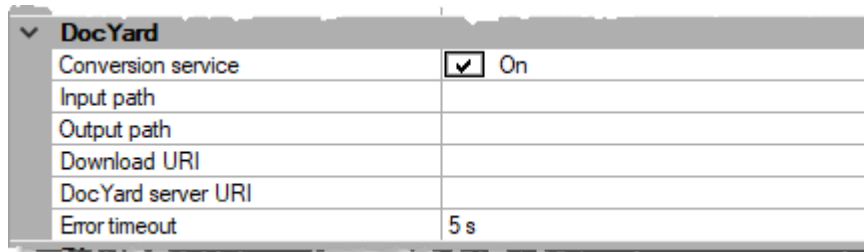
- **Document bookmark:** Items entered here will be created / updated after each new document separator.
- **(page level) Bookmarks:** Items entered here will be created / updated for each new image encountered.

Please note that *Document bookmarks* and (page level) *Bookmarks* are processed in sequence, from the beginning of the batch towards it's end. Variables / index fields with no content (i.e. empty for the current document or image) will be skipped.

DocYard

External DocYard PDF conversion services may be integrated into ScamaxScan+. This will result in stronger compression of images, further reducing overall PDF file-size.

When DocYard integration is turned *On*, this section will expand into several lines showing the following configuration items. At the same time, ScamaxScan+'s own PDF compression settings (in section *Output*, far below) will be hidden / will disappear.



DocYard	
Conversion service	<input checked="" type="checkbox"/> On
Input path	
Output path	
Download URI	
DocYard server URI	
Error timeout	5 s

DocYard integration is achieved through *Web-services*. Images processed by DocYard are *downloaded* and *uploaded* by the DocYard server, rather than accessing them via a network share. Therefore, a platform for up- and downloading images needs to be also provided. Please note that this platform is additional to the actual DocYard server and to ScamaxScan+.

Conversion service

Turns DocYard integration *On* or *Off*. Also shows (*On*) or hides (*Off*) the following lines:

Input path

Path / directory used by ScamaxScan+ for sending images to DocYard, for processing.

Output path

Path / directory used by DocYard for returning processed images to ScamaxScan+.

Download URI

Server-address of the up- and download platform, format:
<http://servername:port>.

DocYard server URI

Server-address of the DocYard web-services,
format: <http://servername:port/interface>,
e.g. <http://docyard:5678/ConversionService>.

Error timeout

The amount of time (in seconds) ScamaxScan+ will wait for a response from the DocYard server before this request is considered to have failed.

Filter

Ignore blank pages

If set to *On*, export is turned off for all blank pages.

Ignore monochrome pages

If set to *On*, export is turned off for all monochrome pages created in multistream mode.

Ignore gray scale pages

If set to *On*, export is turned off for all gray scale pages created in multistream mode.

Ignore color pages

If set to *On*, export is turned off for all color pages created in multistream mode.

Please note that checking all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn export completely off, since there are no images left to process.

Ignore cover pages

This setting will exclude any cover pages, from export.

Maximum pages per file

If multi-page output is created (see [Single- and Multi-page Export](#), in the appendix), this setting will limit the size of the files created. Whenever the number of pages specified here is reached, a new output file will be automatically created and the file name of the new output file will be appended with the *Export-Split-counter* suffix.

Image processing

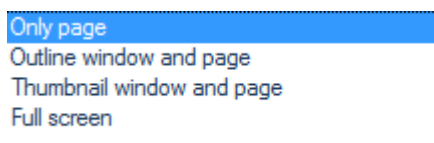
Image processing

In addition to performing image processing on all incoming images, it is also possible to selectively modify output files. Each export format may be individually processed using a subset of the full toolset described in the section on [Image Processing](#).

The image processing tools available during export are as follows:
[Color conversion](#), [Color detection](#), [Digital print](#), [Flip](#), [Frame page](#), [Invert](#), [Line removal](#), [Punch hole removal](#), [Scale resolution](#).

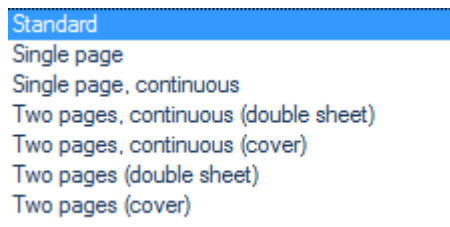
Layout and Zoom

Navigation tab



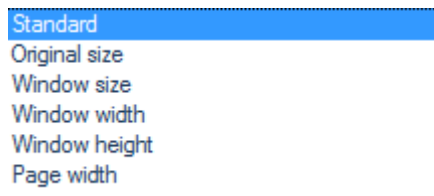
Choose the default layout for the navigation panel (to be used by PDF viewers, when opening the exported PDF file).

Page layout



Choose the default layout for the main viewing panel (to be used by PDF viewers, when opening the exported PDF file).

Zoom



Choose the default zoom level for the main viewing panel (to be used by PDF viewers, when opening the exported PDF file).

OCR (text recognition)

Full text generate

If set to On, full text recognition will be performed across the entire image areas. Recognition results will be saved as an invisible layer in the exported PDF/A file(s) and may be later recovered and copied by using the PDF application's text tools.

Language

Select the primary document language, for correct recognition of diacritics.

Deskew

Automatically straighten the image for better text recognition results, ahead of performing OCR.

Output

JPEG factor

Sets the compression factor for JPEG. The default value is 75.

JPEG2000 factor

Sets the compression factor for JPEG2000. The default value is 16.

JBIG2 encoding mode

Sets the compression mode for JBIG to *lossy* or *lossless*.

Monochrome compression

Sets the compression mode for monochrome images (*FaxG4* or *JBIG2*).

Gray scale compression

Sets the compression mode for gray scale images (*ZIP*, *JPEG* or *JPEG2000*).

Color compression

Sets the compression mode for color images (*ZIP, JPEG or JPEG2000*).

PDF version

Select the PDF version required (*V1.2, V1.3, V1.4, V1.5, V1.6, V1.7, PDF/A-1B, PDF/A-2B*)

Subdirectory

Exporting into a file system may be performed using a dynamic directory structure, which can be constructed from a multitude of strings and *variables*.

Filename

Filenames may be dynamically composed from a multitude of strings and *variables*. Within a batch, changing filenames will close (save) the current PDF file and create a new one. You may find further information in the section on *Single- and Multipage Export*, in the appendix.

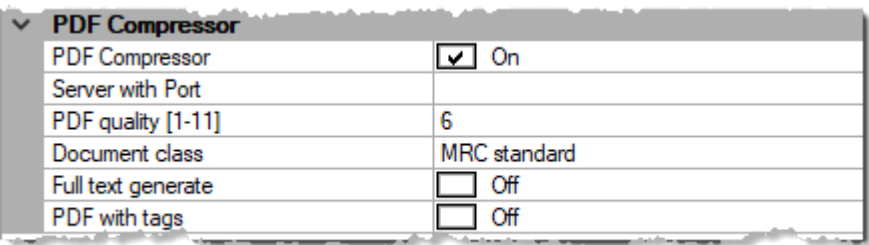
File extension

You may change the default file extension to your liking. Please note, however, that this may interfere with other applications and your operating system.

PDF Compressor

External *Foxit PDF conversion services* may be integrated into ScamaxScan+. This will result in stronger compression of images, further reducing overall PDF file-size.

When integration of the *Foxit PDFC (PDF Compressor)* is turned *On*, this section will expand into several lines showing the following configuration items. At the same time, ScamaxScan+'s own PDF compression settings (in section *Output*, above) will be hidden / will disappear.



Please note: Integration of the Foxit PDFC requires an additional piece of software, the *ScamaxScan+ PDF Compressor interface*.

PDF Compressor

Turns *Foxit PDFC* integration *On* or *Off*. Also shows (*On*) or hides (*Off*) the following lines:

Server with Port

Server-address of the *PDF Compressor interface*, format: *servername:port*. Entering *localhost:4545* e.g. would mean that you have both the *Foxit PDFC* and the *ScamaxScan+ PDF Compressor Interface* installed on the same machine as *ScamaxScan+* and that the *ScamaxScan+ PDF Compressor Interface* is using its default port.

PDF quality [1-11]

This parameter controls the amount of compression applied by the *Foxit PDFC*. Image quality will suffer with increasing compression, therefore a setting of 1 will yield highly compressed PDF files with the lowest image quality and filesize. The default value of 6 will apply less compression and usually yield acceptable PDF quality and moderate file sizes.

Document class

There are four document classes to choose from:

- MRC Standard: for use with text-documents with no or very few diagrams and tables
- MRC Check: for use with low-contrast documents and documents with fine details / small fonts
- Photo: for documents with lots of detailed graphics and photographs (yields larger output files)
- B/W: for text-documents without colour information (yields smaller, bitonal output files)

Full text generate

Uses *Foxit PDFC*'s built-in OCR engine to perform full-text recognition, when turned On.

ScamaxScan+'s internal OCR engine can be used instead, when turned *Off*.

Language settings for both engines are jointly performed in the *OCR* section, further above.

Please note that *ScamaxScan+*'s own OCR has to be turned *off* prior to turning *Full text generate* on, here. If not, this setting will persistently revert to *Off*, for no apparent reason ...

PDF with tags

If turned *On*, additional information about the document structure is created by the *PDF Compressor* OCR engine and embedded in resulting PDF-files. This information is invisible under normal circumstances, but will be required and used when updating these files to PDF/UA documents, elsewhere.

PNG Document

Portable Network Graphics is a graphic format for bit-mapped graphics with lossless image compression. It was developed as a free replacement for the older GIF format that was patent-protected until 2004 and is less complex than TIFF. PNG supports varying color depths as well as transparency via alpha channel. The default file extension is .png.

▼ Filter	
Ignore blank pages	<input checked="" type="checkbox"/> On
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
▼ Image processing	
Image processing	
▼ Output	
Subdirectory	
Filename	<Image counter>
File extension	.png

Filter

Ignore blank pages

If set to *On*, export is turned off for all blank pages.

Ignore monochrome pages

If set to *On*, export is turned off for all monochrome pages created in multistream mode.

Ignore gray scale pages

If set to *On*, export is turned off for all gray scale pages created in multistream mode.

Ignore color pages

If set to *On*, export is turned off for all color pages created in multistream mode.

Please note that checking all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn export completely off, since there are no images left to process.

Ignore cover pages

This setting will exclude any cover pages, from export.

Image processing

Image processing

In addition to performing image processing on all incoming images, it is also possible to selectively modify output files. Each export format may be individually processed using a subset of the full toolset described in the section on [Image Processing](#).

The image processing tools available during export are as follows:
[Color conversion](#), [Color detection](#), [Digital print](#), [Flip](#), [Frame page](#), [Invert](#), [Line removal](#), [Punch hole removal](#), [Scale resolution](#).

Output

Subdirectory

Exporting into a file system may be performed using a dynamic directory structure, which can be constructed from a multitude of strings and [variables](#).

Filename

Filenames may be dynamically composed from a multitude of strings and [variables](#). However, this file-format can only be exported as one file per image. Please refer to the section on [Single- and Multipage Export](#), in the appendix.

File extension

You may change the default file extension to your liking. Please note, however, that this may interfere with other applications and your operating system.

PNM Document

Portable Network Map (PNM). This belongs to the bitmap family and was developed in the 1980s to enable simple graphics to be transmitted in an ASCII stream in networks. The default file extension is .pnm.

▼ Filter	
Ignore blank pages	<input checked="" type="checkbox"/> On
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
▼ Image processing	
Image processing	
▼ Output	
Subdirectory	
Filename	<Image counter>
File extension	.pnm

Filter

Ignore blank pages

If set to *On*, export is turned off for all blank pages.

Ignore monochrome pages

If set to *On*, export is turned off for all monochrome pages created in multistream mode.

Ignore gray scale pages

If set to *On*, export is turned off for all gray scale pages created in multistream mode.

Ignore color pages

If set to *On*, export is turned off for all color pages created in multistream mode.

Please note that checking all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn export completely off, since there are no images left to process.

Ignore cover pages

This setting will exclude any cover pages, from export.

Image processing

Image processing

In addition to performing image processing on all incoming images, it is also possible to selectively modify output files. Each export format may be individually processed using a subset of the full toolset described in the section on [Image Processing](#).

The image processing tools available during export are as follows:
[Color conversion](#), [Color detection](#), [Digital print](#), [Flip](#), [Frame page](#), [Invert](#), [Line removal](#), [Punch hole removal](#), [Scale resolution](#).

Output

Subdirectory

Exporting into a file system may be performed using a dynamic directory structure, which can be constructed from a multitude of strings and [variables](#).

Filename

Filenames may be dynamically composed from a multitude of strings and [variables](#). However, this file-format can only be exported as one file per image. Please refer to the section on [Single- and Multipage Export](#), in the appendix.

File extension


You may change the default file extension to your liking. Please note, however, that this may interfere with other applications and your operating system.

Powershell-Export

Powershell-Export enables you to create a customized export option (not available through other, regular ScamaxScan+ export options), by use of the Windows Powershell™ script language. *Powershell-Export* will allow access to ScamaxScan+ internal data objects (see sample code, far below) and is geared to creating output files and functions.


Output	
Script text	# The name of the text file\$datei = "c:\temp\test
Script text if error	

If you need to use powershell elsewhere in ScamaxScan+ (e.g. for index validation), please use the *Powershell* variable, instead (see section *Use of variables*, in the *Appendix*).

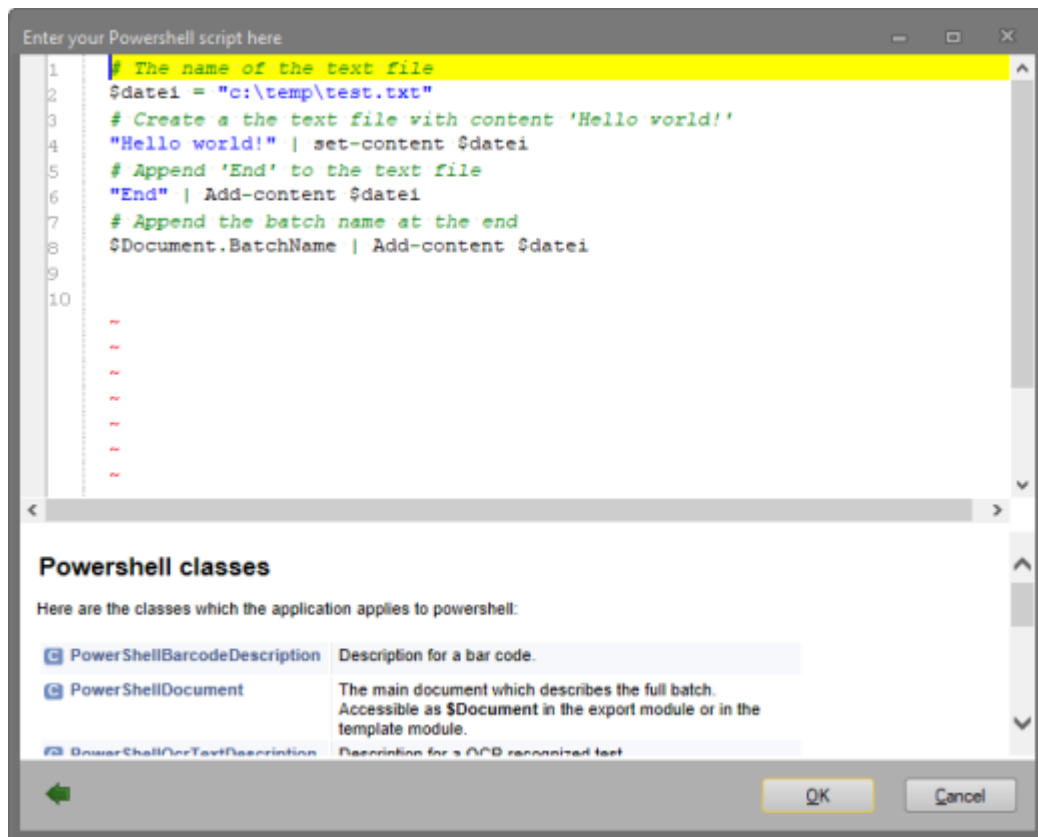
 Please note: *Powershell-Export* must be used in conjunction with at least one other, image rendering export format (e.g. *PDF/A Document*). Otherwise, a warning will be displayed and you will not be able to save/complete the current template. Powershell-Export scripts are executed at the end of the export process, i.e. after other file-formats have been created.

Output

Script text

Clicking the icon for the extended menu () will open a text-editor window.

In the top section of this window, you may enter and edit your main powershell script:



The lower (help) section contains a listing of all ScamaxScan+ specific powershell classes. Clicking on one of the class names will display further information about the class and the variables and properties available. Use the small green left arrow (at the bottom left) to return to the original list.

Script text if error

This powershell script (optional) will be executed, if the main powershell script fails to run properly and returns an error. Typical use for this script is to roll back all changes made by the main powershell script before the error occurred.

Code-Sample:

The following example employs the *PowerShellDocument* class and makes use of variable *\$Document* and it's property *BatchName*:

```
# The name of the text file
$date1 = "c:\temp\test.txt"
# Create a the text file with content 'Hello world!'
"Hello world!" | set-content $date1
# Append 'End' to the text file
"End" | Add-content $date1
# Append the batch name at the end
$Document.BatchName | Add-content $date1
```

Execute Program

Enables an external program to be launched from within ScamaxScan+, at the end of the export process.

Output	
Program	
Arguments	
Duration	120
Visible	<input type="checkbox"/> Off

Output

Program

Select the desired executable (program or batch file), using the file explorer.

Arguments

Specifies which arguments should be transferred to the program, if any.

Duration

ScamaxScan+ will monitor program execution: If the program does not terminate within the duration specified (in seconds), then ScamaxScan+ will abort batch processing and show an error message. Entering a value of *-1* will cause ScamaxScan+ to wait for an infinite time or until the external program finally terminates.

Visible

If possible, ScamaxScan+ will suppress all console or screen messages produced by the external program. *On* will allow messages to be shown, *Off* will attempt to suppress program messages.

PSD Document

Photoshop Document (PSD) is one of the proprietary file formats from Adobe Photoshop. Other important file formats are PSB (Photoshop Big) for larger files and also PDF (Mac) or PDP (Windows) which are used especially for exchanging data with InDesign. All image data used as well as information about the various levels, smart objects, channels and vectors, and project settings are saved losslessly by PSD and PSB. The files are therefore relatively large compared to other formats. The default file extension is .psd.

▼ Filter	
Ignore blank pages	<input checked="" type="checkbox"/> On
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
▼ Image processing	
Image processing	
▼ Output	
Subdirectory	
Filename	<Image counter>
File extension	.psd

Filter

Ignore blank pages

If set to **On**, export is turned off for all blank pages.

Ignore monochrome pages

If set to **On**, export is turned off for all monochrome pages created in multistream mode.

Ignore gray scale pages

If set to **On**, export is turned off for all gray scale pages created in multistream mode.

Ignore color pages

If set to **On**, export is turned off for all color pages created in multistream mode.

Please note that checking all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn export completely off, since there are no images left to process.

Ignore cover pages

This setting will exclude any cover pages, from export.

Image processing

Image processing

In addition to performing image processing on all incoming images, it is also possible to selectively modify output files. Each export format may be individually processed using a subset of the full toolset described in the section on [Image Processing](#).

The image processing tools available during export are as follows:
[Color conversion](#), [Color detection](#), [Digital print](#), [Flip](#), [Frame page](#), [Invert](#), [Line removal](#), [Punch hole removal](#), [Scale resolution](#).

Output

Subdirectory

Exporting into a file system may be performed using a dynamic directory structure, which can be constructed from a multitude of strings and [variables](#).

Filename

Filenames may be dynamically composed from a multitude of strings and [variables](#). However, this file-format can only be exported as one file per image. Please refer to the section on [Single- and Multipage Export](#), in the appendix.

File extension

You may change the default file extension to your liking. Please note, however, that this may interfere with other applications and your operating system.

Send mail

This function will collect all export files (created by other export functions from the current batch) and forward them as e-mail attachment(s). *Send mail* will invoke the local PC's default mail application, with the initial settings / content outlined below.

▼ Default	
To	
CC	
BCC	
Subject line	
Body	

Default

To

Please enter the e-mail address of the recipient here.

CC

Please enter the e-mail address of the recipient to whom a copy should be sent here.

BCC

Please enter the e-mail address of the recipient to whom a blind copy should be sent here.

Subject line

Please enter a subject for the e-mail here.

Body

Enter a text message here.

Send mail via SMTP

This function will collect all export files (created by other export functions from the current batch) and forward them as e-mail attachment(s).

With *Send mail via SMTP*, an external SMTP server is used for mail transmission (as opposed to *Send mail*, which makes use of a PC's locally installed e-mail client). The resulting e-mail will therefore be sent directly and without any further user interaction.

▼ Default	
SSL-Encryption	<input type="checkbox"/> Off
Host	
Port	25
User	
Password	
Sender	
To	
CC	
BCC	
Subject line	
Body	
Send test mail	Click on the right side.

Default

SSL-Encryption

Turn this option *On* if communication with the SMTP server needs to be encrypted.

Host

Enter the name of the SMTP-server to be used.

Port

Enter the port-number for the SMTP service.

User

Credentials for the SMTP-server: username.

Password

Credentials for the SMTP-server: password.

Sender

Specify the originating e-mail address (which will also be the return address).

TO

Enter the e-mail address of the recipient.

CC

Enter the e-mail address of the recipient to whom a copy should be sent.

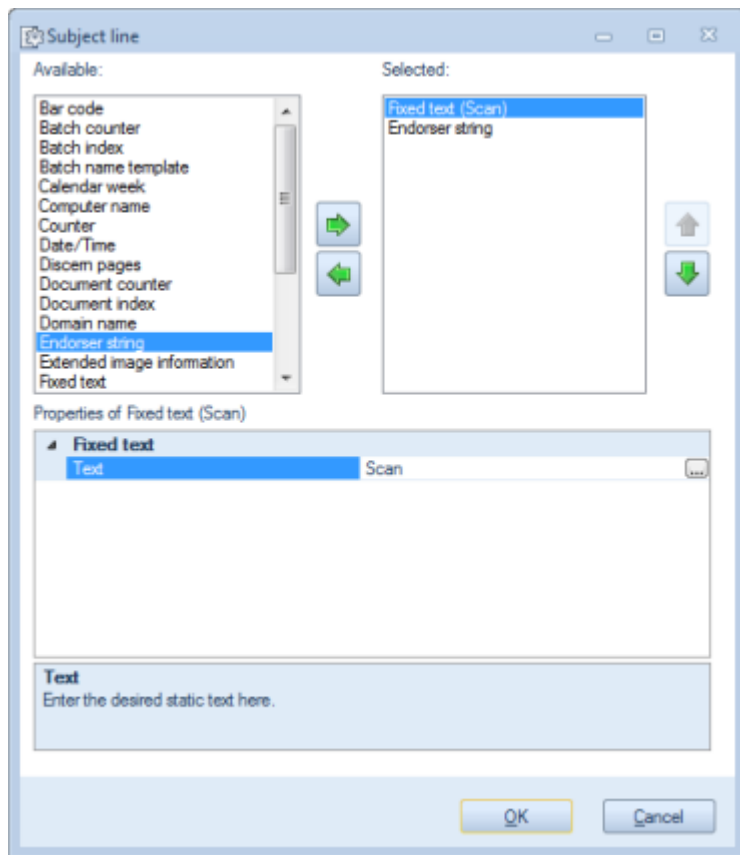
BCC

Enter the e-mail address of the recipient to whom a blind copy should be sent.

Subject line

You may use any combination of variables (such as date/time, calendar week, batch counter and/or fixed text) for dynamically creating the mail's *subject line*. For more and detailed information on variables please refer to the separate section on [Variables](#), in the *Appendix*.

In its simplest form, the *subject line* might be made up of just one *Fixed text* variable, filled with an (unchanging) text string of your choice.



The left side of the *Subject line...* window lists all variables available for constructing the *subject line*, the right side shows the variables chosen so far. By highlighting one of the variables and operating the green left or right arrow buttons, this variable can be moved back and forth between the left column (*Available*) and the right column (*Selected*). The highlighted variable in the right column (*Selected*) may be moved up or down the list, by operating the green up or down arrows. This changes the order in which variables are added to the *subject line* (processing will proceed from the top of the list).

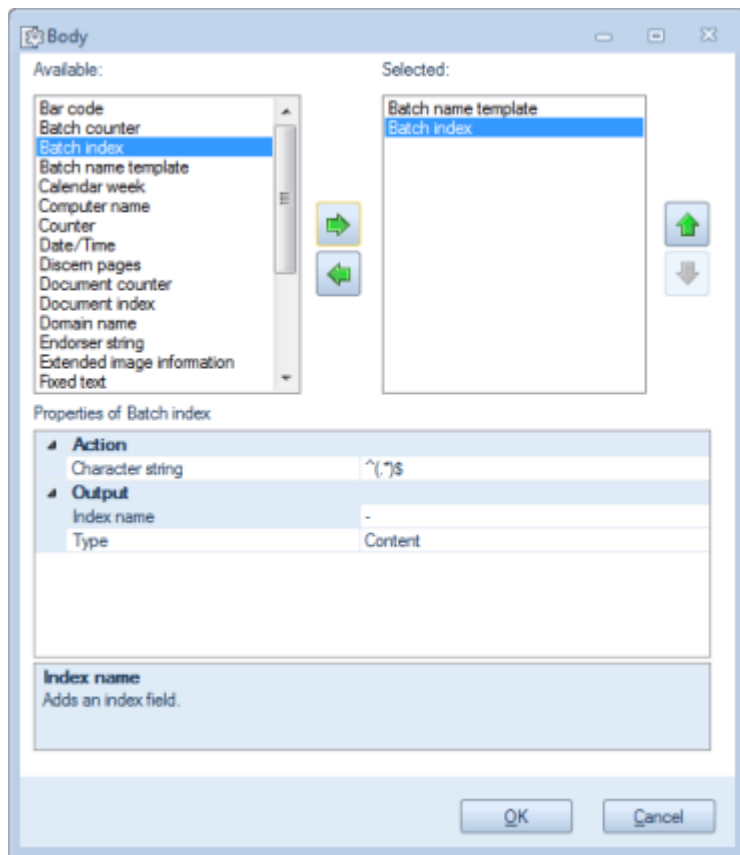
Configuration options for the variable highlighted in the right column (*Selected*) will be shown in the lower *Properties of ...* window, where they may be viewed and changed.

Body

You may use any combination of variables (such as date/time, calendar week, batch counter and/or fixed text) for dynamically creating the mail's text *body*. For more and detailed information on variables please refer to the separate section on [Variables](#), in the *Appendix*.

In its simplest form, the mail *body* might be made up of just one *Fixed text* entry, filled with an (unchanging) text string of your choice.


Please note that a special function is available for formatting/arranging multiple entries, named *Special character*. It provides access to non-printable character codes such as *line feed* and *tab*.



The left side of the *Body* window lists all variables available for constructing the mail's text *body*, the right side shows the variables chosen so far. By highlighting one of the variables and operating the green left or right arrow buttons, this variable can be moved back and forth between the left column (*Available*) and the right column (*Selected*). The highlighted variable in the right column (*Selected*) may be moved up or down the list, by operating the green up or down arrows. This changes the order in which variables are added to the mail's text *body* (processing will proceed from the top of the list).

Configuration options for the variable highlighted in the right column (*Selected*) will be shown in the lower *Properties of ...* window, where they may be viewed and changed.

Send test mail

Clicking the icon  (at the end of the *Send test mail* line) will perform a test transmission, allowing you to verify all vital settings (*SSL*, *Host* and *Port* configuration, *User name* and *Password*, *Sender* and *TO* addresses). *Subject line* and *Body* do not need to be configured (yet), for this test to work.

If the test was successful, a mail with the subject line *Test was successful* will appear the e-mail inbox of the recipient specified above (*TO*). If the *Send mail via SMTP* function failed to properly communicate with the external mail server, an appropriate error message will appear.


Signal File

The presence of this file type reliably signals the end of export processing. Other, external applications / programs / processes can then safely begin with importing the image and metadata files created by ScamaxScan+.

Signal files will be created at the very end of all other export activities, whereas *Index files* will be created early on in the export process - and are typically kept open for writing, until all related image files have been processed. Therefore, please avoid using *Index files* for signalling!

Signal files are always created empty (i.e. they have no content).

Output	
File extension	
Subdirectory	
Filename	<Batch name template>

 Please note: ScamaxScan+ will create signal files, but it will not delete them. This needs to be handled by the external, importing application / process, if necessary

Output

File extension

There is no standard file extension for signalling files. Enter any desired file extension in the following format: .xyz (i.e. with a leading period).

Subdirectory

Exporting into a file system may be performed using a dynamic directory structure, which can be constructed from a multitude of strings and [variables](#).

Filename

Filenames may be dynamically composed from a multitude of strings and [variables](#). You will find further information in the section on [Single- and Multipage Export](#), in the appendix.

TGA Document

The Targa Image File Format is a file format for storing images. Targa stands for "Truevision Advanced Raster Graphics Array" and was developed in 1984, by Truevision. In 1989 it was expanded to be able to contain thumbnails, values for alpha channels, gamma correction and text as meta information. The data is stored with up to 32 bits per pixel as a bitmap either uncompressed or losslessly compressed with a run length encoding. The default file extension is .tga.

▼ Filter		
Ignore blank pages	<input checked="" type="checkbox"/>	On
Ignore monochrome pages	<input type="checkbox"/>	Off
Ignore gray scale pages	<input type="checkbox"/>	Off
Ignore color pages	<input type="checkbox"/>	Off
Ignore cover pages	<input checked="" type="checkbox"/>	On
▼ Image processing		
Image processing		
▼ Output		
Subdirectory		
Filename	<Image counter>	
File extension	.tga	

Filter

Ignore blank pages

If set to **On**, export is turned off for all blank pages.

Ignore monochrome pages

If set to **On**, export is turned off for all monochrome pages created in multistream mode.

Ignore gray scale pages

If set to **On**, export is turned off for all gray scale pages created in multistream mode.

Ignore color pages

If set to **On**, export is turned off for all color pages created in multistream mode.

Please note that checking all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn export completely off, since there are no images left to process.

Ignore cover pages

This setting will exclude any cover pages, from export.

Image processing

Image processing

In addition to performing image processing on all incoming images, it is also possible to selectively modify output files. Each export format may be individually processed using a subset of the full toolset described in the section on [Image Processing](#).

The image processing tools available during export are as follows:
[Color conversion](#), [Color detection](#), [Digital print](#), [Flip](#), [Frame page](#), [Invert](#), [Line removal](#), [Punch hole removal](#), [Scale resolution](#).

Output

Subdirectory

Exporting into a file system may be performed using a dynamic directory structure, which can be constructed from a multitude of strings and [variables](#).

Filename

Filenames may be dynamically composed from a multitude of strings and [variables](#). However, this file-format can only be exported as one file per image. Please refer to the section on [Single- and Multipage Export](#), in the appendix.

File extension

You may change the default file extension to your liking. Please note, however, that this may interfere with other applications and your operating system.

TIFF Document

The Tagged Image File Format (TIFF or TIF) is a file format for storing image data. TIFF was originally developed by Aldus (taken over in 1994 by Adobe) and Microsoft for color separation in scanned bitmapped graphics. TIFF files have the MIME type image/tiff. The default file extension is .tif.

Description	
Artist	
Copyright	
Document name	
Image description	
Filter	
Discard pages marked for deletion	<input checked="" type="checkbox"/> On
Discard monochrome pages	<input type="checkbox"/> Off
Discard gray scale pages	<input type="checkbox"/> Off
Discard color pages	<input type="checkbox"/> Off
Discard cover pages	<input checked="" type="checkbox"/> On
Maximum pages per file	0
Image processing	
Image processing	
Output	
JPEG factor	75
Monochrome compression	Fax G4
Gray scale compression	JPEG
Color compression	JPEG
Embed profiles	<input type="checkbox"/> Off
Subdirectory	
File name	<Batch name template>
File extension	.tif

Description

Artist, Copyright, Document name, Image description

Data entered here will be embedded as TIFF metadata.

Filter

Ignore blank pages

If set to **On**, export is turned off for all blank pages.

Ignore monochrome pages

If set to **On**, export is turned off for all monochrome pages created in multistream mode.

Ignore gray scale pages

If set to *On*, export is turned off for all gray scale pages created in multistream mode.

Ignore color pages

If set to *On*, export is turned off for all color pages created in multistream mode.

Please note that checking all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn export completely off, since there are no images left to process.

Ignore cover pages

This setting will exclude any cover pages, from export.

Maximum pages per file

If multi-page output is created (see [Single- and Multi-page Export](#), in the appendix), this setting will limit the size of the files created. Whenever the number of pages specified here is reached, a new output file will be automatically created and the file name of the new output file will be appended with the *Export-Split-counter* suffix.

Image processing**Image processing**

In addition to performing image processing on all incoming images, it is also possible to selectively modify output files. Each export format may be individually processed using a subset of the full toolset described in the section on [Image Processing](#).

The image processing tools available during export are as follows:
[Color conversion](#), [Color detection](#), [Digital print](#), [Flip](#), [Frame page](#), [Invert](#), [Line removal](#), [Punch hole removal](#), [Scale resolution](#).

Output**JPEG factor**

Sets the compression factor for JPEG. The standard is 75.

Monochrome compression

Sets the compression mode for monochrome images (*None* or *FaxG4*).

Gray scale compression

Sets the compression for gray scale images (*None*, *LZW* or *JPEG*).

Color compression

Sets the compression for color images (*None*, *LZW* or *JPEG*).

Embed profiles

If ICC profile data is supplied by the scanner, this setting will decide whether such profiles are either embedded into exported files (and ignored, otherwise) or applied to image data, prior to export (*On* will embed ICC profiles, *Off* will apply ICC profile data).

Subdirectory

Exporting into a file system may be performed using a dynamic directory structure, which can be constructed from a multitude of strings and *variables*.

Filename

Filenames may be dynamically composed from a multitude of strings and *variables*. This file-format can be exported as multi- and single-image file. Please refer to the section on *Single- and Multipage Export*, in the appendix.

File extension

You may change the default file extension to your liking. Please note, however, that this may interfere with other applications and your operating system.

TXT Document

▼ Filter	
Ignore blank pages	<input checked="" type="checkbox"/> On
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
▼ OCR	
Language	German
Deskew	<input type="checkbox"/> Off
▼ Output	
Page separator	
Subdirectory	
Filename	<Batch name template>
File extension	.txt

Filter

Ignore blank pages

If set to *On*, export is turned off for all blank pages.

Ignore monochrome pages

If set to *On*, export is turned off for all monochrome pages created in multistream mode.

Ignore gray scale pages

If set to *On*, export is turned off for all gray scale pages created in multistream mode.

Ignore color pages

If set to *On*, export is turned off for all color pages created in multistream mode.

Please note that checking all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn export completely off, since there are no images left to process.

Ignore cover pages

This setting will exclude any cover pages, from export.

OCR

Language

Select the primary document language, for correct recognition of diacritics.

Deskew

Straightens the image for better text recognition results.

Output

Page separator

Specifies a delimiter for separating pages. The delimiter may be dynamically composed from a multitude of strings and [variables](#).

Subdirectory

Exporting into a file system may be performed using a dynamic directory structure, which can be constructed from a multitude of strings and [variables](#).

Filename

Filenames may be dynamically composed from a multitude of strings and [variables](#). You will find further information in the section on [Single- and Multipage Export](#), in the appendix.

File extension

You may change the default file extension to your liking. Please note, however, that this may interfere with other applications and your operating system.

WMF Document

Windows Metafile (WMF) is a proprietary metafile graphics format from Microsoft. It was developed for easy exchange of graphics between applications and is also used in the Windows clipboard. Primarily, WMF is a 16-bit, vector-based file format. However, images exported from ScamaxScan+ will be embedded as bitmap graphics. The default file extension is .wmf.

▼ Filter	
Ignore blank pages	<input checked="" type="checkbox"/> On
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
Ignore cover pages	<input checked="" type="checkbox"/> On
▼ Image processing	
Image processing	
▼ Output	
Subdirectory	
Filename	<Image counter>
File extension	.wmf

Filter

Ignore blank pages

If set to *On*, export is turned off for all blank pages.

Ignore monochrome pages

If set to *On*, export is turned off for all monochrome pages created in multistream mode.

Ignore gray scale pages

If set to *On*, export is turned off for all gray scale pages created in multistream mode.

Ignore color pages

If set to *On*, export is turned off for all color pages created in multistream mode.

Please note that checking all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn export completely off, since there are no images left to process.

Ignore cover pages

This setting will exclude any cover pages, from export.

Image processing

Image processing

In addition to performing image processing on all incoming images, it is also possible to selectively modify output files. Each export format may be individually processed using a subset of the full toolset described in the section on [Image Processing](#).

The image processing tools available during export are as follows:
[Color conversion](#), [Color detection](#), [Digital print](#), [Flip](#), [Frame page](#), [Invert](#), [Line removal](#), [Punch hole removal](#), [Scale resolution](#).

Output

Subdirectory

Exporting into a file system may be performed using a dynamic directory structure, which can be constructed from a multitude of strings and [variables](#).

Filename


Filenames may be dynamically composed from a multitude of strings and [variables](#). You will find further information in the section on [Single- and Multipage Export](#), in the appendix.

File extension

You may change the default file extension to your liking. Please note, however, that this may interfere with other applications and your operating system.

Word Document

Filter	
Ignore blank pages	<input checked="" type="checkbox"/> On
Ignore monochrome pages	<input type="checkbox"/> Off
Ignore gray scale pages	<input type="checkbox"/> Off
Ignore color pages	<input type="checkbox"/> Off
OCR	
Language	German
Deskew	<input type="checkbox"/> Off
Output	
Subdirectory	
Filename	<Batch name template>
File extension	.doc
RTF-Export	
Page width	0
Page height	0
Color error mark	Background color
Keep background color	<input checked="" type="checkbox"/> On
Keep text color	<input checked="" type="checkbox"/> On
Keep pages	<input checked="" type="checkbox"/> On
Page format	A4 (21,0 cm x 29,7cm)
Keep lines	<input checked="" type="checkbox"/> On

 Please note: This export format is available only when using the Abbyy Finereader OCR engine! See [OCR \(program settings\)](#)

Filter

Ignore blank pages

If set to **On**, export is turned off for all blank pages.

Ignore monochrome pages

If set to **On**, export is turned off for all monochrome pages created in multistream mode.

Ignore gray scale pages

If set to **On**, export is turned off for all gray scale pages created in multistream mode.

Ignore color pages

If set to **On**, export is turned off for all color pages created in multistream mode.

Please note that checking all three options *Ignore monochrome pages*, *Ignore gray scaled pages* and *Ignore color pages* will effectively turn export completely off, since there are no images left to process.

OCR

When exporting to Word-files, full text recognition will be performed across the entire image areas, by default.

Language

Defines the text recognition language.

Deskew

Deskew straightens the image for better text recognition results.

Despeckle

Despeckle removes small blemishes / smudges, prior to OCR.

Output

Subdirectory

Exporting into a file system may be performed using a dynamic directory structure, which can be constructed from a multitude of strings and *variables*.

Filename

Filenames may be dynamically composed from a multitude of strings and *variables*. You will find further information in the section on *Single- and Multipage Export*, in the appendix.

File extension

You may change the default file extension to your liking. Please note, however, that this may interfere with other applications and your operating system.

RTF-Export

Page width

Width of the text box created (in mm).

Page height

Height of the text box created (in mm).

Color error mark

If uncertainty was experienced, during text recognition, then this color will be used to highlight those passages.

Keep background color

The source document's background coloring is inherited.

Keep text color

The source document's text coloring is inherited.

Keep pages

The source text layout is adopted, during RTF export.

Page format

Target page format (A3, A4, A5, Legal, Letter, Executive)

Keep lines

Lines from the source document (e.g. horizontal rules) are copied to the RTF document (as graphics).

XML Document

Format	
Resets page counter for document	<input checked="" type="checkbox"/> On
OCR	
Full text generate	<input type="checkbox"/> Off
Language	German
Deskew	<input type="checkbox"/> Off
Output	
Subdirectory	
File name	<Batch name template>
File extension	.xml

Format

Resets page counter for document

If set to On, page counters will be reset at each new document boundary.

OCR

Full text generate

If set to On, OCR will be performed across all image areas and recognition results will be saved as part of the XML data.

Language

Select the primary document language, for correct recognition of diacritics.

Deskew

Straighten the image for better text recognition results.

Output

Subdirectory

Exporting into a file system may be performed using a dynamic directory structure, which can be constructed from a multitude of strings and [variables](#).

Filename

Filenames may be dynamically composed from a multitude of strings and [variables](#). You will find further information in the section on [Single- and](#)

Multipage Export, in the appendix.

File extension

You may change the default file extension to your liking. Please note, however, that this may interfere with other applications and your operating system.


The process manager

Contents

[Activating the Process Manager](#)
[Indicators, Job-Queues and Errors](#)
[Using the Process manager](#)

Finalizing a batch (i.e. performing text recognition and writing output files) can take quite some time and will prevent you from using your workstation for other purposes.

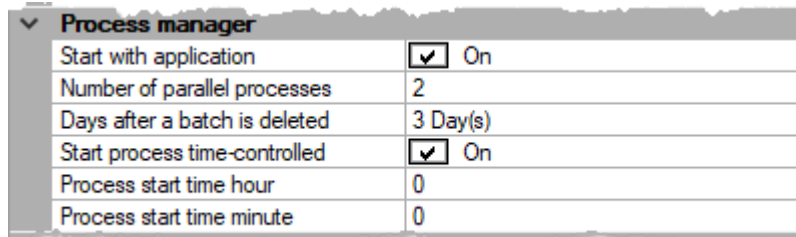
The *Process manager* will allow you to perform batch finalization as a background task or defer processing to some later point in time (e.g. during off-hours).

 Please note: During finalization, the process manager will consume substantial amounts of additional PC resources (memory & CPU) and might therefore affect other programs running in parallel (such as ScamaxScan+ scan-jobs). In order to avoid / reduce this problem, you should either make use of scheduling (i.e. process jobs during off-hours) or limit the amount of parallel processes allowed (see chapter *Process Manager*, [Activating the Process Manager](#)).

Activating the Process Manager

Process Manager Configuration

Before first use, you must properly configure the process manager. Go to *Program settings* on the *Settings* tab, then locate the section labelled *Process manager*:



The screenshot shows a configuration window titled "Process manager" with a dropdown arrow on the left. It contains the following settings:

Setting	Value
Start with application	<input checked="" type="checkbox"/> On
Number of parallel processes	2
Days after a batch is deleted	3 Day(s)
Start process time-controlled	<input checked="" type="checkbox"/> On
Process start time hour	0
Process start time minute	0

Start with application

When setting this option to *On*, the process manager will be started together with the main ScamaxScan+ application. Use this setting if projects need to be finalized immediately after scanning.

Number of parallel processes

Limits the amount of batches the process manager will be allowed to process in parallel. Though you may enter an arbitrary value here, if too high, the input will be reduced to a system-specific, maximum value (which is also the default value).

Entering less than the maximum amount is recommended for all instances where the process manager will be competing for system resources with other programs (it is possible, for example, to run the process manager at the same time as scan jobs).

However, if the process manager will run off-hours and will therefore have all system resources available to it, then it is advisable to set the process count to the maximum possible value (default).

Days after a batch is deleted

Enter the number of days after which temporary batches will be automatically deleted. Please note that temporary batch data is required if a batch needs to be re-opened, e.g. for amending and re-finalising a batch. As soon as older batches have been deleted, you no longer have this option.

Since temporary batches contain large amounts of image data, you will eventually need to delete them, since they will take up too much disk space, otherwise.

Start process time-controlled

This option will turn scheduling on, i.e. the process manager will be fired up at the time specified below.

Process start time Hour, Minute

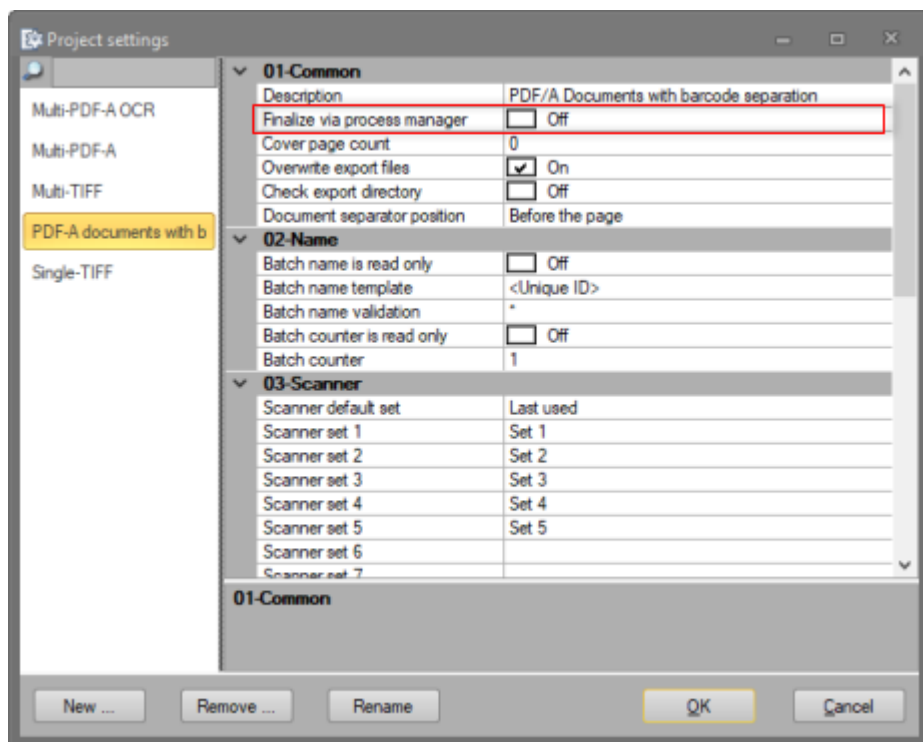
Enter the desired start time for the process manager, in 24 hour format. (Hour: 0-23, Minute: 0-59). The process manager will be started at the time specified and will begin finalizing all waiting batches.

Please note: ScamaxScan+ will need to remain up and running for scheduling to work. Scheduling is performed within ScamaxScan+, not using the Windows scheduler!

Activation in Project Settings

If batches are to make use of the process manager, then this needs to be configured in their respective project settings.

Open the project template by first clicking button *Project Settings* in tab *Settings* (you might also need to switch to Expert Mode first) and then highlighting the project template in question:



If you set *Finalize via Process Manager* (in section *1-Common*) to *On*, then all future batches based on this template will be finalized in the background, rather than by the main program. You will find more information on this in section [Using the Process](#)

Manager.

Confirm and save any changes by pressing *OK*.

Indicators, Job Queue and Errors

Indicators on the Status Bar

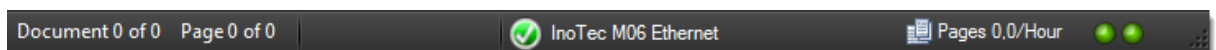
The two lamps on the far right side of the status bar (at the bottom of the [program window](#)) give an indication towards the current state of the process manager.

The left lamp refers to overall operating status (black: not started or stopped, green: active and waiting, amber: active and processing), whereas the right lamp indicates the process manager's error status (green: no problems so far, red: there has been a problem).

Possible indicator combinations have the following meaning:




- The process manager has not been started yet because the *start with application* option has not been checked (in [program settings](#)).
- The process manager has been active but was subsequently stopped.

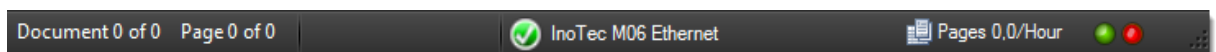


- The process manager is active (up) and waiting. Previous jobs have been completed without any problems.



- The process manager is active (up) and processing jobs. Previous jobs have been completed without any problems.

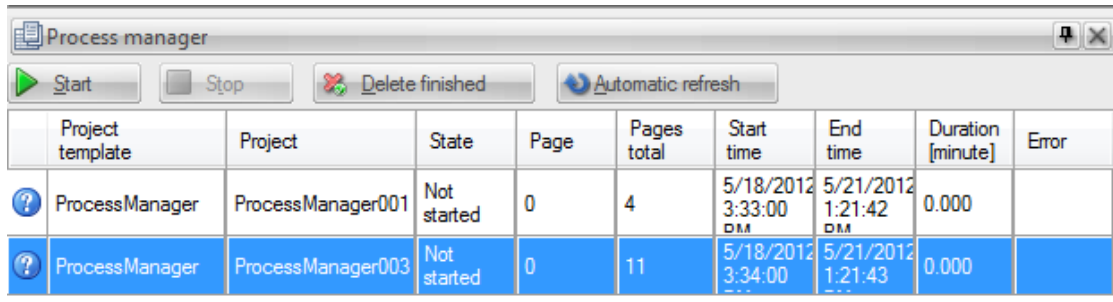
 Please note: During finalization, the process manager will consume substantial amounts of additional PC resources (memory & CPU) and might therefore affect other programs running in parallel (such as ScamaxScan+ scan-jobs). In order to avoid / reduce this problem, you should either make use of scheduling (i.e. process jobs during off-hours) or limit the amount of parallel processes allowed (see chapter *Process Manager*, [Activating the Process Manager](#)).



- The process manager is active (up) and waiting. However, one or more previous jobs have been aborted due to some error condition. In this case, you should consult the process manager monitor screen for more details (see below).

Job-Queue and Job-Details

For a full view of all the projects transferred to the process manager, click on button *Process manager*, from the *Control* toolbar. The process manager monitor screen will open (and may be grabbed by its title bar and dragged to other screen areas, for better visibility):



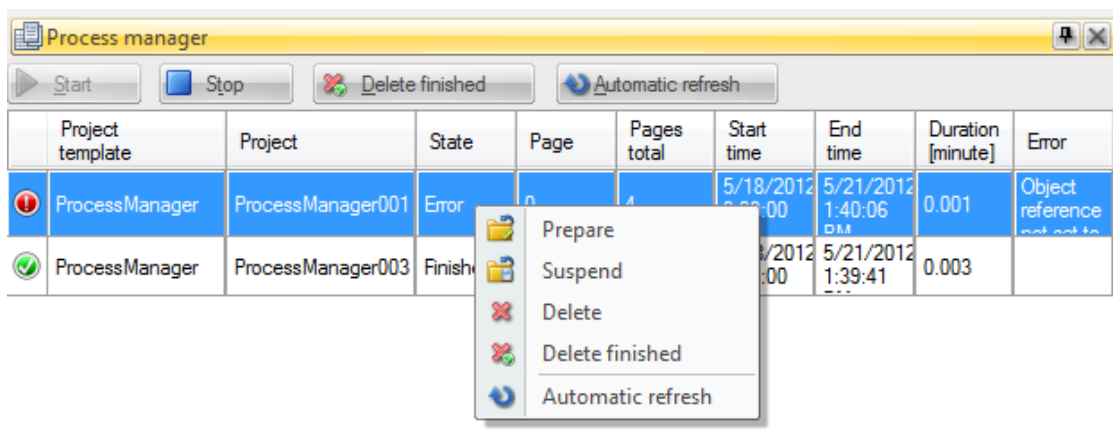
Project template	Project	State	Page	Pages total	Start time	End time	Duration [minute]	Error
ProcessManager	ProcessManager001	Not started	0	4	5/18/2012 3:33:00 PM	5/21/2012 1:21:42 PM	0.000	
ProcessManager	ProcessManager003	Not started	0	11	5/18/2012 3:34:00 PM	5/21/2012 1:21:43 PM	0.000	

Each line represents a batch which has been transferred to the process manager queue. The value in the column labelled *State* reflects the current operating status.

All batches which have not been processed yet (Status: *Not started*) can be made to finish independently of scheduling by pressing the **Start** button, at the top left. As soon as the process manager has been manually started, it will begin processing all unfinished batches. The **Stop** button will terminate the process manager and interrupt processing.

Error Handling

Should fatal problems have occurred during batch finalization, then the process manager will indicate this by setting batch status to *Error*. Right clicking the affected project will allow you to decide on further actions for this batch:



Project template	Project	State	Page	Pages total	Start time	End time	Duration [minute]	Error
ProcessManager	ProcessManager001	Error	0	4	5/18/2012 3:33:00 PM	5/21/2012 1:40:06 PM	0.001	Object reference not set to an instance of an object
ProcessManager	ProcessManager003	Finished	0	11	5/18/2012 3:34:00 PM	5/21/2012 1:39:41 PM	0.003	

Prepare

The batch is returned to the process manager queue and will be finalized again. Batch status is reset to *Not started*.

Suspend

The batch is removed from the process manager queue and may be opened for editing, making it possible to add or correct items.

To reopen a suspended batch for editing, click on the **Suspended batches** button in the **Start batch** window. Please note: For the **Suspended batches** button to become active, you will need to select the appropriate project template, beforehand.

Delete

The batch is cancelled and removed from the process manager queue, nothing is saved, no output is generated.

Delete finished

All finished batches will be removed from the process manager queue and all saved data will be cleared.

Automatic refresh

The process manager monitor view will be periodically refreshed.


Using the Process Manager

The finalization of batches will proceed differently, depending on how the process manager has been configured (see: [Activating the Process Manager](#)).

Process Manager without Scheduling:

(The process manager has been [selected](#) in the project template, but scheduling has been turned off)

Resulting behaviour: The batch to be finalized is placed in the process manager queue and will be processed as soon as possible. Since the process manager performs in background mode, it is possible to simultaneously begin and run new batches.

 Please note: During finalization, the process manager will consume substantial amounts of additional PC resources (memory & CPU) and might therefore affect other programs running in parallel (such as ScamaxScan+ scan-jobs). In order to avoid / reduce this problem, you should either make use of scheduling (i.e. process jobs during off-hours) or limit the amount of parallel processes allowed (see chapter *Process Manager*, [Activating the Process Manager](#)).

You may also manually stop and restart the process manager in order to temporarily reclaim PC resources.

Process Manager with Scheduling

(The process manager has been [selected](#) in the project template and scheduling has been turned on)

Prerequisites: The process manager has not been started together with the ScamaxScan+ application, or it has been manually stopped. When performing batch-scans, the process manager indicators (on the far right) should look like this (otherwise, batches will be finalized immediately, regardless of scheduling):



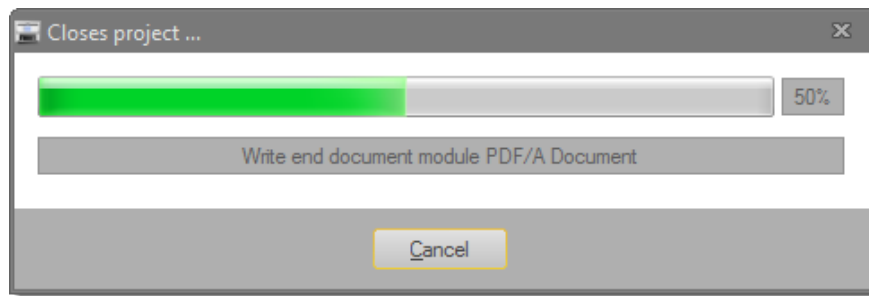
Resulting behaviour: The batch to be finalized is placed in the process manager queue. At the scheduled time, all items in the job-queue will be processed.

Please note: Scheduling is performed from within the application, not using the Windows task planner. Therefore you should not shut down ScamaxScan+ after concluding your batch scans.

The Process Manager has not been activated

(The *finalize via process manager* option in [project settings](#) has not been checked)

Resulting behaviour: The batch to be finalized is not placed in the process manager queue. Instead, the finalisation will happen within the current ScamaxScan+ session. During finalization, you will see the following progress bar:



Since the main program is busy with finishing the current project, no new ScamaxScan+ batches may be started, during this time.

Appendix

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[Starting and closing Batches](#)
[Single- and Multipage Export](#)
[Use of variables](#)
[Regular expressions](#)
[OCR \(Appendix\)](#)
[Scanner glossarySupport](#)
[License agreement](#)

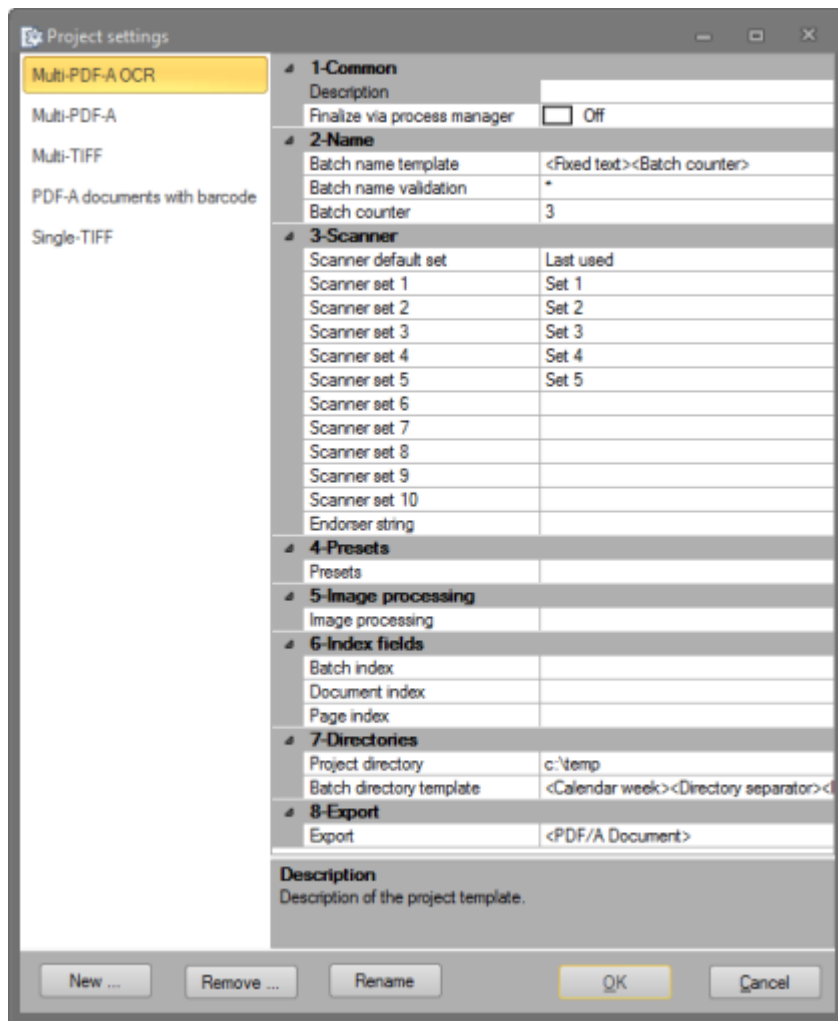
Advanced Sample Project

Let's assume that we have a project requiring the following configuration.

- **A4** sized paper documents which need to be scanned with **200 dpi**, in **color** and **double-sided**.
- The documents are old and therefore slightly **soiled**, which might lead to errors in the images produced.
- The paper documents are files with personnel records, which are supposed to be **stored digitally, each paper folder as a separate file**. The scanned documents are supposed to be saved to a **folder structure comprised of the client's name, followed by today's date**.
- In order to easily find content, at some later time, **the resulting PDF/A files need to be fully text searchable**


Now let's see how this scenario may be handled with ScamaxScan+. Quick mode will be of little help here, since bar code recognition and subdirectories are required. So, we will be using project mode instead and therefore, to begin with, we will need to define a suitable project template:

- Please start your version of ScamaxScan+.
- Change the project settings mode to *expert mode*: Click on the lower half of icon *Project settings* (in the *Settings* toolbar) and tick *Expert mode*.
- Now click on the top half of icon *Project settings*, which will open a window with all existing project templates (shown on the left) and a summary list of all available project settings (the two column table on the right hand side).



- Create a new project template using the **New ...** button (bottom left) and give it a name of your choice. In our example, let's use the name **Customer ABC**.

You will find your newly created template listed in the window on the left side, together with all other project templates. The right side of the dialog will display all settings for the project template highlighted on the left.


 When creating a new project template in expert mode, please make sure to go through all available project settings (all sections), in order not to miss any of the hidden options.

Now, let's take a closer look at the configuration items listed in sections 1 through 9. Only the items needing to be changed will be discussed here:

01-Common

Description


Enter a meaningful template description here. A detailed description might be very helpful in cases where scan operators frequently change places and you need to provide them with background information and instructions for the scan job on hand.

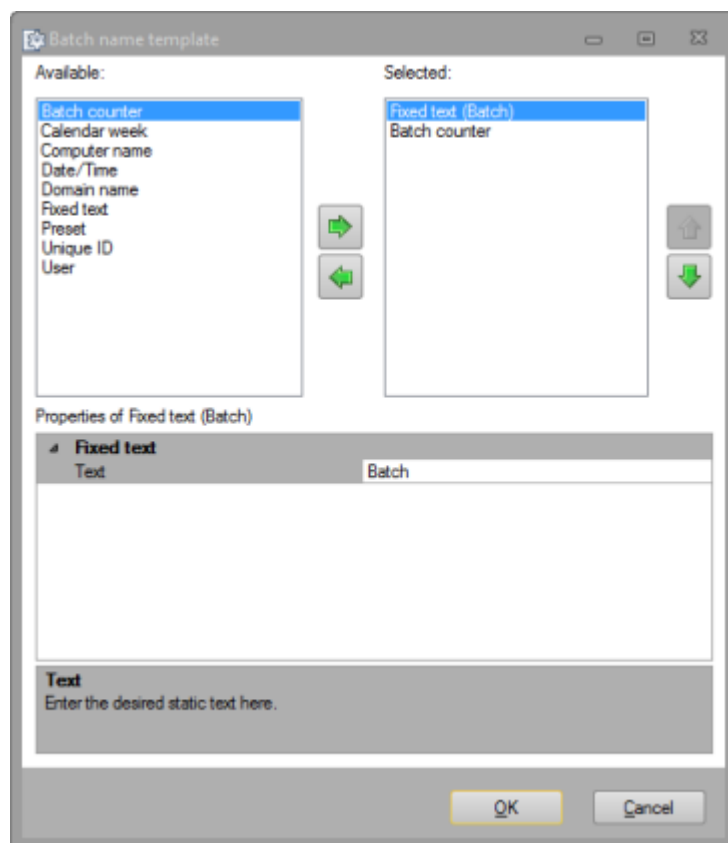
Longer entries can be made by clicking on the  button, which will open a separate text entry box. For the purposes of this test project, it will suffice to enter just any short text.

02-Name

Batch name template

Batch names can be dynamically generated by combining several components. The default batch name template, for example, is comprised of a text section and a batch counter.

You may access and modify the template components clicking by on the  button, which will open an extended settings menu.



For the purposes of our sample project, we will just modify the text section. Click/select the *Fixed text* entry, in the right window (*Selected*) and enter **Personnel records**, in the text option appearing in the bottom section (*Properties*).

03-Scanner

Scanner set 1

The use of these settings depends on the capabilities of your scanner /

scanner driver.

If possible, all scanner settings can be made here, instead during batch runs, e.g.:

- Image resolution
- Image format

04-Presets

Presets

We won't be using any *presets* in this sample project, therefore you may ignore this section, for now.

05-Image processing

Bar code

Since document separation is required, special separator pages (with a patch code printed on them, a special type of barcode) have been inserted ahead of each personnel record in the document pile. ScamaxScan+ needs to be instructed to detect these patch codes and to place a logical marker for *Document separation* in the resulting data stream, accordingly. Separator pages are not supposed to appear in the output files.

The following settings need to be applied:

Choose *Bar code* from the available options and make the following detail adjustments:

- In section *Bar code type*, mark *Patch code* as the only bar code to detect.
- In section *Output*, turn on the options for *Switched on*, *New document* and *Mark as empty page*.
- In section *Search direction*, make sure that *Horizontal* is selected.

Despeckle

For the purpose of removing traces of dirt and dust from scanned images, add *Despeckle*, as the second image processing option (Please note that the *Despeckle* function is CPU-intensive and may noticeably slow down project execution).


Since removing traces of dirt and dust from the image might also improve bar code detection, you should move the despeckle function to the top of the list of selected image processing functions (image processing functions are processed in sequence, beginning at the top of the list).

06-Index fields

No indexing information will be created in this sample project, therefore you may ignore this section, for now.


07-Directories

Project directory

Enter a path to a local directory or to a network drive. In this example, let's assume that you have decided to use the local drive C: and have already created a folder *Scan service* with the subfolder *Customer*. You may either enter the path: *C:\Scan service\Customer* manually, or simply call the extended menu () , which will open the Windows directory browser.

Batch directory template

In our sample project, the scanned documents are supposed to be saved to a folder structure comprised of the client's name, followed by today's date.

First, open the extended menu () , then clear out the right window (*Selected*) by clicking each of the items and returning them to the left window (*Available*), by operating the button with the left arrow.

Next, add the following items to the right window (*Selected*) and arrange them in this order (top to bottom): *Fixed text*, *Directory separator*, *Date / Time*.

Enter *Customer ABC*, as *Fixed text*. The *Directory separator* item will later simply insert a "\" character (backslash), into the resulting directory path. Finally, for the purposes of this sample project, we will just accept the default settings for the *Date / Time* item.

08-Export

Export (top line)

The project requires the output of a searchable PDF/A files.

Make *PDF/A Document* the only selected export option.

In the *Output* section of the properties window, identify the line for *File name* and make the following extended settings:

- Select *Batch name template* and *Document counter*, as the file name components. No further options need to be set.

In the *Filter* section of the properties window, *On* must be selected for the *Ignore blank pages* option.

In the *OCR* section of the properties window (this is the text recognition section), activate *Full text generate* and *Deskew* (Deskew will improve text recognition results).

09-Counter

Software Counter

Software counters will not be used in this sample project, therefore you may ignore this section, for now.

This concludes the configuration of our project template. To actually start the project, return to the *Control* menu and click *Start batch*. Select the project template you just created and launch the batch with *OK*. The currently active batch and the name of the project template should be displayed in the title bar.

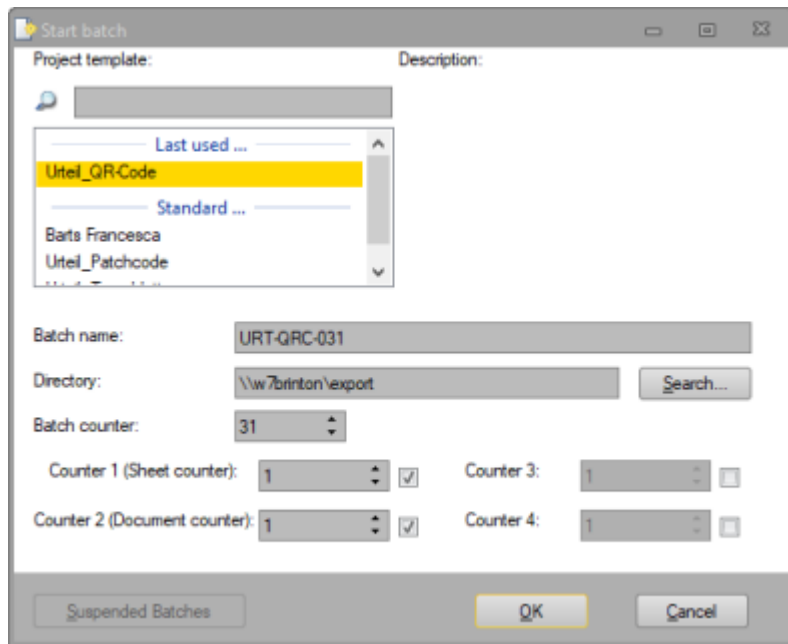
If necessary, select a scanner, then click on *Batch scan* to begin with scanning.

Once all documents have been scanned, click on *Finalize*. ScamaxScan+ will now further process the scanned batch and output all data into the specified folder.


Starting and closing batches

Starting a batch

In order to manually start a batch (you will have to be in quick mode to do so), click *Start batch* from the *Control* toolbar. The following screen dialog will suggest the most recently used project template (*Last used ...*) for use with your new batch. If you wish to use one of the other templates available (*Standard ...*), select the desired template by clicking it once (this will cause the template name to be highlighted).



The settings shown below the template selection box will change according to the project template highlighted.

 Please note: Though possible, you should (under normal circumstances) refrain from making changes to the values displayed, since these have been derived from settings made in the respective project template and from previous project runs based on that template.

Clicking OK will use the current settings to start a new project. ScamaxScan+ is now in project mode.

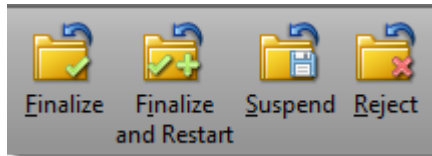
Automated project start

ScamaxScan+ can be instructed to automatically start a batch (i.e. enter project mode), whenever the program itself is started.

- If you wish to have a choice of the project template to be used, set option *Show project selection* to *On* (*Program options* in the *Settings* toolbar, *Common* options, section *General settings*).
- If you want to always start all new batches with the same project template, then choose the desired project template from the drop-down list in option *Project template* (*Program options* in the *Settings* toolbar, *Common* options, section *General settings*).

Closing a project

In order to terminate an active batch job, use one of these four icons:



Only the two leftmost controls, *Finalize* and *Finalize and Restart*, will cause the batch to be finally closed (and export files to be written to disk).

The exact meaning of each of the four controls is as follows:

Finalize

Closes the batch, executes all required processes (or transfers them to the Process manager) and returns ScamaxScan+ to quick mode.

Finalize and restart

Closes the batch, executes all required processes (or transfers them to the Process manager) but keeps ScamaxScan+ in project mode. ScamaxScan+ will automatically open a new batch based on the previously used project template.

Suspend

The current batch job will be saved and not processed any further. No files will be output.

To reopen a suspended batch at some later time, click on the *Suspended Batches* button in the *Start batch* window (see above). Please note: For the *Suspended batches* button to become active, you will need to select the appropriate project template, beforehand.

Reject

This command cancels your present batch job and returns ScamaxScan+ to quick mode. All scanned images will be lost, no files will be output.

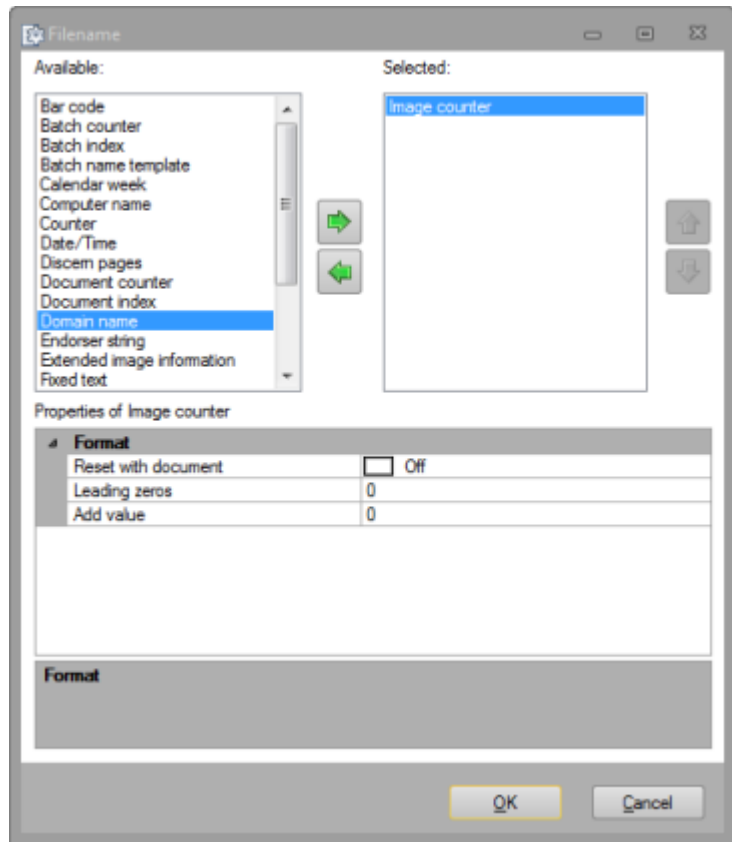
Utilizing the Process Manager

Depending on whether and how exactly the process manager has been configured,

the finalisation of projects will happen in different ways. For more details, please refer to chapter *Process Manager*, [Using the Process Manager](#).

Single- and Multipage Export

When exporting output files, you may compose dynamic filenames:



File names may be freely assembled from strings and variables (for detail information on variables please refer to section [Use of variables](#), in the appendix), whereas file name extensions are largely predetermined by the format or type of file.

Depending on the file format chosen, you will be able to generate multiple image output files (e.g. PDF or TIF files) - or just one file per image (all other image formats). The exact behaviour is controlled by appropriately defining file name(s):

Creating separate files per image:

If you wish to generate a separate file per image, then you will need to include the *Image counter* (or some unique page index value) into the filename.

- Example based on the batch name: <Batch name template><Image counter>.
- Example based on bar code values: <Bar code><Image counter>.

Creating just one multi page file per batch:

Create a file name without any image or document counters. Instead, you might want include a bar code value read from a cover sheet. In order to achieve this,

you will need to activate the option *Bar code*, in the image processing settings and include *Bar code* into your filename, in the output section of the export settings.

- Example based on the batch name: <Batch name template>.
- Example based just on the project name: <Bar code>.

Creating a multi page file driven by document separators, bar codes or patch codes

All you have to do is to include the *Document counter* or document specific bar code values (or some unique document index value) into the filename:

- Example based on a bar code value: <Bar code>.
- Example based on separators: <Batch name template><Document counter>.

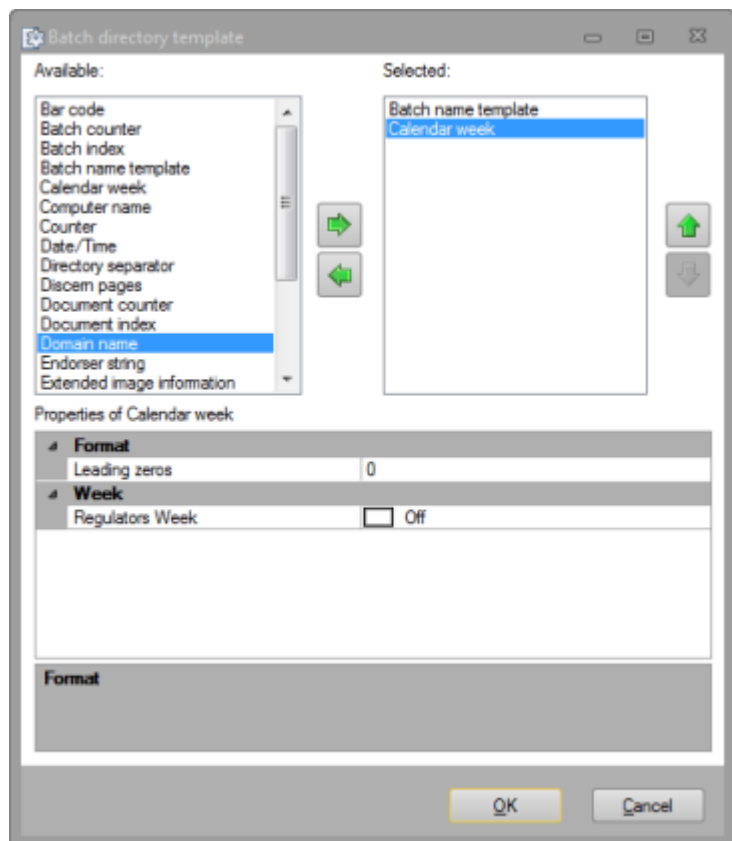
This naming scheme will also work with many other file exports, such as index-, text- or xml- files ...

Use of variables

In many instances within the ScamaxScan+ application, you may use *variables* for automation and control. This section provides examples of such variables and their possible uses.

In addition to index variables (which you create yourself, as described in detail in the section on [Index fields](#), in chapter *Project settings*), there are also many system-wide variables, which are available by default.

Using the example of the project directory template, these variables will be examined in more detail, below.



Adding and removing variables

On the left side (*Available*), select the variable and copy it to the right window (*Selected*) by using the button labelled with a green *arrow to the right*. Repeat as often as necessary. If you wish to remove an entry from the right window (*Selected*), highlight the entry and operate the button labelled with a green *arrow to the left*.

If a variable is highlighted in the right window (*Selected*), it may be moved up or down the list of selected variables using the green *up* or *down arrows*. This changes the sequence in which variables are executed / evaluated (processing will proceed from the top of the list).

After highlighting one of the selected functions in the right window, the bottom window (*Properties of ...*) will show detail options for this function.

Bar code

Cover pages or routing slips are often used to separate documents or batches. You may use bar code content from a cover page to modify the export directory structure, or use bar code values to label documents.

Batch counter

This variable contains the current value of the batch counter. Use it to direct export files from different batches to different directories.

Batch index

If a batch index item has been created, you can use this variable to define your directory structure.

Batch name template

Creates a subdirectory with the batch name you have specified.


Calendar week

Inserts the current calendar week into the path.

Computer name

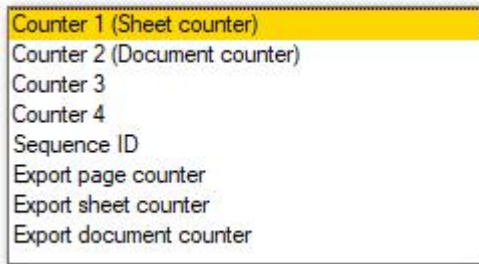
The computer name, also host name, is the unique identifier for the computer in the network. If you want to store generated data according to its source, this variable is suitable.

Counter

A screenshot of a software interface showing a configuration window for counters. It has a tree view on the left with 'Counter' and 'Format' expanded. The main area shows settings for 'Counter 1 (Sheet counter)'.

▼ Counter	
Counter type	Counter 1 (Sheet counter)
▼ Format	
Leading zeros	0
Add value	0

Primarily, this variable is used to retrieve the current contents of one of the scanner counters (e.g. the *InoTec ScaMax M06* features five such internal counters, other brands may offer less or no internal counters).



However, you may also use this variable to access some special ScamaxScan+ counter types.

The exact meaning of these counters is as follows:

- Counter 1 (Sheet counter): Current value of the scanner's sheet counter (if available).
- Counter 2 (Document counter): Current value of the scanner's document counter (if available).
- Counter 3 (configurable): Current value of the scanner's 3rd counter (if available, see documentation).
- Counter 4 (configurable): Current value of the scanner's 4th counter (if available, see documentation).
- Sequence-ID: Continuous sheet count across the scanner's entire operating life (if available, see documentation).
- Export page counter: ScamaxScan+ internal page counter which will take deleted pages, added pages and any pages with deletion markers into account. Please note that this counter is only available during export, i.e. you can not use it to populate index fields.
- Export sheet counter: ScamaxScan+ internal sheet counter which will take deleted pages, added pages and any pages with deletion markers into account. Please note that this counter is only available during export, i.e. you can not use it to populate index fields.
- Export document counter: ScamaxScan+ internal document counter which will take deleted pages, added pages and any pages with deletion markers into account. Please note that this counter is only available during export, i.e. you can not use it to populate index fields.

Date / Time

This variable is always filled with the current date and time. Use this variable if you want to generate unique, nonrecurrent directories.

Directory separator

This is the term used for the familiar backslash "\", which is used in a MS Windows environment to separate directory levels.

<Calendar week><Current project name> will result in a single directory level
...\25Batch001\...

whereas <Calendar week><Directory separator><Current project name> yields
...\25\Batch001\...

Discern pages



This option will allow you to differentiate between the front side and the rear side of scanned pages. In this example, the variable cause them to be sent different export directories. Simply add suitable labels for front and rear pages.

Document counter

This variable may be used to create individual folders for each output document.

Document index

If a document index item has been created, you may use this variable to modify your directory structure.

Domain name

This variable can only be used if the PC has joined a network domain. If multiple domains are available for logging in, this variable permits you to store export data differently, depending on the network domain.

Endorser string

If you are using an endorser, you may additionally apply any of the text strings printed on scanned documents to an index file or to document names.

Extended image information

This is metadata supplied by the scanning device. The amount of data items available will vary, depending on the device.

If you wish to access several data items (each of which is accessible through the drop-down list labelled *Info name*), simply add several instances of the *Extended image information* variable.

See *Image Information*, for technical image data.

Fixed text

Use this variable to add unchanging text strings or single characters (in order to add information or to improve readability). For example, you may change a directory path from *Document001* to the more legible *Document-001* by inserting a hyphen.

Image counter

Indicates the number of images scanned so far, within this batch.



Specify the number of leading zeros to improve legibility of folders or documents, in the file explorer.

Without leading zeros:

1
10
11
12
13
2
3
...

With leading zeros:

001
002
003
...
010
011
012
013

If you want to export each scanned page as a separate document (PDF, TIFF, ...), you will need to add the image counter in the *Export* settings under *Output > File name*.

Image information

Returns technical data for the current image, such as image resolution or size.

If you wish to access several data items (each of which is accessible through the drop-down list labelled *Category*), simply add several instances of the *Image information* variable.

See *Extended Image Information*, for scanner image metadata.

OCR

Use this variable to access text recognized through zonal OCR (see section [OCR \(Project\)](#) in chapter *Project settings > Image processing*, for more details). Use the *name* assigned to the OCR definition to select text from a specific detection area.

Page index


If a page index item has been created, you may use this variable to modify your directory structure or file naming.

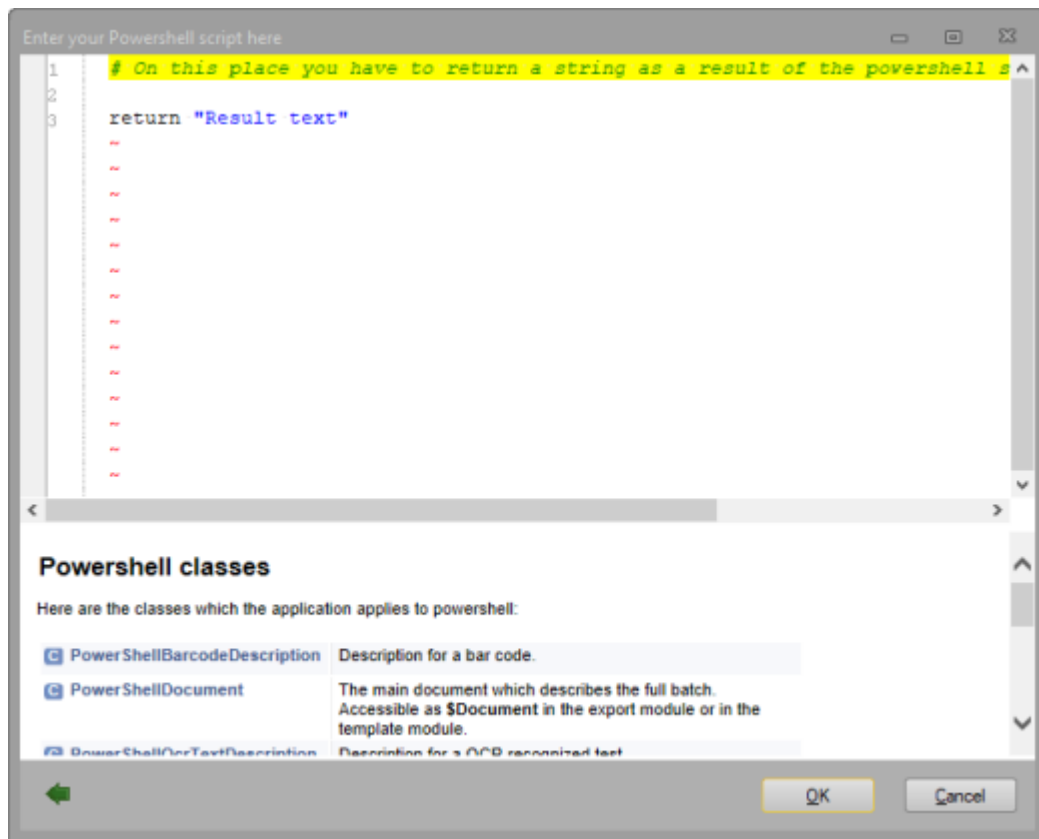
Preset

Use this variable to access one of the *presets* you may have created (see section [Presets](#), in chapter *Project settings*)

Powershell

The Powershell variable allows access to system-wide data items, for use within ScamaxScan+ batches. If you intend to output results from a powershell script (e.g. as a file), please use the [Powershell-Export](#) function, instead (see section *Export*, chapter *Project settings*).

The *Powershell* variable has only a single configuration option, *Script text*. Clicking the icon for the extended menu () will open a text-editor window:



In the top section of this window, you may enter and edit your powershell script (see code-sample, below).

The lower (help) section contains a listing of all ScamaxScan+ specific powershell classes. Clicking on one of the class names will display further information about the class and the variables and properties available. Use the small green left arrow (at the bottom left) to return to the original list.

Calling the *Powershell* variable will run the script defined above. At the end of such a script, the *Powershell* variable is invariably expected to yield a return string, as the script result. For this reason, a *return* statement is automatically inserted into the initial script text (see screenshot above), on first use. This return statement must not be deleted or misused for other purposes.

Code-Sample:

The following example employs the *PowerShellPageNode* class and makes use of variable *\$CurrentImage* and its properties *PreEndorserString* and *IsDuplex*:

```
# Example: The pre endorsed string is 20140512111109 and the last 5 digits
represent a counter
# Extract the 5 digit counter from the pre endorsed string
$counter = [int]$CurrentImage.PreEndorserString.Substring(10, 5)
# Add 1 to the counter
$counter++
# When scanned image is duplex, then add additional 1
if($CurrentImage.IsDuplex)
{
    $counter++
}
```



```
}  
# Format string to original format with 5 digit counter  
return ( $CurrentImage.PreEndorserString.Substring(0, 10) + "{0:D5}" -f  
$counter )
```

Software Counter

Use this variable to access one of the (*software*) *counters* you may have created (see section [Counter](#), in chapter *Project settings*)

Unique ID

Select from three different internal processing identifiers. Since these will be unique, they may be readily used to differentiate between batches.

User

Indicates the name of the user currently logged on to the computer. Use this variable to implement a user-dependent data saving scheme.

Regular expressions

Regular expressions provide a powerful tool for *separating* and *filtering* data. This topic is very complex and, in the beginning, quite challenging.

In regular expressions, you can specify certain *text patterns* in contrast to exact strings. *Literals* and *metacharacters* are used for this.

Literals are all characters that do not have any unique meaning in a regular expression and which are searched for. They are also called a *search pattern*. Letters and digits are, for example, *literals*.

A *metacharacter*, in comparison, is a symbol in a regular expression with a unique meaning (*separator*, *operator* or *wildcard character*).

Regular expressions are essentially search patterns that are applicable to strings and are able to determine whether they match a string or not (mismatch). In this way, the search pattern *ay* matches the *way* string because the string *ay* is contained in it. It does not match the string *deep*.

If a search pattern is applied to a set of strings, you will receive two subsets, namely the set of all strings for which the pattern matches and the set for which the pattern does not match. Usually you will be interested in one of the two subsets.

- Find all names that begin with an *A*.
- Find all characters that are not to the right of a comment character.

The characters used are certainly familiar to you if you have been working with a computer for any length of time. The following will show you which characters are *used* and which *meaning* or *function* is assigned to them.

You can also combine the special characters in regular expressions. You search for any string, for example, using a combination of a *dot* wildcard character and *asterisk* repeat character

`.*`

This expression usually is used as a part of a larger expression, such as in

`b.*ing`

This expression searches for all strings that start with *B* and end with *ing*.

Regular expressions are usually implemented using a finite automaton. Computer science is familiar with processes with which you can automatically generate an automaton that can determine if a string matches or does not match a certain search pattern. Regular expressions function in the same way.

When a regular expression is first used, an automaton is generated internally (the pattern is compiled) and then applied. When the same search pattern is used at a later time this automaton could possibly be used again, which is significantly faster.

Some search patterns and conditions are too complex to use regular expressions and automata to formulate them.

A typical example is something that requires counting:

- Find all words that contain the same number of *b*'s as *a*'s.

Also anything that requires preconditions:

- Find all of the words *print*, but only if it is not in quotation marks or is part of a comment.

In this case, you need more powerful concepts and tools, context-free or context-sensitive grammar and a suitable parser. It is possible to create complex conditions by connecting multiple filters in series in ScamaxScan+.

In practice, you use regular expressions to decide if a string meets certain formal criteria:

- Accept the value only if it contains exclusively digits.

or to cut specific substrings out of strings:

- Supply with the text between start and end out of the given string.

Components of regular expressions

Summary

Character	Name	Meaning
\	Backslash	Escape character
^	Caret or hat character	Position in line: beginning of line
\$	Dollar sign or string character	Position in line: end of line
.	Dot	Wildcard: any character
	Pipe character	Branch/Alternation
{ }	Braces (curly brackets)	Quantifiers
?	Question mark	Indicates there is zero or one repetition of the preceding expression.
*	Asterisk	Repeat: zero or more repeating incidents of the preceding character or the preceding character class
+	Plus sign	at least one repeat of the previous expression
[]	Square brackets	Initiates character set
-	Dash	Range marker

[x-y]	Function	Range: all characters in the given range
\x	Function	Escape: literal use of the metacharacter x
\<xyz	Function	Position in word: beginning of word
xyz\>	Function	Position in word: end of word
[Class]	Function	Character class: any character in the class
[^Class]	Function	Inverse class all characters that are not given in the class

Search patterns in regular expressions are comprised of common characters (literals) and characters with unique meanings (metacharacters). Literals in search expressions indicate the corresponding characters in a string.

- The search expression *hello* matches all strings that contain this exact string somewhere.

Metacharacters indicate *wildcards* for one or more other characters, for beginnings or ends of lines, or for other specific functions. They are what make regular expressions powerful and meaningful.

In regular expressions, there are character sets that are contained within square brackets `[` and `]`. There are rules for metacharacters that differ depending on whether you are working inside or outside of a character set. Outside of a character set there are the following special rules:

Backslash

\

is used as an escape character with various applications. This removes the unique meaning from metacharacters (in other words, characters that are not alphanumeric) so you can insert them literally into the search pattern.

The search pattern

*

matches an asterisk exactly.

It has a unique meaning for alphabetic characters similar to in the C programming language.

\r

means *Return (ASCII 13)*

\n

means *line feed (ASCII 10)* and so on.

The strings \d, \D, \w, \W, \s and \S describe certain predefined character sets (see below).

The string \0xYY defines the hexadecimal notation YY.

\0x0A

indicates a character with the character code *ASCII 10 (line feed)*.

In the string

\XXX

a character with the *octal character code XXX* is defined.

\012

therefore, indicates a character with the *ASCII 10 (line feed)* character code.

This syntax is not recommended as it overlaps with another syntax for back references (see below).

Caret or hat character

^

is an indication of the beginning of a string.

The search pattern *^hello* matches all strings that start with the word *hello...* but not strings that contain *...hello...* somewhere in the middle.

String character

\$

Correspondingly, the string character *\$* indicates the end of string.

- The search pattern

World!\$

matches strings that end with the text *World!*

- The search pattern

^\$

matches strings that only have a start and an end, in other words, empty strings.

Dot

.

The dot matches exactly any single character except the newline character (*\n*).

The search pattern

...

therefore, matches all strings that contain exactly three characters.

Pipe character

|

The pipe character | indicates a branch or alternation.

This means that the search pattern (*She|He*) matches either the string *she* or *he*.

Parentheses () enclose a subexpression or a part of an expression. They can be used to mark a part of a search pattern so it can be used later or to group partial patterns.

The previous point provided an example of grouping:

- (*He|She*) defines a pattern that matches either *he* or *she*.
- In comparison, (*He|She*) defines a pattern that matches either *hehe* or *hesh*.

Back references are the marked parts of a search pattern that can be extracted and edited after applying the pattern.

The pattern

„(.)“

matches exactly any single character that is between quotation marks. Which letter exactly matched the string tested can be queried after using the search pattern. This is used frequently to cut substrings with a specific structure out of a larger string. Within a regular expression open parentheses are numbered consecutively from left to right. Back references can be used within the same expression to refer to the text that is marked by parentheses.

\1

indicates the text that is enclosed by the first open parentheses,

\2

the text in the second parentheses etc. There is more information regarding this in the following points.

Quantifiers

{ }

You can determine how many incidents of the previous expression should be sought by using quantifiers in curly brackets.

Question mark

?

The question mark can be used as a shorthand for

{0,1}

It indicates that there is zero or one repetition of the preceding expression.

Asterisk

*

The asterisk means

{0,}

in other words, there is zero or more repetitions of the preceding expression.

Plus sign

+

The plus sign indicates

{1,}

therefore, for at least one repetition of the previous expression.

Square brackets

[]

Square brackets introduce a character set. A character set always indicates exactly one character, and this for one character that is included in the set. Thus, the regular expression

[0123456789]

matches exactly any one single digit.

Within the square brackets of a character set, the following characters have a unique meaning:

- The backslash \ is an escape character. A character that comes after a backslash has no unique meaning, but is treated as a literal character.
- The caret ^ used as the first character in a character set (but only as the first character!) negates the character set. The character set

[^0123456789]

indicates exactly one character that is not a digit.

Dash

-

The dash - defines a range. The character set

[0-9]

is a shorter notation than

[0123456789]

for the same set.

Special character sets

If you use a search expression with *preg* functions* then the search expression should be enclosed by *delimiters*, behind which additional options can be specified. Usually a forward slash / or an equals sign = are used.

After some practice, you can use these components to create search expressions that quickly and reliably perform the necessary search functions or find and replace functions.

Examples of frequently used expressions

Expression	Meaning
\d	a decimal digit
\D	the negation of \d
\w	a word character
\W	the negation of \w
\s	a whitespace character
\S	the negation of \s
{n,m}	repeats the previous expression between n and m times
{n,}	at least n repeats
{,m}	no more than m repeats
{n}	indicates exactly n repeats
a{3,5}	all strings that contain between three and five character a's in series
(bla){3}	all strings that contain exactly the character set blablabla
^a(. {3,})b\$	all strings that start with an a, end with a b and contain at least three characters in between. Which (and how many) characters these were can be

queried after using the pattern since this section of the pattern was marked with parentheses.

OCR (Appendix)

ScamaxScan+ uses an open-source engine called *Tesseract*, for text recognition (Tesseract is developed and maintained by GoogleCode).

Scanning considerations

You will achieve best text recognition results when using source documents with few or no illustrations. Ideally, such documents should be scanned with the highest feasible resolution and in bi-tonal mode.

OCR default settings

Before first use, you should make all necessary OCR default settings (see chapter *Program Settings*, section [OCR](#)).

Continuous text recognition (Full Text OCR)

Text recognition may be performed for the entire area of all images scanned, i.e. any recognizable text will be processed. In this case, all the necessary OCR settings are made in the export settings of the desired output format.

The following export formats support full-text OCR:

[PDF file](#)

[TXT file](#)

[XML file](#)

Localized text recognition (Zonal OCR)

You may also configure the text recognition engine to process specific areas within images. This is referred to as zonal OCR and may be applied in two different ways:

- You may automatically apply zonal OCR, e.g. for creating index data. All settings required will need to be made prior to the start of a project. Please find detailed information on this in chapter *Project settings*, in the section on [Image processing](#).
- Alternatively, you may perform zonal OCR manually, during the course of a project. Recognized text may either be inserted into index fields or placed in the Windows clipboard (from where it can be transferred to other applications). Please find detailed information on this in the chapter on *Menu bar functions*, in section [Edit toolbar](#).

Image processing functions affecting or supporting OCR

The following image processing functions will improve or affect OCR results.

Please refer to respective sections, for more information:

- *Color replacement* - use to remove background coloring.
- *Line removal* - use to get rid of interfering lines or frames.
- *Punch hole removal* - use to get rid of interfering punch-holes.

Scanner-glossary

Content - A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

A ^ ^ ^ ^ ^ ^

Resolution

Resolution is commonly used in the world of digital imaging in reference to the number of pixels within a certain area. Resolution increases as the number of pixels contained in the same areas increases.

ADF

ADF generally stands for Automatic Document Feeder. This refers to the device which, depending on the type of scanner, automatically feeds any number of sheets in a batch into the scanner one after another. Just about all photocopiers these days are equipped with this device.

Auto color correction

Auto gamma correction

Gamma correction refers to the process of adjusting the background brightness of an image.

Auto contrast

This is a setting found in scanner drivers or graphics applications; it is used to automatically adjust the contrast.

Auto brightness


This is a setting found in scanner drivers or graphics applications; it is used to automatically adjust the brightness.

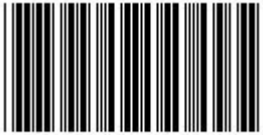

B ^ ^ ^ ^ ^ ^

Barcode

Bar code engine 1D


code 39

Valid characters:	0123456789[Space]ABCDEFGHIJKLMNOPQRSTUVWXYZ-./+%
Length:	Variable (no specified length)
Check digit:	Calculation according to Modulo 43
Example:	 C O D E 3 9

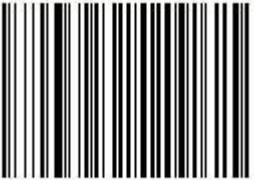
Description:	<p>Code 39 is an alphanumeric code. Each character is made up of nine elements (five lines and four spaces), where three of these nine elements are wide and six are narrow. This aspect allows the self-checking of Code 39. Each character is separated by a space. The advantage of this code is the large pool of characters. The disadvantages are the low level of information density and the low tolerance.</p> <p>Code 39 can be used with or without a checksum depending on the application. The checksum is calculated according to Modulo 43.</p> <p>If you have a code with the text "CODE39", the barcode, without check digit, appears as below:</p>  <p>An alternative is the "Code 39 Checksum" type with a checksum calculation according to Modulo 43:</p>  <p>According to the specification, Code 39 can be created in various ratios: 2.0:1 or 3.0:1. The larger the ratio, the wider the printed barcode will be. The contents are the same, but the readability is improved.</p> <p>The star is used as the start and stop character for Code 39. Usually the stars are not positioned at the beginning and the end of the plain text line. However, sometimes the "start/stop stars" are found in the plain text line; to adjust these codes, you simply must leave off the stars at the beginning and end, as the stars are a fixed component of Code 39.</p>
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code 93

Valid characters:	0123456789[Space]ABCDEFGHIJKLMNOPQRSTUVWXYZ-.\$/+%
Length:	Variable (no specified length)
Check digit:	Calculation according to Modulo 47

Example:	 CODE93 12345678
Description:	Code 93 is an alphanumeric code, similar to Code 39, for which the character set contains the digits 0 to 9, the 26 uppercase letters (A-Z), the space character as well as special characters such as minus, period, dollar sign, forward slash, plus and percent signs.

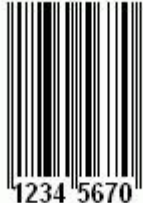
code 128

Valid characters:	Almost all ASCII characters including control characters.
Length:	Variable (no specified length)
Check digit:	Calculation according to Modulo 103
Example:	 C o d e 1 2 8
Description:	<p>Code 128 Auto enables the display of the complete ASCII character set. To encode the alphanumeric data in the shortest possible form, there is automatic toggling between the three character sets A, B and C. Due to its high information density and the ability to display the complete ASCII character set, Code 128 has secured a large community of users.</p> <p>The three character sets in detail:</p> <ul style="list-style-type: none"> • Code 128A: The uppercase letters and special characters are encoded in this character set. • Code 128B: This character set contains the upper and lowercase letters. • Code 128C: This character set is optimized for displaying numeric characters. <p>These three independent character sets are only components of Code 128 and are therefore rarely used as individual types. Generally, the use of a special character set is unnecessary because the main type Code 128 automatically selects the best character set.</p> <p>EAN 128 or UCC 128 is a special form of Code 128. It is a</p>


logistic code for trade.

Checksum: With Code 128, a checksum is created internally that is not a part of the barcode and therefore should not be placed in the plain text line.

EAN 8

Valid characters:	0123456789
Length:	8
Check digit:	Calculation according to Modulo 10
Example:	
Description:	<p>EAN 8 is a shorter version of EAN 13. This code is generally used for articles that do not have enough space for the EAN 13 code on the packaging. This is the case when an EAN 13 code would take up more than 25% of the front surface. An EAN 8 number is only assigned upon request because these numbers have a limited availability. The applicant must include with the request a sample of the article as proof of its necessity.</p> <p>An EAN 8 always is composed of 8 digits:</p> <ul style="list-style-type: none"> • A three-digit prefix. The prefix identifies the numbering authority that assigned the EAN. • The four-digit product identification. • The check digit.


EAN 13

Valid characters:	0123456789
Length:	13
Check digit:	Calculation according to Modulo 10
Example:	

Description:	<p>The EAN code is mostly used in supermarkets in which the acquisition process is especially labor-intensive due to the large numbers of products per customer. The packaging of the commodities is printed with the European Article Number (EAN) or the GTIN (Global Trade Item Number), encoded as a barcode.</p> <p>The standard EAN barcode has 13 digits. For smaller products there is a shorter version with eight digits, the EAN 8 code.</p> <p>The EAN 13 or the GTIN is configured as follows:</p> <ul style="list-style-type: none"> • The first two digits of the EAN 13 code or the GTIN identify the manufacturer's country (country code). The identification numbers 40-43 stand for Germany, for example. The next five digits identify the manufacturer of the product. This number is assigned in Germany by GS1 Germany GmbH. • The following five digits comprise the individual product number and classification of the manufacturer's product. This number is assigned directly by the manufacturer. • The final thirteenth digit of the code is the check digit that is determined via a calculation. <p>History: The EAN code was introduced in 1977 in twelve states (including all EC countries). Since then, other countries have joined in this accord, including almost all Western European countries, USA, Canada, Australia and Japan. Today, the EAN (European Article Number) is referred to as the GTIN (Global Trade Item Number).</p> <p>The acquisition process at the cashier in a supermarket is simplified and expedited significantly using the EAN or GTIN code. The cashier no longer is required to enter the purchase data using the keyboard on the cash register but must only guide the goods with the bar code facing downwards over the scanner. The scanner is a reading device that reads a bar code and transfers it to the computerized cash register. The computerized cash register uses the scanned product number to retrieve the corresponding product description and price from the supermarket's database.</p> <p>Additional acquisition processes are no longer necessary unless a barcode is no longer readable due to external influences and must be entered manually using the keyboard. The benefits of using the EAN or GTIN codes:</p> <ol style="list-style-type: none"> 1. The labeling of goods is no longer necessary. Price
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	<p>labels are needed only on the shelves.</p> <p>2. Time savings and increased security due to the avoidance of typing errors during check out.</p> <p>Which manufacturer lies hidden behind a EAN 13 or GTIN?</p> <p>Using GEPIR you can discover the manufacturer hidden in a EAN 13 or GTIN code. GEPIR is a global address database of businesses that participate in the ILN / EAN system.</p>
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GS1 DataBar Limited (formerly RSS Limited)


Valid characters:	
Length:	
Check digit:	
Example:	 <p>(01) 00614141999996</p>
Description:	<p>The former designation RSS stands for Reduced Space Symbology and has been replaced by the new designation GS1 DataBar.</p> <p>GS1 DataBar Limited was developed to identify very small products that cannot be captured in an omnidirectional environment. It can encode a 12, 13 or 14-digit GTIN, whereas the indicator in a 14-digit GTIN can only accept the value 1.</p> <p>A 14-digit GTIN with an indicator higher than 1 must use a different barcode symbol from the GS1 DataBar family.</p>

GS1 DataBar Omnidirectional (formally RSS 14)




Valid characters:	
Length:	
Check digit:	
Example:	 <p>(01)20012345678909</p>

Description:	<p>The former designation RSS stands for Reduced Space Symbology and has been replaced by the new designation GS1 DataBar.</p> <p>GS1 DataBar Omnidirectional uses the Application Identifier AI (01) to encode the GTIN in a linear symbol that can be read omnidirectionally (regardless of position and orientation) by every standard slot scanner.</p>
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Intelligent Mail


Valid characters:	
Length:	65
Check digit:	
Example:	
Description:	<p>The Intelligent Mail barcode is a 65-barcode for use on mail in the United States. The hope is that the additional information in the bar code will provide benefits to both customers and postal officials.</p> <p>The Intelligent Mail initiative was created by the US Postal Service in 2003, became available in 2006, and was expanded in 2007. This barcode should be fully operational as of fall 2009. The participating companies expect to benefit from the increased automation in the US Postal Service.</p> <p>The Intelligent Mail barcode replaces POSTNET and PLANET barcodes and promises to provide improved customer service and efficiency.</p> <p>The Intelligent Mail barcode also is referred to as OneCode, IMB and the 4-State barcode.</p> <p>Allocation of the elements:</p> <ul style="list-style-type: none"> • Barcode ID (2-digit) • Service Type (3-digit) • Mailer ID (6-digit) • Serial number (9-digit) • Routing Code (0, 5, 9 or 11-digit delivery point code) <p>Example: 05,987,978425,684745129,92130</p> <p>The text can be located below or above the barcode in accordance to the specifications.</p>

Interleaved 2 of 5

Valid characters:	0123456789
Length:	Variable (no specified length)
Check digit:	>Calculation according to Modulo 10 The checksum is optional. The original version of this code did not use a checksum.
Example:	 <p>01 23 45 67 89 10 12 13</p>
Description:	<p>The 2 of 5 Interleaved code is a numeric code. Its character set contains only the digits 0 to 9. It is a version of Code 25.</p> <p>The goal is to save space by displaying in pairs the digits to be encoded. The code is composed of two wide and three narrow lines or two wide and three narrow spaces. Two digits always form a pair. The first digit is composed of five lines, the second digit then is composed of the spaces that come directly after the first digit. The pair of digits is displayed by five lines and spaces.</p> <p>An example for the difference between Code 25 Industrial and Code 25 Interleaved: The digits 123456 will be encoded. The result as Code 25 is as follows:</p>  <p>1 2 3 4 5 6</p> <p>In comparison, the digits 123456 encoded as Code 25 Interleaved:</p>  <p>12 34 56</p> <p>Code 25 Interleaved does not have a built-in check digit. However, it does offer the advantage of being self-checking, similar to Code 39, as well as a high information density that requires little space. The low tolerance as well as the paired display of the characters could be considered disadvantages. If an uneven number of characters needs to be displayed, a zero must be placed at the beginning of the code (123 would be 0123) or a self-created check digit</p>


is added at the end.

ITF-14


Valid characters:	0123456789
Length:	14
Check digit:	Calculation according to Modulo 10
Example:	 <p>3 07 12345 00001 0</p>
Description:	<p>The ITF-14 bar code (also called SCC-14) is used to create the Shipping Container Symbol. This code is used to identify cartons and palettes that contain goods marked with an EAN-13 code. One digit is added in front of the EAN-13 code to identify the type of packaging.</p> <p>The ITF-14 code is always 14 characters long:</p> <ul style="list-style-type: none"> • The first digit is the type of packaging. • The following 12 digits indicate the product code. Generally, this comprises the EAN-13 number without the check digit. In other words, these are the first 12 digits of the EAN-13. • The last digit of the ITF-14 is the check digit. <p>The name ITF-14 designates the type of barcode used, Interleaved 2 of 5 (Code 25 Interleaved, ITF = Interleaved Two of Five) and the 14 digits that are displayed, the length of the container symbol.</p> <p>The ITF-14 bar code itself can have a thick, solid frame around the barcode. The lines forming the frame are called bearer bars. This frame is not required for recognizing this barcode.</p>

Patch code

Valid characters:	<p>Only predefined types are possible</p> <ul style="list-style-type: none"> • Patch 1 • Patch 2 • Patch 3 • Patch 4 (Toggle patch) • Patch 6 • Patch T (Transfer patch)
-------------------	--


Length:	-
Check digit:	-
Example:	
Description:	Patch codes are generally used to separate documents or to control a scanner automatically. For example, with certain scanner models a patch code can be used to switch from simplex to duplex or to control a counter.

Planet

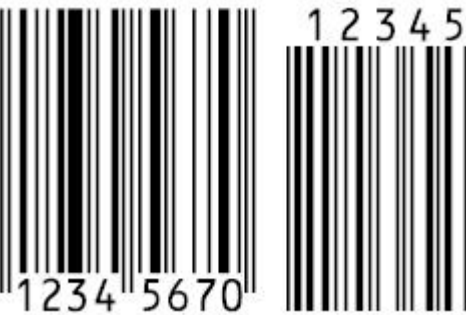
Valid characters:	0123456789
Length:	12 or 14 characters
Check digit:	yes
Example:	
Description:	<p>The Planet barcode is used by the U.S. Postal Service. The barcode consists of:</p> <ul style="list-style-type: none"> • Two digit service type ID • Five digit subscriber ID • Four or six digits are for the user's own purposes • Check digit:

Plus 2

Valid characters:	
Length:	
Check digit:	


Example:	
Description:	<p>The plus 2 code always is used in connection with a basic code and can be considered an extension. Here is the EAN-8 + 2 digits.</p> <p>The extension is used for printed materials that recur monthly and identifies the calendar week (01 - 52) or the month (01 - 12) they recur.</p> <p>The additional code is widely used globally.</p>

Plus 5

Valid characters:	
Length:	
Check digit:	
Example:	
Description:	<p>The plus 5 code always is used in connection with a basic code and can be considered an extension. Here is the EAN-8 + 5 digits.</p> <p>The extension is used for printed materials such as journals, newspapers and books. The additional characters identify the day or the price of the item.</p> <p>The additional code is widely used globally.</p>


Postnet

Valid characters:	0123456789
-------------------	------------


Length:	Variable (no specified length)
Check digit:	Calculation according to (see below)
Example:	
Description:	<p>PostNet (Postal Numeric Encoding Technique) is a code used by the U.S. Post Office. It is used to reproduce the zip code of the addressee in a machine-readable format. This expedites the sorting of mail so the addressee receives the mail more quickly.</p> <p>The PostNet barcode consists of the following elements:</p> <ul style="list-style-type: none"> • Start character • Data (numeric characters) • Checksum • Stop character <p>The checksum is calculated by first adding together all the digit encoding data. The difference of this sum from the next number that is divisible by 10 is the checksum.</p> <p>There are three variations of the PostNet bar code that are used most frequently. They differ in the length of the encoded data:</p> <ul style="list-style-type: none"> • Five digit PostNet barcode: Represents a five-digit ZIP code • ZIP+4 PostNet barcode: Represents a nine-digit ZIP code • DPBC PostNet barcode (delivery point bar code): Represents a nine-digit ZIP code + two DPBC digits

RM4SCC (Royal Mail)


Valid characters:	01234567890ABCDEFGHIJKLMNPOQRSTUVWXYZ
Length:	Variable (no specified length)
Check digit:	none

Example:	 A barcode consisting of five groups of vertical bars of varying heights. Below each group is a number: 1, 2, 3, 4, and 5.
Description:	Royal Mail 4 State Customer Code (RM4SCC) was developed for the automatic sorting of mail. Normally, this code is used to encode the ZIP code and the house or P.O. Box number and reproduce it in a machine-readable format. The contents of this code varies from country to country.


Telepen

Valid characters:	Complete ASCII character set
Length:	
Check digit:	
Example:	 A barcode consisting of vertical bars of two different heights. Below the bars is the number 1234.
Description:	<p>Telepen can be used to represent the full range of ASCII characters. This covers the standard set of printable characters including numbers, upper and lowercase letters and punctuation marks as well as the complete set of non-printable control characters such as carriage return, line feed, horizontal tab, etc.</p> <p>Telepen can also be used to represent numeric data in double-density mode, where an ASCII character is re-interpreted as a pair of numeric characters. There is nothing in the barcode to distinguish between the two modes, and the interpretation of the data as ASCII or numeric is determined only by the configuration of the reading device.</p> <p>Telepen systems have been implemented in many countries and very widely in the U.K. Most universities and other academic libraries use Telepen, as do many public libraries. Other users include the motor industry, Ministry of Defense and innumerable well-known organizations for many different applications.</p>

UPC-A


Valid characters:	0123456789
Length:	12
Check digit:	Calculation according to Modulo 10
Example:	
Description:	<p>The UPC A code is the normal 12-digit version of the UPC code and is similar to the EAN code. It also is called UPC 12. The UPC code is a numeric code that represents the digits 0-9. Each character comprises two lines and two spaces.</p> <p>The UPC A code consists of the following elements:</p> <ul style="list-style-type: none"> • The first digit of the UPC A code identifies what is encoded in the barcode: <ul style="list-style-type: none"> 0 - Regular UPC code 1 - Reserved (possibly for later use) 2 - Products sold by weight. This code is created at the store to mark products. 3 - National Drug Code (NDC) and National Health Related Items Code (HRI) 4 - UPC code that can be used without any format restrictions 5 - Coupon 6 - Regular UPC code 7 - Regular UPC code 8 - Reserved for later use 9 - Reserved for later use • The second to sixth digits of the UPC code identify the manufacturer of the product (UPC ID number). This number is assigned by the Uniform Code Council (UUC), 7051 Corporate Way - Suite 201, Dayton, OH 45359-4292, USA. • The seventh to eleventh digits of the UPC code represent the individual article number and identify the manufacturer's product. • The final twelfth digit of the code is the check digit that is determined via a calculation.

UPC-E

Valid characters:	0123456789
Length:	8
Check digit:	Calculation according to Modulo 10
Example:	
Description:	<p>The UPC code is a shorter version of the UPC code that is a numeric code with the digits 0-9.</p> <p>The UPC E has 8 digits, whereby the eighth digit is the check digit and the first one is a system identifier, which is always a "0". The encoded digits are included as plain text under the code.</p>

Bar code engine 2D


DataMatrix

Valid characters:	
Length:	
Check digit:	
Example:	
Description:	<p>DataMatrix is a two-dimensional (2D) barcode symbology which can store from 1 to about 2,000 characters.</p> <p>DataMatrix ECC200 version supports advanced encoding error checking and correction algorithms (Reed-Solomon). Those algorithms allow the recognition of bar codes that are up to 60% damaged.</p> <p>DataMatrix is being used to encode product and serial number information on electrical rating plates, to mark surgical instruments in Japan, and to identify lenses, circuit boards and other items during manufacturing.</p>

Barcode Professional supports all DataMatrix Formats and the data represented in the symbol can be compressed using one of following algorithms:

- ASCII: is used to encode data that contains mainly ASCII characters (0-127).
- C40: is used to encode data that contains mainly numeric and uppercase characters.
- Text: is used to encode data that contains mainly numeric and lowercase characters.
- Base256: is used to encode 8 bit values.


Micro QR

Valid characters:	
Length:	
Check digit:	
Example:	
Description:	<p>Micro QR stands for Micro Quick Response Code.</p> <p>The image shows the code produced by the representation of the string:</p> <p>ABC123456789</p> <p>QR Code is a kind of 2D (two-dimensional) symbology developed by Denso Wave (a division of Denso Corporation at the time) and released in 1994 with the primary aim of being a symbol that is easily interpreted by scanner equipment. Micro QR Code is a very small QR Code barcode that fits applications requiring a smaller space and using smaller amounts of data, such as the identification of printed circuit boards and electronics parts, etc.</p> <p>Micro QR Code is capable of handling all types of data, such as numeric and alphabetic characters, Kanji, Kana, Hiragana, symbols, binary and control codes.</p> <p>The symbol versions of Micro QR Code range from Version M1 to Version M4. Each version has a different module configuration or number of modules (the module refers to the black and white dots that make up the Micro QR</p>

Code). Module configuration refers to the number of modules contained in a symbol, commencing with Version 1 (11 x 11 modules) up to Version 4 (17 x 17 modules). Each higher version number comprises two additional modules per side. Each Micro QR Code symbol version has the maximum data capacity according to the amount of data, character type and error correction level.

Micro QR Code is not capable of storing much data (maximum 35 numeric characters). However, because it can store data for each symbol size more efficiently than QR Code, the size of Micro QR Code symbols does not significantly increase, even though the amount of data is increased.

PDF417

Valid characters:	
Length:	
Check digit:	
Example:	
Description:	<p>PDF417, or Portable Data File 417, is a two-dimensional (2D) stacked barcode symbology capable of encoding over a kilobyte of data per label. It was developed by Symbol Technologies (1989-1992) and is currently maintained by ISO/IEC.</p> <p>Large amounts of text and data can be stored securely and inexpensively using the PDF417 symbology. The printed symbol consists of several linear rows of stacked codewords. Each codeword represents 1 of 929 possible values from one of three different clusters. A different cluster is chosen for each row, repeating after every three rows.</p> <p>The data is encoded using one of three compaction modes: text compaction mode, binary compaction mode, and numeric compaction mode.</p> <p>Barcode Professional products support the following PDF417 compaction modes:</p>

- Text: allows the encoding of all printable ASCII characters, i.e. values from 32 to 126 inclusive in accordance with ISO/IEC 646, as well as selected control characters such as TAB (horizontal tab ASCII 9), LF (NL line feed, new line ASCII 10) and CR (carriage return ASCII 13).
- Binary: enables the encoding of all 256 possible 8-bit byte values (ISO/IEC 8859-1). This includes all ASCII characters value from 0 to 127 inclusive and provides for international character set support.
- Numeric: Enables the efficient encoding of numeric data strings.
- Auto: Switches between Text, Binary and Numeric modes in order to minimize the number of codewords to be encoded.


PDF417 Error Correction Level

PDF417 uses Reed Solomon error correction instead of check digits. This error correction allows the symbol to withstand some damage without causing loss of data. The error correction levels range from 0 to 8. The recommend minimum error correction level is 2.

Compact PDF417

Barcode Professional products support the Compact PDF417 (formerly Truncated PDF417) version which omits the right-hand portion (right row indicator stop pattern) in order to save space. Please refer to Compact PDF417 Symbology for further details.

QR code

Valid characters:	
Length:	
Check digit:	
Example:	
Description:	This image shows a code that results from the representation of the string:

ABC 123456789

QR Code is a kind of 2D (two-dimensional) symbology developed by Denso Wave (a division of Denso Corporation at the time) and released in 1994 with the primary aim of being a symbol that is easily interpreted by scanner equipment.

QR Code is capable of handling all types of data, such as numeric and alphabetic characters, Kanji, Kana, Hiragana, symbols, binary and control codes.

The symbol versions of QR Code range from Version 1 to Version 40. Each version has a different module configuration or number of modules (the module refers to the black and white dots that make up QR Code). Module configuration refers to the number of modules contained in a symbol, commencing with Version 1 (21 x 21 modules) up to Version 40 (177 x 177 modules). Each higher version number comprises four additional modules per side. Each QR Code symbol version has the maximum data capacity according to the amount of data, character type and error correction level. In other words, as the amount of data increases, more modules are required to create the QR Code, resulting in larger QR Code symbols.

QR Code has error correction capability to restore data if the code is dirty or damaged. Four error correction levels are available for users to choose from according to the operating environment. Raising this level improves error correction capability but also increases the size of the QR Code. To select the error correction level, various factors such as the operating environment and QR Code size need to be considered. Level Q or H may be selected for a factory environment where the QR Code might get dirty, whereas Level L may be selected for clean environments with a large amount of data. Typically, Level M (15%) is the most frequently selected. The QR Code error correction feature is implemented by adding a Reed-Solomon code to the original data.

Batch scan

In scanners with ADF, this is the mode of operation for automatic processing of a batch of paper lying in the ADF.

Document width

The document width is given as the maximum and minimum values permissible. If this value is exceeded, paper jams will occur in the scanner. Widths falling short of this value will either cause paper to jam or distortions to appear in the scan result as the original cannot be kept secure while scanning, causing its orientation to change as it passes through the scanner.

Exposure

A setting to be made mostly for non-contact scanners. In order to compensate for changes in the ambient light and differences in lightness in the original, many book scanners perform a prescan to get a rough sample of the original and determine the right exposure.

Bitonal

A black and white image is called bitonal because it only contains pixels of those two conditions (tones).

Book scanner

A non-contact scanner or scanner with a pane of glass to press the original flat, used to gather information from books. High quality book scanners do not require a pane of glass to press the pages flat as they are equipped with integrated book-fold correction. Before information is gathered, it records the distortion of the pages in the book and adjusts the focus while scanning so as to produce a consistently sharp image at the end.

C ^^^^^

CCD

CCD stands for charge coupled device. One-dimensional CCDs are usually used in scanners. This optical component serves to capture information in an image. Depending on how the scanner is built, the CCD is either guided over the document or vice-versa. In flatbed scanners, the CCD normally runs beneath the document, while in high-volume mass document scanners the document is guided past the CCD.

Contrast

(Übersetzung von Kontrast hier einfügen)

D ^^^^^

Density

(Übersetzung von Dichte hier einfügen)

Dichte

Typically describes the transparency of a material. The density of the printed image in a document is also described using this term. Where density is poor, image information is either ridden with errors or is highly/roughly pixelated.

DMS

Stands for document management system. This system serves to file large amounts of records and make them easy to use for research purposes using full text search. A typical example of its use would be in a housing association, where a great deal of correspondence is exchanged with tenants.

Document scanner

In contrast to flatbed scanners, the emphasis here is on throughput. Quality only plays a role in terms of the readability of the information. For projects with a mixture of documents, color pages are usually captured using a different scanner and then reintegrated into the batch using software.

Double sheet monitoring

A device that prevents and detects when multiple sheets of paper are fed. See multiple sheet-feed.

Duplex

Refers to capturing both the front and rear page of a document simultaneously.

E ^^^^^

Endorser

A device that prints a user-defined string onto the documents being scanned.

Feed roller

The most crucial component in scanners with ADF for paper feed. Excessive use or a hardening of this roller will inevitably lead to feed problems.

F ^^^^^

Color depth

Indicates the depth at which a pixel can be graded for color display. The color depth of black and white images is of course 2, for grayscale images it is usually 8 bit, which means 256 colors are defined, and for color images it can be up to 48 bit depending on the image.

Flatbed scanner

Flatbed scanners, which are widely used for personal use, are typically not designed for large volumes. They are designed more for high quality scans.

Photo

A filter is normally hidden behind this function, which takes the conditions particular to real photographs into consideration while scanning.

G ^^^^^

Gamma correction

Gamma value

Speed

Grayscale

Typically refers to a category of image that displays image information purely in various grades of gray ranging from black to white. Up to 256 grades are possible.

H ^^^^^

Brightness

The term brightness describes the background brightness of a scanned image. As the brightness scale is slid up to higher values, the image generally becomes brighter. This is useful when information disappears into darkness in parts of the scanned image, but the information can clearly be made out in the original. If the digital image is overexposed, or too bright, the scale can be moved towards the darker direction to make information readable if necessary.

High gloss

Is a filter function that aims to compensate for conditions particular to high gloss originals.

Portrait

The shorter side of a DIN-A* sheet is defined as portrait when horizontal, or perpendicular to the scanning direction. You should only scan your originals in portrait format if the maximum document width of the scanner would be exceeded in landscape format.

I ^^^^^

Invert

This function calculates the reciprocal value of each pixel, causing the image to be displayed inverted. This function is often necessary in microfilm scanners as film is usually exposed as a negative and the image information is meant to be inverted.

J ^^^^^

Job

The working unit of a scanner, or final structure of a scanning project.

K ^^^^^

Contrast

The contrast controls the increments of information within a digital image. As the contrast is adjusted higher, the image becomes increasingly closer to being displayed in black and white.

L ^^^^^

Length correction

M ^^^^^

Multiple sheet-feed

Describes the undesired effect of multiple documents being fed at once. This is a dreaded error for which much effort is made to prevent if possible. The information relevance of this error is the reason. As a result, whole pages often just "disappear" from a scanning project. Various methods are employed to detect multiple sheet-feed. One of these is monitoring the length of documents. Sheets fed in multiple are rarely in line with each other, and so a document length differing greatly from the average results. This can be used as a criterium for error detection. Another method is applying low-pressure suction to both sides of the document. A single sheet does not allow the suction cups to separate, while this separation is immediately apparent with two or more sheets; this is therefore a criterium to use for error detection. Ultrasonic sensors are being used more and more frequently. The risk of multiple sheets being fed increases as the physical condition of the documents worsens.

N ^^^^^

O ^^^^^

Original

A commonly used term for the document being captured by the scanner to create a digital reproduction.

P ^^^^^

Paper feed

The mechanism in a scanner that moves the documents through the scanner.

Pixel

A single point, or dot, in an image. Thus at a resolution of 300 DPI (dots per inch), 300 points or dots are contained within an inch, or 2.54 centimeters. If we divide 2.54 cm by 300, we effectively get a pixel width of about 84 µm, or 0.084 mm. It is quite clear that the human eye is not able to detect a pixel of this size; therefore, a constellation of many pixels creates an image.

Q ^^^^^

Landscape

The longer side of a DIN-A* sheet is defined as landscape when horizontal, or perpendicular to the scanning direction. If you have access to a high performance computer, it might be faster if you scan documents in landscape format and automatically rotate the images later using scan software.

R ^^^^^

Rear page

In duplex scanners, this is usually the side turned away from you, or back page. In cases where important information is contained on the rear page both pages are captured.

Bitmapped graphic

Is typically a filter function in scanners. Moiré patterns tend to turn up when bitmapped graphics are scanned. This filter serves to minimize this effect.

S ^^^^^

Scan width

The value of the maximum width of a document possible, normally given in cm, which will not get stuck in the scanner chamber. Paper jams are normally the result if attention is not paid to this value.

Scan length

Refers to the length of a document which the scanner can translate into an image. This value typically depends on the memory of the scanner and the intended use of the scanner.

Simplex

Batch

Usually refers to a unit of organization in DMS based filing of documents.

Batch scanning

In scanners with ADF, this is the mode of operation for automatic processing of a batch of paper lying in the ADF.

Black and White (B/W)

Another term for bitonal. Black and white images are basically composed of pixels which are either black or white. Intermediary tones cannot be displayed. The bitmapped graphic is a special type of such an image. By cleverly arranging black or white pixels, the impression of gray scales is created for the human eye.

T ^^^^^

Text mode

A common term for the normal mode, especially in book scanners. Alternatively, a photo or grayscale mode is also usually available.

Driver

A term for the software that establishes a connection between the scanner and the operating system or scanning application. We have decided to include just a basic glossary in this manual. Due to the wide variety of scanners available on the market, it would be impossible to include a more detailed explanation. Scanner manufacturers normally include a detailed help file with their product.

U ^^^^^

Envelope

A standard format in the document size settings supplemented by the fitting standard envelope size.

V ^^^^^

Document size

May either be a standard DIN-A* size or user-defined dimensions. Most scanner drivers do not permit any settings beyond the maximum scan width, and they will automatically change the value to the maximum allowed.

Original

The original document from which the scanner creates a digital reproduction.

W ^^^^^

Roller

This term is usually encountered in scanners in connection with errors. For example, if the scanner repeatedly detects problems with the paper feed, it might display the following message: Please clean feed roller.

X ^^^^^

X coordinate

Y ^^^^^

Y coordinate

Z ^^^^

Zoom

Support

If you have further questions or if there is a technical problem, feel free to contact technical support.

E-mail:

Please use the following e-mail address: driver-support@inotec.eu

Only use the generic address above, this will ensure that you receive a reply as quickly as possible, even if your usual / personal contact is unavailable.

Phone

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