InkCenter

Ink preset calculation for InfraLogic ControlCenter

User and Installation Manual

INFRA LOGIC

http://www.infralogic.dk

Table of Content

1 Introduction

InkCenter is an ink zone preset calculator based on TIFF-file or CIP3-file input.
InkCenter is normally part of the ControlCenter workflow system, but may also
operate as stand-alone as ink preset calculator for other systems.
Input files often come as copies of plate image files - typically TIFF 1-bit files.
However, InkCenter also accepts contone TIFF (8-bit) files as well as CIP3 files. For
a complete list of valid input file formats, see section 3.1.

InkCenter is based on hot-folders and naming conventions for detecting files. The
output of InkCenter depends on the press control system – many different formats
exist for ink zone information.

The following output formats are currently supported by InkCenter:

- EAE (various versions)
- ABB MPS (requires CTP-interface from ABB)
- ScanDrive Orrke
- Honeywell Printa
- Rockwell PlantView (e.g. for GOSS)
- CIP3/CIP4 (eg for. MAN Roland Pecom, EPG, Heidelberg, Peretta)
- Monigraf RP2
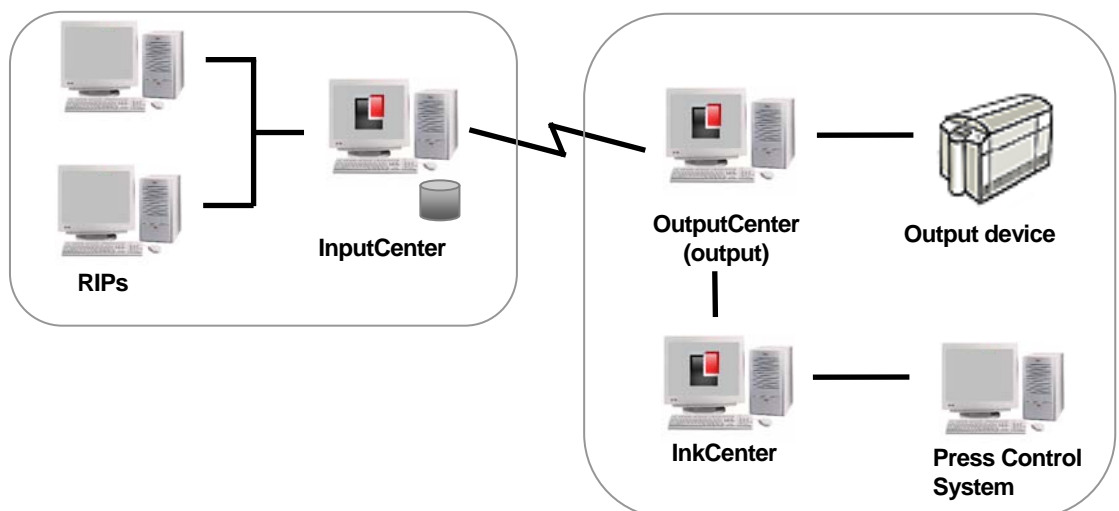
*System diagram showing a typical ControlCenter application with InkCenter at the
printing site. InkCenter receives a copy of each final bitmap generated by
OutputCenter. Upon calculation the ink zone data is transferred to the press control
system*

InkCenter includes the following configurable options for ink zone data generation:

- Zone calculation based on number of zones, zone width and offset to first zone
- Optional split of panorama data into two broadsheet files.
- Handling of odd-sized gutter zone for panorama plates.
- Template-based output format ('skeleton-files') ensures easy adaptations to changes in ink-format.
- Plate bend data (e.g. ID-texts and graybars) may be omitted in calculations
- Linearization of output data per process color ('color curves').
- Preview files (typical JPEG) may be generated for visual inspection of zone data
- Backup of incoming and outgoing files for quick re-transmission or re-generation of zone data.
- Reports status to MonitorCenter application.

The Enterprise version of InkCenter further allows color soft-proofs of the full flats in the press-room. The flats (paired pages) are viewed in a dedicated PlateViewer application with product navigation (tree).
Soft-proofs of flats allow electronic page check in the press room, eliminating paper proofs for content and color checks.
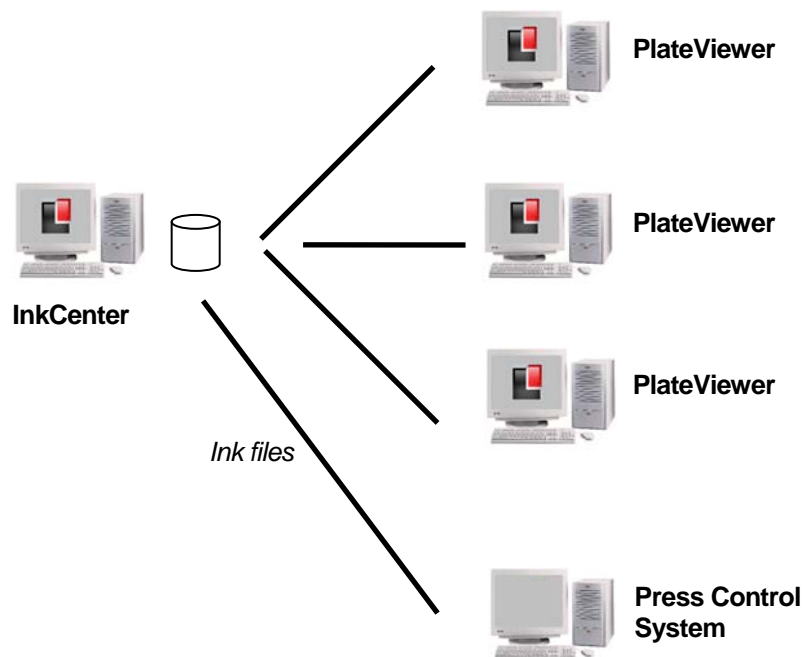
InkCenter Enterprise version allows plate softproofs to be viewed in the press rooms with dedicated PlateViewer client applications

1.1 Dataflow

The dataflow is a simple folder-to-folder flow. Each defined input hot-folder has a set of processing rules and output folder attached. A naming recognition scheme will extract e.g. publication, edition, section, page number and color from the file name or from within a certain tag inside the file. The data will be used when generating the final output file.

Input folder on InkCenter → Input setup → Ink setup → **Press Control receive folder**

Optional preview file   Optional backup
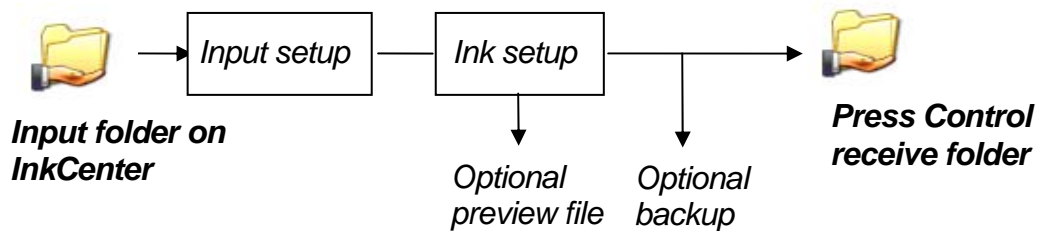
Data flow from InkCenter input folder to press control. Each input folder has a naming convention and ink generator method attached. This allows multiple input folders with different processing rules, e.g. for different plate formats. Optionally InkCenter can generate a preview file (jpg/pdf) of each plate. Future releases of ControlCenter will allow viewing of ink zone previews in web browsers based on the preview files.

1.2 Requirements

InkCenter requires a Pentium-based PC running Windows XP, Vista, Windows 2000/2003/2008. A minimum of 256MB (Enterprise 512MB) is required and a mirrored disk system is recommended.
One USB port must be available for system dongle (software protection unit).

1.3 About this manual

This user manual includes the required details for installing, configuring and operating the InkCenter system. The following chapter outlines the installation process. Make sure you have the installation CD and required dongle ready prior to installation.

2 Installation

2.1 First time installation

InkCenter ships with an installation CD and a USB dongle. Insert the CD and wait until the main installation program pops up. If nothing happens it is because your PC is configured not to autorun CDs. In this case browse to the CD and double-click on the **Autorun.exe** file.

Auto-start install welcome screen. Note that Stand-alone DB and PlateViewer applications are only available in the Enterprise version.

2.1.1 Installing InkCenter

The InkCenter application must be installed at the printing site with network access to the press control system.
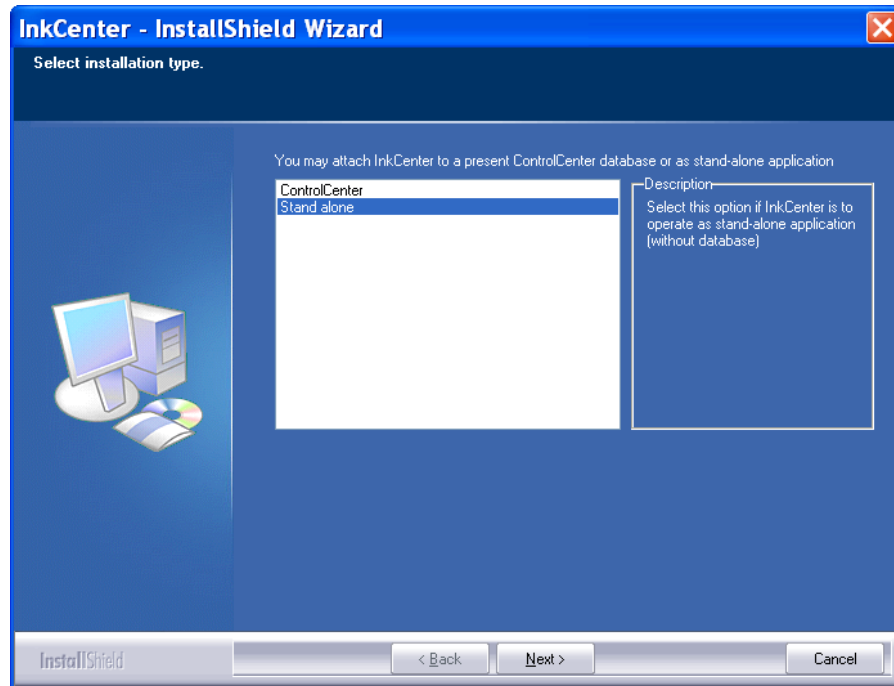
Select if InkCenter is to be installed as stand-alone or integrated application.

The installation program will present a set of default options which are recommended. The location of the executable files is in the folder .\Program Files\InfraLogic\InkCenter.

In case InkCenter is part of the ControlCenter system the location of the system server and data root folder must be entered. You will be prompted for the server-name (or IP address) and the share name of the data root folder on the server (CCdata is default).

In stand-alone mode database access is required only for the Enterprise version. Enterprise ships with a small MSDE (SQL server Desktop Edition) required for the plate view system.

After successful installation a shortcut to InkCenter is placed on the desktop. By default the installation program creates an input folder (*c:\inkinput*) and two input configurations (called *Broadsheet* and *Panorama*) with EAE ink generation. The configuration of the input queues and ink calculation method is handled within the InkCenter program (see section 3)

The last step in the installation will automatically install the HASP dongle driver (USB version).
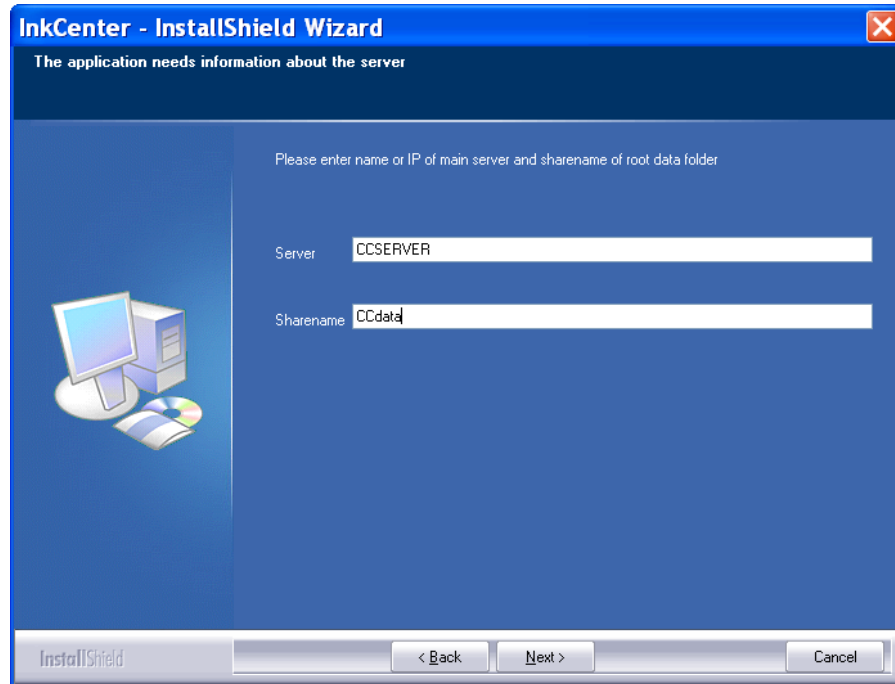
In case InkCenter is part of ControlCenter, the installation program prompts for the server name and data root folder share which was defined during the installation of the database. Contact the system administrator if these settings are not known.

2.1.2 Stand-alone database installation (Enterprise version only)

Systems running without ControlCenter page management requires a small database to keep track of preview files. Click **Install Stand-alone DB** to launch the
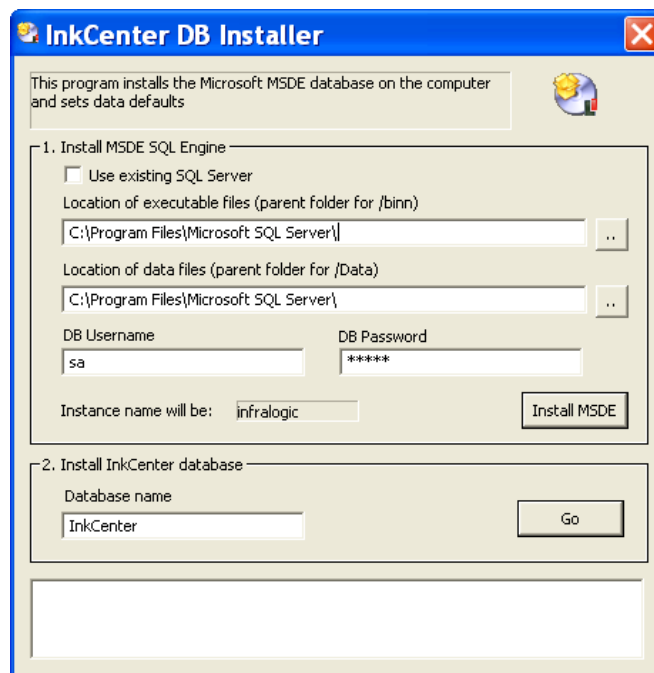
*MSDE database installer. Click **Install MSDE** and then the
Go button to install the database with default settings*

database installer. InkCenter Stand-alone Enterprise may use an exsiting SQL Server if available. In such case check the option **Use existing SQL Server** and Press Go to create database and tables on the SQL Server.

2.1.3 PlateViewer installation (Enterprise version only)

PlateViewer must be installed on PCs in the press-room (typically). Simply click the

3 InkCenter usage

3.1 Introduction

InkCenter absorbs the ripped flats (digital plates) or other input files by monitoring one or more output folders. The input files are usually obtained as copies of files used for final plate/film exposure. The following file formats are accepted by InkCenter:

- 1-bit TIFF in any resolution – uncomressed, Packbits (RLE), LZW, G3 or G4 compressed

- 8-bit TIFF in any resolution - uncomressed, Packbits or LZW compressed

- CIP3 files with data encoded AsciiHex, Ascii85 or binary. Data may be uncompressed or Packbits (RLE) compressed. CIP3 files may come one color per file or as files with all colors combined.

The source of the files is usually other workflow systems or RIPs. Each input source folder is a hot-folder for InkCenter with an associated configuration known as the *Input Queue Configuration*. This configuration dictates the input folder location, expected file naming convention and – most importantly – the ink preset output configuration to use for calculating ink zones and delivery to the press control system.

InkCenter may be configured to store all incoming files in a central file folder and store optional ink preview files (jpegs) in separate folders as well. Moreover InkCenter may also store a backup of the resulting ink zone files for quick re-transmission.
Any ink file produced will be transferred to the press control system. The transmission is normal LAN file copy (NetBIOS) or FTP transfer.

3.2 Basic usage

InkCenter is meant to run unattended on a PC with network access to the file sources (e.g. RIPs). The program is capable of auto-starting the folder scans when
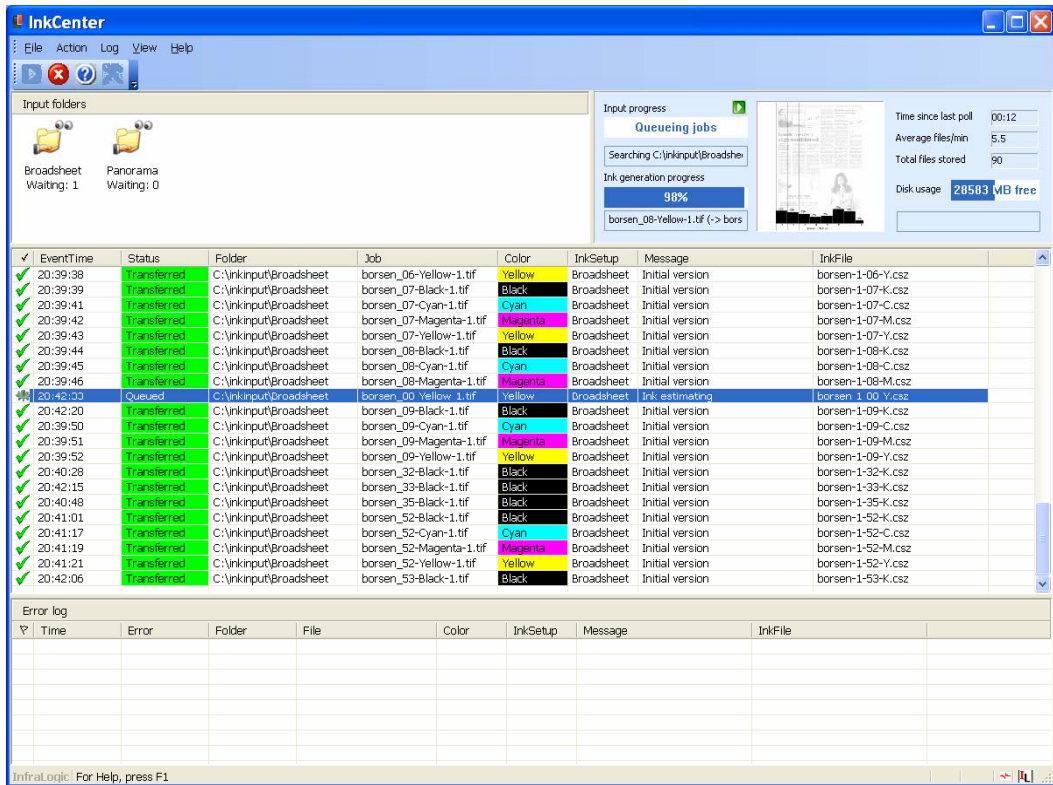
InkCenter main user interface with the folder panel (top left), the progress panel (top right), the file log (middle) and the error file log (bottom).

the application is launched. However, the scan can be manually started and stopped also. Each monitored folder can be enabled/disabled in order to allow input from certain sources to be held back if required.

Once started two processes goes on continuously – the input folder search and the ink zone calculation. The latter will resample and analyze incoming tiff files.

The main user interface is divided in three parts – the folder panel, the log list and the error list.

3.2.1 Input folder panel

On the top left hand side the hot-folders are shown. Clicking on a hot-folder icon will enable/disable folder from the scanning process. A red stop sign indicates that the folder is not used.

3.2.2 Progress panel

The top right hand panel is informational only. It shows the current job in progress, the last ink preview made and some general statistics on files stored in the system.

3.2.3 Log-list panel

The middle panel shows the list-based log of file separations being polled and processed for ink information. Log lines can be selected using the mouse in order to purge files, re-generate zone data or re-transfer zone data to the press. This is done by right-clicking on the selected log lines.
The list shows the status of each separation (Queued, Analyzed, Transmitted or Error).

Select and right click in the log list to bring up the menu for manipulating jobs.
The 'Re-generate ink file' option may be used in case another ink profile must
be applied to pages already analyzed.

3.3   Error handling

Files are checked before they are moved into the system folders. Any file with errors are moved to the error folders and shown in the error log at the bottom of the main user interface. Errors related to files may be categorized as follows:

Naming error
> File name does not correspond to the defined naming convention (see Input queue configuration section). A typical naming error is missing separators.

Color error
> Color name is unknown according to the color naming table (see configuration section)

File corrupt
> The TIFF-tag check failed or CIP3 parsing failed

File error
> File cannot be moved into storage directory. This is a severe error that may stem from bad configuration, network problems or disk problems.
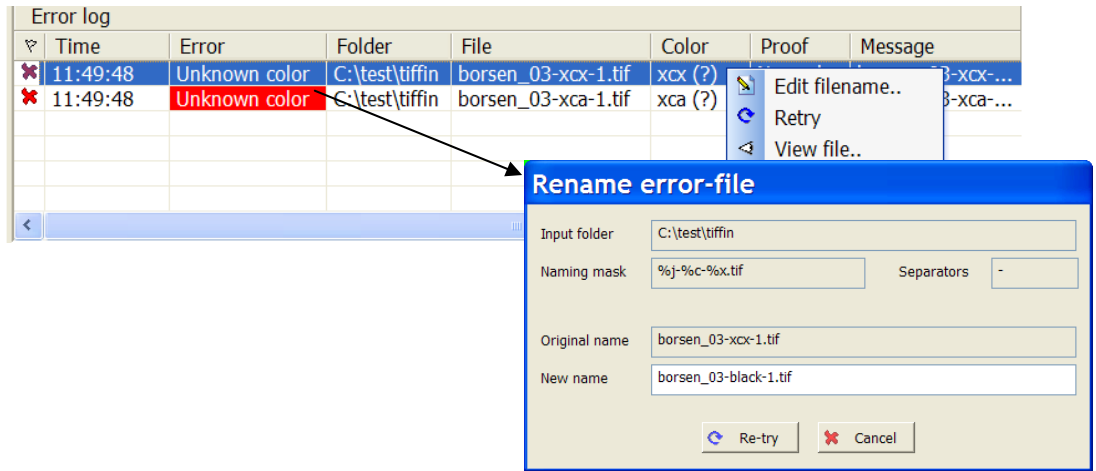
Errors may be corrected manually by right-clicking in the error list. The pop-up menu gives the options to rename the file manually, re-try the polling, showing a preview of the file or deleting the file.

3.4 PlateViewer client (Enterprise version only)

PlateViewer is the client used for inspection of plate soft-proofs generated by InkCenter. Plate soft-proofs are color combined (composite) view files in a user-defined resolution and color configuration. The soft-proofs are viewed as combined colors and as plate separations. Also, bar charts generated by the ink zone

PlateViewer has product navigation on the left hand side and plate thumbnails on the right hand side. Click a thumbnail to view it in full screen mode.
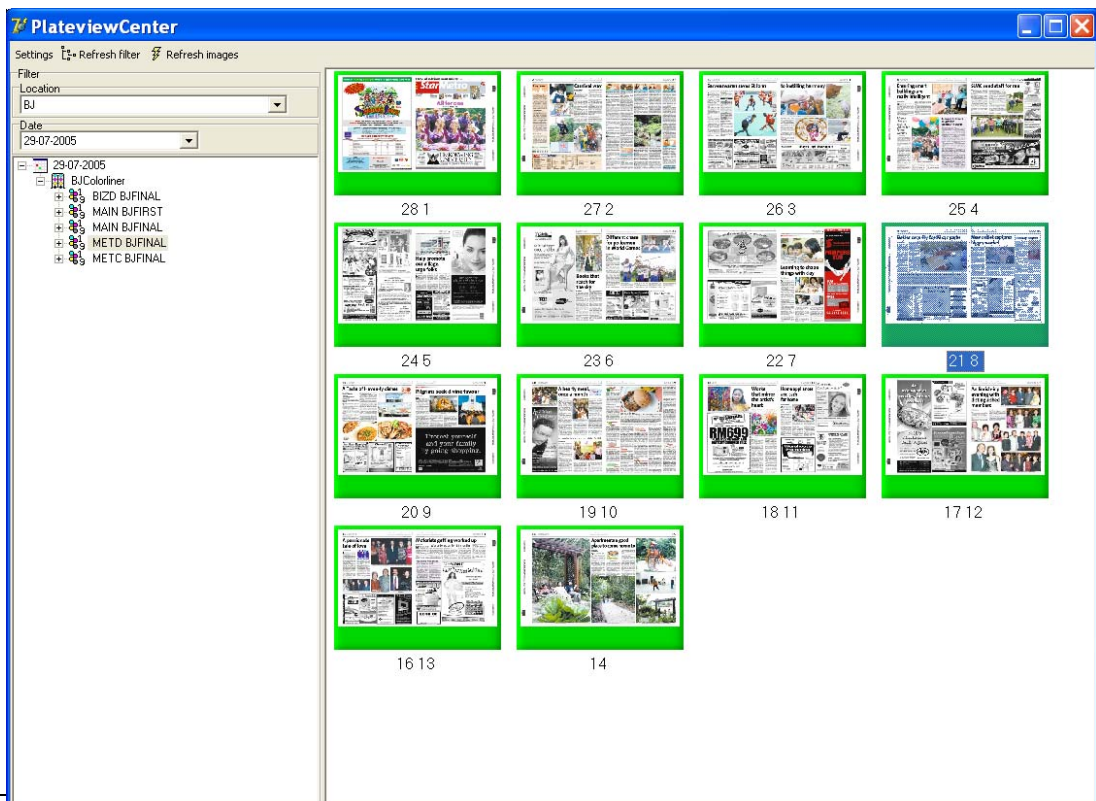
generator can also be viewed.

The PlateViewer user interface is divided in a product navigation view on the left hand side (tree structure) and a thumbnail gallery on the right hand side. Select a date in the date filter and the product to view in the tree and the available plate view files will be shown as a thumbnail gallery. Click a thumbnail to view the actual plate image in an image zoom dialog.
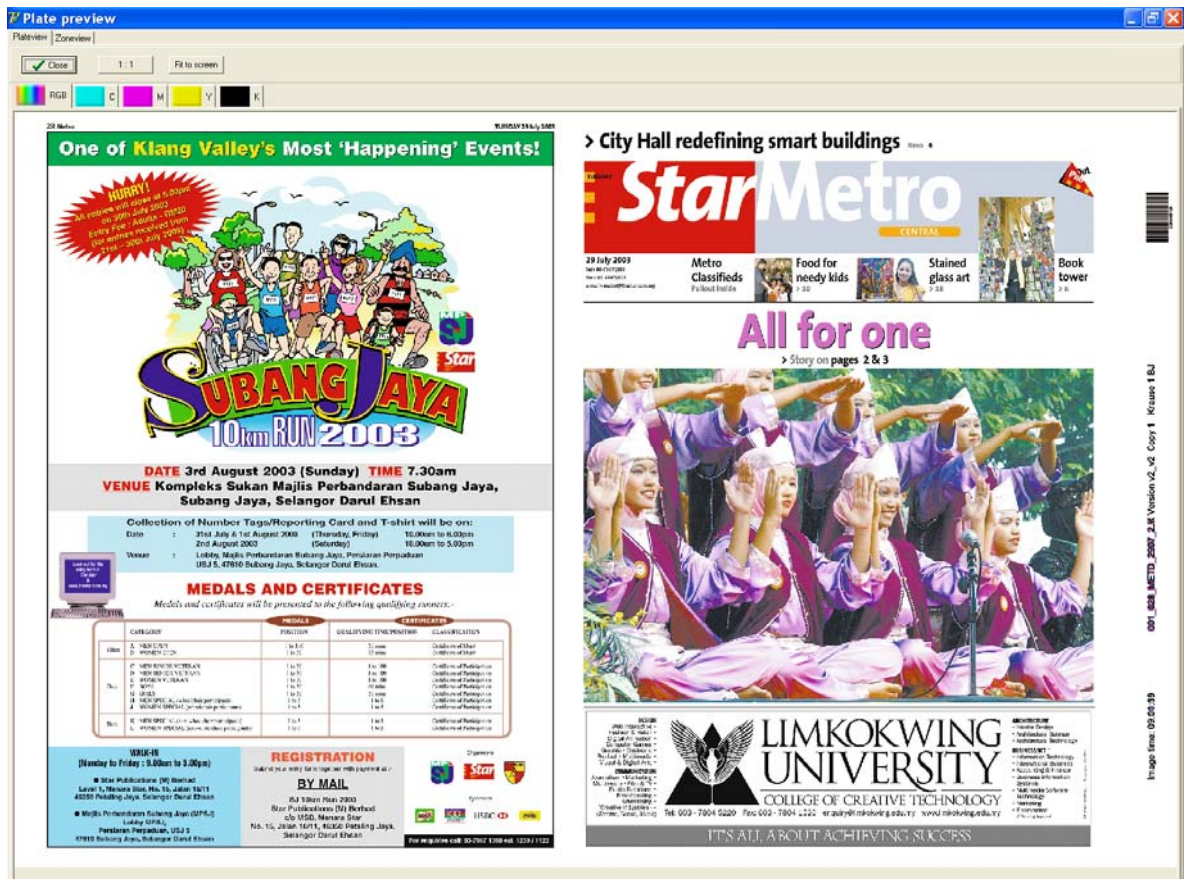
View of a sheet (here front). Click the tabs above the image to view individual separations.

By default the preview is fit to the screen size. To view details click the left mouse button in the image to zoom in and click the right button to zoom out again.

Hold down the left mouse button to enable drag mode (showing a hand-like cursor). Drag the image to pan around.

The quality of the previews is dictated by the soft-proof settings (see section 4.3). By default the resolution is 100dpi using bi-cubic re-sampling.

On top of the plate image preview, tabs exist to view the individual color separations. Each available separation may be viewed in its original color (e.g. cyan) or as black. Each color can be configured to be shown as original process color or black

Zoomed in plate preview. Use left/right mouse buttons to zoom in/out. Hold down button to pan around (drag mode).
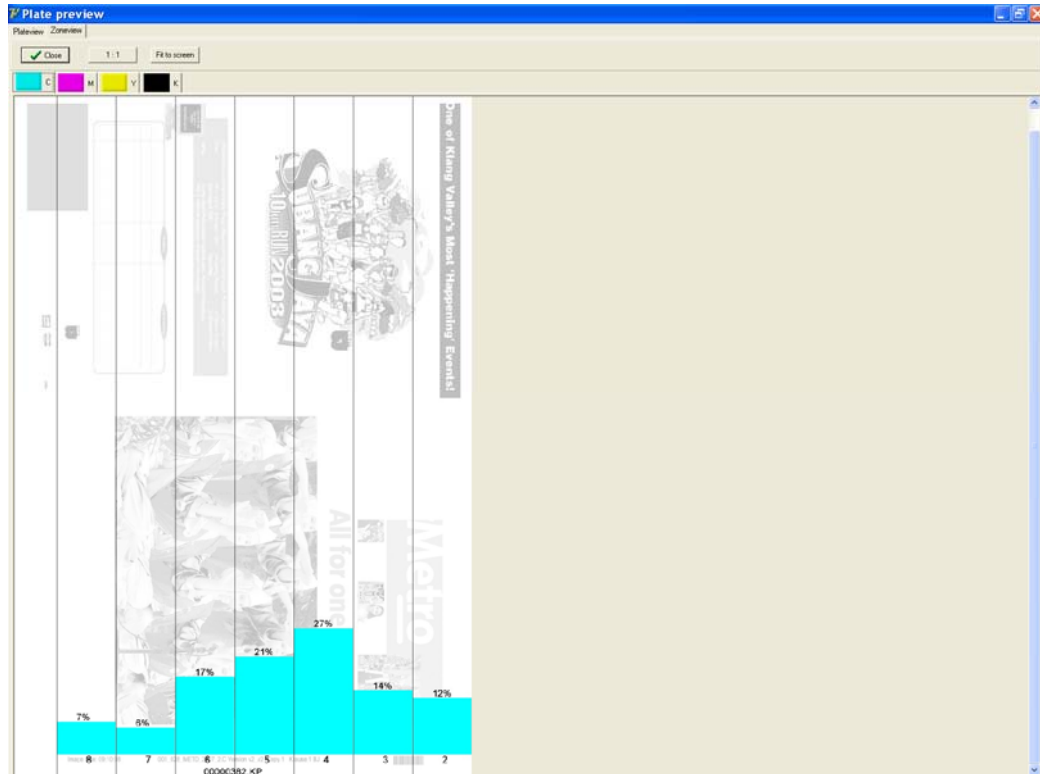
Ink bar charts are accessed using the top tab

At the very top select **Plateview** or **InkView** to view the plate image or the ink zone bar charts.

4 Configuration

InkCenter can be configured as stand-alone module or as integrated part of the ControlCenter workflow system. In stand-alone mode database connections are not required. As integrated part of ControlCenter, InkCenter can automatically lookup detailed job properties in the ControlCenter database, such as publication, edition, section, page numbers, page orientations etc. This greatly simplifies naming schemes. I simple unique plate ID number is the key to the plate identifications.

In the integrated configuration the TIFF file will be a copy of the plate file generated by OutputCenter. Enable the Copy TIFF option for each template in the OutputCenter template configuration. The target folder for the tiff copy will be the input folder of InkCenter
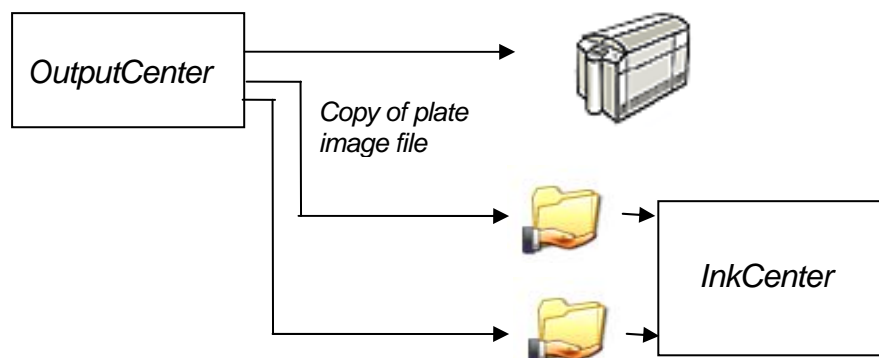
Integration with ControlCenter. ExposeCenter can generate a copy of the final plate image as a TIFF file to InkCenter. Each ExposeCenter template has a separate copy option so that files for different presses can be sent to separate InkCenter input folders.

The system is configured using three different configuration dialogs: general settings, input queue definition and ink generation definition.

4.1 General setting

System critical settings are accessed in the *File->General Settings..* menu. The configuration is stored and retrieved in the InkCenter.ini file and in the system database.
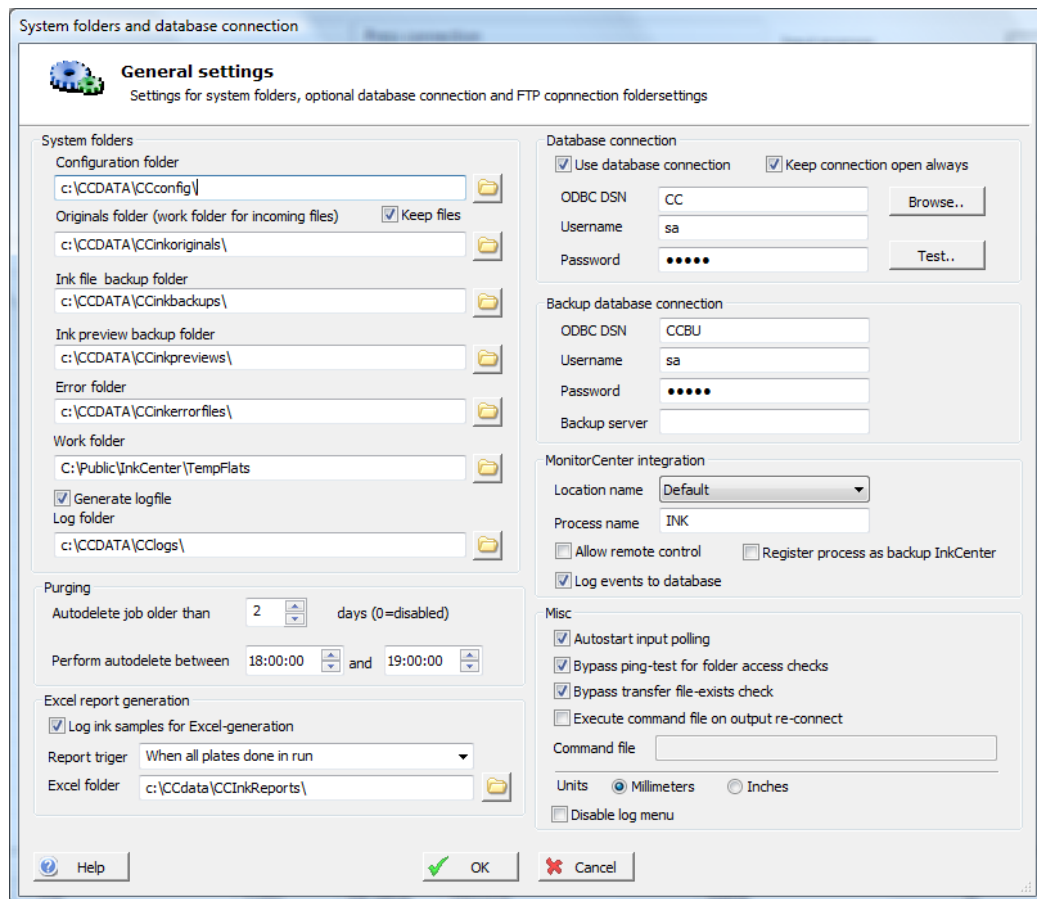
When InkCenter is installed using the Setup program, a set of default folder locations and a default ODBC data source are given and stored in the database (for non-stand alone setup type). The folders and the data source can be changed in the configuration dialog.

Configuration Folder

Folder for setup information (required).

Keep files

Enable to keep backup of input files in original folder.

Originals folder

File storage of all incoming tiff files. This folder function as work folder and backup folder   (required).

Ink file backup

Backup folder for already generated ink files. Backup copies are saved for easy re-transmission to the press.

Ink Preview folder

Re-sampled per-plate jpeg files are stored here. These files are typically 72 dpi files for visual ink zone inspection.

Error folder
Any files not matching the input naming convention are moved to this folder

Work folder
Temporary folder holding intermediate files for combined preview generation. The work folder is cleaned regularly using the Purging option (see below)

Generate log
Enable to log progress to an XML log file. This is required if ink logging is to be shown in iMonitorCenter.

Log folder
Folder used for log xml files

General housecleaning is performed at intervals set by the Purging options:

Autodelete job older than..X days
Enter age in days for jobs to be deleted automatically. This will ensure that very old jobs do not accumulate. Set to 0 days to disable autodelete. Autodelete will be performed at a given time every day (usually outside hot hours). Enter time of day as hour interval where auto-purging may be performed.

Perform autodelete between …
Set the time interval where purging must occur. This interval should be in non-production hours

Excel report generation (ControlCenter integrated InkCenter only)
Summarized reports of ink zone calculations can be generated using an external windows service with connection to the ControlCenter database. Excel sheets may be generated after the last plate file has been processed (default) or after each plate file received (partial report generation).

The database connection is required for most ControlCenter Basic installation. The configuration in InkCenter assumed the presents of an ODBC connection to the database (see section 2).

ODBC DSN
InkCenter uses an ODBC connection for status communication. Make sure the MSDE database[1] is installed and an ODBC source is created on the database.

Username
ODBC user name

Password

---

[1] Described in section 2 Installation

ODBC password

Keep conn. open
Recommended for installations where the database is located near the InkCenter application (same LAN).

Ink Configurations

The ink configurations (templates) are managed through the *File->Configure ink generation* menu.

New ink calculation templates can be defined here and existing ink templates are listed and can be copied, edited or deleted. To change an existing proof click on the setup in the list and press the **Edit** button
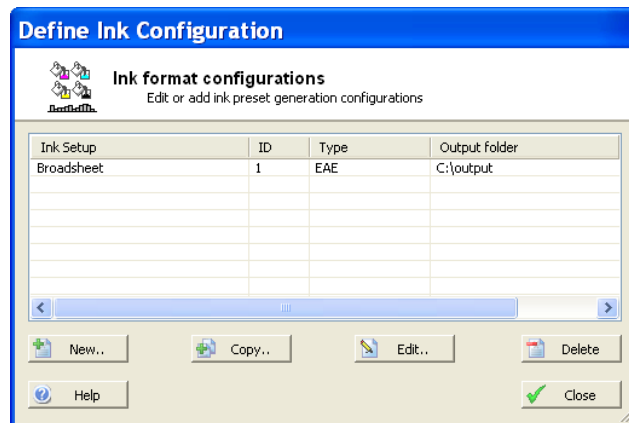
The ink template configuration consists of six dialog pages.

4.1.1 Format page

The Format-tab describes the ink file format. Enter a unique setup name (mandatory) and select ink format.

InkCenter is prepared for any ink file format because it is based on *template files*.

There are three template files:

1. Header template
2. Zone data template
3. Trailer template (optional)

Each of these templates is skeletons used for final ink file generation. InkCenter will substitute identifiers in the ink template files and combine them for the final result.

Note that in case a panorama-file is to be split (see later), an optional header template may be chosen for the second half (right half) file. This is required if e.g. pagenumbers inside the inkfile are different for left and right side.

For CIP3/CIP4 output only the header template file is used.

Basic setting includes the name of the profile and the parameters for ink format.

Below two example-header files are shown for native EAE format and CIP3. Note the %-id fields. These fields are placeholders for information extracted from the incoming tiff file name.

```
[PAGEIDENTIFIKATION]
TITLE=%t
FORM_ID=%f
OBJECT=%p
EDITION=%e
EDITION_GROUP=%i
PRODUCTION_STAGE=%s
DATE_OF_ISSUE=%d
PAGINATION=%l
COLOUR=%c
PLATE_TYPE=%a
[ZONEDATA]
NR_OF_ZONES=%n
```

```
CIP3BeginSheet
          /CIP3NewspaperPlateType /Broadsheet def
          /CIP3NewspaperPageInfo
          [ << /AbsoluteBroadsheetPage %1
                    /PageType /Broadsheet
                    /PageSection (%S)
                    /PageNumber (%1)
          >> ] def
  /CIP3AdmJobName (%P-%E-%S-%1-%C) def
  /CIP3AdmSheetName (%G) def
  /CIP3AdmCreationTime (%Y) def
  /CIP3AdmMake (InfraLogic ApS) def
  /CIP3AdmSoftware (InkCenter) def
  /CIP3AdmSheetLay /Left def
  /CIP3AdmPSExtent [%( cm %) cm] def
  /CIP3TransferFilmCurveData [ 0.0 0.0 1.0 1.0 ] def
  /CIP3TransferPlateCurveData [ 0.0 0.0 1.0 1.0 ] def
```

Header-file identifiers are as follows:

ID	Description (from input file)
%p	Publication name
%i	Issue
%e	Edition
%s	Section
%t	Title
%d	Publication date (format specified separately)
%c	Color
%a	Plate type ID
%f	FormID1
%#	FormID2
%1-%8	Page number fields
%j	Complete input job name
%n	Number of ink zones
%h	Sheet side
%g	Sheet number
%y	Event time in format YYYYMMDDhhmmss For CIP3 format is DD-MM-YYYY hh:mm:ss
%w	Message sequence number – incremented on every message
%x	Total number of pages in product (Orrke only)
%k	Lowest page number in product (Orrke only)
%z	Highest page number in product (Orrke only)
%q	Head direction (Orrke only)
%(	Plate width in cm
%)	Plate height in cm
%b	FileTitle (filename without extension)

%<	ProductionName (from ControlCenter DB)
%>	InkComment (from ControlCenter DB)
%^	Press section number
%{	Press time
%+	Plate name (from ControlCenter DB)
%m	Press Comment (From ControlCenter DB)
%=	Ink System ID (from ControlCenter DB)

NOTE: If the receiving system accepts only a maximum number of characters for publication, section, edition etc. the number of characters can be restricted using a angle-bracketed digit between %-sign and identifier symbol – example: %[3]p will truncate long publication names to three letters only. Publication names less than three digits will remain so.

Note that the abbreviation system can be used for identifier length control also (translation of known incoming names to fixed size names).

For non-CIP3 formats the actual ink zone values are regulated by the zone template file. Below is the standard EAE format for ink zone data. Note than only one line is required. This line is repeated for each zone in the final output.

```
ZONE%z=%3v
```

Zone-file format is as follows:

ID	Description (from input file)
%z	Zone number as 1, 2,…
%2z	Zone number as 01,02,…
%3z	Zone number as 001,002,…
%3v	Zone value as number between 0 and 999 (EAE standard)
%2v	Zone value as number between 0 and 100
%2.1v	Zone value as number between 0.0 and 100.0
%2.2v	Zone value as number between 0.00 and 100.00

The trailer-template does not include any id-strings.

In case incoming files are rotated, inverted to mirrored, the ink analyzer can revert this for the calculation. Select the appropriate input processing parameters.

4.1.2 Zone configuration page

The zone configuration determines the calculation result (not used for CIP3/CIP4)
Set the *Plate format* to Broadsheet or Panorama and enter the press side plate type identifier. Default is B or N for broadsheet and P for panorama.

The physical number of zones and zone width must be set.

Panorama gutter

For certain presses the gutter zone between plate halfs must be set for panoramas. The gutter zone typically is narrower than the real zones. Set the *Gutter Zone* to reflect this.

Note that even if there is a gutter zone defined, it may or may not be part of the result. Check the option *Ignore gutter zone in output file* if the gutter should be omitted.

Even if this option is selected make sure the total number of zones entered includes the gutter (e.g. 13 zones resulting in 2 times 6 plus the gutter).

Zone offsets

When the plate is not aligned to a zone edge, it is necessary to enter an offset value. This offset may be a positive or a negative number – see figure below.

For certain presses running broadsheet plates the offset to the first zone may be different for the left and the right plate. InkCenter allows two offsets to be entered: Offset for 'odd' plate and offset for 'even' plate. The terms odd and even refers to the lowest page number on the plate.
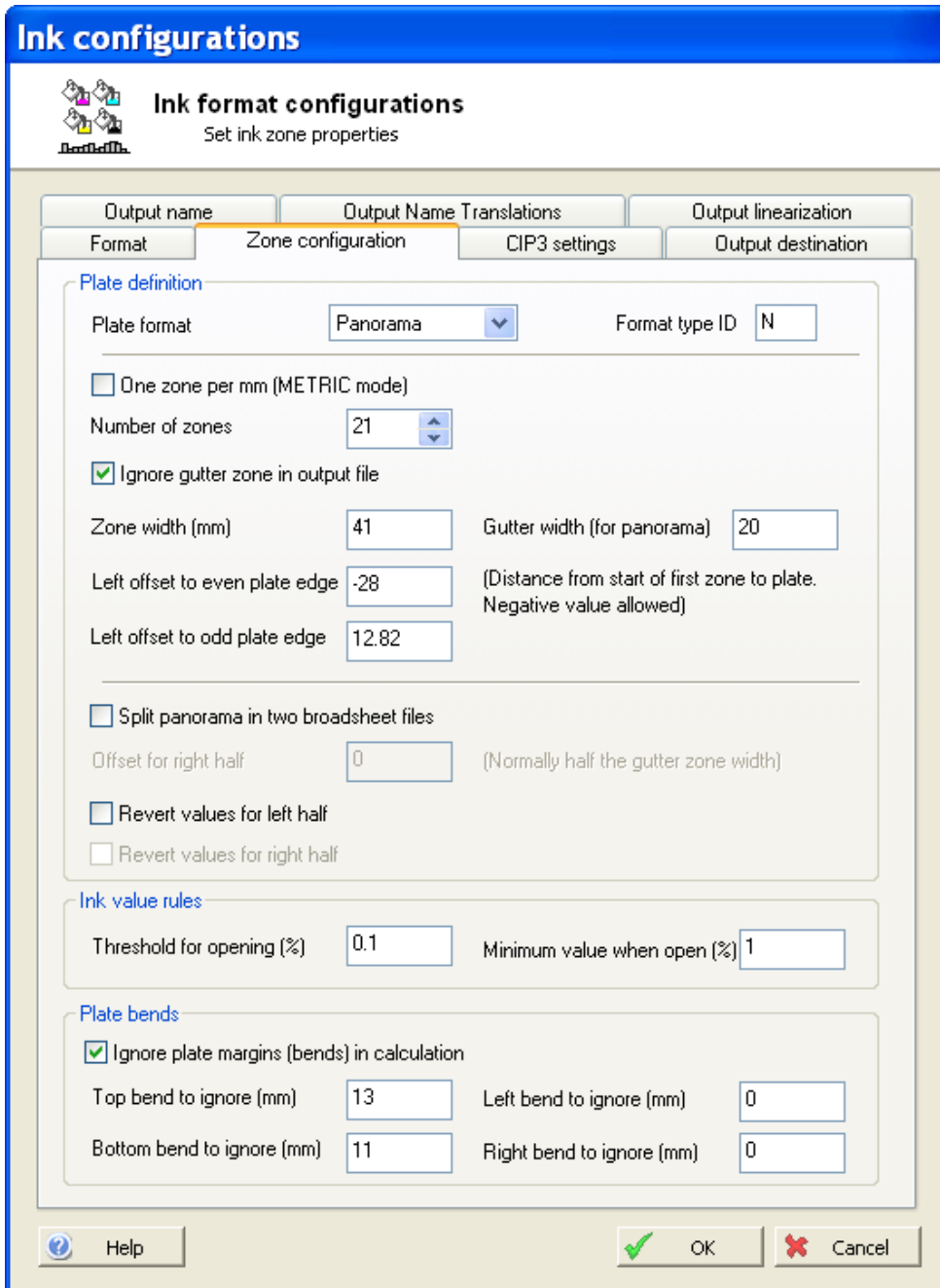
Metric mode

Certain press control systems (e.g. EAE v. 2.1.x) allow zone data to be supplied independent from the actual zone geometry. The 'zone' data can be supplied as one-zone-per-millimeter with respect to the plate width. So if the plate is 330 mm wide 330 zones may be supplied – one per millimeter. If the option *One Zone per millimeter (METRIC mode)* is selected, the number of zones will be determined automatically based on the plate image file.

Panorama split option

Certain presses will not accept panorama sized ink information because the control system is based on broadsheet plate information only. In these cases panorama plates must be fed as two broadsheet 'plates' instead. Set the *Split* option to perform panorama-to-two-broadsheet conversion.

Using the panorama split option affects the naming of ink files. The two files must have unique names, usually by using different page numbers (reflecting left and right side of the plate). Make sure to set the output names accordingly (on the output name tab page – see later). Also make sure a header template for the right plate half is selected (see section 4.2.1)
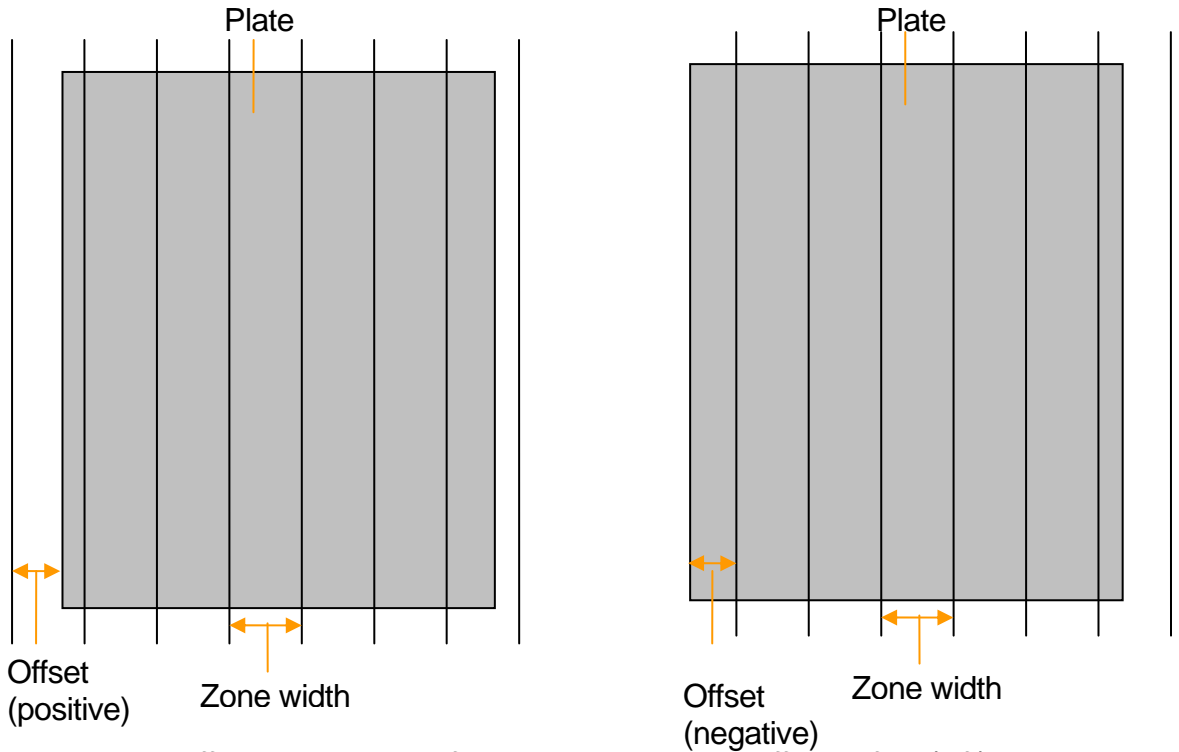
Two different ink zone definitions illustrating the offset to first (left) zone. Note that positive and negative values are allowed for offset
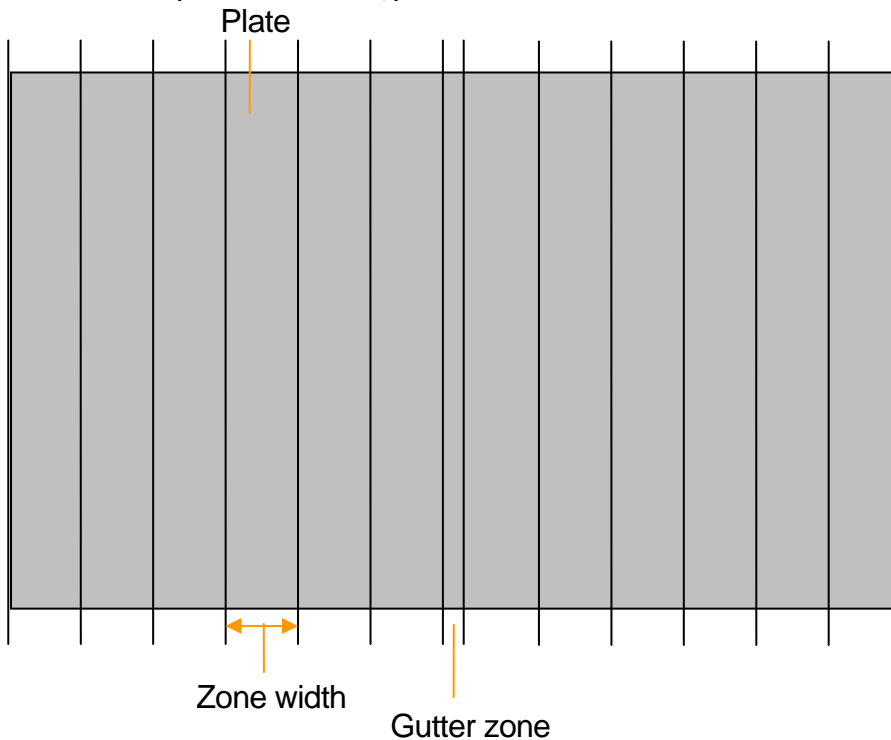
A panorama plate may have a gutter zone which is not to be included in the

If panorama split is enabled, a potential gutter zone must still be ignored (skipped). This can be done by setting the offset of the right plate half (usually to half the gutter zone width).

Some presses expect the zone numbers to grown from the outside in from both sides. The option *Revert values on right half* will reverse the ink zone numbers for right half so that zone 1 is on the right hand side and the last zone is to the left..

Plate bends
Due to plate furniture the data on the plate image may include barcodes, ID-texts or other marks which are not to be included in the zone calculation. Enter the 'margins' (top,bottom,left,right) as distance from the edge of the plate to ignore in the calculation.

Note that if the panorama split option is selected, the left and right margin is not applied on the 'inner sides' (right side of left plate and left side of right plate).

Threshold and minimum value

Certain ink systems requires a threshold value to open an ink valve. Enter minimum value causing a zone ink valve to open and enter the minimum value this valve can have. Any calculated value above the threshold will be at least the minimum value specified.

4.1.3 CIP3 format configuration

The CIP3/CIP4 Print-Production-Format (PPF) ink file is a separated preview wrapped in a postscript-like structure. Even if this format is standardized though the CIP4 organization a number of vendor-specific variations exist. Variations are mainly related to the identification of the jobs (page numbers, publications etc) and to the way colors are sent.

Newspaper presses generally expect one file per plate, that is, one per color separation. Sheet fed presses requires one file holding all the color separations. Some presses require that both front and back is combined in the same file.

The way colors are sent to the press can be controlled by the **Colors per file** setting.

The settings for media extend includes dimensions of the plate, press and paper. For the majority of systems the media extends can be deducted from the incoming file size (digital plate image). Check the **As job**, **As plate** and **As press** to use the incoming size for all media extends.

Apart from the generic formats controlled by the template header file, the following special CIP3 formats can be selected:

Man Roland PECOM: The file is delivered to the target system with an optional synchronization file (.syc extention).

GMI: Special coding using the CIP3 newspaper addendum standard.

EPG (Essex Printing Group): The file is delivered in a subfolder with the product and publication date as name.

4.1.4 Output destination page

The transfer of the resulting ink files are defined by selecting target folder. The transfer may be standard windows file copy or FTP transfer. Set login parameters and test the connection.

If certain actions are required for transfer or registration of the ink files, a *Post processing command* can be issued. This is used e.g. for communication with the ABB MPS database.

For visual representations of the ink data, select the *Generate preview..* option and select format (JPEG, PS or PDF) and enter path for the preview folder.

In case previews are to be printed out, this can be obtained using the post processing command for previews (e.g. copy to printer).

InkCenter Enterprise allows press soft-proofs to be generated from the high resolution TIFF separation files. Enable the feature **Generate composite preview files of flats** and configure the softproof generation in the **Config softproof generation** menu (see section 4.3)

4.1.5 Output name page

The naming scheme for the ink files may be of prime importance in order for the press system to recognize the plate reference.

Set the output name using the %-parameters (e.g. publication, section, edition etc.)

Page numbers
Page numbers may be mapped from input file name to output file name.
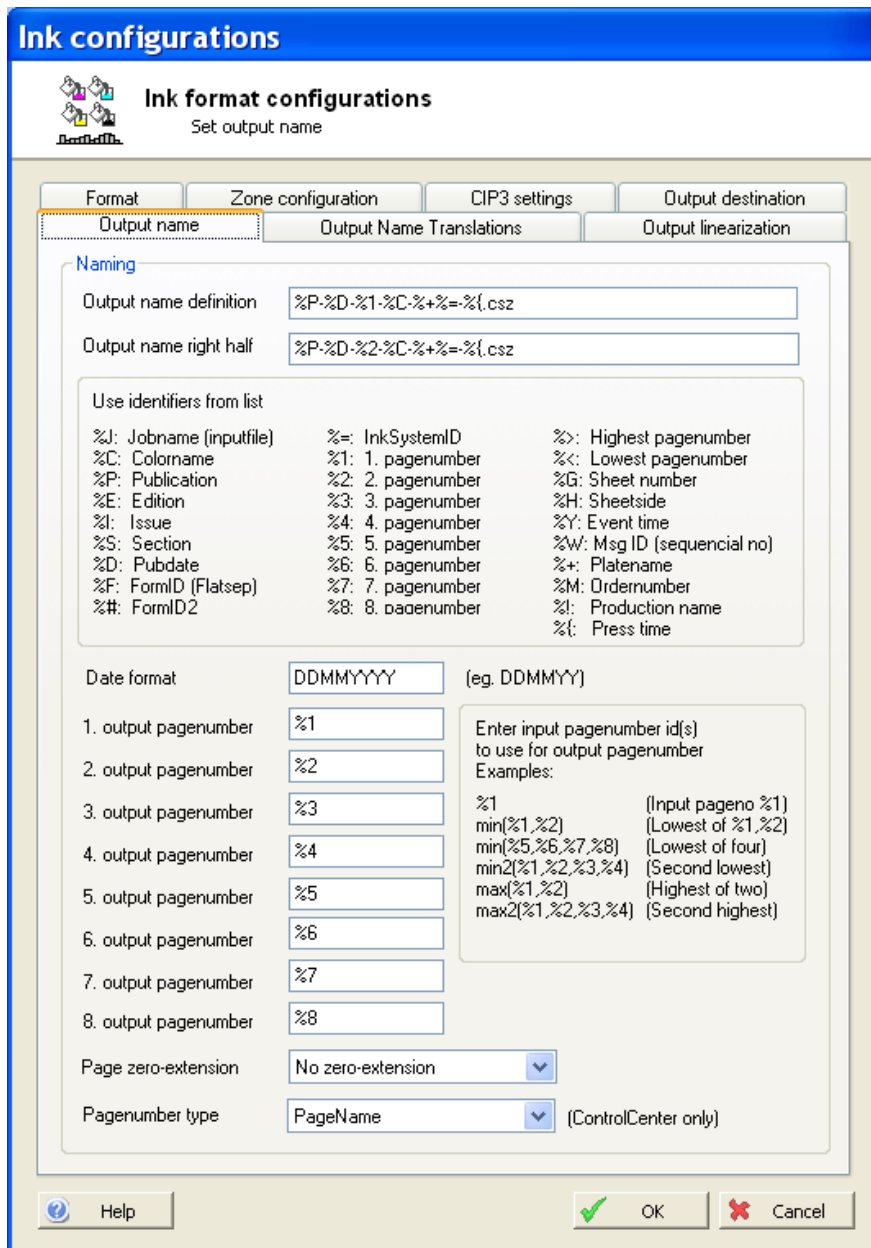
For direct mapping enter %1 for using the first page number from the input file, %2 for the second etc.

In case the press system requires only e.g. the lowest page number an expression can be entered for the particular output page number. Valid expressions are:

Syntax	Description	Example	Result
min(*list of numbers*)	The lowest page number	min(%1,%2) where %1=16,%2=1	1
max(*list of numbers*)	The highest page number	max(%1,%2) where %2=15, %2=2	15
min2(*list of numbers*)	The second lowest number	min2(%1,%2,%5,%6) where %1=8, %2=5, %3=1, %4=4	4
max2(*list of numbers*)	The second highest number	max2(%1,%2,%5,%6) where %1=8, %2=5, %3=1, %4=4	5
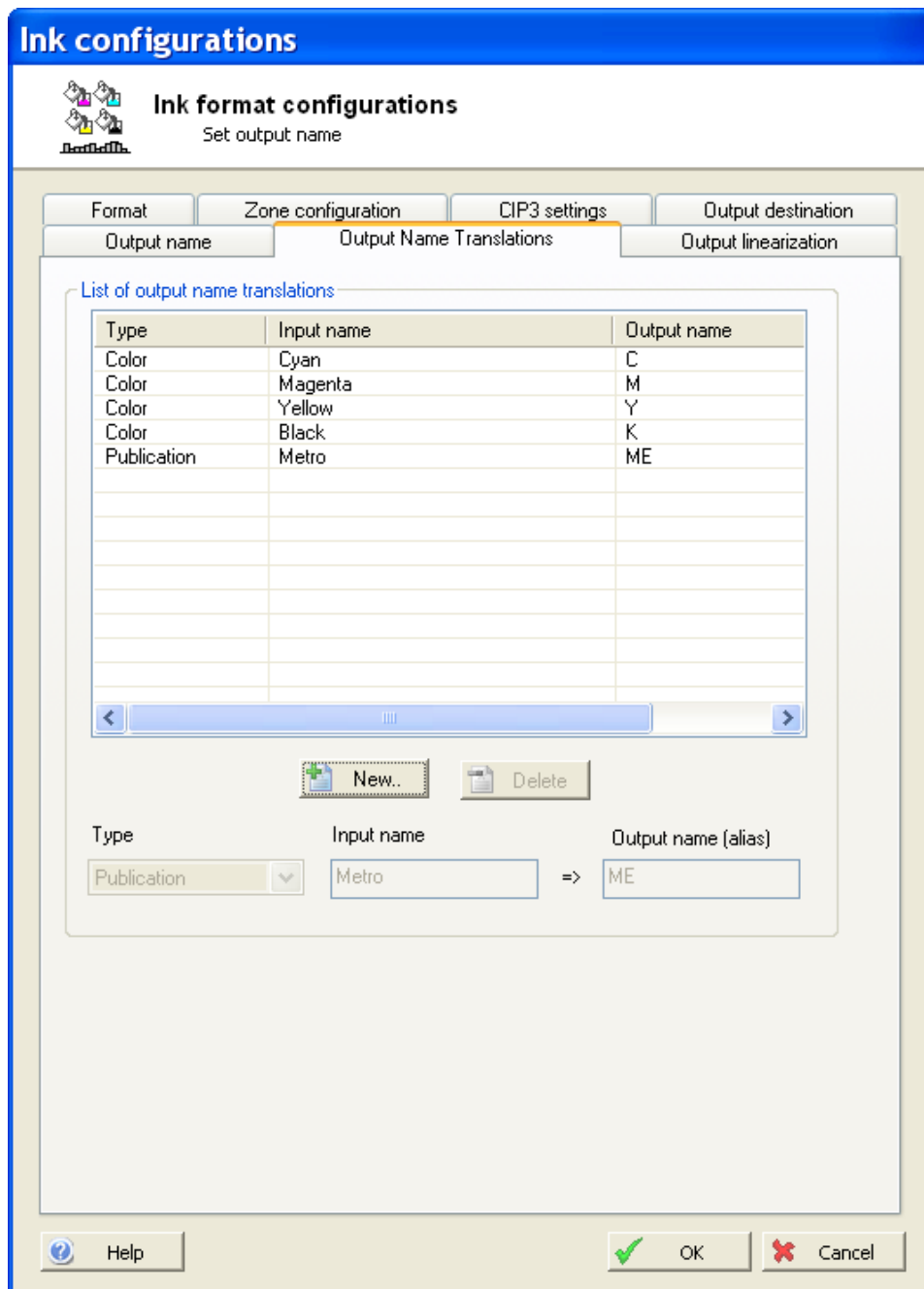
In case of panorama split (see 4.2.2) a second output name is required. Typically the two output names will differ by page numbers used. The page numbers used in the file name are usually also set in the two template header files (see 4.2.1).

4.1.6 Output name translation page

Often the identifiers used in file name do not correspond to the names accepted by the press system. A translation of publication, issue, edition, section and color names can be made prior to final output.

Use the *New* button to add a name translation and select the name type. Enter input name and enter the translated name. *Apply* the changes.

4.1.7 Output Linearization page

Most modern press system will map incoming ink zone values to real values by applying a cylinder-specific mapping. In case a simple manipulation is required the linearization option can be enabled.
The linearization method a simple color-by-color lookup tables applied to pixels. The filter consists to a curve per color which can be manipulated by dragging the anchor points with the mouse.
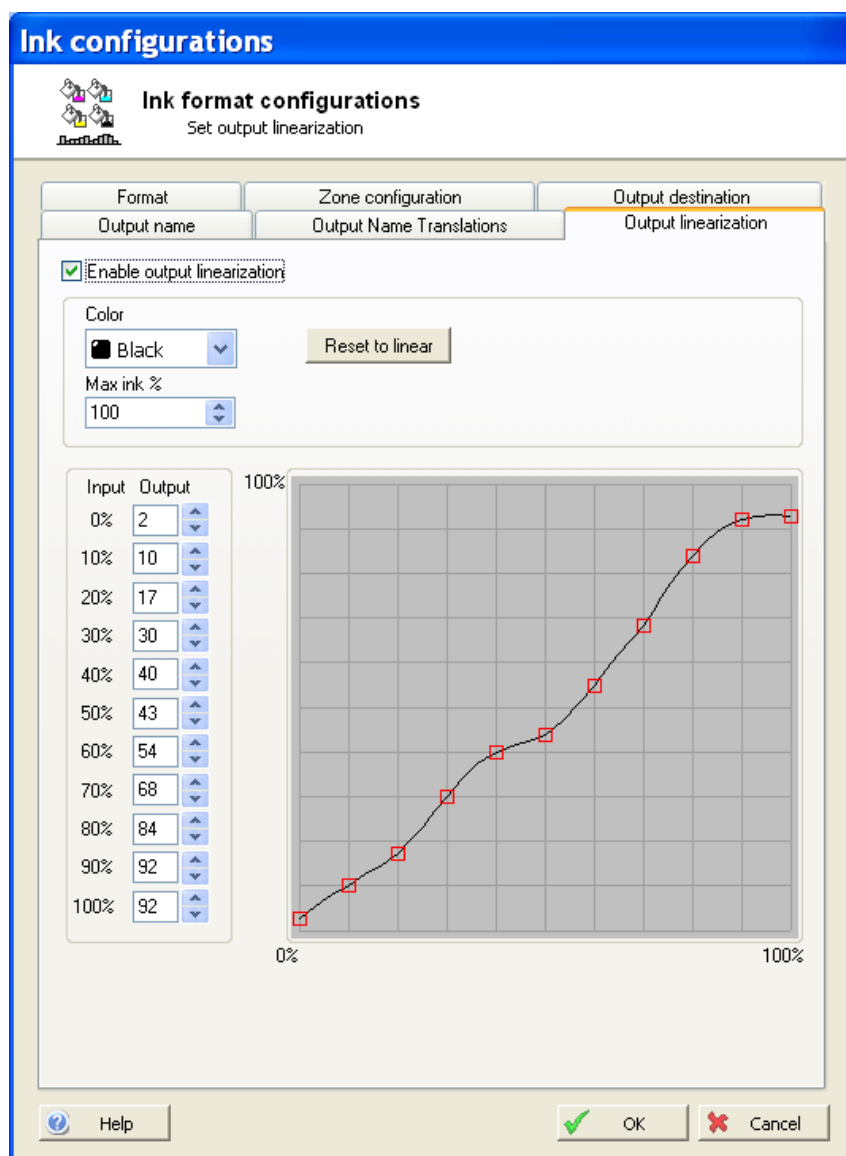
The linearization dialog allows simple mapping for each color.

4.2 Input queue configuration

Input folders needs to be defined and the action required for each file must be determined.

Use the menu *File->Configure input queues* to get to the input queue manager. Here the list of already defined queues is maintained
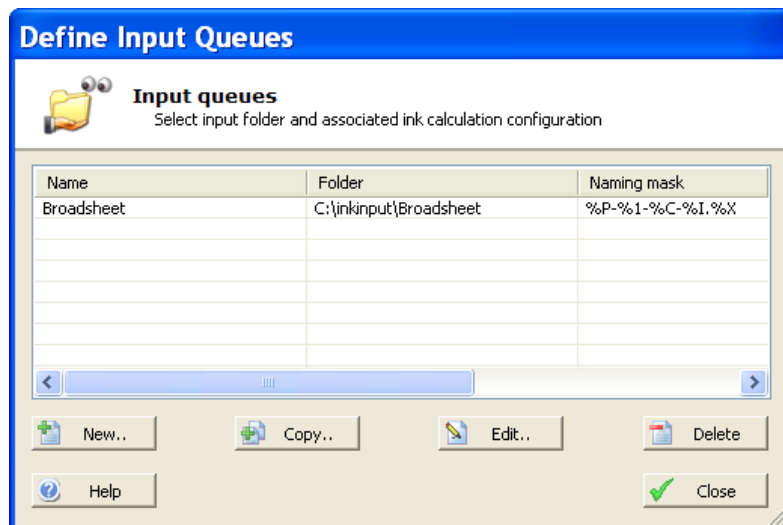
The definition of input queues are divided in three steps (tab-bars): **Input source**, **Input naming** and **Filename pre-processing**.

4.2.1 Input source page

The basic settings include the *Queue name, Input Folder* and *Color name location in filename.*

Queue name   Enter a unique name for the queue (mandatory)

File source   The file source may be a shared network folder on a RIP or an FTP server directory (e.g. for UNIX RIP access). Select *Shared network folder* or *Remote FTP Server* and enter folder name.

Search mask   An overall search mask can be defined as the first file sorting criteria. Specifying e.g. **.tif* will only analyze files with extension *.tif*. This may be required for certain RIPs which build up the ripped files with temporary extensions.

Stable time   Certain RIPs (e.g. polled via a FTP folders or UNIX Samba share) build up the ripped files by opening and closing the file many times. To ensure that a file is fully written, InkCenter may want to observe the file size and file modification time and only poll a given file if these attributes are stable for a period of time. The required stable time largely depend on the source system. Value between 1-10 seconds are usually recommended.

Ink configuration Any files entering the input folder will be analyzed using this ink configuration (set up as described in section 4.2).

Make copy of incoming file *allows the incoming tiff file to be archived or copied to*

an additional input folder. This comes handy if two different ink files must be generated from the same input (e.g. in case of parallel press runs).

4.2.2 Input naming page

Expected input file name is entered here. The isolation and extraction of parameters like publication name, edition name, color and page numbers can be defined here.

The identifiers picked up in the file name will be used when generating the final output name(s). Construct the expected file name mask using the listed %-identifiers. In case a publication date is part of the file name, enter the date format used using DD, MM, YY letters.

Note that for CIP3 input, the file recognition may be picked up from within the file instead of the actual file name. Choose CIP3 naming source as filename, /CIP3AdmJobName tag or /CIP3AdmSheetName tag.

For half web panorama plate files there must be an indication of which half holds page data and which is blank. The blank half is usually identified using dummy page numbers or names. Enter the list of page 'numbers' (separated by comma) which are to be treated as dummy pages.

Example: News-6-100-C.tif and News-101-5-C.tif are half web plates using page numbers 100 and 101 as dummy numbers.

Oftentimes the incoming file is generated by ControlCenter or EskoNet. To ease the naming recognition, a 'renamer-plugin' can be used to extract full information about a file from the workflow database. The plug-in requires to unique plate-ID to be part of the filename (%!).
To make use of the plug-in, Click the Config button and set the database login parameters for the connection to the workflow system.

4.2.3 Filename pre-processing

There are circumstances where the standard file name definitions are not adequate for file name recognition. Not all input file names are fitting the standard naming conventions InkCenter can tolerate directly. Regular expressions or an external script may be required to rename the incoming file to a form which fits the standard file mask definitions.

Regular expressions
A number of *regular expressions and formats* can be applied on the incoming file names to rename these to fit the scheme. The regular expressions use a standard Perl syntax to define matching expressions and format expressions.
A number of expressions may be defined which will be evaluated in a ranked order until a match is defined. When a hit is found the associated format expression is applied to form the final file name (handed to the standard name parser defined in the **Input source** dialog)

See appendix A for an overview of regular expressions.

External script
For very irregular filenames with many special cases and defaults it may be needed to run an external renaming program (eg. A Perl script, VB script or exe-file). If script-renaming is enabled, each file in the input folder is passed to the script together with a foldername to be used for the renamed file. After the script has
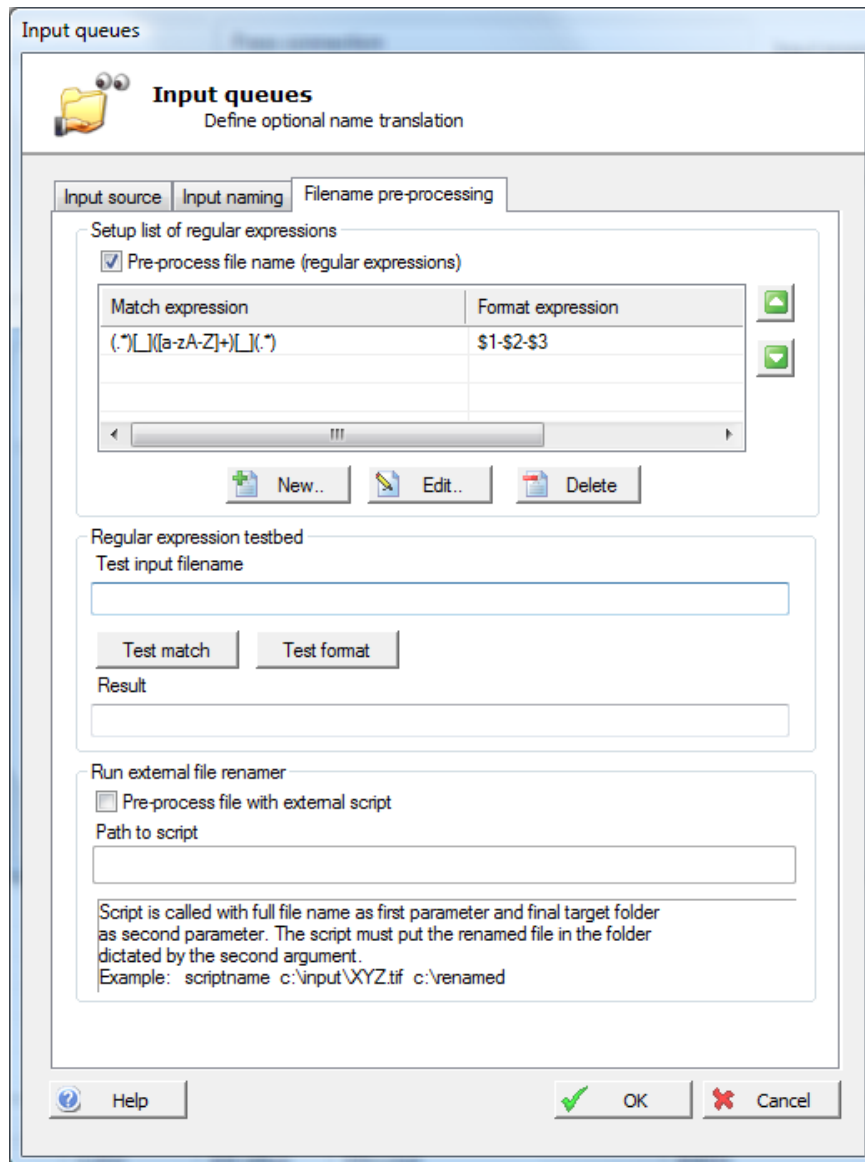
Pre-processing of file names using both regular expression and/or an external script. The script will rename the file and move it to a pick-up folder known by the system.

executed, InkCenter picks up the renamed file in the dedicated folder and parses the file according the defined naming convention. See appendix B for scripting examples.

4.3 Soft-proof generation configuration (Enterprise version only)

Soft-proofs are color combined preview files representing one side of the press sheet. Soft-proofs may be generated in various qualities and color characteristics depending on needs.

To allow soft-proofs first enable the generation in the Ink setup (see section 4.1.4).

The section describes the configuration of the soft-proof generation. The actual PlateViewer is described in section 4.4

In the main **File** menu select **Config Softproof Generation**.

4.3.1 Soft-proof folders

All generated soft-proofs are stored centrally in a folder structure with separate folders for preview files (typ. 72-100 dpi jpegs), thumbnail files and ink bar charts.

Select destination folders making sure the folders are shared to the network so that
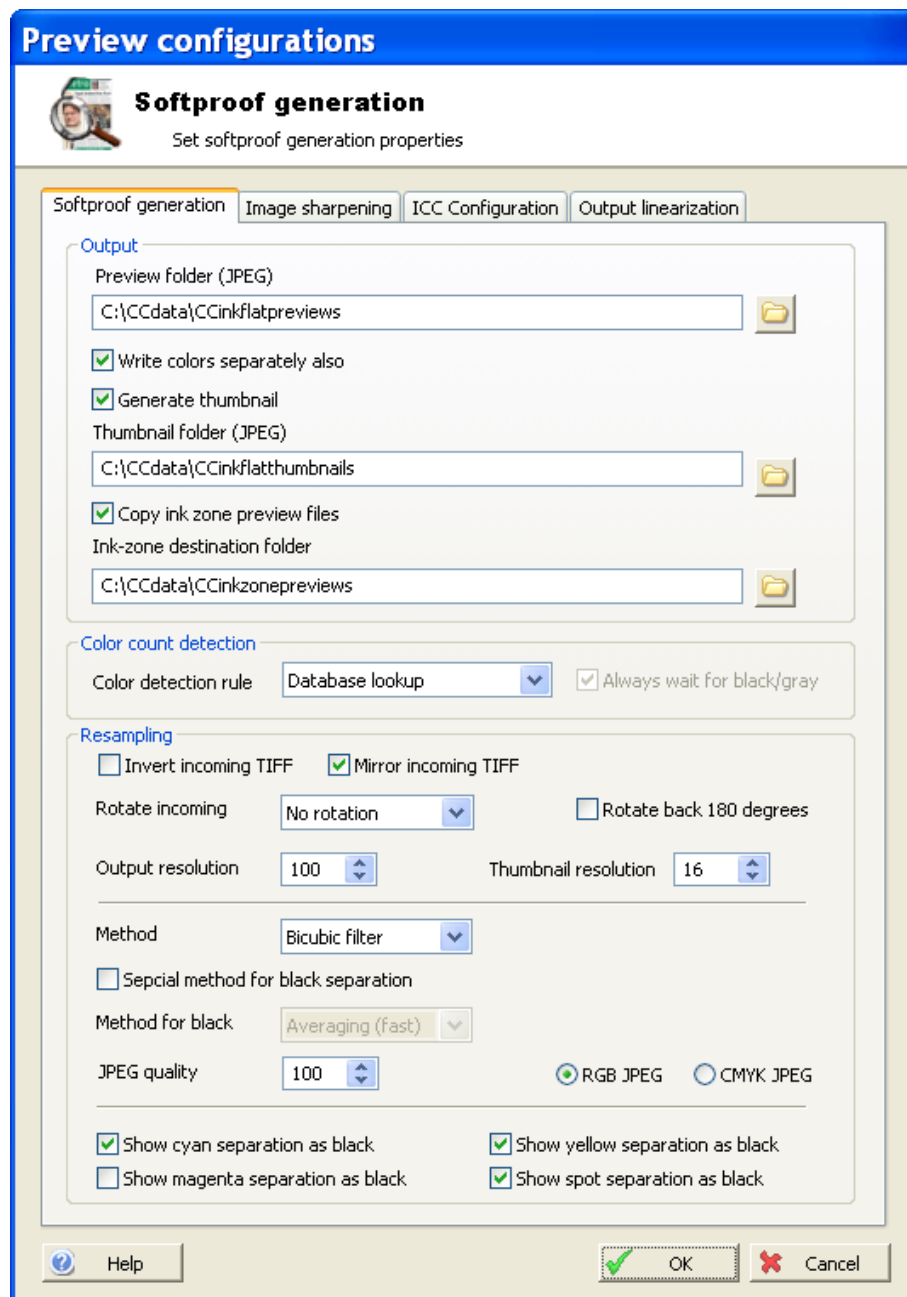
Soft-proof configuration. Set output destination and quality of softproof files (JPEGs)

PlateViewer clients can access the files.

Optionally each color separation can be viewed also. Enable option **Write colors separately also.**

Images may be rotated using **Rotate Incoming** setting so they can be viewed in the natural orientation in PlateViewer. Note that if InkCenter is used together with ControlCenter the orientation is detected automatically. Here InkCenter will auto-rotate each sheet side according to layout template settings (meaning e.g. rotate back only if required).

Be aware that a high **Output resolution** will require more network bandwidth for the PlateViewer clients. Remember that file size grows with the square of the resolution change.

Different **Re-sampling methods** exists allowing different trade-offs between re-sampling speed and quality. Bi-cubic combined with image sharpening (see below) is recommended for most configurations.

Each available separation may be viewed in its original color (e.g. cyan) or as black. At the very bottom of the soft-proof generation configuration dialog, each color can be configured to be shown as original process color or black.

4.3.2 Soft-proof image shapening

Bicubic, bilinear, Blackman and Hamming filters provides a smoothing effect on images in order to kill moiré. Potentially this will affect the text sharpness also. Applying a sharpness filter will compensate this. The filter is examining each pixel
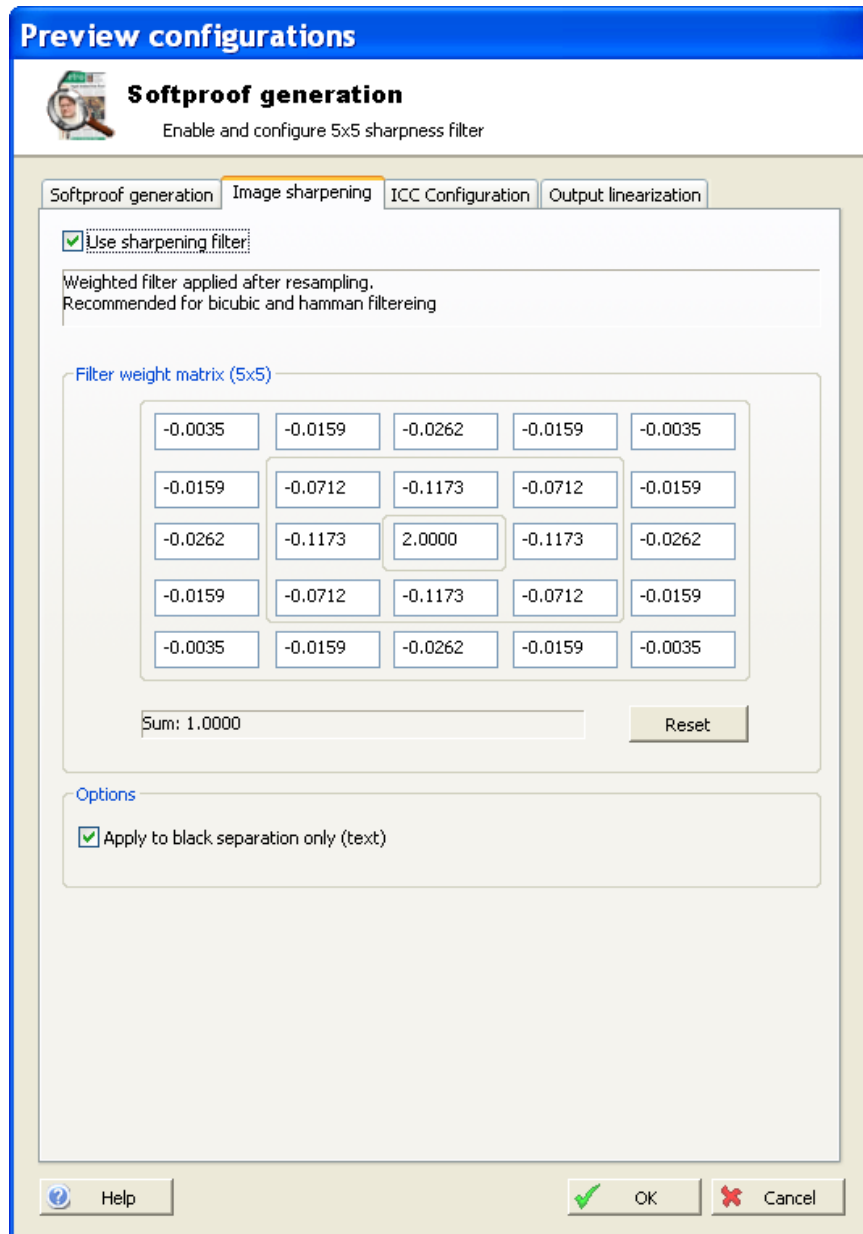
Sharpness-filter setup. The filter may be applied to the black separation only (text separation). Make sure all coefficients in the matrix adds up to 1.00 or else the color densities will change dramatically

and creating a new pixel based on the original value and weighted result of the 24

neighbouring pixels. To keep the color densities, make sure the 5x5 coefficients adds up to 1.00.

4.3.3 ICC Configuration

InkCenter can apply profiles to the re-sampled plate images. There are several transformation methods between color spaces which can be applied. Transformation mode depends on which profiles are attached.
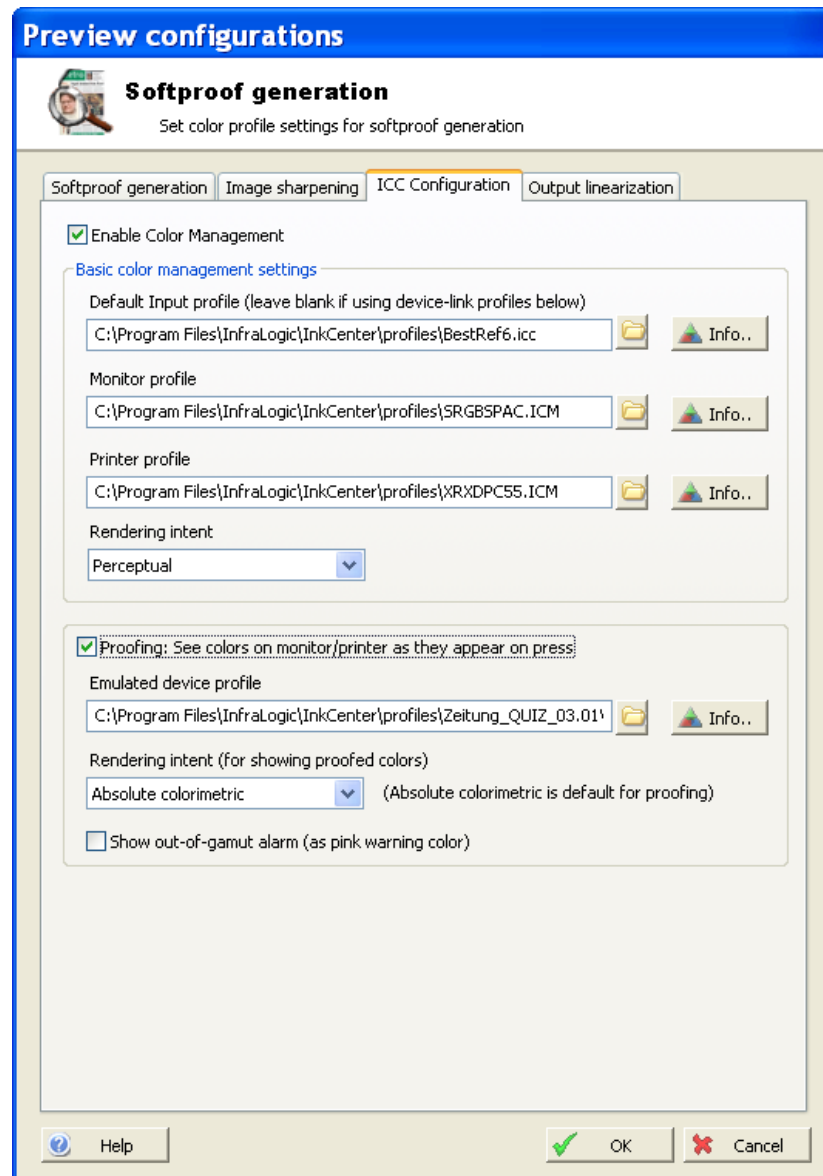
ICC profile setup. The input profile is usually a standard neutral filter because the input is pre-ripped CMYK separations. The printer profile is not used for soft-proofing.

For InkCenter soft-proofing, we want to recover the separated CMYK image to RGB (e.g. sRGB). For hard-proofing we want to re-map from already separated image to

proofing device. For advanced press-emulated proofs we must set a third profile characterizing the press.

Input-output-transformation
   Input and output device profiles will be used. For standard InkCenter installations, where input comes from Rips or ControlCenter ExposeCenter, the input profile will be the one used by the RIP (plate/press profile). If only dot gain compensation is used in the RIP, we must attach a linearization curve for each color (below) to 'reverse' this process and use Device-link transformation instead.

Device-link transformation

   Rather than having two single device profiles, this mode assumes the presents of only one (output) profile, describing the whole transformation. Use this if no output profile is done in the Rip. Leave the input profile field blank to enable device-link profile processing

Input-output-proof transformation
   Three profiles will be used - input, output and a profile emulation the color of another device (usually the press). This will only work if a proper gamut tag is present in proofing profile.

The standard *rendering intents* used by the transformation are handled by InputCenter:

Perceptual (Default)
   Mainly intended for images only. Hue hopefully maintained (but not required), lightness and saturation sacrificed to maintain the perceived color. White point changes to result in neutral grays.

Relative colorimetric
   Within and outside gamut; same as absolute colorimetric (see below). White point changed to result in neutral grays. If adequate table is present in profile, then it is used. Else reverts to perceptual intent.

Saturation
   Mainly intended for graphics. Hue and saturation maintained with lightness sacrificed to maintain saturation. White point changed to result in neutral grays. If adequate table is present in profile, then it is used. Else reverts to perceptual intent.

Absolute colorimetric
   Within the destination device gamut; hue, lightness and saturation are maintained. Outside the gamut; hue and lightness are maintained, saturation is sacrificed. White point for source and destination; unchanged. Intended for spot colors (Pantone, TruMatch, logo colors, ...)

4.3.4 Output Linearization

The linearization filter is simple color-by-color lookup tables applied to pixels prior to color merging (and ICC processing). The filter consists to a curve per color which can be manipulated by dragging the anchor points with the mouse. Certain pre-defined curve shapes exist: Linear, cubic and logarithmic (press these buttons to reset to any of these curves.

The linearization can be used as a 'poor-mans' color processing tool where ICC profiles are not available.
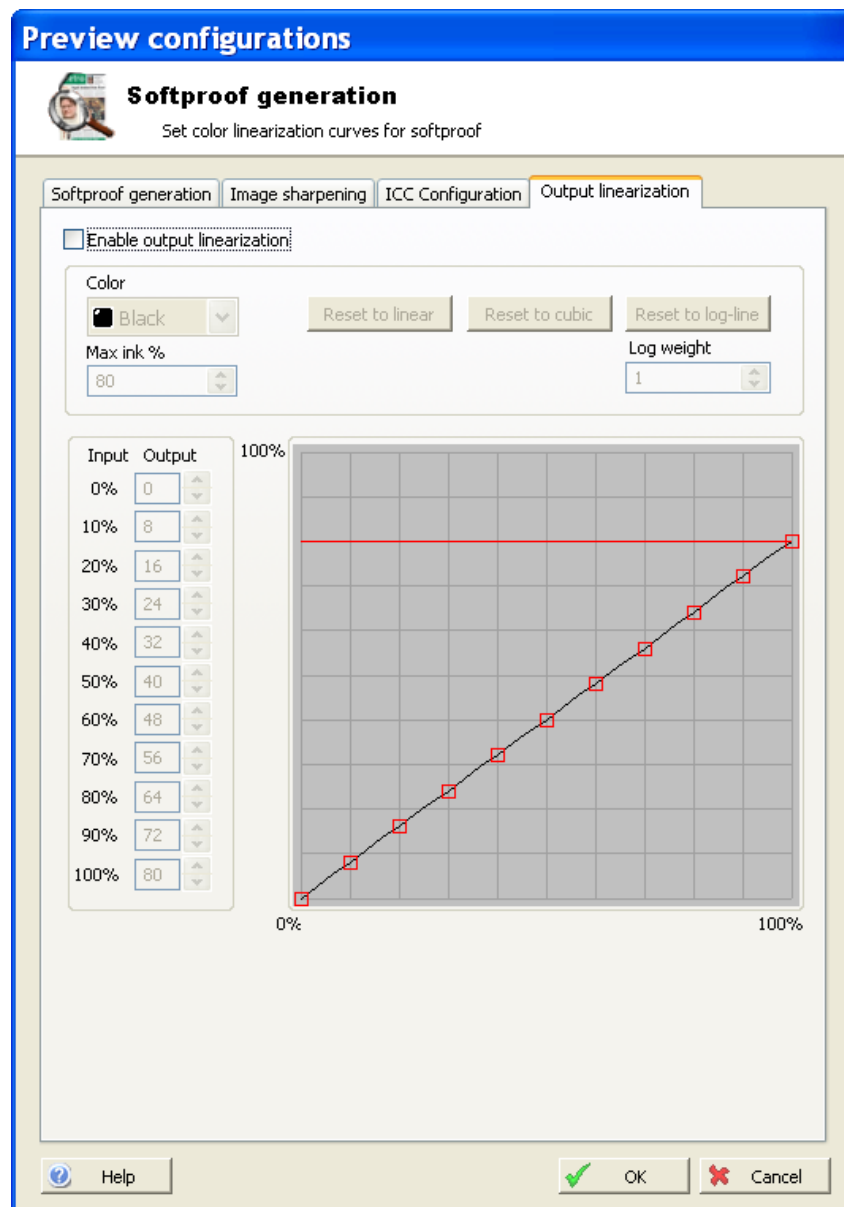
The linearization dialog allows simple mapping for each color.
This can be used with or without ICC processing to correct the
output on a per-color basis.

4.4   Configuration of PlateViewer

To be written..

4.5   Log files

InkCenter communicates with the outside world be maintaining xml-based log files of its activities. Log files may be (re-)loaded and purges from the *Log* menu.
The formal syntax (DTD) of the log file may be found in the document *InktCenter log specification*

Appendix A – Regular expression

The InkCenter naming recognition may use regular expressions for pre-processing of the file names. To utilize the full potential of the very powerful regular expression methodology takes some practice. Recommended reading is *Mastering Regular Expressions (O'Reilly).*

Make sure to understand the meaning of the terms *match expression* and *format expression*. Match expressions holds the actual pattern for name recognition. Format expressions are the definitions used for the generation of the renamed file names.

The first part of this appendix sums up the formal syntax of regular expressions. In the last part of the section a number of relevant examples are shown. These examples may serve as relevant starting points for building your own expressions.

A.1 Regular expression syntax

Literals

All characters are literals except*: ".", "|", "*", "?", "+", "(", ")", "{", "}", "[", "]", "^", "$" and "\".*

These characters are literals when preceded by a "\". A literal is a character that matches itself

Wildcard

The dot character "." matches any single character

Repeats
A repeat is an expression that is repeated an arbitrary number of times. An expression followed by "*" can be repeated any number of times including zero. An expression followed by "+" can be repeated any number of times, but at least once. An expression followed by "?" may be repeated zero or one times only. When it is necessary to specify the minimum and maximum number of repeats explicitly, the bounds operator "{}" may be used, thus "a{2}" is the letter "a" repeated exactly twice, "a{2,4}" represents the letter "a" repeated between 2 and 4 times, and "a{2,}" represents the letter "a" repeated at least twice with no upper limit. Note that there must be no white-space inside the {}, and there is no upper limit on the values of the lower and upper bounds.
All repeat expressions refer to the shortest possible previous subexpression: a single character; a character set, or a sub-expression grouped with "()" for example.

Examples:
"ba"* will match all of "b", "ba", "baaa" etc.

"ba+" will match "ba" or "baaaa" for example but not "b".
"ba?" will match "b" or "ba".
"ba{2,4}" will match "baa", "baaa" and "baaaa".

Non-greedy repeats

Whenever the "extended" regular expression syntax is in use (the default) then non-greedy repeats are possible by appending a '?' after the repeat; a non-greedy repeat is one which will match the shortest possible string. For example to match html tag pairs one could use something like:
"<\s*tagname[^>]*>(.*?)<\s*/tagname\s*>"
In this case $1 will contain the text between the tag pairs, and will be the shortest possible matching string.

Parenthesis

Parentheses serve two purposes, to group items together into a sub-expression, and to mark what generated the match. For example the expression "(ab)*" would match all of the string "ababab".. In the example the matching engine would contain a pair of iterators denoting the final "ab" of the matching string. It is permissible for sub-expressions to match null strings. If a sub-expression takes no part in a match - for example if it is part of an alternative that is not taken - then both of the iterators that are returned for that sub-expression point to the end of the input string, and the matched parameter for that sub-expression is false. Sub-expressions are indexed from left to right starting from 1, sub-expression 0 is the whole expression.

Non-Marking Parenthesis

Sometimes you need to group sub-expressions with parenthesis, but don't want the parenthesis to spit out another marked sub-expression, in this case a non-marking parenthesis (?:expression) can be used. For example the following expression creates no sub-expressions:
"(?:abc)"*

Forward Lookahead Asserts

There are two forms of these; one for positive forward lookahead asserts, and one for negative lookahead asserts:
"(?=abc)" matches zero characters only if they are followed by the expression "abc".
"(?!abc)" matches zero characters only if they are not followed by the expression "abc".

Alternatives

Alternatives occur when the expression can match either one sub-expression or another, each alternative is separated by a "|". Each alternative is the largest possible previous subexpression; this is the opposite behaviour from repetition operators.

Examples:
"a(b|c)" could match "ab" or "ac".
"abc|def" could match "abc" or "def".

Sets

A set is a set of characters that can match any single character that is a member of the set. Sets are delimited by "[" and "]" and can contain literals, character ranges, character classes, collating elements and equivalence classes. Set declarations that start with "^" contain the compliment of the elements that follow.

Examples:
Character literals:
"[abc]" will match either of "a", "b", or "c".
"[^abc] will match any character other than "a", "b", or "c".

Character ranges

"[a-z]" will match any character in the range "a" to "z".

"[^A-Z]" will match any character other than those in the range "A" to "Z".

Note that character ranges are highly locale dependent: they match any character that collates between the endpoints of the range, ranges will only behave according to ASCII rules when the default "C" locale is in effect. For the US localization model, then [a-z] will match the ASCII characters a-z, and also 'A', 'B' etc, but not 'Z' which collates just after 'z'.
"[[:space:]]" is the set of all whitespace characters.

The available character classes are:

\w in place of [:word:]
\s in place of [:space:]
\d in place of [:digit:]
\l in place of [:lower:]
\u in place of [:upper:]

alnum   Any alpha numeric character.

alpha   Any alphabetical character a-z and A-Z.

Other characters may also be included depending upon the locale.blank Any blank character, either a space or a tab.

cntrl   Any control character.
digit   Any digit 0-9.
graph   Any graphical character.
lower   Any lower case character a-z.

print	Any printable character.
punct	Any punctuation character.
space	Any whitespace character.
upper	Any upper case character A-Z.
xdigit	Any hexadecimal digit character, 0-9, a-f and A-F.
word	Any word character - all alphanumeric characters plus the underscore.
unicode	Any character whose code is greater than 255

Collating elements take the general form [.tagname.] inside a set declaration, where tagname is either a single character, or a name of a collating element, for example [[.a.]] is equivalent to [a], and [[.comma.]] is equivalent to [,]. Multi-character collating elements can result in the set matching more than one character, for example [[.ae.]] would match two characters, but note that [^[.ae.]] would only match one character. Equivalence classes take the general form [=tagname=] inside a set declaration, where tagname is either a single character, or a name of a collating element, and matches any character that is a member of the same primary equivalence class as the collating element [.tagname.]. An equivalence class is a set of characters that collate the same, a primary equivalence class is a set of characters whose primary sort key are all the same (for example strings are typically collated by character, then by accent, and then by case; the primary sort key then relates to the character, the secondary to the accentation, and the tertiary to the case). If there is no equivalence class corresponding to tagname, then [=tagname=] is exactly the same as [.tagname.].
To include a literal "-" in a set declaration then: make it the first character after the opening "[" or "[^", the endpoint of a range, a collating element.

Line anchors
An anchor is something that matches the null string at the start or end of a line: "^" matches the null string at the start of a line, "$" matches the null string at the end of a line.

Back references
A back reference is a reference to a previous sub-expression that has already been matched, the reference is to what the sub-expression matched, not to the expression itself. A back reference consists of the escape character "\" followed by a digit "1" to "9", "\1" refers to the first subexpression, "\2" to the second etc. For example the expression "(.*)\1" matches any string that is repeated about its mid-point for example "abcabc" or "xyzxyz". A back reference to a sub-expression that did not participate in any match, matches the null string: NB this is different to some other regular expression matchers. Back references are only available if the expression is compiled with the flag regbase::bk_refs set.

Characters by code
This is an extension to the algorithm that is not available in other libraries, it consists of the escape character followed by the digit "0" followed by the octal character code.

For example "\023" represents the character whose octal code is 23. Where ambiguity could occur use parentheses to break the expression up: "\0103" represents the character whose code is 103, "(\010)3 represents the character 10 followed by "3". To match characters by their hexadecimal code, use \x followed by a string of hexadecimal digits, optionally enclosed inside {}, for example \xf0 or \x{aff}, notice the latter example is a Unicode character.

A.2 File name renaming examples using regular expressions

Typically the regular expressions are used to split up a filename into a well defined separated filename. In the following simple examples the match/format expression pair is used to streamline incoming file names. Note the brackets around partial match expressions. These are used to form the output name using the format expression. The first bracket set is mapped to format id $1 etc.

Match expression	Format expression	Incoming filenames	Renamed filenames
[a-zA-Z]*([0-9]+).*	myname-$1	AbC01xyz.tif Cdcdcdc02	myname-01 myname-02
.*([0-9]+)[.].*	myothername-$1	abcXyZ123.ext xxyy_zz124	myothername-123 myothername-124
([0-9]+).*	anothername-$1	56xYzsD.x.y.z 57edfr123	anothername-56 anothername-57
([0-9]+)[-_]([0-9]+).*	myname-$1-$2-1	12_98dsdf_a_b_c 12-99xyz	myname-12-98-1 myname-12-99-1
(.*)[_]([a-zA-Z]+)[_](.*)	$1-$2-$3	x_y_z_01_black_1.tif	x_y_z_01-black-01.tif

Appendix B - External scripts

Under special circumstances it is necessary to use an external application for file renaming so that the file can be parsed according to the options given by InkCenter (the file mask).

Even if the external program is referred to as a script it may also be a dedicated console program (exe-file) with argument inputs.

B.1   Script calling convention

The script is called using a blocking win32 CreateProcess() command. The command takes the following form:

Scriptfile PathToInputFile PathToTempFolder

where

ScriptFile is the full file name path to the script,

PathToInputFile is the full file name path to the input file to rename

PathToTempFolder is a path to a (temporary) destination folder for the renamed file

The script is expected to move the renamed file from the input folder to the temp folder (*PathToTempFolder)* where InkCenter will pick up the renamed file.

Important note: Because InkCenter blocks the polling when the scripts executes make sure to script is not blocking too long. As a safety valve InkCenter has a timeout counter which is defined in InkCenter.ini file in seconds.

```
[System]
ScriptTimeout=60
ShowScript=0
```

You may want to set the ShowScript=1 for diagnostics purposes. This will show the command prompt window while executing the script.

B.2   Script example

Input file: *c:\input\SomeNameThatStinks01-K.tof*

InkCenter configuration: File mask: %j-%c.tif
                    Script file: *c:\utils\renamer.bat*

Resulting command: "*c:\utils\renamer.bat" "c:\input\SomeNameThatStinks01.tof"
"c:\temp"*

Batch file   *echo Running external renamer batch using Perl script*
                    perl renamer.pl %1 %2

Batch file parameter transfer

If you are using batch files as scripts to parameters are passed as %1 and %2 as normal. Note that the parameters can be modified by the batch file processor, e.g. for extracting path from filename:

Modifier	Description
%~1	Expands %1 and removes any surrounding quotation marks ("").
%~f1	Expands %1 to a fully qualified path name.
%~d1	Expands %1 to a drive letter.
%~p1	Expands %1 to a path.
%~n1	Expands %1 to a file name.
%~x1	Expands %1 to a file extension.
%~s1	Expanded path contains short names only.
%~a1	Expands %1 to file attributes.
%~t1	Expands %1 to date and time of file.
%~z1	Expands %1 to size of file.
%~$PATH:1	Searches the directories listed in the PATH environment variable and expands %1 to the fully qualified name of the first one found. If the environment variable name is not defined or the file is not found, this modifier expands to the empty string.

The following table lists possible combinations of modifiers and qualifiers that you can use to get compound results.

Modifier	Description
%~dp1	Expands %1 to a drive letter and path.
%~nx1	Expands %1 to a file name and extension.
%~dp$PATH:1	Searches the directories listed in the PATH environment variable for %1 and expands to the drive letter and path of the first one found.
%~ftza1	Expands %1 to a **dir**-like output line.

B.3   Scripting languages

Using Perl

Perl is an excellent language the modifying filenames because of its regular expression capabilities. The description on how to use Perl for renaming files is

beyond the scope of this manual. It is recommended to obtain the latest Perl distribution from www.ActivePerl.com.

Using Windows Scripting Host with VBScripts

Like Perl, Visual Basic Scripting has regular expression support using the RegExp object. Make sure the scripting engine is version 5.6 or later (download from www.microsoft.com).
You invoke scripts from batch files using the cscript //nologo <filename> command.

See msdn.microsoft.com/scripting