Printing Guide

English

CSX2000 Color Server

version **2.0**

399Z1P313C

www.creo.com

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Limitation of Liability

Patents

This product is covered by one or more of the following U.S. patents:

RE37376	5247174	5420702	5625766	5854883	6031932	6181362
4456924	5247352	5420722	5636330	5861904	6043865	6181439
4500919	5249067	5459505	5649220	5861992	6060208	6186068
4558302	5283140	5473733	5650076	5864651	6063528	6189452
4743091	5291273	5481379	5652804	5875288	6063546	6191882
4992864	5296935	5488906	5680129	5894342	6072518	6204874
5049901	5313278	5497252	5691823	5900981	6090529	6208369
5079721	5323248	5508828	5691828	5934196	6096461	6214276
5081617	5325217	5509561	5696393	5942137	6098544	6217965
5103407	5331439	5517359	5699174	5946426	6107011	6252522
5111308	5333064	5519852	5699740	5947028	6112663	6260482
5113249	5339176	5526143	5708736	5958647	6115056	6266080
5122871	5343059	5532728	5713287	5966504	6121996	6266134
5124547	5355446	5561691	5739819	5969872	6130702	6267054
5132723	5359451	5568595	5742743	5973801	6134393	6268948
5150225	5359458	5576754	5764374	5986819	6136509	6283589
5153769	5367360	5579115	5764381	5995475	6137580	6295076
5155782	5367388	5592309	5771794	5996499	6147789	
5157516	5384648	5594556	5785309	5998067	6158345	
5177724	5384899	5600448	5802034	6003442	6159659	
5208818	5412491	5608822	5813346	6014471	6164637	
5208888	5412737	5615282	5818498	6016752	6180325	

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Environment Management System (EMS)

EMS Overview

Creo is committed to the Environment Management System (EMS) and according to this policy, we are obliged to keep customers and service engineers informed about the principles of handling company products, while emphasizing on the environmental conservation.

The Triple-R principles are: **Reduce, Reuse and Recycle**.

Any item that can be recycled should be recycled and any item that can be reused should be reused in order to reduce the quantities of landfill that are sent to the local municipalities.

Recycling

Items such as: Paper, Plastic, Electronic Parts, Glass – should be sent for recycling, after usage.

Packaging Materials

Packaging Materials will be kept at the customer's premises. If these should be disposed, they should be sent to a plant for recycling of the Paper, Cartons and Wood.

End of Product Life span

The product should be sent for recycling to a recognized company in each country.

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Table of Contents

About This Manual

Printing Guide Purpose

This Printing Guide will help you operate the CSX2000 Color Server. It can also be used as a reference manual for questions or procedures. Study this Printing Guide to take full advantage of the many unique and advanced features of the CSX2000 Color Server.

Who is the Printing Guide For?

This Printing Guide is for CSX2000 Color Server operators and system administrators. This guide explains how you can quickly and easily print from the CSX2000 Color Server or from a client workstation. Step-by-step procedures are included for new and occasional CSX2000 Color Server users. Detailed information is provided for users who require in-depth knowledge of the CSX2000 Color Server.

Chapter Content and Description

Chapter	Contents	Description
	About this Manual	Printing Guide purpose, contents, and document conventions.
	Safety Precautions	Safety procedures and precautions for the CSX2000 Color Server.
Chapter 1	Welcome	Introduction to the CSX2000 Color Server
Chapter 2	Quick Tour	Powering up, powering down, and the CSX2000 Color Server interface.
Chapter 3	Basic Printing Workflow	Printing from client workstations and from the CSX2000 Color Server.
Chapter 4	Advanced Printing	Color, print quality, imposition, VI, and APR and OPI.
Chapter 5	Managing Jobs	Alerts and error messages.
Chapter 6	System Messages	Queuing and storing jobs.
Chapter 7	Job Accounting	Managing job accounting information.
Appendix A	Color Theory	Background information on Color
Appendix B	Imposition Theory	Background information on Imposition
Appendix C	VI Theory	Background information on VI
Appendix D	Glossary	Glossary of terms.

Document Conventions

Item	Purpose	Example
User interface elements	User interface elements, such as menu options and icons, are in bold.	Select **New** from the **File** menu. Click the **Expand** icon.
Procedures you perform	Procedures that you perform appear in a numbered list.	**1.** Connect the machine to the main power supply. **2.** Turn on your PC.
Single-step procedure you perform	Single-step procedures appear with an arrow.	➢ Select **Remote Station** from the **File** menu.
References	References to another book or to another place in the book	Refer to the *Safety Precautions* chapter.
Note	Add information	Use **Shift** or **Ctrl** to select several files at once.
Tip	Tip icon precedes a tip.	For faster processing, use the Gallop function.
Emphasized text	Template style denotes importance.	As a general user, you can search for **Files** and **Folders.**

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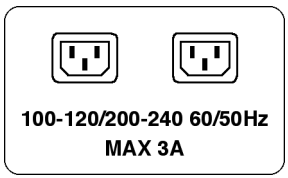
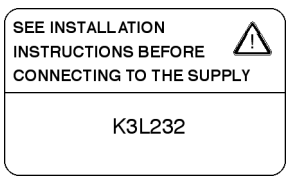
Safety Precautions

Safety Labels

The following safety labels are found on the CSX2000 Color Server.

Safety Label	Meaning	Location
	Operators should not open panels that require the use of tools. This label warns of dangerous voltages behind the CSX2000 Color Server.	Top, side and bottom right rear of the CSX2000 Color Server.
	This label indicates that the outlets to which it is applied can accept a maximum voltage of between 100-120 or 200-240 Volts, a maximum frequency of 60 or 50 Hertz, and a maximum of 3 Amperes.	Bottom right rear of the CSX2000 Color Server.
	This label is a reminder to review installation instructions before connecting the CSX2000 Color Server to the power supply. It is also a caution against high voltages.	Bottom right rear of the CSX2000 Color Server.

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Chapter 1

Welcome

Welcome to the CSX2000 Color Server Printing Guide

Welcome to your CSX2000 Color Server Printing Guide.

The CSX2000 Color Server is a powerful, comprehensive color server providing high throughput and print predictability to digital workflows. In combination with the Xerox DocuColor 2060 / 2045 printer, the CSX2000 Color Server effectively addresses the growth of on-demand printing needs and delivers the best output quality available.

Throughout this guide, we look forward to supporting you all the way from preprint to print.

Product Overview

The CSX2000 Color Server is an on-demand pre-press system that uses Creo Spire advanced pre-press technologies to drive a Xerox DocuColor 2060 / 2045 printer.

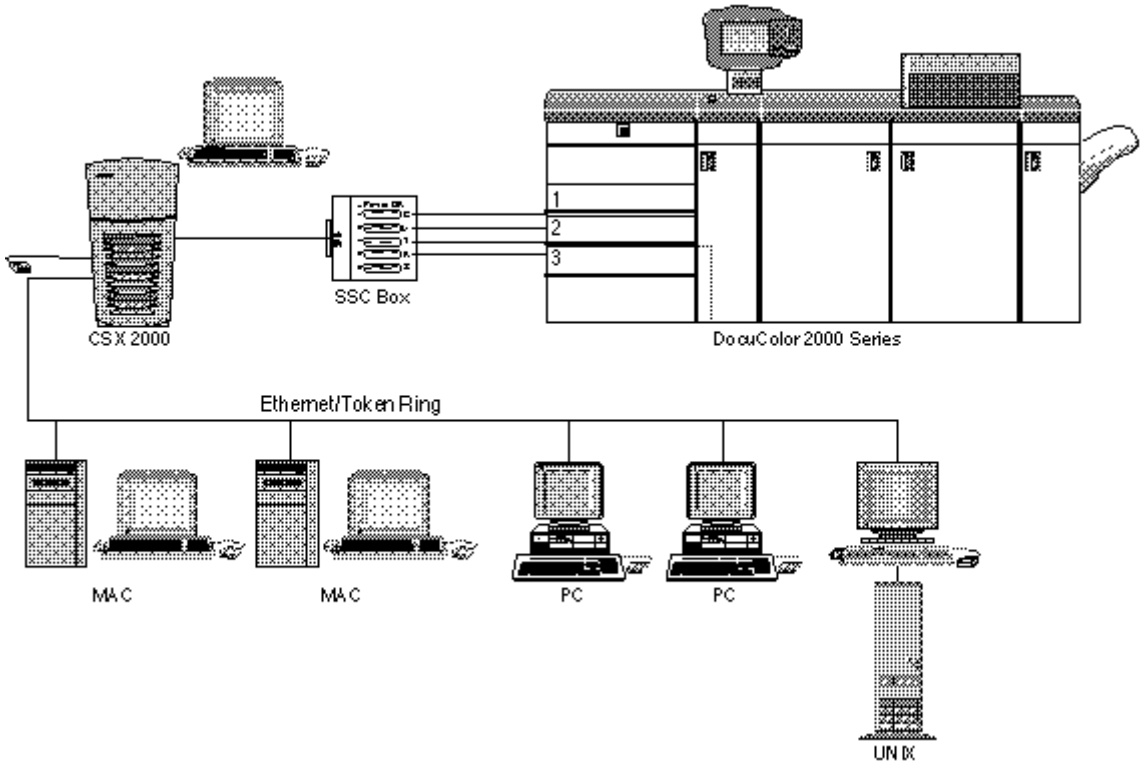
As an optimal digital color solution for printers, the CSX2000 Color Server lets you print from PC, Macintosh, and UNIX client workstations. The CSX2000 Color Server processes image files in PDL formats (for example, PostScript, PDF, and Variable Information), using a RIP (Raster Image Processor). The system converts image files into a suitable RTP (Ready-To-Print) format for direct, high-quality digital printing.

The CSX2000 Color Server also streamlines the printing process by allowing printing with preset workflows.

In combination with the Xerox DocuColor 2060 / 2045 printer, the CSX2000 Color Server lets you efficiently print flyers, brochures, pamphlets, dummy catalogs, short-run trials, and print-on-demand publications.

When installed as a fast, network printer with the CSX2000 Color Server, the Xerox DocuColor 2045 printer prints up to 45 full-color A4 (210mm x 297mm) or Letter (8.5” x 11”) pages per minute and the Xerox DocuColor 2060 printer prints up to 60 pages per minute.

The CSX2000 Color Server combines RIP functionalities, automation, control tools and special hardware development capabilities with PC architecture.



CSX2000 Color Server for Xerox DocuColor 2060 / 2045 printer

Composition

The CSX2000 Color Server is a dedicated Creo platform running in a Windows NT environment.

The CSX2000 Color Server includes:

- Creo hardware, including the interface board
- Software, including:
  - Standard Windows NT Server Operating System
  - The latest version of Adobe Acrobat
  - Creo application software

Features

The CSX2000 Color Server provides the following:

- Creating jobs in RTP format
  Using the CSX2000 Color Server, RTP files can be created and stored on the CSX2000 Color Server itself. This lets you print RTP data at any time without further processing.
- Powerful document printing capabilities
  In combination with the Xerox DocuColor 2060 / 2045 printer, the CSX2000 Color Server allows complete printing and processing of documents, including production of covers and pages on different paper stocks.
- Enhanced job editing
  The CSX2000 Color Server lets you job edit, both pre- and post-RIP. Pre-RIP editing includes full Adobe Acrobat functionality including: deletion, extraction, rotating, adding, and cropping of pages. Post-RIP editing includes deleting job pages and merging pages from different jobs to a new job. This minimizes the need to re-RIP jobs.

- RIP - Adobe Postscript Level III and Extreme Certified technologies
  The CSX2000 Color Server uses the industry-standard Adobe RIP, with enhancements for Continuous Tone and Linework. Data are processed separately as Continuous Tone and Vector Data layers for increased efficiency and merged during printing.
- Ready-to-Print job preview and editing
  The CSX2000 Color Server lets you preview RTP jobs up to pixel levels to see all job details and to verify job quality and content post-RIP. It is also possible to view a thumbnail list of job pages, or the actual raster pages.
- Job management
  The CSX2000 Color Server lets you monitor job progress during all stages of printing. Among other functions, you can promote, demote, delete, monitor the import process, and estimate when a job will be fully imported. You can also abort jobs during RIPping or printing, as well as archive and retrieve jobs.
- Enhanced text and line art quality – FAF (Full Auto Frame)
  You can choose superior text quality with the Creo proprietary algorithm. This function enhances the quality of diagonal lines, borders, blends, and small text. The Creo anti-aliasing causes blends to appear smooth with no banding and diagonal lines to appear crisp without jagged edges (do not use this option with VI jobs).
  You can choose superior image quality with the Creo proprietary smooth scale algorithm. This function improves the quality of images containing various resolutions (such as images taken from the Internet).
- Trapping
  The CSX2000 Color Server uses the well-known Creo algorithm to trap job information easily. The FAF algorithm has been tailored for digital printing.

- Imposition
  The CSX2000 Color Server offers a full suite of Imposition functions, based on the well-known Ultimate Imposition engine. On the CSX2000 Color Server, Imposition is robust with user-friendly operation. And only the CSX2000 Color Server allows imposition of Variable Information jobs.
  Imposition is performed on the CSX2000 Color Server at the post-RIP stage. Re-RIP occurs when you modify the imposition method and this new method requires a 180 degree rotation of pages. Pages are processed separately and merged to imposed sheets only during printing.

- Color Management
  The CSX2000 Color Server has a number of color management tools and utilities that will help you to improve the quality of your jobs. The CSX2000 Color Server lets you modify color on-the-fly, even for images that have already been RIPped. This functionality includes application of brightness and contrast adjustments, as well as changes to image gradation and calibration.

- Variable Information printing
  The CSX2000 Color Server allows processing of Creo Variable Print Specification and Xerox VIPP file formats and PPML for efficient VI (Variable Information) processing and printing. Repeated elements are RIPped once and cached, so there is no need to continually re-RIP them.
  The CSX2000 Color Server also provides easy management of VI elements, including previewing, deleting and updating. The CSX2000 Color Server also offers imposition for VI jobs, the only digital solution in the industry with this capability.

- Creo workflow extenders
  This is a set of Adobe Photoshop and QuarkXPress software plug-ins and extensions that facilitate printing with the CSX. These extensions are located in the shared **Utilities** folder on the CSX2000 Color Server or on CD #3 supplied with the CSX2000 Color Server software kit.

The CSX2000 Color Server supports the following file formats:

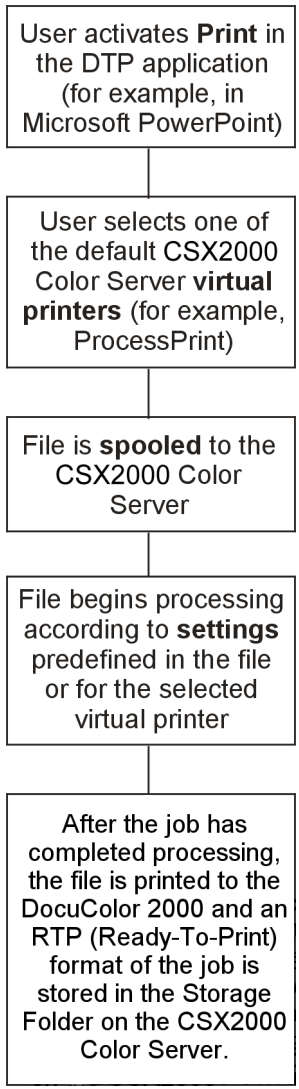
- Post-script (composite or pre-separated files)
- PDF
- EPS
- Variable Print Specification
- VIPP (Variable Data Intelligent PostScript Params)
- PPML (Personalized Print Markup Language)
- GAP (Graphic Art Port) files (file formats from various PrePress systems, for example Brisque)
- TIF

Workflow

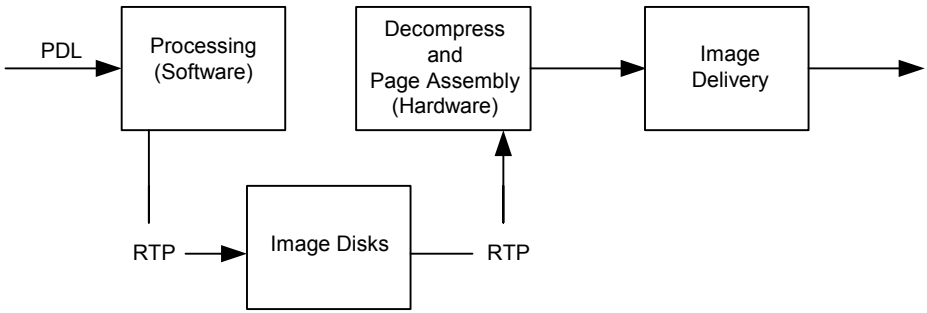
The CSX2000 Color Server receives and processes files from the following client workstations:

- Macintosh: running Mac OS 8.5.x or higher and Mac OS X (10.1)
- PC: running Windows 98 / ME / Windows NT 4.0 / 2000 / and XP
- UNIX Workstations and Servers

The CSX2000 Color Server basic workflow is as follows:



Data Flow



The CSX2000 Color Server Data Flow is as follows:

1. The input file arrives at the CSX2000 Color Server from either a client workstation, local hard disk, or external media and is submitted to the Process queue.
2. The processing sub-system produces an RTP job from the input file.
3. The RTP job is stored on an image disk.
4. When printing starts, the RTP job elements on the disk are decompressed and merged to the correct location on the page. This is done using Creo hardware.
5. The image delivery sub-system converts the RTP information into the print engine format.
6. The image delivery sub-system transmits the page information to the print engine.
7. The page data is delivered to the Print Engine and the job is printed.

Network CSX2000 Color Server Virtual Printers

For Macintosh and PC networks, the CSX2000 Color Server provides three default network printers, known as virtual printers.

Virtual printers are a function used for automating workflows, which then define job streaming. They contain preset workflows that are automatically applied to all print jobs processed with that virtual printer. There is no need to reset job settings for each job, thus increasing printing efficiency.

The job (print) parameters set in the job override the parameters set in the virtual printer.

The three virtual printers are:

- SpoolStore
  Files are spooled directly to the Storage Folder and await operator processing. You can only import PDL files (such as: PS, PDF, VIPP, VPS) to the spool store, not RIPped - RTP files.
- ProcessPrint
  Files sent to this virtual printer are processed and printed directly to the Xerox DocuColor 2060 / 2045 printer via the CSX2000 Color Server.
- ProcessStore
  Files sent to this virtual printer are automatically processed in RTP format. After processing, the files are stored in the Storage Folder of the CSX2000 Color Server until the print operator re-submits them for printing.

Additional default network printer for Macintosh networks:

- FontDownLoader
  This special network printer, called Spire_FontDownLoader, used with Macintosh clients to download fonts. The FontDownLoader functions as a communications port, sending messages between the FontDownLoader program and the CSX2000 Color Server. You can send only fonts via the FontDownLoader, not files.

When font substitution is performed, a message appears in the job history of the specific file. For more information, refer to *Job History on page 349*.

With printing workflows tailored to your job requirements, the CSX2000 Color Server enables you to:

- Define new virtual printers
- Choose from which virtual printer to print

For information on defining and editing virtual printers, see *Defining and Editing Virtual Printers on page 121*.

Chapter 2

Quick Tour

Powering Up

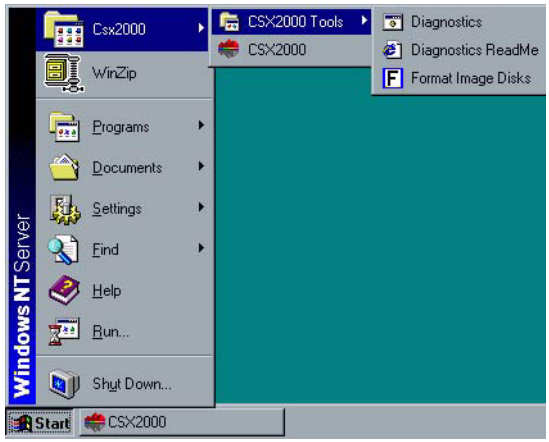
To power up the CSX2000 Color Server:

1. Switch on the monitor.
2. Open the front door of the CSX2000 Color Server and click the **Power** button.
   The power LED on the front panel lights-up. The Windows NT System starts and the CSX2000 Color Server splash screen appears.

If the CSX2000 Color Server is already powered up, open the workspace using the Start menu (as described on the following page).

CSX2000 Color Server in the Start Menu

The CSX2000 Color Server program group appears in the Windows Start menu.



References:

1. The CSX2000 Color Server includes a diagnostics utility for checking the hardware components of the system. This application should only be started by a Service Engineer. For more information, refer to the CSX2000 Color Server Technical Manual.

2. For information on **CSX2000 Tools** from the desktop (**Diagnostics**, **Diagnostics ReadMe**, and **Format Image Disks**, refer to the CSX2000 Color Server Technical Manual).

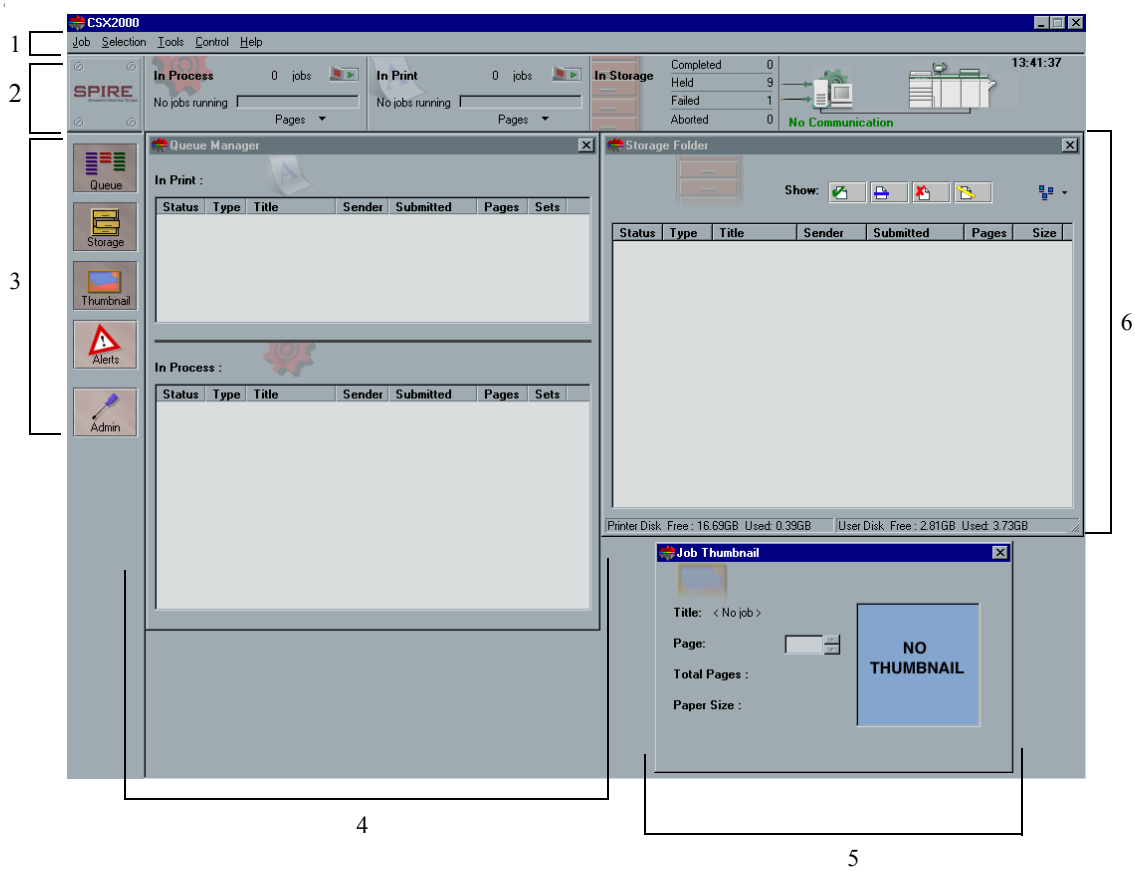
To manually open the CSX2000 Color Server workspace:

1. Follow the path *Start* > *CSX2000* > *CSX2000* > *CSX2000*. Click on 

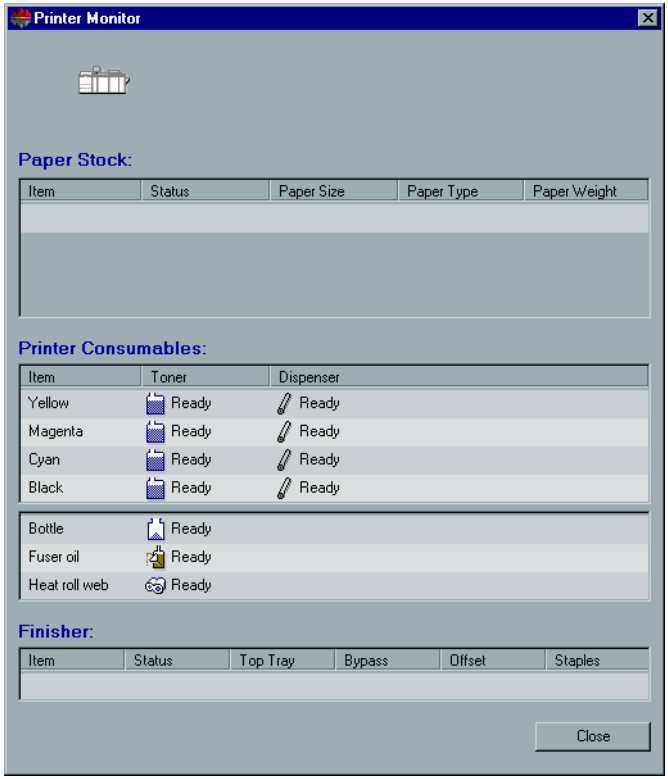
.
2. The *Loading Drivers* screen appears followed by the CSX2000 Color Server workspace.

Introduction to the Workspace

After the CSX2000 Color Server is powered up, the following workspace automatically appears.
The workspace area items are described on the following page.

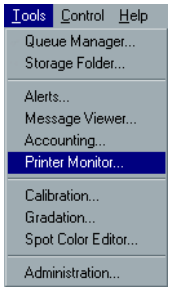


Item	Name	Description
1	Menu Bar	The Menu bar includes Job, Selection, Tools, Control and Help headings. Click on a heading to open a drop-down menu.
2	Status Panel	The Status Panel includes the following panes: Logo, Process Queue, Print Queue, Storage Folder and Components. In the Components pane (the top-right server-printer animation), you can view: • DFE Monitor (double-click on the server illustration to the left, refer to the *CSX2000 Color Server Installation Guide*) • Printer Monitor (double-click on the printer illustration to the right, refer to the next page for the *Printer Monitor* dialog box)
3	Pathways Panel	Click on an icon on the Pathways Panel to open / close a workspace window.
4	Queue Manager	The lower area of the *Queue Manager* window (Process Queue) lists the files to be processed. After a file has been processed successfully, it moves to the upper area of the Queue Manger (Print Queue) and waits to be printed, or the job moves to the Storage Folder for future printing. Failed jobs and jobs that cannot be RIPped also move to the Storage Folder.
5	Job Thumbnail	The *Job Thumbnail* window displays the thumbnail view of a specific page in an RTP job that has finished processing.
6	Storage Folder	The Storage Folder may contain files that: • Completed printing • Were put on hold, aborted, or failed during processing / printing • Were sent directly from the client • Were imported into the Storage Folder



Printer Monitor **dialog box**

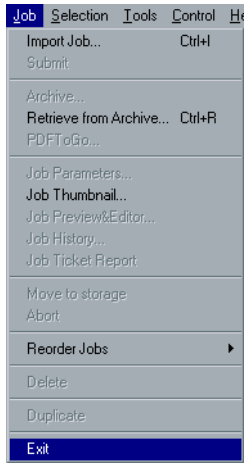
The *Printer Monitor* dialog box can also be accessed from the **Tools** menu.



Shut Down and Power Off

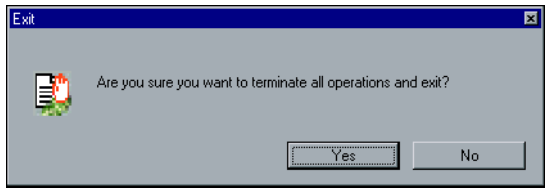
To shut down and power off the CSX2000 Color Server:

1. In the CSX2000 Color Server workspace, select *Job* > *Exit*.



Or:

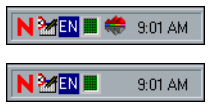
Click the ☒ in the top right hand corner of the CSX2000 Color Server workspace.
The *Exit* window appears.



2. Click **Yes**. The CSX2000 Color Server workspace closes and you return to the Windows desktop.

Jobs that are being processed or printed will abort.

3. To confirm that the CSX2000 Color Server application has closed, make sure that the Creo icon has disappeared.



4. In the Windows desktop, select *Start* > *Shut Down*.
5. In the *Shutdown* dialog box, select **Shut down?**
6. When the Windows shutdown is complete, switch off the monitor.
7. On the CSX2000 Color Server, click the **Power** button behind the front door. The power LED on the front panel goes off.

Chapter 3

Basic Printing Workflow

Printing from Client Workstations

You can send or import most PDL files (for example, PostScript, PDF, EPS, VPS, VIPP) to print on the CSX2000 Color Server.

You can print from any application (for example, Microsoft Word) on a PC or Macintosh client workstation, from UNIX client workstations, or by importing PDL files directly into the CSX2000 Color Server.

Files can be imported from the following:

- Local hard drives
- CD-ROM drives

Importing from a CD should not be performed when the system is printing or processing data. Suspend the Process queue when importing from a CD.

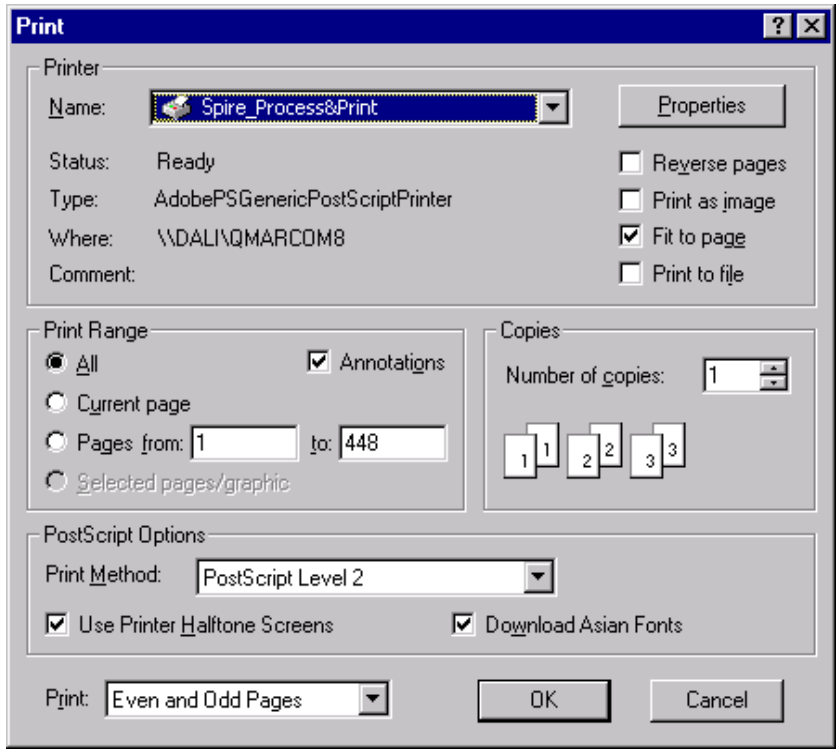
- Floppy drives
- Remote client workstations
- File servers

On the CSX2000 Color Server, files are printed by means of virtual printers containing predefined job parameter settings. The predefined settings are automatically applied to all jobs printed using that virtual printer and determine how a sent or imported file is processed. For example, a file sent to a virtual printer with a Process & Print job flow is RIPped, printed and stored in the Storage Folder. A file sent to a ProcessStore job flow virtual printer is RIPped and stored, without printing.

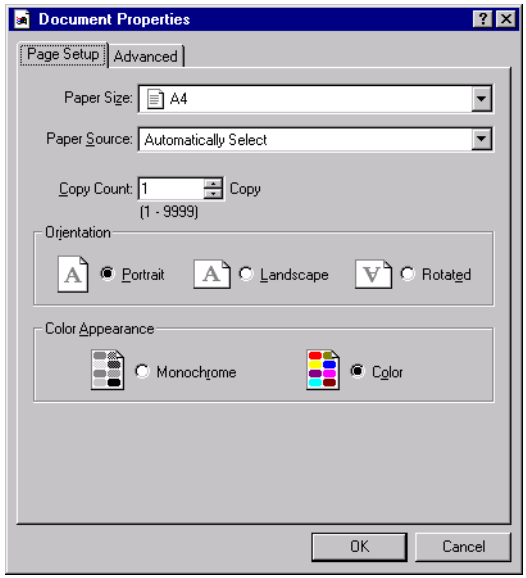
Printing from a PC

To print from a PC:

1. Open the file to be printed in the application (for example, Adobe Acrobat).
2. Select **Print** from the File menu. The *Print* window appears.
3. In the **Name:** box, select the required CSX2000 Color Server network printer (for example, Spire_Process&Print).



4. If desired, click **Properties** to set the job parameters.
   The printer *Document Properties* window appears.



Notes:

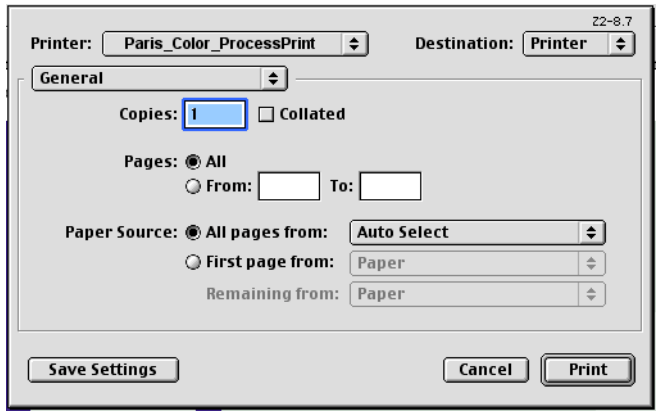
1. The parameters set in the print options overrides the parameters set in the virtual printer.
2. **Printer's Default** indicates that the value is taken from settings of the selected virtual printer on the CSX2000 Color Server.

5. Modify job settings as needed.
6. Click **OK** in the *Print* window.
   The file is sent to the CSX2000 Color Server.

Printing from a Macintosh

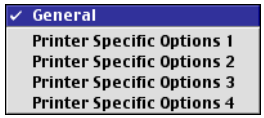
To print from a Macintosh computer:

1. Open the file to be printed in the application (for example, Microsoft Word).
2. Select **Print** from the File menu. The *Print* window appears.

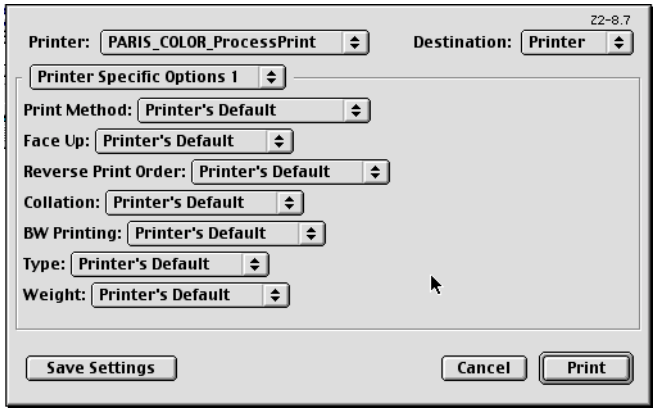


3. In the **Printer:** box, select the required printer (for example, CSX_Color_ProcessPrint).

4. To set job parameters, click **General.** From the drop-down menu, select one of the Printer Specific Options.



A window similar to the one shown below appears.



5. Adjust the printer options as required.

Notes:

1. **Printer's Default** indicates that the value is taken from the currently-selected virtual printer.

2. The PPD parameters are divided up into five Printer Specific Options in the drop-down menu.

6. After modifying the job settings in the *Printer Specific Options* windows, click **Print**.
The file is sent to the CSX2000 Color Server.

Printing from a UNIX Client Workstation

To print from a UNIX client through LPR:

1. Type the following:

   ```
   <lpr><space><-P><space><local UNIX printer
   name><space><PS file name>
   ```

   For example, to print frog.ps on a printer named ProcessPrint, type:

   ```
   lpr -P ProcessPrint frog.ps
   ```

2. Press **Enter**.
   The PostScript file is downloaded to the printer. All settings are taken from the remote printer on the CSX2000 Color Server.

Notes:

1. Use alphanumeric and underscores for names. Names are case sensitive, for example ProcessPrint not processprint.

2. UNIX does require PPDs to print jobs. Therefore, you can not set printer options.

Fonts

The following standard fonts are available on the CSX2000 Color Server:

AdobeSansMM	Bookman-DemiItalic	GillSans-Condensed
AdobeSerifMM	Bookman-Light	GillSans-ExtraBold
AlbertusMT-Italic	Bookman-LightItalic	GillSans-Italic
AlbertusMT-Light	Carta	GillSans-Light
AlbertusMT	Chicago	GillSans-LightItalic
AntiqueOlive-Bold	Clarendon-Bold	GillSans
AntiqueOlive-Compact	Clarendon-Light	Goudy-Bold
AntiqueOlive-Italic	Clarendon	Goudy-BoldItalic
AntiqueOlive-Roman	CooperBlack-Italic	Goudy-ExtraBold
Apple-Chancery	CooperBlack	Goudy-Italic
Arial-BoldItalicMT	Copperplate-ThirtyThreeBC	Goudy
Arial-BoldMT	Copperplate-ThirtyTwoBC	Helvetica-Bold
Arial-ItalicMT	Coronet-Regular	Helvetica-BoldOblique
ArialMT	Courier-Bold	Helvetica-Condensed-Bold
AvantGarde-Book	Courier-BoldOblique	Helvetica-Condensed-BoldObl
AvantGarde-BookOblique	Courier-Oblique	Helvetica-Condensed-Oblique
AvantGarde-Demi	Courier	Helvetica-Condensed
AvantGarde-DemiOblique	Eurostile-Bold	Helvetica-Narrow-Bold
Bodoni-Bold	Eurostile-BoldExtendedTwo	Helvetica-Narrow-BoldOblique
Bodoni-BoldItalic	Eurostile-ExtendedTwo	Helvetica-Narrow-Oblique
Bodoni-Italic	Eurostile	Helvetica-Narrow
Bodoni-Poster (001.002) Standard Disk	Geneva	Helvetica-Oblique
Bodoni-PosterCompressed	GillSans-Bold	Helvetica
Bodoni	GillSans-BoldCondensed	HoeflerText-Black
Bookman-Demi	GillSans-BoldItalic	HoeflerText-BlackItalic

HoeflerText-Italic	NewCenturySchlbk-Roman	TimesNewRomanPS-BoldItalicMT
HoeflerText-Ornaments	NewYork	TimesNewRomanPS-BoldMT
HoeflerText-Regular	Optima-Bold	TimesNewRomanPS-ItalicMT
JoannaMT-Bold	Optima-BoldItalic	TimesNewRomanPSMT
JoannaMT-BoldItalic	Optima-Italic	Univers-Bold
JoannaMT-Italic	Optima	Univers-BoldExt
JoannaMT	Oxford	Univers-BoldExtObl
LetterGothic-Bold	Palatino-Bold	Univers-BoldOblique
LetterGothic-BoldSlanted	Palatino-BoldItalic	Univers-Condensed
LetterGothic-Slanted	Palatino-Italic	Univers-CondensedBold
LetterGothic	Palatino-Roman	Univers-CondensedBoldOblique
LubalinGraph-Book	StempelGaramond-Bold	Univers-CondensedOblique
LubalinGraph-BookOblique	StempelGaramond-BoldItalic	Univers-Extended
LubalinGraph-Demi	StempelGaramond-Italic	Univers-ExtendedObl
LubalinGraph-DemiOblique	StempelGaramond-Roman	Univers-Light
Marigold	Symbol	Univers-LightOblique
MonaLisa-Recut	Tekton	Univers-Oblique
Monaco	Times-Bold	Univers
NewCenturySchlbk-Bold	Times-BoldItalic	Wingdings-Regular
NewCenturySchlbk-BoldItalic	Times-Italic	ZapfChancery-MediumItalic
NewCenturySchlbk-Italic	Times-Roman	ZapfDingbats

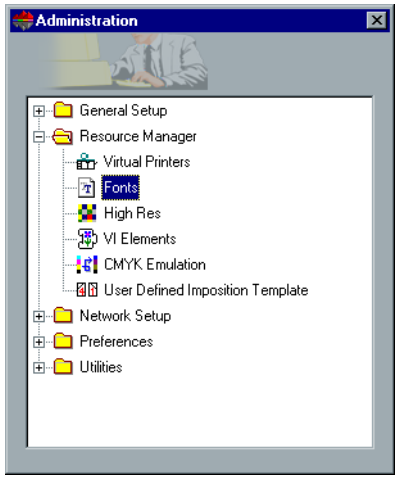
The following standard Kanji fonts are available on the CSX2000 Color Server Japanese version:

FotoMinA101-Bold	MidashiMin-MA31	ShinGo - Light
FutoGoB101-Bold	MidashiGo-MB31	ShinGo - Medium
GothicBBB - Medium	Ryumin-Light	ShinGo - Ultra
Jun101-Ligh	ShinGo - Bold	ShinseiKai - CBSK1

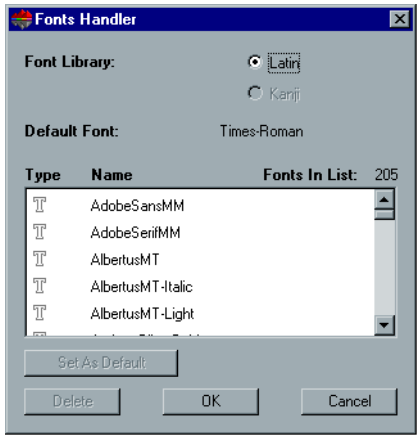
Managing Fonts

To manage fonts on the CSX2000 Color Server:

1. Access the *Fonts Handler* screen via *Admin >Resource Manager > Fonts.* Double-click on this option.



The *Fonts Hander* screen appears.



2. To set the default font, select a font from the font list. Click the **Set As Default** button.
3. To delete a font, select the font you want to delete and click **Delete**.
4. Click **OK** to confirm the changes and to return to the *Administration* window.

PPD Parameters

The following table lists the PPD (PostScript Printer Description) parameters and the printing options that can be selected from the *Print* window of an application.

Notes:

1. In the PPD file, the **Printer Default** option is presented for all PPD parameters. **Printer's Default** corresponds to the settings of the currently-selected virtual printer.
2. Parameter settings are modified or applied through either through the PPD, a virtual printer, or the *Job Parameter* window.
3. When setting or adjusting job parameters, the last-modified or applied parameter settings are the settings that are applied to the job. However, the print settings defined in the job file override the settings of the virtual printer.
4. Grayscale images created in RGB applications (such as PowerPoint) should be specified as Monochrome or submitted to the system with **BW Printing** selected in the PPD. This selection ensures that grayscale images are counted as black and white instead of color in both the CSX2000 Color Server and in the DocuColor 2045 / 2060 billing meters.

PPD Parameter	Printing Options
Print Method	**Simplex** prints single-sided pages. In **Duplex Head to Toe**, the image on the reverse side of sheet is rotated 180 degrees. It used for calendar-style hard copies and presentation-style copies (usually used with Landscape jobs). In **Duplex Head to Head**, the head of the image appears at the top of the page on both sides of the sheet. It is used for normal book-style hard copies (usually used with Portrait jobs).
Face-Up	**Face Up** delivers the pages facing up on the printer. **Face Down** delivers the pages face-down on the printer (when printing confidential documents).
Reverse Print Order	**Yes** starts printing from the last page. **No** starts printing from the first page.
Collation	**Yes** prints a complete copy of the job before the first page of the next copy is printed. **No** prints all the copies of each page before all the copies of the next page are printed.

PPD Parameter	Printing Options
BW Printing	**Yes** prints all pages using black (K) toner only. **No** prints all pages using all CMYK toners. With **No, Print gray using only black toner** all office elements with equal RGB values are printed using only black toner (using a new CRD).
Type	Select **Paper** or **Transparency** as the media.
Weight	Select the required paper weight from the drop-down list. The following ranges are listed: **64-80**, 81-105, **106-135**, **136-150**, **151-220**, and **221-280** (all values are in gsm). For example, **81-105 gsm** prints on 81-105 gsm paper.
Coating	**Coated** prints on coated paper. **UnCoated** prints on uncoated paper.
Text and Line Quality	**High** provides superior text quality. This setting applies the Creo proprietary algorithm that enhances the quality of diagonal lines, borders, blends, and small text. The Creo anti-aliasing causes blends to appear smooth with no banding and diagonal lines to appear crisp without jagged edges (do not use this option with VI jobs). **Normal** provides standard text quality.
Image Quality	**High** provides superior image quality. This setting applies the Creo proprietary smooth scale algorithm, which improves the quality of images containing several resolutions (such as images taken from the Internet). **Normal** provides standard image quality and increased RIPping speed.
Trapping	**Yes** applies the Creo FAF (Full Auto Frame) algorithm to the job. Trapping solves misregistration between color separations in offset and digital printing. This occurs regardless of the printer device accuracy. This problem results in white lines around objects on top of a background (in a knock-out procedure) and also between adjacent colors. The FAF solution is to extract the element or background to create an overlap between them. Do not use this option with VI jobs. **No** does not begin image trapping while RIPping (this does not affect trapping incorporated by the authoring application). If trapping was applied in the authoring application, select **No**.

PPD Parameter	Printing Options
Black Overprint	**Yes** provides better printing quality (as in FAF) and a richer, deeper black with the underlying CMY values equal to the those of the printed background. As a result, misregistrations are not visible. Black Overprint ensures that 100% black text prints cleanly within a tint or picture area. Occasionally white lines may appear around black text and the text may appear less dense than required as a result of misregistration between color separations. With Black Overprint, the Pure Black Text / Graphics option is automatically activated and there are no knock-outs under the black text. However, a knock-out occurs when you print only the topmost color. This results in less color density and can cause misregistration if separations are not perfectly aligned. **No** leaves the job as is.
PS Overprint	PS (PostScript) Overprint offers the option to use the overprint, which exists in the PS file. It also determines whether DTP application PS Overprint settings are honored in the RIP. CSX2000 Color Server settings override PS Overprint commands from DTP applications. For example, if PS Overprint was set to Yes in a DTP application, selecting PS Overprint No in the CSX2000 Color Server results in no overprinting. The CSX2000 Color Server can not create PS Overprint that is not pre-defined in the file. Selecting PS Overprint Yes for a file that has not had overprinting defined in a DTP application does not result in overprinting. **Yes** instructs the RIP to use the overprint information that exists in the input PostScript file. Also, if PS Overprint is applied in a DTP applications, it is implemented by the CSX2000 Color Server. Background colors are not knocked out. For example, in the case of a yellow triangle overlapping a cyan circle, selecting Yes results in the overlapping area turning green. This is not seen on the screen, only in print. **No** ignores the overprint information that exists in the input PostScript file. Background colors are knocked out and only the top most color parts are seen on the screen in your DTP application. For example, in the case of a yellow triangle overlapping a cyan circle, selecting **No** results in the cyan background being knocked out, so only the yellow is printed.
Brightness	Brightness settings can be applied to RTP jobs without reprocessing (re-RIPping the file). **Normal** keeps the current job setting and does not apply extra brightness. To apply brightness, select one of the range options: **Light (5%)**, **Lighter (10%)**, **Lightest (15%)**, **Dark (5%)**, **Darker (10%)**, **Darkest (15%)**.

PPD Parameter	Printing Options
Contrast	Contrast settings can be applied to RTP jobs without re-processing (re-RIPping the file). **Normal** keeps the current job setting and does not apply extra contrast. To apply contrast, select **Less Contrast** or **More Contrast**.
Rendering Intent for RGB	Rendering Intent defines how colors are compressed from Lab values to printer color space. **Saturated (presentation)** produces saturated colors that are suitable for office environment applications (for example text documents and presentations). **Perceptual (photographic)** yields the most effective results on continuous tone and images. **Saturated (presentation)** and **Perceptual (photographic)** are the most effective RI methods for RGB images. **Relative Colorimetric** provides an accurate general-purpose gamut mapping for all applications. The lowest density is mapped to white. **Absolute Colorimetric** preserves the substrate tint.
Rendering Intent for CMYK	Rendering Intent defines how colors are compressed from Lab values to printer color space. **Relative Colorimetric** provides an accurate general-purpose gamut mapping for all applications. The lowest density is mapped to white. **Absolute Colorimetric** preserves the substrate tint. **Relative Colorimetric** and **Absolute Colorimetric** are the most effective RI methods for CMYK images. **Saturated (presentation)** produces saturated colors that are suitable for office environment applications (for example text documents and presentations). **Perceptual (photographic)** yields the most effective results on continuous tone and images.
Ink Saving(GCR)	**No** does not use GCR and uses default maximum toner settings. Use **Low**, **Medium**, or **High** to set the amount of CMY toners to be replaced by the black toner. **High** provides low ink coverage while saving on toner (this prevents the occasional peeling of ink and the curling effect that may occur when printing transparencies).
CMYK Emulation	Select a CMYK emulation: **None, DocuColor40, Euroscale, Gravure, Japan_Color, Offset,** or **SWOP**. **None** applies Ink Saving (GCR) without emulation. In all cases, emulation applied in the original DTP application overrides the CSX Color Server settings.

PPD Parameter	Printing Options
Screening Method	**Automatic** applies two types of screens: For CT, the system uses Dot type screen of 200 lpi. For text / line-art elements, the system uses Dot type screen of 200 lpi for all colors below a system-preset threshold. It uses Line type screen of 600 lpi for colors that are equal to or higher than the system-preset threshold. **Dot 150** applies Dot type screen of 150 lpi. **Dot 200** applies Dot type screen of 200 lpi. **Line 200** applies Dot type screen of 200 lpi. **Line 300** applies Dot type screen of 300 lpi. **Line 600** applies Dot type screen of 600 lpi.
Use RGB CSA	This option increases gamma values, thus producing more color depth for RGB images. To use CSA in the image, select **Use Source CSA**. To replace CSA with RGB, select**: Use CSXRGB 1.8**, **Use CSXRGB2.1**, or **Use CSXRGB 2.4**.
CMYK Source CSA	Select whether to **Use Source CSA** or **Ignore Source CSA** for your CMYK image.
Calibration	**Normal** prints using the normal LUT (Look-Up table, which is the calibration table name). **Saturated** prints using the saturated LUT. **None** prints without calibration, thus there is no balance between colors and gives no color calibration data.
Automatic Deletion	**Always, Never, Successful Only, Failed Only** On large VI jobs, which take up a large amount of the CSX2000 Color Server's disk space, it is recommended (if you do not need to reprint the job) to use the this option. Completed and failed jobs are automatically saved in the Storage Folder unless you check one of the Job Deletion option check boxes. Follow the below process: Suspend the Process queue. Import your job. **Successful Only** removes jobs so they will not be printed. This option continuously deletes pages once they have been successfully printed and thus sustains enough free disk space for the duration of the print run. **Failed only** removes failed jobs (while processing or printing) from the CSX2000 Color Server. Each successfully printed page of the job is immediately deleted while the rest of the job remains in the queue to print.

PPD Parameter	Printing Options
APR (Automatic Picture Replacement™)	**Print with High Res** prints using high-resolution files. **Print with Low Res** prints using low-resolution files.
Job Flow	**ProcessPrint** RIPs the PDL files and prints them, then moves the files to the Storage Folder or deletes them in accordance with the deletion policy. **ProcessStore** RIPs the PDL files and moves them to the Storage Folder as RTP jobs. **SpoolStore** copies the PDL files directly to the Storage Folder.
Admin Page	Admin Page includes general information about the job, including paper stock parameters (Admin page can also apply to non-successfully completed jobs). Admin page is printed in the same order as the job, before each set for face-down printing and after each set for face-up printing. **Yes** prints an Admin page. **No** for no Admin page with the job.
Slip Sheet	**Yes** inserts a sheet offset from the job stock between jobs or copies of a job or at the end of uncollated stacks of pages. **No** does not insert any slip-sheets.
Finisher Module	Select a Finisher module from the drop-down list to select the printed output's destination: **OCT** (Output Cache Tray) prints to the output cache tray. If your printer is equipped with an HCS (High Capacity Stacker), select: **HCS Stack Tray**, which prints to the top tray. **HCS Top Tray**, which prints to the stack tray, which is the internal tray. If your printer is equipped with an HCSS (High Capacity Stacker Stapler), select: **HCSS Top Tray**, which prints to the top tray. **HCSS Stack Tray**, which prints to the Stack Tray (usually for many pages / copies). **HCSS Staple Stack**, which prints an already stapled document.
Finisher Offset	**Yes** shifts the sheets when a new page number is delivered. For example, you requested 3 copies of each page. Thus the printing output sequence is as follows: Page1, Page1, Page1, Offset, Page2, Page2, Page2, Offset, and so on. **No** does not use this printing method.

PPD Parameter	Printing Options
Staple Options	**Landscape - Single TL** a single staple in the top left corner. **Landscape - Single TR** a single staple in the top right corner. **Landscape - Dual Right** two staples along the left side. **Landscape - Dual Left** two staples along the right side. **Landscape - Dual Top** two staples along the top. **Portrait - Single TL** a single staple in the top left corner. **Portrait - Single TR** a single staple in the top right corner. **Portrait- Dual Right** two staples along the left side. **Portrait - Dual Left** two staples along the right side. **Portrait - Dual Top** two staples along the top.
Rotate 180	**Yes** (only relevant for the *Finisher Module > HCSS Staple Tray* option), modifies the stapling position by 180 degrees. For example, instead of stapling on the upper left-hand corner, you can staple on the lower right-hand corner. **No** ignores this method.

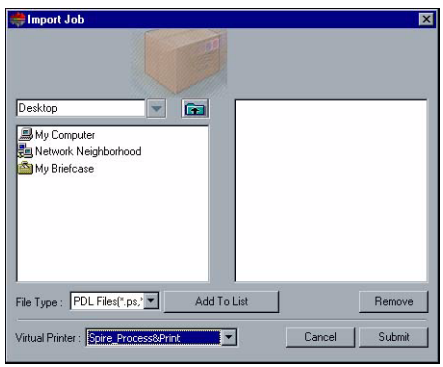
Printing from the CSX2000 Color Server

Importing Files

When PDL files are created on client workstations that are not connected to the CSX2000 Color Server or if files are available only on external media (such as a CD-ROM), you can import files into the CSX2000 Color Server. It is also possible to import job files that reside locally on the CSX2000 Color Server.

To import files into the CSX2000 Color Server:

1. In the CSX2000 Color Server workspace, from the Job menu, select **Import Job**.



The *Import Job* window appears.

2. To access the required files, click the up one level button or double-click on file folders to go down the file tree.

3. Select the required files and click **Add to List**. Or drag the files to the right hand side of the *Import Job* window.

Use SHIFT or CTRL to select several files or CTRL+A to select all the files. To add only one file, double-click on its name. If required, add the same file more than once.

4. Select a Virtual Printer from the drop-down list.

Notes:

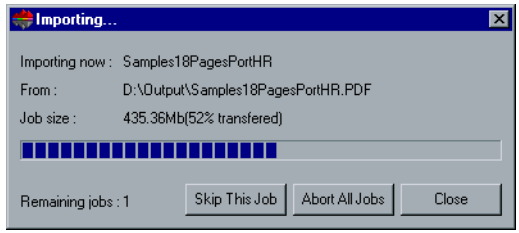
1. To remove files, select the required files in the right hand side of the *Import Job* window and click **Remove**.

2. Use **Shift** or **Ctrl** to select several files at once.

5. Click **Submit**.
   All files currently listed on the right hand side of the *Import Job* window are sent to the CSX2000 Color Server to be processed and printed as defined in the selected virtual printer.

To check the status of imported jobs:

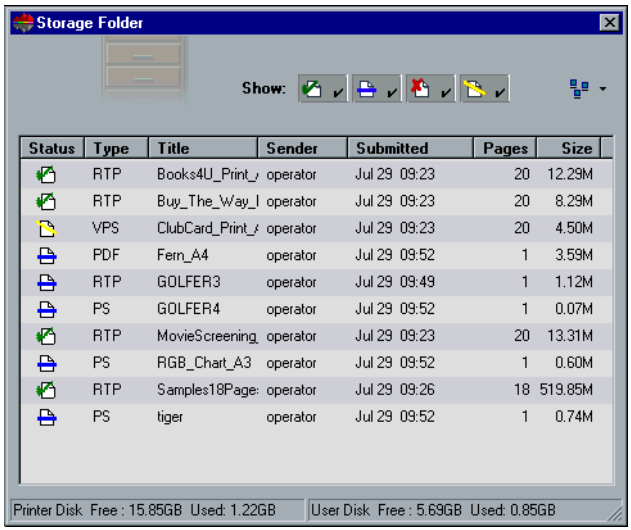
1. Click on the arrow in the **Components** pane.
   The *Importing* window appears.



   The *Importing* window indicates the name of the file being imported, its location and the job size. It also indicates the percentage of the job already transferred, both numerically and graphically.

2. Click **Skip This Job** to stop importing the current file and import the next job in the import queue.
3. Click **Abort All Jobs** to stop importing all the files.
4. Click **Close** to exit the *Importing* window.

The Storage Folder



RTP jobs are stored in and reprinted from the Storage Folder.

The Storage Folder also contains files that:

- Have completed printing
- Were aborted during processing or printing
- Failed to complete processing or printing
- Were imported or downloaded directly from a client workstation to the Storage Folder.

The Storage Folder also holds PDL files (for example, PostScript files that were spooled directly to the Storage Folder).

For further details, refer to *Handling Jobs in the Storage Folder on page 304*.

Reprinting Files

RTP jobs that are stored in the Storage Folder can be easily reprinted. Select the job you want to reprint and submit it. It is automatically placed in the Print queue.

The CSX2000 Color Server allows you to change job parameters and edit jobs prior to reprinting.

You can change job parameters in the *Job Parameters* window. Certain changes to the job parameters require re-RIPping of the job. The CSX2000 Color Server automatically determines if your file requires re-RIPping and places it in the appropriate queue when you submit it for reprinting.

Jobs edited using Job Editor can not be re-RIPped. Once a job has been saved in the Job Editor, it is a new RTP file without an associated PDL file. For such jobs, parameters requiring re-RIPping can not be applied.

References:

1. For further details on editing RTP jobs, refer to *Editing RTP Jobs on page 317*.
2. For further details on changing job parameters, refer to*Setting Job Parameters on page 49*.

RTP jobs can be reprinted by:

- Submitting an RTP job that requires no changes.
- Submitting a job that needs to be re-RIPped.

Submitting an RTP Job Requiring no Changes

To submit an RTP job requiring no changes:

1. Select the jobs in the Storage Folder. and select **Submit**
2. Alternatively, right-click the jobs and select **Submit** from the Shortcut menu. This places the jobs in the appropriate queue (the Process or Print queue).

Use **Shift** or **Ctrl** to select several jobs.

Submitting a Job that Requires Re-RIPping

To submit a job that requires re-RIPping:

- Double-click a job to open the *Job Parameters* window. Change the required parameter and click **Submit**.

  When you click **Submit**, the CSX2000 Color Server automatically determines if your job needs to be re-RIPped and places it in the appropriate queue.Refer to *From a Client Workstation on page 49*.

Setting Job Parameters

The CSX2000 Color Server lets you view and edit of all job parameters. Job parameters can be adjusted from client workstations or from the CSX2000 Color Server itself.

From a Client Workstation

To use the CSX2000 Color Server PPDs:

➢ Through the *Print* window of your application, select print settings specific to printing to the CSX2000 Color Server.
Job Parameters can also be adjusted for jobs that have already been processed and which are being held in the Storage Folder. Changes to the following job parameters require re-RIPping of the job.

Jobs edited using Job Editor can not be re-RIPped. Once a job has been saved in the Job Editor, it is a new RTP file without an associated PDL file. For such jobs, parameters requiring re-RIPping can not be applied

Re-RIP indication appears in the job ticket when you modify specific parameters that require the re-processing of the job.

This re-RIPping indication covers most occurrences of re-processing. But there are still some cases for which re-processing is required and no indication appears in the job ticket.

Print Settings Tab

The following require re-RIPping:

- Changing between Simplex / Duplex HTH / Duplex HTT
- Changing to B&W / Color
- Modifying page ranges

Paper Stock Tab

The following require re-RIPping:

- In the Paper Size parameter, changing orientation from / to **LEF** from / to **SEF**
- Paper size modifications that require changing the orientations due to print engine limitations

Print Quality Tab

All Print Quality options require re-RIPping.

Color Tab

Modifications to the following functions require re-RIPping:

- Rendering Indent parameter
- Ink Saving parameter (GCR)
- Workflow parameter
- Source CSA
- RGB flow
- CMYK flow

Imposition Tab

Modifications to the following functions require re-RIPping:

- Method parameter (for example, changing from **Saddle Stitch** to **Perfect Bound**)
- Template parameter (for example, changing from **2x1 Simplex** to **1x2 Simplex**)

Services Tab

The following functions require re-RIPping:

- In APR, when **High Res** is changed to **Low Res** (and vise-versa) and when settings are changed in the use **APR Path** box.
- Compression
- Preflight

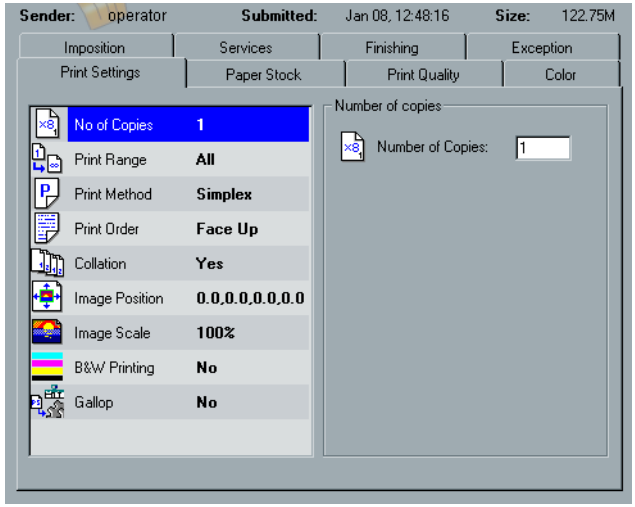
Finishing Tab

For cover and staple issues, the need to re-RIP, is not per option, but depends on the need to rotate some pages. Thus, the job is executed according to the required stapling options or the cover to be printed.

Exceptions

Any exception that changes the order of the original pages requires re-RIPping the file.

Job Parameters Window

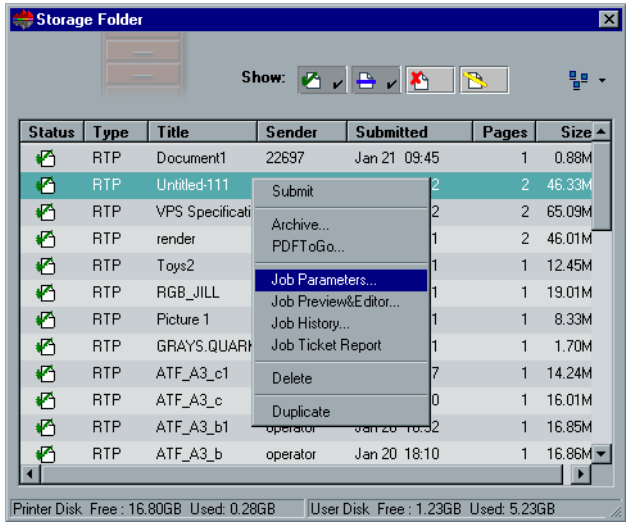


To enter the *Job Parameters* window:

➢ Double-click on the job in the Storage Folder.

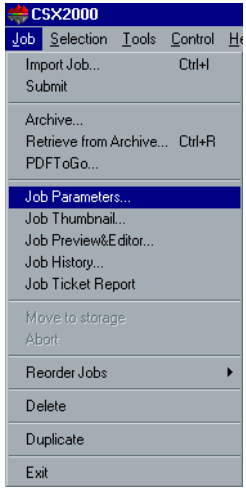
Or:

Right-click on the job in the Storage Folder. Select **Job Parameters. . .** form the Shortcut Menu.



Or:

Select a job in the Storage Folder. From the **Job** menu, select **Job Parameters. . .**



The *Job Parameters* window contains the following tabs:

- **Print Settings**
- **Paper Stock**
- **Print Quality**
- **Color**
- **Imposition**
- **Services**
- **Finishing**
- **Exception**

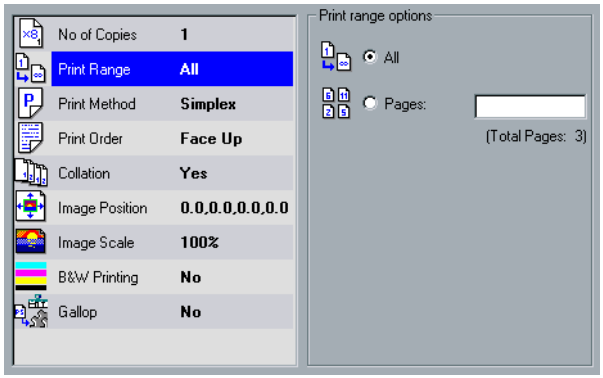
The *Job Parameters* window title bar shows the following:

- Sender's (originating workstation's) user ID
- Job submission date and time
- Job size

To set Job Parameters in the *Job Parameters* window:

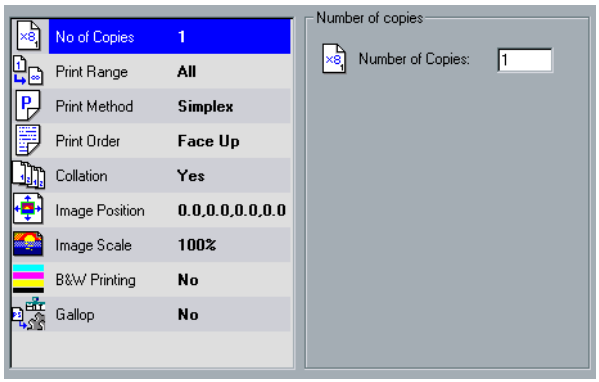
1. Click on the various tabs and set the required job parameters.
2. Click **OK** to confirm the setting or **Cancel** to abort. Alternatively, click **Submit** to move the selected job to the appropriate queue using the current parameters.

Print Settings Tab



You can set various print-related job parameters.

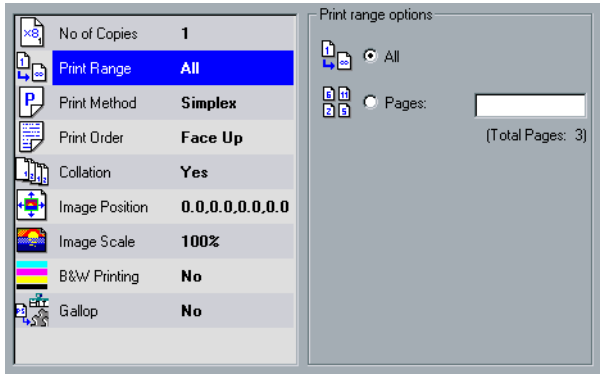
Num of Copies



To use Number of Copies:

➢ Type the number of copies to be printed.

Print Range



To use the Print Range option:

➢ Select **All** to print the entire job.

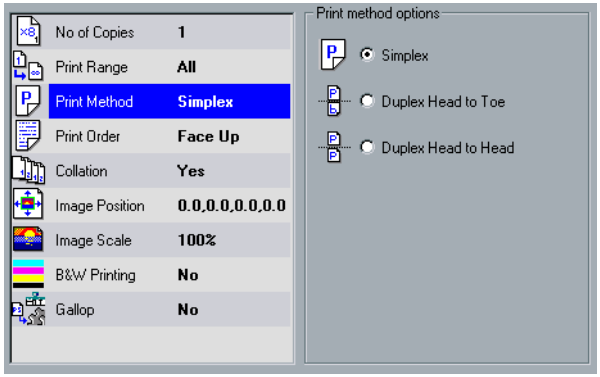
Or:

Select **Pages** and specify the pages to be printed as follows: Type one or several numbers separated by commas and no spaces (for example, 1,3,5). Or, type a range of pages with a hyphen between the starting and ending numbers in the range (for example, 1-5).

Notes:

1. Upon setting a “print range”, the system only processes the defined range, not the whole job.
2. For Print Range, re-RIPping of a job is required only if you are adding new pages to the range which were not previously defined for printing. It does not depend on issues of ranges within ranges, already defined for printing.

Print Method

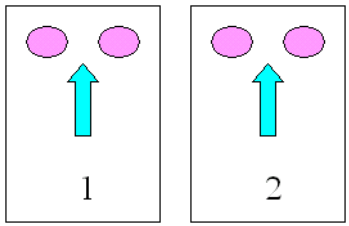


To use the Print Method option:

➢ Select **Simplex** to print single-sided pages.

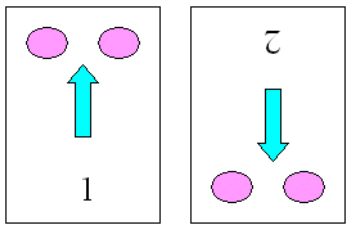
Or:

Select **Duplex Head to Head** to print the top of the image on side 1 on the same edge of the page as the top of the image on side 2.

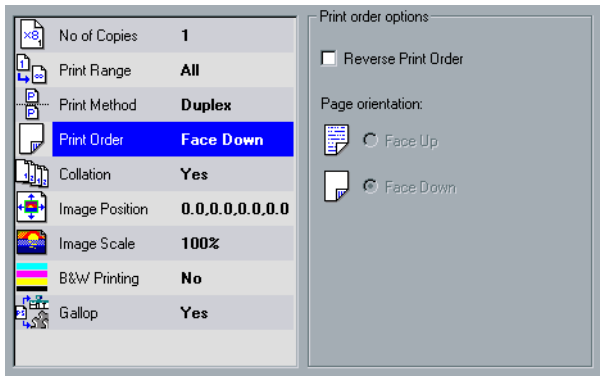


Or:

Select **Duplex Head to Toe** to print the top of the image on side 1 on the page's opposite edge from the top of the image on side 2.



Print Order



To use the Print Order option:

1. Select the **Reverse Print Order** check box to print the pages of your job from last to first.

   Or:

   Clear the **Reverse Print Order** check box to print the pages of your job from first to last.

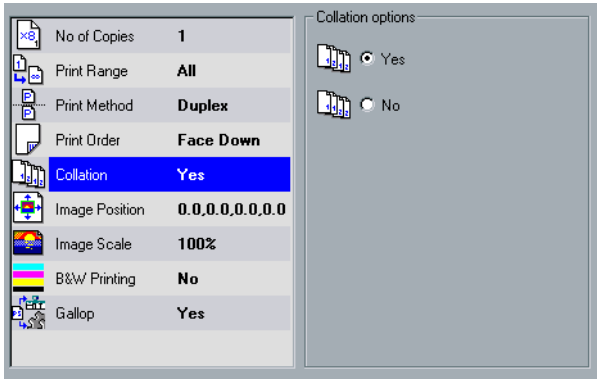
2. Select **Face Up** to deliver the pages facing up.

   Or:

   Select **Face Down** to deliver the pages facing down (for example, when printing confidential documents).

When collating a document, selecting **Reverse Print Order** and **Face Down** or **Face Up** causes the set to be delivered in the correct order.

Collation



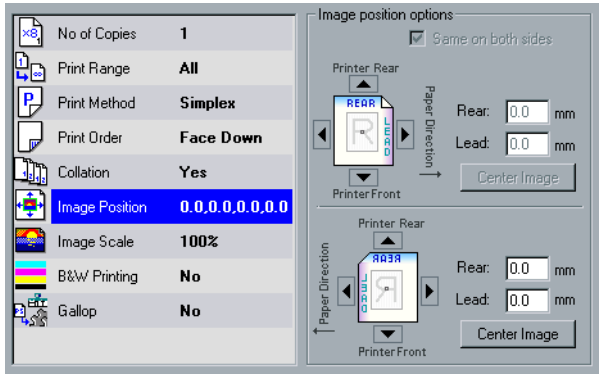
To specify sorting options:

➢ Select **Yes** for copies of a complete job to be collated and output into the top tray.

Or:

Select **No** for copies of a complete job to be output, uncollated into the top tray.

Image Position



You can adjust the image positioning on the sheet's printed page (simplex or duplex).

This function uses the following terminology:

- **Lead** (or **Leading Edge**, the edge of a sheet at which printing begins)
- **Rear** (or **Rear Edge** sheet's edge near the printer rear, where printing stops) edges.
  The page's Lead and Rear edges are determined just after the page is printed out before making any change in the page orientation.
- **One** refers to the first side of the sheet (facing-up) that was printed.
- **Two** refers to the second side of the sheet (facing-down) that was printed.

To use duplex printing, perform one of the following:

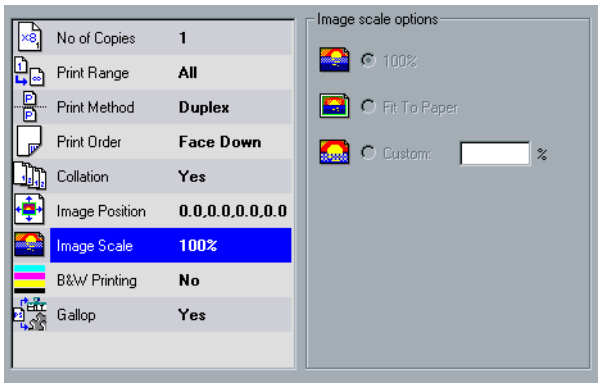
- Click the **Same on both sides** button to shift the image on the sheet's second side (face down image) according to the previous shift on the sheet's first side (face up image).
  Set page offsets by clicking the directional arrows or by manually entering **Rear** and **Lead** measurements.
- Click the **Auto Center** button to delete all values input in the numerator, setting each value back to "0".
- Clicking the arrows to shift the image of both sides. Or enter values in the **Rear:** and **Lead:** boxes.

Clicking on the arrows changes the numerator values as following:

- Positive (negative) values for shift toward (away from) the Leading Edge
- Top (bottom) arrows for positive (negative) values toward (away from) the Rear Edge

Use this option to move duplex page data away from the spine.
This option is not available if the Print Method is **Simplex**.

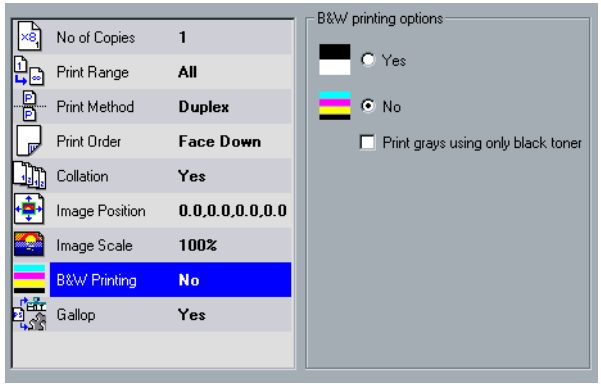
Image Scale



To proportionally enlarge or reduce the size of the job pages:

- Select **100%** for no change from the original file (default value).
- Select **Fit to Paper** for the image to fit the selected paper in the paper stock.
- Select **Custom** to decide by which percent to proportionally decrease / increase the image size.

B&W Printing



Use the B&W Printing option to discard all color data of the job and print in B&W only. This option is useful in saving printing costs (for example printing time and toner).

When a color job is printed using the B&W Printing option, the C (Cyan), M (Magenta), and Y (Yellow) separations are also printed using K (Black) toner, giving a dense appearance similar to a grayscale image.

To use the B&W Printing option:

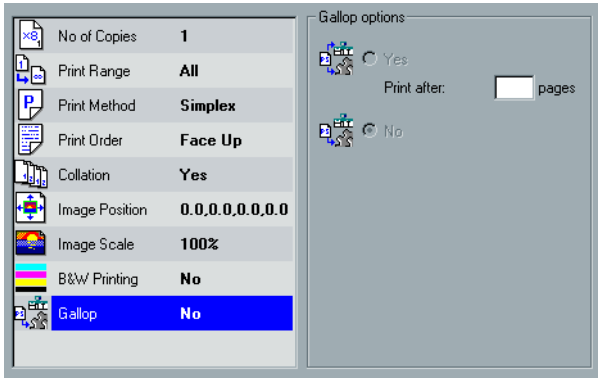
➢ Select **Yes** to print the job as black and white using K toner only.

Or:

Select **No** prints the job in color using CMYK toners.
Select **Print grays using only black toner** (available only for the **No** option) for color print with RGB grays to be printed only as black. Use this option if you have a mixed document (one page / s B&W or page / s color) or mixed page (with both color and B&W images / texts).

Grayscale images created in RGB applications (such as PowerPoint) should be specified as Monochrome or submitted to the system with **B&W Printing** selected in the PPD. This selection ensures that grayscale images are counted as **B&W** instead of **Color** in both the CSX2000 Color Server and in the DocuColor 2045 / 2060 billing meters.

Gallop

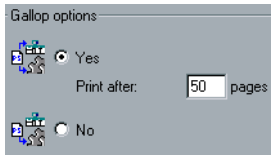


Gallop allows concurrent RIPping and printing of the same VI job.

Large jobs do not have to be RIPped entirely to disk before printing. Gallop lets you pre-define the number of pages to be processed before the printing stage begins. As soon as these pages are processed, printing starts while the rest of the job is being RIPped.

To use the Gallop option:

➢ Select **Yes** to start printing the job while it is still being RIPped.

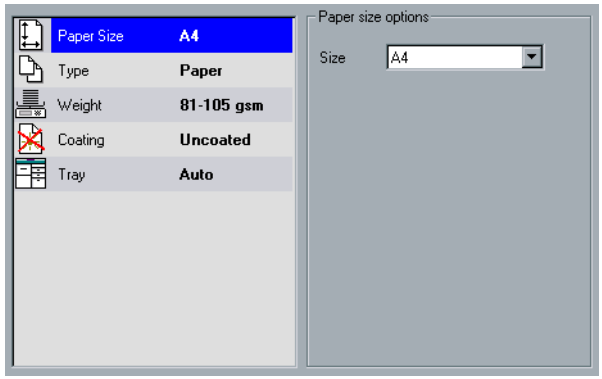


In the **Print after:** box, type the number of pages to be RIPped before printing begins.

Or:

Select **No** to RIP a job completely before starting to print it.

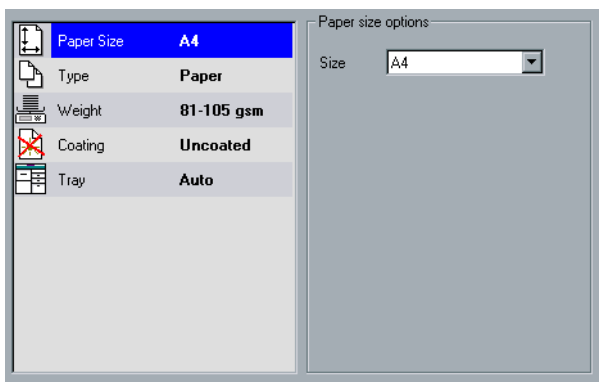
Paper Stock Tab



The **Paper Stock** tab lets you determine the paper stock. If the selected paper stock is not available, printing of the current job is frozen until the stock is replaced and an alert message appears.

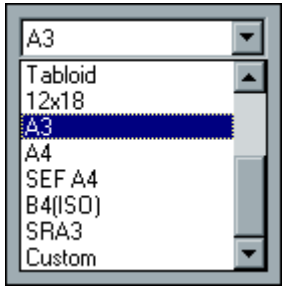
For all paper stock exceptions, except Admin Page, Imposition is unavailable (refer to *Exceptions on page 50*).

Paper Size



To use the Paper Size option:

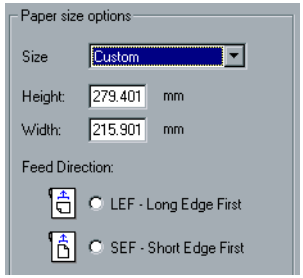
➢ Select the paper size on which to print from the list:



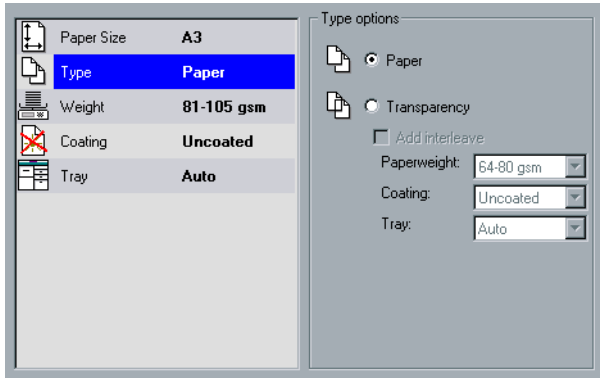
For a custom paper size setting, select **Custom** from the list.

To use Custom paper size:

1. Type the units of measure (selected in the *Administration* window).
2. Select a feed direction:
   - **LEF** (Long Edge Feed)
   - **SEF** (Short Edge Feed)



Type



To use the Type option:

1. Select **Paper** to print on paper.

   Or:

   Select **Transparency** to print on transparencies.

2. When the stock type is **Transparency**, select **Add Interleave** to insert a blank page between transparencies.

3. For **Add Interleave**, select the following properties:

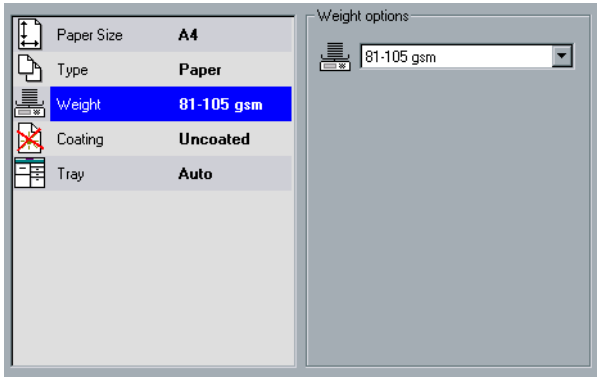
   - **Paperweight**
   - **Coating**
   - **Tray**

Notes:

1. Slip-sheets and / or blank pages in a transparency job (interleave) are counted in the Number of Sheets, not in the Number of Pages, (rastered pages) reported on the Admin page.

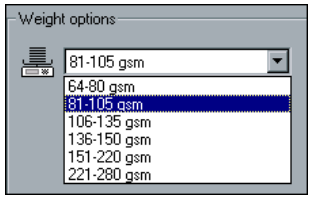
2. If the job is imposed, then the interleave is the size of the imposition sheet and is inserted between each sheet (not each slide).

Weight

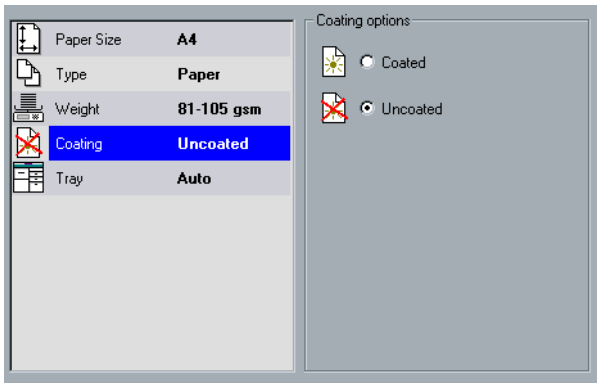


To select the required stock weight:

➢ Select the paper weight from a range of supported paper weights from the drop-down list.



Coating



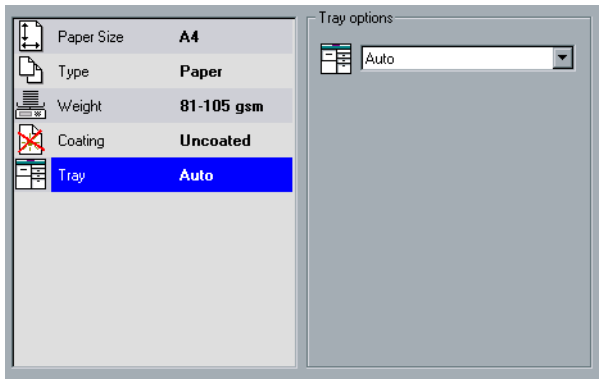
To use the Coating option:

➢ Select **Coated** to print on coated paper.

Or:

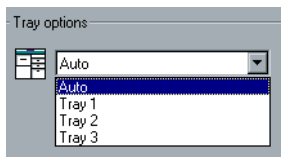
Select **Uncoated** to print on uncoated paper.

Tray



To use the Tray option:

➢ Select **Auto** to select the required paper stock from all paper trays.

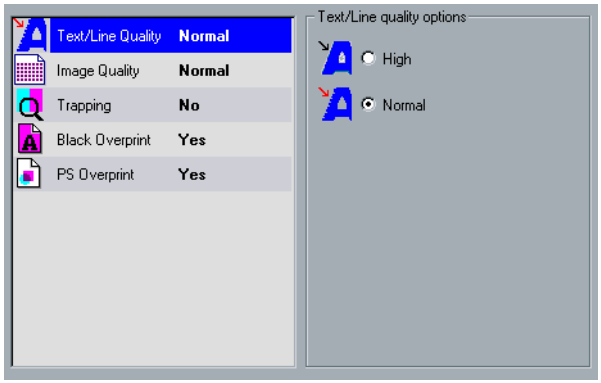


Or:

Select a specific tray from the drop-down list to print only from that paper tray.

Printing uses the paper in the selected tray only if it complies with all the other paper stock parameters. If the paper stock in the assigned tray mismatches with any Job Stock parameter, the job becomes 'Frozen' (refer to Chapter 7, Queue Manager).

Print Quality Tab



The **Print Quality** tab provides you with features that enhance image and text quality during the RIPping process, including text quality, image quality, trapping, black overprint and PostScript overprint.

Text / Line Quality

Text / Line Quality refers to the Creo anti-aliasing algorithm for superior text quality. Text / Line Quality and text and line-art elements are processed separately to produce optimal rendering of all the elements on a page. This option performs the following:

- Improves the text quality of diagonal lines, borders and blends
- Causes blends to appear smooth with no banding
- Displays crisp diagonal lines without (or with minimal) jaggies - rough edges that are the result of the limited resolution of the print engine. The following illustrations display the effects of this feature:

Normal (with jaggies) **High**

To use the Text/Line Quality option:

➢ Select **High** to improve the text quality of diagonal lines, borders and blends by providing superior text quality (in other words using the Creo Anti-Aliasing algorithm).

Or:

Select **Normal** for a standard quality text without anti-aliasing.

Notes:

1. Anti-aliasing is used to avoid or minimize jagged edges - rough edges around an images' edges. Jagged edges result from limited resolution of the original file.
2. Do not use Text / Line quality option **High** for VI jobs.

Image Quality

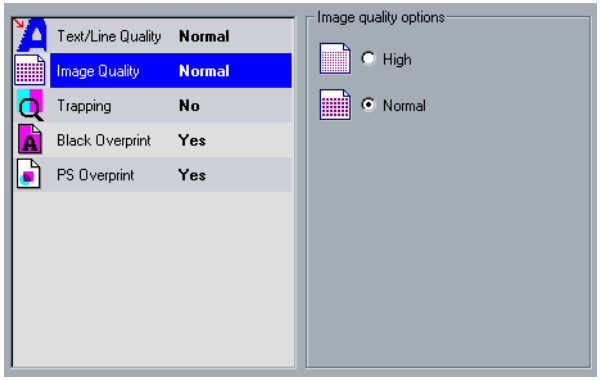


Image Quality refers to the ability to maintain the same detail and smoothness with different degrees of enlargement.

To use the Image Quality option:

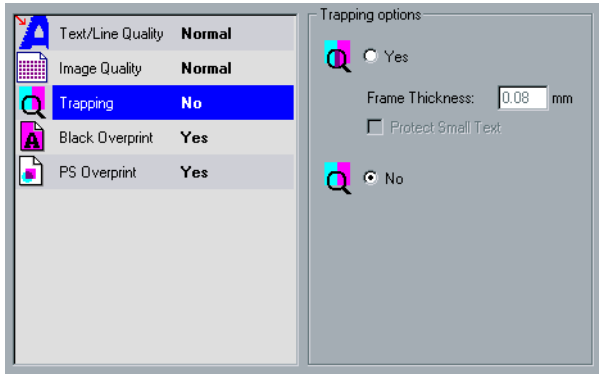
➢ Select **Normal** for jobs that do not contain various resolutions.

Or:

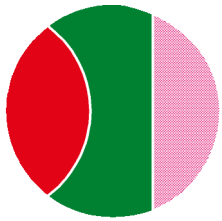
Select **High** to improve the picture quality of the images in a job which contain various resolutions, such as images downloaded from the internet and low-resolution images of digital cameras.

This feature is especially useful when your PostScript file includes several images at different qualities (for example, that were rotated, scanned at different resolutions, or were downloaded from the Internet).

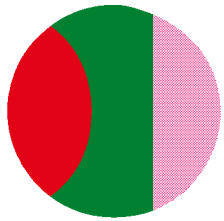
Trapping



Trapping is a solution that solves mis-registration between color separations in both offset and digital printing. This occurs no matter the accuracy of the printing device. This problem results in white lines around objects on top of a background (in a knock-out procedure) and also between adjacent colors. The solution is to extract the element and/or the background in order to create an overlap between them. Refer to the below illustration for Trapping's effect:



Printed without Trapping



Printed with Trapping

Do not use this option with VI jobs.

To use the Trapping option:

➢ Yes applies the Creo FAF (Full Auto Frame) algorithm to the job.

When **Yes** is selected, the Frame Thickness and Protect Small Text options are activated.

Or:

No does not begin the image trapping process of the job during RIPping (this does not affect trapping incorporated by the authoring application). If trapping was applied in the authoring application, select **No**.

No does not affect trapping incorporated by DTP applications (for example PhotoShop).

Frame Thickness

Frame Thickness refers to the thickness of Trapping. The thicker the frame, the less chance that white lines / areas appear between images.

➢ Select the default (0.08mm) or manually type a value for the thickness of the Trapping effect.

Protect Small Text

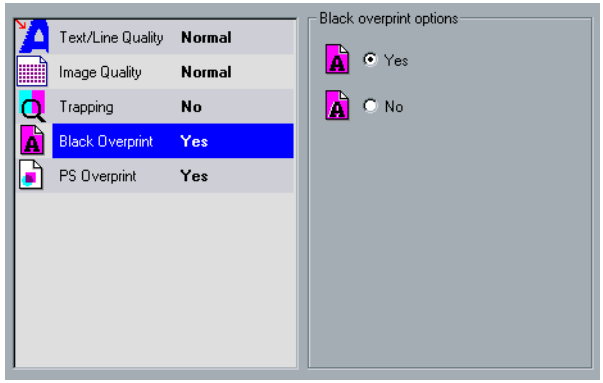
Select **Protect Small Text** (default) for small or complex images as thicker frames can decrease quality by hiding part / s of an image.

➢ Select **Protect Small Text** so that any text smaller or equal to 12 pt. is not framed during FAF.

Or:

Clear this option to frame all text elements during FAF, according to the Frame Thickness above.

Black Overprint



Occasionally, white lines may appear around black text. The text may appear less dense than required as a result of misregistration between color separations. Black Overprint is used to ensure that black text prints cleanly within a tint or picture area. The text appears in a richer, deeper black, with the underlying CMY values equal to those of the printed background.

When Black Overprint is active, there are no knock-outs under the black text. Black Overprint prints text over coated backgrounds rather than knocking out the background first. As a result, misregistrations are not visible.

To use the Black Overprint option:

➢ Select **Yes** to provide better printing quality (for example, as in FAF). This results in a lighter black.

Or:

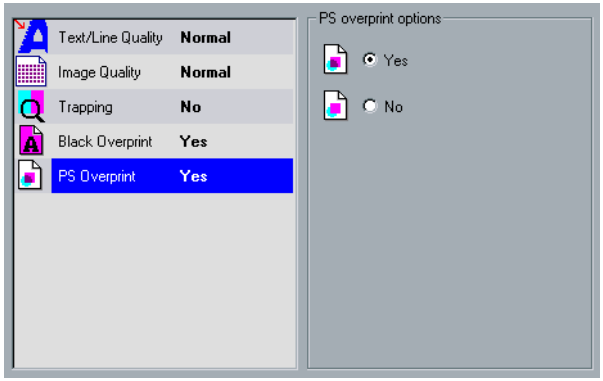
Select **No** to leave the job as is. The black image is not printed directly on top of the page. The effect resembles an image without trapping.

Notes:

1. Black Overprint should always be set to **Yes**. This gives better results when printing black text and graphics. Black Overprint applies only to 100% black.

2. A knock-out occurs when you print only the topmost color. This results in lesser color density and can cause misregistration if separations are not perfectly aligned.

PS Overprint



In the authoring tool, you can select overprint options. PS (PostScript) Overprint offers the option to use the overprint, which exists in the PS file. It also determines whether DTP application PS Overprint settings are honored in the RIP.

CSX2000 Color Server settings override PS Overprint commands from DTP applications. For example, if PS Overprint has been set to Yes in a DTP application, selecting PS Overprint No in the CSX2000 Color Server results in no overprinting. The CSX2000 Color Server can not create PS Overprint that is not pre-defined in the file. Selecting PS Overprint Yes for a file that has not had overprinting defined in a DTP application results in overprinting

To use the PS Overprint option:

- Select **Yes** (default) to instruct the RIP to use the overprint information that exists in the input PostScript file. Also, if PS Overprint is applied in a DTP applications, it is implemented by the CSX2000 Color Server. Background colors are not knocked out.
  For example, in the case of a yellow triangle overlapping a cyan circle, selecting Yes results in the overlapping area turning green. This is not seen on the screen, only in print.

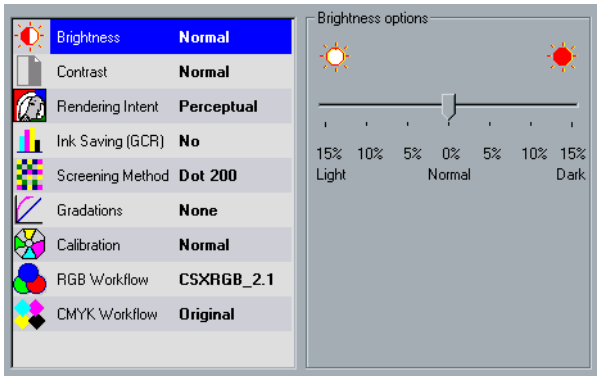
  The above is true for files with PS Overprint **Yes** already selected in the DTP application.

  Or:

  Select **No** to ignore the overprint information that exists in the input PostScript file. Background colors are knocked out and only the top most color parts are seen on the screen in your DTP application.
  For example, in the case of a yellow triangle overlapping a cyan circle, selecting **No** results in the cyan background being knocked out, so only the yellow is printed.

  When using FAF, set PS Overprint to **No**.

Color Tab

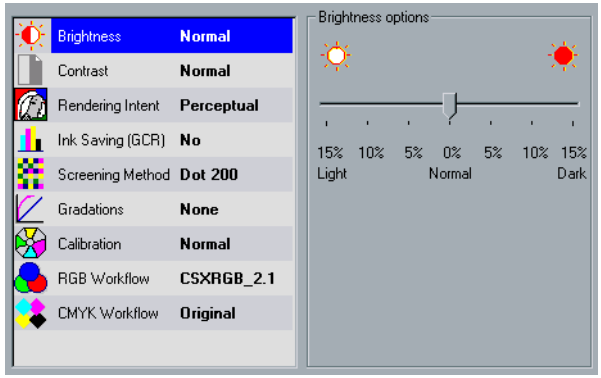


The **Color** tab includes all the color settings that effect the printed result (for text and image). From this tab, you can make post-RIP color corrections that do not require re-RIP, such as:

- Brightness
- Calibration
- Gradation
- Screening method
- Contrast

For more information, refer to *Color Workflow on page 174*.

Brightness



To use the Brightness option:

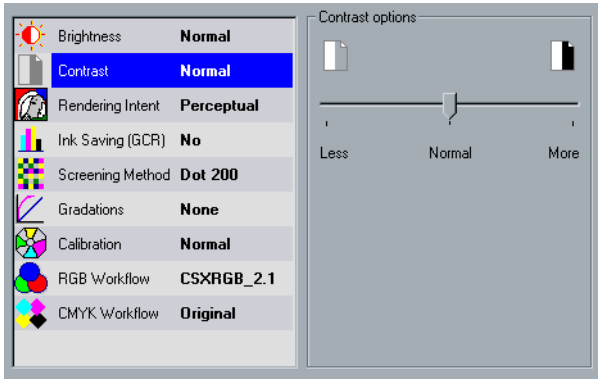
➢ Select **Normal** for no Brightness correction.

Or:

Move the slider to select the job's brightness level (the range starts from **Light** to **Dark**), which decreases or increases the brightness respectively.

When Brightness has been adjusted for an RTP job, no re-RIP is required.

Contrast



To use the Contrast option:

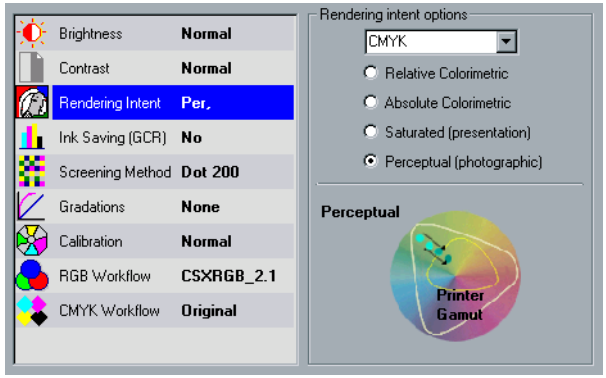
➢ Select **Normal** for no contrast correction.

Or:

Move the slider to select the contrast level for the print job (the range starts from **Less** to **More**, which decreases or increases the contrast respectively.

When Contrast has been adjusted for an RTP job, no re-RIP is required.

Rendering Intent



RGB & CMYK Rendering Intent Workflow

You can set any Rendering Intent value for CMYK or RGB elements under **Rendering indent options**. The default value for CMYK is Relative. The default value for RGB is Perceptual.

Rendering Indent Options

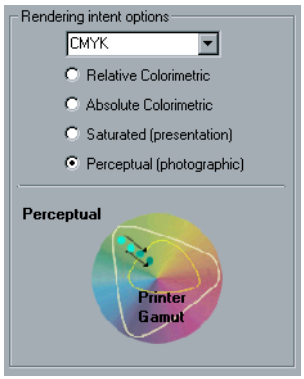
There are several methods that can be used when translating colors form one color space to another. These methods are called Rendering Indents because they are optimized for various intended uses.

When working with ICC profiles, it is important that you select the Rendering Indent that best preserves the important aspects of the image.

The CSX2000 Color Server supports all four rendering style options:

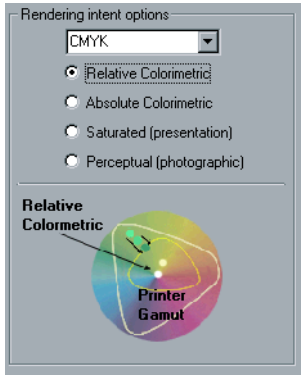
- Perceptual (Photographic)
- Relative Colorimetric
- Absolute Colorimetric
- Saturated (Presentation)

Each rendering style option specifies a CRD for color conversions. You can modify the rendering style option to control the appearance of images, such as prints from office applications or RGB photographs from Photoshop.



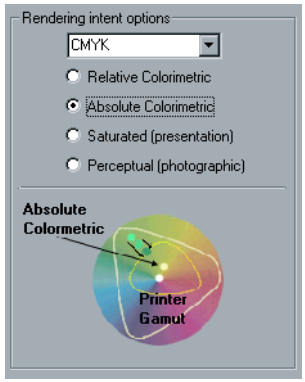
Perceptual (Photographic) (default) method preserves the visual relationship among the colors as they are perceived by the human eye. In other words, all colors are proportionally scaled to fit the output gamut. All or most colors in the original are changed but the relationship between them does not change.

This method is recommended when working with realistic images such as photographs, including scans and images from stock photography CDs.



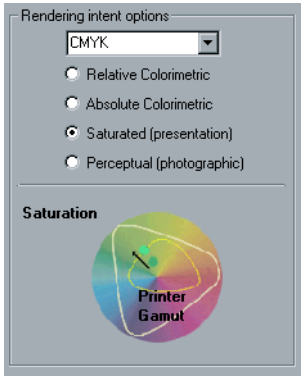
In **Relative Colorimetric** method, colors that fall within the output color space remain the same. Only colors that fall outside are changed to the closest possible color within the output color space.

When using this method, some closely related colors in the input color space can be mapped to a single color in the output color space. This reduces the number of colors in the image.



Absolute Colorimetric is similar to Relative Colorimetric except that it does not make adjustments according to the white point. In this method, colors that do not fit within the output color space are rendered at the extremes of the output color space. Colors that fall inside the output color space are matched very accurately.

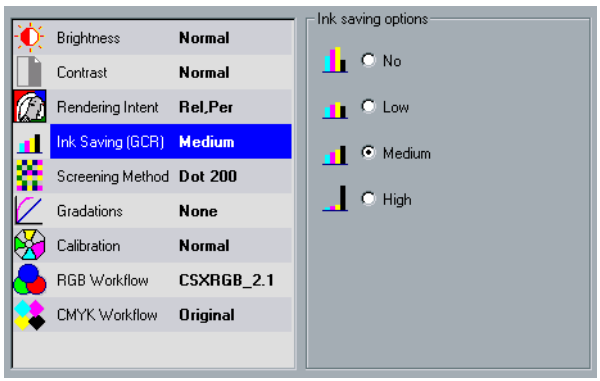
This method is valuable for representing “signature colors“. Colors that are highly identified with a commercial product such as the cyan in the Creo logo.



Saturated (presentation) scales all colors to the strongest saturation possible. The relative saturation is maintained from one color space to another.

This rendering style option is optimal for artwork and graphs in presentations. In many cases, this style option can be used for mixed pages that contain both presentation graphics and photographs.

Ink Saving (GCR)



Ink Saving GCR (Gray Component Replacement) replaces the gray component (CMY) of each pixel with Black toner.

To use the Ink Saving (GCR) option:

➢ Select **No** to not use GCR.

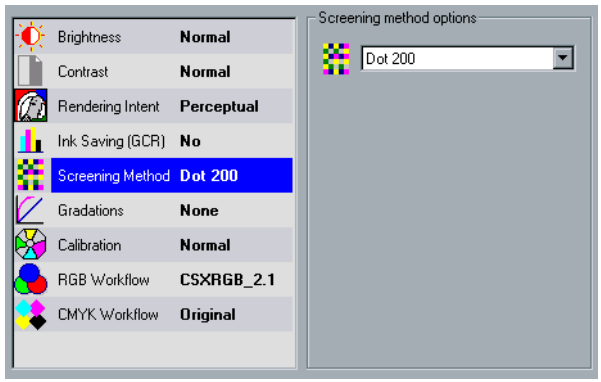
Or:

Select **Low, Medium (default)** or **High** to set the amount of CMY toners to be replaced by the Black toner.

For optimal printing performance, use **Medium** (default) GCR.

Use **High** to provide low ink coverage while saving on toner (this prevents the occasional peeling of ink and the curling effect that may occur when printing transparencies).

Screening Method



Screening converts CT and LW images into information (halftone dots) that can be printed. The human eye “smooths out” this information, which seems visually consistent with the original picture. Thus, the more lines per inch, the more natural the image appears.

To use the Screening Method option:

➢ Select **Automatic**, which applies two types of screens:

- For CT, the system uses Dot type screen of 200 lpi.
- For text / line-art elements, the system uses Dot type screen of 200 lpi for all colors below a system-preset threshold. It uses Line type screen of 600 lpi for colors that are equal to or higher than the system-preset threshold:

  Dot 150 applies Dot type screen of 150 lpi.

  Dot 200 applies Dot type screen of 200 lpi.

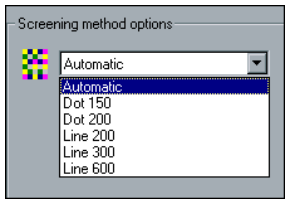
  Line 200 applies Dot type screen of 200 lpi.

  Line 300 applies Dot type screen of 300 lpi.

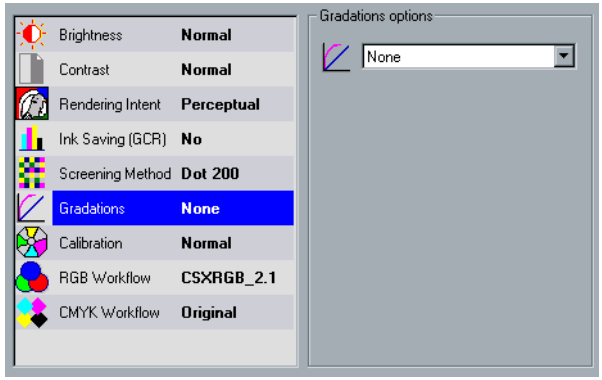
  Line 600 applies Dot type screen of 600 lpi.

Or:

Select a specific screening method from the drop-down list. For CT images, use Dot. For LW images, use Line.



Gradations



To use the Gradations option:

➢ Select **None** for no gradation.

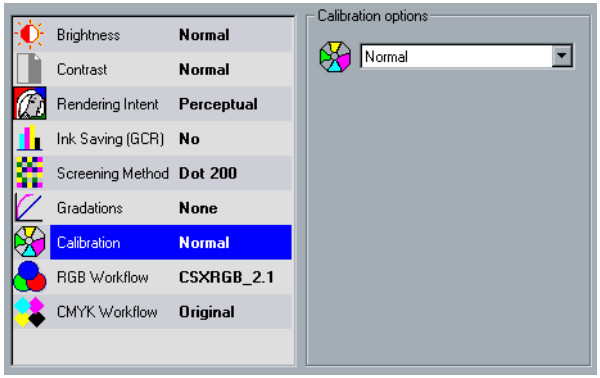
Or:

Select one of the gradation curves from the drop-down list.

Add, remove, and edit gradation tables by selecting **Gradation** from the **Tools** Bar.

For further information, refer to *Gradation Tool on page 182*.

Calibration

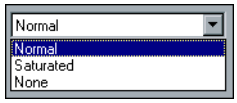


To use the Calibration option:

➢ Use the default calibration table.

Or:

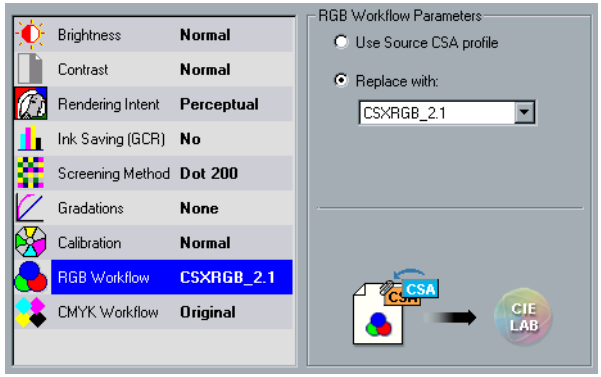
Select a calibration table from the drop-down list.



For optimal printing performance, use the “**Normal**” (default) Calibration setting (with **Medium** GCR).

For further information, refer to *Calibration on page 196*.

RGB Workflow



This workflow lets you select a profile for printing images when opened in another application that supports ICC color management.

CSA (Color Space Array) is the spectrum of specific variants of a color model with a specific gamut or color range. For example, within the color model RGB, are a number of color spaces (such as: Apple RGB, sRGB, and Adobe RGB). While each of these define color by the same three axes (R, G, and B), they differ in gamut and other specifications.

CSA is comprised of a three-dimensional geometric representation of colors that can be seen / generated using a certain color model and are quantitatively measured.

Source CSA is to be used only under the assumption that the upstream color workflow was managed and monitored. Otherwise use the **Replace With** option. By default, Source CSA is replaced with the Creo CSA.

There are three CSAs with gamma of 1.8, 2.1 and 2.4. The higher the gamma, the darker the RGB appears.

Use this workflow when you have images from different sources (such as: digital cameras, Internet, and scanners) and you want the images to have the common RGB color spaces.

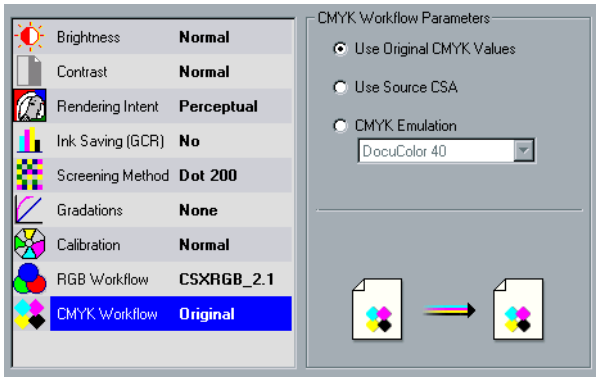
To use the RGB Workflow option:

➢ Select **Use Source CSA profile** to use the embedded CSA.

Or:

Select **Replace with** to select a required CSA from the drop-down list.

CMYK Workflow

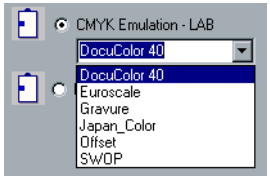


CMYK Workflow is used to emulate printing of files that were originally targeted at other output devices or print medias.

To use the CMYK Workflow option:

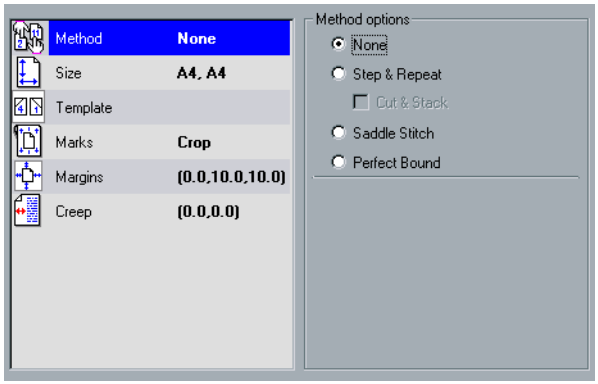
➢ Select one of the following options:

- **Use Original CMYK Values** does not modify the CMYK values. The CMYK element is sent as is to the printer.
- **Use Source CSA** uses the current CSA if the PS file has an embedded CSA.
- **CMYK Emulation LAB** forces the DFE to modify all CMYK elements.
  When None (default) is selected, the system processes CMYK jobs without modifying the CMYK values (in other words no color management modification occurs during the RIP).
  When another option is selected, the system emulates the selected option during the RIP process. GCR and CMYK Emulation do not affect the processed job.



The CSX2000 Color Server supports LAB color profiles. The ICC (International Color Consortium) profiles imported to the system for CMYK Workflow should be based on CIE LAB values.

Imposition Tab

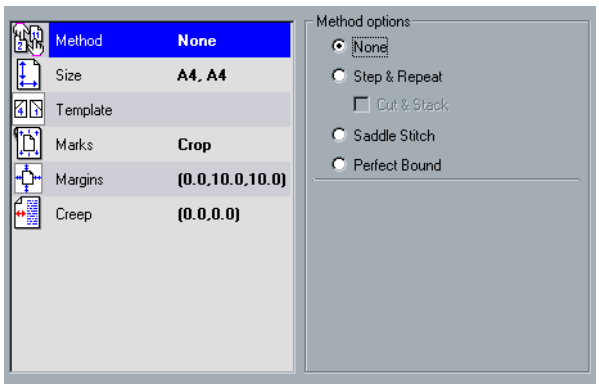


Use the **Imposition** tab to set job options related to positioning, folding, trimming and binding of pages.

After selecting the Template parameter, a dynamic thumbnail view appears on the lower right hand corner of the **Imposition** tab. It shows the effect of your parameter choices on the printed sheet. Parameter setting conflicts are highlighted in red, or with a dotted line.

For more information, refer to *Imposition Theory on page 395*.

Method

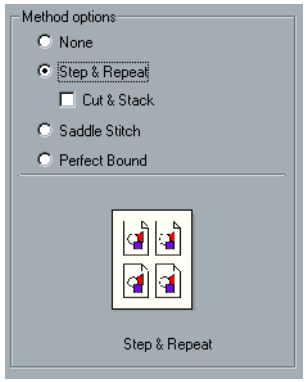


Method specifies how printed sheets are finished.

After selecting a finishing method, a display icon of the method appears in the lower right corner of the **Imposition** tab.

When None is selected, all Imposition parameters become unavailable and the thumbnail viewer does not display an image.

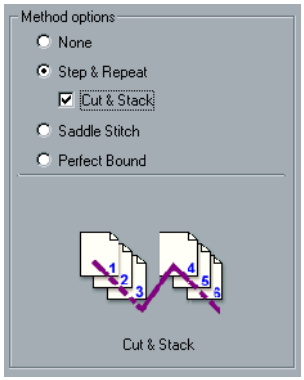
Step & Repeat



Step & Repeat is a method used for printing multiple copies of the same image so it fills up a larger sheet (for example, many business cards on one sheet).

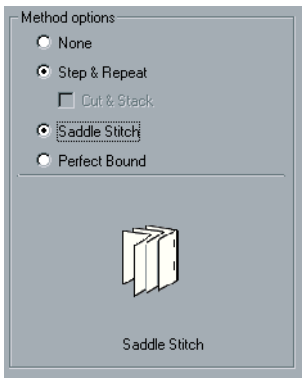
It is possible to use specific Step & Repeat templates to print several different images on one sheet.

Within the Step & Repeat method, is the sub-option Cut & Stack. A job's pages, booklets (personalized set of any number of pages), or books are sorted in a Z-shape. In other words, each stack of pages is sorted in consecutive order. Thus, when stacks are piled one on top of another, the entire job is already sorted up or down.



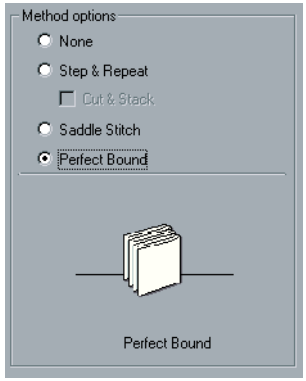
When using the Step & Repeat template for VI jobs, the system prints it in Z-Sorting mode. This mode allows imposed VI jobs to be sorted for Cut & Stack finishing.

Saddle Stitch



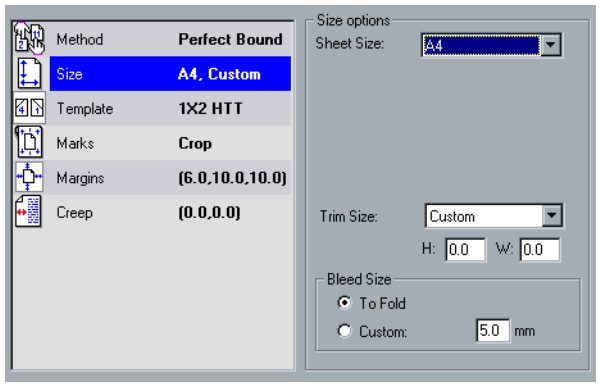
Saddle Stitch is a book-finishing technique where the pages of a book are attached through stitching or stapling in the spine fold (for example, for brochures).

Perfect Bound



Perfect Bound is a book-finishing technique where the pages of a book are attached through trimming of the spine fold, roughening the edges of the gathered pages and gluing them together (for example, for hardcover books).

Size



To use the Size option:

Select the size parameter by defining the following:

- Sheet size
- Trim size
- Bleed size

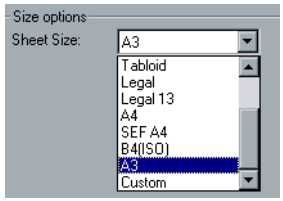
Sheet Size

Sheet size is the actual physical paper size. Define the paper stock size that the job will be printed on. It overrides the **Paper Size** job parameter in the **Paper Stock** tab.

➢ Select the default sheet size taken from the PS file.

Or:

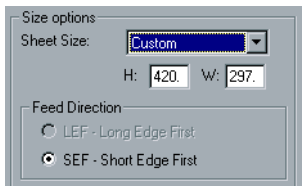
Select from the drop-down list of available sheet sizes.



Or:

Select **Custom** to define the height and width of the sheet (based on the document size you defined in the DTP application) and the feed direction.

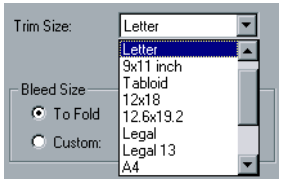
- In the **H:** and **W:** boxes, manually type the height and width (in inches).
- Under **Feed Direction**, select **LEF** or **SEF** (for more information, refer to *Template Orientation on page 401*).



Trim Size

Trim size is the actual page size (which contains the whole image) on which you work in your authoring tool.

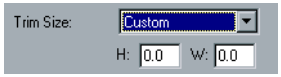
➢ Select from the drop-down list of available trim sizes.



Or:

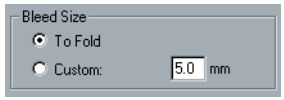
Select **Custom** to define a custom trim size.

- Set the height and width of the finished page.



Bleed Size

Bleed extends part of the printed page image beyond the trimming boundary. This avoids white edges after cutting and folding pages with elements adjacent to the edge of the page.



If a file incorporates bleed previously applied in a DTP application, applying bleed results in the bleed effect. If bleed has not been incorporated in the file, application of bleed on the CSX2000 Color Server does not create bleed.

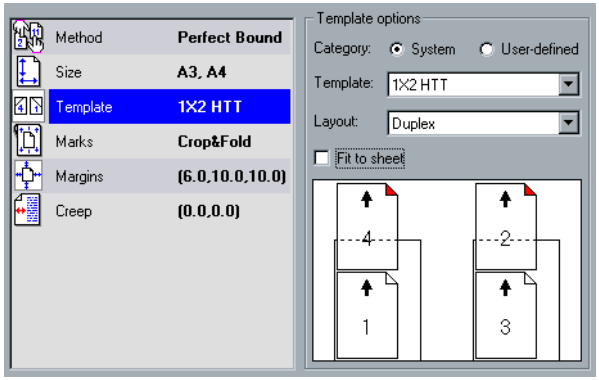
➢ Select **To Fold** in order to extend bleed to the sheet fold lines.

Or:

- Select **Custom** and specify the Bleed Size. Type a value in millimeters.

You cannot extend the bleed size beyond the sheet fold lines. Bleed does not affect the position of crop marks.

Template



A template is a set of parameters that determines how your finished sheet is printed. The template parameter includes:

- Available template list
- Thumbnail viewer

Each Imposition method has its own specific template choices. For example, if you change your Imposition method from Perfect bound to Step & Repeat, your initially selected template no longer fits the new method.

Upon selecting the **Template** job parameter, a dynamic thumbnail viewer appears at the lower right hand corner of the **Imposition** tab. It lets you perform a dynamic visual check of your job at any stage of defining Imposition parameters.

The thumbnail viewer provides important information about your imposition settings by indicating:

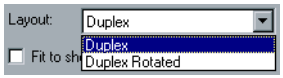
- Conflicting parameter settings (dotted lines indicate sheet size, red corners indicate pages that extend the sheet boundaries and are printed outside of the printable area)
- Page orientation by arrows' directions. Arrows point to the head of the page. Upward pointing arrows always indicate column direction.
- Pages' sequence by page numbers

If any red corners or dotted lines appear in the thumbnail view, adjust your imposition settings to resolve any imposition parameter conflicts. This situation can occur after each imposition parameter modification.

To use the Template option:

1. Select a template from the drop-down list of available templates.

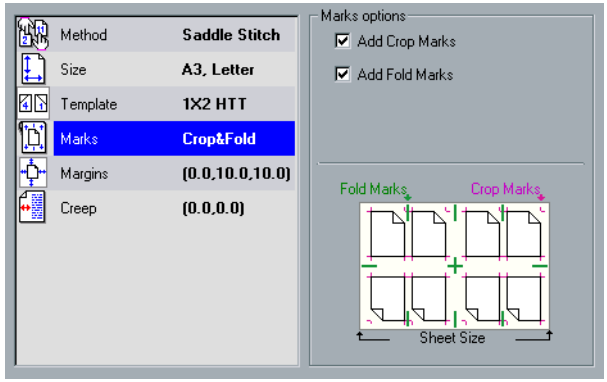
2. Select a layout from the drop-down list of available layouts (if you selected **User Defined** for **Category,** then **Layout** is not an option).



3. Select the option **Fit to Sheet** to proportionally increase or decrease the entire layout in order to fill the entire sheet size.

For further details, refer to *Imposition Theory on page 395*.

Marks



To use the Marks option:

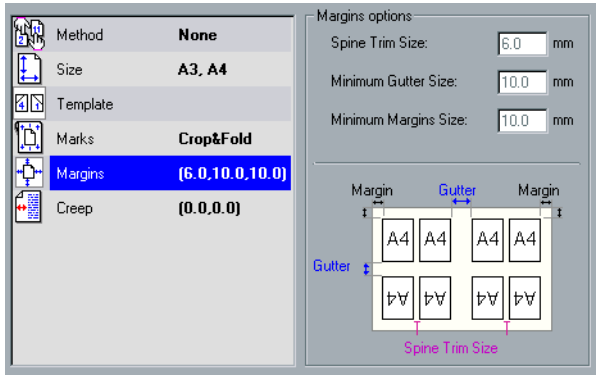
➢ Check **Add Crop Marks** for lines to indicate where the sheet is to be cropped.

Or:

Check **Add Fold Marks** for lines to indicate where the sheet is to be folded.

Crop marks are placed according to Trim Size parameters. A minimum of 6mm are required for crop marks and 10mm for fold marks.

Margins



The Margins job parameter lets you adjust the spaces between the outside edges of pages and the edges of the sheet on which they are printed. Margin settings should suit finishing equipment and requirements. Confirm binding parameters with your binder when planning your sheet.

Spine Trim Size

Spine trim size is the space between adjacent pages on a printed sheet, which, when folded into a signature / booklet, allows for grinding and perfect binding. Spine trim size is used with the Perfect Bound method only. If the Saddle Stitch method is used, this value is set to zero and the pages are printed side by side without any space between them. This option is only available for Perfect Bound.

Minimum Gutter Size

The gutter is the inside space between pairs of pages on a sheet. When folded into a signature / booklet, the gutter allows space for trimming.

For specific sheet templates there may be only one gutter or no gutter at all (in other words, in two up, there is no gutter). In these cases, the Minimum Gutter Size setting is ignored.

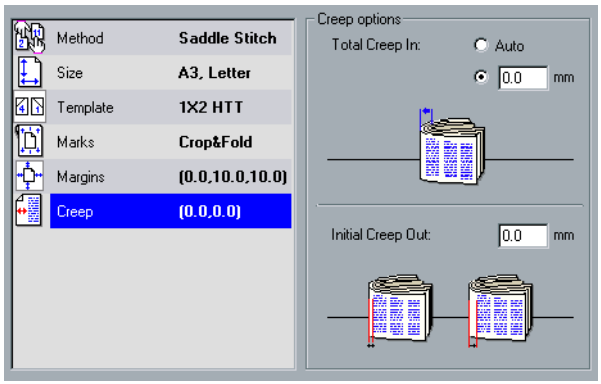
Minimum Margin Size

Margin size is the distance between the outside edges of the sheet and the edges of the pages printed on the sheet. You can set the minimum margin size, but not the exact size, which is calculated by the CSX2000 Color Server in accordance with other imposition parameters.

To use the Margins option:

1. Set Spine Trim Size.
2. Set Minimum Gutter Size.
3. Set Minimum Margin Size.

Creep



Creep compensates for the minute movement inside signatures away from the spine in a folder of a saddle stitch bound signature / booklet. Creep options include Total Creep In and Initial Creep Out.

Total Creep In

Specifies the amount of movement towards the spine applied to the center two pages and their backs-the pages that require the most compensation. From the center quartet of pages back towards the outside four pages of a job, the CSX2000 Color Server automatically applies an ever-decreasing amount of movement. Every quartet of pages is moved by an amount less than the previous quartet. The outside two pages and their backs are not moved.

Initial Creep Out

You might find that page images sometimes get too close to the spine. This problem can be resolved by giving a value for Initial Creep Out. This shifts all the pages of the job further out towards the outside margin (away from the spine) by the specified amount. This movement takes place before the Total Creep In value is applied.

To use the Creep option:

1. Set amount for **Total Creep In** in millimeters.

   Or:

   Select **Auto** for an automatically generated value based on all of the following:

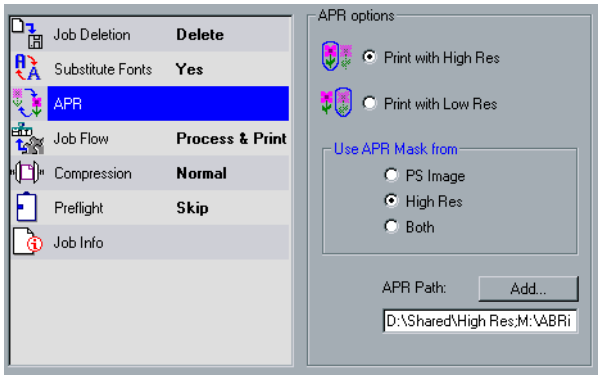
   - Total number of pages for one copy
   - Selected template
   - Paper stock weight
   - Paper stock coating

   If paper stock weight or the template is modified for a job, Auto creep values are automatically recalculated.

2. Type the amount for **Initial Creep Out.**

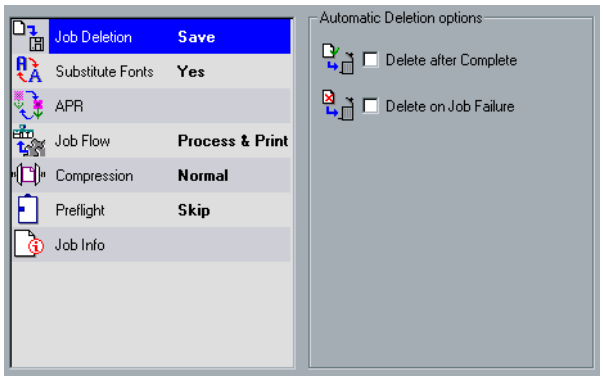
   Units of measurement (mm or in.) reflect system configuration. They are chosen in the *Administration* window.

Services Tab



Select the **Services** tab to set deletion policies for completed and failed jobs and to set font substitution, APR and Job Flow parameters.

Job Deletion



On large VI jobs, which take up a large amount of the CSX2000 Color Server's disk space, it is recommended (if you do not need to reprint the job) to use the **Job Deletion** option.

Job Deletion is initially set to **Save**. Completed and failed jobs are automatically saved in the Storage Folder unless you check one of the Job Deletion options check boxes.

Notes:

1. When the SpoolStore virtual printer has been selected, jobs remain in the Storage Folder.
2. When printing VI jobs, or when using Gallop, it is recommended to activate the Job Deletion options.

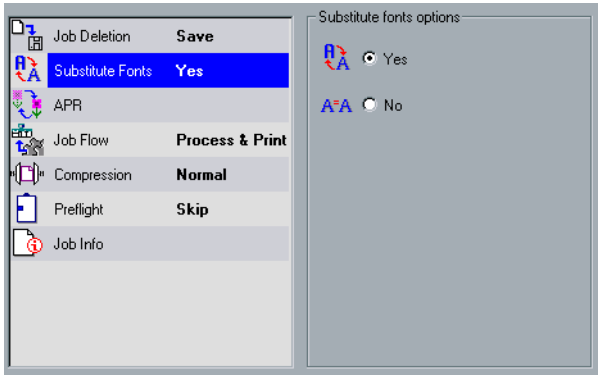
To use Job Deletion:

1. Suspend the Process queue.
2. Import your job.
3. Select **Delete Completed Jobs** to remove jobs so they will not be printed. This option continuously deletes pages once they have been successfully printed and thus sustains enough free disk space for the duration of the print run

   Or:

   Select **Delete Failed Jobs** to remove failed jobs (while processing or printing) from the CSX2000 Color Server.
4. Press **OK** to close this window.
5. Release the Process queue to initiate job processing and printing.
6. Each successfully printed page of the job is immediately deleted while the rest of the job is still in the queue to print.

Substitute Fonts



To use the Substitute Fonts option:

➢ Select **No** to halt processing if the required font is missing.

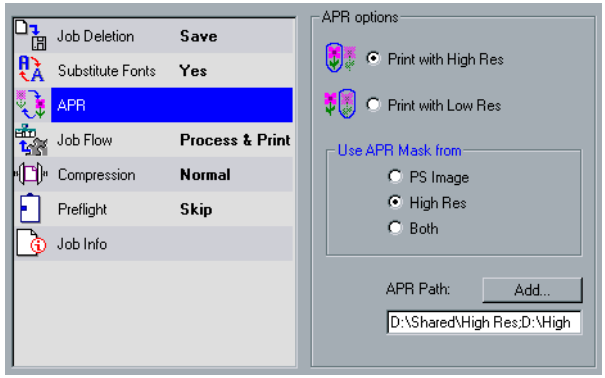
Or:

Select **Yes** to substitute any missing font with the corresponding font set in the *Administration* window as the Substitution Font.

When font substitution is performed, a message appears in the job history of the specific file. For more information, refer to *Job History on page 349*.

For information on fonts and managing them, refer to *Fonts on page 34*.

APR



APR is the mechanism that lets you work with low-resolution images (for layout purposes). It automatically replaces these images with their associated high-resolution images during the RIP. The CSX2000 Color Server is predefined with an APR path for placing your high-resolution files. This path is located in *D:\Shared\High Res*.

To use the APR options:

APR options

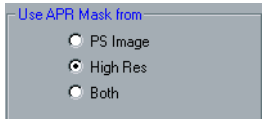
➢ Select **Print with High Res** to use the high-resolution images in your printed job.

The path to the high-resolution file folder is specified in APR Path. It is also possible to search sub-folders for high-resolution images.

Or:

Select **Print with Low Res** to print the job with the low-resolution images.

Use APR Mask from



➢ Select **High Res** to use the masking data contained in the high-resolution file (if such data exists).

Or:

Select **PS Image** (low-resolution) to use the masking data contained in the low-resolution image file.

Or:

Select **Both** to use only the masking data common to both the high-resolution and the low-resolution image files (in other words, if the images defined by the two sets of masking data overlap, then this overlapping area is RIPped).

If, for example, the masking data in the low-resolution image file defines a completely different part of an image than the masking data in the high-resolution file, no masking data is used.

APR Path

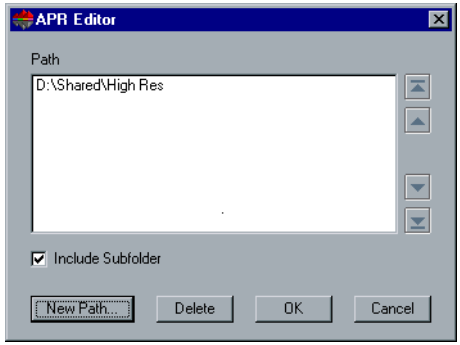
➢ Copy your high-resolution files to the CSX2000 Color Server default folder **D:\Shared\High Res**. This is where the CSX2000 Color Server looks for them when it RIPs the job.

You can also define a custom path to any connected server or disk.

Or:

Click **Add** for the *APR Editor*. Here, you can add additional paths in which to look for the high-resolution images (or to change the order in which the paths are searched).

APR Editor



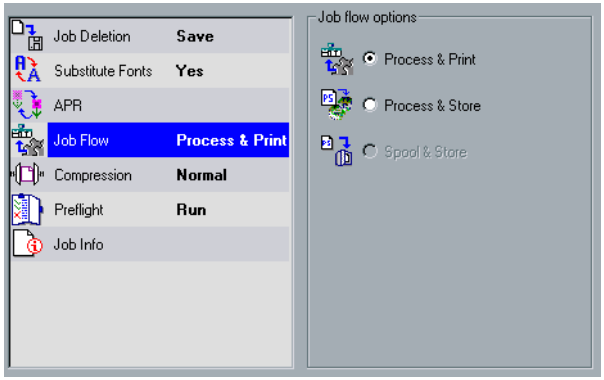
The *APR Editor* window displays the default path and other pre-defined paths. Add paths for high-resolution images or modify the order in which the paths are searched.

Notes:

1. The order in which the paths are listed specifies the order of searching for the high-resolution images.
2. You can have more than one APR path, for example you want to create different paths for different customers.

1. Check **Include Subfolder** to include all the sub-folders of the selected paths on the search.
2. Click the arrow buttons to set the system search order.
3. Click **New Path** to add a path. Locate a required path, for example CD-ROM containing your high-resolution files. This option can save copying your files over the network.
4. Select one or several paths and click **Delete** to remove the path(s) form the search.
5. Click **OK** to confirm an action.
6. Click **Cancel** to an action.

Job Flow



The Job Flow parameter shows the sequence of operations that the CSX2000 Color Server performs on a job.

To use the Job Flow option:

➢ Select **ProcessPrint** for the CSX2000 Color Server to RIP the PDL files, print them, and store them in the Storage Folder (unless the Job Deletion policy parameter is set to Delete Completed Jobs).

For further details, refer to *Job Deletion on page 102*.

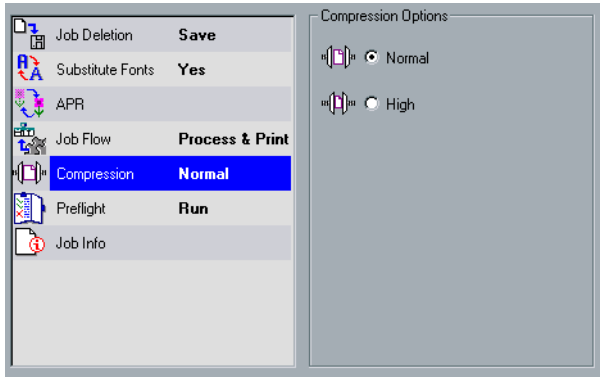
Or:

ProcessStore to RIP the PDL files and move them to the Storage Folder as RTP jobs.

Or:

SpoolStore for the CSX2000 Color Server to place the PDL files directly into the Storage Folder without processing them.

Compression



Compression is a feature that attempts to solves problems when printing fails. In such cases, the following message may appear in the *Alerts* window:

```
"Job failed in print. Please try to change paper
feed direction or set compression to high level
from services tab."
```

To use the Compression option:

➢ Select **Normal** to deactivate the Compression process.

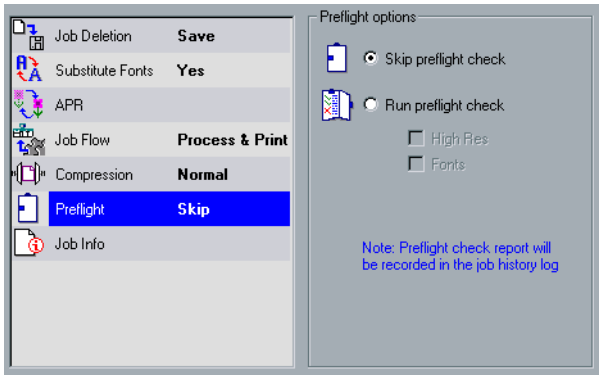
Or:

Select **High** to use Compression. Also, select **High** if the above message appears.

Notes:

1. When printing with compression, some job quality may be lost.
2. This feature should only be used if recommended by the application.

Preflight



You can run a preflight check on a job when it starts running in the process queue. You can print a report (and save it as a text file) indicating the presence or absence of any of the job resources.

To use the Preflight option:

➢ Select Skip Preflight Check to not use this process.

Or:

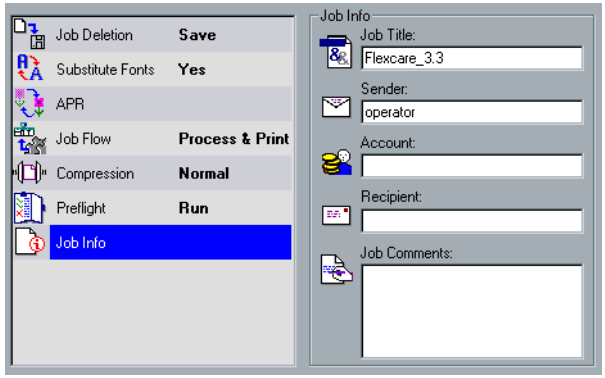
Select **Run preflight check** to activate this process. You can select any of the following job resources, on which to run a Preflight check:

- **High Res**
- **Fonts**

If one of the checked resources on the list is missing, then the job status at the end of the Preflight check is “Failed” and the job is transferred to the Storage Folder.

The Preflight check runs through the entire file and does not fail on the first missing resource.

Job Info



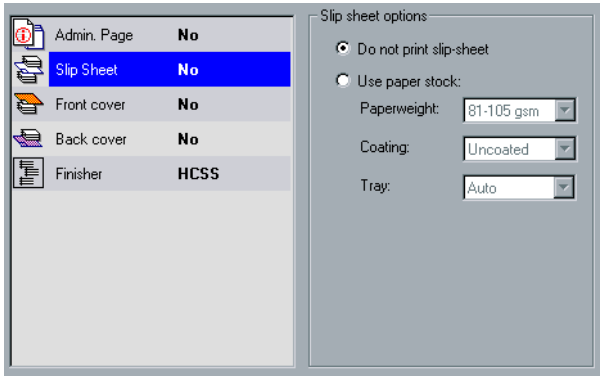
Job Info helps in tracking and assigning jobs.

To use the Job Info option:

➢ Type the following free-text information (these entries can also apply to non-successfully completed jobs):

- **Job Title**
- **Sender**
- **Account**
- **Recipient**
- **Job Comments**

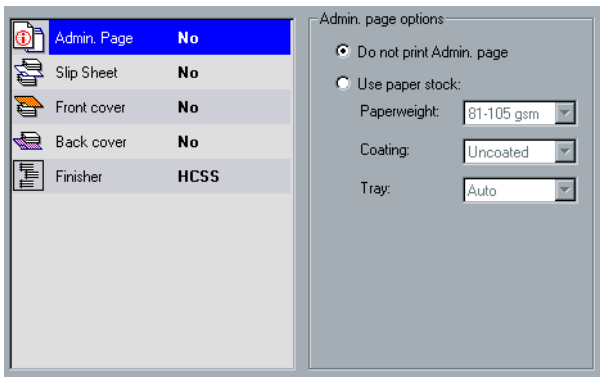
Finishing Tab



The **Finishing** tab refers to the final details regarding printing the job, such as:

- Additional pages to the job
- Destination / printing path of the pages
- Stapler options

Admin Page



Admin Page includes general information about the job, including paper stock parameters (Admin page can also apply to non-successfully completed jobs).

Admin page is printed in the same order as the job, before each set for face-down printing and after each set for face-up printing.

To use the Admin Page option:

➢ Select **Do Not Print Admin Page** (default value).

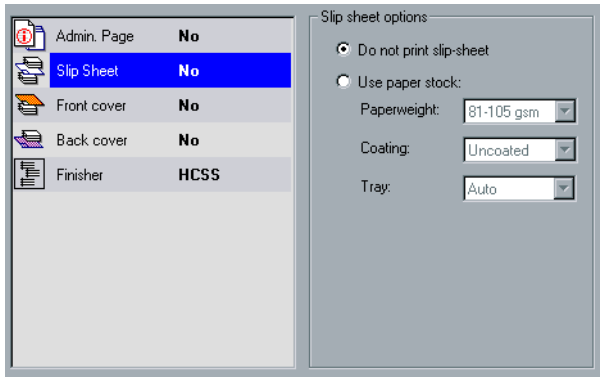
Or:

Select **Use paper stock**. Select the following paper properties:

- **Paper Weight**
- **Coating**
- **Tray**

For details on Printing Job Ticket Parameters, refer to *Printing the Accounting Report on page 374*.

Slip-Sheet



Slip sheet is the ability to print slip-sheets between copies from a paper stock other than the job's paper stock. You can insert slip sheets between printed copies for collated jobs or between sets of pages for uncollated jobs.

To use the Slip Sheet option:

➢ Select **Do not print slip-sheet** (default value) for no slip sheet.

Or:

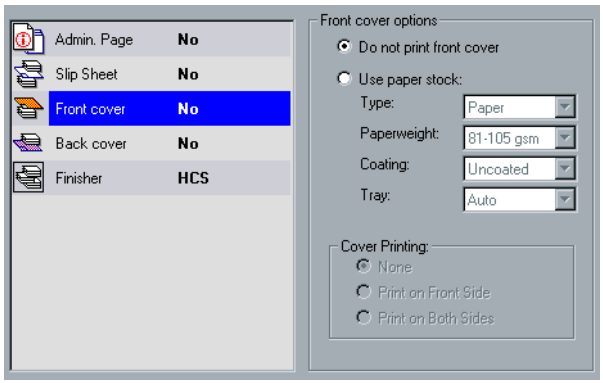
Select **Use Paper Stock** to use a slip sheet / s. Select the following paper properties:

- **Paperweight**
- **Coating**
- **Tray**

Notes:

1. Slip-sheet size must be the same size as that of the job. If the job is imposed, then the slip-sheet is the size of the imposition sheet.
2. Slip-sheets / blank pages in a transparency job (interleave) are not be counted in the Number of Pages reported on the Admin page.

Front Cover



You can print the front cover (first page of the job or first two pages of the job in the case of duplex) on different paper stock than that of the job.

To use the Front Cover option:

➢ Select **Do Not Print Front Cover** (default value) for no front cover.

Or:

Select **Use paper stock** to print a front cover. Select the following paper properties:

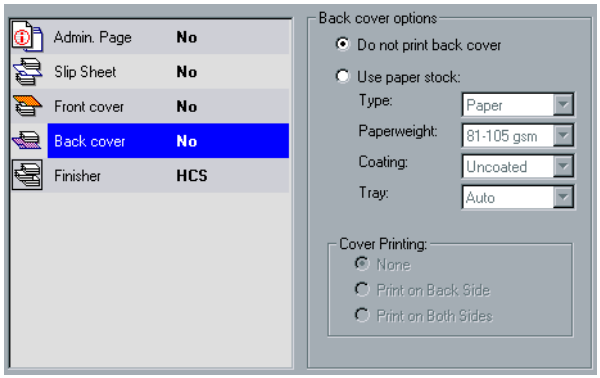
- **Type**
- **Paperweight**
- **Coating**
- **Tray**

In **Cover Printing** options:

- **None** (default value) does not add an extra page as the front cover.
- **Print on Front Side** adds an extra page for the front cover sheet, printing only on the front side.
- **Print on Both Sides** adds an extra page for the front cover sheet, printing on both sides.

Cover size must be the same as that of the job. If the job is imposed, then the Admin page is the size of the imposition sheet.

Back Cover



You can print the back cover (last page of the job or last two pages of the job in the case of duplex) on different paper stock than that of the job.

To use the Back Cover option:

➢ Select **Do Not Print Back Cover** (default value) for no back cover.

Or:

Select **Use paper stock** to print a back cover. Select the following paper properties:

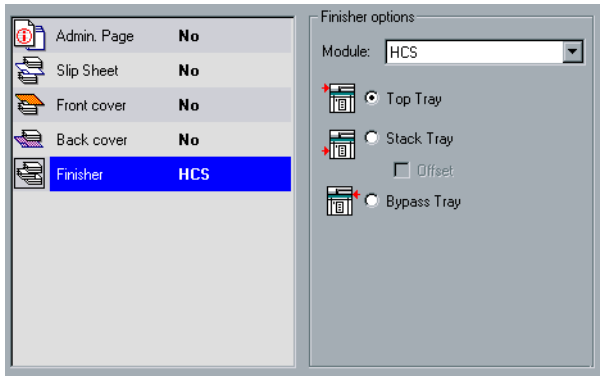
- **Type**
- **Paperweight**
- **Coating**
- **Tray**

In **Cover Printing** options:

- **None** (default value) does not add an extra page as the back cover.
- **Print on Back Side** adds an extra page for the back cover sheet, printing only on the back side.
- **Print on Both Sides** adds an extra page for the back cover sheet, printing on both sides.

Cover size must be the same as that of the job. If the job is imposed, then the Admin page is the size of the imposition sheet.

Finisher



To use the Finisher option:

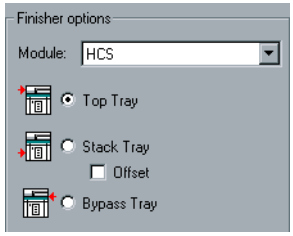
Select a Finisher module from the drop-down list to select the printed output's destination:

- **HCS** (High Capacity Stacker)
- **HCSS** (High Capacity Stacker Stapler)
- **OCT** (Output Cache Tray)

Notes:

1. The finisher module must be connected to the CSX2000 Color Server.
2. For PostScript files, available stapling methods depend on page orientation and size. For PDF files, stapling methods depend on page size.

If your printer is equipped with an HCS, you can select **HCS**.



➢ Select **Top Tray** to print to the top tray.

Or:

Select **Stack Tray** to print to the stack tray (the internal tray). Use **Offset** for both collated and uncollated jobs.

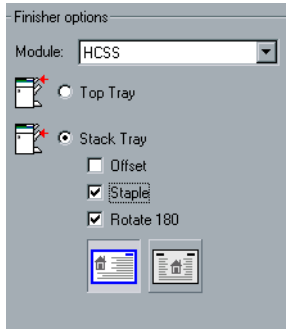
- For collated jobs, each copy is offset from the next copy.
- For uncollated jobs (only if you requested more than one copy of each page), **Offset** shifts the sheets when a new page number is delivered. For example, you requested 3 copies of each page. Thus the printing output sequence is as follows: Page1, Page1, Page1, Offset, Page2, Page2, Page2, Offset, and so on.

Or:

Select **Bypass Tray** so that sheets are not stacked directly on top of each other, which makes it more efficient to take printed material. **Bypass Tray** prints to a connected DFE (digital front end finisher connected to the bypass tray) device using the Bypass tray.

If your printer is equipped with a HCSS, you can select **HCSS**.

To select stapling from the PPD, first select a stapling position and then select HCSS.



➢ Select **Top Tray** to print to the top tray.

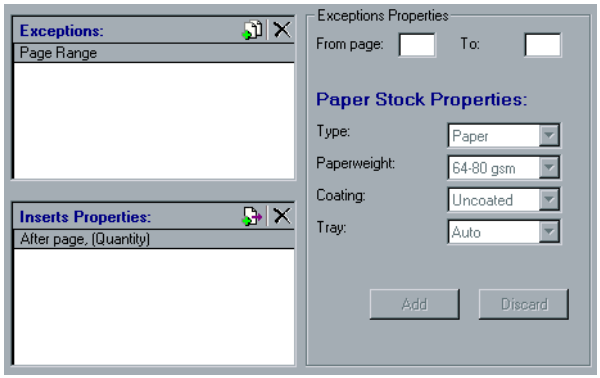
Or:

➢ Select **Stack Tray** for printing to the Stack Tray (usually for many pages / copies).
Select the following parameters for **Stack Tray**:

- Use **Offset** for both collated and uncollated jobs.
For uncollated jobs, if you requested more than one copy of a page, **Offset** shifts the sheets when a new page number is delivered. For example, you requested 3 copies of each page. Thus the printing output sequence is as follows: Page1, Page1, Page1, Offset, Page2, Page2, Page2, Offset, and so on.
- Check **Staple** to select the required stapling method. Stapling icons automatically appear below. Select from these available stapling methods.
- **Rotate 180** (only relevant for the *Stack Tray* > *Staple* option), lets you modify the stapling position by 180 degrees. For example, instead of stapling on the upper left-hand corner, you can staple on the lower right-hand corner.

Select **OCT** print to the output cache tray.

Exception Tab



In the **Exception** tab, you can assign special pages within the job (such as: Admin page, Interleave, Slip-sheet, and Covers) to any media stock in the IOT. This option includes assigning new paper stock to the new print range and inserting new paper stock between pages in a job.

Define paper stock attributes and parameters for special exceptions within a job (refer to *Paper Stock Tab on page 49*).

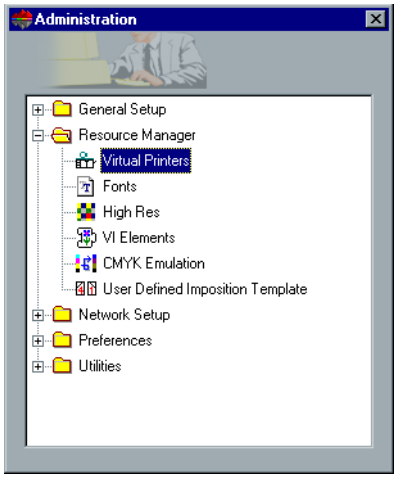
To use the Exception option:

1. Under **Exception Properties**, manually type values for from page and to page.
2. Under **Paper Stock Properties**, choose values for the following properties:
   - **Type**
   - **Paperweight**
   - **Coating**
   - **Tray**

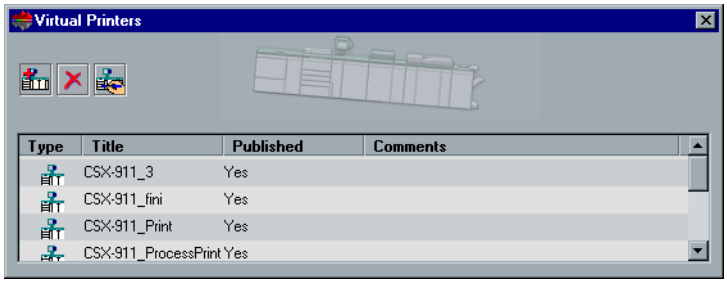
Defining and Editing Virtual Printers

To define and edit a virtual printer:

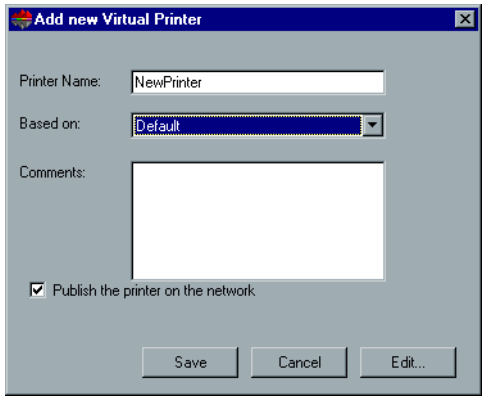
1. Access the *Virtual Printers* dialog box via *Administration* > *Resource Manager* > *Virtual Printer*.



2. The *Virtual Printers* dialog box appears. From the three buttons on the left, you can perform one of the following:
   - Add a new virtual printer
   - Rename a virtual printer
   - Delete a virtual printer



3. In the *Add new Virtual Printer* dialog box, enter the following information:
   - **Printer name**
   - **Based on**
   - **Comments**



Chapter 4

Advanced Printing

Advanced Printing Workflows

This chapter describes the CSX2000 Color Server Advanced Printing Workflows, including Print Quality, Imposition, APR and OPI, the use of Variable Information on the CSX2000 Color Server and Color.

In addition to the job parameters, sample jobs are detailed to show how various job parameters are adjusted for specific types of jobs.

High-Resolution (APR) Workflow

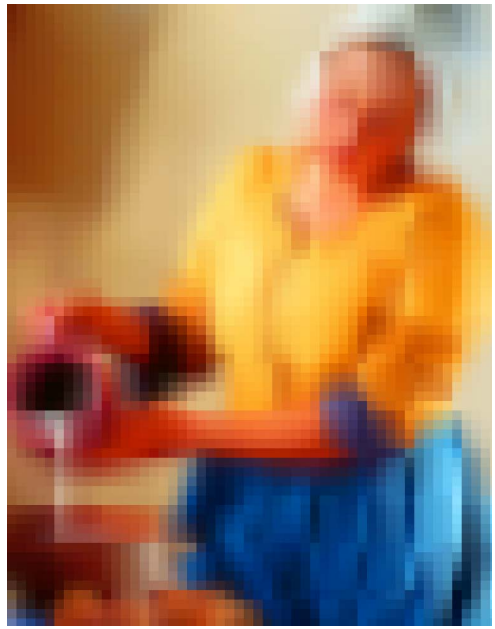
Working with high-resolution files during the design and page layout process can be a long and inefficient process. Processing and manipulation of large files and graphics can be very time consuming. To speed up production, it is common to work with low-resolution files until the RIPping stage.

The CSX2000 Color Server provides APR (Automatic Picture Replacement) and OPI (Open Prepress Interface) image replacement workflows for replacing low-resolution files with high-resolution files during the RIP.

APR and OPI workflows are accessed through the *Job Parameters window > Services tab.*

For further details, refer to *Services Tab on page 102* and *APR on page 105*.

High-Resolution Image File, 5.23 MB



Low-Resolution Image File, 306 KB

Use APR and OPI to:

- Minimize production time with faster image processing and working in DTP applications.
- Reduce the time to create PostScript files and to print.
- Decrease network traffic.

APR (Automatic Picture Replacement)

APR is a Creo-developed image replacement method for PostScript files. APR is a standardized set of file instructions that specify how an external high-resolution image is placed in a PostScript file as it goes to RIP. The instructions specify the type, size, position, rotation, cropping and location of the high-resolution images themselves.

When you send your PostScript file to be processed, the CSX2000 Color Server checks it for APR instructions. It then searches for the external high-resolution file, performs the specified image replacement and RIPs the PostScript file.

OPI (Open Prepress Interface)

Like APR, OPI is a standardized set of file instructions that specify how an external high-resolution image is placed in a PostScript file as it goes to RIP. The instructions specify the type, size, position, rotation, cropping and location of the high-resolution images themselves.

When you send your PostScript file to be processed, the CSX2000 Color Server checks it for OPI instructions. It then searches for the external high-resolution file, performs the specified image replacement and RIPs the PostScript file.

Many OPI systems use remote storage of high-resolution files. The CSX2000 Color Server supports the storage and replacement of high-resolution OPI files internally.

APR and OPI File Formats

APR and OPI are functionally identical on the CSX2000 Color Server. APR low-resolution files have a ***.e** extension, while OPI low-resolution files have a ***.lay** extension. The APR and OPI workflows support Creo Continuous Tone, EPSF and TIFF high-resolution file formats.

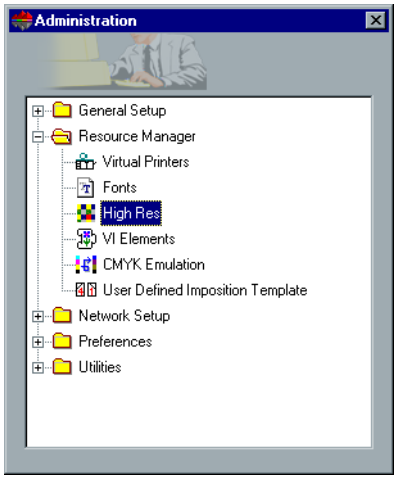
You can use either the APR or OPI workflow, depending on your high-resolution file type.

High Resolution

The **High Res** utility in the Resource Manager lets you organize your high-resolution files. High-resolution files are required for the APR and OPI workflows. You can add or delete high-resolution files. You can also copy high-resolution files from a local hard disk, from the network, or from external media (for example, CD-ROM, Jazz drive or floppy). There is a default shared folder set on the system dedicated to high-resolution files. The folder resides in *D:\Shared\HighRes*.

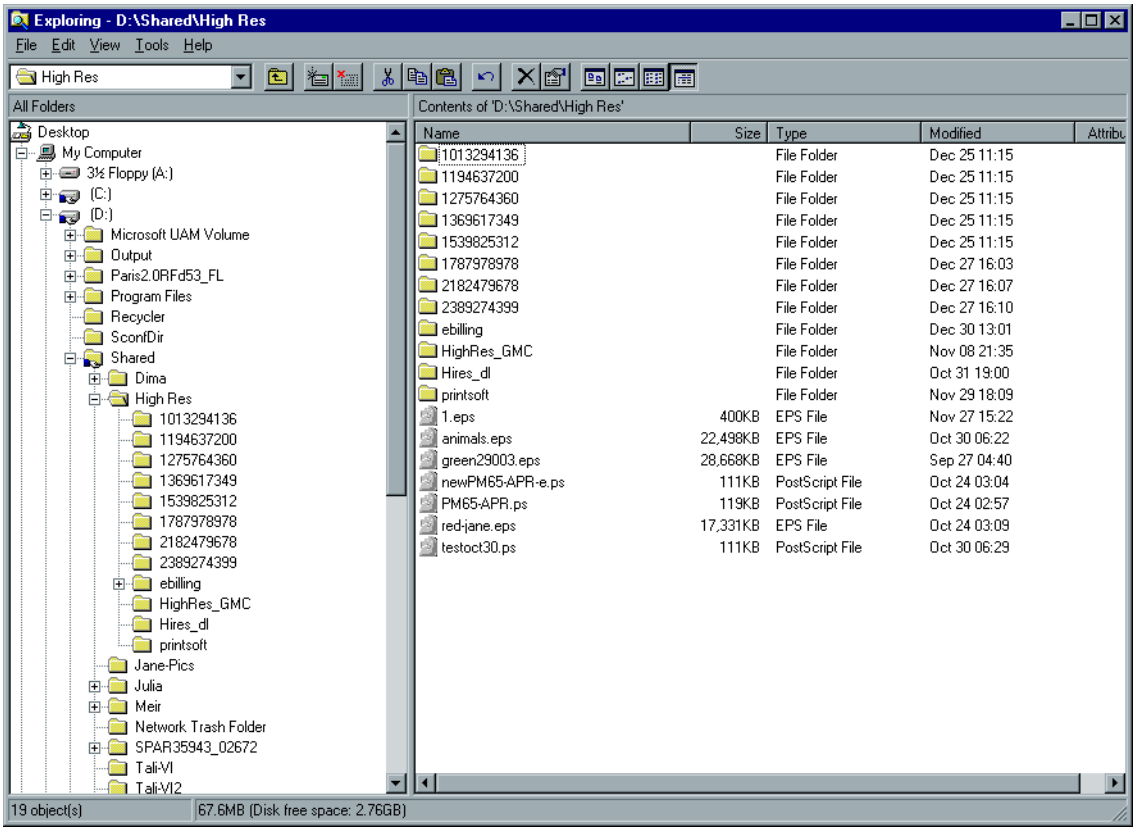
To organize your high-resolution **files:**

1. Access the **High Res** folder via *Admin* > *Preferences* > *High Res.*



Windows Explorer displays the contents of your **High-Res** folder.

2. You can add files to the **High-Res** folder, delete files from it, and copy files from an external media.



Setting the High-Resolution File Path

If your high-resolution files are not located in the CSX2000 Color Server default folder, you must specify the APR path(s) in the *Job Parameter* window **Services** tab before printing:

1. Print or download your job from the client workstation to the Storage Folder in the CSX2000 Color Server workspace. Or import the job to the Storage Folder.

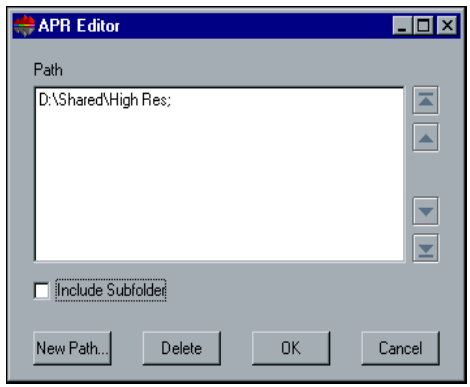
For further details, refer to *Printing from Client Workstations on page 28* and *Printing from the CSX2000 Color Server on page 44*.

2. Double-click on the job in the CSX2000 Color Server workspace.

For further details, refer to *APR Path on page 106*.

3. Adjust the job parameters.
4. In the **Services** tab, click **APR**.
5. In APR Path, Click **Add**.

The *APR Editor* window appears, indicating the default path. Select the default path or add additional paths to define the location of your high-resolution images.



You can perform the following functions in the APR Editor:

- Check **Include Subfolder** to include all the sub-folders of all the specified paths.
- Click **New Path** and locate a required path.
- Change the order of paths to change the order in which they are searched. Click the arrow buttons to move a path up, down, to the beginning of the search, or to the end of the list.
- Select one or several paths and click **Delete** to remove the path(s) from the search.
  If a path is not specified, the CSX2000 Color Server looks for high- resolution files in the default path and predefined paths, according to the order that they are listed.
  Paths other than the default path are defined on a per-job basis, or set in the virtual printer. The order in which the paths are listed determines the order in which the CSX2000 Color Server searches for the high-resolution files. Specify paths on local hard drives, CD-ROM drives, and the floppy drive connected to the CSX2000 Color Server. Or you can specify paths on remote clients / file servers.

6. Set other high-resolution job parameters as required.

Preparing to Print Using APR or OPI

Before printing using APR or OPI:

1. Create low-resolution files from high-resolution files.

PS Image (APR low-resolution) files can be created in Adobe Photoshop® using the PS Image Exporter Plug-In. The PS Image Exporter Plug-In can be installed from the Spire Documentation and Utilities CD-ROM. Or download it from the Creo website at www.creo.com.

2. Export each image file as a low-resolution ***.e file** (in other words a file called duck is exported as **duck.e**). OPI images can be created in other applications or can be provided by a print service bureau. Ensure that you have created or obtained the required image files.

Notes:

1. A PS Image (*.e) file is a low-resolution preview of the original high resolution file. It contains preview information saved at 72dpi in black and white or color. Also, it contains pointers to the location of the high-resolution Image.

2. APR low-resolution files have a ***.e** extension. OPI low-resolution files have a ***.lay** extension.

3. Design the document in a DTP application using low-resolution files.

4. Perform detailed graphic work on the original high-resolution file. The low-resolution file is used for positioning, rotating, scaling and cropping only.

Once you have created the low-resolution file, do not change the name of the high-resolution file. This is the file name that the CSX2000 Color Server looks for.

5. Place the high-resolution files in a defined path on the CSX2000 Color Server. This is where the CSX2000 Color Server looks for them when it RIPs your jobs. Define the high-resolution path through the *Job Parameters* window for each job.

Notes:

1. The CSX2000 Color Server default HiRes folder used for APR and OPI is *E:\Shared\HiRes*.

2. Paths other than the default path are defined on a per-job basis. You can define the APR path to any connected server or disc

Printing with APR or OPI

If your high-resolution files are located in the CSX2000 Color Server default folder (*D:\Shared\HighRes*), you can print APR or OPI jobs without adjusting APR settings. Perform the following steps:

1. Print, download or import the job from the client workstation to the CSX2000 Color Server. Select the CSX2000 Color Server virtual printer you wish to print to.
2. The job is processed and printed according to the settings of the selected virtual printer using APR or OPI high-resolution files. If your high-resolution files are not located in the CSX2000 Color Server default folder:
3. Specify the APR path(s), as described above.
4. Print or download your job from the client workstation to the Storage Folder in the CSX2000 Color Server workspace. Or import the job to the Storage Folder.

For further details, refer to *Printing from Client Workstations on page 28* and *Printing from the CSX2000 Color Server on page 44*.

5. Double-click on the job in the CSX2000 Color Server workspace.

For further details, refer to *Setting Job Parameters on page 49*.

6. Select the **Print Quality** tab in the *Job Parameters* window.
7. Adjust the job parameters.
8. Set other high-resolution job parameters as required (refer to *APR on page 105*).

If the masking data in the PS Image file defines a completely different part of an image than the masking data in the high-resolution file, no masking data is used.

9. Click **Submit**. The job is processed on the CSX2000 Color Server and sent to the Xerox DocuColor 2060 / 2045 for printing.

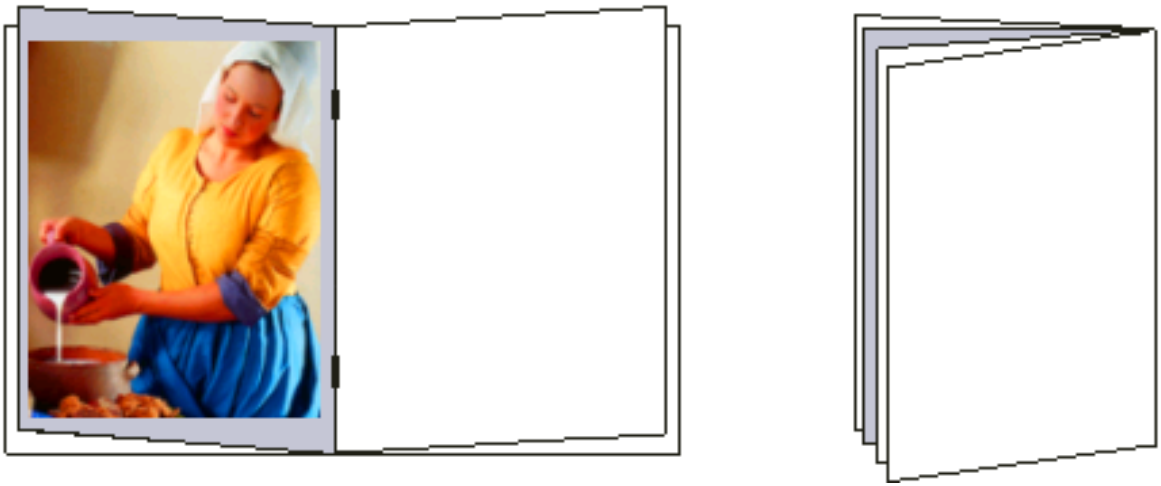
Organizing High-Resolution Files

You can organize (move, delete) your high-resolution files through the Resource Manager found under *Tools > Administration.*

For further details, refer to the *CSX2000 Color Server Installation Guide*.

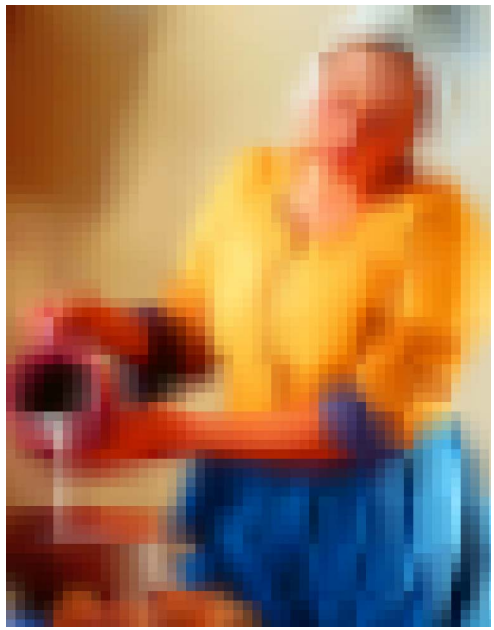
Sample Job: Printing a Brochure Using the APR Workflow

In this example, you can use APR to print a brochure that contains a high-resolution file.



Brochure

High-Resolution Image File, 5.23 MB



Low-Resolution Image File, 306 KB

The picture used in the brochure is a high-resolution file called milkmaid. In this example, it is assumed that you already created the low-resolution file milkmaid.e and that your brochure has already been designed in a DTP application using milkmaid.e.

On the CSX2000 Color Server, the APR workflow is functionally identical to the OPI workflow, so while the high-resolution image used in this example has a ***.e** extension, if it was an OPI image, it would have a alternative extension, such as ***.lay**.

To print a brochure using the APR workflow:

1. Place your high-resolution file milkmaid in the path: *D:\Shared\High Res*.
2. Print or download the brochure job from your client workstation to the CSX2000 Color Server.
   The job is processed on the CSX2000 Color Server and sent to the Xerox DocuColor 2060 / 2045 for printing.

VI (Variable Information) Workflow

VI jobs are jobs in which the printed materials are individualized for specific recipients or purposes. These materials can include bills, targeted advertising and direct mailings.

VI jobs are composed of booklets, which are personalized copies of a document. A booklet can consist of several pages, but the entire document is targeted at a specific individual or address.

All VI jobs are constructed as a collection of individually RIPped elements that may differ from booklet to booklet, including text, graphics, pictures and page backgrounds. Pages are assembled from the RIPped elements just before printing. Each element - text, graphic, picture, or page background - is RIPped only once, regardless if the element is used once, several times, or even in every page of the VI job. If it is used more than once, then it is cached for further re-use.

You send VI jobs to the CSX2000 Color Server in Creo Variable Print Specification or Xerox Variable data Intelligent Postscript Printware (VIPP) formats to be RIPped and printed. The CSX2000 Color Server can also process conventional Postscript files as VI jobs, although they are not truly VI documents.

The CSX2000 Color Server allows concurrent RIPping and printing of VI jobs. Large jobs do not have to be RIPped entirely to disk before printing. You can pre-define the number of pages to be processed before the engine starts to print. As soon as these pages are processed, printing starts while the rest of the job is streamlined through the CSX2000 Color Server. The Xerox DocuColor 2060 / 2045 continues printing at its rated speed without interruption or slowing down until the job is finished.

For further information, refer to *Gallop on page 62*.

Using Creo Variable Print Specification to Print a VI Job

1. Copy VI graphic elements to one of the defined APR folders on the CSX2000 Color Server.

   For further details, refer to *APR and OPI File Formats on page 127*.

2. Submit your job on the CSX2000 Color Server.
3. Re-usable elements are identified, processed, and placed in the cache folder. They are ready for rapid assembly into pages and for multiple usage.
4. Your VI job is processed and printed on the CSX2000 Color Server.
   The Xerox DocuColor 2060 / 2045 prints RTP booklets at full engine speed working uninterrupted from the printer disk. Booklets are compiled concurrently while the printer prints. As pages are sent to the print engine, they are assembled from the various Inline and re-usable elements on-the-fly.
   Once the job is completed, an RTP job is placed in the Storage Folder. This job is identified by the Variable Print Specification sub-job name. Booklet and Page descriptions, as well as inline elements, are embedded in the RTP job. All sub-job handling is done via this RTP job (for example adjusting Job Parameters).

Notes:

1. If an element is to be used more than once but with different clipping or scaling parameters, it is treated as a new page element and processed again.
2. The cache is kept intact until the completion of the job, allowing for reuse of RIPped elements anywhere in the job. Elements may remain in the cache for subsequent jobs. You can also archive job elements.
3. Deleting a job does not delete the cached job sub-folder. This must be done manually via the Resource Manager.

The VI Workflow

VI jobs are created using VI authoring programs that support Variable Print Specification and Xerox VIPP formats. Most VI authoring programs can convert VI files to conventional PS files, which can also be processed by the CSX2000 Color Server, although less efficiently than Variable Print Specification and VIPP files.

In VI Jobs, pre-RIPped re-usable elements are combined with inline elements during the RIP. Pages are assembled from the various elements at high speed on the CSX2000 Color Server as they are fed into the print engine.

The re-usable elements are stored in a cache folder. The CSX2000 Color Server only RIPs inline elements in subsequent jobs using the same re-usable elements. The cached re-usable elements are integrated into the job during the RIP.

In your VI authoring program (for example Creo Darwin), you can define several sub-jobs related to the same VI job, (for example different weekly runs, late additions or updates to a database.). This is known as batch processing. The CSX2000 Color Server processes the first batch that arrives at the system, as described above. When processing following batches of the same job, the CSX2000 Color Server uses the already cached re-usable elements and adds new re-usable elements to the cache sub-folder. This saves the initial ramp-up time for processing and allow immediate processing at the rated printer speed.

For further information, refer to *Organizing VI Elements on page 141*.

VI Document Authoring Programs

The desktop environment requires an authoring program to design, organize and generate VI documents. This program can be stand alone covering all aspects of document design, data management, text capture, and so on. Or it can be an extension of an existing program that allows the creation of VI documents and VI jobs.

VIPP (Variable data Intelligent Postscript Printware)

The Variable data Intelligent Postscript Printware format was developed in 1993 by RX (Rank Xerox) Switzerland. The VIPP is PostScript based format that composes the VI pages during the processing stage. The VIPP is being used for various types of applications, but mostly for financial applications (which typically use the dynamic graph charting capability of VIPP) and for billing statements of banks, telephones, electricity, and so on.

In order to be able to utilize VIPP files on your CSX2000 Color Server, the VIPP software should be first installed on your system. This installation should be done by a service engineer. Contact your service provider for further information.

PostScript Files

The CSX2000 Color Server can also process conventional Postscript files as VI jobs, although they are not truly VI documents. All page elements are re-RIPped for each page. This workflow is suitable for simple, very short run jobs. These jobs do not use a VI authoring tool at all. Instead, they use a mailmerge function in a MS Word® document or a MS Excel® spreadsheet.

VIPP (2001) & PPML

The CSX2000 Color Server supports VIPP (2001) and PPML formats and the features related to them, for example:

- Processing VIPP (2001) & PPML jobs efficiently
- Providing a management mechanism for VIPP (2001) and PPML reusable elements
- Importing jobs in various VI formats to the DFE
- Importing VI elements to the DFE and submit them for pre-cache
- Viewing VI elements in their structural hierarchy

Both PPML & VIPP2001 have a hierarchical structure. Document components are separated from their submission file and can be organized and stored in different levels of the hierarchical structure.

Variable Print Specification, VIPP and PPML are displayed under matching tabs the *Elements Viewer* window (refer to *Viewing, Deleting & Archiving on page 142*).

In PPML there is an ability to have different jobs in one PPML file. Thus, the display in the navigation pane varies from the Variable Print Specification & VIPP appears.

Creo Variable Print Specification

Creo Variable Print Specification is the Creo developed formal language designed for effective production of VI documents.

Creo Variable Print Specification is comprehensive and can specify a complete range of VI documents. It also provides the means for efficient implementation - fast, efficient data processing and storage prior to printing.

The following are Variable Print Specification job components:

Booklet

A personalized copy of a document within a single print run where pages and / or elements within a page may vary from booklet to booklet.

Sub-job

All copies of a particular document (for example, book, brochure, or flyer), within a single print run. On the CSX2000 Color Server, sub-jobs can be deleted, archived, or reprinted at any time. However, you can still maintain re-usable elements for future runs. Re-usable elements are cached elsewhere, so only the unique data, which is embedded in the job, is deleted.

Re-usable Elements

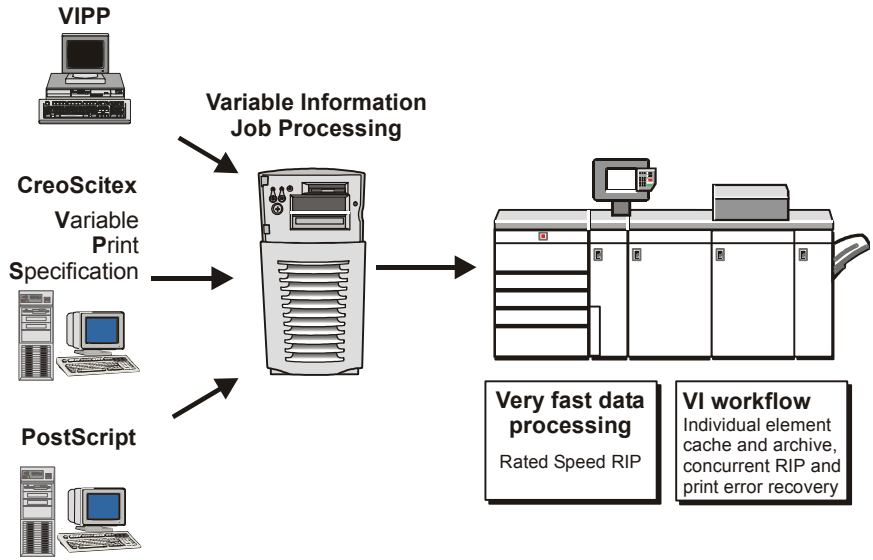
Self-contained graphical entities that can be line art, text, raster images or a combination of these types. Re-usable elements are represented in PostScript and can be stored as EPS files when appropriate. Re-usable elements include clipping and scaling instructions as well as the image data.

Grayscale TIFF and EPS images created in CMYK applications (such as PhotoShop) are counted correctly as **B&W** instead as **Color** in both the CSX2000 Color Server and the DocuColor 2045 / 2060 billing meters.

Re-usable elements can be used repeatedly in different pages, booklets and jobs. On the CSX2000 Color Server, all re-usable elements are processed once and cached as RTP elements for further re-use. They can then be re-used either within the sub-job itself, or in additional runs of sub-jobs.

Inline Elements

Unique information is drawn from a database and is embedded in the sub-job. This data prints only once for individual booklets.



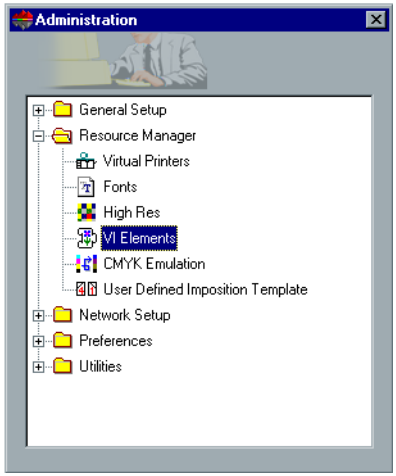
CSX2000 Color Server VI workflow

Organizing VI Elements

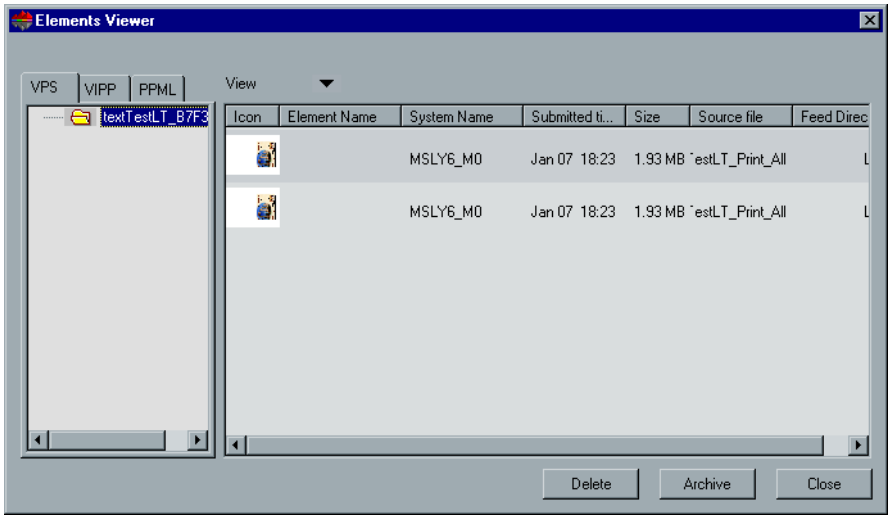
The VI Elements utility lets you organize VI elements on your system. Jobs that include variable information require that VI elements (reusable elements) are stored in a specified location. This allows the CSX2000 Color Server to reuse these files when the job is printed for the first time and also for future jobs.

Viewing, Deleting & Archiving

1. Access the *Elements Viewer* window via *Admin* > *Resource Manager* > *VI Elements*.



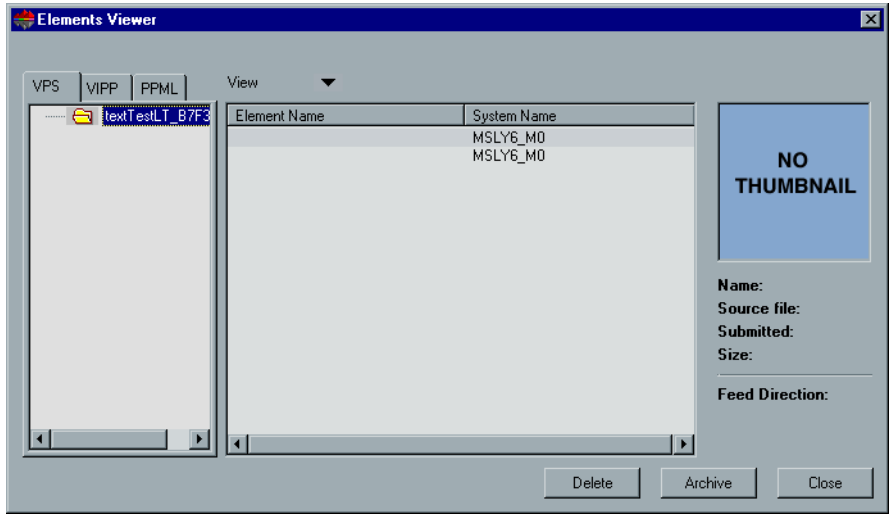
The *Elements Viewer* window appears.



In the above screen (in Preview mode), your VI job folders are displayed in the left pane. In the right pane, there is a thumbnail view in the **Icon** column and other information associated with your job.

2. The *Elements Viewer* window has two modes: **Preview** (default) and **Details**. Click on the **View** button and select a mode.

3. Select **Details** mode to view the element name and system name as a list in the cached element window. The remaining information (file name, source file, submitted date, size and feed direction) is under the thumbnail.



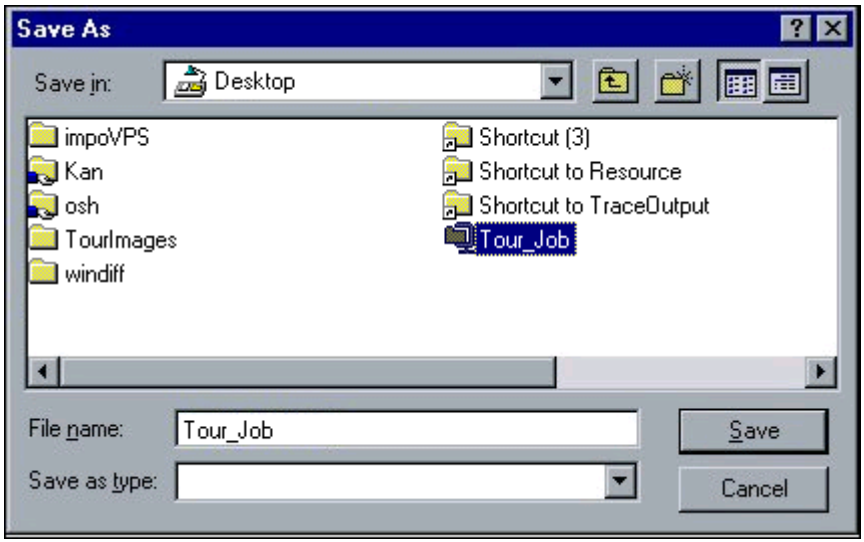
You can resize the *VI elements* window. The system saves the last setting if the window is resized the next time it is opened.

To delete VI elements:

➢ Select the elements you want to delete and click **Delete** (from either mode). You can also delete the entire folder.

To archive your VI elements for future use:

1. Click **Archive** (from either mode). The *Save As* window appears.



2. Select the folder where you want to archive the VI elements and click **Save**.

VI Element Formats

There are three VI Element formats, each with it own tab on the top-left side of the *Elements Viewer* window:

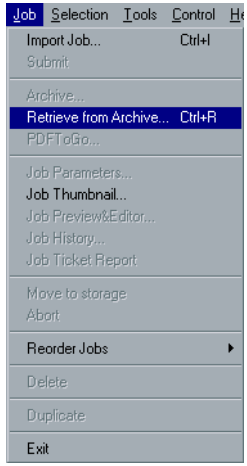
- VPS
- VIPP
- PPML

Each tab displays its own file type with its matching hierarchy (for example, the VIPP tab displays only VIPP files with the VIPP hierarchy structure). For all formats in the window under the tabs, only the folder levels are displayed. While the content of these folders appears on the right side.

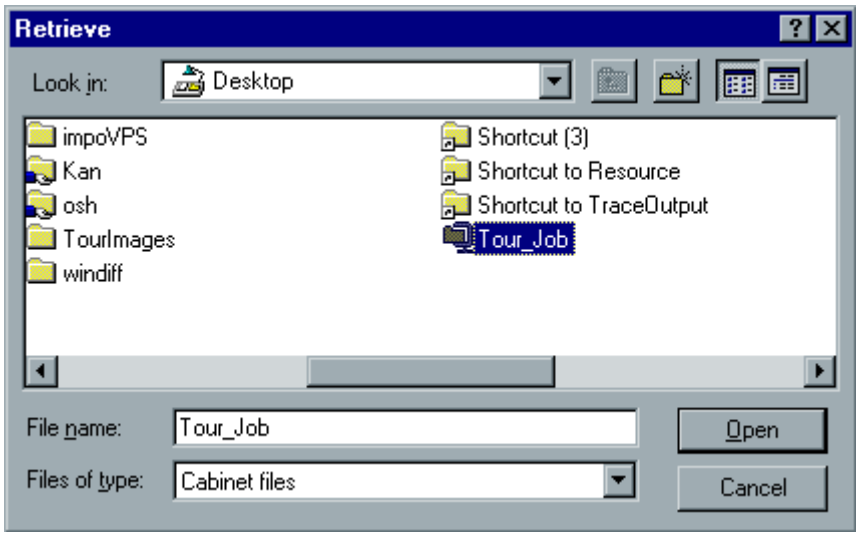
Retrieving VI Elements

To retrieve VI elements from archive:

1. From the **Job** menu, select **Retrieve from Archive**.



The *Retrieve* window appears.

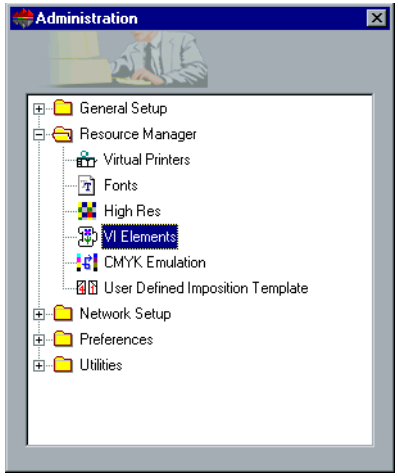


2. Double-click on the folder where your VI elements were archived.
3. Alternatively, select the folder and click **Open**.

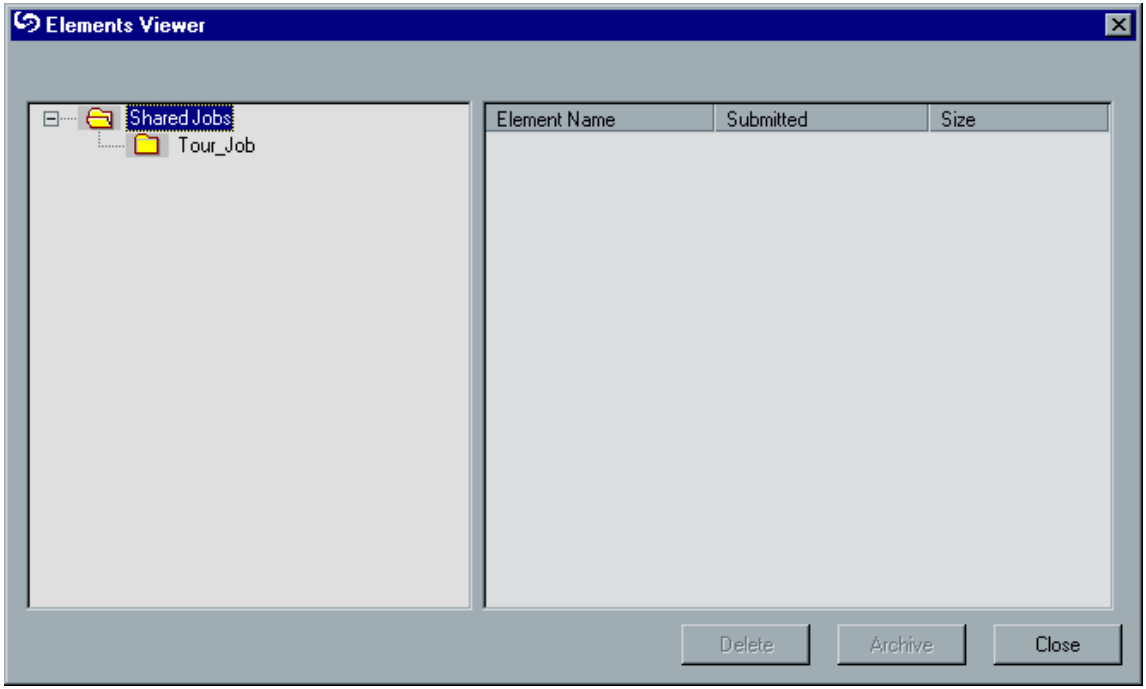
4. The archived VI elements are retrieved.

To view your retrieve VI elements:

1. Access the *Elements Viewer* window from *Admin* > *Resource Manager* > *VI Elements.*



The *Elements Viewer* window appears.



You can resize the *VI elements* window. The system saves the last setting if the window is resized the next time it is opened.

2. Your retrieved VI file is returned to file tree and listed last.

CSX2000 Color Server Job Parameters and VI Jobs

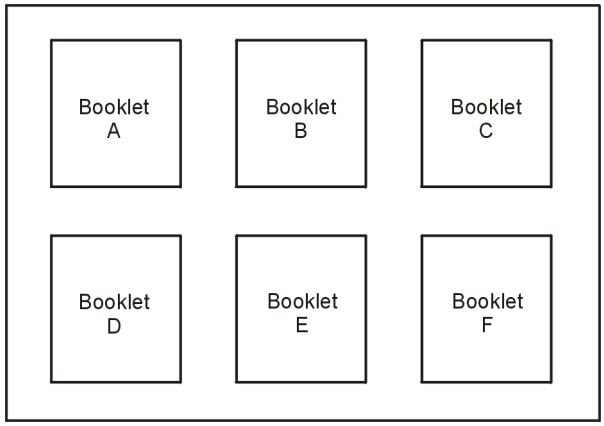
You can adjust the job parameters of VI jobs via the *Job Parameters* window, just as with any other type of job.

Special considerations apply to VI jobs when adjusting some job parameters.

Using Imposition with VI Jobs

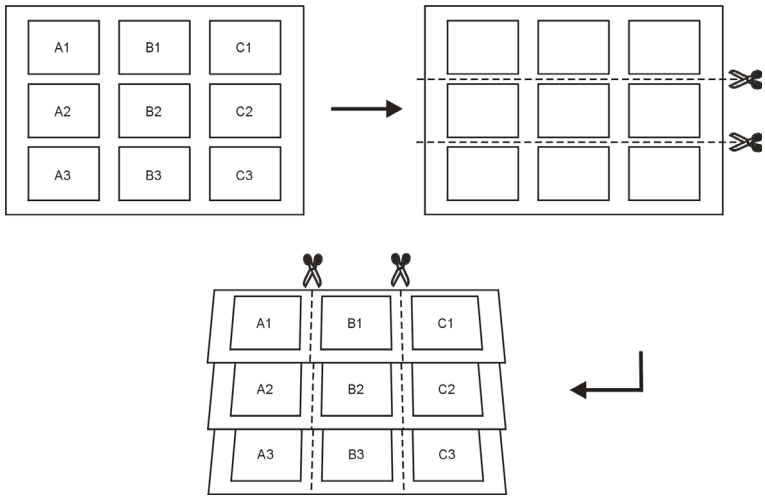
When using Imposition with VI jobs:

- Every booklet must have the same number of pages.
- In the Step & Repeat method, when printing a single page booklet, the VI job does not print the same image repeatedly. Several booklets are printed on the same sheet and each record is printed on the sheet once.



Single Page VI Job, 3x2

For a booklet with several pages, the pages are printed in order along the length of the sheet. The next booklet is printed beside the first. After the sheets are cut, the booklets are aligned with their pages in the proper order.



3 Page VI Job, 3x1, duplex, 3 pages per record

The above example uses the Step and Repeat method. There are no special considerations for VI jobs using Saddle Stitch and Perfect Bound methods.

For further details, refer to *Imposition Tab on page 90*.

Gallop

The CSX2000 Color Server Gallop job parameter, located in the **Print Settings** tab, performs concurrent RIPping and printing of VI jobs. This reduces processing time.

- Select **Gallop** in the **Print Settings** tab in the *Job Parameters* window. This causes the printer to start printing your job after an initial number of pages were processed.

Deleting Completed Jobs

On high-volume VI jobs, where disk space may be an issue, you can set the CSX2000 Color Server to continuously delete pages once they have been successfully printed.

- Select the **Delete after Complete** check box in the **Services** tab in the *Job Parameters* window to cause the continuous deletion of pages once they have been successfully printed.

Notes:

1. This sustains enough free disk space for the duration of the print run and affects the sub-job only. Moreover, it disposes of inline elements only and not re-usable elements.
2. The Variable Print Specification file is also be deleted.

Imposition Workflow

Imposition is the process of positioning page images on sheets of paper in the printer (or in a digital printing press) as part of the process of producing finished documents.

In addition to page images, various marks can be added to the sheets in order to aid the production process (marks that show where the paper should be folded or trimmed).

Imposition does not affect the content of the individual page but rather the placement of the pages on a press sheet. Imposition is a combination of content and layout. The content is the pages that should be printed and the layout is the location of the page on the sheet and the printing marks (crop marks and fold marks).

On the CSX2000 Color Server, the imposition parameters are set on the **Imposition** tab of the *Job Parameters* window.

Whenever possible, imposition settings should be defined before RIPping a job. Changing key imposition settings (for example template) post RIP may require inefficient re-RIPping of your job.

For further details, refer to *Imposition Tab Job Parameters on page 153*.

You can use a CSX2000 Color Server virtual printer to predefine your imposition settings. When you create a new virtual printer or edit an existing one, define the imposition settings for that particular printer. These settings become the printer's default options and are applied to all jobs that use the printer.

For more on Virtual Printers, refer t *Network CSX2000 Color Server Virtual Printers on page 17*.

The Imposition Workflow

To submit jobs for Imposition on the CSX2000 Color Server:

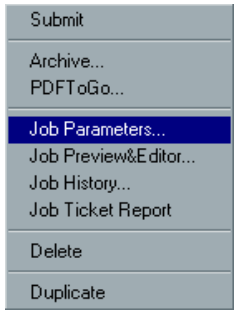
1. Download or spool the job from the client workstation to the CSX2000 Color Server. Or import the job from within the CSX2000 Color Server workspace.

2. Access the *Job Parameters* window:

   Double-click on the job in the Storage Folder in the CSX2000 Color Server workspace.

   Or:

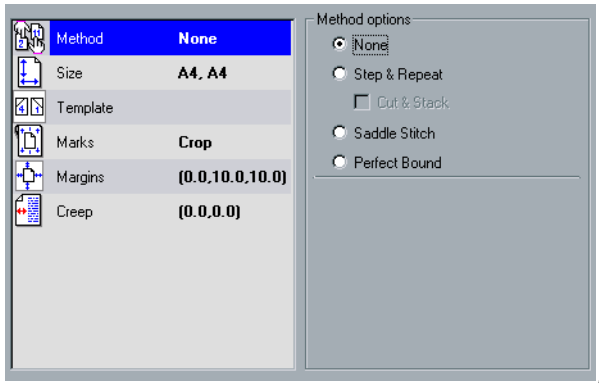
   Select a job in the Storage Folder, right-click and select **Job Parameters. . .**



3. Select the **Imposition** tab in the *Job Parameters* window.
4. Adjust the required imposition parameters.
5. Click **Submit** to send your job to print.
   The job is processed on the CSX2000 Color Server and sent to the Xerox DocuColor 2060 / 2045 for printing.

Imposition Tab Job Parameters

Select the **Imposition** tab to set job options related to positioning, folding, trimming and binding of pages:



Whenever possible, imposition settings should be defined before RIPping a job. Changing key imposition settings (for example, template settings) post RIP may require inefficient re-RIPping of jobs. The CSX2000 Color Server only re-RIPs an imposition job when required.

You can use a CSX2000 Color Server virtual printer to predefine your imposition settings. When you create a new virtual printer or edit an existing one, define the imposition settings for that particular printer. These settings become the printer's default options and are applied to all jobs that use the printer.

Job page size settings are overridden by the virtual printer settings for sheet size and trim size.

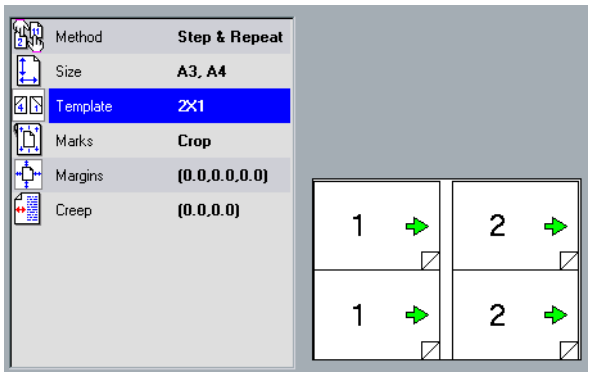
If you change key job parameters and click **OK** in the *Job Parameters* window, the job automatically reverts to its pre-RIPped format (for example, PDF, PostScript) and remains in the Storage Folder.
To print or reprint the file, submit it to the Process queue.

For further details, refer to *Imposition Tab on page 90*.

Imposition Tab Thumbnail Viewer

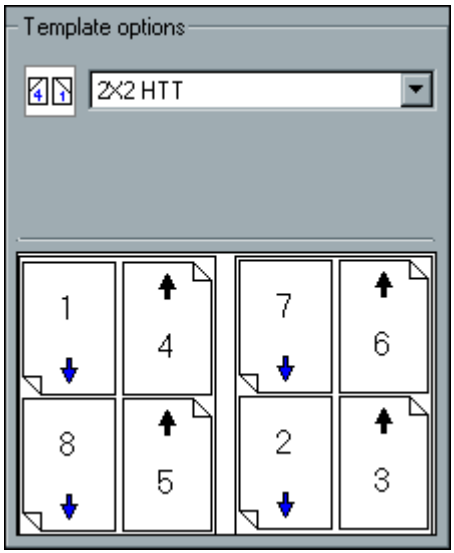
At the lower right hand corner of the **Imposition** tab, a dynamic thumbnail view shows the effect of your parameter choices on the printed sheet. The thumbnail viewer appears when you select the Template job parameter.

The template option and the thumbnail view are not active if you select **None** as your imposition method.

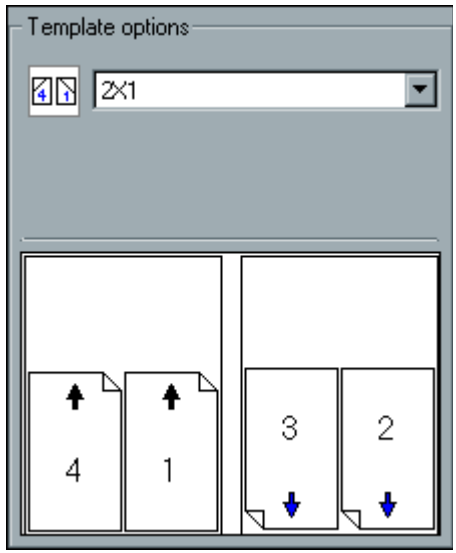


When setting the Template parameter, the thumbnail view continuously updates your selections for trim size, margins and sheet size.

Example templates, as shown in the thumbnail viewer:



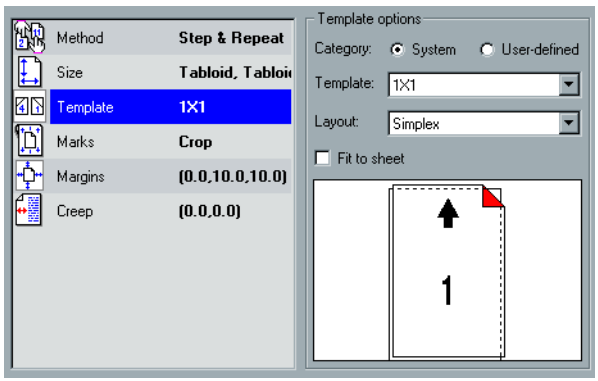
2x2 HTT Template (Perfect Bound)



2x1 Template (Perfect Bound)

In the thumbnail view, the page orientation is indicated by the direction of the arrows (which point to the head of the page) and not by the orientation of the numbers.

In the thumbnail view, conflicting parameter settings are indicated by red corners on the pages on the template.



If the trim size settings (for example, A3 trim for Step & Repeat 2x2 Duplex template) conflicts with the template settings, the paper size is indicated by a dotted line.

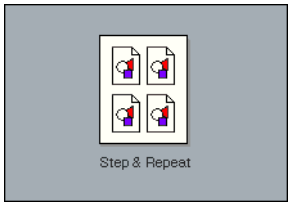
If you see red corners and a dotted line, adjust your imposition settings to resolve the parameter conflicts.

Method

This parameter specifies the finishing of printed sheets. It offers two types of binding (in other words Saddle Stitch and Perfect Bound) and one method that collects pages together on one sheet without binding (in other words Step & Repeat).

Step & Repeat

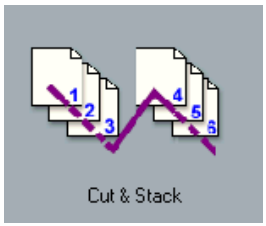
Step & Repeat is a method used for printing multiple copies of the same image so it fills up a larger sheet (for example, for business cards).



Step & Repeat Thumbnail View

Cut & Stack

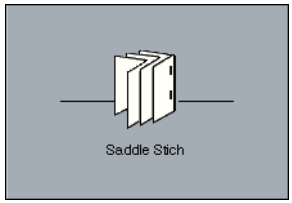
A job's pages or booklets are sorted in a Z shape. In other words, each stack of pages is sorted in consecutive order and when stacks are piled one on top of another, the entire job is already sorted up or down.



Cut & Stack Thumbnail View

Saddle Stitch

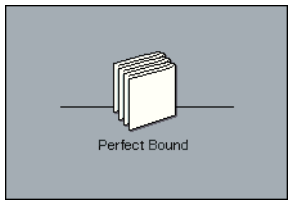
Saddle Stitch is a book-finishing technique where the pages of books are attached through stitching or stapling in the spine fold (for example, for brochures).



Saddle Stitch Thumbnail View

Perfect Bound

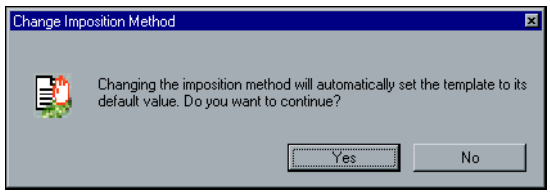
Perfect Bound is a book-finishing technique where the pages of books are attached through trimming of the spine fold, roughening the edges of the gathered pages and gluing them together (for example, for hardcover books).



Perfect Bound Thumbnail View

Changing Imposition Method

If you select to change imposition methods when setting imposition job parameters, the following warning window appears:



➢ Click **Yes** to continue. Or click **No** to return to your initial settings.

Sizes

When using Imposition jobs, Size overrides the Paper Size job parameter in the **Paper Stock** tab. This override lets you define the sheet size for the job and avoid inappropriate settings that may be embedded in the job.

Sizes lets you define a virtual printer for imposition. For example, you can set a virtual printer with 2X1 Duplex Rotated, Step & Repeat template so that any letter size job submitted through that virtual printer automatically prints 2UP on tabloid size paper.

- Select the default sheet size.

  Or:

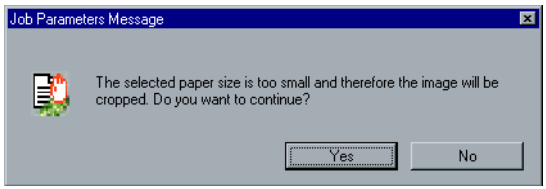
- Select from the drop-down list of available sheet sizes.

  Or:

- Select **Custom** to define a custom sheet size. Set the height and width of the sheet.

Changing Paper Size

If you select to change paper size when setting imposition job parameters, the following warning window may appear:



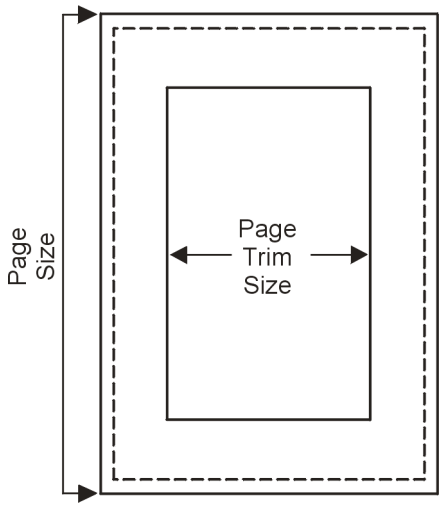
- Click **Yes** to continue.

  Or:

  Click **No** to return to your initial settings.

Trim Size

Trim size is the size of the finished, trimmed document.



You can adjust your page size by adjusting the trim size. If your trim size setting is smaller than the size of the printed data, then your data is cropped.

- Select the required size for the finished document from the drop-down list.

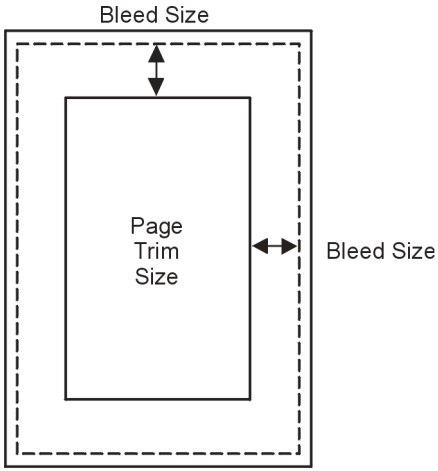
  Or:

- Define a custom trim size by entering the required height and width of the finished page.

The default trim size is the initial paper size of the job, set in the **Paper Stock** tab. If you set trim size to be smaller than the page size set in the DTP application, some of the data is cropped. Setting a larger trim size results in a larger border on the printed page.

Bleed Size

Bleed extends part of the printed page image beyond the trimming boundary. This avoids white edges after cutting and folding pages with elements adjacent to the edge of the page.



➢ Select **To Fold** to extend the bleed to the sheet fold lines.

Or:

Select **Custom** and specify the bleed size.

Applying Bleed Size results in the bleed effect only when a file contains bleed applied in the originating DTP application.

Template

A template is a set of parameters that determines how your finished sheet is printed. The template includes:

- The number of columns and rows of pages on a sheet.
- Each pair's first number refers to columns and the second number refers to rows.
- Whether the sheet is printed on one side (Simplex) or on both sides (Duplex).
- The orientation (portrait or landscape) of the page.

CSX2000 Color Server Predefined Imposition Templates

The CSX2000 Color Server is predefined with the following imposition templates:

DUP refers to Duplex and SIM refers to Simplex.

Step & Repeat	Saddle Stitch	Perfect Bound	Cut & Stack
1x1 DUP	1x2 HTT	1x2 HTT	1x1 DUP
1x1 DUP Rotated	1x2 HTT Rotated	1x2 HTT Rotated	1x1 DUP Rotated
1x1 SIM	2x1	2x1	1x1 SIM
1x1 SIM Rotated	2x1 Rotated	2x1 Rotated	1x1 SIM Rotated
1x2 DUP	2x2	2x2	1x2 DUP
1x2 DUP Rotated	2x2 HTT	2x2 HTT	1x2 DUP Rotated
1x2 SIM	2x2 Rotated	2x2 Rotated	1x2 SIM
1x2 SIM Rotated	2x2 HTT Rotated	2x2 HTT Rotated	1x2 SIM Rotated
2x1 DUP	4x2	4x2	2x1 DUP
2x1 DUP Rotated	4x2 Rotated	4x2 Rotated	2x1 DUP Rotated
2x1 SIM			2x1 SIM

Step & Repeat	Saddle Stitch	Perfect Bound	Cut & Stack
2x1 SIM Rotated			2x1 SIM Rotated
3x1 DUP			3x1 DUP
3x1 DUP Rotated			3x1 DUP Rotated
3x1 SIM			3x1 SIM
3x1 SIM Rotated			3x1 SIM Rotated
3x2 DUP			3x2 DUP
3x2 DUP Rotated			3x2 DUP Rotated
3x2 SIM			3x2 SIM
3x2 SIM Rotated			3x2 SIM Rotated
3x4 DUP			3x4 DUP
3x4 DUP Rotated			3x4 DUP Rotated
3x4 SIM			3x4 SIM
3x4 SIM Rotated			3x4 SIM Rotated
3x8 DUP			3x8 DUP
3x8 DUP Rotated			3x8 DUP Rotated
3x8 SIM			3x8 SIM
3x8 SIM Rotated			3x8 SIM Rotated
4x2 DUP			4x2 DUP
4x2 DUP Rotated			4x2 DUP Rotated
4x2 SIM			4x2 SIM
4x2 SIM Rotated			4x2 SIM Rotated
4x3 DUP			4x3 DUP
4x3 DUP Rotated			4x3 DUP Rotated

Step & Repeat	Saddle Stitch	Perfect Bound	Cut & Stack
4x3 SIM			4x3 SIM
4x3 SIM Rotated			4x3 SIM Rotated
4x4 DUP			4x4 DUP
4x4 DUP Rotated			4x4 DUP Rotated
4x4 SIM			4x4 SIM
4x4 SIM Rotated			4x4 SIM Rotated
5x5 DUP			5x5 DUP
5x5 DUP Rotated			5x5 DUP Rotated
5x5 SIM			5x5 SIM
5x5 SIM Rotated			5x5 SIM Rotated
8x3 DUP			8x3 DUP
8x3 DUP Rotated			8x3 DUP Rotated
8x3 SIM			8x3 SIM
8x3 SIM Rotated			8x3 SIM Rotated
P1-P2 SIM			
P1-P3 DUP			
P1-P2 SIM Rotated			
P1-P3 DUP Rotated			
P1-P2-P3 SIM			
P1-P2-P3 SIM Rotated			
P1-P3-P5 DUP			
P1-P3-P5 DUP Rotated			

The default orientation is Head to Head, Portrait. If a template contains a different page orientation such as Head to Toe (HTT), it is included clearly in the name of the template (for example 2x1 DUP HTT).

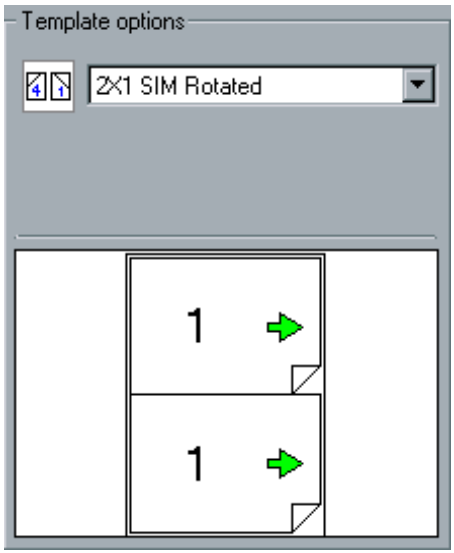
Collating Templates

The Step & Repeat method contains a subset of templates called Collating Templates. Collating Templates are used when jobs with different page images are used to fill up a larger sheet. Unlike regular Step&Repeat, where the same images are printed several times on a sheet, with Collating Templates, several images are printed on the same sheet. Collated Templates are used for one-time job print runs and are of the form P1-P2-P3, indicating the job pages to be printed on a sheet.

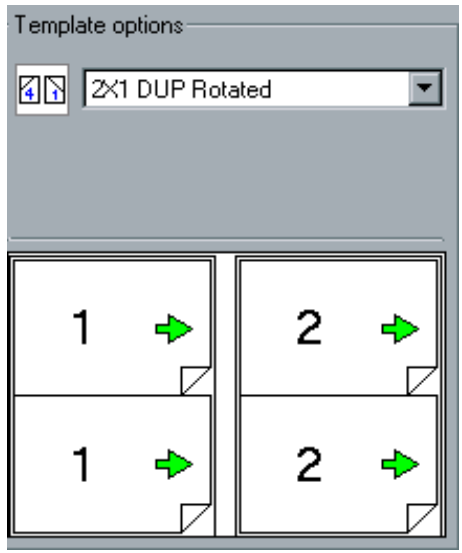
When choosing a template, you should account for other job parameters (for example paper trim size, bleed, margins and gutters and paper size). Since some of these parameter settings may contradict, the Template thumbnail lets you visually check your job as it highlights such conflicts (in red).

Templates are also linked to the chosen imposition method. If you change your imposition method (for example from Perfect Bound to Step & Repeat), your initially selected template may no longer fit the new method. When required, the CSX2000 Color Server automatically substitutes a suitable template for your new method and notifies you that the change has been made.

Commonly used templates, as shown in the thumbnail viewer:



2x1 SIM Rotated (Step & Repeat)

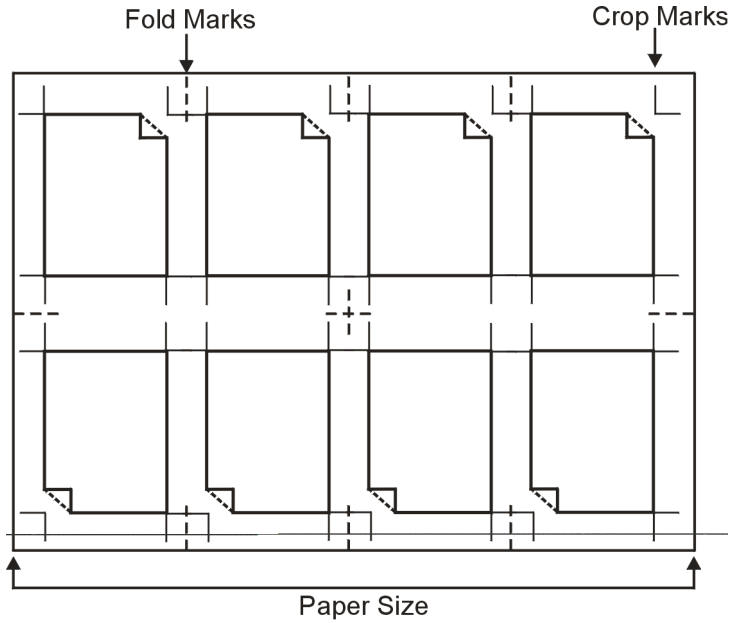


2x1 DUP Rotated (Perfect Bound)

It is advisable to review your Template thumbnail after setting your imposition parameters to check for conflicts and to resolve them by adjusting parameter settings.

Marks

Marks are additional images printed on the sheet that help in the finishing process by noting where trimming and folding should occur. They also help with color control.



Select one, several, or none of the following options:

- Check **Add Crop Marks** so that lines indicating where the sheet is to be cropped are printed on the sheet.

  Or:

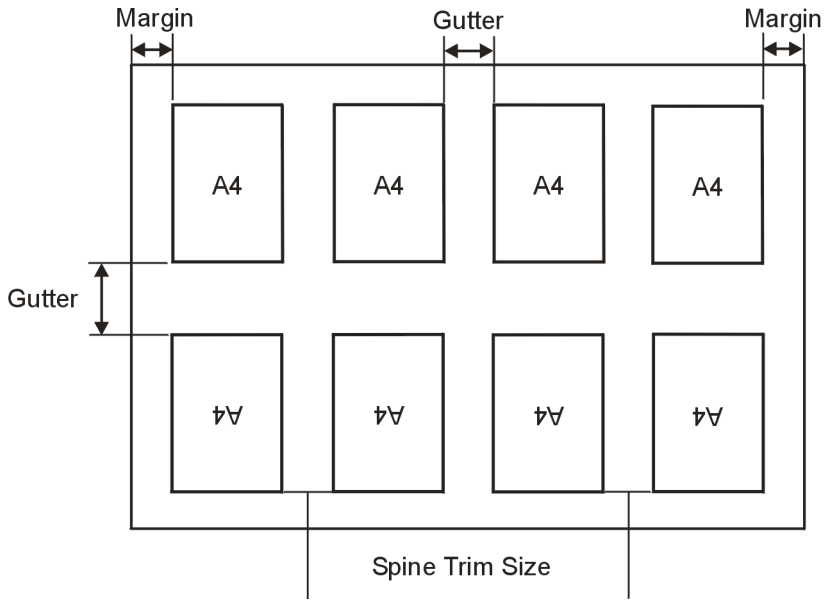
- Check **Add Fold Marks** so that lines indicating where the sheet is to be folded are printed on the sheet.

Notes:

1. If your job already includes crop marks incorporated in the DTP application, you do not need to add crop marks here. If you do add crop marks, both sets of crop marks can be printed.
2. If you want to use crop marks incorporated in the DTP application, ensure that enough space is left around your page in the PS file so that the page prints with crop marks.

Margins

This job parameter lets you adjust the space between pages (and pairs of pages) so they fit your finishing requirements.



Margin settings should suit finishing equipment and requirements. When planning your sheet, it is advised that you confirm binding parameters with your binder.

Spine Trim Size

Spine trim size is the space between adjacent pages on a printed sheet, which, when folded into a booklet, allows for grinding and perfect binding.

➢ Set the **Spine Trim Size**.

Spine trim size is used with the Perfect Bound method only. If the Saddle Stitch method is used, this value is set to zero and the pages are printed side by side without any space between them.

Minimum Gutter Size

The gutter is the inside space between pairs of pages on a sheet. When folded into a booklet, the gutter allows space for trimming.

For specific sheet templates, there can be only one gutter, or no gutter at all (for example, in the 2x1 template, there is no gutter). In these cases, the Minimum Gutter Size setting is ignored.

Minimum Margin Size

Margin size is the distance between the outside edges of the sheet and the edges of the pages printed on the sheet.

- You can set the minimum margin size, but not the exact size, which is calculated by the CSX2000 Color Server in accordance with other imposition parameters.

Creep

When inserting signatures inside one another when binding saddle-stitched jobs, the signatures inserted last (in other words towards the center of the job) are the furthest away from the center of the publication. When the publication is trimmed down to its final size, the inward page sections drift outward (or are even clipped).

Creep compensates for this problem by moving the pages on inside signatures progressively closer to the fold (in other words the position of the final PostScript trimmed pages remains at a constant distance from the outside edge of the book, when in fact the margins closest to the spine are continually changing).

Two parameters are used to compensate for creep. Select one, both, or none of the creep options:

Total Creep In

Specifies the amount of movement towards the spine applied to the center two pages and their backs (in other words the pages that require the most amount of compensation).

An ever-decreasing amount of movement is automatically applied from the center quartet of pages back towards the outside four pages of the job (in other words every quartet of pages is moved by an amount less than the previous quartet). If required, the CSX2000 Color Server can also set Total Creep In automatically based on paper stock weight.

The outside two pages and their backs are not moved (the value 0.0 is used).

Initial Creep Out

You might find that page images get too close to the spine. This can be resolved by specifying a value for **Initial Creep Out** that moves all the pages of the job further out toward the outside margin (in other words away from the spine) by the specified amount.

Notes:

1. This movement takes place before the Total Creep In value is applied.
2. Normally, the movement applied by the creep parameters is horizontal (to or from the spine).

Editing with Imposition Jobs

The *RTP Job Editor* window lets you move pages within a job, delete pages of a job, insert pages of another job, or merge two entire jobs. You can use the RTP Job Editor with imposition jobs just as you would with any other RTP job.

Pre-Rip, jobs are edited using Adobe Acrobat. Post-Rip, only RTP jobs can be edited. Any changes to a job in the RTP job editor that require re-RIPping causes the job to fail, as there is no original PDL file to be re-RIPped.

When inserting or replacing pages, the new page should have the same size and orientation attributes as the old page.

To replace a page that is rotated 180°, rotate the page in the DTP application and re-submit it to the CSX2000 Color Server. PDL files can be rotated using Adobe Acrobat.

Or submit a two-page job with the corrected page as the second page in the job. In the **Print Settings** tab, set **Print Method** to be **Duplex Head to Toe**. After processing, the second page is rotated 180° and can be used as the replacing page in the Job Editor.

For further details, refer to *Editing RTP Jobs on page 317*.

Once the job is completed, an RTP job is placed in the Storage Folder. This job is identified by the Variable Print Specification sub-job name. Booklet and page descriptions, as well as inline elements, are embedded in the RTP job. All sub-job handling is done via this RTP job (for example adjusting Job Parameters).

Notes:

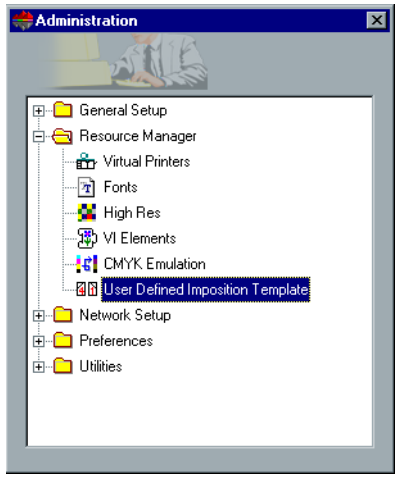
1. If an element is to be used more than once but with different clipping or scaling parameters, it is treated as a new page element and processed again.
2. The cache is kept intact until the completion of a job, allowing for reuse of RIPped elements anywhere in the job. Elements may remain the in cache for subsequent jobs. you can also archive job elements.
3. Deleting a job does not delete the cached job sub-folder. This must be done manually via the Resource Manager.

User Defined Imposition Templates

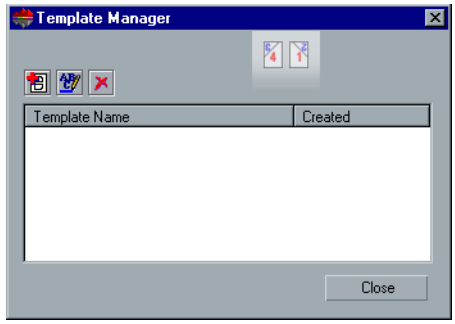
The User Defined Imposition Template utility lets you import and manage user defined imposition templates (created in a stand-alone application) in the CSX2000 Color Server.

To import a user defined imposition template:

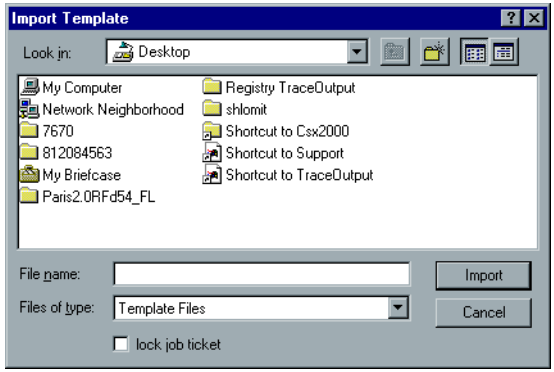
1. Access the *Template Manager* dialog box via *Admin* > *Resource Manager* > *User Defined Imposition Templates.*



The *Template Manager* dialog box appears.



2. Click the **Created Template** button (the first button on the far left).
   The *Import Template* dialog box appears.



3. Browse to the location of the desired user defined imposition template.
4. Select the desired user defined imposition template.
5. Select the **lock job ticket** check box for no modifications to the selected template in the *Job Parameters* window.
6. Click the **Import** button. The selected template is listed in the *Template Manager* dialog box and can be selected as a template in the *Job Parameters* window.
7. Repeat the above procedure to add additional user defined imposition templates.

To rename a user defined imposition template:

1. In the *Template Manager* dialog box, select a user defined imposition template from the list and click the **Rename** button (middle button on the left).

   Or:

   Right-click the user defined imposition template to rename and from the menu select **Rename**.
   The user defined imposition template name becomes active.

2. Type a new name for the user defined imposition template.
3. Click anywhere outside the name box of the user defined template. The user defined imposition template with the new name is listed in the user defined imposition template list.

To delete an existing user defined imposition template:

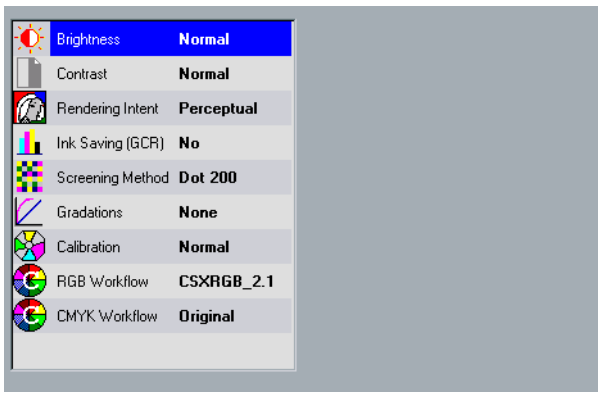
- In the *Template Manager* dialog box, select a user defined imposition template from the list and click the **Delete** button.

  Or:

- Right-click the user defined imposition template to delete and from the menu select **Delete**.
  The selected user defined imposition template is deleted.

Color Workflow

Color job parameters can be accessed through the **Color** tab of the *Job Parameters* window. The **Color** tab provides you with tone compression tools such as brightness, contrast and gradation, as well as color tools, including rendering intent, ink saving, and CMYK Workflow. In addition, you can select various screening methods for your job.



CSX2000 Color Server Color Tab

The tone compression tools and screening methods can be applied to your RTP jobs without requiring the CSX2000 Color Server to re-RIP the jobs. The color tools, however, should be applied prior to initial RIPping or your job will need to be re-RIPped.

CSX2000 Color Server Color Formats

The CSX2000 Color Server can accept the following color formats:

- RGB
- CMYK
- L a* b*
- Spot Color
- Greyscale
- Duotone

The Color Workflow

To submit jobs for color adjustment on the CSX2000 Color Server:

1. Download or spool your job from your client workstation to the CSX2000 Color Server. Or import the job from the CSX2000 Color Server workspace.

   For further details, refer to *Printing from Client Workstations on page 28* and *Printing from the CSX2000 Color Server on page 44*.

2. Double-click on the job in the CSX2000 Color Server workspace.

   For further details, refer to *Job Parameters Window on page 51*.

3. Select the **Color** tab in the *Job Parameters* window.
4. Adjust your required color parameters.
5. Click **Submit** to send your job to print. The job is processed on the CSX2000 Color Server and sent to the Xerox DocuColor 2060 / 2045 for printing.

Color Job Parameters

Brightness

With Brightness you control how light or dark your image will appear.

Lighter **Normal** **Darker**

Brightness is generally used to make last-minute adjustments to the print job after proofing.

- Select **Normal** to apply no brightness.

  Or:

- Move the slider to select your required brightness level for the print job.

The range starts from Light, which applies -15%, to Dark, which applies +15%.

Contrast

Contrast is the ratio between the light tones and the dark tones in an image. If you increase the contrast, highlights become lighter while shadows become darker.

Less **Normal** **More**

Contrast is generally used to make last-minute adjustments to the print job after proofing.

- Select **Normal** to apply no contrast.

  Or:

- Move the slider to select the contrast level for the print job.

The range starts from Less - which applies -10%, to More - which applies +10%.

Rendering Intent

All printers, monitors and scanners have a gamut or range of colors that they can output (or view in the case of a scanner). If a color needs to be output and is outside the gamut of the output device, it must be mapped or approximated to some other color, which exists within the gamut.

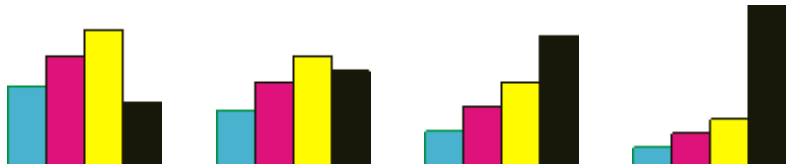
Rendering Intent allows compressing out-of-gamut colors into the color capability of the press you are using.

For information about the four Rendering Indent styles, refer to *Rendering Intent on page 79*.

Ink Saving (GCR)

Ink Saving GCR (Gray Component Replacement) replaces grays (of a certain percentage of C, M and Y) with Black, which affects the gray component of all colors.

This replacement conserves ink or toner and prevents the consequences of excessive toner buildup, such as flaking and cracking, or the curling effect that may occur when printing transparencies.



No GCR **Low GCR** **Medium GCR** **High GCR**

While the gray component of each color is replaced by black, there is no change in the color quality of the printed image.

- Select **No (360%)** in order not to use Gray Component Replacement and to use maximum toner coverage. You can not use GCR if you select original CMYK Workflow.

  Or:

- Select **Low (300%)**, **Medium (260%)**, or **High (220%)** to set the amount of CMY toners to be replaced by the black toner.

Notes:

1. Use **High** to provide low ink coverage while saving on toner (this prevents the occasional peeling of ink and the curling effect that may occur when printing transparencies).
2. The percentage figure to the right of each GCR level indicates the percentage of ink coverage, which is calculated by adding the percentages for C,M,Y and K. The theoretical maximum is 400%, but this is not achievable in practice.
3. Ink Saving (any combination of GCR) has no dependencies.

CMYK Workflow

CMYK Workflow is used to emulate various standards used in lithographic printing. These standards represent specific combinations of paper and ink, as well as popular proofing systems. It is also used to emulate other printing devices such as offset presses, or other digital printers.

- Select **None** (default) to keep CMYK files as is.

  Or:

- Select **SWOP** or **Fogra** from the drop-down list.

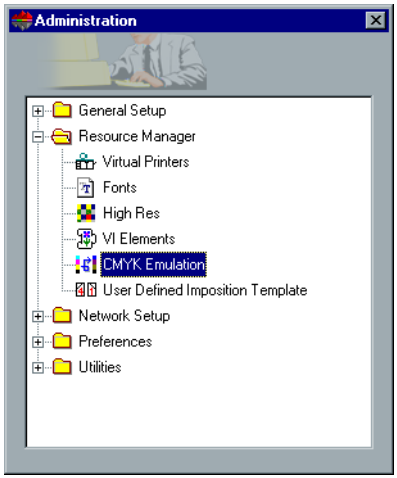
The CSX2000 Color Server supports LAB color profiles. The ICC (International Color Consortium) profiles imported to the system for CMYK Workflow should be based on CIE LAB values.

CMYK Emulation

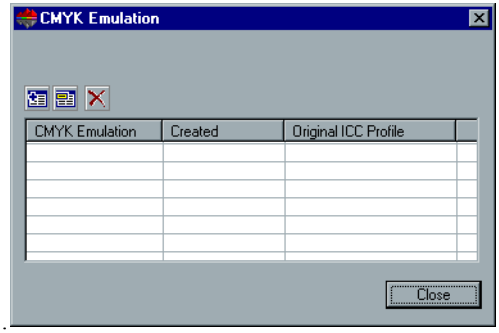
CMYK Emulation utility lets you create new CMYK emulations based on ICC profiles of various output devices and adding them to the CSX2000 Color Server pre-installed CMYK emulations. In addition, you can rename or delete existing emulations.

To add a CMYK emulation:

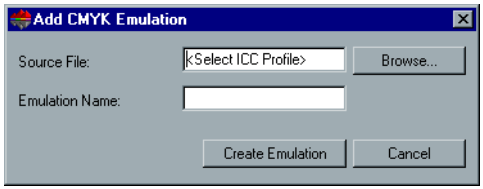
1. Access the *CMYK Emulation* dialog box via *Admin* > *Resource Manager* > *CMYK Emulation.*



The *CMYK Emulation* dialog box appears.



2. Click the **Add Color Emulation** button (the first button on the left). The *Add CMYK Emulation* window appears.



3. Click the **Browse** button to locate the ICC profile of the device you want to emulate.
4. Once a profile is selected, confirm or modify the emulation name and click the **Create Emulation** button. A new CMYK emulation transformation is created (based on the selected ICC profile) and listed in the CMYK emulation list in the *Job Parameters* window.

To rename an existing CMYK emulation:

1. In the *CMYK Emulation* window, select a CMYK emulation from the list and click the **Rename Emulation** button.
2. Type a new name for the emulation and click **OK**. The emulation with the new name appears is listed in the CMYK emulation list.

To delete an existing CMYK emulation:

- In the *CMYK Emulation* window, select a CMYK emulation from the list and click the **Delete Color Emulation** button. The emulation disappears from the CMYK emulation list.

Screening Method

The CSX2000 Color Server supports Dot and Stochastic screening. Screening is achieved by printing dots or lines in an evenly-spaced pattern. The distance between screen dots is fixed and the dot size varies according to the required strength of color.

Using screens, printers can work with even amounts of toner and still produce a wide range of colors. The darker the color, the larger the dot. In this manner screens are used to give the appearance of different toner quantities printed in a certain area.

The CSX2000 Color Server supports six types of screening:

Automatic applies two types of screens:
For CT, the system uses Dot type screen of 200 lpi.
For text / line-art elements, the system uses Dot type screen of 200 lpi for all colors below a system-preset threshold. It uses Line type screen of 600 lpi for colors that are equal to or higher than the system-preset threshold.
Automatic screening results in the printing of text and graphic shapes at Continuous Tone. Automatic screening is the recommended screening mode.

Dot 150 applies Dot type screen of 150 lpi. The screen of each separation is printed at a different angle.

Dot 200 applies Dot type screen of 200 lpi. The screen of each separation is printed at a different angle.

Line 200 applies Dot type screen of 200 lpi. The screen of each separation is printed at a different angle.

Line 300 applies Dot type screen of 300 lpi. All separations is printed at 90 degrees screen angle.

Line 600 applies Dot type screen of 600 lpi. All separations is printed at 90 degrees screen angle.

Gradation Tool

It is sometimes necessary to perform tone corrections when printing a job. These changes in gradation can include brightness, contrast and color balance adjustments throughout the tone range of an entire image, or in specific tone ranges.

The gradation tables you create on the CSX2000 Color Server are added to the Gradations job parameter in the **Color** Tab and may be applied to print jobs. The CSX2000 Color Server also lets you visually check the effect of your gradation tables on RTP jobs prior to printing.

With CSX2000 Color Server Gradation, you can apply the default gradation table or another pre-configured gradation table to a job. You can also edit an existing table and save your changes. Gradation is an interactive function and changes are automatically applied to the displayed image.

You can edit an existing gradation table, but you can not overwrite the default gradation table, DefaultGradTable.

- Select **None** so that Gradations is not applied.

  Or:

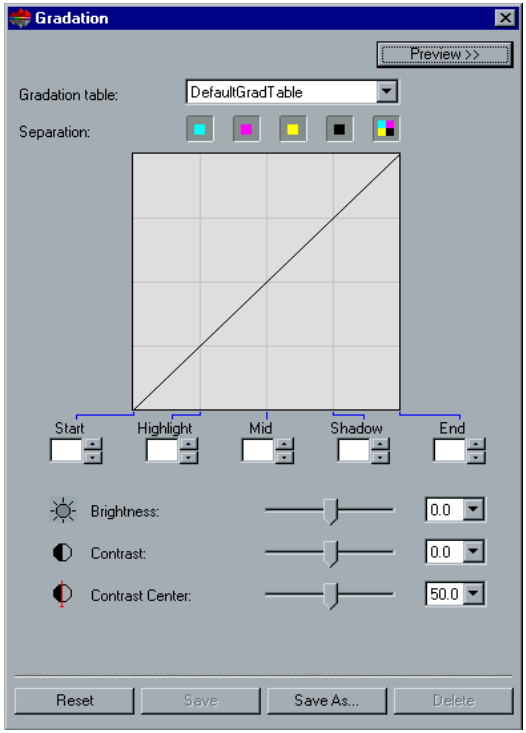
- Select a gradation table from the Gradations options drop-down list.

The Gradation Window

The *Gradation* window is used to create and edit gradation tables and to check the effect of your gradation tables on specific RTP jobs. These tables can then be applied during job processing to apply tailored gradations to your jobs.

To open the *Gradation* window:

➢ From the **Tools** menu, select **Gradation. . .**



The *Gradation* window appears.

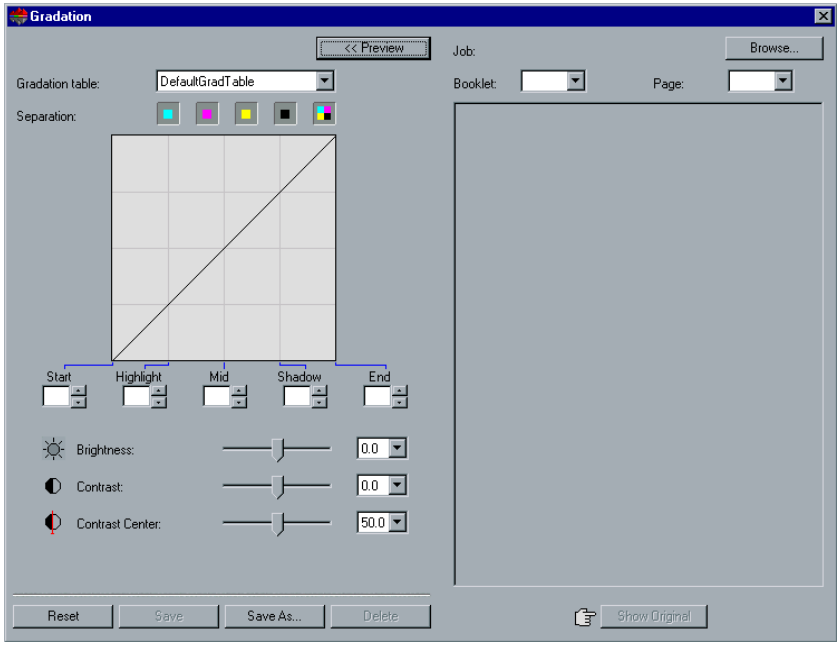
Preview Button

The **Preview** Button appears the *Gradation Preview* window. This window lets you view the effect of your Gradation table changes on a page from a specific RTP job.

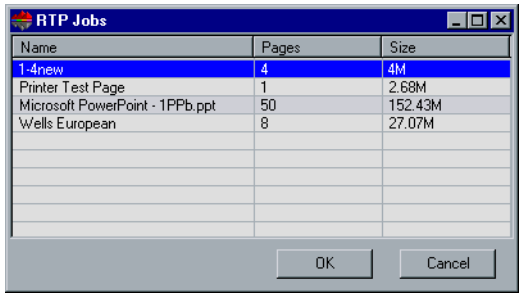
Notes:
1. Gradation is an interactive function. Gradation table changes are automatically applied to the displayed image.
2. The gradation table created is not automatically applied to the previewed job. You must use job parameters to assign a gradation table to a job.

To view the effects of gradation table changes on a page from an RTP job:

1. Click **Preview** to open the *Gradation* window:

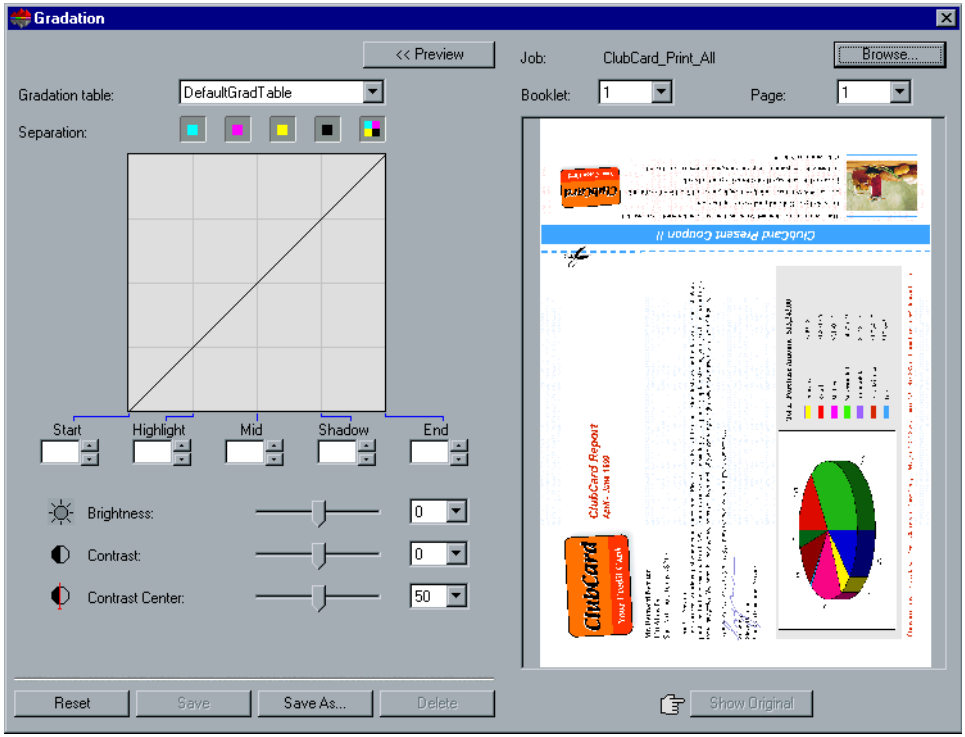


2. Click **Browse** to select a job to display in the preview window. The *RTP Jobs* window appears.



Jobs displayed are the RTP jobs listed in the Storage Folder.

3. Click on the RTP job to which you wish to modify.
   Click **OK**.
   The job appears in the *Gradations* window.



Notes:

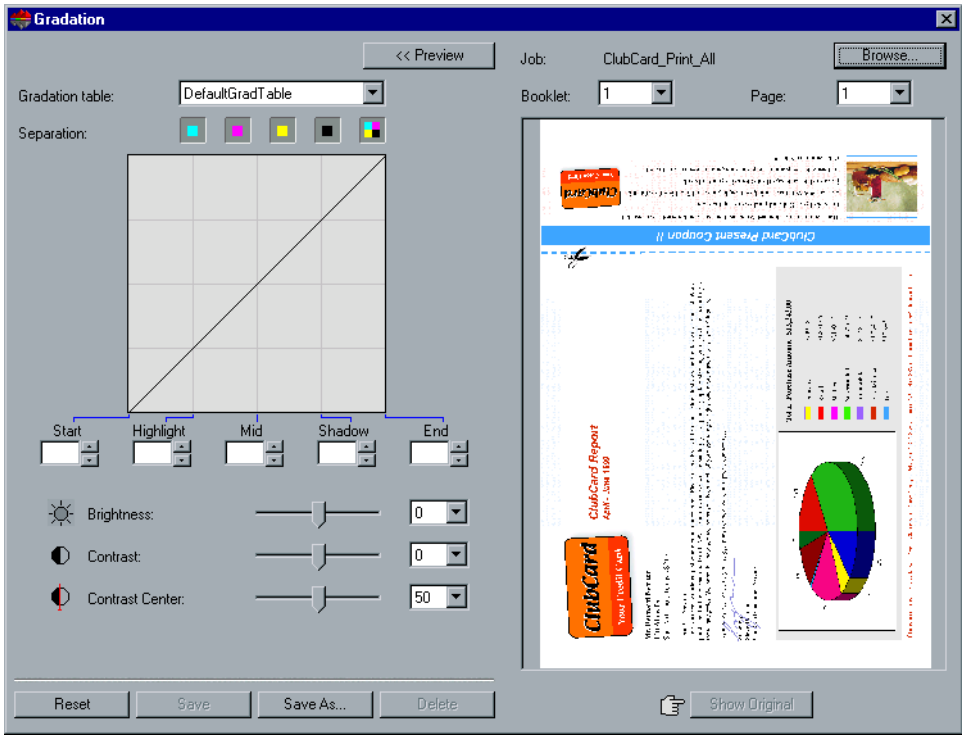
1. The job name is listed at the top of the Preview viewer.
2. Click **Browse** at any time to select a different RTP job on which to view the effects of gradation table changes

4. In the *Gradation* window, adjust your gradation table settings as required.

5. Click the **Show Original** button (located at the bottom of the *Gradation* window) to toggle back and forth between edited and unedited gradation table views.

6. To view the effects of your gradation table changes on a different page of the RTP job, select the page and booklet you wish to view from the drop-down lists at the top of the *Preview* window:

The selected page appears.



Gradation Table Box

Upon opening the *Gradation* window, the default gradation table DefaultGradTable is selected:

This table consists of a 45°-gradation curve, with Brightness and Contrast set to 0, Contrast Center set to 50 and all color separations selected.

If you have previously created or edited gradation tables:

➢ Select the required gradation table from the drop-down list.
For viewing and editing purposes, the preconfigured settings of the selected gradation table are immediately applied to the RTP job on which you are working.

For further details, refer to *Preview Button on page 183*.

Separation Box

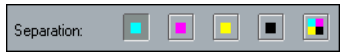
The **Separation** box is used to select the separations to be edited for a particular gradation table. You can select one, all, or any combination of separations. Selecting a specific separation and a specific gradation control lets you change the color balance for a specific tonal range.

The *Gradations* window appears with all separations selected:

This tools allows simultaneous editing of all separations.

To edit only one, or several separations:

1. Click  to clear all separations.
2. Click the individual separations you wish to edit (for example, select the cyan separation only):



3. Change the separation parameters using the Gradation controls.

For further details, refer to *Gradation Controls on page 188*.

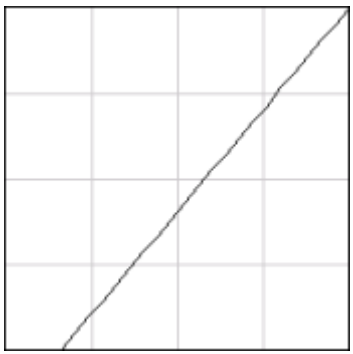
Your changes to gradation tables are immediately presented as changes to the gradation graph.

Gradation Controls

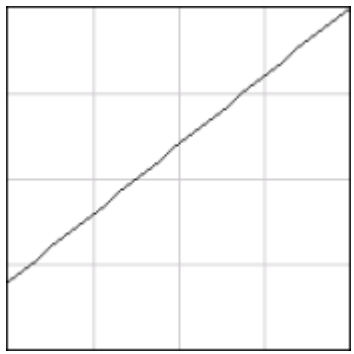
The gradation controls are used to adjust brightness in specific tone ranges.

The gradation controls are:

- Start
  Moves the point of origin of the gradation graph at the highlight end along the horizontal or vertical axis. This affects the image file from 0% dot to 100% dot, where the greatest change is at 0% dot.

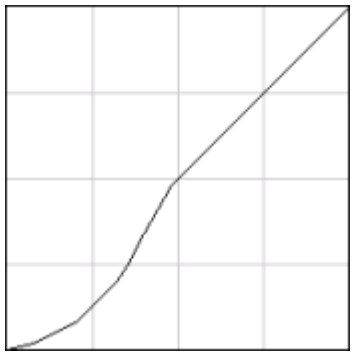


Start Point Low

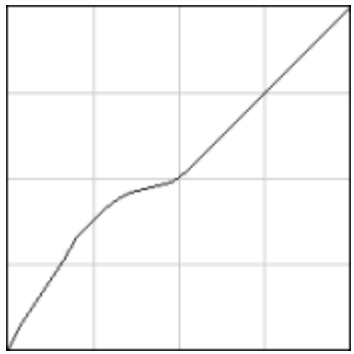


Start Point High

- Highlight
  Changes brightness mainly in the highlights. This affects the image file from 0% dot to 50% dot, where the greatest change is at 25% dot.

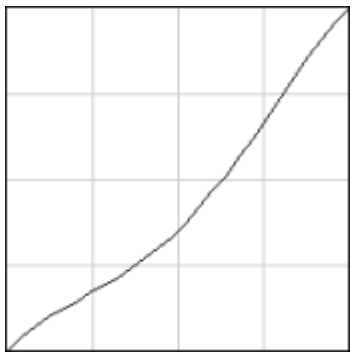


Highlight Low

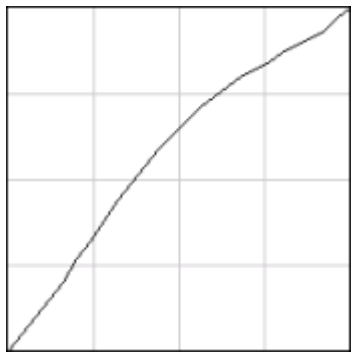


Highlight High

- Mid
  Changes brightness mainly in the midtones. This affects the image file from 15% dot to 85% dot, where the greatest change is at 50% dot.

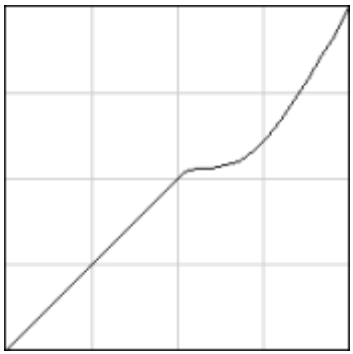


Mid Low

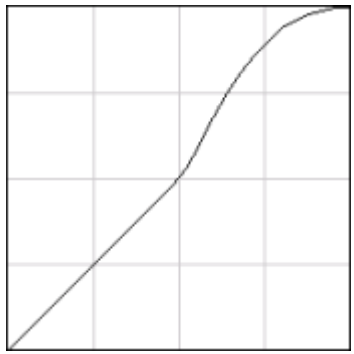


Mid High

- Shadow
  Changes brightness mainly in the shadows. This affects the image file from 50% dot to 100% dot, where the greatest change is at 75% dot.

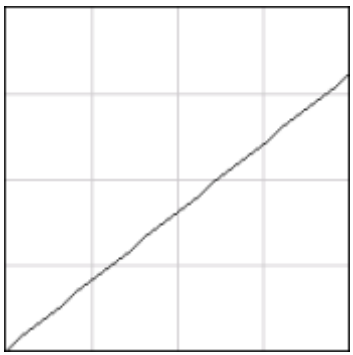


Shadow Low

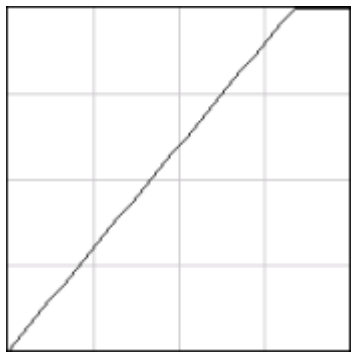


Shadow High

- End
  Moves the endpoint of the gradation graph at the shadow end along the horizontal or vertical axis. This affects the image file from 0% dot to 100% dot, where the greatest change is at 100% dot.



End Point Low



End Point High

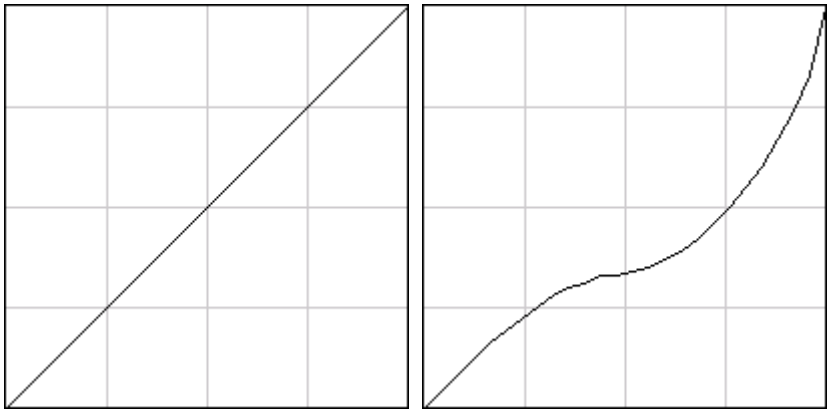
Click the arrow buttons to increase or decrease the graph value of the active separation(s) for a specified section of the graph.

If only one separation is active, the gradation values are listed, ranging from -50 to 50. If more than one separation is active, no gradation values are listed.

Changes to gradation tables are immediately presented as changes to the gradation graph.

Gradation Graph

CSX2000 Color Server gradation tables are represented visually in the *Gradation* window in the form of a graph:

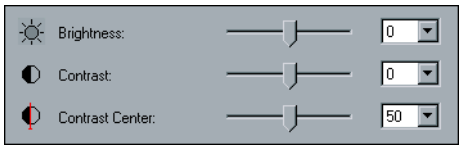


DefaultGradTable (input equals output) **Modified gradation graph**

The horizontal axis represents the tone values of the image before gradation changes (input). The vertical axis represents the tone values of the image after gradation changes (output). All four separations (CMYK) are shown, but if they have identical curves, the graphs appear as if there is only one curve.

Brightness and Contrast Slider Controls

The Brightness and Contrast slider controls are active only when all of the separations are selected.



Brightness

Brightness increases or decreases the luminance of the image. Increasing Brightness brightens the image and results in a concave curve. Decreasing Brightness darkens the image and results in a convex curve.

- Move the Brightness slider to the right to increase brightness or to the left to decrease brightness.

  Or:

- Click the arrow button to select a value from the drop-down list.

Contrast

Contrast increases the image contrast by making the highlights lighter and the shadows darker. It can also be used to decreases the contrast.

- Move the Contrast slider to the right to increase contrast (S shaped curve), or to the left to decrease contrast (inverted S shaped curve).

  Or:

- Click the arrow button to select a value from the drop-down list.

Contrast Center

Contrast increases the image contrast mainly in the midtones. Using Contrast Center, you can adjust where the contrast is increased. To enhance contrast in highlights, the Contrast Center is shifted toward the highlights. To enhance contrast in shadows, the Contrast Center is shifted toward the shadows.

- Set the image contrast, by adjusting the Contrast slider.

  Or:

  Set the Contrast Center slider to the right to enhance contrast in highlights, or to the left to enhance contrast in shadows.

  Or:

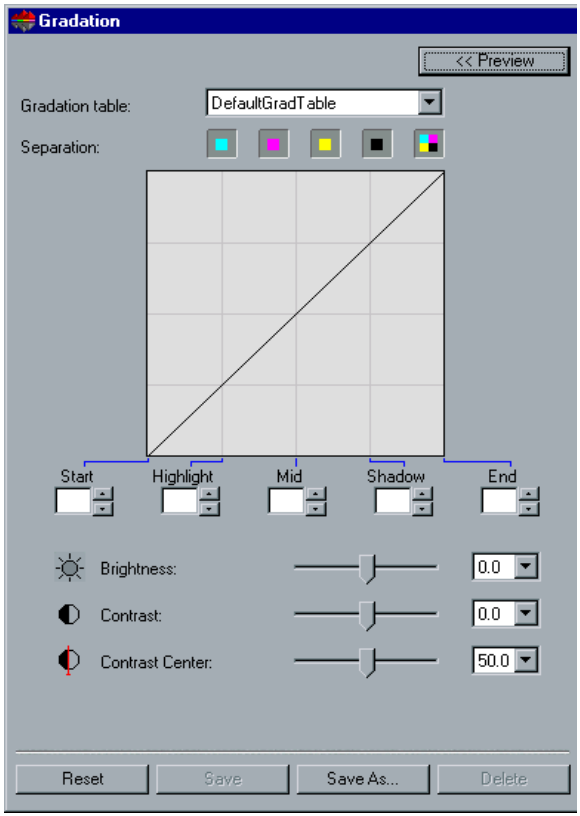
  Click the arrow button to increase or decrease the Contrast Center value. The Contrast Center value appears to right of the Contrast Center slider. Your change affects the gradation graph by moving the point where the curve changes from convex to concave.

Contrast Center only affects the image if Contrast has also been adjusted.

Organizing Gradation Tables

The *Gradation* window provides a number of options for organizing gradation tables, including Reset, Save, Delete and Save As.

If you work only with the default gradation table, the Reset and Save As options are activated. This option lets you use the default gradation table as a base on which to build and save new gradation tables. When you work on gradation tables other than the default table, **Save** and **Delete** also become active.



A gradation table other than DefaultGradTable.

The gradation organization options are:

- Click **Reset** to reset all *Gradation* window settings. The gradation curve is reset to a 45° line.
- Click **Delete** to delete the selected gradation table.

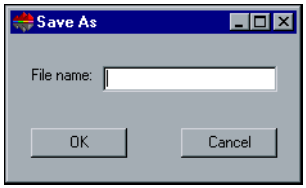
You can not delete the *DefaultGrad* table.

- Click **Save** to save the specified gradation settings.
- Click **Save As** to create new gradation tables by saving existing gradation tables with new names.

You can only save the default gradation table under a new name.

To create a new gradation table:

1. In the *Gradations* window, modify your gradation table as required.
2. Click **Save As**. The *Save As* window appears:



3. In the **File name:** box, type the required name for the new gradation table.
4. Click **OK**. The gradation table is saved with the entered name. Or click **Cancel** to return to the *Gradations* window without saving the gradation table.
   The saved gradation table is added to the *Gradation* window Table name drop-down list and to the Job Parameters Gradations drop-down list.

For further information, refer to *Gradations on page 85*.

Exiting the Gradations Window

To exit the *Gradations* window:

- Close the *Gradation* window and return to the CSX2000 Color Server workspace.

Calibration

The purpose of color calibration is to achieve a consistent level of color quality on a daily basis and to ensure that the quality achieved is maintained for each Xerox DocuColor 2060 / 2045 printer in use. The calibration process involves printing a CMYK chart, measuring the density of the CMYK strips, and calibrating them to a required target.

Your Xerox DocuColor 2060 / 2045 printer is color calibrated during installation. Simultaneously, it is calibrated with the CSX2000 Color Server. Subsequently, you can calibrate whenever you are not satisfied with the print quality.

The calibration process corrects printer colors by measuring a chart using one of the following Densitometers, which measure color density:

- The X-Rite DTP32 Densitometer (refer to *Connecting the X-Rite DTP32 Densitometer to the CSX2000 Color Server on page 197* and *Using the Printer Calibration Wizard with the X-Rite DTP32 on page 203*).
- The X-Rite DTP34 QuickCal Densitometer (refer to *Connecting, Configuring and Calibrating the X-Rite DTP34 QuickCal Densitometer on page 199* and *Using the Printer Calibration Wizard with the X-Rite DTP34 on page 216*).

Notes:

1. Calibration can be adjusted while printing is in progress.
2. Access Calibration tables through *Tools* > *Calibration* > *Edit. . .* (for the *Edit Calibration* window) and *Tools* > *Calibration* > *Info. . .* (for the *Density Graph* window).

Connecting, Configuring and Calibrating the X-Rite DTP32 Densitometer

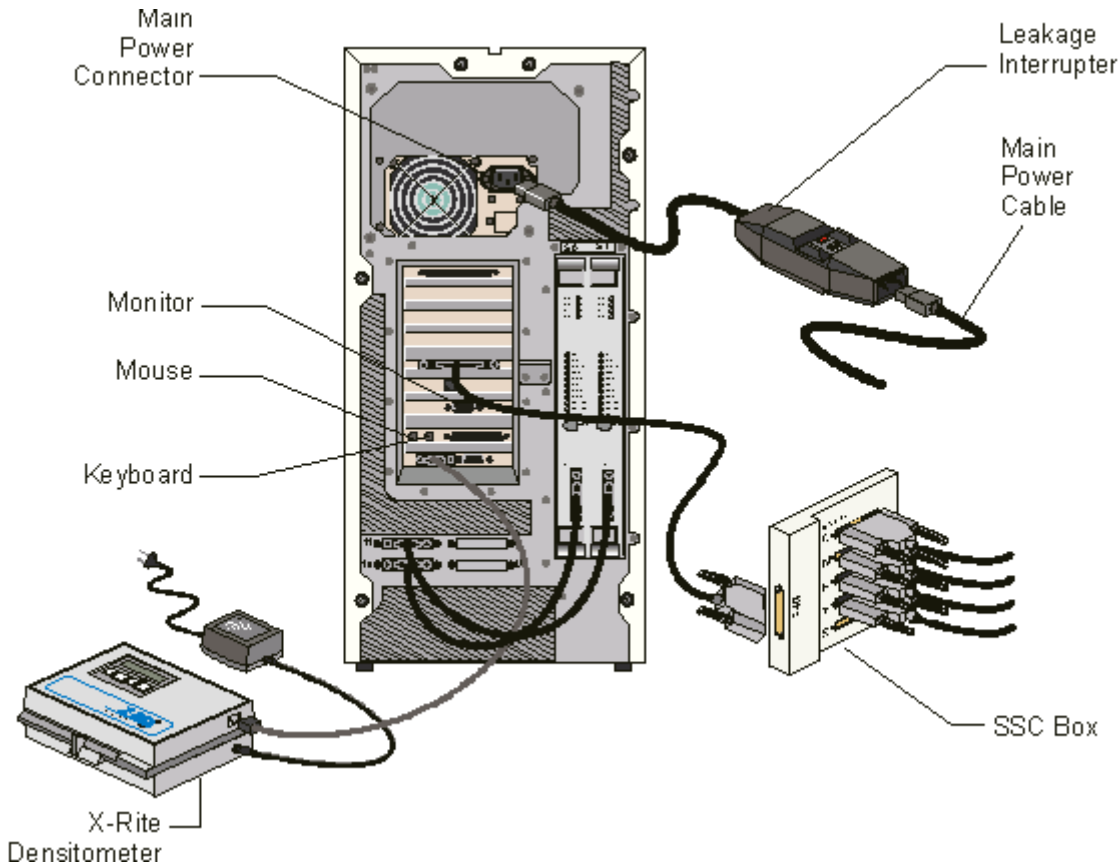
The X-Rite DTP32 Densitometer measures color density. Before using the X-Rite DTP32 Densitometer for the first time, perform the following:

Familiarize yourself with the X-Rite DTP32 Operations Manual contents:

- Connect the X-Rite DTP32
- Configure the X-Rite DTP32
- Calibrate the X-Rite DTP32

Connecting the X-Rite DTP32 Densitometer to the CSX2000 Color Server

1. Plug the square end of the interface cable into the I / O port on the side of the densitometer.
2. Attach the 9-pin connector, at the other end of the interface cable, to the COM1 port on the back of the CSX2000 Color Server.



3. Use the AC adapter (available from X-Rite) to connect to the power supply. Plug the small connector on the adapter cable in to the side of the X-Rite DTP32 Densitometer and plug the adapter into a power outlet.

Configuring the X-Rite DTP32 Densitometer

The X-Rite DTP32 Densitometer should be configured automatically after its connection to the CSX2000 Color Server. Configuration is performed across five screens, numbered p1 to p5. If you have any problems or errors while connecting to the densitometer, exit the application and type the following configuration settings on the X-Rite DTP32 Densitometer.

1. On the X-Rite, click the two buttons marked Menu at the same time. The words “MAIN MENU” appear in the display.
2. Press the p# key until p3 appears (the p# key is the left-most key).
3. Press the cnfg key.
4. Configure the X-Rite DTP32 (refer to *X-RiteColor DTP32 for QUICKAL Densitometer: Getting Started*).
   Once you set the above parameters, the X-Rite DTP32 is automatically configured.
5. Press the two left keys of the X-Rite DTP32 at the same time to save the settings you configured. The message “Configuration Settings Saved” appears.

Calibrating the X-Rite DTP32 Densitometer

1. On the X-Rite DTP32, click the two **Menu** buttons at the same time. The words MAIN MENU appear in the display.
2. Press the p# key until p2 appears.
3. Press the cal key. The word CALIBRATION appears in the display.
4. The words INSERT CAL STRIP should appear after a few minutes.

5. Insert the strip into the X-Rite DTP32 slot until the rollers start pulling it inside (refer to *X-RiteColor DTP32 for QUICKAL Densitometer: Getting Started*).
   The word READING flashes on the display, followed by the density values and the message CALIBRATION OK.
   If the message UNRECOGNIZABLE STRIP appears, try to clean the strip (refer to *X-RiteColor DTP32 for QUICKAL Densitometer: Getting Started*).
6. Repeat step #1.

You should calibrate the X-Rite DTP32 Densitometer once a day or as indicated by the densitometer.

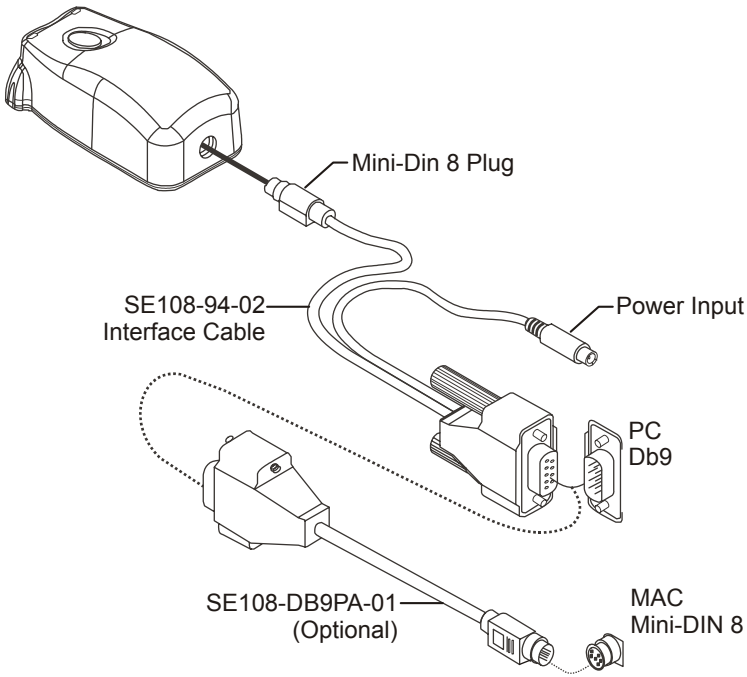
Connecting, Configuring and Calibrating the X-Rite DTP34 QuickCal Densitometer

The X-Rite DTP34 QuickCal Densitometer is a color measurement instrument that reports densitometric and dot data.

Before using the X-Rite DTP34 QuickCal Densitometer for the first time, perform the following:

- Familiarize yourself with the X-Rite DTP34 QuickCal Densitometer Operations Manual
- Connect the X-Rite DTP34 QuickCal Densitometer
- Calibrate the X-Rite DTP34 QuickCal Densitometer

Connecting the X-Rite DTP34 QuickCal Densitometer to the CSX2000 Color Server



The X-Rite DTP34 QuickCal Densitometer must be interfaced directly with one of the computer's serial ports.

Power is supplied to the X-Rite DTP34 QuickCal Densitometer when the Power Supply is plugged into the AC wall receptacle. The X-Rite DTP34 QuickCal Densitometer does not have an ON / OFF switch.

Configuring the X-Rite DTP34 QuickCal Densitometer

The LED indicates a variety of instrument operation conditions, such as calibration mode and operation. For a complete list of all conditions reported by the LED, refer to the X-Rite DTP34 QuickCal Densitometer Operations Manual.

Calibrating the X-Rite DTP34 QuickCal Densitometer

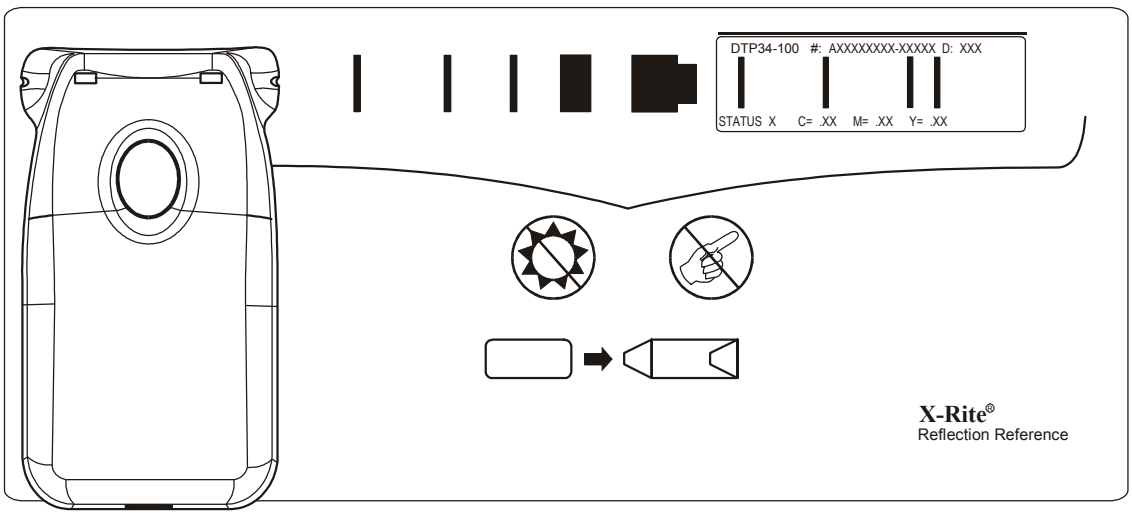
Frequency of Calibration

Your X-Rite DTP34 QuickCal Densitometer should have a Quick Calibration performed weekly. A full calibration should be performed annually, during heavy usage to provide accurate measurements, or if the Quick Calibration consistently fails. Typically, the host computer prompts for an instrument calibration (amber LED) when required but the process can be invoked manually at any time. Refer to the following procedure for details on the calibration process.

Positioning the Instrument on the Calibration Reference

Handle the reflection reference by the edges. Make sure that the reflection reference is free of dust, dirt and smudgemarks. To obtain the most accurate calibration, hold the instrument with consistent and nominal pressure during the calibration process.

Position the instrument on the designated location of the reflection reference (indicated by a dotted outline of the instrument). Do not move the instrument more than 0.25" (6.35mm) before reading the strip.



Quick Calibration

A quick calibration can be performed at any time. The only required action is to scan the reflection reference as you would with any other strip. A quick calibration should only be performed after a full calibration has been done. The instrument comes from the factory with a full calibration already stored.

1. Position the X-Rite DTP34 QuickCal Densitometer on the reference as previously mentioned.
2. Press and click the button and scan the reference to the opposite end. Release the button. The LED should indicate green if calibration was successful. If calibration fails (fast flashing amber LED), verify the strip is clean and re-read.
3. Place the reflection reference in its protective envelope and store away from light and heat.

Full Calibration

If the host computer initiated calibration (amber LED), skip to step 2.

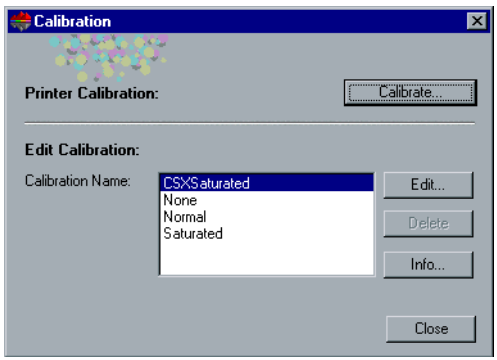
1. To manually invoke the calibration mode, click and hold the **Instrument** button for a minimum of three seconds. The LED slowly flashes amber when calibration is initiated.
2. Press and hold the button (if not previously held) and scan the reference to the opposite end. Release the button. The LED should indicate green if calibration was successful. If calibration fails, (fast flashing amber LED), verify the strip is clean and re-read.
3. Place the reflection reference in its protective envelope and store away from light and heat.

Using the Printer Calibration Wizard with the X-Rite DTP32

The *Calibration* window lets you create and edit calibration tables, either through an automatic process or by editing an existing calibration table. The system automatically identifies which device is connected and if the device is currently working with the X-Rite DTP32.

To open the *Calibration* window:

1. From **Tools** menu, select **Calibration. . .**



   The *Calibration* window appears.

2. Click **Calibrate** to run the Printer Calibration Wizard. This Wizard guides you in the use of the X-Rite DTP32 to create calibration tables.

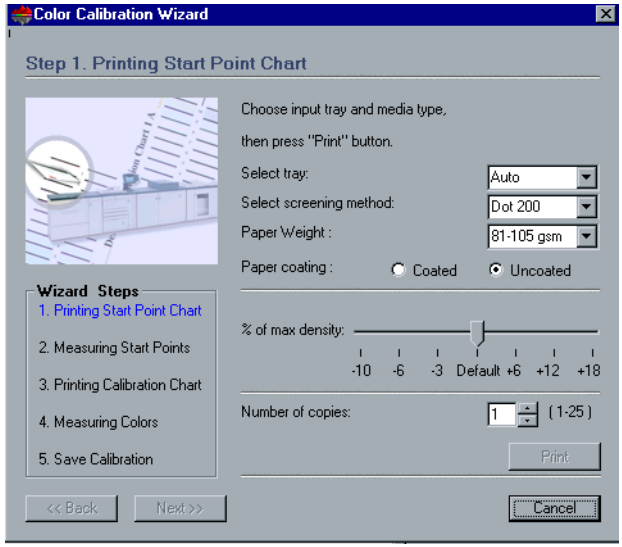
   Or:

   Select the Calibration LUT. Then select one of the below options:

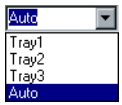
   - Click **Edit** to edit a calibration table. Select the calibration table to edit from the Calibration Name drop-down list.
   - Click **Delete** to delete a calibration table.
   - Click **Info** for the Density Graph.
   - Click **Close** to end a test job and close the *Calibration* dialog box.

To run the Printer Calibration Wizard:

1. In the *Calibration* window, click **Calibrate**.
   The *Color Calibration Wizard* dialog box appears at the *Printing Start Point Chart* screen.
   This step, in the *Color Calibration Wizard* dialog box, prints the Start Point Density calibration chart.

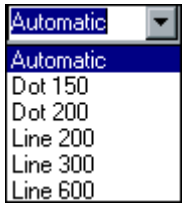


2. Select the required input tray from the drop-down list.



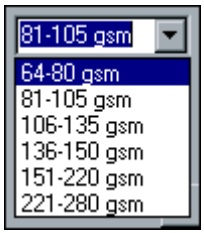
The Wizard checks for Letter or A4 LEF paper (for more information, refer to *Template Orientation on page 401*). If a particular paper size / quality is required, then select the relevant tray.
Calibration charts can be printed on any paper size, including custom sizes. In case of small paper size (less than Letter / A4), each calibration chart is printed on two separate sheets. If a large size is selected, the calibration charts are printed close to the edge of the paper, allowing the operator to measure them without difficulty. When Auto is selected, the Wizard selects the first tray containing either letter or A4 paper. If the correct paper is not found, the following message appears:

3. Refill the selected tray with the required paper and select the tray again from the drop-down list.
4. Select the required screening method from the drop-down list:



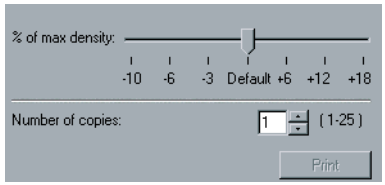
Refer to *Screening Method: Printing a Catalog with Dot Type Screen of 200 lpi on page 253*.

5. Select the required paper weight from the drop-down list:



6. Select whether to print on **Coated** or **Uncoated** paper stock.

7. Select **% of max density** using the slider, which defines color saturation. The higher the number, the more saturated the color.



When you shift the slider from the default position, your spot colors may also be effected. In this case, edit specific spot colors using the Spot Color Editor (*Tools > Spot Color Editor. . .*).

8. Select the required number of copies from the drop-down list:

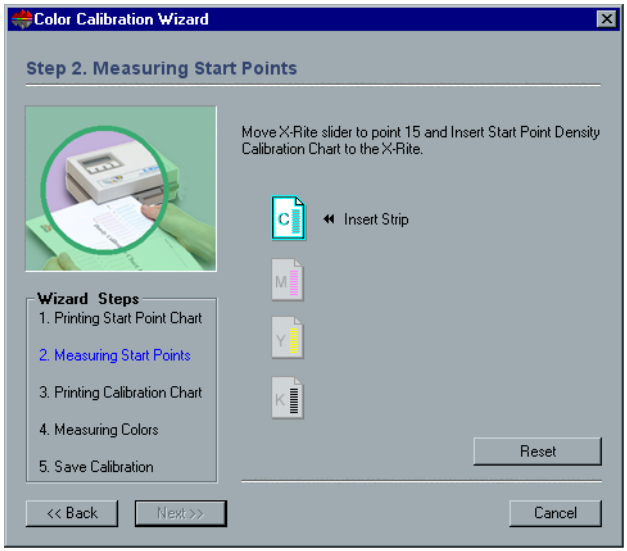
The Xerox DocuColor 2060 / 2045 printer achieves its best marking performance after printing several initial pages, particularly following cold starts. Print the first calibration charts in a multiple copies and to use one of the last charts printed. Set and print up to 25 copies of the Start Point charts to reach the best color performance.

9. Click **Print**. The Xerox DocuColor 2060 / 2045 printer prints a Start Point Density calibration chart. Collect the chart from the printer.

After you click **Print Chart**, the **Next** button is activated. Wait until your chart is printed before clicking **Next**.

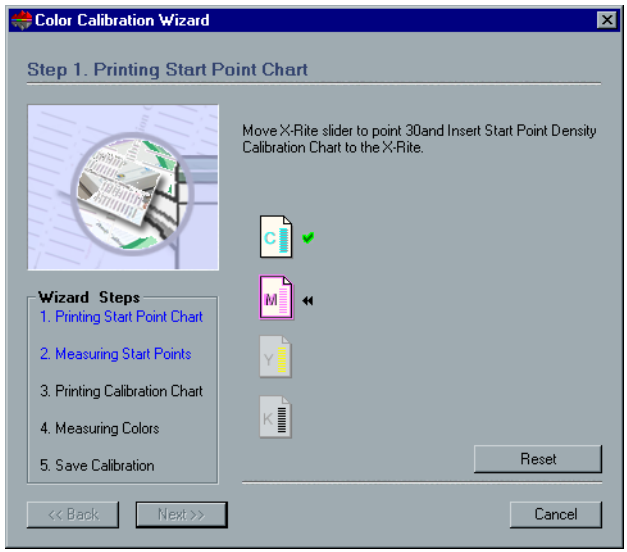
10. Click **Next**. Step 2 of the *Color Calibration Wizard* dialog box appears:

Measuring Start Points



1. Shift the X-Rite slider to point 15.
2. Shift the Insert Point Density Calibration Chart to the X-Rite.
3. Insert the Start Points density calibration chart into the X-Rite autoscan densitometer as shown in the illustration below. Begin with the cyan column.

4. The chart is drawn through the X-Rite DTP32 and scanned. A beep sounds when the scan is complete. A check mark appears beside the cyan icon and instructions appear for the next insertion of the chart.



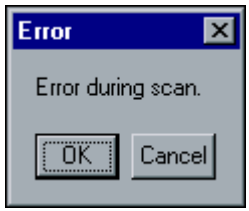
5. After each insertion of the chart, wait for the check mark to appear in the appropriate box and follow the instructions as listed.

Ensure that the separation columns on the Continuous Tone chart are scanned in the order they appear in the icons: Cyan > Magenta > Yellow > Black.

6. When all of the separation columns have been successfully scanned, the icons are all checked:

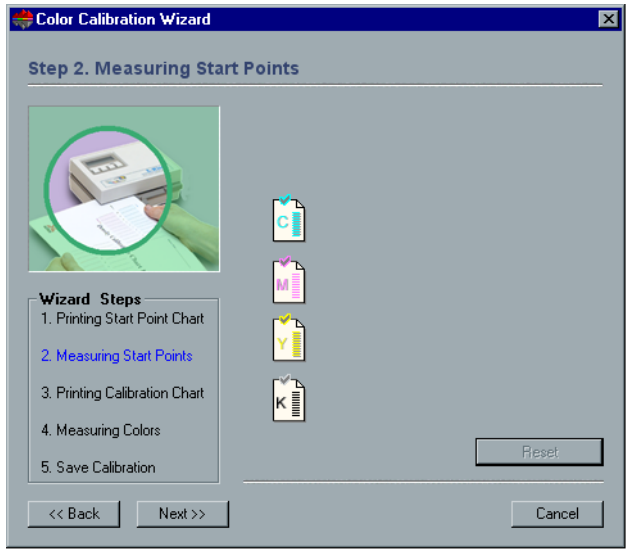
If at any stage the scanning has not been completed properly, click **Reset** and scan again.

7. If an error occurs during the scan, the *Error* window appears:

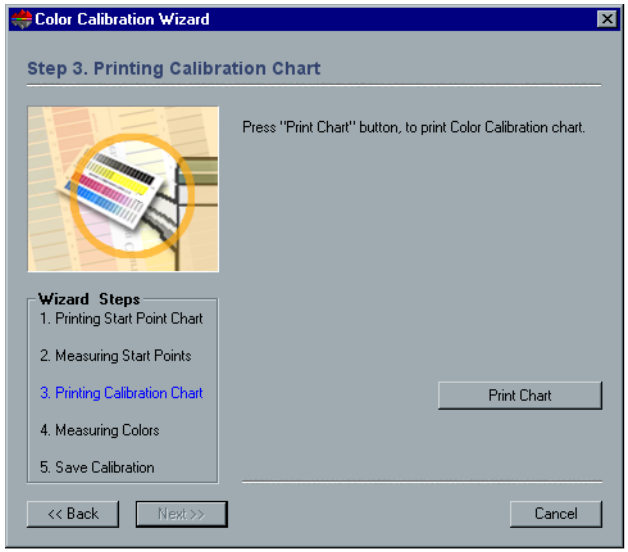


8. Click **OK** and re-scan the chart.

9. If at any time during your scan sequence, you would like to scan again, click the **Reset** button.
10. When all four columns of the chart have been successfully scanned, **Next** becomes active.
11. Click **Next**. Step 3 of the Color Calibration Wizard appears:



Print Calibration Chart

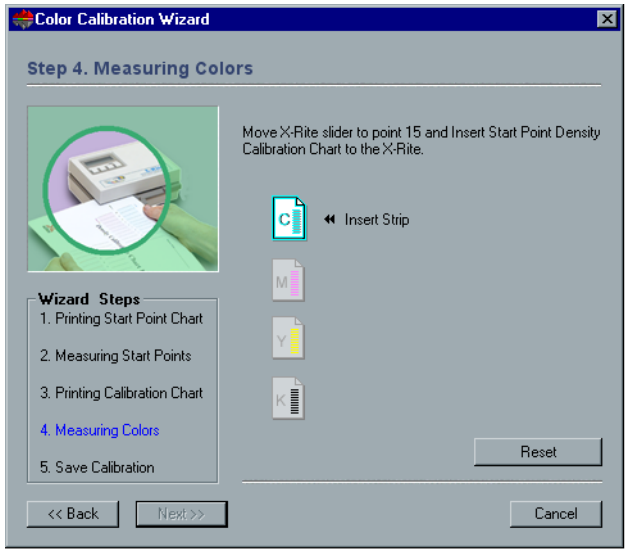


1. Click **Print Chart**.

   If automatic screening has been selected in Step 1 of the Wizard, the Xerox DocuColor 2060 / 2045 prints two charts, an Image Density calibration chart and a Text / Line Art chart. If any other screening method has been selected, only the Image Density calibration chart is printed.

2. Collect the chart(s) from the printer.
3. Click **Next>>**. Step 4 of the Color Calibration Wizard appears:

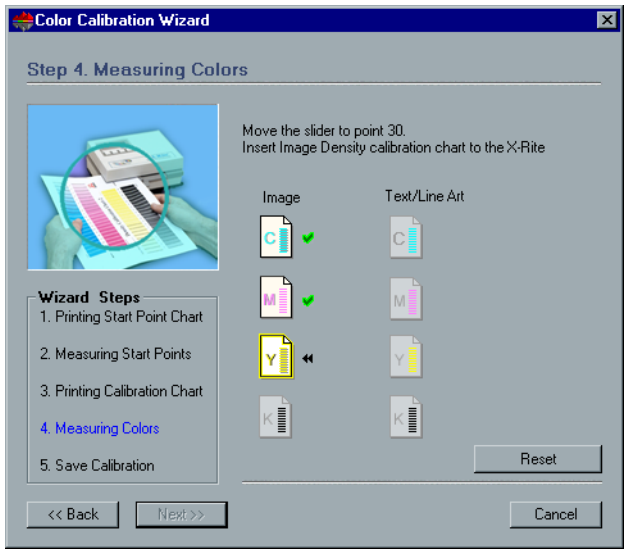
Measuring Colors



1. Insert the Image Density calibration chart into the X-Rite autoscan densitometer as shown in the illustration below. Begin with the cyan column.

If Automatic Screening was selected in Step 1 of the Wizard, then insert the Text / Line Art after you are finished scanning the Image Density Calibration chart. Follow the same scan sequence. Begin each chart with the cyan column.

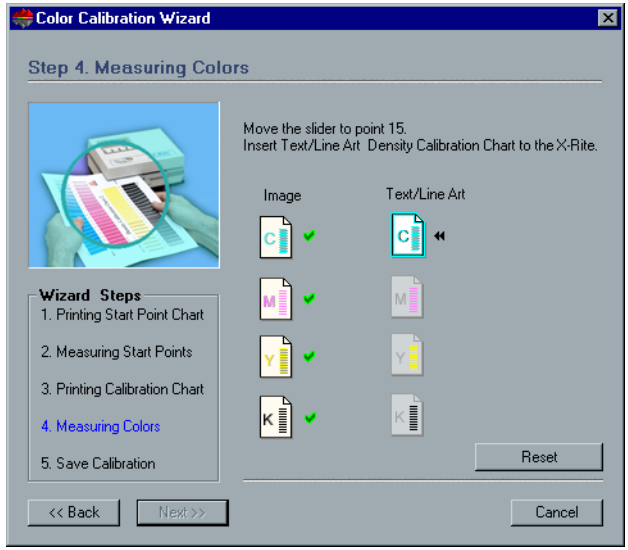
2. The chart is drawn through the X-Rite DTP32 and scanned. A beep sounds when the scan is complete. A check mark appears beside the cyan icon and instructions appear for the next insertion of the chart:



3. After each insertion of the chart, wait for the check mark to appear in the appropriate box and follow the instructions as listed.

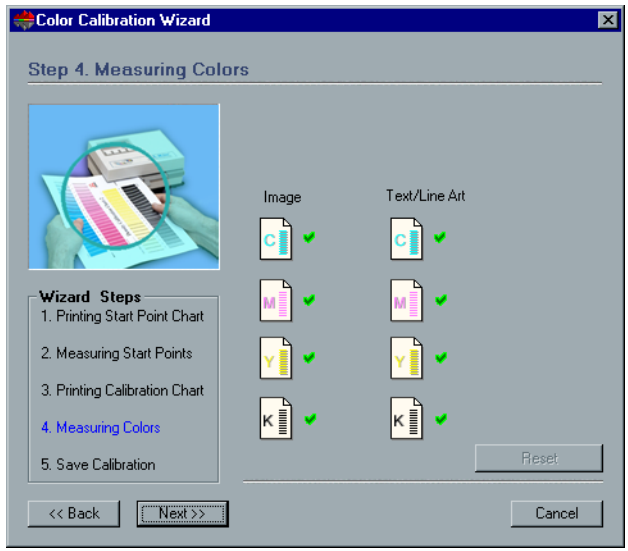
Ensure that the separation columns on the Image Density chart are scanned in the order they appear in the icons: Cyan > Magenta > Yellow > Black.

4. If **Automatic Screening** was selected in Step 1 of the Wizard, the second row of check boxes is selected once the Image Density calibration chart has been scanned.



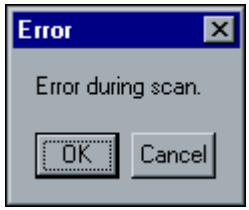
5. Insert the Text / Line Art chart for the same scan sequence.

After the LW Density black separation is scanned and the beep is heard, it can take several seconds until the check mark appears in the box.



If at any stage the scanning has not been completed properly, click **Reset** and scan again.

6. If an error occurs during the scan, the *Error* window appears:

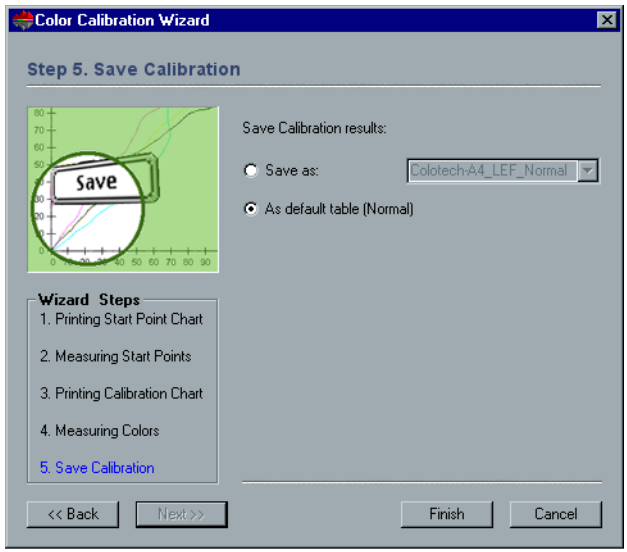


7. Click **OK** and re-scan the calibration chart.
8. If at any time during your scan sequence, you would like to scan again, click **Reset**.
9. When all four columns of the chart have been successfully scanned, **Next** becomes active.

After scanning the K column, it can take some time for the checkmark to appear next to the K icon.

10. Click **Next**. Step 5 of the Color Calibration Wizard appears:

Save Calibration



1. In the **Save as:** box, select the required name for the calibration table. Type your own or select one from the drop-down list.

   Or:

2. Select **As default table (Normal)**. The calibration table is saved as Normal.
3. Click **Finish**. The calibration table is saved.

Access Calibration tables through *Tools* > *Calibration* > *Edit. . .* (for the *Edit Calibration* window) and *Tools* > *Calibration* > *Info. . .* (for the *Density Graph* window).

When you save your calibration tables, the CSX2000 Color Server actually saves your calibration table twice, as Normal and as Saturated.

- **Normal**
  The table is balanced throughout the entire range.
- **Saturated**
  The table is balanced through 80% of the tone range. From 80% onwards, all separations are balanced independently. Each separation is calibrated to the maximum density the printer can produce.
  For example, if a calibration table is saved with the name “New”, it is saved both as “New” and as “NewSat”.

To save calibration tables:

1. In the **Save as:** box, type the required name for the calibration table.
2. Or select As default table. The calibration table is saved as Normal and Saturated.
3. Click **Finish**. The calibration table is saved.

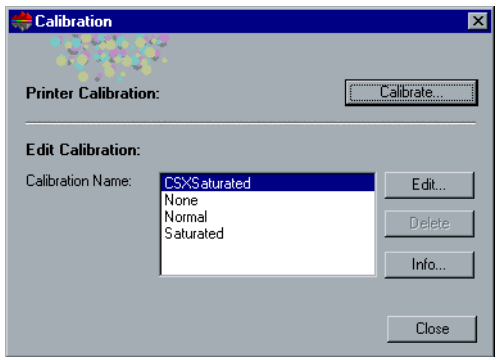
Access Calibration tables through *Tools* > *Calibration* > *Edit. . .* (for the *Edit Calibration* window) and *Tools* > *Calibration* > *Info. . .* (for the *Density Graph* window).

Using the Printer Calibration Wizard with the X-Rite DTP34

The *Calibration* window lets you create and edit calibration tables, either through an automatic process or by editing an existing calibration table. This Wizard guides you in the use of the X-Rite DTP34 to create calibration tables.

To open the *Calibration* window:

1. From **Tools** menu, select **Calibration. . .**



The *Calibration* dialog box appears:

2. Click **Calibrate** to run the Printer Calibration Wizard. This Wizard guides you in the use of the X-Rite DTP34 to create calibration tables.

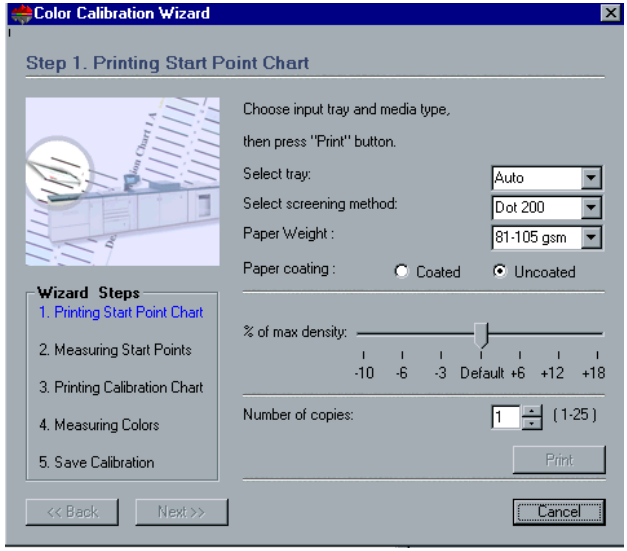
   Or:

   Select the Calibration LUT. Then select one of the below options:

   - Click **Edit** to edit a calibration table. Select the calibration table to edit from the Calibration Name drop-down list.
   - Click **Delete** to delete a calibration table.
   - Click **Info** for the Density Graph.
   - Click **Close** to end a test job and close the *Calibration* dialog box.

To run the Printer Calibration Wizard:

1. In the *Calibration* window, click **Calibrate**.
2. The *Color Calibration Wizard* dialog box appears at the *Printing Start Point Chart* screen. The Color Calibration Wizard appears with the following message: “Please calibrate the DTP-34, using the ‘X-Rite Reflection Reference’ calibration strip, before clicking **Print**. Click **OK** to continue.
   This step, in the *Color Calibration Wizard* dialog box, prints the Start Point Density calibration chart.

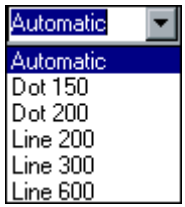


3. Select the required input tray from the drop-down list:

The Wizard checks for Letter or A4 LEF paper. If a particular paper size / quality is required, then select the relevant tray.

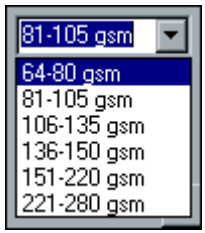
Calibration charts can be printed on any paper size, including custom sizes. In case of small paper size (less than Letter / A4), each calibration chart is printed on two separate sheets. If a large size is selected, the calibration charts are printed close to the edge of the paper, allowing the operator to measure them without difficulty.
When Auto is selected, the Wizard selects the first tray containing either letter or A4 paper. If the correct paper is not found, the following message appears:

4. Refill the selected tray with the required paper and select the tray again from the drop-down list.
5. Select the required screening method from the drop-down list:



Refer to *Screening Method: Printing a Catalog with Dot Type Screen of 200 lpi on page 253*.

6. Select the required paper weight from the drop-down list:



7. Select the required number of copies from the drop-down list:

The Xerox DocuColor 2060 / 2045 printer achieves its best marking performance after printing several initial pages, particularly following cold starts. Print the first calibration charts in a multiple copies and to use one of the last charts printed. Set and print up to 25 copies of the Start Point charts to reach the best color performance.

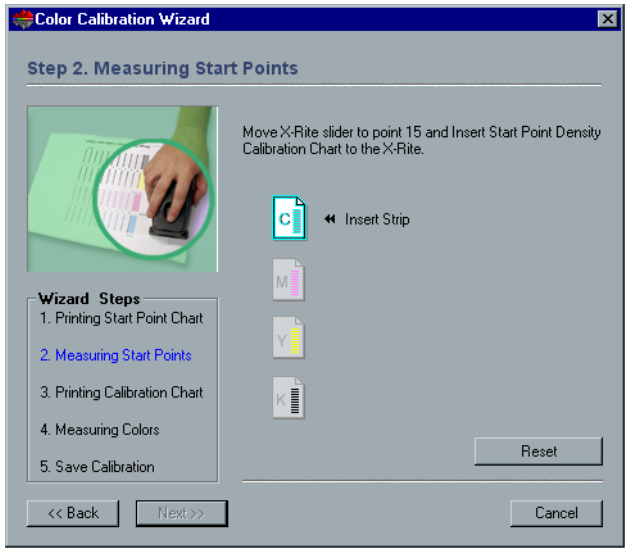
8. Select whether to print on **Coated** or **Uncoated** paper stock.

9. Click **Print**. The Xerox DocuColor 2060 / 2045 printer prints a Start Point Density calibration chart. Collect the chart from the printer.

After you click **Print Chart**, **Next** is activated. Wait until your chart is printed before clicking **Next**.

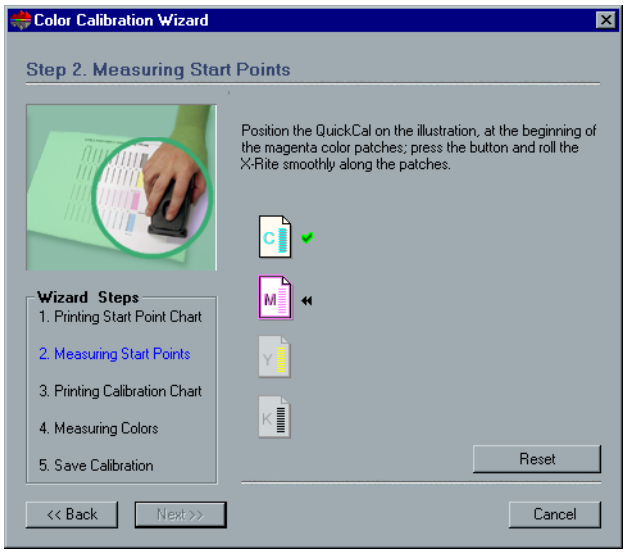
10. Click **Next**. Step 2 of the Color Calibration Wizard appears:

Measuring Start Points



1. While pressing down the button on the X-Rite DTP34, align the X-Rite DTP34's head with the cyan arrow's tip. The arrow is to the left of the cyan column on the Image Density Calibration Curve. Its tip intersects the semi-dotted line.
2. Press the button on the X-Rite DTP34.
3. Sweep the X-Rite DTP34 over the cyan column.

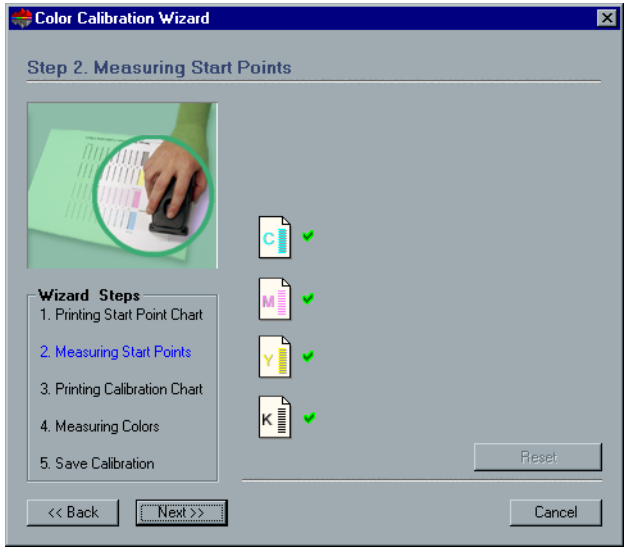
4. A beep sounds when the scan is complete. A check mark appears over the cyan icon and instructions appear for the next sweep, this time for the magenta column.



5. After each sweep, wait for the check mark to appear over the appropriate icon and follow the instructions as listed.

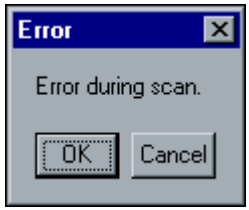
Ensure that the separation columns on the Continuous Tone chart are scanned in the order they appear in the icons: Cyan > Magenta > Yellow > Black.

6. When all of the separation columns have been successfully scanned, the icons are all checked:



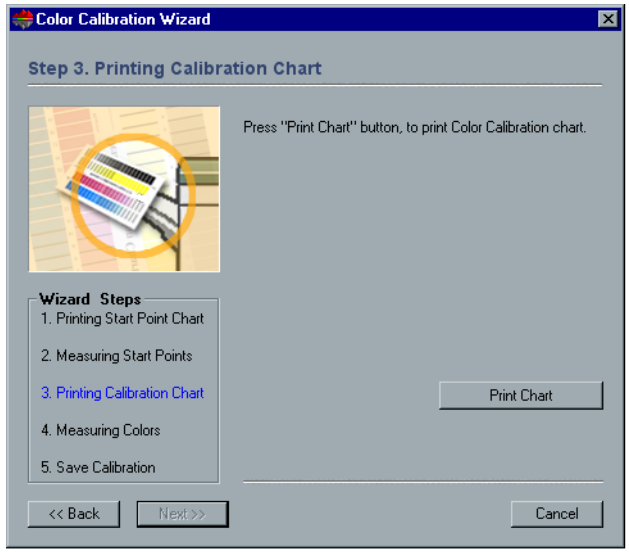
If at any stage the scanning has not been completed properly, click **Reset** and scan again.

7. If an error occurs during the scan, the *Error* window appears:



8. Click **OK** and re-scan the chart.
9. If at any time during your scan sequence, you would like to scan again, click the **Reset** button.
10. When all four columns of the chart have been successfully scanned, **Next** becomes active.
11. Click **Next**. Step 3 of the Color Calibration Wizard appears:

Print Calibration Chart

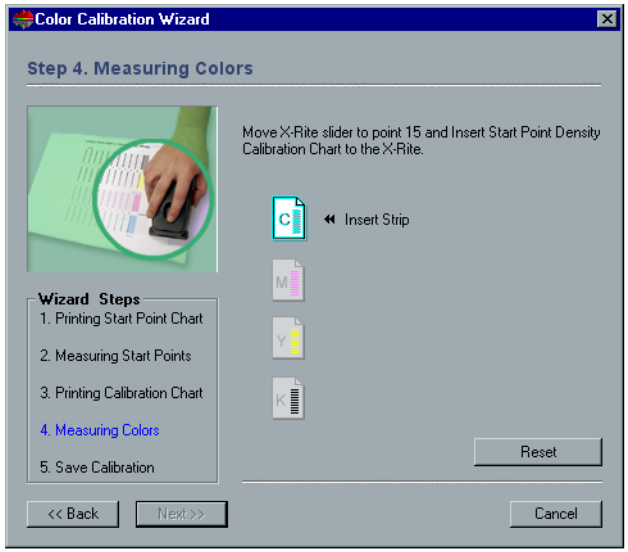


1. Click **Print**.

   If automatic screening has been selected in Step 1 of the Wizard, the Xerox DocuColor 2060 / 2045 prints two charts, an Image Density calibration chart and a Text / Line Art chart. If any other screening method has been selected, only the Image Density calibration chart is printed.

2. Collect the chart(s) from the printer.
3. Click **Next**. Step 4 of the Color Calibration Wizard appears:

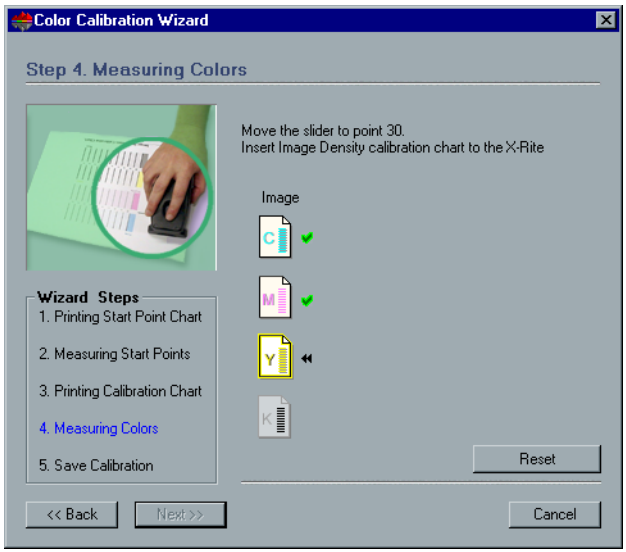
Measuring Colors



1. Position the X-Rite DTP34 over the Image Density calibration chart and follow the scan sequence as prompted.

If Automatic Screening was selected in Step 1 of the Wizard, then insert the Text / Line Art after you are finished scanning the Image Density Calibration chart. Follow the same scan sequence. Begin each chart with the cyan column.

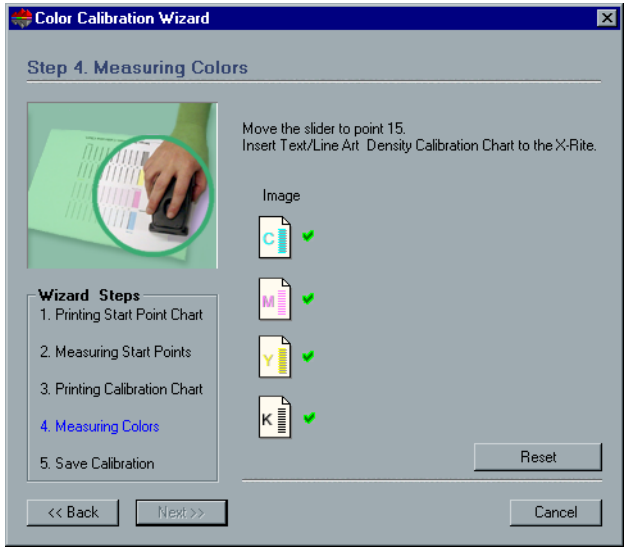
2. A beep sounds when the scan is complete. A check mark appears over the cyan icon and instructions appear for scanning of the next column:



3. After each scan, wait for the check mark to appear over the appropriate icon and follow the instructions as listed.

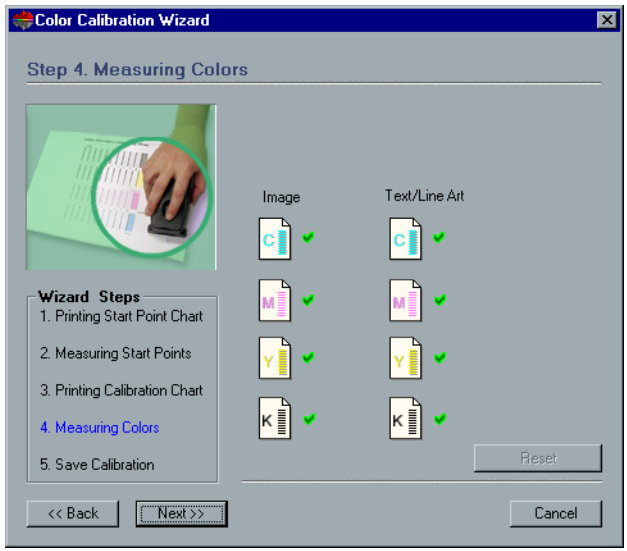
Ensure that the separation columns on the Image Density chart are scanned in the order they appear in the icons: Cyan > Magenta > Yellow > Black.

4. If **Automatic Screening** was selected in Step 1 of the Wizard, the second row of check boxes is selected once the Image Density calibration chart has been scanned.



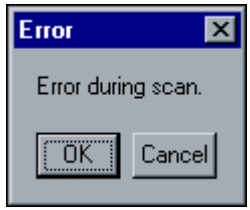
5. Insert the Text / Line Art chart for the same scan sequence.

After the LW Density black separation is scanned and the beep is heard, it can take several seconds until the check mark appears in the box.



If at any stage the scanning has not been completed properly, click **Reset** and scan again.

6. If an error occurs during the scan, the *Error* window appears:

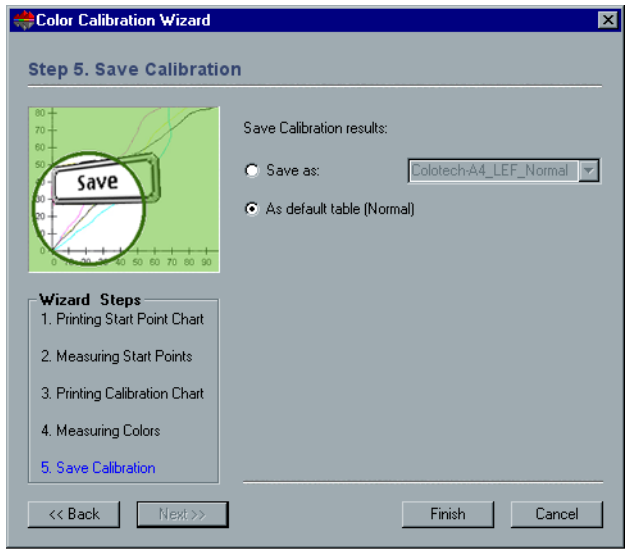


7. Click **OK** and re-scan the calibration chart.
8. If at any time during your scan sequence, you would like to scan again, click the **Reset** button.
9. When all four columns of the chart have been successfully scanned, **Next** becomes active.

After scanning the K column, it can take some time for the checkmark to appear next to the K icon.

10. Click **Next**. Step 5 of the Color Calibration Wizard appears:

Save Calibration



1. In the **Save as:** box, choose the required name for the calibration table. Type your own or select one from the drop-down list.

   Or:

2. Select **As default table (Normal)**. The calibration table is saved as Normal.
3. Click **Finish**. The calibration table is saved.

Access Calibration tables through *Tools* > *Calibration* > *Edit. . .* (for the *Edit Calibration* window) and *Tools* > *Calibration* > *Info. . .* (for the *Density Graph* window).

When you save your calibration tables, the CSX2000 Color Server actually saves your calibration table twice, as Normal and as Saturated.

- **Normal**
  The table is balanced throughout the entire range.
- **Saturated**
  The table is balanced through 80% of the tone range. From 80% onwards, all separations are balanced independently. Each separation is calibrated to the maximum density the printer can produce.
  For example, if a calibration table is saved with the name “New”, it is saved both as “New” and as “NewSat”.

To save calibration tables:

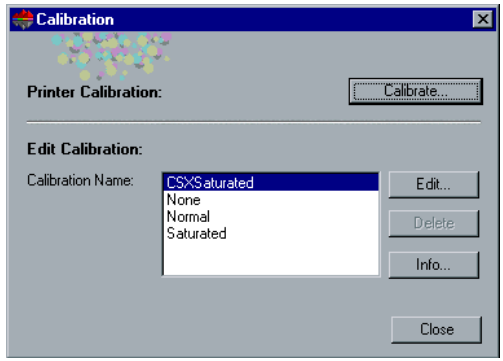
1. In the **Save as:** box, type the required name for the calibration table.
2. Or select As default table. The calibration table is saved as Normal and Saturated.
3. Click **Finish**. The calibration table is saved.

Access Calibration tables through *Tools* > *Calibration* > *Edit. . .* (for the *Edit Calibration* window) and *Tools* > *Calibration* > *Info. . .* (for the *Density Graph* window).

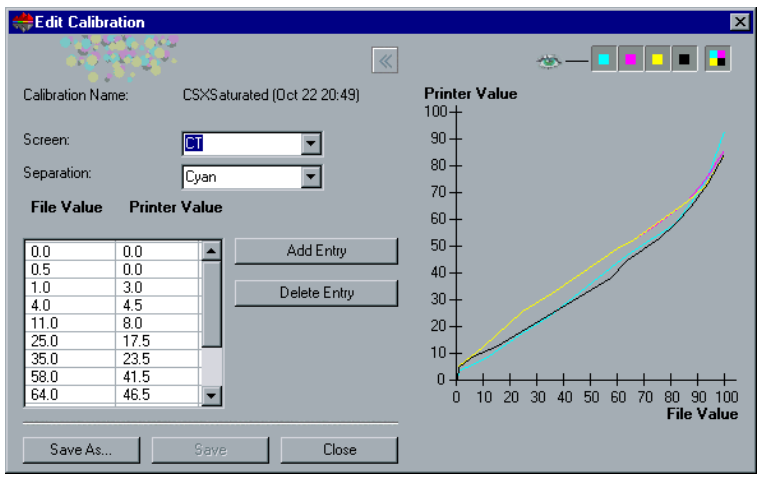
Editing Calibration Tables

To edit a calibration table:

1. In the Calibration screen, under Calibration Name, select the table to edit. Then click **Edit**.



The *Edit Calibration* window appears.



Screen

In Step 1. Printing Start Point Chart of the *Color Calibration Wizard* screen, select a screening method. Upon choosing the **Automatic** screening method, in Step 2. Measuring Start Points you receive information for both CT (on the left) and LW. Any other screening method yields only CT information.

Separation

The Separation box is used to select the separations to be edited for a particular calibration table.

1. Select an individual separation to edit from the separation drop-down list.

2. Change the separation parameters by adjusting file and printer values in the value table. Changes to calibration tables are immediately presented as changes to the calibration graph.

Value Table

File Value	Printer Value
0.0	0.0
0.5	5.0
21.5	14.0
41.0	26.5
61.0	39.5
80.5	52.0
100.0	70.0

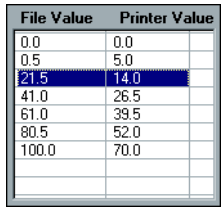
The value table lists the tone values of the image. The File Value column lists the tone values in the image file. The Printer Value column lists the tone values of the image that are sent to the printer.

The File Value and Printer Value columns provide the x and y coordinates from which the calibration graph is drawn.

Editing Calibration Value Tables

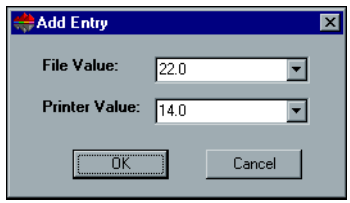
To add an entry to the value table:

1. Highlight a row in the value table that you wish to add a value after.



File Value	Printer Value
0.0	0.0
0.5	5.0
21.5	14.0
41.0	26.5
61.0	39.5
80.5	52.0
100.0	70.0

2. Click **Add Entry**. The *Add Entry* window appears:

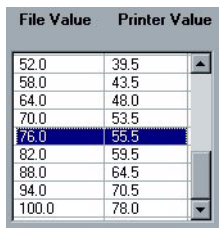


3. Adjust the File and Printer values as required by clicking on the arrow buttons.
4. Click **OK**. The value table is updated and the calibration graph is adjusted.

Your changes to calibration tables are immediately presented as changes to the calibration graph.

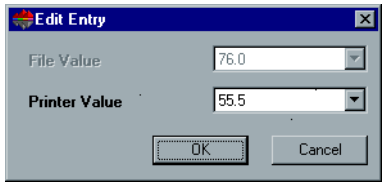
To change an existing value table:

1. Highlight a row in the value table that you wish to add a value after.



File Value	Printer Value
52.0	39.5
58.0	43.5
64.0	48.0
70.0	53.5
76.0	55.5
82.0	59.5
88.0	64.5
94.0	70.5
100.0	78.0

2. Double-click on the row. The *Edit Entry* window appears:



3. Adjust the File and Printer values as required by clicking on the arrow buttons.

4. Click **OK**. The value table is updated and the calibration graph is adjusted.

Your changes to calibration tables are immediately presented as changes to the calibration graph.

To delete an entry from the value table:

1. In the value table, highlight the entry to be deleted:

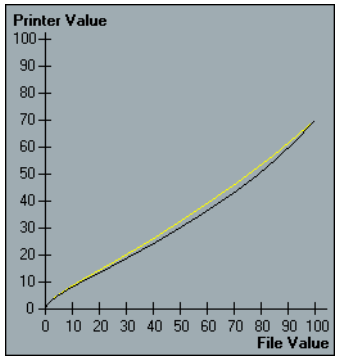
File Value	Printer Value
0.0	0.0
0.5	5.0
21.5	14.0
41.0	26.5
61.0	39.5
80.5	52.0
100.0	70.0

2. Click **Delete Entry**. The entry is removed.

Your changes to calibration tables are immediately presented as changes to the calibration graph.

Calibration Graph

CSX2000 Color Server calibration tables are represented visually in the *Edit Calibration* window in the form of a graph:



Calibration graph showing separations

The horizontal axis represents the tone values of the image in the image file. The vertical axis represents the tone values of the image that are sent to the printer. Upon opening the *Edit Calibration* window, all four separations (CMYK) are shown. If the four separations have identical curves, the calibration graph appears as if there is only one curve.

➢ To open or hide the calibration graph, click  .

Viewing Separations

You can view one, all, or any combination of separations. The *Edit Calibration* window appears with all separations selected:

It is possible to view one or more separations and adjust the values of other separations. The separations that you adjust are do not have to be those that you have chosen to view in the *Edit Calibration* window.

To view only one or several separations:

1. Click  to deselect all separations. The separations are deselected:

2. Click the individual separations you wish to view (for example, select the cyan separation only):

Organizing Calibration Tables

You can use the Save and Save As functions to organize your calibration tables.

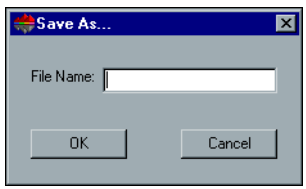
To save an existing calibration table:

1. In the *Edit Calibratio*n window, adjust calibration table values and parameters as required.
2. Click **Save**. The edited calibration table is saved with its original name.

When **Save** is clicked, new calibration settings override previous calibration table settings.

To save a new calibration table:

1. In the *Edit Calibration* window, adjust calibration table values and parameters as required.
2. Click **Save As**. The *Save As* window appears:



3. In the **File Name:** box, type the new calibration table name.

You can not overwrite the default calibration tables, CSXNormal and CSXSaturated.

4. Click **OK**. The calibration table is saved with the entered name.

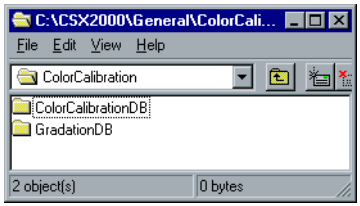
Access Calibration tables through *Tools* > *Calibration* > *Edit. . .* (for the *Edit Calibration* window) and *Tools* > *Calibration* > *Info. . .* (for the *Density Graph* window).

5. Click **Close** to exit the *Edit Calibration* window.

Backing Up Calibration Tables

To back up a calibration table:

1. Browse to the **ColorCalibrationDB** folder, following the path *C:\CSX2000\General\ColorCalibration\ColorCalibrationDB*.

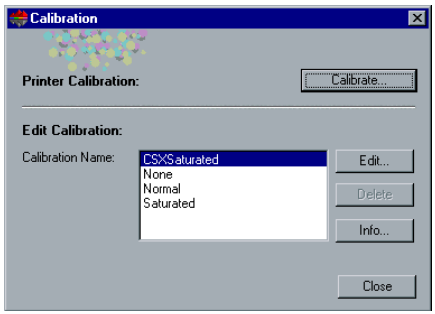


2. Open the **ColorCalibrationDB** folder.
3. Copy the required calibration table files to your backup location.

Color Density Information

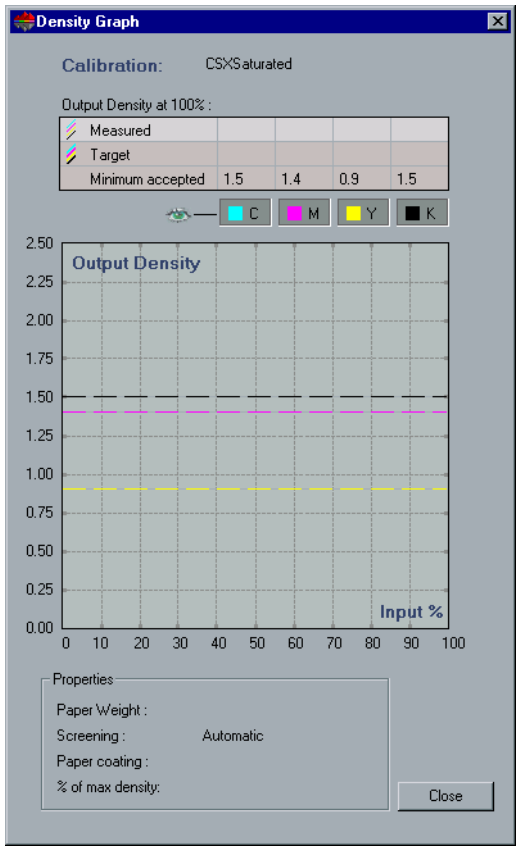
To view the Density Graph:

1. In the Calibration screen, under Calibration Name, select the table for which you want to receive detailed color information.



2. Click **Info. . .**

The Density Graph appears. Upon saving the calibration, its results are also saved as graphic data and displayed in the Density Graph.



Calibration graph showing cyan, magenta, yellow and black separations.

The Density Graph contains the following data:

- Calibration name
- Measured D-Max values for each separation
- Target D-Max values for each separation
- Minimum accepted density values for each separation (Xerox values)
- View options: filtering by color - select which colors are shown / hidden
- Calibration curves (target and measured) for each separation
  - Target is displayed as bold lines
  - Measured is displayed as thin lines
- Index - emphasizes the difference between target lines and measured lines
- Properties: paperweight, screening, paper coating, % of max density

When the density of the DocuColor 2045 / 2060 is lower than 80% of the target density, the following message appears:

"*Attention: Below standard D-Max value(s) measured for <cyan, magenta, yellow, black>.*
Standard (Minimum): <C - 1.5>, <M - 1.4>, <Y - 0.9>, <K - 1.5>
Measured: <C - >, <M - >, <Y - >, <K - >"

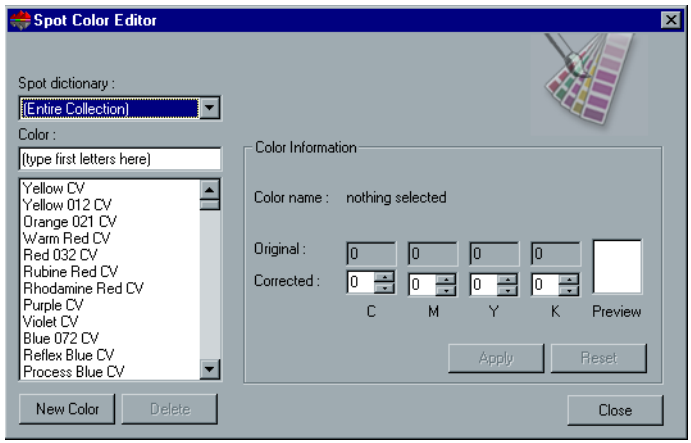
Spot Color Editor

Individual job pages can contain continuous tone (CT), line work (LW), and Spot color elements. The CSX2000 Color Server Spot Color Editor allows editing CMYK values of every Spot color in the Spots dictionary. You can edit these values without affecting the CT or LW page elements. It also lets you create custom spot colors and to define fixed CMYK values for those spot colors. The CSX2000 Color Server's DFE supports only Pantone type Spot colors.

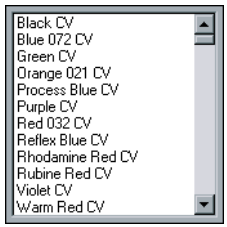
Spot (for example Pantone) colors are not effected by CMYK emulation. A spot color has the same appearance with any selected CMYK emulation.

To edit an existing pantone color:

1. From the **Tools** menu, select **Spot Color Editor. . .**



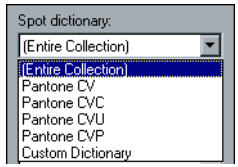
The *Spot Color Editor* window appears with the CSX2000 Color Server's entire collection of colors listed:



2. Search for a particular color under **Color:**

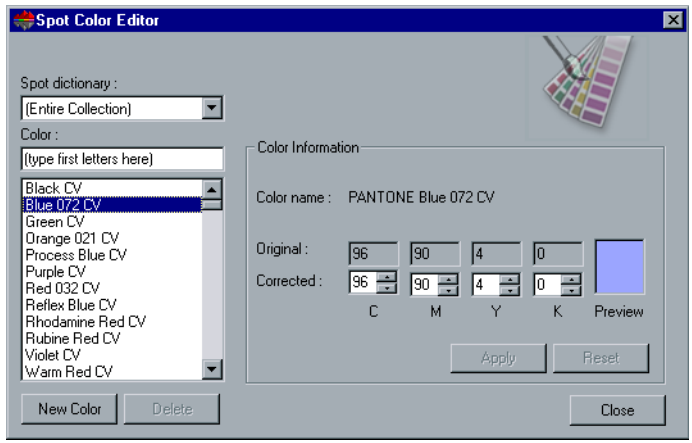
Under **Color:**, you cannot perform an exact query. This input stream only reads one character. For example, you want “Cool Grey 4” and type "Cool". As soon as you type “C”, the cursor only moves to “Cool Grey 1” and will not continue to a more specific selection.

3. Alternatively, in the **Spot dictionary:** drop-down list, select the color dictionary that contains the color you wish to edit.



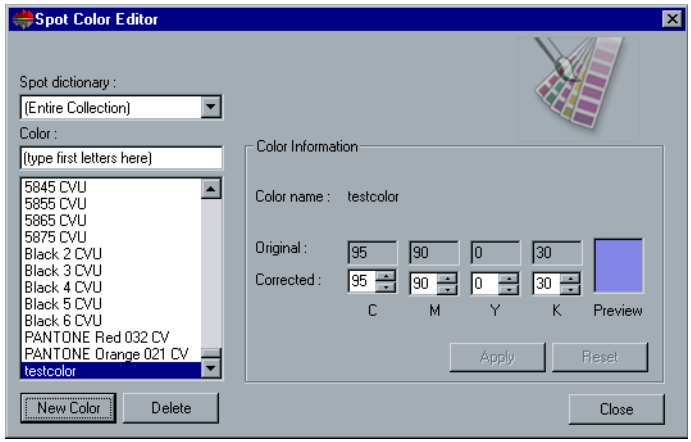
Use the Pantone CV dictionary if you are working in QuarkXPress.

4. Highlight the required color. The color's CMYK values and a color preview appear in the right hand side of the *Spot Color Editor* window.



5. Adjust CMYK values as required.

6. Click **Apply**. The new color is added to the Custom color dictionary.

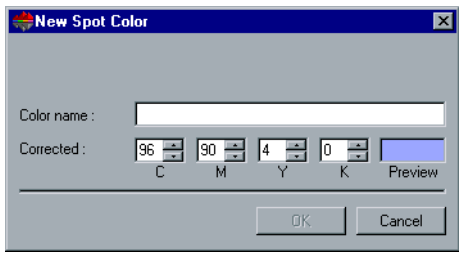


7. If the color name was already modified and is in the custom dictionary, the following message appears:

8. Click **OK** to overwrite the color name, or click **Cancel**.

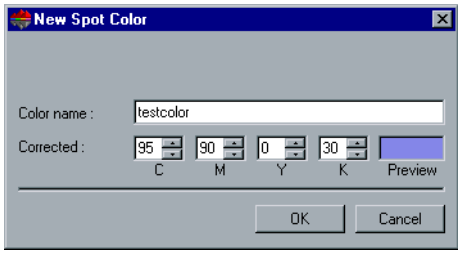
To create a new spot color:

1. In the *Spot Color Editor* window, click the **New Color** button.



The *New Spot Color* window appears.

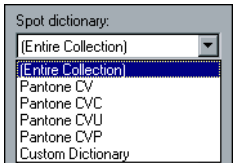
2. Type the new color name as it exists in the PS file. Adjust the CMYK values as required.



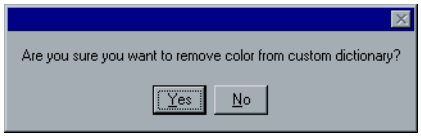
3. Click **OK**. The new color is added to the Custom color dictionary.
4. Alternatively, click **Cancel** to return to the *Spot Color Editor* window.

To delete a spot color (from the custom dictionary only):

1. In the **Spot dictionary:** drop-down list, select Custom Dictionary.



2. From the list of custom colors, highlight the color you wish to delete.
3. Click **Delete**.
4. The following message appears:



5. Click **Yes** to delete the color. Alternatively, click **No** to return to the *Spot Color Editor* window.

Color Sample Jobs

The examples outlined in this section show seven common uses of color parameters:

- Applying last-minute brightness and contrast corrections to prints of scanned photographs
- Printing a presentation using out-of-gamut colors (in other words screen colors, such as RGB Blue)
- Using rendering intent to print a catalog with RGB images and adjusting their gamuts to that of the printer
- Using ink saving (GCR) to print posters
- Printing a file designed for offset printing and emulating the offset press for most effective user comparisons
- Using dot-type screening to print a catalogue
- Building and using your own gradations curve to modify color balance.

Notes:

1. The print quality parameters closely influence color parameters. Print quality parameter settings have also been listed for these examples.
2. The B&W Printing job parameter is located on the **Print Settings** tab.

Brightness and Contrast: Printing Scanned Photographs

In cases where you are printing scanned photographs, you might have to compensate for varying brightness and contrast levels. In this example, you can increase brightness and contrast for a job containing scanned photographs.

A **B** **C**

Photograph A features decreased brightness and contrast, while photograph B Features Increased Brightness and Contrast. Photograph C is the original image.

The color parameter settings for this job are as follows:

Color Parameter	Setting
Brightness	Light, 10%
Contrast	More
Rendering Intent	Perceptual
Ink Saving (GCR)	No
B&W Printing	No
CMYK Workflow	Original
Screening Method	Dot 200
Gradations	None
Print Quality Parameter	**Setting**
Text Quality	Normal
Image Quality	High
Trapping	No
Black Overprint	Yes
PS Overprint	No

To print scanned photographs:

1. Download or spool the photo job from your client workstation to the CSX2000 Color Server. Or import the job from the CSX2000 Color Server workspace.

   For further details, refer to *Printing from Client Workstations on page 28* and *Printing from the CSX2000 Color Server on page 44*.

2. Double-click on the job in the Storage Folder in the CSX2000 Color Server workspace.

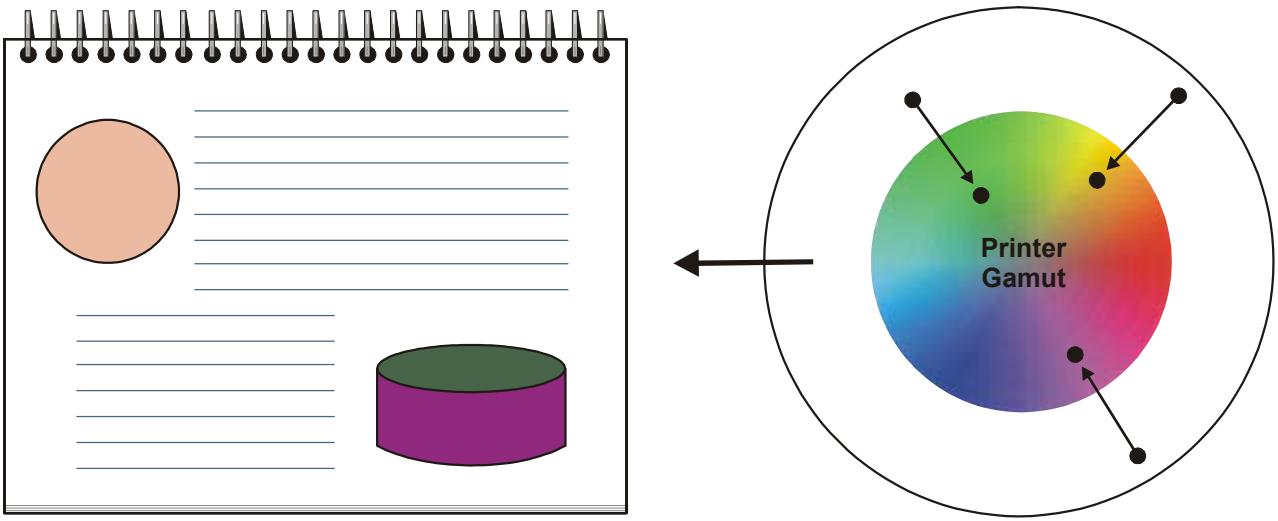
   For further details, refer to *Job Parameters Window on page 51*.

3. Select the **Color** tab in the *Job Parameters* window.
4. In Brightness, move the slider to the left to **Light, 10%**.

5. In Contrast, move the slider to the right to **More**.
6. In Rendering Intent, select **Perceptual**.
7. In Ink Saving (GCR), select **No**.
8. In B&W Printing, select **No**.
9. In CMYK Workflow, select **None**.
10. In Screening Method, select **Dot 200**.
11. In Gradations, select **None**.
12. Adjust parameters in other job parameter tabs as required.
13. Click **Submit** to send your photo job to print. The job is processed on the CSX2000 Color Server and sent to the Xerox DocuColor 2060 / 2045 for printing.

Rendering Intent: Printing a Presentation Using Out of Gamut Colors)

A presentation, or any document that contains out-of-gamut monitor colors, (for example RGB blue) should be printed using the **Perceptual** option in the Rendering Intent job parameter.



Presentation with out-of-gamut colors.

The color parameter settings for this job are as follows:

Color Parameter	Setting
Brightness	Normal
Contrast	Normal
Rendering Intent	Perceptual
Ink Saving (GCR)	No
B&W Printing	No
CMYK Workflow	None
Screening Method	Dot 200
Gradations	None
Print Quality Parameter	**Setting**
Text Quality	High
Image Quality	High
Trapping	Yes
Black Overprint	Yes
PS Overprint	No

To print a presentation using out of gamut colors:

1. Download or spool the presentation job from your client workstation to the CSX2000 Color Server. Or import the job from the CSX2000 Color Server workspace.

   For further details, refer to *Printing from Client Workstations on page 28* and *Printing from the CSX2000 Color Server on page 44*.

2. Double-click on the job in the Storage Folder in the CSX2000 Color Server workspace.

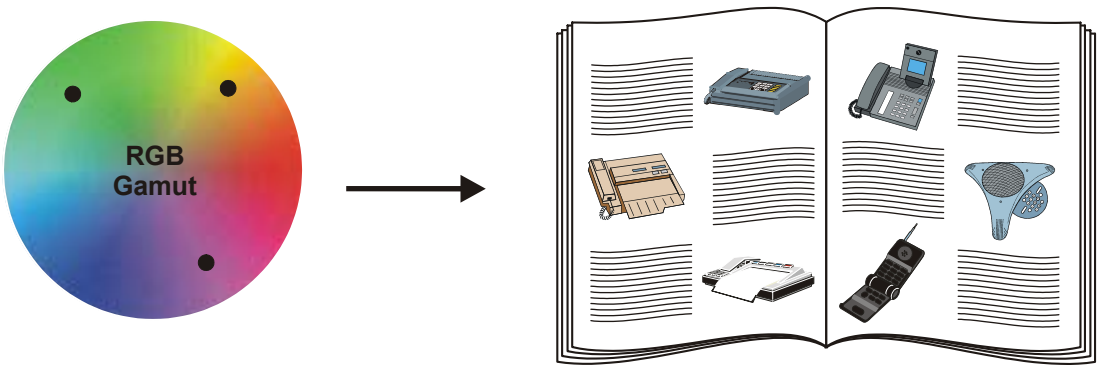
   For further details, refer to *Job Parameters Window on page 51*.

3. Select the **Color** tab in the *Job Parameters* window.
4. In Brightness, select **Normal**.

5. In Contrast, select **Normal**.
6. In Rendering Intent, select **Perceptual**.
7. In Ink Saving (GCR), select **No**.
8. In B&W Printing, select **No**.
9. In CMYK Workflow, select **None**.
10. In Screening Method, select **Dot 200**.
11. In Gradations, select **None**.
12. Adjust parameters in other job parameter tabs as required.
13. Click **Submit** to send the presentation job to print. The job is processed on the CSX2000 Color Server and sent to the Xerox DocuColor 2060 / 2045 for printing.

Rendering Intent: Printing a Catalog with RGB Images

To print a job with scanned RGB images, use the **Perceptual** option in the Rendering Intent job parameter.
This parameter ensures press-like quality for the job.



The color parameter settings for this job are as follows:

Color Parameter	Setting
Brightness	Normal
Contrast	Normal
Rendering Intent	Perceptual
Ink Saving (GCR)	Medium
B&W Printing	No
CMYK Workflow	None
Screening Method	Dot 200
Gradations	None
Print Quality Parameter	**Setting**
Text Quality	High
Image Quality	High
Trapping	Yes
Black Overprint	Yes
PS Overprint	No

To print a catalog with RGB images:

1. Download or spool the presentation job from your client workstation to the CSX2000 Color Server. Or import the job from the CSX2000 Color Server workspace.

   For further details, refer to *Printing from Client Workstations on page 28* and *Printing from the CSX2000 Color Server on page 44*.

2. Double-click on the job in the Storage Folder in the CSX2000 Color Server workspace.

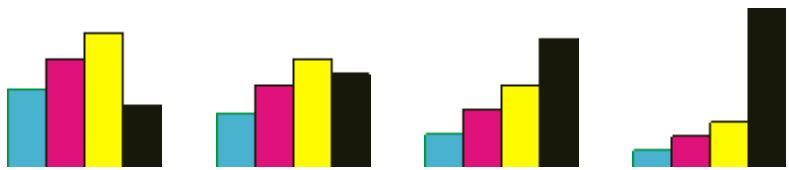
   For further details, refer to *Job Parameters Window on page 51*.

3. Select the **Color** tab in the *Job Parameters* window.
4. In Brightness, select **Normal**.

5. In Contrast, select **Normal**.
6. In Rendering Intent, select **Perceptual**.
7. In Ink Saving (GCR), select **Medium**.
8. In B&W Printing, select **No**.
9. In CMYK Workflow, select **None**.
10. In Screening Method, select **Dot 200**.
11. In Gradations, select **None**.
12. Adjust parameters in other job parameter tabs as required.
13. Click **Submit** to send the catalog job to print. The job is processed on the CSX2000 Color Server and sent to the Xerox DocuColor 2060 / 2045 for printing.

Ink Saving (GCR): Printing Posters

In cases where many intense colors are to be printed (for example colorful posters) use Ink Saving (GCR) to save toner, which avoids curling of paper or peeling of ink.



While the gray component of each color is replaced by black, there is no change in the color quality of the printed image.

The color parameter settings for this job are as follows:

Color Parameter	Setting
Brightness	Normal
Contrast	Normal
Rendering Intent	Perceptual
Ink Saving (GCR)	High
B&W Printing	No
CMYK Workflow	None
Screening Method	Dot 200
Gradations	None
Print Quality Parameter	**Setting**
Text Quality	High
Image Quality	High
Trapping	Yes
Black Overprint	Yes
PS Overprint	No

To print posters with Ink Saving GCR:

1. Download or spool the presentation job from your client workstation to the CSX2000 Color Server. Or import the job from the CSX2000 Color Server workspace.

   For further details, refer to *Printing from Client Workstations on page 28* and *Printing from the CSX2000 Color Server on page 44*.

2. Double-click on the job in the Storage Folder in the CSX2000 Color Server workspace.

   For further details, refer to *Job Parameters Window on page 51*.

3. Select the **Color** tab in the *Job Parameters* window.
4. In Brightness, select **Normal**.

5. In Contrast, select **Normal**.
6. In Rendering Intent, select **Perceptual**.
7. In Ink Saving (GCR), select **High**.
8. In B&W Printing, select **No**.
9. In CMYK Workflow, select **None**.
10. In Screening Method, select **Dot 200**.
11. In Gradations, select **None**.
12. Adjust parameters in other job parameter tabs as required.
13. Click **Submit** to send the poster job to print. The job is processed on the CSX2000 Color Server and sent to the Xerox DocuColor 2060 / 2045 for printing.

CMYK Workflow: Emulating an Offset Press

Various standards used in lithographic printing can be emulated on the Xerox DocuColor 2060 / 2045. This is done with the CMYK Workflow parameter.

An example of a CMYK Workflow job would be printing a test sample for a survey before moving to an offset press to print millions of survey forms. In such a case, it is best to emulate the offset before the job actually goes to offset printing.

RGB colors are not affected by CMYK Workflow.

The color parameter settings for this job are as follows:

Color Parameter	Setting
Brightness	Normal
Contrast	Normal
Rendering Intent	Relative Colormetric
Ink Saving (GCR)	No
B&W Printing	No
CMYK Workflow	Offset
Screening Method	Dot 200
Gradations	None
Print Quality Parameter	**Setting**
Text Quality	High
Image Quality	High
Trapping	Yes
Black Overprint	Yes
PS Overprint	No

To emulate an offset press:

1. Download or spool the survey form job from your client workstation to the CSX2000 Color Server. Or import the job from the CSX2000 Color Server workspace.

   For further details, refer to *Printing from Client Workstations on page 28* and *Printing from the CSX2000 Color Server on page 44*.

2. Double-click on the job in the Storage Folder in the CSX2000 Color Server workspace.

   For further details, refer to *Job Parameters Window on page 51*.

3. Select the **Color** tab in the *Job Parameters* window.
4. In Brightness, select **Normal**.

5. In Contrast, select **Normal**.
6. In Rendering Intent, select **Relative Colormetric**.
7. In Ink Saving (GCR), select **No**.
8. In B&W Printing, select **No**.
9. In CMYK Workflow, select **Offset**.
10. In Screening Method, select **Dot 200**.
11. In Gradations, select **None**.
12. Adjust parameters in other job parameter tabs as required.
13. Click **Submit** to send the survey form job to print. The job is processed on the CSX2000 Color Server and sent to the Xerox DocuColor 2060 / 2045 for printing.

Screening Method: Printing a Catalog with Dot Type Screen of 200 lpi

The rosette screen features round screen dots and is most suitable when simulating offset or gravure printing conditions on the Xerox DocuColor 2060 / 2045. To print a page of a catalog, which contains many images, use Rosette screening.

The color parameter settings for this job are as follows:

Color Parameter	Setting
Brightness	Normal
Contrast	Normal
Rendering Intent	Perceptual
Ink Saving (GCR)	No
B&W Printing	No
CMYK Workflow	Offset
Screening Method	Dot 200
Gradations	None
Print Quality Parameter	**Setting**
Text Quality	High
Image Quality	High
Trapping	Yes
Black Overprint	Yes
PS Overprint	No

To print a catalog:

1. Download or spool the catalog job from your client workstation to the CSX2000 Color Server. Or import the job from the CSX2000 Color Server workspace.

   For further details, refer to *Printing from Client Workstations on page 28* and *Printing from the CSX2000 Color Server on page 44*.

2. Double-click on the job in the Storage Folder in the CSX2000 Color Server workspace.

   For further details, refer to *Job Parameters Window on page 51*.

3. Select the **Color** tab in the *Job Parameters* window.
4. In Brightness, select **Normal**.

5. In Contrast, select **Normal**.
6. In Rendering Intent, select **Perceptual**.
7. In Ink Saving (GCR), select **No**.
8. In B&W Printing, select **No**.
9. In CMYK Workflow, select **Offset**.
10. In Screening Method, select **Dot 200**.
11. In Gradations, select **None**.
12. Adjust parameters in other job parameter tabs as required.
13. Click **Submit** to send the catalog job to print. The job is processed on the CSX2000 Color Server and sent to the Xerox DocuColor 2060 / 2045 for printing.

Gradation: Using Your Own Curve to Modify the Color Balance

It is sometimes necessary to perform tone corrections before printing a job. For example, it may be necessary to modify the color balance of a document because the images have too much magenta in the midtones.

The color parameter settings for this job are as follows:

Color Parameter	Setting
Brightness	Normal
Contrast	Normal
Rendering Intent	Perceptual
Ink Saving (GCR)	No
B&W Printing	No
CMYK Workflow	None
Screening Method	Dot 200
Gradations	Select curve from list
Print Quality Parameter	**Setting**
Text Quality	High
Image Quality	High
Trapping	Yes
Black Overprint	Yes
PS Overprint	No

To creating or modifying a gradation curve (for example, reducing magenta in the midtones)

When applying the Gradations parameter, use a pre-defined gradation curve, or define your own curve as follows:

1. From **Tools** menu, select **Gradation.**
   The *Gradation* window appears.
2. Click **Preview**.
3. Click **Browse**.
4. Click on the RTP job to which you wish to modify. Click **OK**.
   Your job appears in the *Preview* window.
5. In Separation, ensure that only the Magenta icon is selected.

6. In the Mid box, reduce the Magenta value by depressing the arrow buttons. Your changes are displayed as a gradation curve and on the job image in the *Preview* window.
7. Use **Before** and **After** to view your changes' effects on the job.
8. Adjust any other gradation parameters in the *Gradation* window.
9. Select **Save As** and save your gradation curve under a new name.
10. Click **OK**.
11. Close the *Gradation* window.

To print the job:

1. Download or spool the job from your client workstation to the CSX2000 Color Server. Or import the job from the CSX2000 Color Server workspace.

For further details, refer to *Printing from Client Workstations on page 28* and *Printing from the CSX2000 Color Server on page 44*.

2. Double-click on the job in the Storage Folder in the CSX2000 Color Server workspace.

For further details, refer to *Job Parameters Window on page 51*.

3. Select the **Color** tab in the *Job Parameters* window.
4. In Brightness, select **Normal**.
5. In Contrast, select **Normal**.
6. In Rendering Intent, select **Perceptual**.
7. In Ink Saving (GCR), select **No**.
8. In B&W Printing, select **No**.
9. In CMYK Workflow, select **None**.
10. In Screening Method, select **Dot 200**.
11. In Gradations, select the curve that you created (refer to the previous page).
12. Adjust parameters in other job parameter tabs as required.
13. Click **Submit** to send the job to print. The job is processed on the CSX2000 Color Server and sent to the Xerox DocuColor 2060 / 2045 for printing.

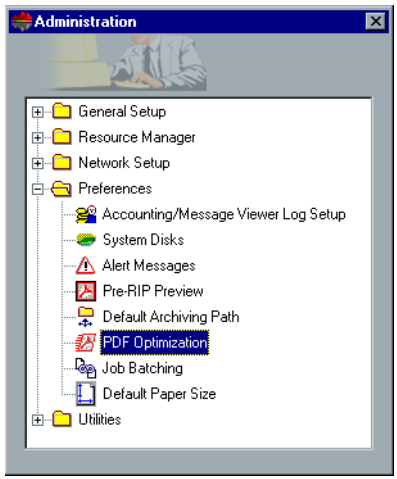
PDF Workflow

You can significantly decrease processing time by selecting PDF Optimization. This function is useful for PDF jobs with repeated elements, which are marked as repeated in the PDF file.

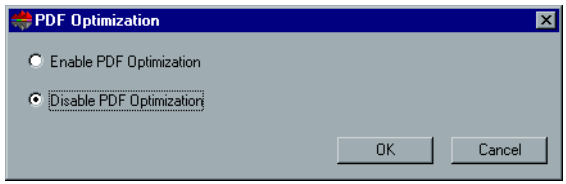
For example, you have an element (a graphic or PowerPoint background) that appears more than once in a document. PDF Optimization backlogs the element once. But it can be retrieved and used as many times as needed.

PDF Optimization in Preferences

1. Select whether to use PDF Optimization or ignore it in the job, from *Admin* > *Preferences* > *PDF Optimization.* Double-click on this setting.



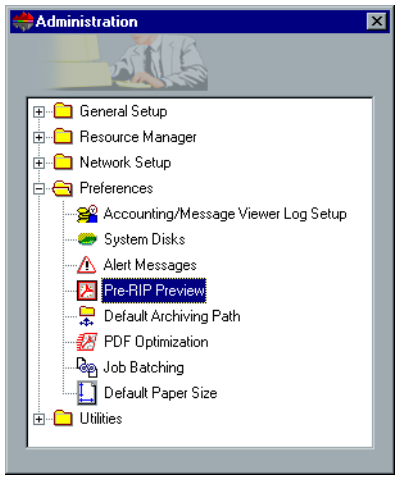
2. Select one of the following options:
   - Enable PDF Optimization (default)
   - Disable PDF Optimization



Pre-RIP Preview

Pre-RIP Preview offers the ability to decide whether to keep the PDF that was created for the preview or to keep the original PS. The default is to keep the original PS.

➢ Enter the *Pre-RIP Preview* dialog box. From the Tools menu select *Administration* > *Preferences* > *Pre-RIP Preview.* Double-click on this setting.

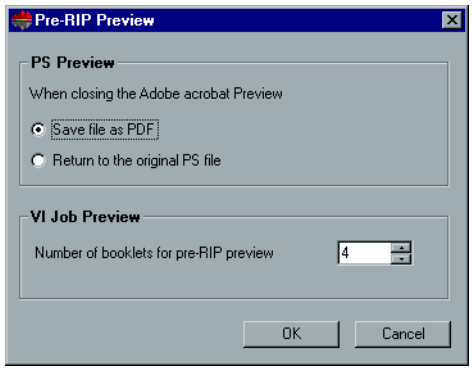


You can control all of the following:

- The conversion of PS to PDF
- How many booklets are displayed when previewing pre ripped VI files
- Pre-RIP preview for PS (to keep or not to keep the PDF file)
- Whether to keep the PDF files after preview or leave the original PS file in the Storage Folder without converting it to PDF

Editing & Saving PDF Files

In the *Pre-RIP Preview* dialog box, the following options appear:



1. Select whether to save the file as PDF or to return to the original PS file (default).
   - With **Save file as PDF**, the edited PDF replaces the original PS file when saving the PDF from Acrobat.
   - With **Return to the original PS file**, the edited PDF also replaces the original PS file in the Storage Folder.
2. Select the number of booklets (a personalized set of any number of pages) for pre-RIP preview (default is 4).

PDF Workflows

PDFToGo is a port through which you can export RTP files and convert it to PDF during export.

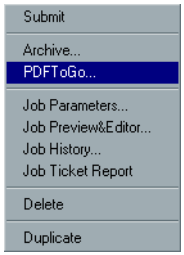
The system is capable of exporting jobs (both before and after processing), which are standard PDF files. For an exported RTP job, the PDF file includes the rasterized data of the job.

The operation converts the RTP information to raster files that can be encapsulated in a PDF format. This process ensures that the file can be processed and printed on any PDF printer.

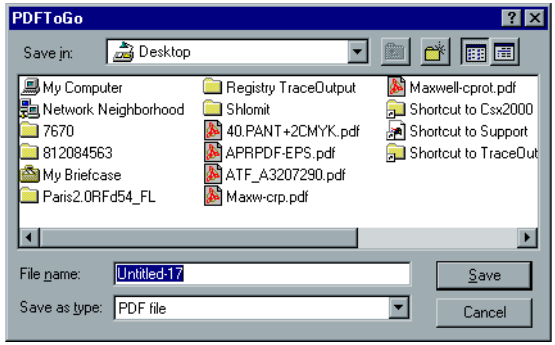
While Exporting as PDFToGo, a running bullet starts to move from left to right in the top-right server-printer animation of the workspace.

Export as PDFToGo

1. Select a file in the Storage Folder, right-click, and select **PDFToGo. . .** from the Shortcut Menu.



The *PDFToGo* window appears.



2. You can export every type of file, except for RTP jobs that were originally VI jobs.
3. You can view the exporting process by clicking on the Progress Indicator (the export arrowhead on the top-right server-printer animation).
4. Each file is saved as a separate PDF under the job's name.

When exporting PDL files as PDF, the file is converted to PDF using Acrobat distiller.

Printing PrePress Files - Graphic Art Port (GAP)

Feature Overview

The GAP is a port through which you can import various file formats used in the Graphic Arts industry. GAP files are already rasterized. The CSX2000 Color Server needs only to prepare the files for printing, which means adjusting the file resolution and rotation.

Importing GAP Files

During import of the assigned job file / s, the file is converted to a PDF that is displayed in the CSX2000 Color Server queues. The PDF can be programmed and printed as any other PDF file.

To print a specific page, import the assigned file of the specific page.

Supporting Graphic Arts Port (GAP) Files

The CSX2000 Color Server can import and consume the following file types:

- Brisque jobs
- TIFF
- TIFF IT
- CT / LW

The system converts these file types to “pre-rasterized” PDF files. GAP PDF files behave the same as any other PDF file and have the same Job Ticket operations.

The CSX2000 Color Server supports GAP files that are in composite format only.

Gap File Structure

TIFF IT

A TIFF IT file has 3 components:

- CT.TIF
- LW.TIF
- FP (final page) file, which combines CT.TIF and LW.TIF

➢ To import TIFF IT file to CSX2000 Color Server, first import the FP file.

During import, the file is converted to a PDF, which is displayed in the CSX2000 Color Server queues. The PDF can be programmed and printed as any other PDF file.

CT, LW, TIFF

The components of a Brisque Job and TIFF IT, which are: CT, LW and TIFF, can be imported and printed separately to the CSX2000 Color Server.

Rasterized Brisque Jobs

All rasterized Brisque jobs have a typical structure. Each job contains an assigned file with one or more pages (in case of a multiple job). Also, every page contains its own assigned file, which combines LW and CT.

➢ To import a Brisque job to the DFE, import the assigned file of the job.

➢ To print a specific page, import the assigned file of the specific page.

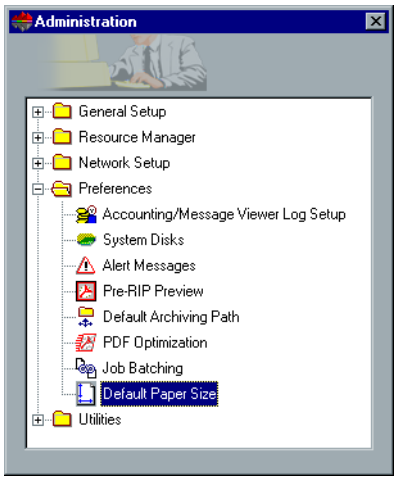
The CSX2000 Color Server does not support Spot colors (for example Pantone) as part of the incoming job. In other words, the system does not consume Brisque jobs, which contain colors other than C, M, Y, and K.

Default Paper Size

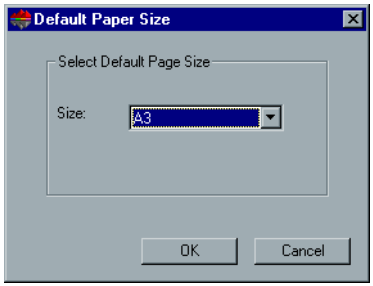
When a PDL file does not contain any paper size information (usually set by the PPD), the RIP uses a pre-defined default size. You can set this default size, which is used by the system whenever a file enters the system without paper size comment in the code. By setting a default paper size, you have more control over the default RIP size.

Default paper size is mainly useful for transactional printing, where applications sometimes do not comply with all of the PostScript standards.

1. Access the *Default Paper Size* dialog box via *Admin* > *Preferences* > *Default Paper Size.*



The *Default Paper Size* dialog box appears.



2. Select a default size from the drop-down list.

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Chapter 5

Managing Jobs

Managing Jobs

After entering the CSX2000 Color Server, jobs reside in the Queue Manager (which includes both the Process and Print queues) or in the Storage Folder.

The Process queue lists all the jobs that are waiting to be processed and the job currently being processed. The Print queue lists all the jobs that were processed successfully and are waiting to be printed and the job currently printing. Each queue holds jobs in the order they entered it. The top job in the queue is the Running job, while all others are Waiting jobs. At any time, you can view information regarding the number and status of the jobs in the queues, reorder the jobs or suspend / resume the queue.

The Print queue may also list frozen jobs, for which the appropriate paper stock is not available (for example, the correct paper type, paper size or paper weight).

The Storage Folder contains files that completed printing, were held or aborted during processing or printing, failed to complete processing or printing, or were imported or downloaded directly from the client to the Storage Folder (using the Spool & Store option). At any time, you can view information regarding the number and status of the jobs in the Storage Folder, sort and filter the list of jobs, or switch view modes.

While jobs are being handled by the CSX2000 Color Server, various messages are emitted. You can view the messages of each job (in Job History), of the entire session (in Message Viewer) or just the error messages (in Alerts).

Accounting provides information related to all the jobs that printed successfully and unsuccessfully via the CSX2000 Color Server. If required, you can filter, sort or print the list or export the report into a spreadsheet application (for example, Microsoft Excel), where you can manipulate the data as required.

Grayscale images created in RGB applications (such as PowerPoint) should be specified as Monochrome or submitted to the system with **B&W Printing** selected in the PPD. This selection ensures that grayscale images are counted as **B&W** instead of **Color** in both the CSX2000 Color Server and in the DocuColor 2045 / 2060 billing meters.

Queue Manager

After startup, the *Queue Manager* window appears.

- To close the window, deselect **Queue Manager** on the **Tools** menu

  Or:

- Click 

on the Pathways Panel.

  Or:

- Click **Close** on the window's title.

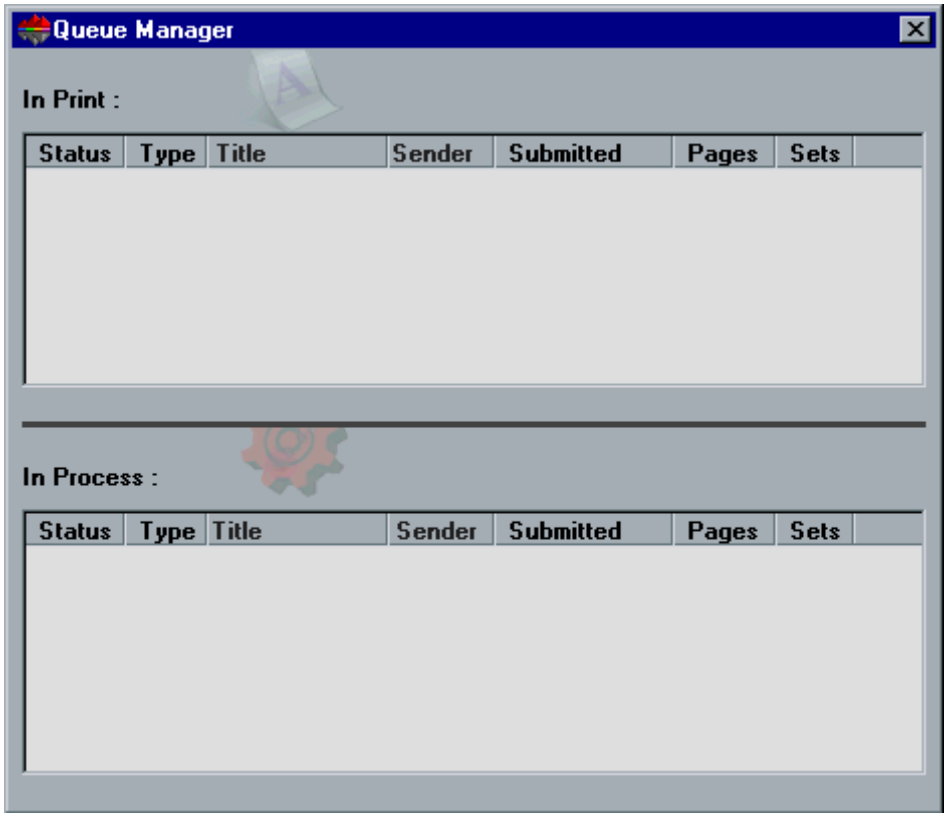
- To open the window, select **Queue Manager** from the **Tools** menu

  Or:

- Click 

on the Pathways Panel.

The Queue Manager consists of the Process queue and the Print queue.



Each queue holds jobs in the order they entered it. The top job in the queue is the Running job, while all others are Waiting jobs.

In the Print Queue - in cases of very short jobs, several jobs may be Running. The jobs in the Running state are listed first and print in the order listed.

If required, you can change the order of Waiting jobs in the queues or view / edit the parameters of a job.

References:

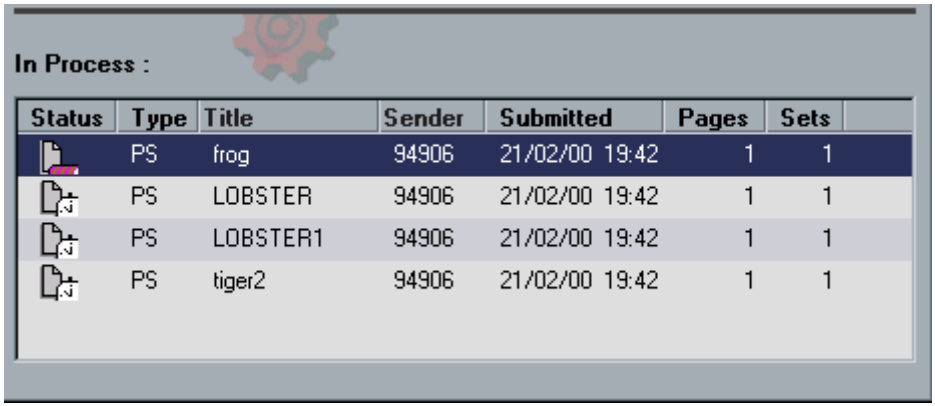
1. The Status Panel indicates various data regarding the Queue Manager. For further details, refer to *Status Panel Information on page 274*.

2. You can suspend an entire queue or resume its work. For further details, refer to *Suspending and Resuming Queues on page 277*.

3. For further details on operations on the jobs residing in the Queue Manager, refer to *Handling Jobs in Queues on page 279*.

Process Queue

After submitting PDL files (or re-submitting PDL jobs), the lower area of the window (the Process queue) lists the files to be processed.



Status

 indicates a Running job

 indicates a Waiting job

Type

Indicates the file format of the PDL job (for example, PS, PDF, Variable Print Specification)

Title

Indicates the name of the file to be printed.

Submitting a file whose name already exists in the CSX2000 Color Server automatically adds a sequential number to the file name (for example, submitting a file called LOBSTER while such a file already exists renames it to LOBSTER1).

Sender

Indicates the user name of the system from which this file originated.

Submitted

Indicates the date and time this job was first submitted into the CSX2000 Color Server.

Pages

Indicates the number of pages to be processed in a PDF job.

If the DTP application supported it, the number of pages is indicated for other PDL jobs.

Sets

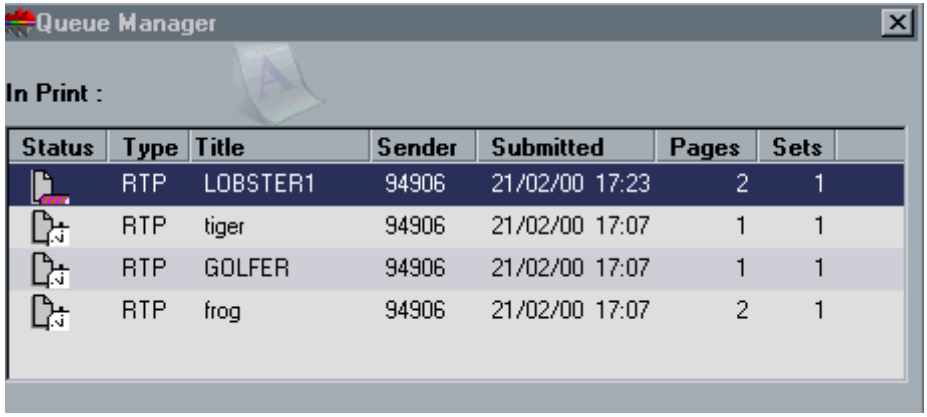
Indicates the number of copies to be printed.

Importing from a CD, archive and retrieve operations, and printing the Accounting log should not be performed when the system is processing or printing data. Suspend the Process Queue when performing these functions.

For further details on operations on the jobs residing in the Queue Manager, refer to *Handling Jobs in Queues on page 279*.

Print Queue

Once a file has been processed successfully, it moves to the Print queue and waits to be printed or sent to the Storage Folder (depending on the current Job Flow or Virtual Printer).



Status	Type	Title	Sender	Submitted	Pages	Sets
	RTP	LOBSTER1	94906	21/02/00 17:23	2	1
	RTP	tiger	94906	21/02/00 17:07	1	1
	RTP	GOLFER	94906	21/02/00 17:07	1	1
	RTP	frog	94906	21/02/00 17:07	2	1

Status

indicates a Running job

indicates a Waiting job

indicates a Frozen job

A Frozen job is a job for which the appropriate paper stock is not available, for example, the correct paper type, paper size or paper weight.

Type

Indicates RTP (Ready To Print).

Title

Indicates the name of the PDL file (without the extension).

Sender

Indicates the user name of the system from which this file originated.

Submitted

Indicates the date and time this job was first submitted into the CSX2000 Color Server.

Pages

Indicates the number of pages to be printed.

Sets

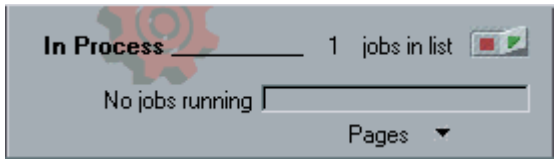
Indicates the number of copies to be printed.

For further details on operations on the jobs residing in the Queue Manager, refer to *Handling Jobs in Queues on page 279*.

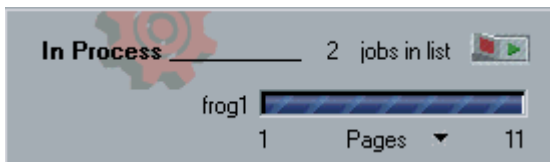
Status Panel Information

The Process and Print panes indicate the following:

- The current number of jobs in the respective queue (for example, 1).

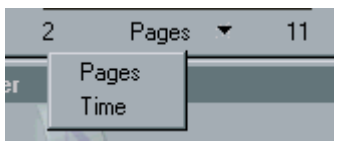


- The name of the job currently being processed / printed (for example, frog1) and a process indicator or No jobs running.

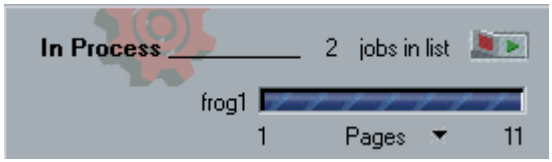


- The number of pages already processed / printed (for example, 2) and the total number of pages in the job (for example, 11).

On the Process pane - the total number of pages is indicated for PDF jobs. If the DTP application supported it, the number of pages is indicated for other PDL jobs.



- Click ▼ and select **Time** to indicate the amount of time (in minutes) passed since the job started running.



Reordering Jobs in Queues

Rearranging a queue lets you set a new processing or printing order.

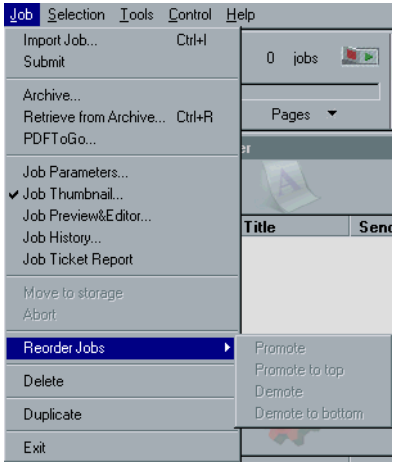
You can perform any of the following:

- Promote a job
- Promote a job to top of the queue
- Demote a job
- Demote a job to the bottom of the queue

Proceed as follows:

All actions are valid for a single job only.

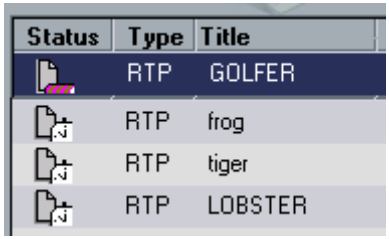
➢ Select the job in the Storage Folder. From the **Job** menu, select **Reorder Jobs** and select an available option.



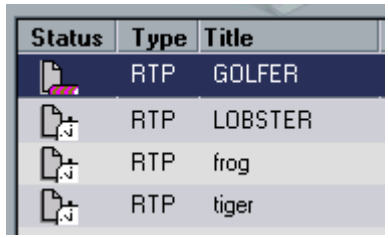
Select one of the following options:

- To move the selected job one step up in the queue, select **Promote**.
- To move the selected job to the top of the queue, select **Promote to top**.

The job is placed below the Running job.



LOBSTER before Promote to top



LOBSTER after Promote to top

- To move the selected job one step down in the queue, select **Demote**.
- To move the selected job to the bottom of the queue, select **Demote to bottom**.

  Or:

  Drag the job to the required place.

Suspending and Resuming Queues

If required, you can stop a queue (rendering it temporarily ineffective) and then later continue its operation.

To suspend a queue:

➢ Select the red part of the **Suspend / Resume** button 

This is identical to selecting Suspend Process queue or Suspend Print queue from the Control menu.

The button switches to  .
Processing / printing stops after the current job has finished running.

To resume a queue, proceed as follows:

➢ Select the green part of the **Suspend / Resume** button 

This is identical to selecting Resume Process queue or Resume Print queue from the Control menu.

The button switches to  .
The top job in the queue starts processing / printing.

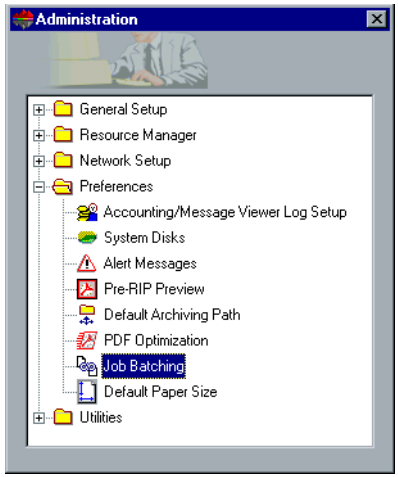
Job Batching

The Job Batching method streams several jobs into a single batch to prevent the printer from cycling down between jobs. Every job that enters the Print Queue is checked whether it can be streamed to the previous job.

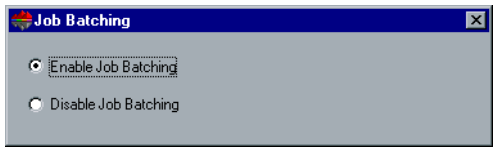
- If a job can be streamed to the previous job, the job's icon is changed to a running state and it prints without a cycle down.
- A job that cannot be streamed to the previous job prints after the print engine cycles down. Jobs that follow this type job can be streamed to it.
  The operation of job batching can be turned on / off from the system preferences (the default setting is On). This feature saves printing time, especially for a large number of short / small jobs.

Job Batching Workflow

1. The files arrive to the print queue.
2. The job is checked if it is fit for the current batch. If it is found fit for the current batch, the job is added to the batched list and runs as a batched job (without cycle down). If it is not fit for the current batch, it remains on the waiting list and is not run as a batched job (its icon remains the waiting icon).
3. Merged files are automatically batched with the upper jobs on the queue.
4. If the waiting list order changed and the previous job was not merged, then the job at the top of the waiting list is checked.
5. Enter the *Job Batching* dialog box from the Tools menu, *Administration* > *Preferences* > *Job Batching*.



6. Select one of the following options:
   - Enable Job Batching (default value)
   - Select Disable Job Batching



Handling Jobs in Queues

Overview

You can perform the following from the Process and Print queues:

- Abort a Running job
- Move Waiting jobs to the Storage Folder
- View the Thumbnail of a job
- Delete jobs
- View and modify the parameters of a job
- View the history of a job

Proceed as follows:

➢ To select all the jobs in the active window, select **Select All** from the Selection menu (or press CTRL+A).

➢ To re-select any item and clear any selected item, select **Invert selection** from the Selection menu.

Some of the actions are supported for a single job only, while others are supported for several jobs at once.

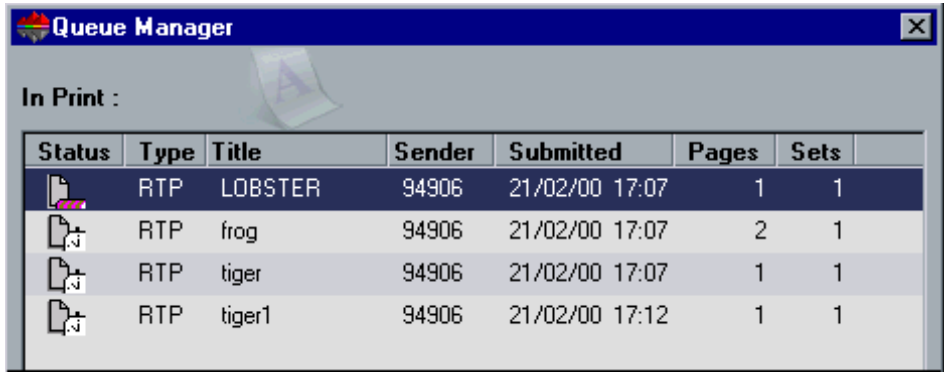
➢ Select the required action from the Shortcut Menu or from the Job Menu.

Some actions may be performed by dragging the job(s) from a queue to the Storage Folder or vice versa.

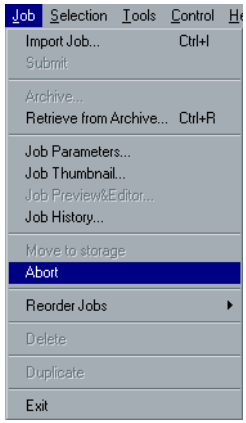
Aborting a Running Job

To stop processing / printing a Running job, you can use **Abort**.

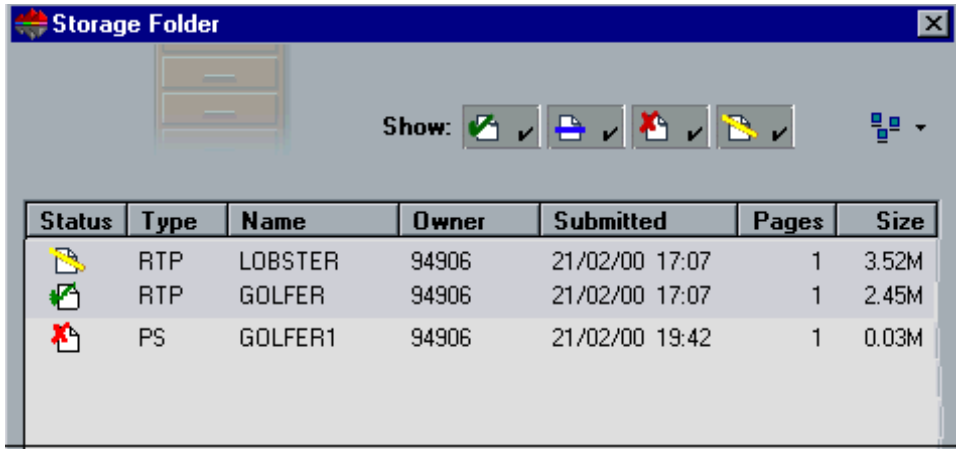
1. Select the Running job in the Process or Print queue.



2. From the **Job** menu, select **Abort.**



The job is removed from the queue and is added to the Storage Folder. The Aborted status is assigned to the job and the next job in the queue starts running.

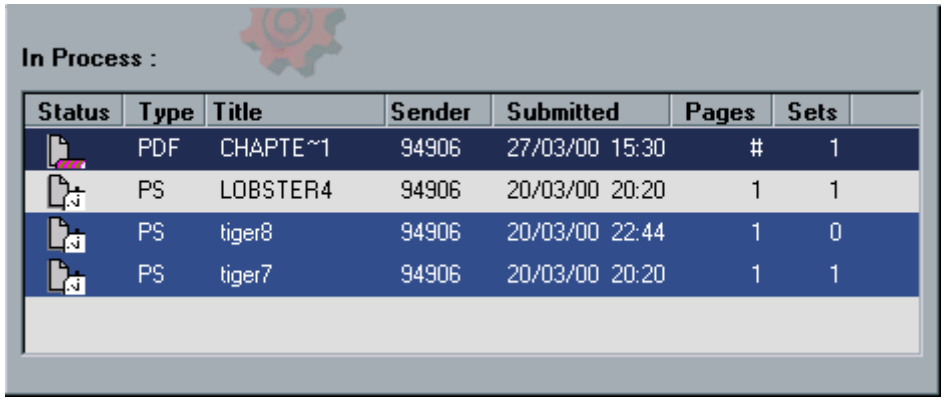


To return a job to the proper queue, select the job(s) in the Storage Folder and Submit. For more information, refer to *Printing from Client Workstations on page 28* and *Printing from the CSX2000 Color Server on page 44*.

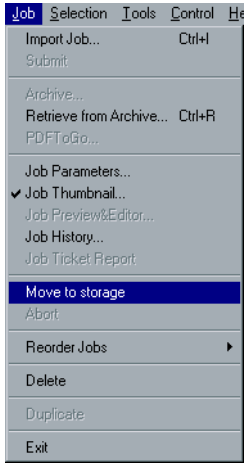
Moving Waiting Jobs to Storage

To postpone processing / printing of one or several Waiting jobs, you can move files to storage.

1. Select one or several jobs in the Process or Print queue.



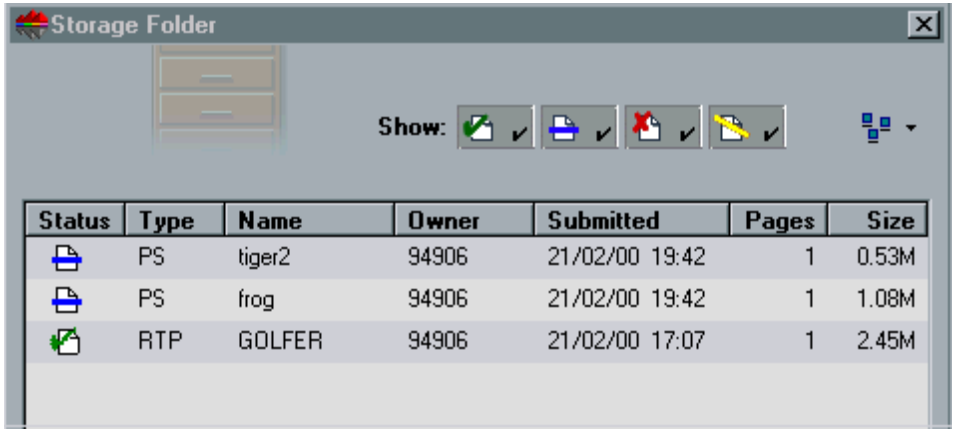
2. From the **Job** menu, select **Move to Storage.**



Or:

Drag the job(s) from the queue into the Storage Folder.

The job(s) are removed from the Process or Print queue and are added to the Storage Folder. The Held status is assigned to the job(s).



To return jobs to their original queue(s), select the jobs and Submit (or drag the jobs to the relevant queue). For more information, refer to *Printing from Client Workstations on page 28* and *Printing from the CSX2000 Color Server on page 44*.

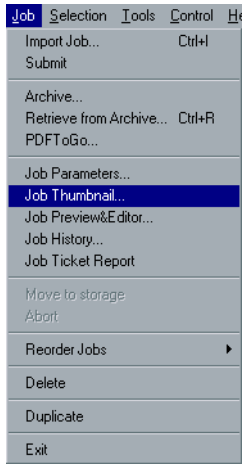
Viewing the Thumbnail of a Job

You can view a small image representation of a page in an RTP job to help you identify it before printing.

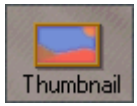
After startup, the Job *Thumbnail* window appears.

To close the *Job Thumbnail* window:

➢ Deselect **Job Thumbnail** in the Job Menu.



Or:

Click 

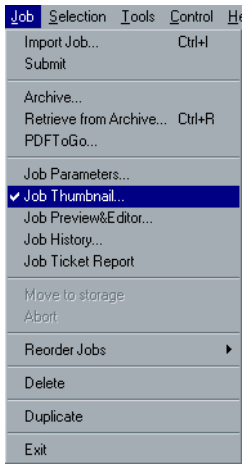
on the Pathways Panel.

Or:

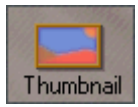
Click **Close** on the window's title.

To open the *Thumbnail* window:

➢ Select **Job Thumbnail** from the Job menu



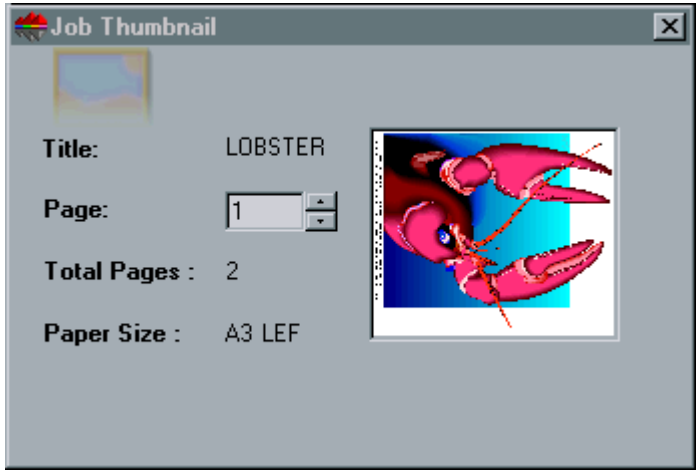
Or:

Click 

on the Pathways Panel.

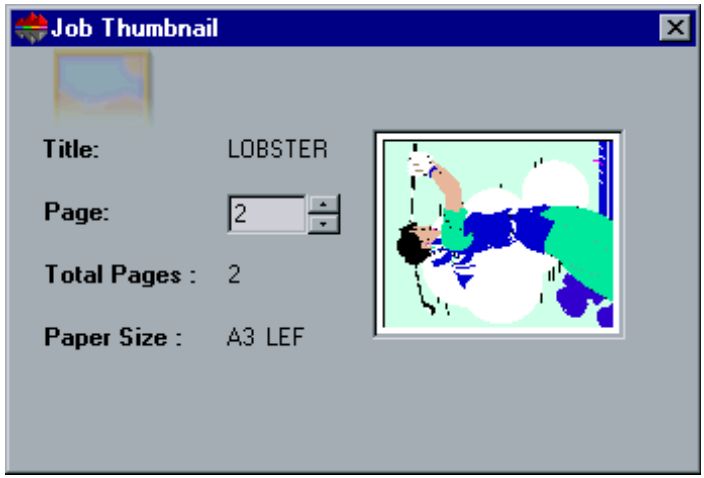
To view the thumbnail, proceed as follows:

➢ Select an RTP job while the *Job Thumbnail* window is open.
The window indicates the name of the job, the sequential number of the current displayed page, the total number of pages in the job, and the paper size and orientation. The view area shows the thumbnail of the current page.

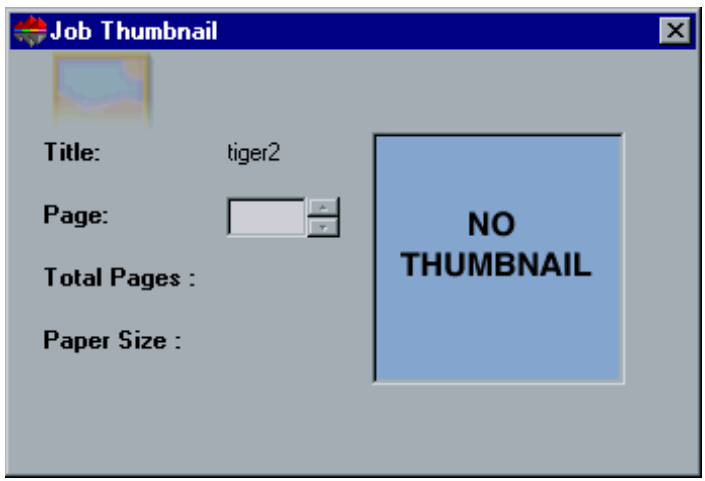


➢ To view another page, click the up / down arrows or type the required page number.

The view area updates accordingly.



If you selected a non-RTP job, the *Job Thumbnail* window indicates its name (and the view area indicates NO THUMBNAIL).

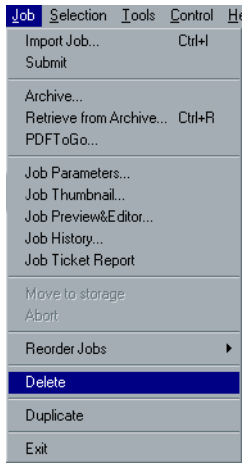


Deleting Jobs

1. Select one or several jobs in the Process or Print queue.
2. Press **Delete**.
   If you selected one job, the system indicates its name.

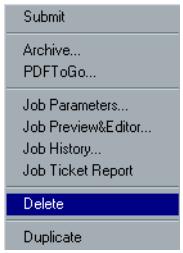
   Or:

   From the **Job** menu, select **Delete.**



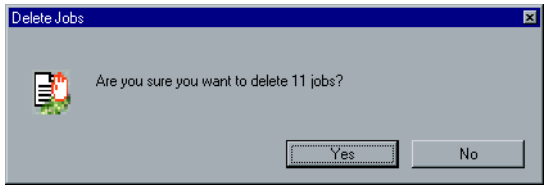
   Or:

   Select **Delete** from the Storage Folder shortcut.



The *Delete Jobs* dialog box appears.

If you selected several jobs, the system indicates their number.



The selected job(s) are removed from the Print or Process queue.

Notes:

1. Once a job is deleted, it needs to be re-submitted for processing and printing.
2. To temporarily remove jobs from a queue, use Move to Storage (refer to Moving Waiting Jobs to Storage).

Managing the Storage Folder

Storage Folder

After startup, the *Storage Folder* window appears.

To close the *Storage Folder* window:

➢ Deselect **Storage Folder** on the **Tools** menu.

Or:

Click 

on the Pathways Panel.

Or:

Click **Close** on the window's title.

To open the *Storage Folder* window:

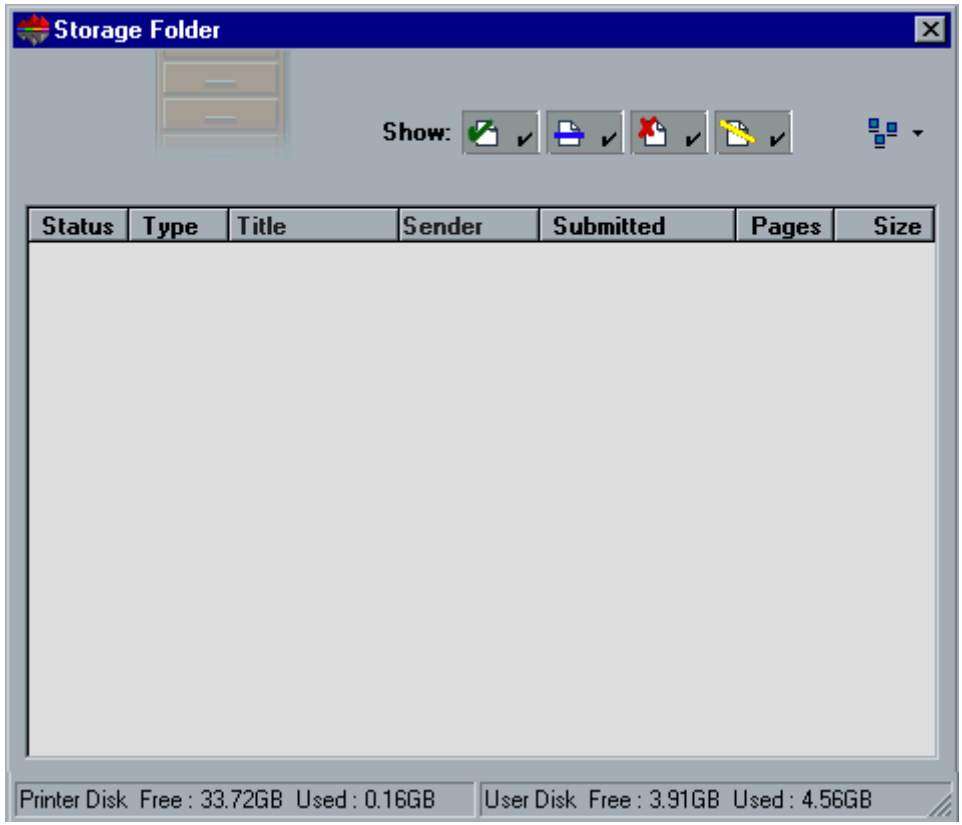
➢ Select **Storage Folder** from the **Tools** menu.

Or:

Click 

on the Pathways Panel.

The *Storage Folder* window appears. Initially, it contains no jobs.

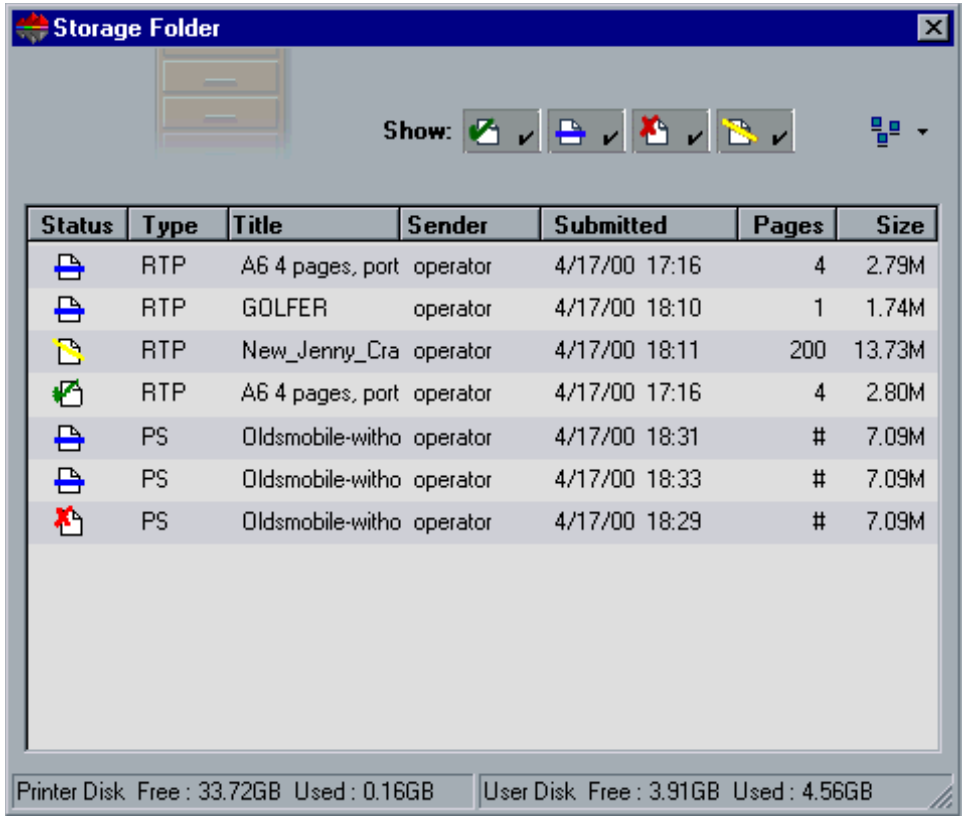


The Status Panel indicates various information regarding the Storage Folder.

For further details on operations on the jobs residing in the Storage Folder, refer to *Handling Jobs in the Storage Folder on page 304*.

The Storage Folder can contain jobs that:

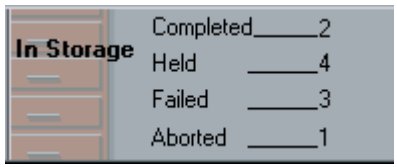
- Completed printing
- Were Moved to Storage (or Aborted) during processing (or printing)
- Failed to complete processing or printing
- Were imported or downloaded directly from the client to the Storage Folder (using the Spool & Store only option).



You can filter the list by various statuses and switch list views.

Status Panel Information

The In Storage pane indicates the number of jobs of each status currently residing in the Storage Folder.



Filtering the List

Each job in the Storage Folder is assigned one of the following statuses:

Status	Indicates that
Completed	The job completed printing.
Held	The job was manually moved from the Queue Manager to the Storage Folder by the operator or automatically by the current Job Flow or Virtual Printer.
Failed	The job failed to complete processing or printing.
Aborted	The job was aborted by the operator when it was Running in the Queue Manager.

By default, the Storage Folder lists jobs of all statuses (all the **Status** buttons are selected).

The black check mark emphasizes that jobs of this status appear in the list.

You can filter the list in order to list only jobs of one or several statuses, while not listing jobs of other statuses.

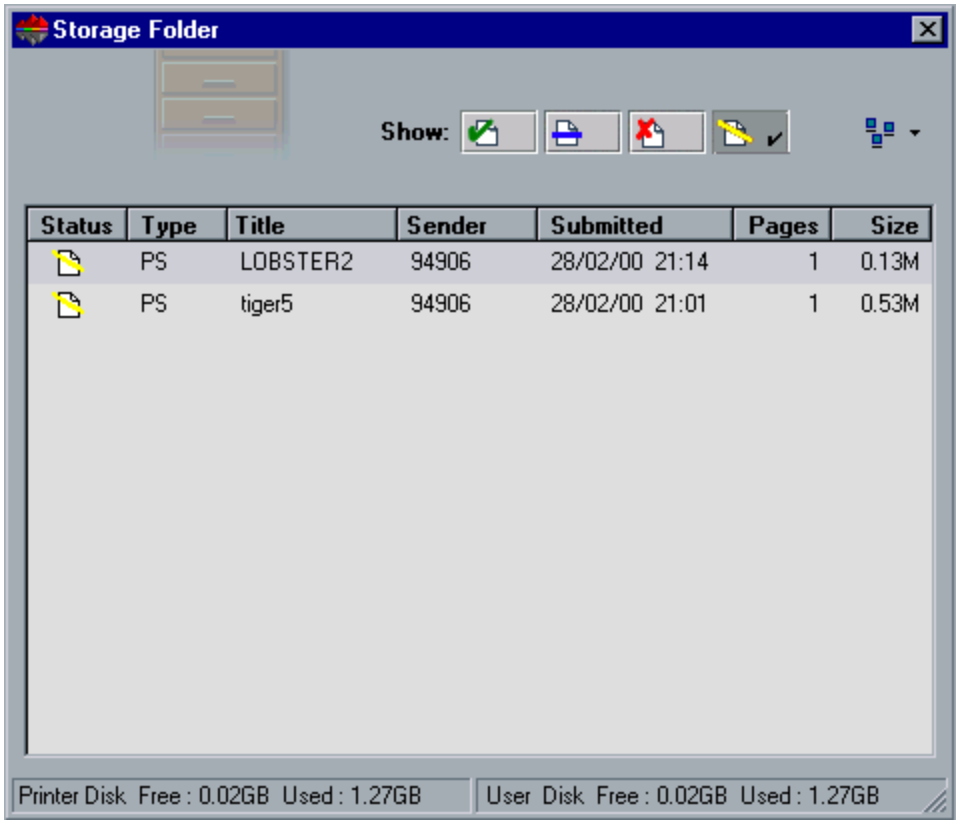
To filter the list, proceed as follows:

1. Press any **Status** button (for example, Completed) in order not to list such jobs.

The list updates accordingly.

If all the buttons are depressed, no jobs are listed.

2. Press any **Status** button in order to list such jobs (for example, the following lists Held jobs only).

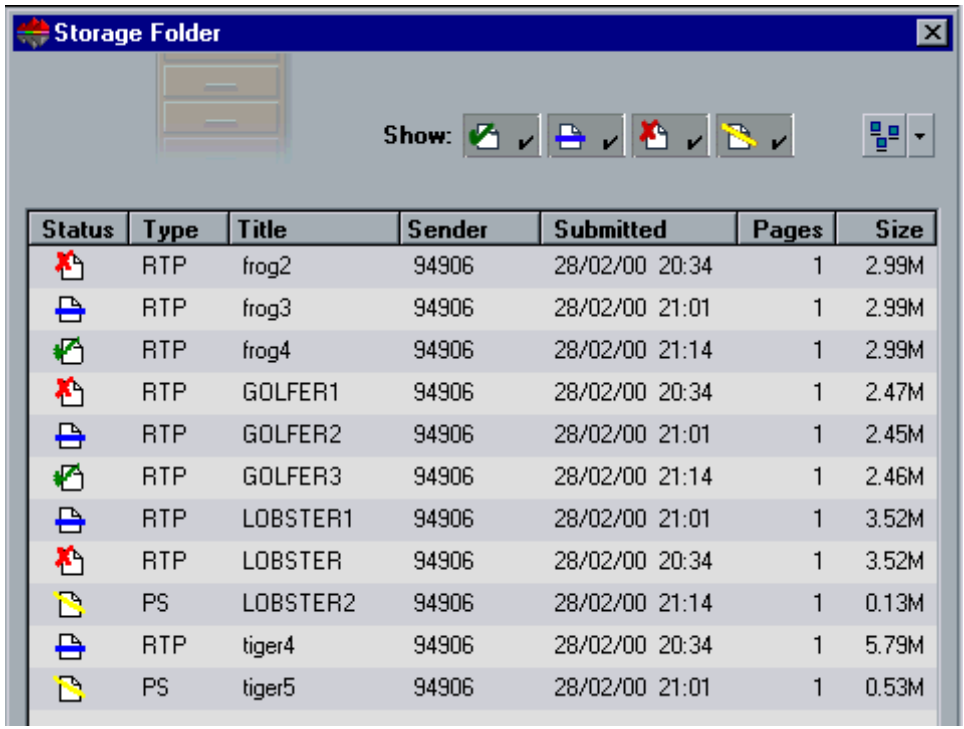

Storage Folder
Show:
Status
Type
Title
Sender
Submitted
Pages
Size
PS
LOBSTER2
94906
28/02/00 21:14
1
0.13M
PS
tiger5
94906
28/02/00 21:01
1
0.53M
Printer Disk Free : 0.02GB Used : 1.27GB
User Disk Free : 0.02GB Used : 1.27GB

Switching List View Modes

By default, the jobs are listed in the **Storage Folder** along with various details, but you can select to list the jobs as **Large Icons**, **Small Icons**, a name **List**, or a list with **Details**.

Details View

This view is the default list view mode.

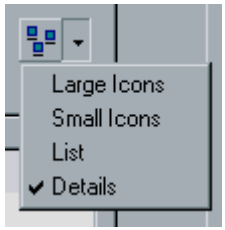


Status	Type	Title	Sender	Submitted	Pages	Size
	RTP	frog2	94906	28/02/00 20:34	1	2.99M
	RTP	frog3	94906	28/02/00 21:01	1	2.99M
	RTP	frog4	94906	28/02/00 21:14	1	2.99M
	RTP	GOLFER1	94906	28/02/00 20:34	1	2.47M
	RTP	GOLFER2	94906	28/02/00 21:01	1	2.45M
	RTP	GOLFER3	94906	28/02/00 21:14	1	2.46M
	RTP	LOBSTER1	94906	28/02/00 21:01	1	3.52M
	RTP	LOBSTER	94906	28/02/00 20:34	1	3.52M
	PS	LOBSTER2	94906	28/02/00 21:14	1	0.13M
	RTP	tiger4	94906	28/02/00 20:34	1	5.79M
	PS	tiger5	94906	28/02/00 21:01	1	0.53M

Sorting and resizing of columns is relevant for this mode only.

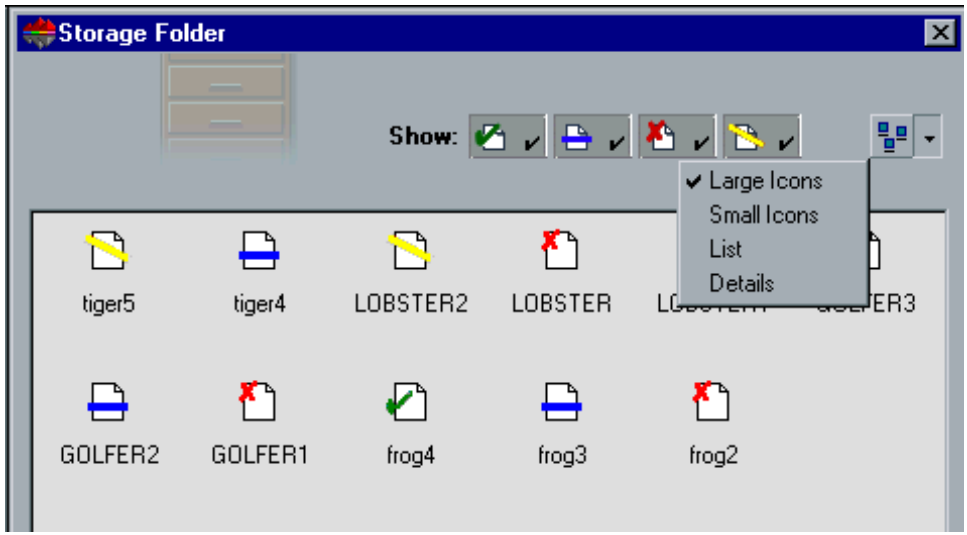
To switch to another List View mode:

1. Click the List View drop-down icon 



2. Select the required List View mode from the drop-down list.
   The list updates to list the jobs according to the selected List View mode.

Large Icons View

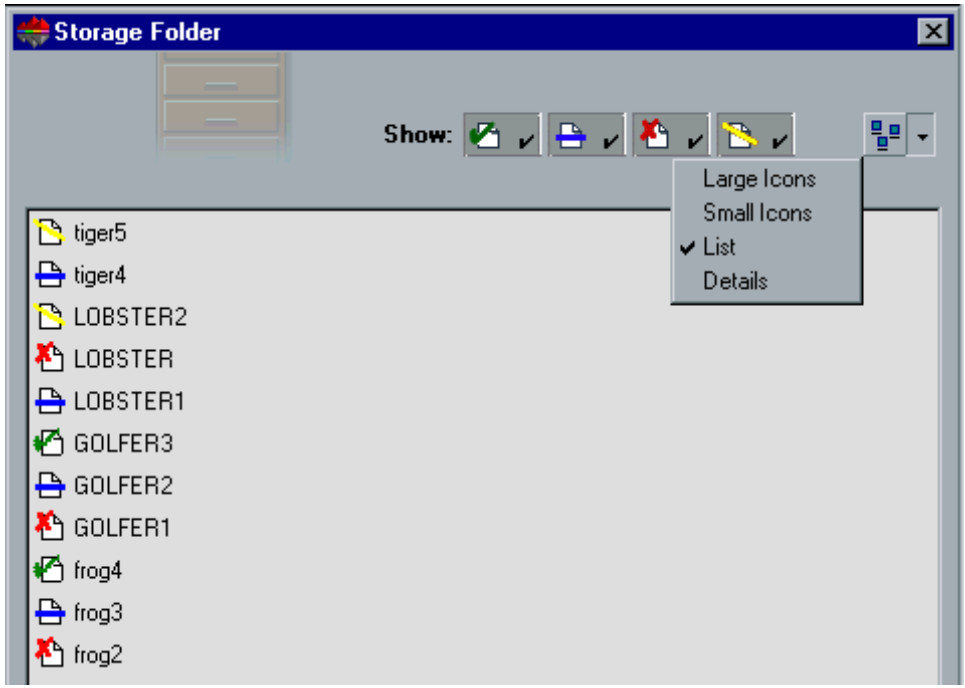


Compared to the default Details view, the icons are listed from the bottom right corner to top left corner.

Small Icons View

Compared to the default Details view, the icons are listed from the bottom right corner to top left corner.

List View



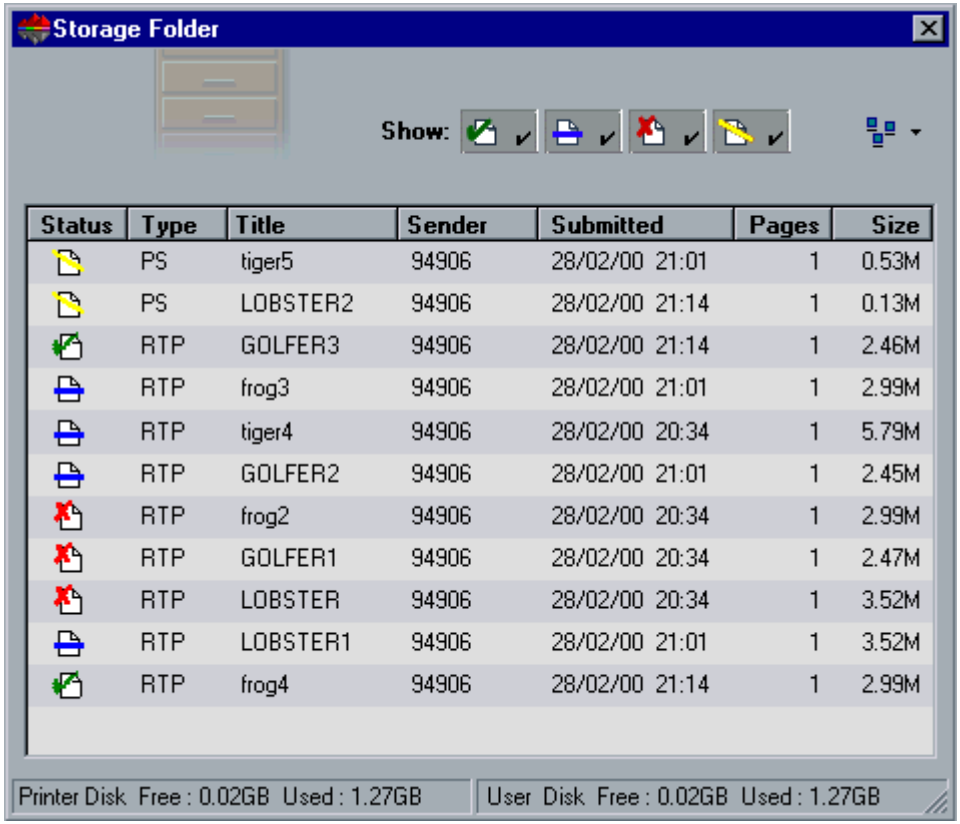
Compared to the default Details view, the icons are listed from the bottom left corner to top right corner.

Sorting the List

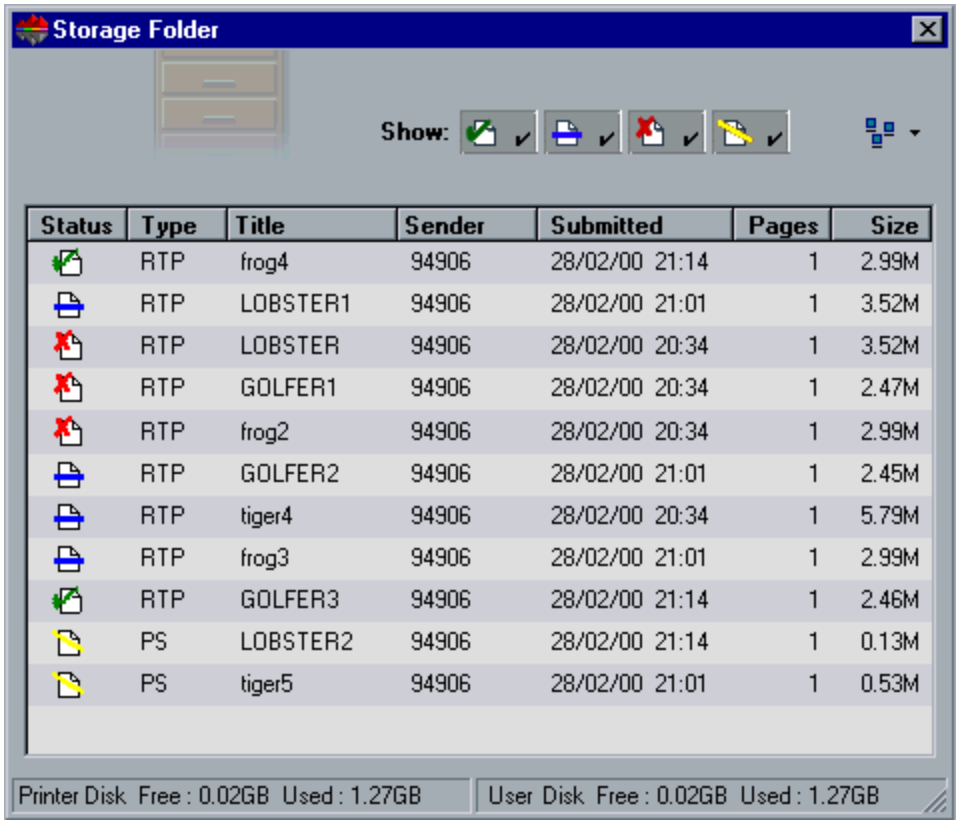
When the jobs are listed using the **Details** List View mode, you can sort the list by its column headers.

By default, the list is sorted by the order the jobs entered the Storage Folder.

1. To sort by one of the column headers (for example, Type), click the header once for ascending order.



2. Click again for descending order.



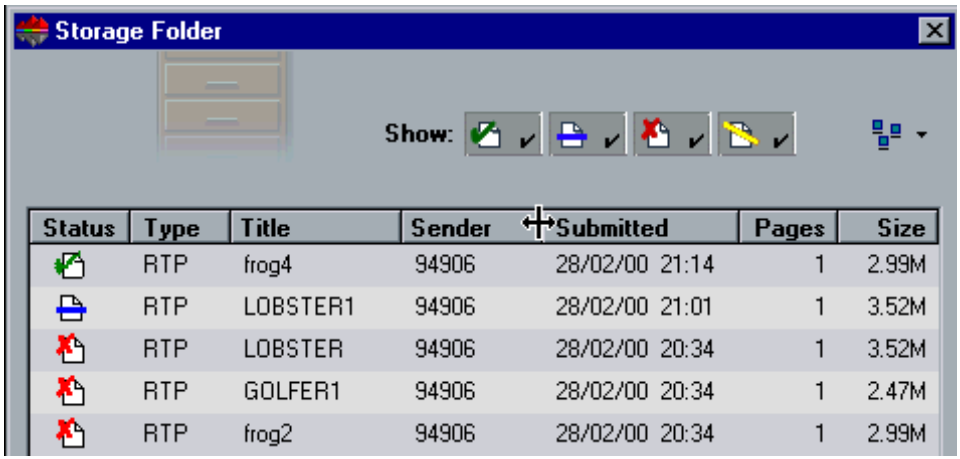
After sorting, new jobs arrive at the top.

Resizing Columns

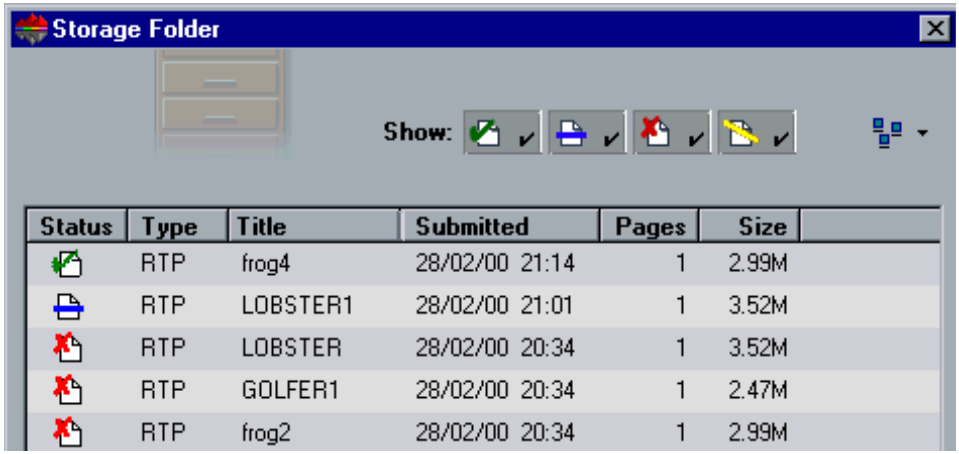
In **Details** List View mode, by default - the Status, Type, Title, Sender, Submitted, Pages, and Size columns appear in the Storage Folder.

To resize columns (or even minimize columns so they are not viewed at all):

1. Click the cursor on the right border of the required column (for example, Sender). The cursor switches shape.



2. Drag the cursor to the right to enlarge the size of the column, or to the left to decrease (in the following case, the column was minimized so it will not be viewed at all. To retrieve the column, drag the cursor to the right).



Disk Management

The procedure to maintain image drives may be required periodically in the following situations:

- To delete VI, RTP, and associated files form the image drives
- If the drives become fragmented

To format the image drives:

1. Delete all jobs in the CSX2000 Color Server Storage Folder.
2. Exit the CSX2000 Color Server Application.
3. Click **Start** and browse to *CSX2000 / CSX2000 Tools / Format Image Drives*.
4. Follow the on-screen prompts.

After three days of running and deleting VI jobs, it is recommended to update the Storage Folder by running the three minute Format Image Disks software routine. This process removes any remaining file fragments and deletes all resident jobs in the Storage Folder.

For more information on formatting image disks, refer to the *CSX2000 Color Server Installation Guide*.

Managing Disk Space

The Printer Disk (or Image Disk) holds the processed RTP files of a job.

The User Disk (or Spool Disk) holds the submitted PDL files, high-resolution images, and pre-cached VI elements.

You cannot directly access these disks from within the CSX2000 Color Server, but you can manage them by deleting one or several jobs.

Notes:

1. Do not store files on the desktop. This causes the system disk to fill up and stops the RIPping process.
2. It is recommended not to quit the CSX2000 Color Server and store files on its disks. These files can not be accessed or deleted via the CSX2000 Color Server and may cause disk space problems that cannot be solved from within the CSX2000 Color Server.

The bottom Status Bar indicates the Used and Free space on both the Printer and User disks.

In order to free disk space, proceed as follows:

1. Archive the jobs (refer to Archiving and Retrieving Jobs).
2. Delete the jobs (refer to Deleting Jobs).
3. Continue to delete additional jobs until you free enough disk space.

When a job is deleted, its related PDL files are also deleted.

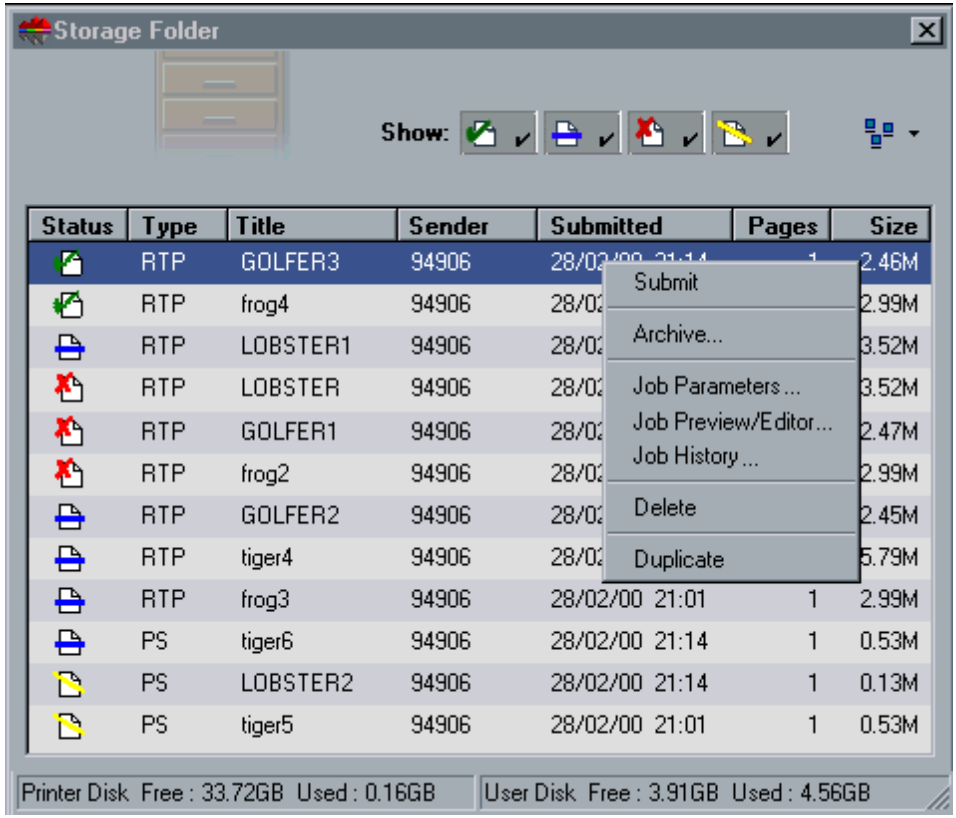
The procedure to maintain image drives may be required periodically to delete VI, RTP, and associated files form the image drives or if the drives become fragmented.

Handling Jobs in the Storage Folder

Overview

You can perform the following:

- Submit jobs
- Preview a job
- Edit a job
- Archive a job
- Duplicate a job
- Delete jobs
- View the thumbnail of a job
- View and modify the parameters of a job
- View job history



Proceed as follows:

1. Select the relevant job(s):
   - To select all the jobs in the active window, select **Select All** from the Selection menu (or press **Ctrl** + **A**).
   - To re-select any item and clear any selected item, select **Invert selection** from the Selection menu.

Some of the actions are supported for a single job only, while others are supported for several jobs at once.

2. Select the required action from the Shortcut Menu or from the Job Menu.

If you select several jobs, you can only Submit or Delete.

References:

1. For further details on viewing Job History, refer to *Job History on page 349*. For further details on viewing Job Thumbnails, refer to *Viewing the Thumbnail of a Job on page 283*.

2. For further details on viewing and modifying the parameters of a job, refer to *Setting Job Parameters on page 49*.

Submitting Jobs

➢ To move the selected job(s) from the Storage Folder to the bottom of the appropriate queue, select **Submit**.

Or you can drag the job(s) from the Storage Folder and drop them into the appropriate queue.

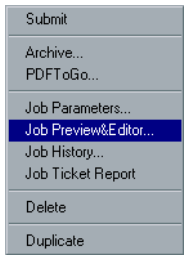
RTP Jobs are submitted to the Print queue. All other jobs are submitted to the Process queue.

Previewing RTP Jobs

You can preview an RTP job to closely inspect it before printing. You can navigate to the various pages of the job, switch the display mode of the page and view the pages as thumbnails.

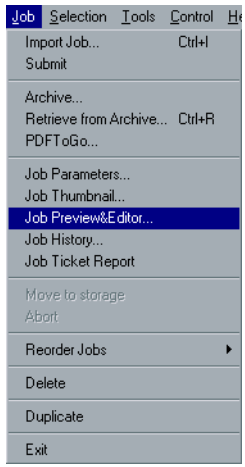
Opening the Job Editor

➢ Select an RTP job in the Storage Folder and right click. Select **Job Preview&Editor**.

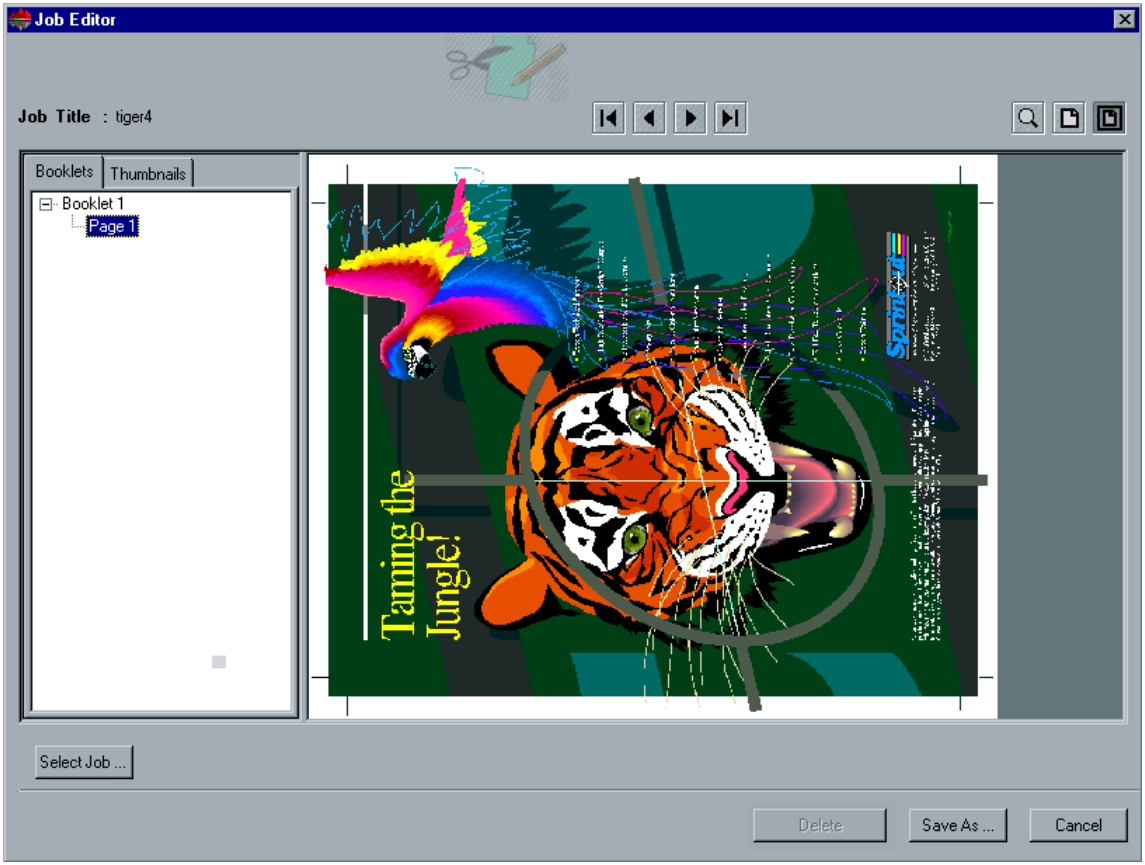


Or:

From the **Job** menu, select **Preview&Editor.**



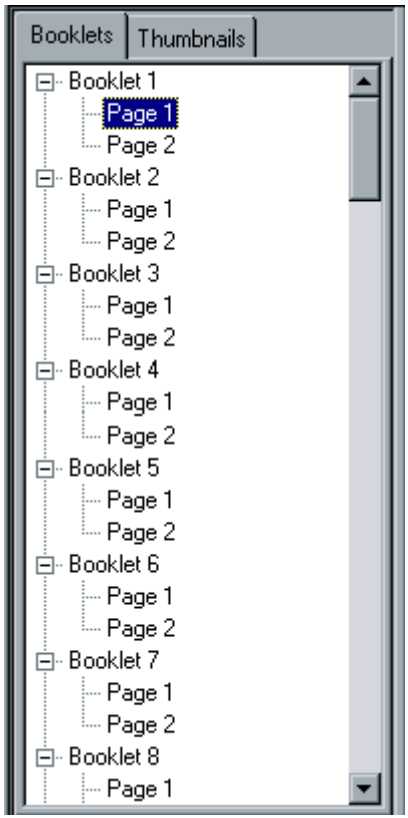
The *Job Editor* window appears, displaying the first page of the selected job.



The left pane lists the booklet(s) included in this job and the names/numbers of the pages within each booklet.

A non-VI job always has one booklet only.

The following shows the left pane of a job that includes several booklets (for example personal copies / sets as in VI information).



The tabs 

allow you to switch between Booklets view (the default) and Thumbnails view.

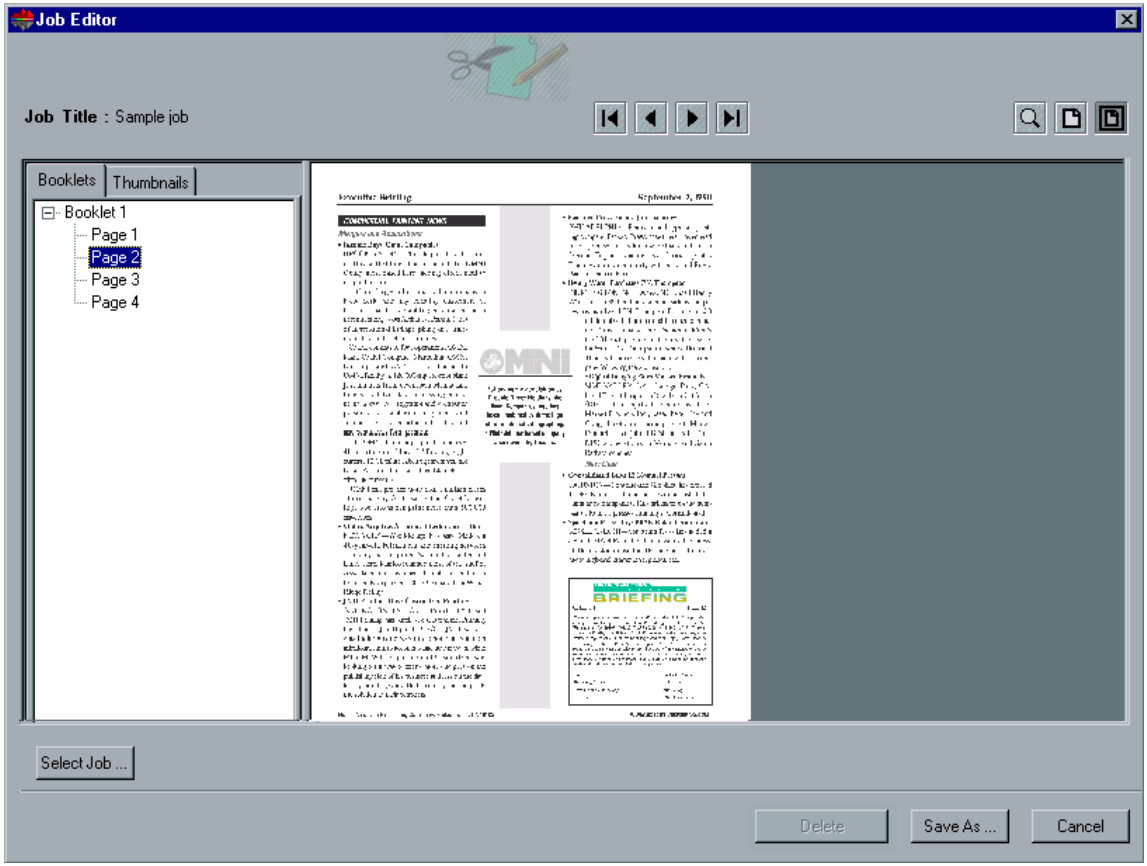
The **Navigation** buttons  allow you to display other pages of the current job.

The **Preview** buttons  allow you to switch the display mode of the page.

Viewing Pages in the Job Editor

To display a page in Booklets view:

➢ Double-click the name of a page (for example, Page 2) to display it.

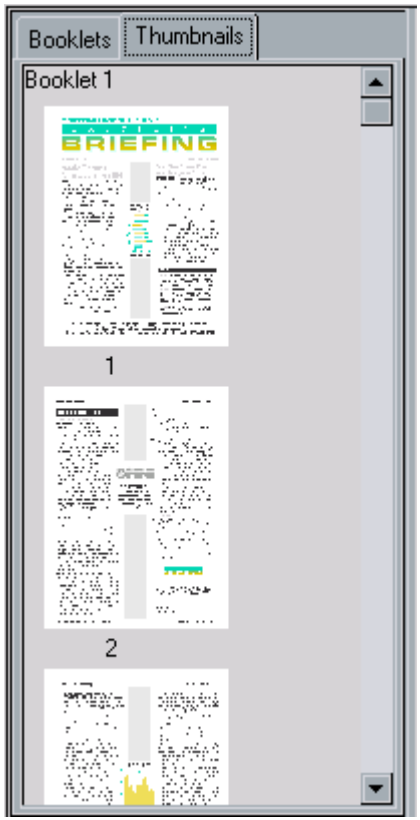


The required page appears (and its number in the Booklet list becomes highlighted).

For further information, refer to *Preview Buttons on page 314*.

To display a page in Thumbnails view:

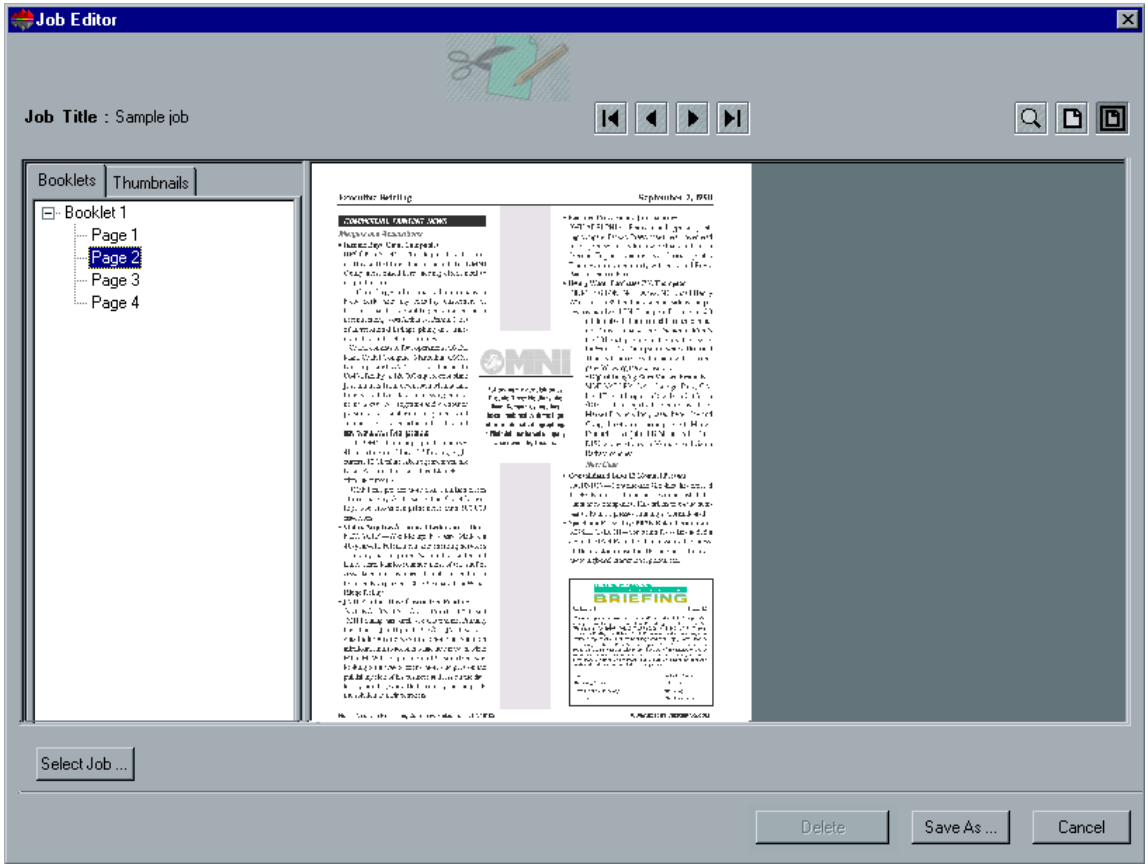
1. Select the Thumbnails tab.
   A small and approximate version of all the pages appears.



The following graphic shows a VI job that includes several booklets. The pages in each booklet are listed under the number of the booklet.

2. To view additional thumbnails, use the vertical scroll bar.
3. If required, resize the thumbnail area to view thumbnails side by side (you can then use the horizontal scroll bar to view additional thumbnails).

4. Then double-click the thumbnail of the page you wish to display (for example, 3).



5. The required page appears (and the number below its thumbnail becomes highlighted).

For further details, refer to *Preview Buttons on page 314*.

Navigation Buttons

By default, when you open the Job Editor, the first page of the job appears.

The **Navigation** buttons allow you to navigate between the pages of a job.

Select one of the following:

- to display the first page of the job.
- to display the previous page. Select to display the next page.
- to display the last page of the job.

If the first page of a booklet is accessed, navigation continues to the previous booklet. If the last page of a booklet is accessed, navigation continues to the next booklet.

For further details, refer to *Preview Buttons on page 314*.

Preview Buttons

By default, when you open the Job Editor, the entire first page of the job appears (it fits entirely into window mode).

The **Preview** buttons allow you to switch the display modes of the displayed page.

To zoom into an area:

1. Select  and click on the page.

   The cursor changes to  .
   The display updates in the zoom mode, displaying the window in Max Detail.

   The cursor changes to 

   Displaying (or navigating to) another page resets the zoom.

2. Click again on the page to zoom out (to Fit in window or max detail mode - whichever prevailed before zooming in).

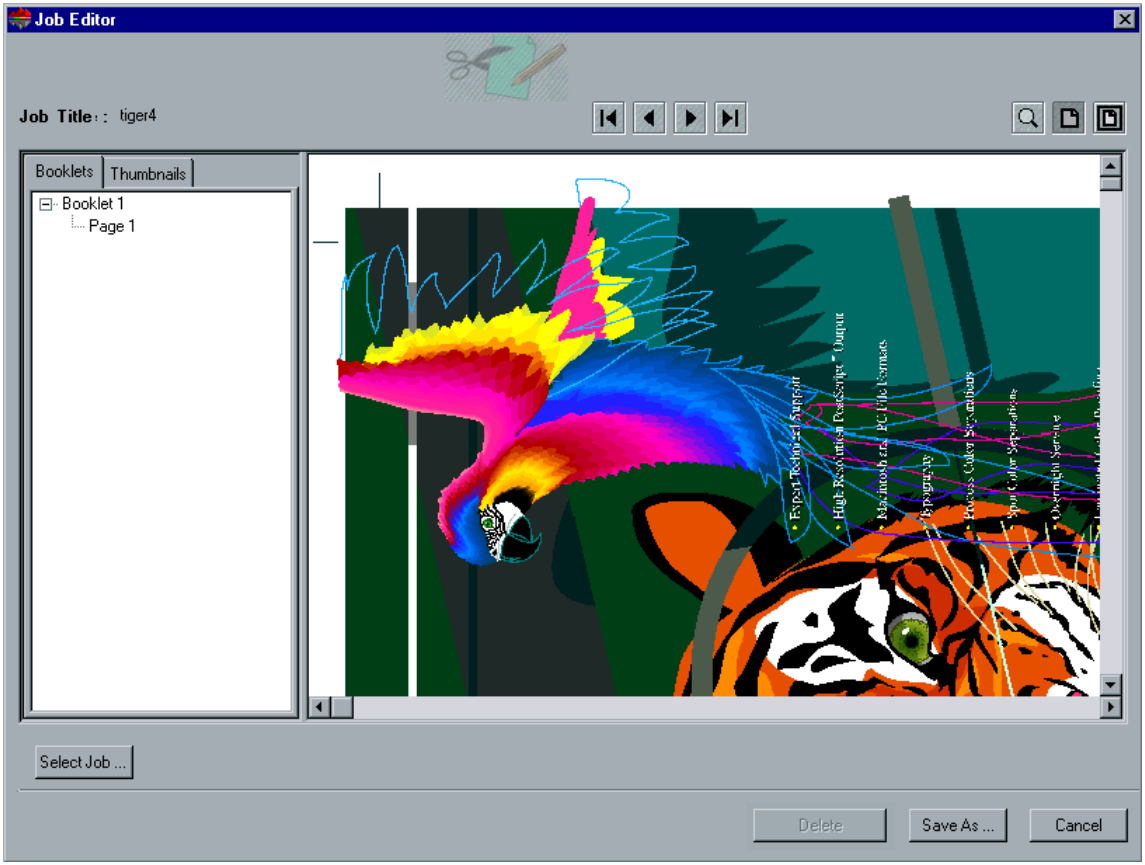
To display the actual size of the page:

➢ Select the **Fit to Window** button.

The display updates to display the actual size of the page.

Notes:

1. If the page is larger than the display, use the horizontal and vertical scroll bars.
2. Displaying (or navigating to) another page retains display mode (it displays the actual size of the required page).



To fit the entire page into the window:

➢ Click the Preview button.

The display updates to display the entire page.

Notes:

1. This is the default mode when you open the Job Editor.
2. Displaying (or navigating to) another page retains display mode (it displays the entire required page).

Editing RTP Jobs

You can perform the following:

- Move pages within the job
- Delete pages from the job
- Insert pages from another job
- Merge entire jobs

Proceed as follows:

1. Preview an RTP job (see Previewing RTP Jobs above).
2. Switch to Thumbnails view.
3. Modify the job as required (see Moving Pages within a Job, Deleting Pages from the Job, and Merging Jobs).
4. Save the modified job by a new name.

Notes:

1. Jobs that contain VI files cannot be edited.
2. The modified RTP has no PDL and can therefore be printed, but not re-processed or duplicated.

For details on job parameters that require re-RIPping that can not be changed in modified RTP files, refer to *Setting Job Parameters on page 49*.

Moving Pages within a Job

If required, you can move a page to another location within the job to be edited (for example, switching between page #2 and page #3).

1. Click on the page to be moved (for example, page #3).

2. Drag the page in-between any two pages to the required target location (for example, above page #2).

The red marker indicates where the page is inserted.

original order

new order

The moved page is inserted in the required location and the page numbers update accordingly.

Deleting Pages from the Job

If required, you can delete a page from the job to be edited.

Proceed as follows:

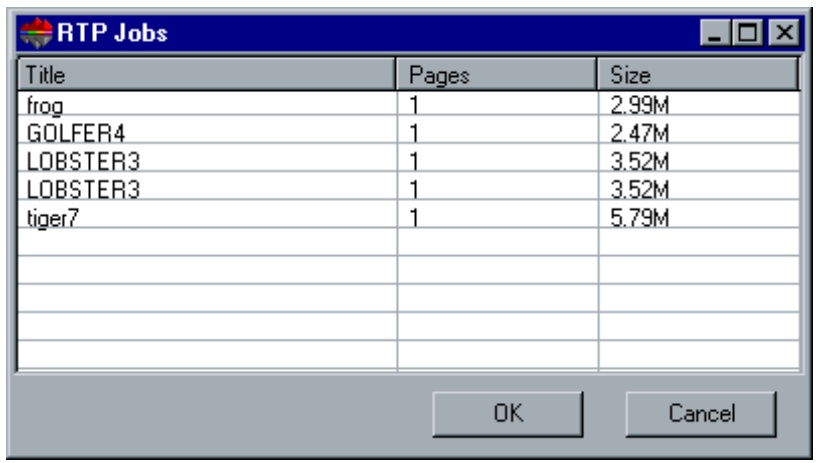
1. Click on the page to be deleted.
2. Click the **Delete** pushbutton or press DELETE. The page is deleted and the page numbers update accordingly.
3. If required, delete additional pages.

Merging Jobs

You can copy a page from a job into the job to be edited or you can copy all the pages from a job and append them to the job to be edited.

Proceed as follows:

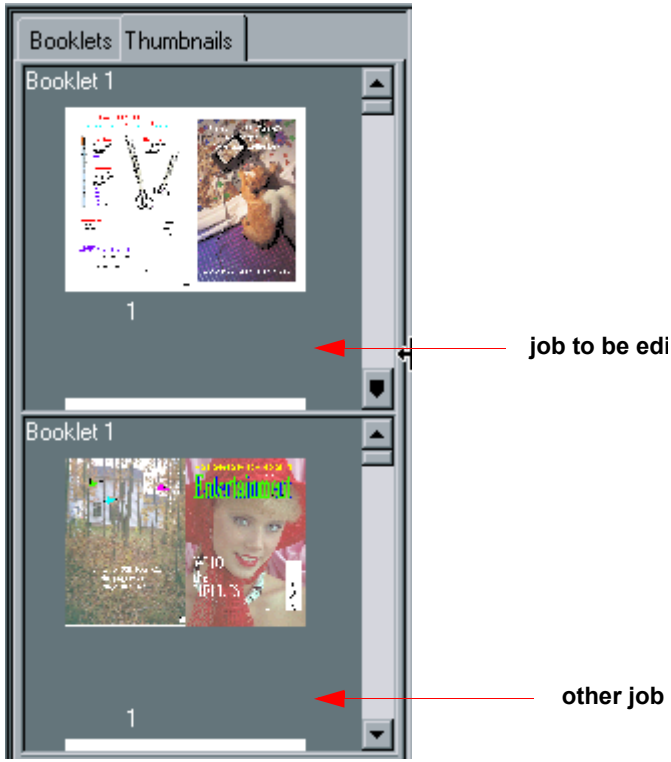
1. Click the **Select Job. . .** button.
   The *RTP Jobs* window appears.



Only RTP jobs of which the page size and orientation are identical to that of the job to be edited are displayed.

2. Select the job from which you want to copy one or several pages.

3. Click **OK**.



The Thumbnails display area splits in two and the thumbnails of the other job are displayed below those of the job to be edited.

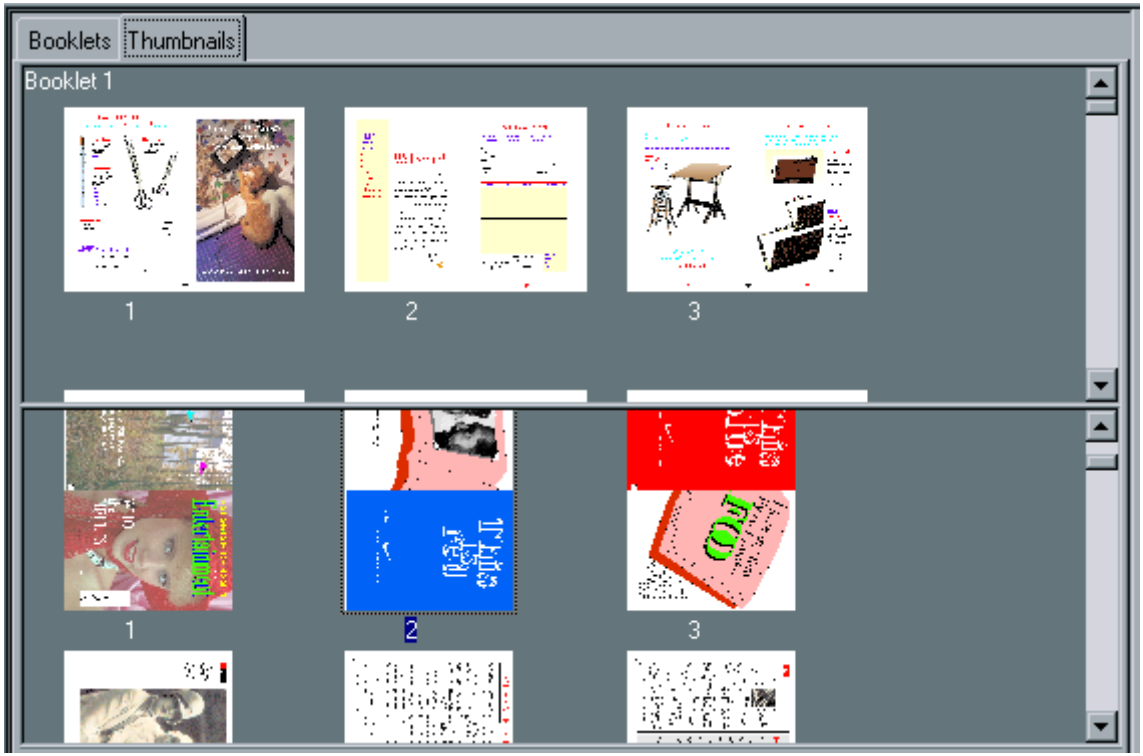
Notes:

1. If the Job Editor is set to display booklets, when you select a second job for editing, the Job Editor automatically switches to thumbnail.
2. If you wish to view the job to be edited only, click the **Close Job** button.

Copying a Page from the Other Job

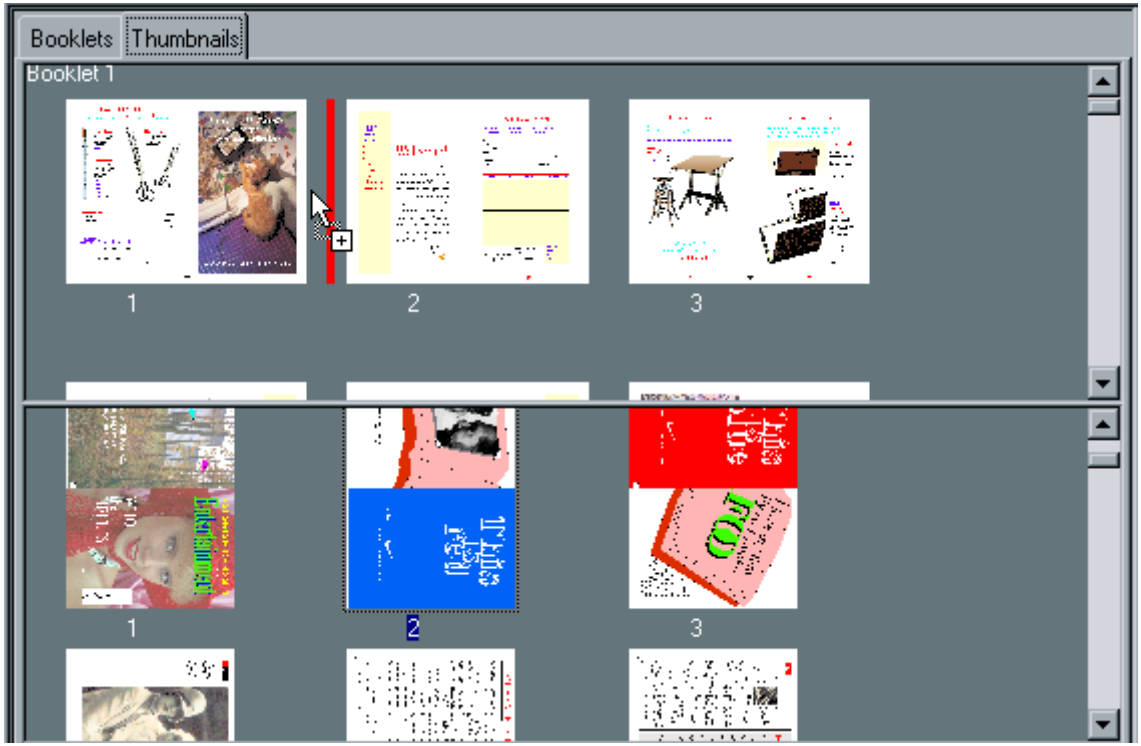
Once the thumbnails of the other job are displayed, you can copy a page from this job and insert it into the job to be edited.

1. Select the page that you wish to copy (for example, page #2).

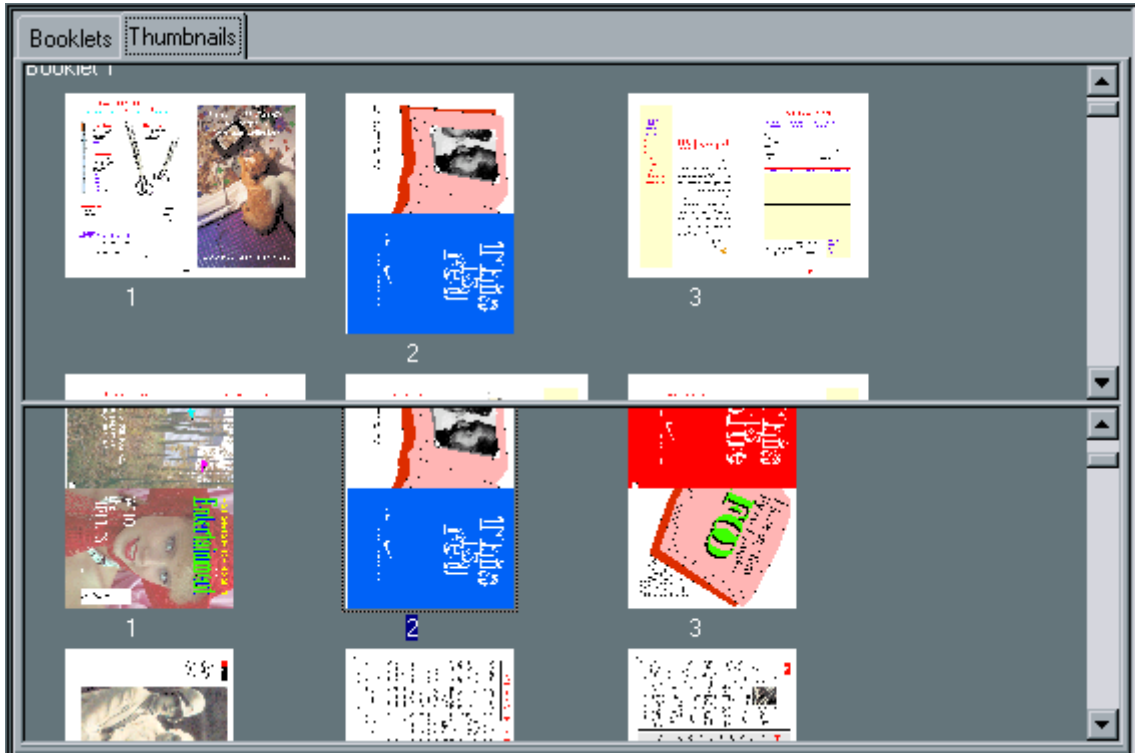


2. Drag the page to the required location in the job to be edited.

The red marker indicates where the page is inserted.



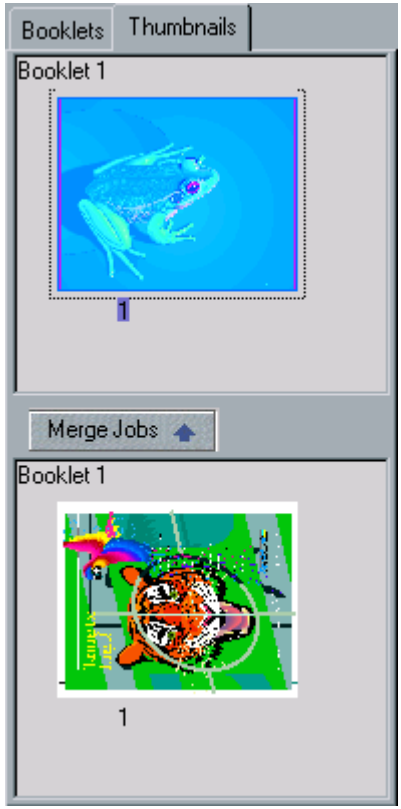
The copied page is inserted in the required location and the page numbers update accordingly.



Copying all the Pages of the Other Job

If required, you can merge two entire jobs (copy the pages of the other job and insert them after the pages of the job to be edited).

1. Once the thumbnails of the other job are displayed, click the **Merge Jobs** button (with a blue arrow on the right).



All the pages of the other job are inserted at the end of the job to be edited.

2. Click the **Close Job** button to view the job to be edited only.

Saving the Edited Job

After editing an RTP job, you save the modified job.

1. Click **Save As. . .**
   The following dialog box appears:

2. Type a new name for the job.

   Or:

   Leave the indicated name to overwrite the job.

3. Click **OK**.
   The file is saved in the Storage Folder and the *Job Editor* window closes.

Notes:

1. The modified RTP has no PDL and can therefore be printed, but not re-processed or duplicated.

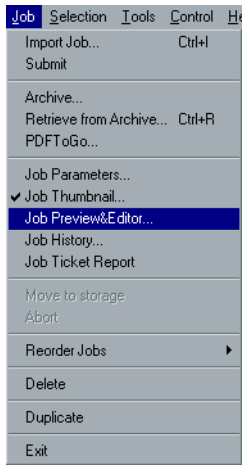
2. For details on job parameters that require re-RIPping that can not be changed in modified RTP files, refer to *Setting Job Parameters on page 49*.

Previewing and Editing PDL Jobs

You can preview a PDL job to closely inspect it before processing.

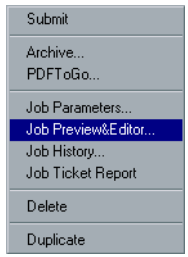
Proceed as follows:

1. Select a PDL job in the Storage Folder.
2. From the **Job** menu, select **Preview&Editor.**

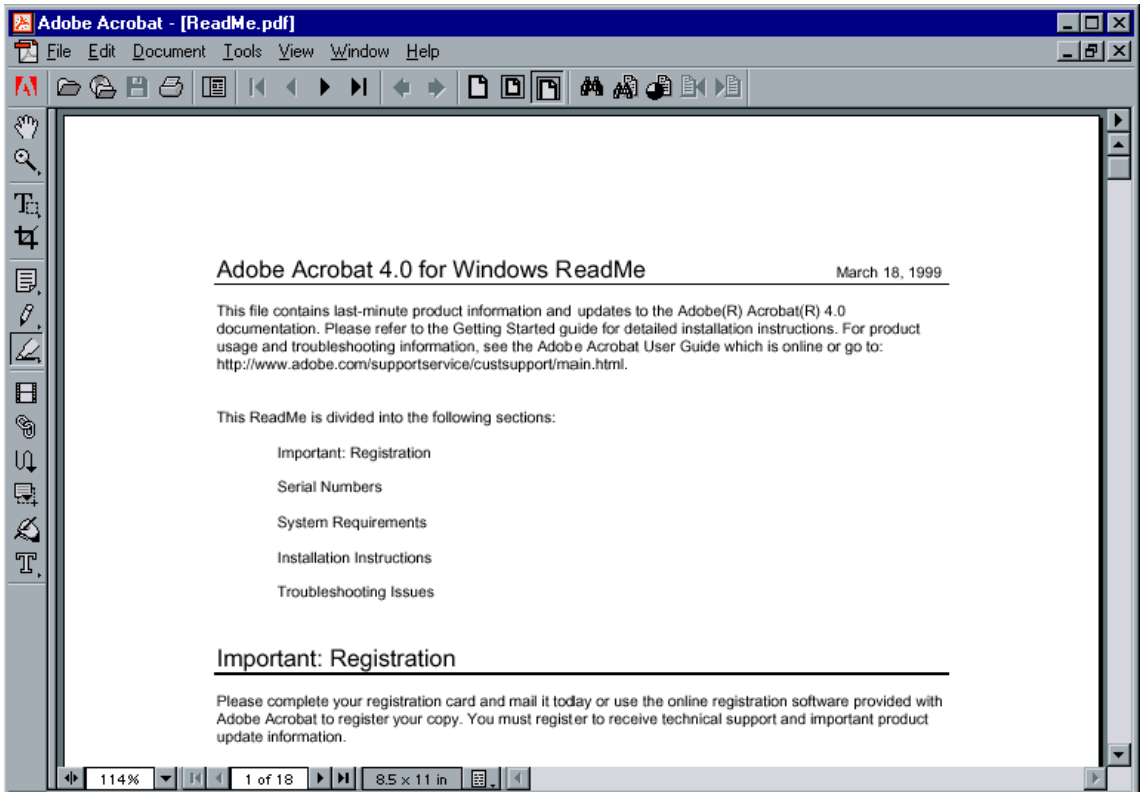


Or:

Select a PDL job in the Storage Folder. Right-click and select **Preview&Editor**.



The file appears as a PDF in Adobe Acrobat.



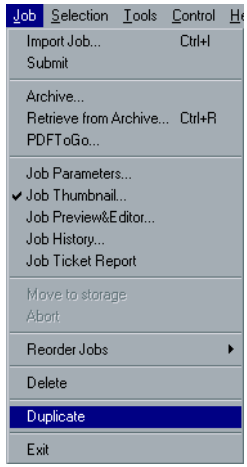
3. Modify the file as required.
4. Save the file and exit Adobe Acrobat.

The modified PDL is converted into a PDF that requires re-processing.

Duplicating Jobs

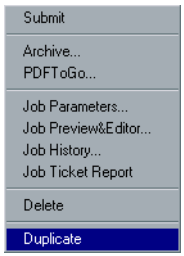
To copy a selected job in the Storage Folder:

1. Select a job in the Storage Folder. From the **Job** menu, select **Duplicate**.

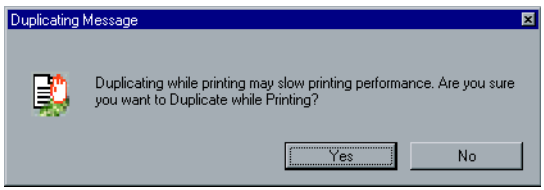


Or:

Select a job in the Storage Folder. Right-click and select **Duplicate** from the shortcut.



The following message appears:



2. Click **Yes** to continue. The selected file is duplicated and is given the name of the original job followed by "_dup".

Duplicating an RTP job creates a new PDF version of the job.

Or:

Click **No** to halt duplicating until other print jobs have finished processing. Then duplicate the selected job.
You cannot duplicate an RTP job that was modified (using the Job Editor). When trying, the following message appears:

Archiving and Retrieving Jobs

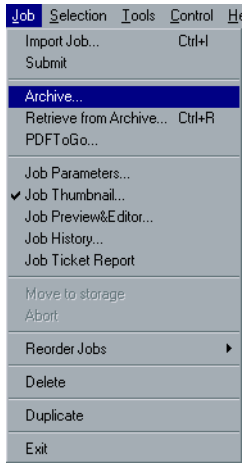
When the Storage Folder fills with many jobs, you can backup jobs (with their related files) onto an external server. You can then delete the jobs from the CSX2000 Color Server. When required, you can return the archived jobs into the Storage Folder.

Archive and retrieve operations should not be performed when the system is printing or processing data. Suspend the Process queue when performing any archive or retrieve operation.

Archiving jobs that are larger than 256MB require at least 768MB free space in *D:/ Drive*.

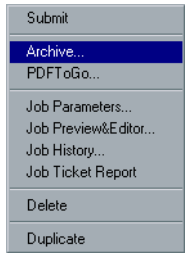
To archive a job to an external server:

1. Select a job in the Storage Folder. From the **Job** menu, select **Archive.**

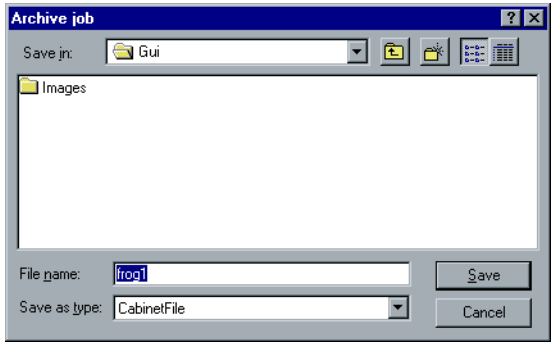


Or:

Select a job in the Storage Folder. Right-click and from the Shortcut Menu select **Archive**.



The *Archive job* window appears.



2. Access the required location and click **Save**. A cabinet file (in compressed ZIP form) is created at the selected location. It contains all the files related to the archived job.

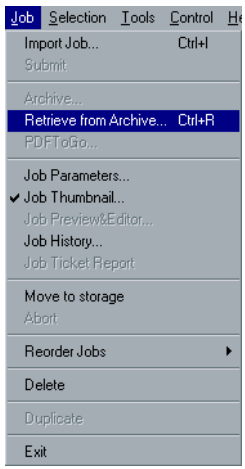
Notes:

1. The archived job retains its current status (Completed, Failed, Held, or Aborted) and is archived with its Job Parameters and Job History. When retrieved, an archived job retains the original job name, not the name assigned when archived.

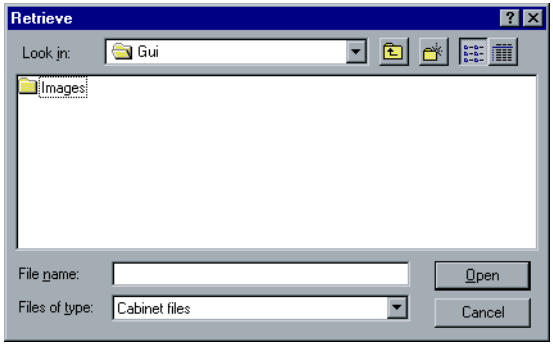
2. To actually remove the job from the CSX2000 Color Server, select it in the Storage Folder and activate Delete.

To retrieve an archived job back into the Storage Folder:

1. Select a job in the Storage Folder. From the **Job** menu, select **Retrieve from Archive.**



The *Retrieve* window appears.



2. Access the location in which you archived the job, select the related cabinet file, and click **Open**.

Find the job using the archived job name. The original name appears when retrieved.

The selected job appears at the top of the list in the Storage Folder. It is assigned the status (Completed, Failed, Held, or Aborted) it had when it was stored.

Notes:

1. The files related to the job (for example, PDL) are also retrieved.
2. The Job Parameters and Job History related to the job prevail.
3. The cabinet file is not deleted from its location.

Archiving & Retrieving VI Jobs

VI jobs that were processed can include VI cached elements. When jobs are archived / retrieved then the VI elements must also be archived / retrieved. The archival / retrieval must be done in a certain order as specified in the following procedures.

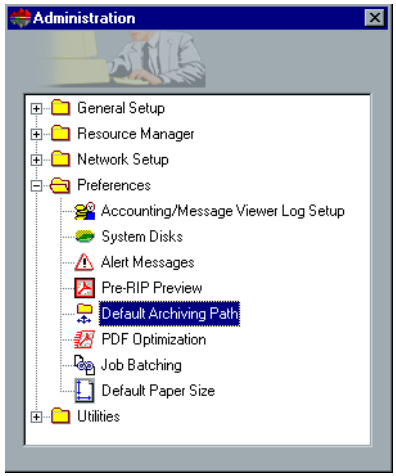
For more information about VI Element procedures, refer to *Organizing VI Elements on page 141*.

Default Archiving Path

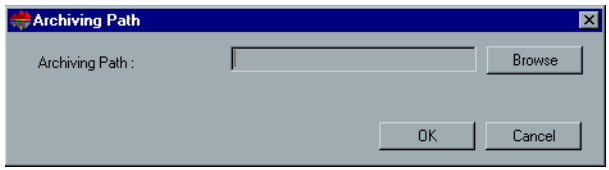
The Default Archiving Path utility lets you select a default path for archiving jobs. Once the path is set and Archive is selected from the Job menu, the Archive window browser is directed to the predefined path.

To set the default archiving path:

1. Access the *Archiving Path* dialog box via *Admin* > *Preferences* > *Default Archiving Path.* Double-click on this option.



The *Archiving Path* dialog box appears.



2. Browse to the required location for your job archive.
3. Click **OK**.

Deleting Jobs

You can delete one or several jobs from the CSX2000 Color Server.

Unlike archiving, the jobs may not be restored.

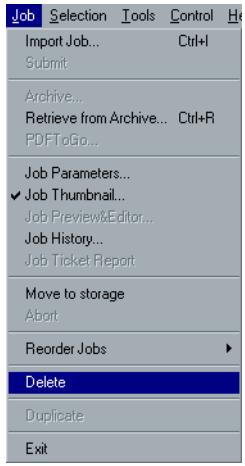
Proceed as follows:

1. Select one or several jobs.

   Press **Delete**.

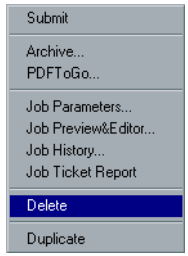
   Or:

   From **Job** menu, select **Delete**.



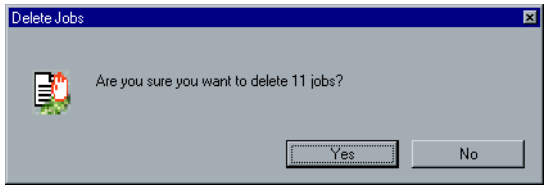
   Or:

   Right-click and select **Delete** from the Shortcut Menu.



If you selected one job, the system indicates its name:

If you selected several jobs, the system indicates their number:



The selected job(s) are removed from the Storage Folder.

Notes:

1. When a job is deleted, its related PDL files are deleted as well.
2. To temporarily remove jobs from a queue, use Archive (refer to Archiving and Retrieving Jobs).

Job Ticket Report

The Job Ticket Report contains all information from the *Job Parameters* window (including *Job Parameters* window title bar data).

The Job Ticket Report offers three main functions:

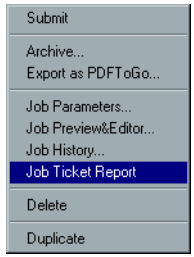
- Presents the complete Job Ticket Report on a single sheet
- Saves this report as a file
- Prints a hard copy of the report

This feature is useful in the following situations:

- Updating the Hot-Line service on Job Ticket Report data when a question arises
- Keeping job parameters when the same job is planned to be re-printed in the future
- Providing the client / customer a follow-up tool regarding printed Job Parameter information.

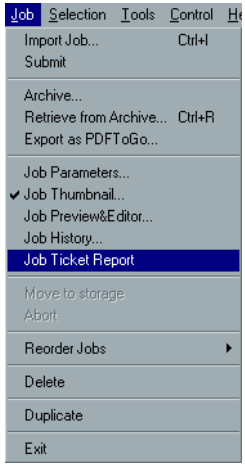
Enter the Job Ticket Report either one of two ways:

➢ Select a job on the Storage Folder, click the right button on the mouse, and select **Job Ticket Report** from the Shortcut Menu.

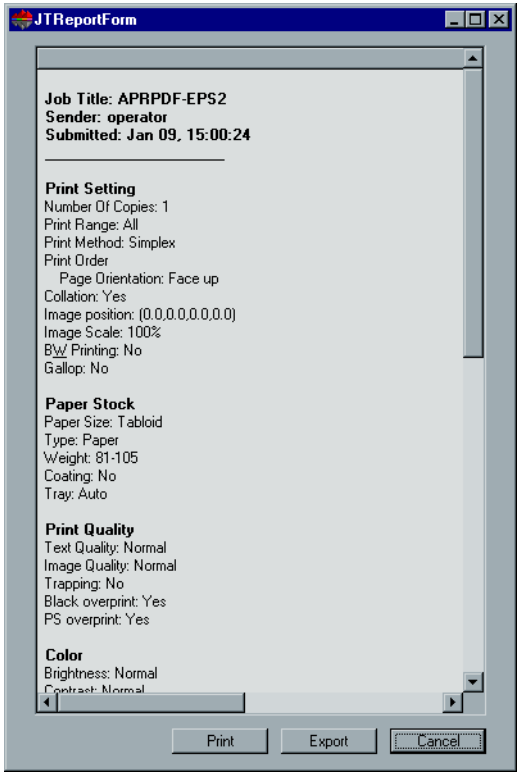


Or:

Select the job in the Storage Folder. From the Job menu, select **Job Ticket Report**.



The *JTReportForm* dialog box appears.



From this report, you can perform the following:

- Export the Job Ticket Report
- Print the Job Ticket Report

Notes:

1. Updating Job Ticket data is done only through the *Job Parameters* window.
2. Although the system keeps job parameters data, there is no backup function. Thus you can not save Job Ticket Report data as a file.

For specific Job Parameter details, refer to *Job Parameters Window on page 51*.

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Chapter 6

System Messages

Overview

While jobs are being handled by the CSX2000 Color Server, various messages are emitted. You can view the messages of each job (in Job History), of the entire session (in Message Viewer) or just the error messages (in Alerts).

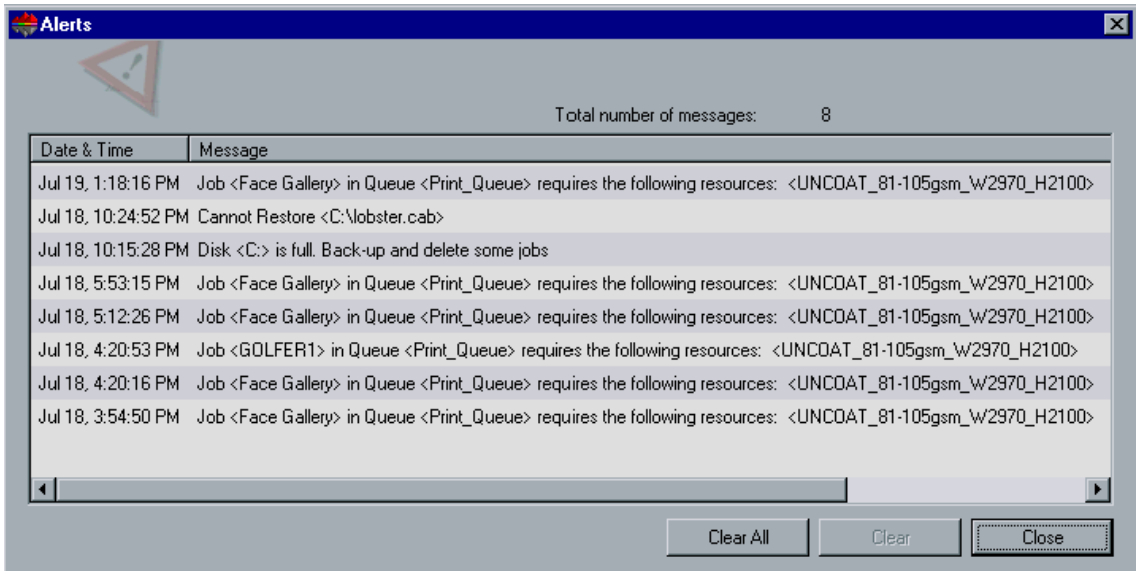
Alerts Window

Any time the system emits a message of type error, the *Alerts* window appears, listing all the error messages that were generated during the workflow (the total number of messages is also indicated).

1. To view error messages at any stage of work, select **Alerts** from the Tools menu

   Or:

   Click the **Alerts** button on the Pathways Panel.
   The *Alerts* window appears, listing all the error messages that were generated during the workflow.



By default, the list is sorted to show new messages at the top of the list.

For each message, the origin of the message is indicated and a task that will solve the problem is suggested.

2. After one or several messages are no longer relevant, select the message(s) and click **Clear** to remove the message(s).

   Or:

   Click **Clear All** to remove all the messages.

   Cleared messages are not removed from the Message Viewer or related Job History lists.

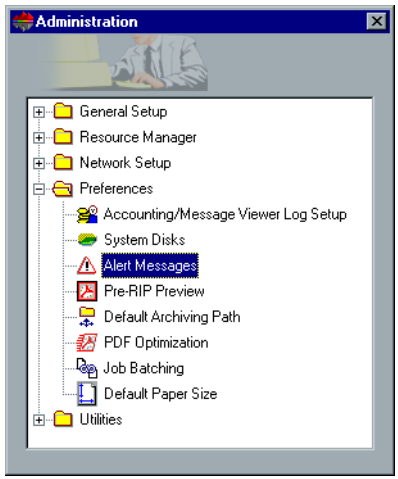
3. Click **Close** to close the window.

Alert Messages

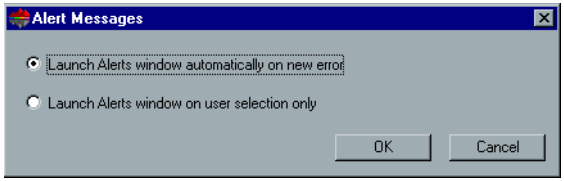
The Alert Messages utility let you select whether the *Alerts* window appears automatically or not when an error occurs.

To set the alert window settings:

1. Access the *Alert Messages* dialog box via *Admin* > *Preferences* > *Alert Messages.* Double-click on this option.



The *Alert Messages* dialog box appears.



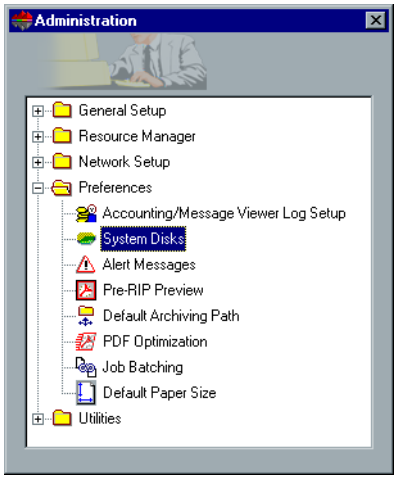
2. For the *Alerts* window to appear whenever an error occurs, select **Launch Alerts window automatically on new error**.
3. To open the *Alerts* window upon selection only, select **Launch Alerts window on user selection only**.

System Disks

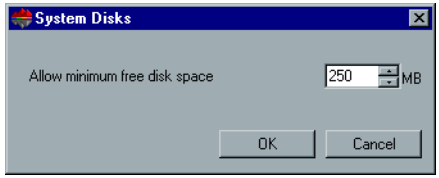
When the Printer or User Disks reach a pre-defined threshold (usually of 256 MB), RIP is suspended and the system provides a warning message. The RIP resumes automatically only after disk space is available.

To define the system disks threshold:

1. Access the *System Disks* dialog box, via *Admin* > *Preferences* > *System Disks*. Double-click on this option.



The *System Disks* dialog box appears.



2. Set the minimum free disk space required for RIP.
3. Click **OK**.
   The default free disk space value is 250MB.

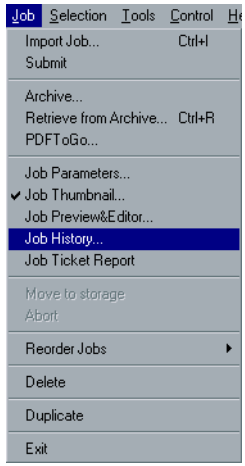
Job History

➢ Access the *Job History* window one of three ways:

Select a job in the Queue Manager and double-click.

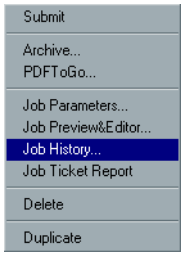
Or:

Select a job in the Storage Folder. From the **Job** menu, select Job History.

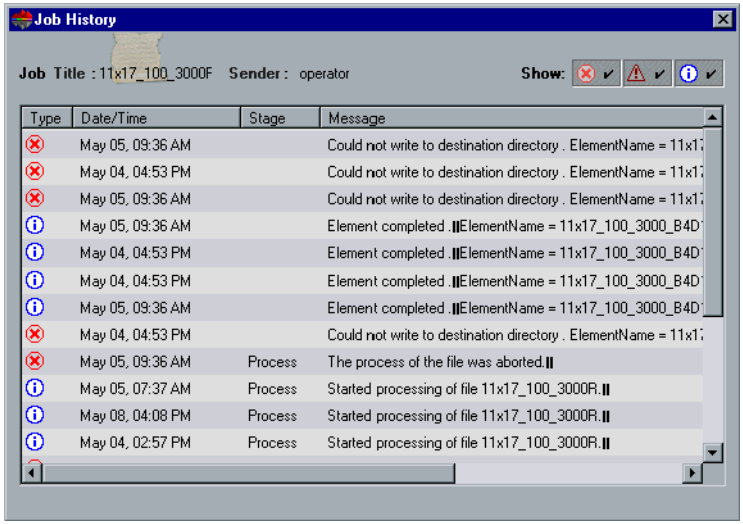


Or:

Select a job in the Storage Folder. Right-click and select **Job History. . .** from the Shortcut Menu.



The *Job History* window appears, listing all the messages that were generated during the workflow of the selected job.



This window indicates the job title and the sender name (the user name of the system from which this job originated).

Message Information

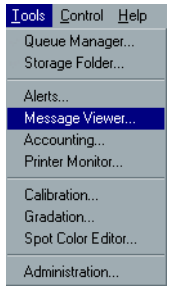
For each message, the following information is indicated by default:

- An icon denoting the type of message (Error, Warning, or Information)
- The date and time on which the message was emitted (time stamp data)
- The stage in the workflow (for example, Print or Process)
- The message text

You can filter the messages by type and / or sort the list by one of the column headers.

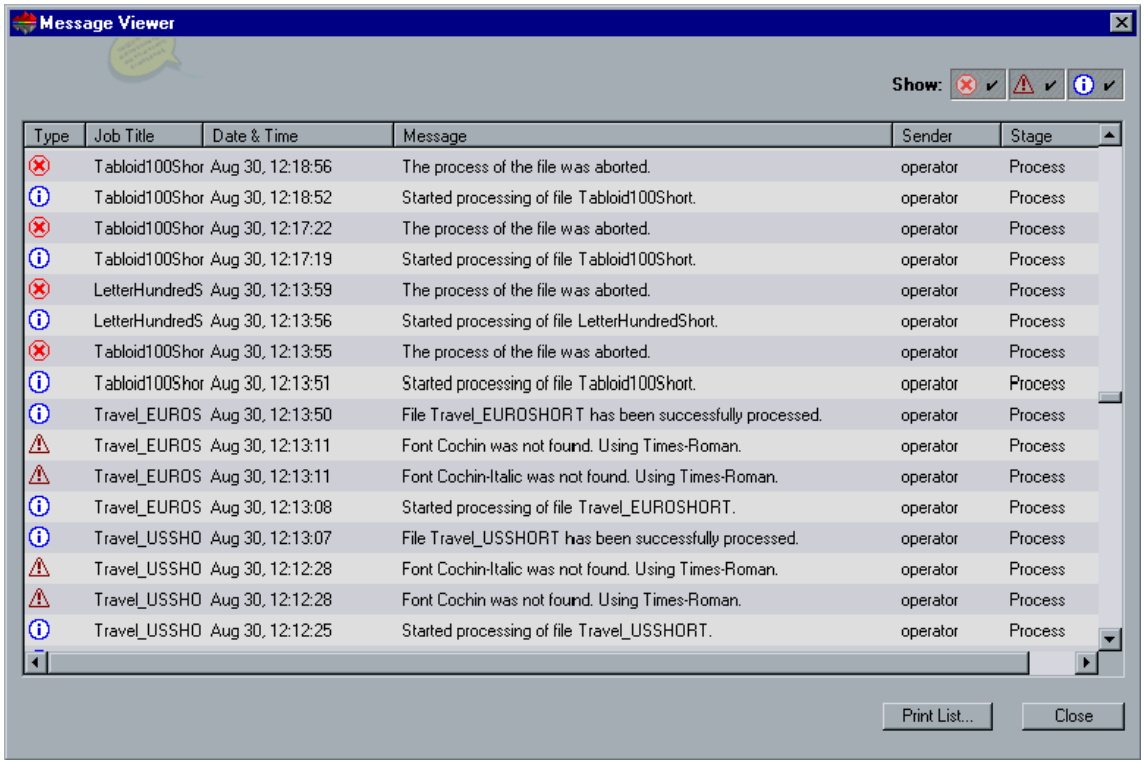
Message Viewer

1. At any stage of work, access the *Message Viewer* window from the **Job** menu, **Message Viewer. . .**



The *Message Viewer* window appears, listing all the messages that were generated during the workflow.

To view messages related to a specific job, refer to Listing Job History Messages above.



Type	Job Title	Date & Time	Message	Sender	Stage
	Tabloid100Shor	Aug 30, 12:18:56	The process of the file was aborted.	operator	Process
	Tabloid100Shor	Aug 30, 12:18:52	Started processing of file Tabloid100Short.	operator	Process
	Tabloid100Shor	Aug 30, 12:17:22	The process of the file was aborted.	operator	Process
	Tabloid100Shor	Aug 30, 12:17:19	Started processing of file Tabloid100Short.	operator	Process
	LetterHundredS	Aug 30, 12:13:59	The process of the file was aborted.	operator	Process
	LetterHundredS	Aug 30, 12:13:56	Started processing of file LetterHundredShort.	operator	Process
	Tabloid100Shor	Aug 30, 12:13:55	The process of the file was aborted.	operator	Process
	Tabloid100Shor	Aug 30, 12:13:51	Started processing of file Tabloid100Short.	operator	Process
	Travel_EUROS	Aug 30, 12:13:50	File Travel_EUROSHORT has been successfully processed.	operator	Process
	Travel_EUROS	Aug 30, 12:13:11	Font Cochin was not found. Using Times-Roman.	operator	Process
	Travel_EUROS	Aug 30, 12:13:11	Font Cochin-Italic was not found. Using Times-Roman.	operator	Process
	Travel_EUROS	Aug 30, 12:13:08	Started processing of file Travel_EUROSHORT.	operator	Process
	Travel_USSHO	Aug 30, 12:13:07	File Travel_USSHORT has been successfully processed.	operator	Process
	Travel_USSHO	Aug 30, 12:12:28	Font Cochin-Italic was not found. Using Times-Roman.	operator	Process
	Travel_USSHO	Aug 30, 12:12:28	Font Cochin was not found. Using Times-Roman.	operator	Process
	Travel_USSHO	Aug 30, 12:12:25	Started processing of file Travel_USSHORT.	operator	Process

By default, all the jobs that were handled during the last 3 months are listed.

The default can be changed in Preferences under Administration (refer to the *CSX2000 Color Server Installation Guide*).

2. You can filter the messages by type and / or sort the list by one of the column headers.
3. Also, you can print the list of messages (refer to Managing Messages).

Managing Messages

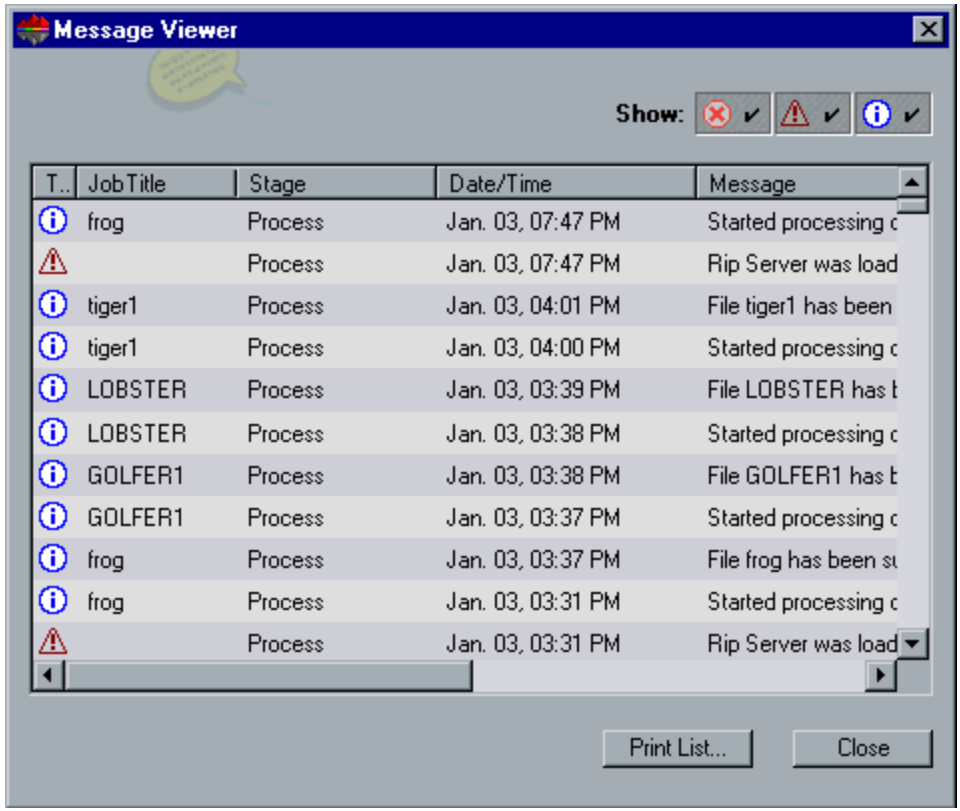
If required, you can reorder and resize columns, filter the list or sort the list by one of its column headers.

Notes:

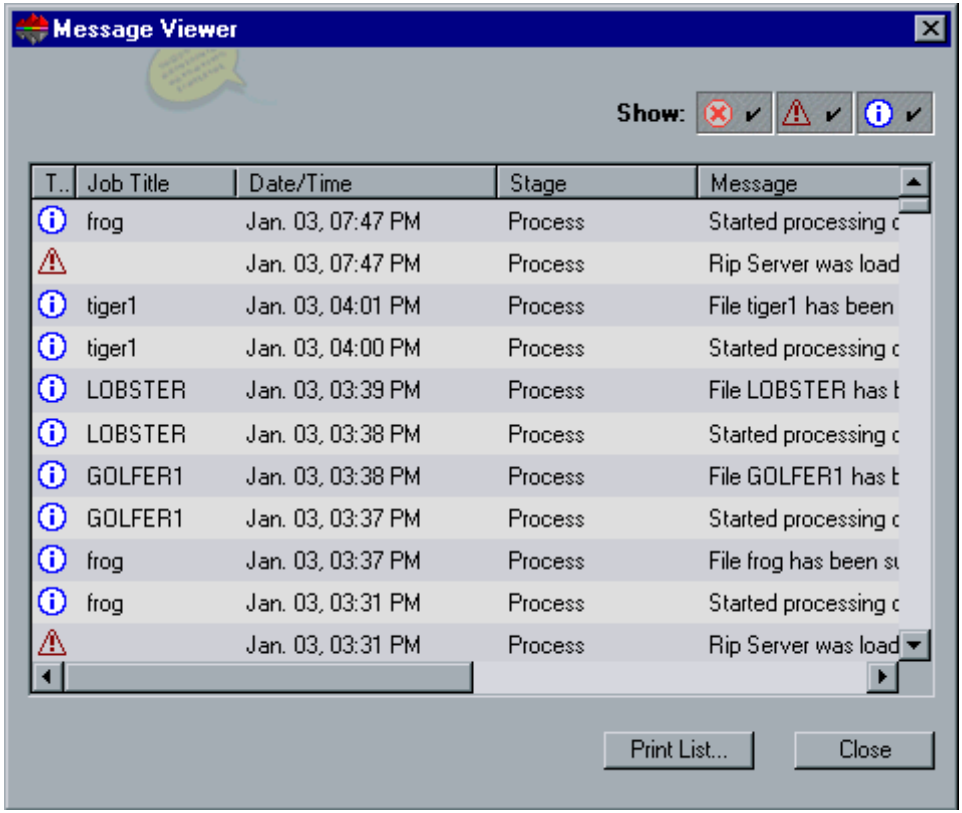
1. This section is relevant for the *Message Viewer* and *Job History* windows (but not for the *Alerts* window).
2. These settings are retained after closing a window.

Reordering Columns

If required, you can change the current order of the columns.



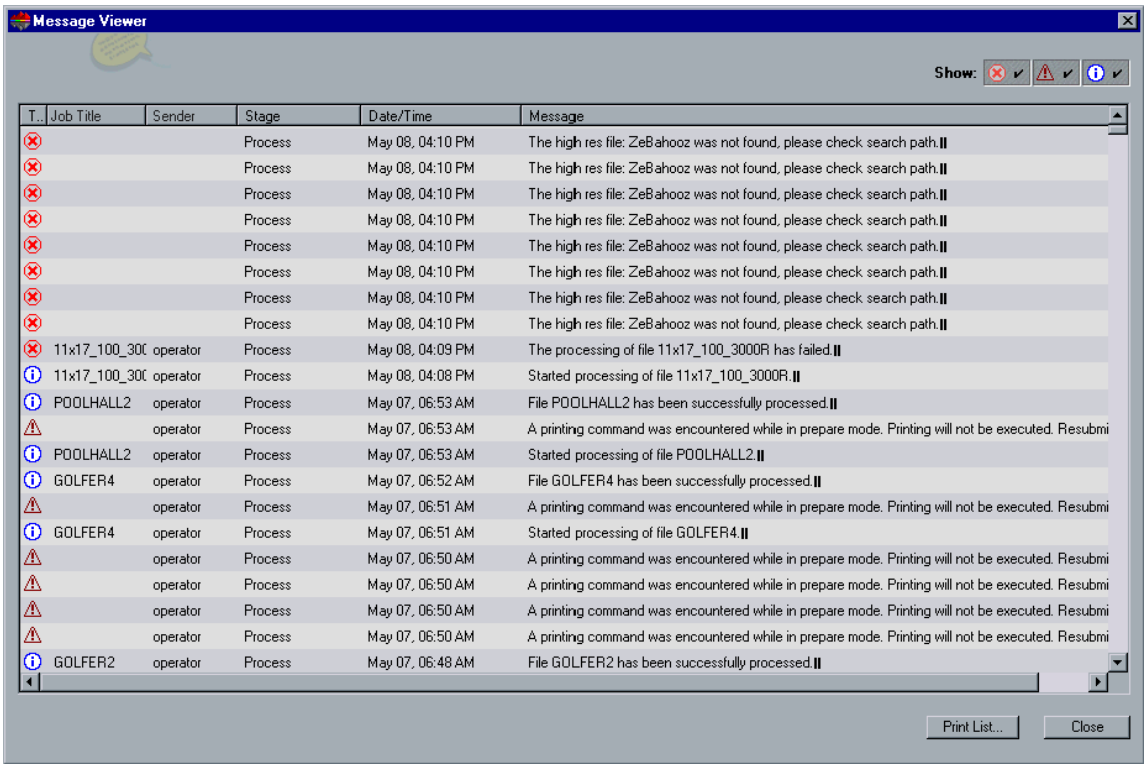
➢ Click the cursor on a column (for example, Stage) and, without releasing the mouse button, drag the column to the left or to the right to the required location (for example, to place the Stage column after the Date / Time column).



Resizing Columns

If required, you can resize columns (or even minimize columns so they are not viewed at all).

1. Click the cursor on the right border of the required column (for example, Sender). The cursor switches shape.



2. Drag the cursor to the right to enlarge the size of the column, or to the left to decrease (or to minimize the column so it will not be viewed at all). To bring the column back into view, drag the cursor to the right.

Filtering the Messages by Type

Each message in the *Message Viewer* and *Job History* windows is assigned one of the following types:


Error messages are listed.


Warning messages are listed.


Information messages are listed.

By default, the messages of all types are listed in the Message Viewer (all the **Type** buttons are selected).

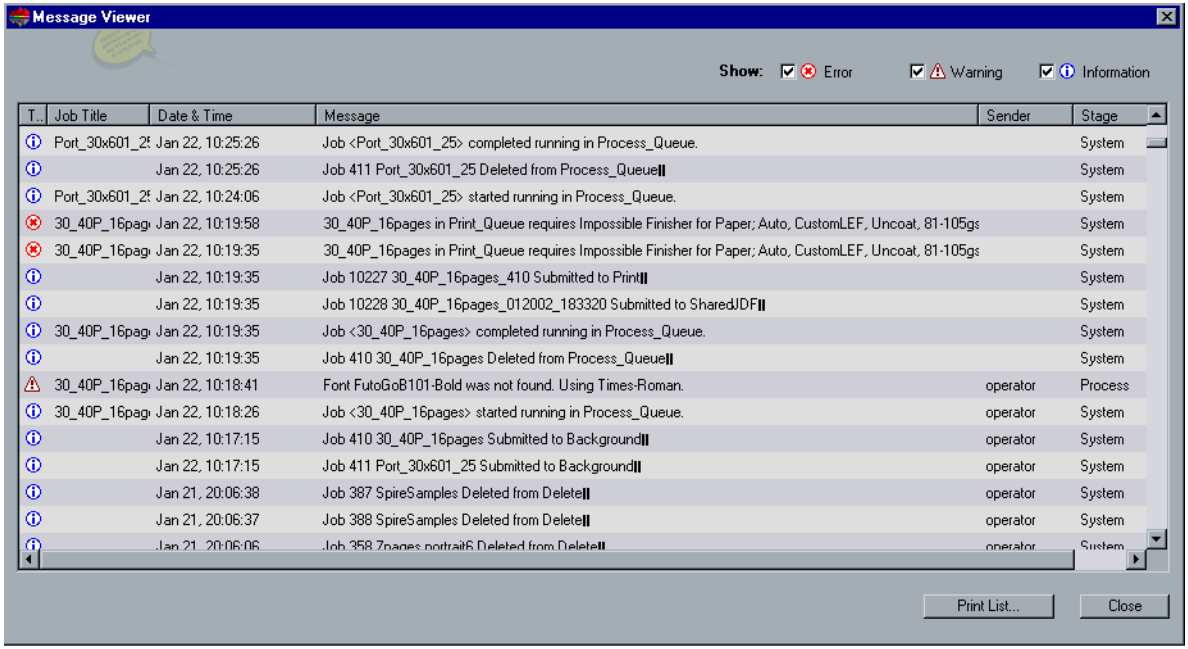
The ✔ emphasizes that messages of this type appear in the list.

You can filter the list in order to view only messages of certain types, while not listing messages of other types.

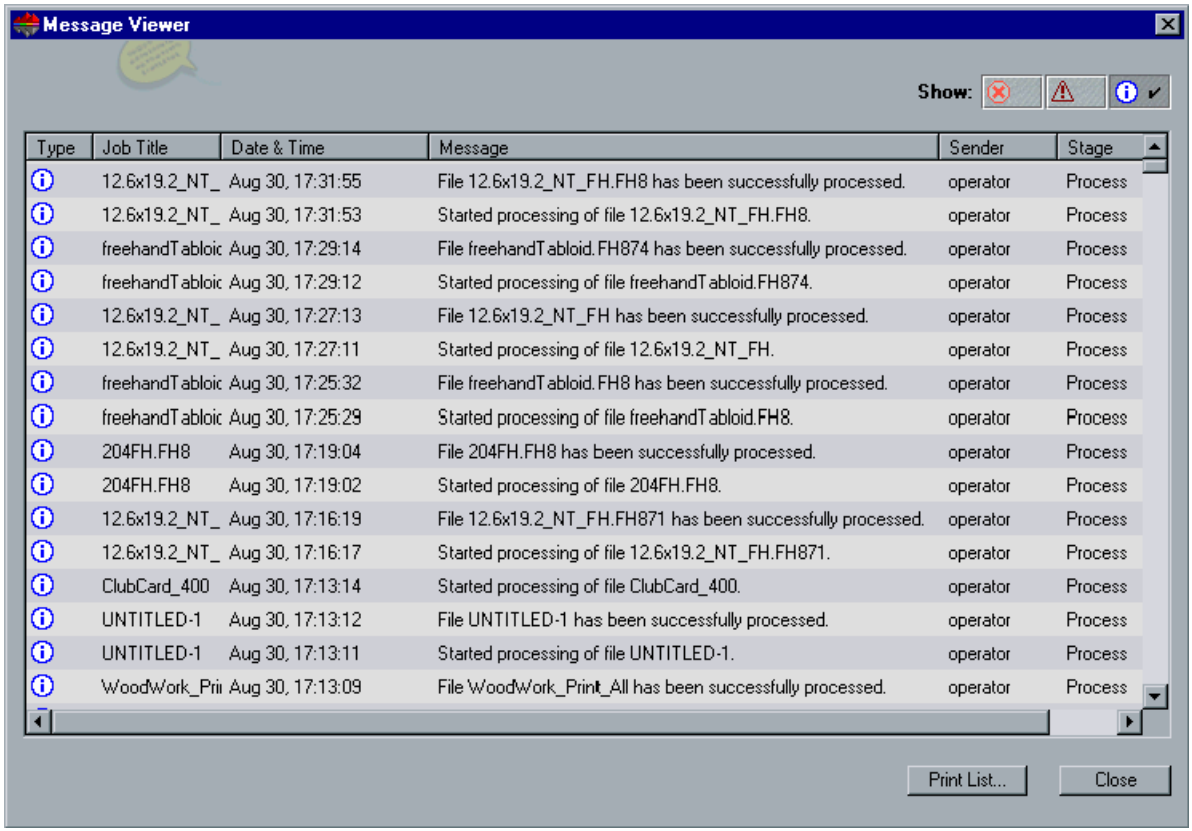
Depress any **Type** button (for example, **Error**) in order not to list such messages.

If all the buttons are depressed, no messages are listed.

The list updates accordingly (in the example below, Error messages are not listed).



In the example below, both the **Error** and **Warning** buttons were depressed, so the window lists only Information messages.



Type	Job Title	Date & Time	Message	Sender	Stage
	12.6x19.2_NT_	Aug 30, 17:31:55	File 12.6x19.2_NT_FH.FH8 has been successfully processed.	operator	Process
	12.6x19.2_NT_	Aug 30, 17:31:53	Started processing of file 12.6x19.2_NT_FH.FH8.	operator	Process
	freehandTabloic	Aug 30, 17:29:14	File freehandTabloid.FH874 has been successfully processed.	operator	Process
	freehandTabloic	Aug 30, 17:29:12	Started processing of file freehandTabloid.FH874.	operator	Process
	12.6x19.2_NT_	Aug 30, 17:27:13	File 12.6x19.2_NT_FH has been successfully processed.	operator	Process
	12.6x19.2_NT_	Aug 30, 17:27:11	Started processing of file 12.6x19.2_NT_FH.	operator	Process
	freehandTabloic	Aug 30, 17:25:32	File freehandTabloid.FH8 has been successfully processed.	operator	Process
	freehandTabloic	Aug 30, 17:25:29	Started processing of file freehandTabloid.FH8.	operator	Process
	204FH.FH8	Aug 30, 17:19:04	File 204FH.FH8 has been successfully processed.	operator	Process
	204FH.FH8	Aug 30, 17:19:02	Started processing of file 204FH.FH8.	operator	Process
	12.6x19.2_NT_	Aug 30, 17:16:19	File 12.6x19.2_NT_FH.FH871 has been successfully processed.	operator	Process
	12.6x19.2_NT_	Aug 30, 17:16:17	Started processing of file 12.6x19.2_NT_FH.FH871.	operator	Process
	ClubCard_400	Aug 30, 17:13:14	Started processing of file ClubCard_400.	operator	Process
	UNTITLED-1	Aug 30, 17:13:12	File UNTITLED-1 has been successfully processed.	operator	Process
	UNTITLED-1	Aug 30, 17:13:11	Started processing of file UNTITLED-1.	operator	Process
	WoodWork_Pri	Aug 30, 17:13:09	File WoodWork_Print_All has been successfully processed.	operator	Process

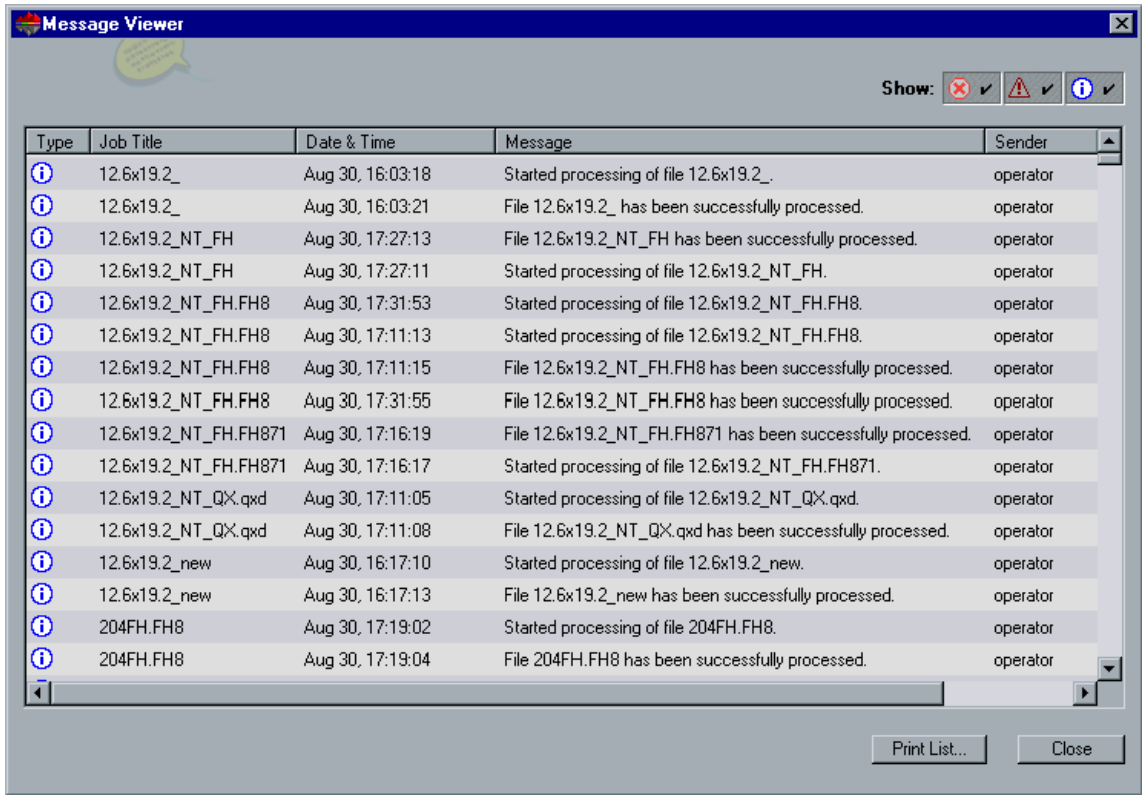
Sorting the Message List

By default, the list is sorted by the date at which the messages were created (in descending order).

If required, you can sort the list by one of its column headers.

To sort by one of the column headers (for example Job Title)

1. Click the header once.



Type	Job Title	Date & Time	Message	Sender
	12.6x19.2_	Aug 30, 16:03:18	Started processing of file 12.6x19.2_.	operator
	12.6x19.2_	Aug 30, 16:03:21	File 12.6x19.2_ has been successfully processed.	operator
	12.6x19.2_NT_FH	Aug 30, 17:27:13	File 12.6x19.2_NT_FH has been successfully processed.	operator
	12.6x19.2_NT_FH	Aug 30, 17:27:11	Started processing of file 12.6x19.2_NT_FH.	operator
	12.6x19.2_NT_FH.FH8	Aug 30, 17:31:53	Started processing of file 12.6x19.2_NT_FH.FH8.	operator
	12.6x19.2_NT_FH.FH8	Aug 30, 17:11:13	Started processing of file 12.6x19.2_NT_FH.FH8.	operator
	12.6x19.2_NT_FH.FH8	Aug 30, 17:11:15	File 12.6x19.2_NT_FH.FH8 has been successfully processed.	operator
	12.6x19.2_NT_FH.FH8	Aug 30, 17:31:55	File 12.6x19.2_NT_FH.FH8 has been successfully processed.	operator
	12.6x19.2_NT_FH.FH871	Aug 30, 17:16:19	File 12.6x19.2_NT_FH.FH871 has been successfully processed.	operator
	12.6x19.2_NT_FH.FH871	Aug 30, 17:16:17	Started processing of file 12.6x19.2_NT_FH.FH871.	operator
	12.6x19.2_NT_QX.qxd	Aug 30, 17:11:05	Started processing of file 12.6x19.2_NT_QX.qxd.	operator
	12.6x19.2_NT_QX.qxd	Aug 30, 17:11:08	File 12.6x19.2_NT_QX.qxd has been successfully processed.	operator
	12.6x19.2_new	Aug 30, 16:17:10	Started processing of file 12.6x19.2_new.	operator
	12.6x19.2_new	Aug 30, 16:17:13	File 12.6x19.2_new has been successfully processed.	operator
	204FH.FH8	Aug 30, 17:19:02	Started processing of file 204FH.FH8.	operator
	204FH.FH8	Aug 30, 17:19:04	File 204FH.FH8 has been successfully processed.	operator

2. Click again to switch the order.

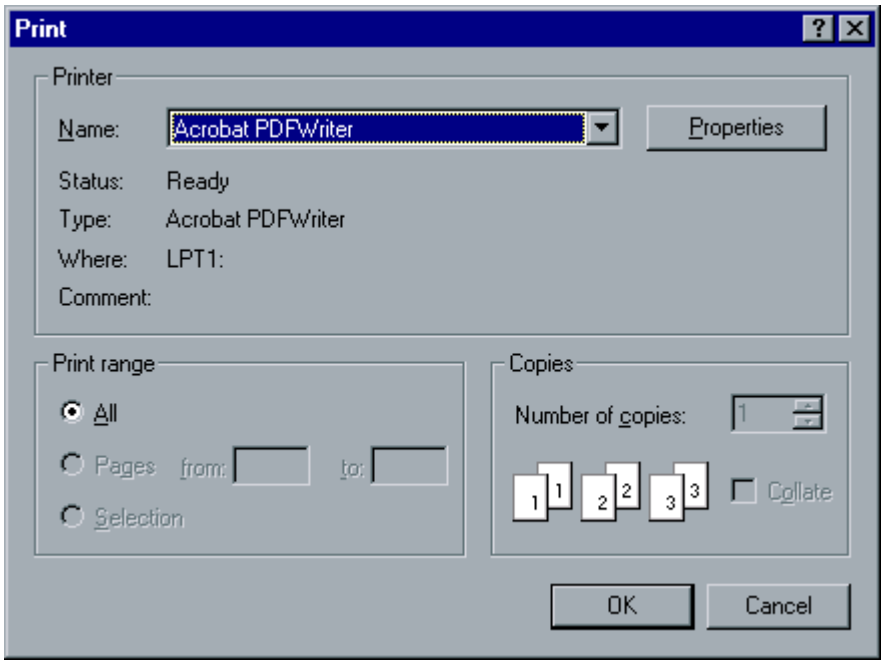
Printing the Message List

You can print the information as it is presented in the Message Viewer (as it is currently filtered and sorted).

1. Filter and sort the list as required.

The data is printed according to the current filtering and sorting.

2. Click the **Print List. . .** button to display the *Print* window.

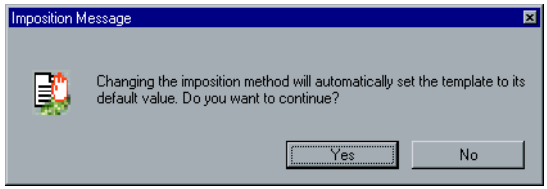


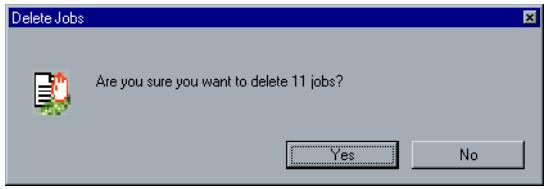
3. Set the printing options as required and click **OK**.

Pop-up Messages

Pop-up messages appear during normal operations with the CSX2000 Color Server. These messages may request confirmation of an action (for example, changing an imposition method), warn of a lack of printer resources (for example, if a specific paper stock is missing), or warn of a possible problem with a procedure.

Example pop-up messages include the following:





When a pop-up message appears:

1. Read the pop-up message.
2. Take action as requested by the pop-up message (for example, confirm a procedure or replace printer resources).
3. Continue with normal CSX2000 Color Server operations.

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Chapter 7

Job Accounting

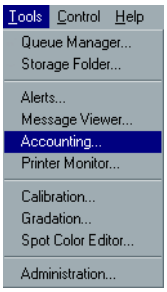
Handling Job Accounting

The Accounting feature offers information related to all the jobs that printed successfully and unsuccessfully via the CSX2000 Color Server as a tab delimited file. If required, you can filter, sort or print the list or export the report into a spreadsheet application (for example, Microsoft Excel), where you can manipulate the data as required.

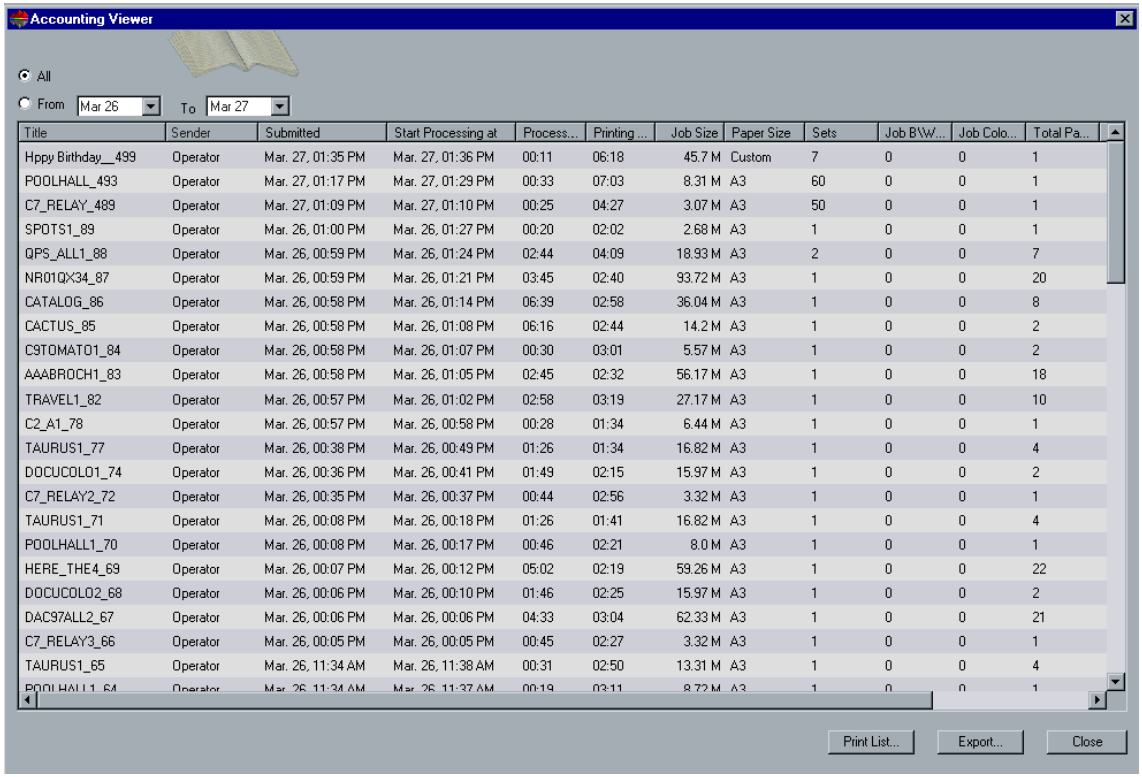
Grayscale images created in RGB applications (such as Power Point) should be specified as Monochrome or submitted to the system with **B&W Printing (recommended)** selected in the PPD. This selection ensures that grayscale images are counted as **B&W** instead of **Color** in both the CSX2000 Color Server and in the DocuColor 2045 / 2060 billing meters.
However, if you have a book with mixed pages (some are color and some are B&W) and you want the B&W pages to be counted as B&W, from the *Job Parameters window* > *Print Settings* tab > *B&W Printing* select the **Print grays using only black toner** check box.

Viewing the Accounting Information

➢ Access the *Accounting Viewer* window from the **Job** menu and select **Accounting. . .**



The *Account Viewer* window appears, listing information related to all the jobs that printed successfully and unsuccessfully via the CSX2000 Color Server.



Title	Sender	Submitted	Start Processing at	Process...	Printing ...	Job Size	Paper Size	Sets	Job B\W...	Job Colo...	Total Pa...
Hppy Birthday__499	Operator	Mar. 27, 01:35 PM	Mar. 27, 01:36 PM	00:11	06:18	45.7 M	Custom	7	0	0	1
POOLHALL_493	Operator	Mar. 27, 01:17 PM	Mar. 27, 01:29 PM	00:33	07:03	8.31 M	A3	60	0	0	1
C7_RELAY_489	Operator	Mar. 27, 01:09 PM	Mar. 27, 01:10 PM	00:25	04:27	3.07 M	A3	50	0	0	1
SPOTS1_89	Operator	Mar. 26, 01:00 PM	Mar. 26, 01:27 PM	00:20	02:02	2.68 M	A3	1	0	0	1
QPS_ALL1_88	Operator	Mar. 26, 00:59 PM	Mar. 26, 01:24 PM	02:44	04:09	18.93 M	A3	2	0	0	7
NR01QX34_87	Operator	Mar. 26, 00:59 PM	Mar. 26, 01:21 PM	03:45	02:40	93.72 M	A3	1	0	0	20
CATALOG_86	Operator	Mar. 26, 00:58 PM	Mar. 26, 01:14 PM	06:39	02:58	36.04 M	A3	1	0	0	8
CACTUS_85	Operator	Mar. 26, 00:58 PM	Mar. 26, 01:08 PM	06:16	02:44	14.2 M	A3	1	0	0	2
C9TOMATO1_84	Operator	Mar. 26, 00:58 PM	Mar. 26, 01:07 PM	00:30	03:01	5.57 M	A3	1	0	0	2
AAABROCH1_83	Operator	Mar. 26, 00:58 PM	Mar. 26, 01:05 PM	02:45	02:32	56.17 M	A3	1	0	0	18
TRAVEL1_82	Operator	Mar. 26, 00:57 PM	Mar. 26, 01:02 PM	02:58	03:19	27.17 M	A3	1	0	0	10
C2_A1_78	Operator	Mar. 26, 00:57 PM	Mar. 26, 00:58 PM	00:28	01:34	6.44 M	A3	1	0	0	1
TAURUS1_77	Operator	Mar. 26, 00:38 PM	Mar. 26, 00:49 PM	01:26	01:34	16.82 M	A3	1	0	0	4
DOCUCOLO1_74	Operator	Mar. 26, 00:36 PM	Mar. 26, 00:41 PM	01:49	02:15	15.97 M	A3	1	0	0	2
C7_RELAY2_72	Operator	Mar. 26, 00:35 PM	Mar. 26, 00:37 PM	00:44	02:56	3.32 M	A3	1	0	0	1
TAURUS1_71	Operator	Mar. 26, 00:08 PM	Mar. 26, 00:18 PM	01:26	01:41	16.82 M	A3	1	0	0	4
POOLHALL1_70	Operator	Mar. 26, 00:08 PM	Mar. 26, 00:17 PM	00:46	02:21	8.0 M	A3	1	0	0	1
HERE_THE4_69	Operator	Mar. 26, 00:07 PM	Mar. 26, 00:12 PM	05:02	02:19	59.26 M	A3	1	0	0	22
DOCUCOLO2_68	Operator	Mar. 26, 00:06 PM	Mar. 26, 00:10 PM	01:46	02:25	15.97 M	A3	1	0	0	2
DAC97ALL2_67	Operator	Mar. 26, 00:06 PM	Mar. 26, 00:06 PM	04:33	03:04	62.33 M	A3	1	0	0	21
C7_RELAY3_66	Operator	Mar. 26, 00:05 PM	Mar. 26, 00:05 PM	00:45	02:27	3.32 M	A3	1	0	0	1
TAURUS1_65	Operator	Mar. 26, 11:34 AM	Mar. 26, 11:38 AM	00:31	02:50	13.31 M	A3	1	0	0	4
POOLHALL1_64	Operator	Mar. 26, 11:34 AM	Mar. 26, 11:37 AM	00:19	03:11	8.72 M	A3	1	0	0	1

Each row in the Accounting report indicates information related to a specific job (including non-successfully completed jobs).

Notes:

1. To see additional columns, use the horizontal scroll bar.
2. By default, all the jobs that were handled during the past 3 months are listed. In the Administration: *Preferences* window (described in the *CSX2000 Color Server Installation Guide*) you can specify how long information remains before being overwritten. In addition, you can remove all the information from the window whenever required.

The columns indicate the following information.

Job Title	The original name of the file related to this job (without the extension).
Sender	The user name of the system from which this job originated.
Submitted	The date and time the job was first submitted into the CSX2000 Color Server.
Started Printing	The date and time on which the job first started printing.
Processing Time	The total time during which the job was processed.
Printing Time	The total time during which the job was printed.
Job Size	he size of the PDL file from which the job originated.
Paper Size	The size of media set for the job (for example, A2, A3, A4).
Sets	The actual number of copies printed.
Job B / W Pages	he number of black-and-white pages in the original PDL file.
Job Color Pages	The number of color pages in the original PDL file.
Total Pages Printed	The actual number of pages printed.
Account	[optional] A string of text, if such was entered in Job Parameters.
Recipient	[optional] A string of text, if such was entered in Job Parameters.
Job Comments	[optional] A string of text, if such was entered in Job Parameters.

Managing the Accounting Information

Reordering Columns

You can change the current order of the columns. The following figure shows the default order (Sender followed by Submitted).

Job Title	Sender	Submitted
Ilan_12	Operator	Mar. 22, 08:47 PM
tiger_11	Operator	Mar. 22, 05:18 PM
tiger_4	Operator	Mar. 22, 05:18 PM
QPS_ALL_157	Operator	Mar. 22, 04:05 PM
AAABROCH_152	Operator	Mar. 22, 04:02 PM
TRAVEL_151	Operator	Mar. 22, 04:02 PM
OVERVIEW_150	Operator	Mar. 22, 04:02 PM
NU07P65_149	Operator	Mar. 22, 04:01 PM
C3_AUOI_148	Operator	Mar. 22, 04:01 PM
C2_A_147	Operator	Mar. 22, 04:01 PM

➢ Click the cursor on a column (for example, Sender) and, without releasing the mouse button, drag the column to the required location (for example, to place the Sender column after the Submitted column).

Job Title	Submitted	Sender
Ilan_12	Mar. 22, 08:47 PM	Operator
tiger_11	Mar. 22, 05:18 PM	Operator
tiger_4	Mar. 22, 05:18 PM	Operator
QPS_ALL_157	Mar. 22, 04:05 PM	Operator
AAABROCH_152	Mar. 22, 04:02 PM	Operator
TRAVEL_151	Mar. 22, 04:02 PM	Operator
OVERVIEW_150	Mar. 22, 04:02 PM	Operator
NU07P65_149	Mar. 22, 04:01 PM	Operator
C3_AUOI_148	Mar. 22, 04:01 PM	Operator
C2_A_147	Mar. 22, 04:01 PM	Operator

Resizing Columns

To resize columns (or minimize columns to hide them):

1. Click the cursor on the right border of the required column (for example, Submitted). The cursor switches shape.

Job Title	Sender	Submitted	Start Processing at
Hppy Birthday__499	Operator	Mar. 27, 01:35 PM	Mar. 27, 01:36 PM
POOLHALL_493	Operator	Mar. 27, 01:17 PM	Mar. 27, 01:29 PM
C7_RELAY_489	Operator	Mar. 27, 01:09 PM	Mar. 27, 01:10 PM
SPOTS1_89	Operator	Mar. 26, 01:00 PM	Mar. 26, 01:27 PM
QPS_ALL1_88	Operator	Mar. 26, 00:59 PM	Mar. 26, 01:24 PM
NR01QX34_87	Operator	Mar. 26, 00:59 PM	Mar. 26, 01:21 PM
CATALOG_86	Operator	Mar. 26, 00:58 PM	Mar. 26, 01:14 PM

2. Drag the cursor to the right to enlarge the size of the column, or to the left to decrease (or to minimize the column to hide it altogether. To retrieve the column, drag the cursor to the right).

   The following picture shows the list after hiding the Submitted column.

Job Title	Sender	Start Processing at
Hppy Birthday__499	Operator	Mar. 27, 01:36 PM
POOLHALL_493	Operator	Mar. 27, 01:29 PM
C7_RELAY_489	Operator	Mar. 27, 01:10 PM
SPOTS1_89	Operator	Mar. 26, 01:27 PM
QPS_ALL1_88	Operator	Mar. 26, 01:24 PM
NR01QX34_87	Operator	Mar. 26, 01:21 PM
CATALOG_86	Operator	Mar. 26, 01:14 PM

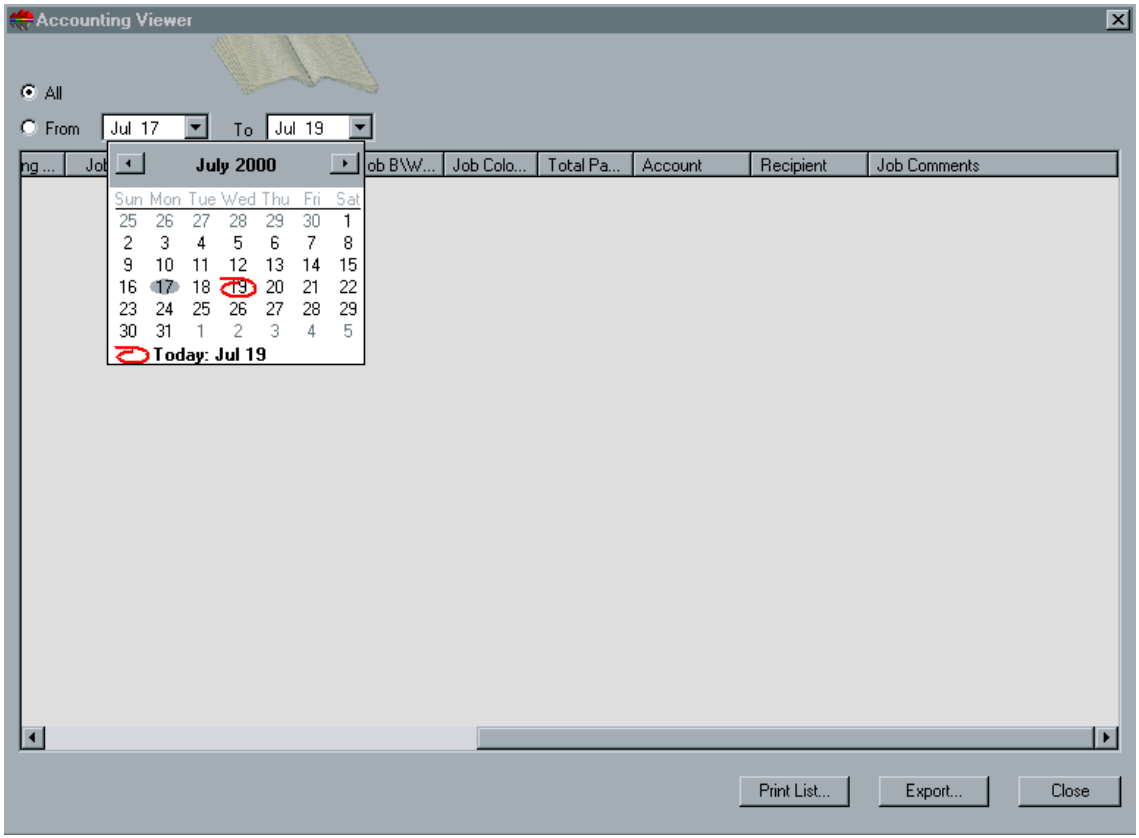
➢ To re-display a hidden column, place the cursor on the location of its original left border and drag to the right until the full column is re-displayed.

Filtering the Information by Date

By default, the information that was gathered in the past three months appears. You can filter the list to show all the information gathered or only information that was gathered within specific dates.

To filter the list:

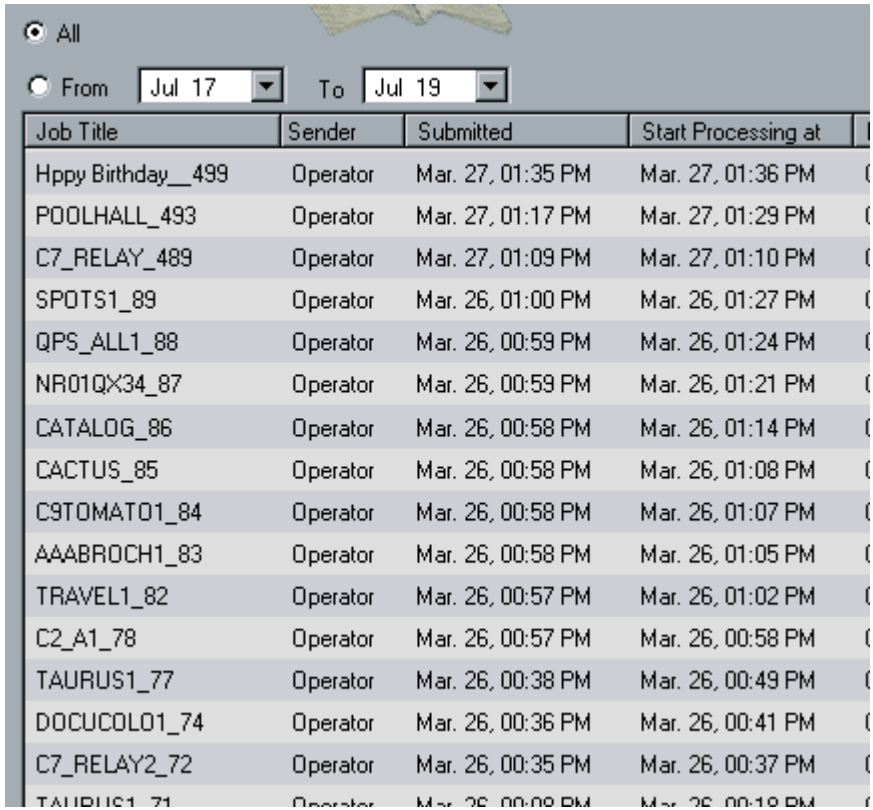
1. Click the arrow to the right of the From or To date box.
2. Select the required date from the calendar that appears.



The list updates accordingly.

Sorting the Information

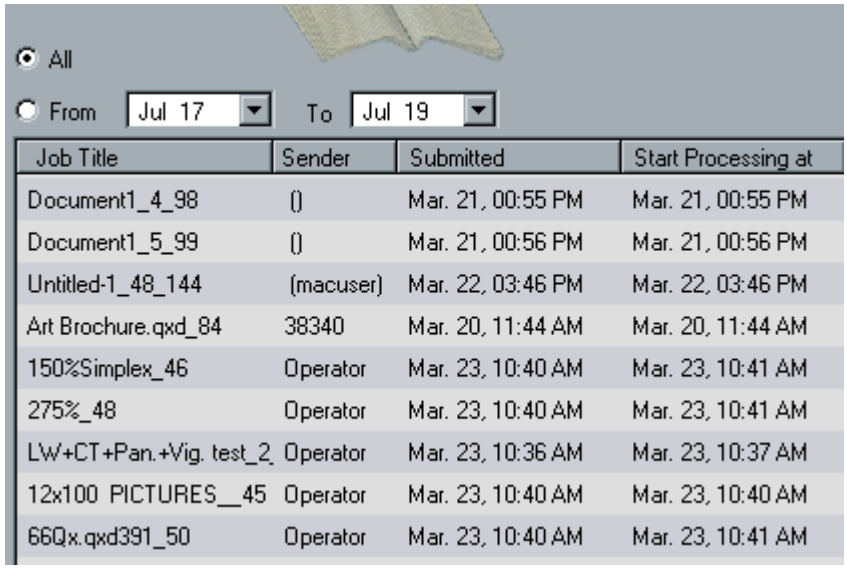
By default, the list is sorted by the date on which the jobs (successful and unsuccessful) were submitted (the latest dates appear first).



Job Title	Sender	Submitted	Start Processing at
Hppy Birthday__499	Operator	Mar. 27, 01:35 PM	Mar. 27, 01:36 PM
POOLHALL_493	Operator	Mar. 27, 01:17 PM	Mar. 27, 01:29 PM
C7_RELAY_489	Operator	Mar. 27, 01:09 PM	Mar. 27, 01:10 PM
SPOTS1_89	Operator	Mar. 26, 01:00 PM	Mar. 26, 01:27 PM
QPS_ALL1_88	Operator	Mar. 26, 00:59 PM	Mar. 26, 01:24 PM
NR01QX34_87	Operator	Mar. 26, 00:59 PM	Mar. 26, 01:21 PM
CATALOG_86	Operator	Mar. 26, 00:58 PM	Mar. 26, 01:14 PM
CACTUS_85	Operator	Mar. 26, 00:58 PM	Mar. 26, 01:08 PM
C9TOMATO1_84	Operator	Mar. 26, 00:58 PM	Mar. 26, 01:07 PM
AAABROCH1_83	Operator	Mar. 26, 00:58 PM	Mar. 26, 01:05 PM
TRAVEL1_82	Operator	Mar. 26, 00:57 PM	Mar. 26, 01:02 PM
C2_A1_78	Operator	Mar. 26, 00:57 PM	Mar. 26, 00:58 PM
TAURUS1_77	Operator	Mar. 26, 00:38 PM	Mar. 26, 00:49 PM
DOCUCOLO1_74	Operator	Mar. 26, 00:36 PM	Mar. 26, 00:41 PM
C7_RELAY2_72	Operator	Mar. 26, 00:35 PM	Mar. 26, 00:37 PM

You can reverse the order or sort the information in the report by another information column.

1. Click another column header (for example, Sender) to sort the list by that column (in ascending order).



2. Click the column header again to sort by descending order.

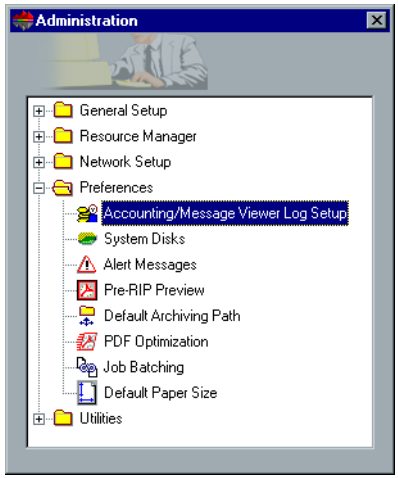
Depending on the type of information, the sorting is alphabetical or numerical.

Accounting / Message Viewer Log Setup

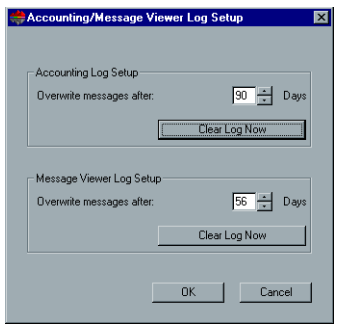
By default, all the jobs that were handled during the past 90 days are listed in the CSX2000 Color Server *Accounting* window. Also, all jobs that were handled during the past 56 days are listed in the CSX2000 Color Server *Message Viewer*. This utility lets you enter different values to specify how long information remains before being overwritten.

To change the Accounting / Message Viewer Log Setup:

1. Access the *Accounting / Message Viewer Log Setup* dialog box via *Admin > Preferences* **>** *Accounting / Message Viewer Log Setup.* Double-click on this option.



The *Accounting / Message Viewer Log Setup* dialog box appears.



2. In the **Accounting Log Setup** and **Message Viewer Log Setup** areas, type the required values to specify how long information remains before being overwritten.

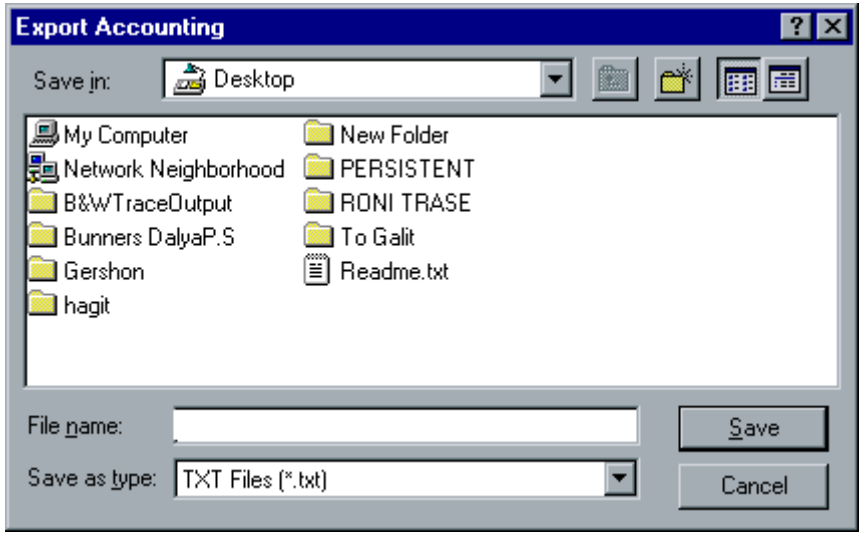
3. To remove all the existing information from the windows, whenever desired, click the **Clear Log Now** button.

4. Click **OK** to confirm the changes you made.

Exporting the Accounting Report

You can save the Accounting information (for both successful and unsuccessful jobs) to an ASCII Tab delimited file.

1. Filter the information as required.
2. Click the **Export. . .** button to display the *Export Accounting* window.



3. Browse for the location in which to save the report.
4. Click **Save**.
   The report is saved as a Tab delimited text file in the specified location.

Notes:

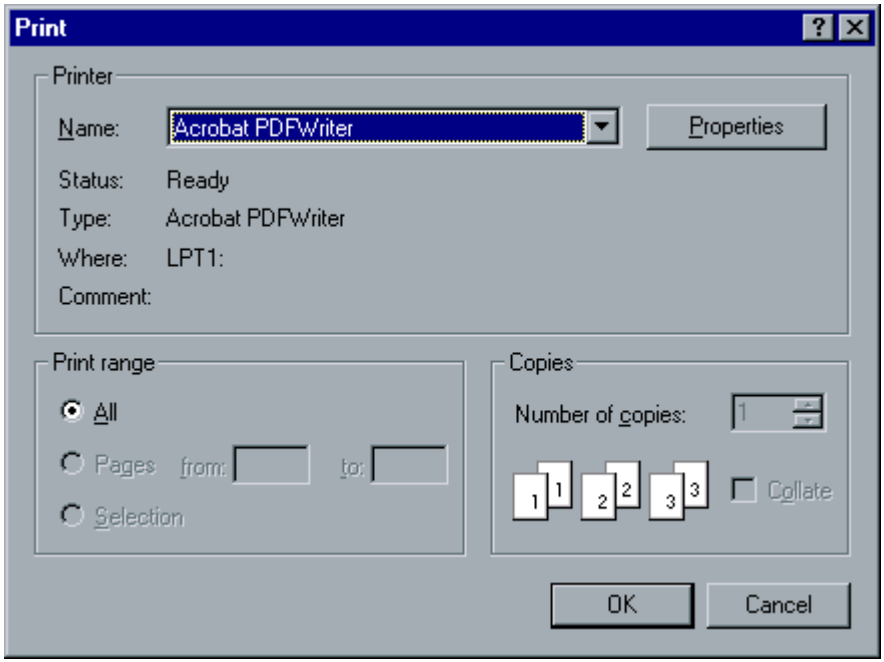
1. The report includes all the columns (even those that were hidden), listed in the original order and sorting.
2. To print specific rows, select them before clicking **Export.** The printed report includes only these rows.
3. The exported data is not deleted from the Accounting report on the CSX2000 Color Server (it still appears in the *Job Accounting* window).

If required, open the *.txt file in a text editor or in a spreadsheet application (for example, Microsoft Excel) and manipulate the data.

Printing the Accounting Report

You can print the Accounting information as it is currently filtered and sorted to any connected printer.

1. Filter and sort the report as required. If required, select the rows to be printed.
2. Click the **Print List. . .** button to display the *Print* window.



3. Access the required printer.

4. Set the printing options as required and click **OK.**
   Successful and unsuccessful job data is printed according to the current filtering and sorting.

Notes:

1. Do not print the Accounting log when the system is printing or processing data. Suspend the Process queue when printing the Accounting log.
2. To fit as many columns as possible onto the page, activate Landscape (if your printer supports it).
3. The report includes all the columns (even those that were hidden), listed in the original order.
4. To print specific rows, select them before clicking Export. The printed report includes only these rows.

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Appendix A

Color Theory

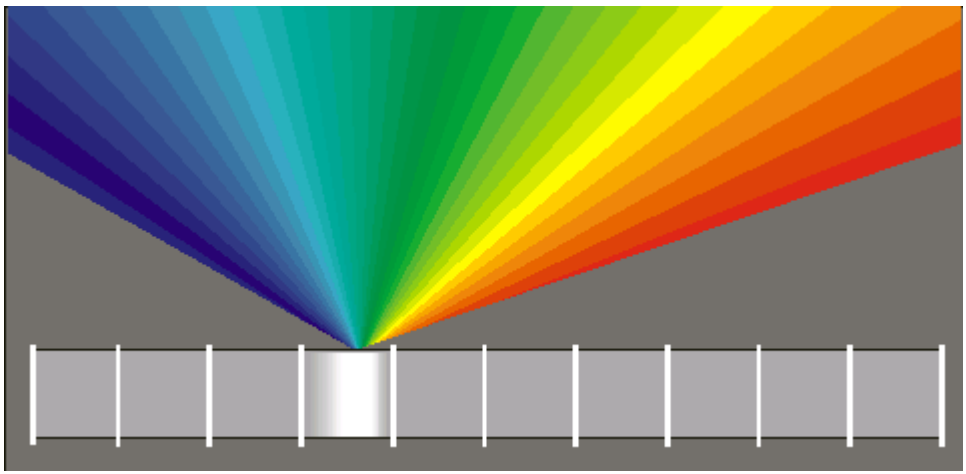
Color Theory

Color is a visual sensation involving light, an object, the human eye and the brain. Each person perceives color differently due to their eyes ability to see colors correctly and their own societal and emotional backgrounds. Thus colors are seen differently due to physiological and psychological differences.

To learn about the process of color reproduction, it is necessary to understand basic color theory and concepts of light.

Light

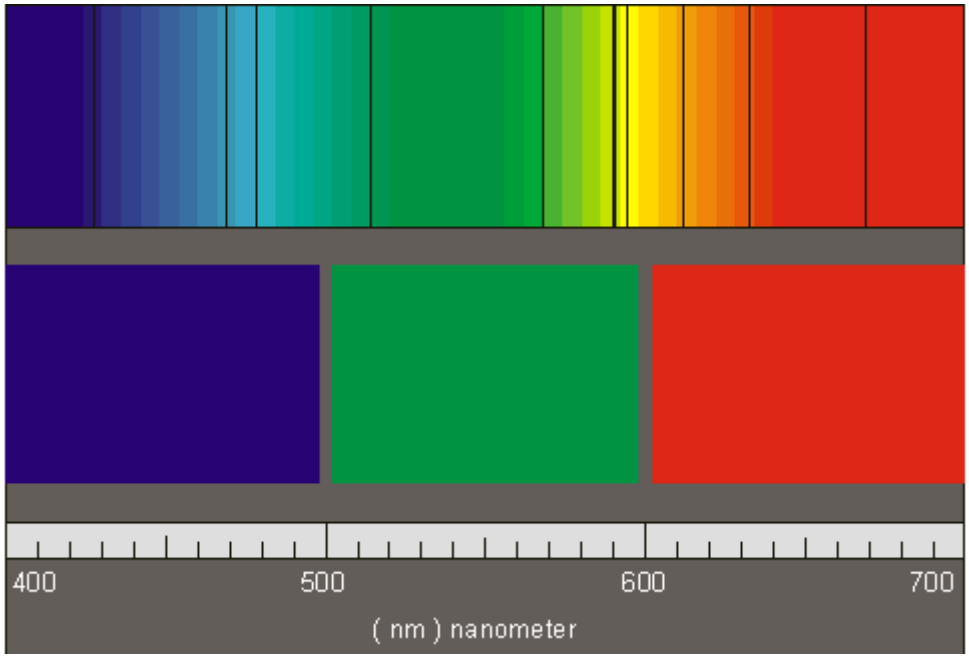
Light is a form of energy that includes radio waves, x-rays, ultraviolet and infrared light. The human eye is sensitive to a range of this energy between the ultra violet and the infrared called the Visible Spectrum.



The colors in the Visible Spectrum can be described by their wavelength. The spectrum is measured in nanometers (nm): a nanometer is a billionth of a meter. Technically, visible light ranges from approximately 380nm to 760nm. However the human eye is relatively insensitive to light below 400 nm and longer than 700 nm.

Visible Spectrum

The visible light spectrum can be broken into three predominant bands of color. These bands are red, green and blue and are called the primary colors of light.



Light Behavior

The way that light waves travel depends on the objects they come in contact with. Light waves can be reflected, absorbed, or they can be transmitted through an object.

How light waves react is determined by the object they hit. Which colors are reflected, absorbed or transmitted determine the color of the object.

The Perception, Physiology and Psychology of Color

Color as a Sensation

Seeing color is a sensation, like hearing or taste. There is no absolute color that is inherently seen the same way by every person. Nor is every person's vision the same.

Everyone agrees that ripe tomatoes are red (in season). However, a group of people probably won't agree on which tomato is the reddest, or how a group of tomatoes should be ranked in terms of their redness. Beyond the physiological factors that impact our vision, there are psychological factors as well.

How the Eye Sees Color

The retina, which is considered to be part of the brain, is a complex nerve structure containing light-sensitive receptors that are responsible for translating incoming light into nerve impulses. Because of their physical appearance, these receptors are known as rods and cones.

From the retina, the information from the rods and cones travels along the optic nerve to the brain. What the brain sees is the experience of the viewer and the condition of the rods and cones on his retina. There are three types of cones, generally referred to as red, green and blue sensitive cones. If some of these cones are defective, or missing, the viewer’s interpretation of some colors is affected and color blindness may result.

Rods help us see at nighttime or at low levels of light. The rods cannot detect color, only varying levels of black, gray, and white.

Other Factors Affecting How The Eye Sees Color

There are a number of other circumstantial and environmental factors, which impact how the eye perceives light and color. They include:

- Color Temperature (Light Intensity)
- Metamerism
- Surrounding Color

Color Temperature

The intensity of the surrounding light changes the perceived color of any object.

Color temperature is a way of measuring the intensity of light radiating from a light source and a measure of the relative intensity of all wavelengths in the visible spectrum. It is measured by comparison to a specific metal contained in a black box and heated to a specific temperature. The unit used to measure color temperature is Kelvins.

Light Source	Color Temperature (Kelvins)
Clear blue sky	12,000 to 27,000
Overcast sky	7,000
Daylight fluorescent lamp	6,500
Blue flash lamp	6,000
White flame carbon arc	5,000
Sunlight	4,300 to 6,500
Clear flash lamp	3,600
Gas filled tungsten	3,200 to 2,865
Tungsten lamp	2,400 to 2,700

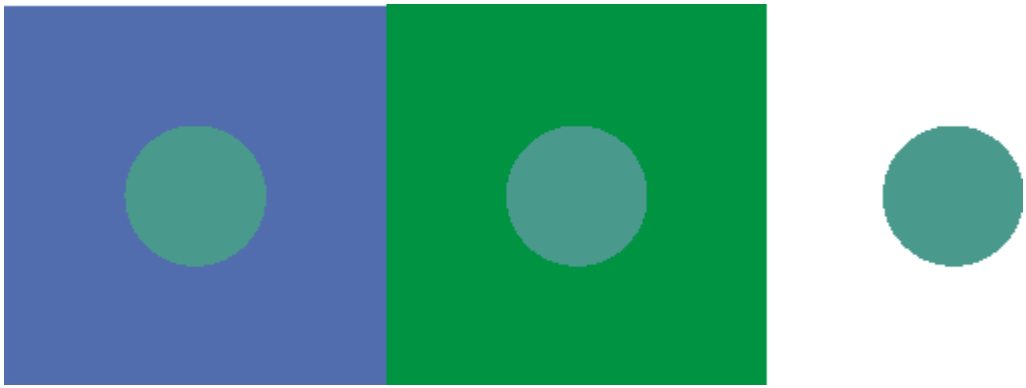
The standard color temperature for viewing color reproductions is 5,000 Kelvins. Viewing booths suitable for evaluating color must be set to this standard to ensure correct lighting conditions.

Metamerism

Metamerism occurs when two colors match under one light source, but appear different under another light source. Those two colors are called a metameric match. A metameric match might cause problems when trying to match proofs to press-sheets under different lighting conditions.

Surrounding Color

The color surrounding an object can affect how the actual color of the object is perceived. If a green circle is surrounded by light green, it appears lighter than if it is surrounded by dark blue.

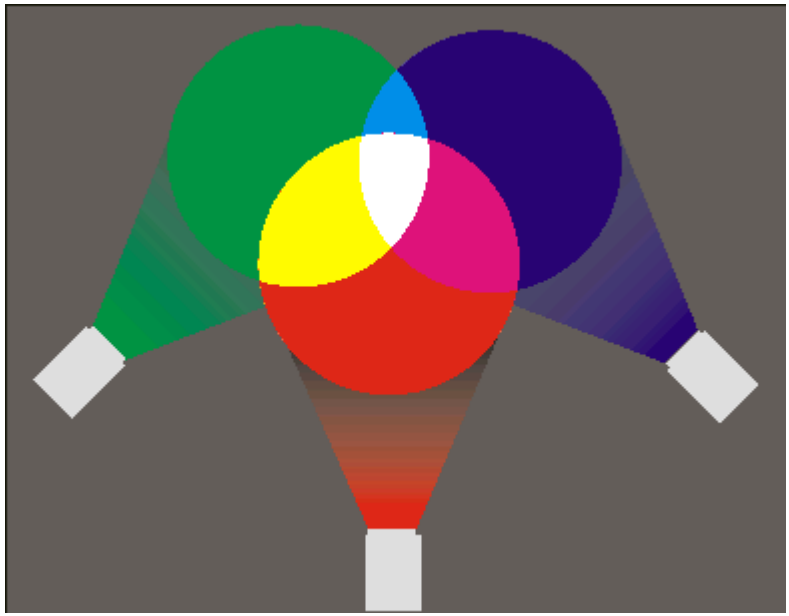


Circle surrounded by Blue **Circle surrounded by Green** **Original Circle**

Additive Color

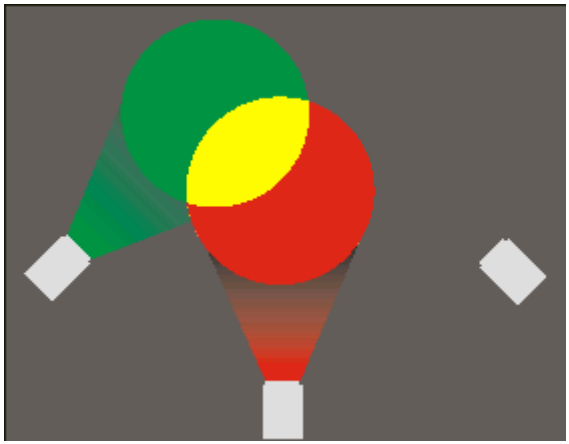
White Light

White light is the sum of Red, Green, and Blue light. This is known as additive color. When equal parts of each of the primary colors are added together, white light is created.

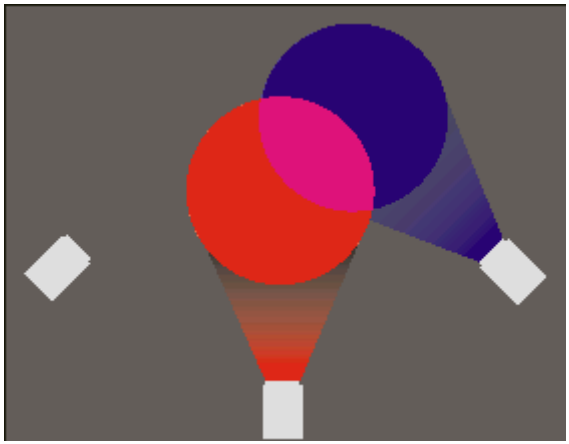


The absence of all three colors produces Black.

When two primary colors of light are added together, a secondary color, brighter than either of its components, is created. Note the following combinations:



Red + Green = Yellow



Red + Blue = Magenta

Blue + Green = Cyan

Combining Red, Green, and Blue in unequal proportions makes new colors. The proportions themselves determine the color. From these three colors, the entire visual spectrum can be created.

Additive color involves the manipulation of a light source or multiple light sources to control color. A television monitor, for example, uses additive color.

Red, Green and Blue inks can not be used for full color reproduction, however, since the objective of such color reproduction is to control Red, Green and Blue light. Printing Red, Green and Blue is therefore controlled by printing with Cyan, Magenta, Yellow and Black.

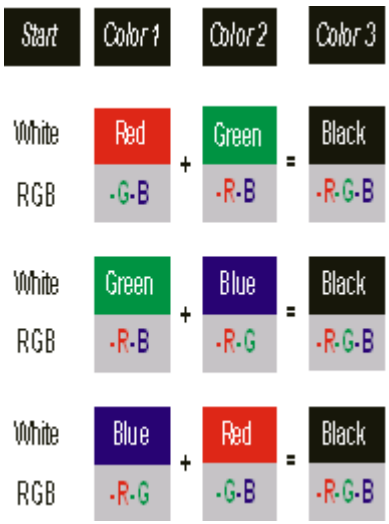
Subtractive Color

Printed color begins with white paper illuminated by white light. All the color and all the light we can see in the image must first exist in the illuminated paper. Take away the light, or print on black paper (with transparent inks) and you will see nothing.

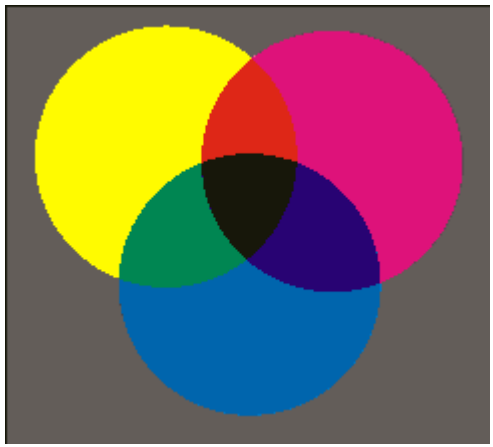
To build a color image, all we can do is selectively subtract some of the light.

When we print with a Red ink, we see it as Red because it absorbs Blue and Green light and reflects only Red. In other words, red ink absorbs or subtracts two thirds of the visible spectrum and reflects one third. The same can be said for Blue and Green. They each absorb two thirds of the visible spectrum and reflect one third.

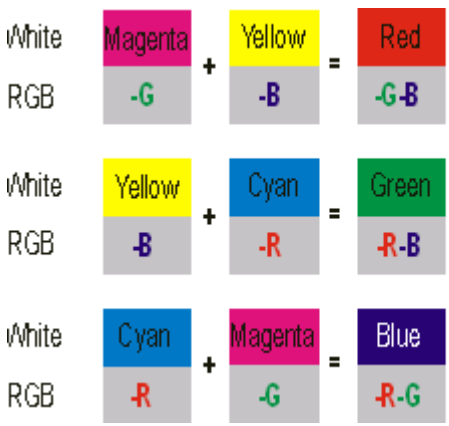
The effect of overprinting any equal combination of two of these colors is to absorb all three components of light and produce Black.



In the printing process we use colored inks that each reflect not one third, but two thirds of the visible spectrum. These special inks correspond to the secondary colors of light, namely Cyan, Magenta, and Yellow.



Since each color absorbs one third of the visible spectrum, it takes all three inks to make Black. Overprinting any two of these colors produces Red, Green, or Blue.



By overprinting selected amounts of Cyan, Magenta, and Yellow, the widest range of colors within the limitations of paper and ink can be achieved.

Pigments

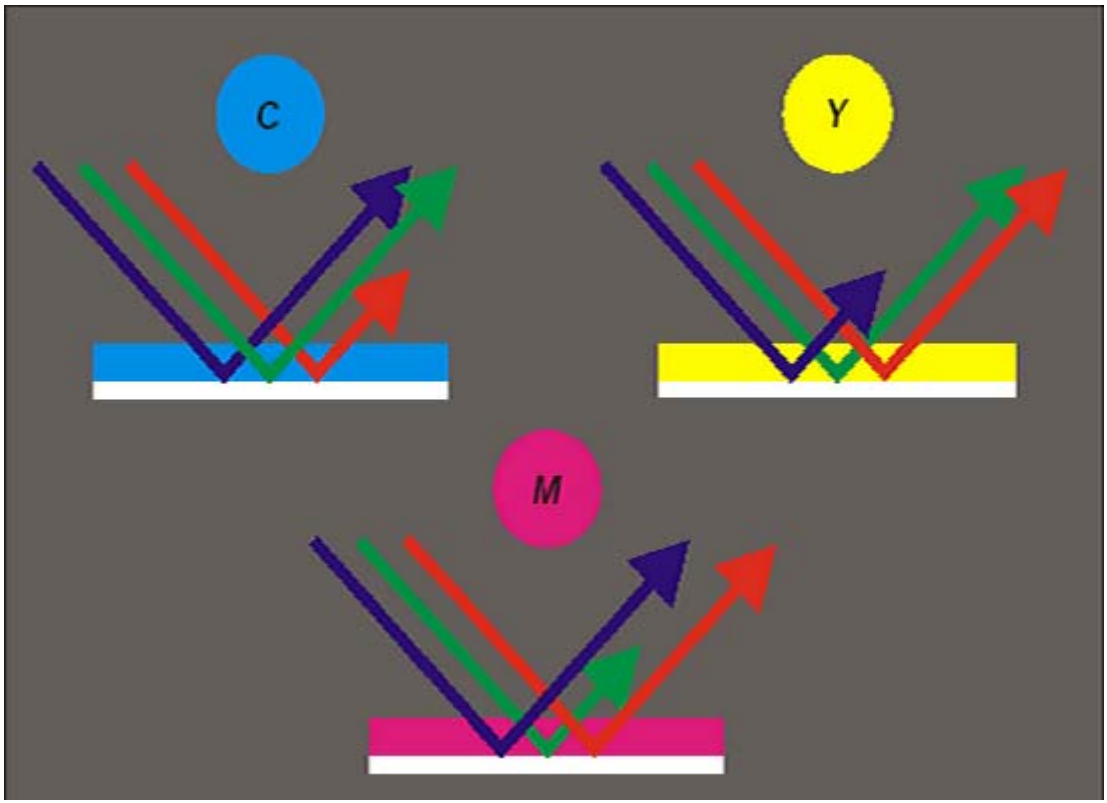
Most of the colors we see in the world can be reproduced using dyes or pigments. When applied to color reproduction, subtractive color also deals with pigments and filtering.

Pigments must be incorporated into a binder to be attached to the substrate, as in a paint film attached to the wall of a house. As in paints, xerographic pigments are substances that possess different sensitivities to light. These sensitivities have the ability to absorb only portions of white light while reflecting back others.

The combination of the lights action on the pigment in an object, combined with how the eye reacts to the reflected light, determines how the color of the object is perceived.

Color Reproduction

In color reproduction, pigmented transparent inks (Cyan, Magenta, and Yellow) are used for printing. These inks are called process colors. A transparent printing ink is made to absorb one component of white light and transmit the other two. Hence, the term transparent. The paper, or substrate, then reflects the transmitted colors back to the eye.



Cyan ink absorbs only Red light, so it appears Blue-Green. Magenta ink absorbs only Green light and appears Bluish-Red. Yellow ink absorbs Blue light.

Inks as Filters

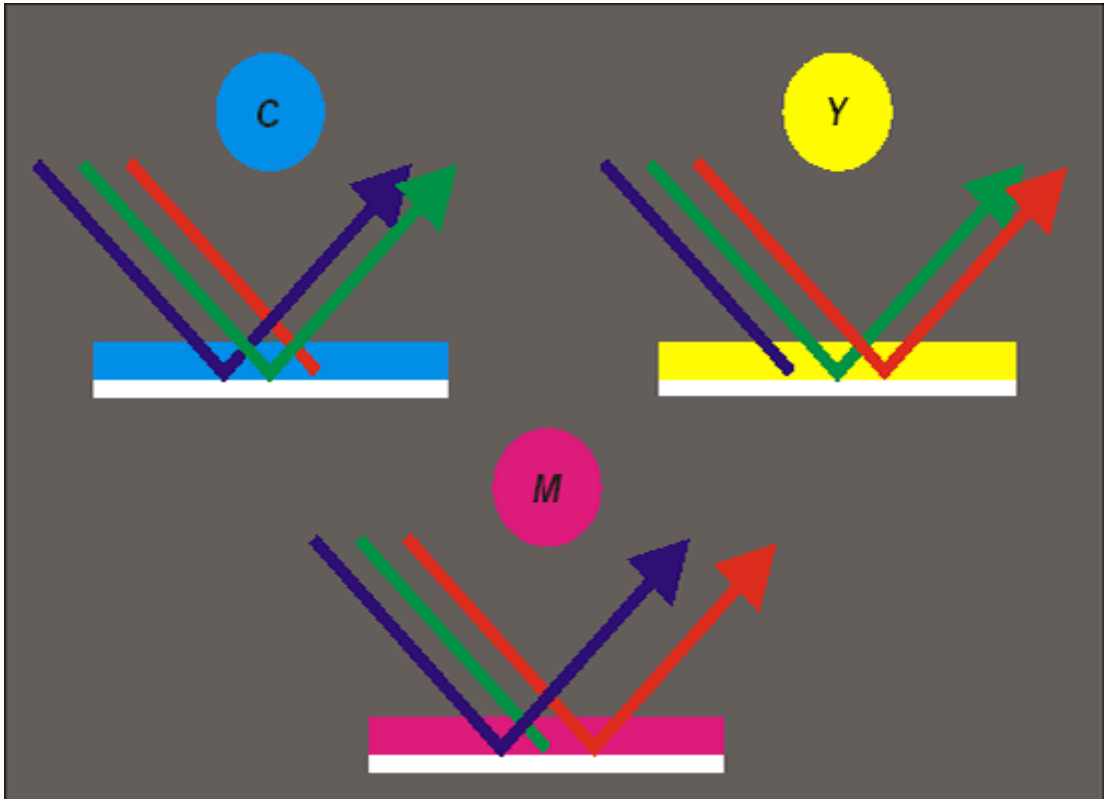
It is important to note that inks act like color filters. A filter transmits its own color and absorbs the rest. Since the inks are transparent, it is the paper that reflects back the colored light minus the components that the inks filter out.

Color Absorption and Reflection

In theory, when each of the process colors - Cyan, Magenta, and Yellow - are overprinted, absorbing all the visible light reflected from the paper, the result is Black.

In reality, solid layers of all three printing inks do not absorb all the available light and a Brown color is produced. This is because of impurities in process inks. Cyan ink not only absorbs Red as it should, but also absorbs some Green and Blue light.

The Magenta ink should absorb only Green light. It also absorbs some Blue and Red. Yellow ink is nearly ideal.



To overcome this problem, Black ink is also used. When Black ink is added to the reproduction, it adds detail and enhance contrast, making the dark areas appear darker and the light areas appear lighter.

Color Separation

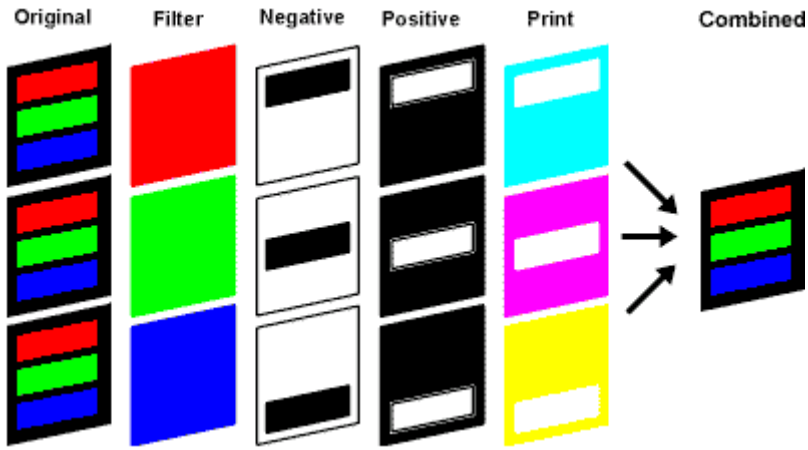
The process of translating a color photograph or transparency into its Cyan, Magenta, Yellow and Black components is called color separation.

The principle of color separation is similar in both photographic and electronic scanning processes. Each process utilizes the concepts of additive and subtractive color for filtering the individual components of white light.

The photographic process consists of illuminating the original copy with white light and then separating it into three images by placing Red, Green, Blue filters in between the copy and the film.

- A Red filter is used to generate the Cyan separation.
- A Green filter is used to generate the Magenta separation.
- A Blue filter is used to generate the Yellow separation.

The Black separation is made from a combination of the other three colors.



Photographic Separation

When light passes through the Red filter, it exposes all areas of the negative film (converting them to Black) where the Red component of the White light appears in the copy.

The negative film is then converted into a positive film. Since positive is the reversal of a negative, the black portions of the positive film now correspond to the areas in the image where Red is absent. The positive film, therefore, becomes the Cyan separation since Cyan is the absence of Red.

This same procedure is used to produce the Magenta and Yellow separation films.

CMYK

The printing industry generally refers to the four process color separations as CMYK where:

- C is for Cyan.
- M is for Magenta.
- Y is for Yellow.
- K is used for Black, to distinguish it from Blue.

However, Creo sometimes uses CMYB where black is designated by the letter B. In the image assembly process, one of the four separation films is used as a master or key to which the other three separations are placed in register. Traditionally, the key color is black. This is why the letter K is used for black.

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Appendix B

Imposition Theory

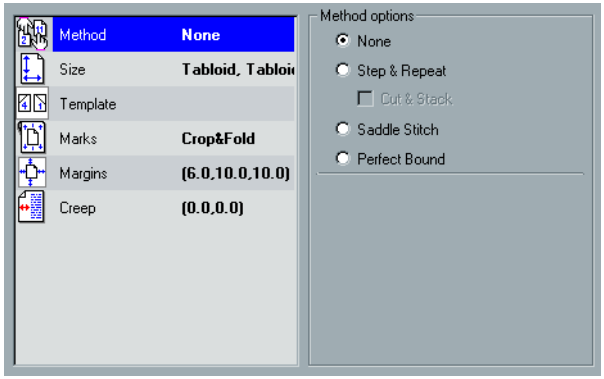
Imposition on the CSX2000 Color Server

The CSX2000 Color Server drives a Xerox DocuColor 2060 / 2045 digital printer. The CSX2000 Color Server processes image files in PDL formats, converting them into a suitable RTP format for direct, high-quality printing.

In combination with the Xerox DocuColor 2060 / 2045 Printer, the CSX2000 Color Server outputs flyers, brochures, pamphlets, dummy catalogs, short-run trials and print-on-demand publications.

When installed as a fast, networked printer with the CSX2000 Color Server, the Xerox DocuColor 2060 / 2045 Printer prints up to 60 full-color A4 (210mm x 297mm) or Letter (8.5” x 11”).

The CSX2000 Color Server lets you adjust various imposition parameters. This is done through the **Imposition** tab of the *Job Parameters* window.



Imposition Job Parameters

Imposition allows printing multiple job pages on sheets. Imposition also controls the positioning of images or pages on a press sheet so that after binding, the pages are correctly located in a publication. A publication can be any finished unit of printed and bound matter, such as books, booklets, flyers, brochures, business cards, posters, and so no. Use of imposition increases printing efficiency and saves time and printing resources.

The following Imposition parameters can be adjusted on the CSX2000 Color Server:

Method

Method refers to the Binding Method. The CSX2000 Color Server performs four Binding Methods:

Step & Repeat

The Step & Repeat binding style is used for signatures that will not be folded. Step & Repeat can require cutting but not folding.
Step & Repeat is generally used for one or two-sided publications such as brochures and business cards. Step & Repeat jobs generally result in smaller file sizes, faster spool and RIP times and better productivity. On the CSX2000 Color Server, Step & Repeat jobs only require template selection and adjustment of crop marks.

Cut & Stack

Within the Step & Repeat method, is the sub-option **Cut & Stack**. A job's pages or booklets are sorted in a Z-shape. In other words, each stack of pages is sorted in consecutive order. Thus, when stacks are piled one on top of another, the entire job is already sorted up or down.

Saddle Stitch

Saddle Stitch bounds pamphlets, brochures, folders, leaflets and magazines with staples through the centerfold. The name comes from the saddle-like device over which the assembled sections hang while being stapled. The cover and the body are bound at the same time, even it the item's cover is heavier than the body.
Signatures are opened up and placed onto the rail, one signature on top of another. Stapling then binds the signatures together and three sides are trimmed away.
On the CSX2000 Color Server, Saddle Stitch jobs require template selection and adjustment of crop and fold marks.

Perfect Bound

Perfect Bound, also known as Adhesive Binding holds the pages together with a hot melt adhesive.The cover is mounted on the body of the book while the adhesive is still molten. Paperback books are the most common adhesive-bound products.
In Perfect Binding, the signatures are gathered side to side. The set of signatures is placed bind edge down in a clamp. The bind edge of the book is ground-off or sawed-off. Hot melt adhesive is applied to the exposed ground edge. The cover is applied while the adhesive is still hot. Top, bottom and front edge are trimmed-off in a three knife trimmer.
On the CSX2000 Color Server, Perfect Bound jobs require template selection, adjustment of crop and fold marks. Margin adjustment depends on the sheet size.

Size

Sheet size is the size of the actual physical paper, on which the job will be printed. You can define the paper stock size that the job will be printed on. It overrides the **Paper Size** job parameter in the **Paper Stock** tab.

When selecting the size parameter, define the following:

- Sheet size
- Trim size
- Bleed size

Sheet Size

Sheet size is the actual physical paper size. Define the paper stock size that the job will be printed on. It overrides the **Paper Size** job parameter in the **Paper Stock** tab. Select from one of the following:

- The default sheet size taken from the PS file.
- The drop-down list of available sheet sizes.
- **Custom** sheet size to define the height and width, based on the document size you defined in the DTP application.

You can also select whether you want LEF (Long Edge Feed) or SEF (Short Edge Feed).

For more information, refer to *Template Orientation on page 401*.

Trim Size

Trim Size defines the area of the job page that is printed on the sheet. The job is finished according to the Trim Size settings.
On the CSX2000 Color Server, the Trim Size Parameter also allows you to set Bleed. Bleed extends part of the printed page image beyond the trimming boundary. This avoids white edges after cutting and folding pages with elements adjacent to the edge of the page.

Trim size is the actual page size (which contains the whole image) on which you work in your authoring tool. Select from one of the following:

- The drop-down list of available trim sizes.
- **Custom** to define a custom trim size.

Bleed Size

Bleed extends part of the printed page image beyond the trimming boundary. This avoids white edges after cutting and folding pages with elements adjacent to the edge of the page. Select one of the following:

- **To Fold** in order to extend bleed to the sheet fold lines.
- **Custom** and specify the Bleed Size. Manually type a value in millimeters.

Notes:

1. You cannot extend the bleed size beyond the sheet fold lines. Bleed does not affect the position of crop marks.
2. If a file incorporates bleed previously applied in a DTP application, applying bleed in the **Imposition** tab results in the bleed effect. If bleed has not been incorporated in the file, application of bleed on the CSX2000 Color Server does not create bleed.

Template

A template is the set of parameters that defines how job pages are placed on the sheet. This includes page orientation, the number of pages printed on the sheet and page sequence. Templates also defines whether a job is printed on one or both sides of the sheet.
Templates contains page sequence numbers, which determine which job page(s) are placed on the sheet. For example, in a standard Step and Repeat Template, there is only one sequence number, so the same job page is printed several times on a sheet. The sequence number that appears in a template determines which job page to print from the sequence of job pages in the job file. When the file has more than one page, each page is printed several times on each sheet.
The CSX2000 Color Server offers various templates for each available Method.

Template Orientation

When considering template orientation, SEF (Short Edge Feed) delivers pages lengthwise, while LEF (Long Edge Feed) delivers page sideways (the orientation of the data remains the same in both cases, as you have defined it in your application).
In general, when sheet orientation is LEF, it is not necessary to use a rotated template. When sheet orientation is SEF, it may be helpful to use a rotated template. Selection of template orientation is dependant on sheet size and trim size.
At the lower right hand corner of the CSX2000 Color Server **Imposition** tab, a dynamic thumbnail view shows the effect of your parameter choices on the printed sheet. The thumbnail viewer appears when you select the Template job parameter.

The template option and the thumbnail view are not active if you select **None** as your imposition method.

When setting the Template parameter, the thumbnail view continuously updates your selections for trim size, margins and sheet size.
In the thumbnail view, the page orientation is indicated by the direction of the arrows (which points to the head of the page) and not by the orientation of the numbers. In the thumbnail view, conflicting parameter settings are indicated by red corners on the pages on the template.
In addition, the CSX2000 Color Server does not print a job that contains conflicting or inappropriate template parameters.

Marks

Marks are additional images printed on the sheet that help in the finishing process by noting where trimming and folding should occur. They also help with color control. On the CSX2000 Color Server, you can add Crop marks and Fold marks.

Margins

The Margins Imposition parameter allows you to adjust the space between trim sizes (and pairs of trim sizes) so they fit your finishing requirements. You can adjust:

- Spine Trim Size
- Minimum Gutter Size
- Minimum Margin Size

Spine trim size is the space between adjacent trim sizes on a printed sheet, which, when folded into a booklet, allows for grinding and perfect binding.
This option is only available for Perfect Bound.

The gutter is the inside space between pairs of trim sizes on a sheet. When folded into a booklet, the gutter allows space for trimming.

Margin size is the distance between the outside edges of the sheet and the edges of the trim sizes printed on the sheet. On the CSX2000 Color Server, you can set the minimum margin size, but not the exact size, which is calculated automatically in accordance with other imposition parameters.

Creep

When inserting signatures inside one another when binding saddle-stitched jobs, the signatures inserted last (towards the center of the job) are the furthest away from the center of the publication. When the publication is trimmed down to its final size, the inward page sections drift outward (or are even clipped).
Creep compensates for this problem by moving the pages on inside signatures progressively closer to the fold (the position of the final PostScript trimmed pages remains at a constant distance from the outside edge of the book, when in fact the margins closest to the spine are continually changing).
Two parameters are used to compensate for Creep:

- Total Creep In
- Initial Creep Out

Total Creep In specifies the amount of movement towards the spine applied to the center two pages and their backs (the pages that require the most amount of compensation). An ever-decreasing amount of movement is automatically applied from the center quartet of pages back towards the outside four pages of the job (every quartet of pages is moved by an amount less than the previous quartet).
You can find that images get too close to the spine. This can be resolved by specifying a value for Initial Creep Out that moves all the pages of the job further out toward the outside margin (away from the spine) by the specified amount.

For detailed information on CSX2000 Color Server Imposition parameters, refer to *Imposition Tab on page 90* and *The Imposition Workflow on page 151*.

Printing a Job Using Imposition on the CSX2000 Color Server

When a job using imposition is sent to print on the CSX2000 Color Server, the job is printed according the defined imposition parameters.

Paper Sheet Size, Trim Size, and Margin, Gutter and Spine size are variables and can be adjusted at any stage when preparing a job for printing. The Template parameters cannot be adjusted, but you can select which Template to apply to a job.

The combination of the Paper Sheet size, the Trim Size and the Template results in a virtual holes on the paper sheet. Job pages are centered behind these holes. The Trim Size defines the size of the hole. In effect, the holes block the outer edges of the job pages.

Adjustments to Gutter and Spine size affect the distance between the holes, while adjustments to Margin settings affect the distance of the “holes” from the edge of the sheet. When using the Bleed parameter, the hole is increased by twice the size of the Bleed setting, in both the horizontal and vertical directions. This does not affect the actual positioning of the Trim Size of the job pages, which remain centered behind the holes.

It is important to remember that changes to one imposition job parameter will likely affect other imposition parameters. It is therefore recommended that you frequently refer to the thumbnail viewer, found at the lower right corner of the Template parameter screen. The thumbnail shows the effect of imposition parameter choices on the printed sheet. Parameter setting conflicts are highlighted in red, or with a dotted line.

The *Job Editor* window lets you move pages within a job, delete pages of a job, insert pages of another job, or merge two entire jobs. You can use the Job Editor with imposition jobs just as you would with any other job.

Appendix C

VI Theory

Variable Information (VI) jobs are jobs in which the printed materials are individualized for specific recipients or purposes. These materials can include bills, targeted advertising and direct mailings.

VI jobs are composed of booklets, which are personalized copies of a document. A booklet can consist of several pages, but the entire document is targeted at a specific individual or address. You send VI jobs to the CSX2000 Color Server in Creo Variable Print Specification or Variable data Intelligent Postscript Printware (VIPP) formats to be RIPped and printed.

All VI jobs are constructed as a collection of individually RIPped elements. Element include text, graphics, pictures and page backgrounds. Elements can be static or unchanging from page to page or booklet to booklet, such as a company logo. Elements can also be variable or changeable from page to page or booklet to booklet. Variable elements can be used repeatedly, for example a product photograph. Variable elements can also be in-line, or unique, for example, an individual name, or text used only once.

On the CSX2000 Color Server, all elements, whether they are used only once, or repeatedly, are RIPped only once. Static elements and repeating variable elements are cached for re-use in the job and between jobs. Each set of elements associated with a particular job is assigned a unique name. This name allows re-using the cached elements between jobs. In-line variable elements that are used only once, usually text, are not cached.

Pages are assembled from the RIPped elements just before printing. Each element - text, graphic, picture, or page background - is RIPped only once, regardless if the element is used once, several times, or even in every page of the VI job. If it is used more than once, then it is cached for further re-use.

You send VI jobs to the CSX2000 Color Server in Creo Variable Print Specification or Xerox Variable data Intelligent Postscript Printware (VIPP) formats to be RIPped and printed. The CSX2000 Color Server can also process conventional PostScript (PS) files as VI jobs, although they are not truly VI documents. In other words, all PS jobs (VI and non-VI jobs) can use Gallop mode.

The CSX2000 Color Server allows concurrent RIPping and printing of VI jobs. This simultaneous function is called Gallop mode. Large jobs do not have to be RIPped entirely to disk before printing. You pre-define the number of pages to be processed before the engine starts to print. As soon as these pages are processed, printing starts while the rest of the job is streamlined through the CSX2000 Color Server. The Xerox DC2000 Series continues printing at its rated speed without interruption or slowing down until the job is finished.

Simultaneously RIPping and printing on the CSX2000 Color Server is called Gallop Mode.

The VI Workflow

VI jobs are created using VI authoring programs that support Variable Print Specification and Xerox VIPP formats. Most VI authoring programs can convert VI files to conventional PS files, which can also be processed by the CSX2000 Color Server, although less efficiently than Variable Print Specification and VIPP files. Each authoring program creates VI code that instructs the RIP where to place the VI elements and each authoring program does so in a slightly differing manner.

Pre-RIPped reusable elements are combined on the fly with inline elements during the RIP. Pages are assembled from the various elements at high speed on the CSX2000 Color Server as they are fed into the print engine.

The reusable elements are stored in a cache folder. The CSX2000 Color Server only RIPs inline elements in subsequent jobs using the same reusable elements. The cached reusable elements are integrated on the fly.

In your VI authoring program (for example, Creo Darwin), you can define several sub-jobs related to the same VI job, (for example, different weekly runs or late additions or updates to a database). This is known as batch processing. The CSX2000 Color Server processes the first batch that arrives at the system, as described above. When processing following batches of the same job, the CSX2000 Color Server uses the already cached reusable elements and adds new reusable elements to the cache sub-folder. This saves the initial ramp-up time for processing and allow immediate processing at the rated printer speed.

VI Document Authoring Programs

The desktop environment requires an authoring program to design, organize and generate VI documents. This program can be stand alone covering all aspects of document design, data management, text capture, and so on. Or it can be an extension of an existing program that allows the creation of VI documents and VI jobs.

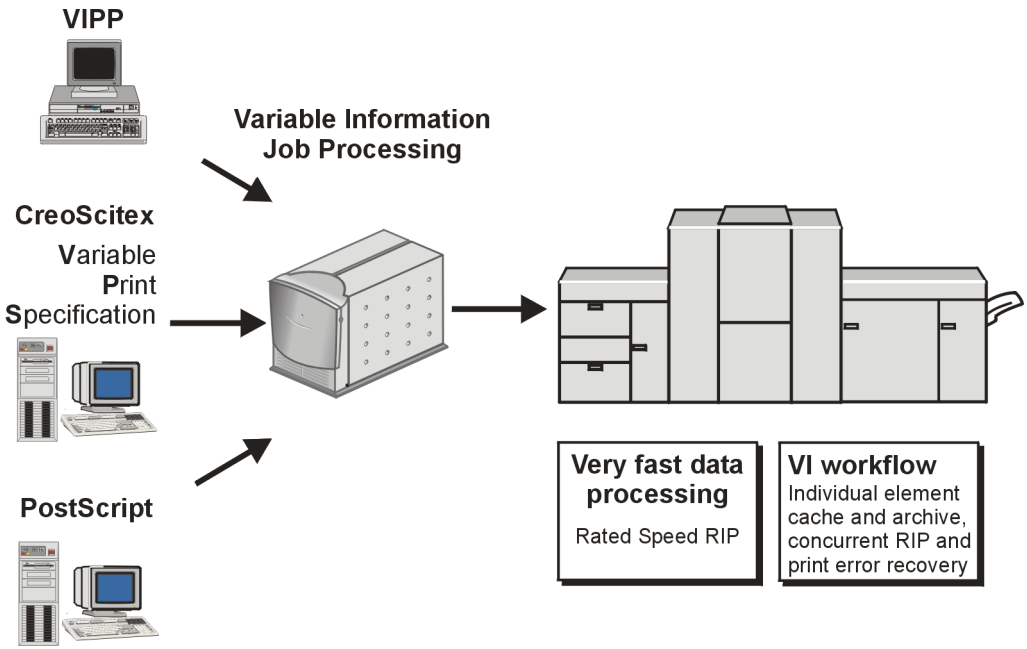
Variable data Intelligent Postscript Printware (VIPP)

The Variable data Intelligent Postscript Printware format was developed in 1993 by Xerox Corporation. The VIPP is PostScript based format that composes the VI pages during the processing stage. The VIPP is being used for various types of applications, but mostly for financial applications, which typically use the dynamic graph charting capability of VIPP and for billing statements of banks, telephones, electricity, and so on.

In order to be able to utilize VIPP files on your CSX2000 Color Server, the VIPP software should be first installed on your system. This installation should be done by a service engineer. Contact your service provider for further information.

PostScript Files

The CSX2000 Color Server can also process conventional Postscript files (for example with Darwin) as VI jobs, although they are not truly VI documents. All page elements are re-RIPped for each page. This workflow can be suitable for simple, very short run jobs. These jobs may not use a VI authoring tool at all, but rather a mailmerge function in a MS Word® document or a MS Excel® spreadsheet.



Creo Variable Print Specification Job Organization

Creo Variable Print Specification is the Creo language designed for effective production of VI documents.

Creo Variable Print Specification is comprehensive and can specify a complete range of VI documents. It also provides the means for fast, efficient data processing and storage prior to printing.

The following are components of Variable Print Specification jobs:

- Booklet
  A personalized copy of a document within a single print run where pages and / or elements within a page can vary from booklet to booklet.

- Sub-job
  All copies of a particular document (for example books, brochures, or flyers), within a single print run. On the CSX2000 Color Server, sub-jobs can be deleted, archived, or reprinted at any time. However, you can still maintain reusable elements for future runs. Reusable elements are cached elsewhere, so only the unique data, which is embedded in the job, is deleted.

- Reusable Elements
  Self-contained graphical entities that can be line art, text, raster images or a combination of these types. Reusable elements are represented in PostScript and can be stored as EPS files when appropriate. Reusable elements include clipping and scaling instructions as well as the image data.

  Grayscale TIFF and EPS images created in CMYK applications (such as PhotoShop) are counted correctly as **B&W** instead as **Color** in both the CSX2000 Color Server and the DocuColor 2045 / 2060 billing meters.

  Reusable elements can be used repeatedly in different pages, booklets and jobs. On the CSX2000 Color Server, all reusable elements are processed once and cached as RTP elements for further re-use. They can then be re-used either within the sub-job itself, or in additional runs of sub-jobs.

- Inline Elements
  Unique information is drawn from a database and is embedded in the sub-job. This data prints only once for individual booklets.

Xerox VIPP Job Organization

VIPP jobs are composed of the following four files:

File Name	File Description
File.PS	The PostScript Master Form, which holds all of the fixed elements from the original document.
File.JDT	The Job Descriptor Ticket, which holds header and setup information for the job.
File.DBM	The Database Master, which holds the VIPP coding.
File.DBF	The Database File, which holds all the ASCII data to be merged. It should contain database information taken from the range of database records that were specified in the DataMerge dialog.

VIPP software creates **xgf** and **xgfc** folders on your system. Within the **xgfc** folder, a number of sub-folders are created. Store the VIPP job files in these sub-folders as follows.

File Name	Store in VIPP Sub-folder
File.PS	formlib
File.JDT	jdtlib
File.DBM	formlib
File.DBF	mislib
Variable Image Files	imglib

To print the VIPP job, import it (the *.DBF file) to the CSX2000 Color Server. The VIPP job is processed and printed.

Archiving & Retrieving VI Jobs

VI jobs that were processed can include VI cached elements. When jobs are archived / retrieved then the VI elements must also be archived / retrieved. The archival / retrieval must be done in a certain order as specified in the following procedures.

To Archive a VI Job

1. Archive the VI elements from *Admin > Resource Manager > VI Elements*. Double-click this option.
2. Select the RTP job to archive.
3. Click the **Archive** button. Wait until the “Archive is complete” message appears in the *Alerts* window.
4. Now you can delete both the RIP file and the VI elements.

To Retrieve a VI Job

1. Retrieve the VI elements to *Admin > Resource manager > VI Elements*. Double-click this option.
2. Select the RTP job the retrieve.
3. Click the **Retrieve** button. Wait until the “Retrieving is complete” message appears in the *Alerts* window.

For more information, refer to *Organizing VI Elements on page 141*, *Previewing RTP Jobs on page 306*, and *Editing RTP Jobs on page 317*.

Appendix D

Glossary

24 bit/3 byte image - An image can be either RGB or CMY and each of the three colors uses 1 byte or 8 bits of data. Since 3 bytes equals 24 bits, these images are also known as 24 bit images. This system is used for high quality video imaging and scanning. For process color printing, a fourth color (black) is added for optimum effect. See also digital data.

32 bit/4 byte image - An image that uses 8 bits each for CMYK pixels, or 8 bits for each RGB pixel and 8 pixels for a mask layer or other future use. Since 4 byte equal 32 bits, these images are also known as 32 bit images. An 8 bit CMYK image is the minimum required for high quality print reproduction. See also digital data.

4 color printing - Color reproduction method used to create full color output by overlaying cyan, magenta, yellow and black inks.

8 bit/1 byte image - An image limited to 256 tones of one color or 256 different colors. Since 1 byte contains 8 bits and each bit has two choices, 1 byte equals 28 choices or 256 possibilities. See also digital data.

Additive color model - Color system in which the picture is composed of the combination of Red (R), Green (G) and Blue (B) light transmitted by the original subject. Effective for monitors and TV's but not for print. Scanners normally first scan in RGB and it is converted into CMYK for printing. See also RGB, CMYK, process colors, subtractive color model.

Amplitude Modulation - Halftone screening, as opposed to FM screening, has dots of variable size with equal spacing between dot centers.

Anti-Aliasing - A step effect in which angled lines or curved edges of elements in an electronic image look broken or jagged, as a result of producing it in a grid format. Increasing resolution can reduce this effect or using a technique called anti-aliasing where the edges are softened.

APR - The Creo Automatic Picture Replacement workflow. In this workflow, two versions of a file are created - a high-resolution file and a low-resolution file called PSImage. The latter is used for positioning and manipulation within a DTP application. The low-resolution file is replaced automatically by the high-resolution version during the RIP process. See also PSImage.

Binding - The process by which pages of a book or other publication are attached to one another.

Bit - Abbreviation of binary digits. The smallest unit of information used to store information in a computer. Bits are expressed as a binary notation, that is, in ones and zeros.

Bitmap graphics - An image composed of individual pixels. The color value and position of each pixel are individually described in bits and bytes of computer memory. It is called a bitmap because it is effectively a map of bits. See also raster file.

Bleed - An extra amount of printed image, which extends beyond the trim edge of the sheet or page.

Booklet - VI jobs are composed of booklets, which are personalized copies of a document. A booklet can consist of several pages, but the entire document is targeted at a specific individual or address. VI jobs include elements that may differ from booklet to booklet, including text, graphics, pictures and page backgrounds.

Butt - To join without overlapping or space between.

Byte - A grouping of 8 bits of stored information, giving 256 levels of data. Each byte represents a value or character such as a letter or a number. In a color system, a byte can describe one out of 256 distinct shades.

CIE - Abbreviation for Commission Internationale d'Eclairage. This body was created for the study of illumination problems. CIE color coordinates specify proportions of the three additive colors required to produce any hue and are used for comparative color measurement.

CMYK - The process colors - Cyan, Magenta, Yellow and Black. See also color separations, process color, and subtractive color model.

Color gamut - The range of colors possible with any color system.

Color separations - Separate films are prepared for each of the process printing inks - cyan, magenta, yellow and black. These films are used to prepare the printing plates for printing on press. See also CMYK.

Composite mode - In composite mode, the data required to separate a page into its CMYK components is all contained within one single (composite) file. Brisque or PS/M then separates the file into CMYK as part of the conversion process. This processing mode is the fastest and most efficient in the majority of cases. Regarding exceptions see pre-separated mode.

Creep - The effect of middle pages of a folded signature extending slightly beyond outside pages, compensated by shingling. See also shingling.

Crop - To eliminate portions of an illustration or photography so the remainder is more clear, interesting or able to fit the layout.

CT - Abbreviation for continuous tone. Color or black and white photographic images with tones that change gradually from dark to light (unlike the abrupt changes in linework).

DCS - Abbreviation for Desktop Color Separation, an EPS format containing 5 files. Four of the files contain the color information for each of the CMYK colors and the fifth is a low-resolution composite file for use in electronic page layout. See also OPI.

Degradé - A gradual blend or transition between colors. Also known as vignette or graduated blend (vector drawing).

Digital front end system - In electronic publishing, this is the workstation or group of workstations containing the applications software for preparing pages of type and graphics. In prepress, this is the workstation that gives access to the user for the operation of hardware. For example, proofer, platesetter, imagesetter.

Digital proof - A black and white or color image reproduction made from digital information without producing intermediate films. It can be output as a digital hard proof using a peripheral output device or displayed as a digital soft proof on a video monitor.

Dot - The individual element of a halftone.

Dot area - The percentage of an area covered by halftone dots ranging from no dots at 0% to a solid ink density at 100%. The size of a single dot is stated in a percentage of the area it occupies.

DTP - Abbreviation for Desktop Publishing. The process of page production using personal computers, off-the-shelf software and an output device such as a printer or imagesetter. Usually, these components form a system that is driven by a device-independent page description language such as PostScript.

EPS - Abbreviation for Encapsulated PostScript, a graphic file format used to transfer PostScript, graphic files from one program to another. It includes both a low-resolution preview and the high resolution PostScript image description. On the Macintosh, the preview is in PICT format, on the PC it is in TIFF format. Also known as EPSF.

Finishing stage - Stage following the press process, which may include procedures such as laminating, perforating and varnishing.

Font - A complete assortment of letters, numbers, punctuation marks, characters etc. of a given design and size.

Frame - A color overlap created intentionally at a color border so as to minimize the effects of misregistration. Also known as trap or grip. See also trapping.

Frequency modulated screens - A method of creating halftones where the spots are all the same size, but the frequency or number of dot changes in a given area. There are more dots in a dark area and fewer in a light area.

Frozen job - A job for which the appropriate paper stock is not available, for example, the correct paper type, paper size or paper weight.

GCR - Abbreviation for Gray Component Replacement. Method for reducing the CMY amounts that produce the gray component in a color, without changing the color hue.

Graduated blend - See **Degradé**.

Gravure printing - A printing method in which the image is engraved through a screen below the surface of a cylinder. The ink is transferred to paper when pressed to the cylinder. Gravure is used for very long print runs and on many substrates.

Gray component - The amounts of CMY in a color, which result in neutral gray, based on the lowest separation value of the color. See also GCR.

Grayscale - A scale of gray tones from white to black. Digitally, grayscale images have up to 256 different levels of gray. See also 8 bit images.

Halftone - A negative or positive image whereby detail of the image is reproduced with dots varying area but of uniform density. Creates the illusion of continuous tone when viewed with the naked eye.

Highlights - The whitest portions of the original or reproduction that have no color cast. The highlight dot is ranged in the reproduction from the smallest printable dot to approximately 25%. See also Midtones and Shadows.

HSL - Abbreviation of Hue, Saturation and Lightness. This is a color model, which specifies a color by its wavelength (Hue), chroma or purity of the color (Saturation) and value of its brightness (Lightness).

Image area - Portion of a negative or plate corresponding to inking on paper. The portion of paper on which ink appears.

Imposition - The arranging of pages in a press form to ensure the correct order after the printed sheet is folded, bound and trimmed.

Ink jet proof - A proof of a digital image printed by using jets that squirt minuscule drops of ink. Ink jet proofers can print onto a variety of surfaces.

Job Flow - Job flow refers to the job parameter settings of selected virtual printers that are automatically applied to all jobs printed using that virtual printer. These settings determine how a sent or imported file is processed. For example, a file sent to a virtual printer with a Process & Print job flow will be RIPped, printed and stored in the Storage Folder. A file sent to a Process & Store job flow virtual printer will be RIPped and stored, without printing.

LEF - A printer page orientation, where pages are delivered long edge first.

Laserwriter driver - A part of the Macintosh system software which generates PostScript instructions from an application file when the Print command is activated.

Look-up table (LUT) - A two or three-dimensional array of values stored for specified input-output relationships. When one input value is known, the system can automatically determine the correct output value. For example, the system can find the needed dot size for a given set of printing conditions based on the stored gray level; color setups can be saved in color tables (color transformation tables) which are one of the many kinds of LUTs.

Linework - Linework graphics are characterized by sharply defined lines and very clear transitions from one color to another. Linework is stored in the computer as a series of geometric (vector) drawing instructions.

Metamerism - Metamerism occurs when two colors match under one light source, but appear different under another light source. Those two colors are called a metameric match. A metameric match might cause problems when trying to match proofs to press-sheets under different lighting conditions.

Midtones - Density values of an image (original or reproduction) between the highlights and the shadows. In the reproduction, midtones are printed with dot areas between approximately 40% or 60%. See also highlights and shadows.

Misregistration - A situation common during printing where one or more of the color separations is slightly misaligned with regard to the others on press. Misregistration shows up as white gaps or tinted overlaps at the borders of color pairs. Colors containing such files are trapped to compensate for this possibility. On Continous Tone images, misregistration can lead to blurring. See also overprinting and trapping.

Moiré - An interference pattern caused by differences in halftone screen angles or rulings. In process color printing, screen angles are selected to minimize this pattern. If the angles are not correct, a pattern that distracts the eye from the picture may be produced.

Newton's rings - Small concentric circles that can appear on film when two surfaces are closed together but not in perfect contact.

OPI - Abbreviation of Open Prepress Interface. A prepress convention established by Aldus Corps. OPI refers to tags or place holders in source PostScript that point to TIFF or EPS images that have not been embedded in the PostScript. These images reside in other locations and are merged with the PostScript file when processed. Normally used for performing high resolution or low resolution image substitution (alternative to Creo APR).

Output resolution - The number of laser dots per unit of linear measurement (millimeter, inch etc.) on film or paper.

Output tone curve - A graph showing the relationship of original input densities and the corresponding dot percentages on film.

Overprint - A technique, which overlaps colored elements to eliminate the appearance of gaps between elements caused by misregistration of the various separations during printing. For example, black text is normally set to overprint. See also trapping and misregistration.

PDL - Printer Description Language files (for example, PostScript, PDF, EPS, VPS, VIPP). The CSX Color Server processes image files in PDL formats, converting them into a suitable Ready-To-Print format for direct, high-quality printing.

PICT - A Macintosh file format for bitmaps and vector graphics.

Pixels - Contraction of Picture Element. The smallest element of a digital image.

PostScript® - A programming and page description language that has become industry standard for electronic publishing. It is used to describe the entire page, including both text graphics and images. PostScript is completely independent of the printing device. Developed by Adobe Systems, Inc.™

Prepress - Generic term used to describe the processes involved in preparing images for printing. Includes the input, edit and output stages.

Printer description files - PPDs (PostScript Printer Definition), and PDFs (Printer Definition Files). These files are used by the Macintosh applications to prepare page and documents for specific output devices.

Process colors - The four ink colors used to reproduce full color images - cyan, magenta, yellow and black.

PSImage - A low-resolution EPS file used in the Creo APR workflow. This file is used for positioning in page layout. Changes made to this file will be applied to the high-resolution file, which automatically replaces it shortly before exposure. See also APR.

Quartertone - The tone area of an image influencing highlight detail and with density values between the white point and midtone. Typically, printed with a dot area near 25%. See also highlight, midtone, shadow.

Raster file - A file of data that was scanned, processed or output sequentially, bit by bit and line by line. Also known as a bitmap.

Rasterization - The translation of vector information into bitmap information. Bitmaps may also require a new rasterization to comply with the screening parameters (dot shape, dot size) of the imagesetter that will expose them on film. See also RIP and RIPing.

Register - Fitting of two or more printing images or plates in exact alignment with each other.

Register marks - Crosses or other targets applied to original copy prior to printing. Used for positioning films in register or for register of two or more colors in process printing.

Resolution - The number of pixels, points or dots per unit of linear measurement. For example, pixels per millimeter on a video display, number of dots per inch or millimeter on film or paper.

The resolution of an image is usually set the same vertically and horizontally. For example, a square millimeter with a resolution of 12 contains 144 pixels. The higher the resolution, the more image detail is recorded and the larger the digital file size.

RGB - Abbreviation for the additive primaries Red, Green and Blue. They are used in video monitors, scanning, and other uses where the light is direct and not reflected. The component colors are the three predominant colors in the visible light spectrum detected by the human eye. Combining these 3 colors together creates white light.

RIP - Abbreviation for Raster Image Processor. This is a software program or hardware device that converts vector information into pixel information to be imaged on an output file. This output file is imaged based on commands from the page description language.

RIPing - The process of rastering or converting bitmaps and vector graphics into raster images suitable to the screening parameters of the output device. Files are RIPed prior to exposure or plotting.

Saturated color - A color where the high and medium values approach 100%. In a saturated clean color, the values of the wanted colors are near 100% and the value of the unwanted color is near 0%. For example, when the color is red, 5% cyan, 90% magenta, 80% yellow is more saturated than 30% cyan, 90% magenta, 80% yellow.

Saturation - The strength of a color.

Screen angle - The angle of rows of halftone dots represented in degrees. During output of films for reproduction, the dot arrangement of each separation film is placed at a distinct and different angle to the other separations. See also Moiré.

Screen rulings - The number of rows of printing dots per inch on a halftone film. A 150lpi-screen ruling provides much better quality than 65lpi.

SEF - A printer page orientation, where pages are delivered short end first.

Shadows - The darkest part of an image (original and reproduction) having densities near to maximum density. In the reproduction, shadows are printed with dot areas between 80% and 100% See also highlights and midtones.

Shingling - A procedure that moves the image area of a page toward the direction specified, usually towards the binding, in order to compensate for creep.

Signature - Sheet of printed pages which when folded becomes part of the publication.

Solid - The point in the picture printed with a dot area of 100%. See also highlights, midtones and shadows.

Spectrophotometer - Spectrophotometer (X-Rite DTP41), which is a 24 band color measurement instrument that reports densitometric, colorimetric and spectral data.

Spot color - An additional separation (fifth, or more) that is used with special inks to achieve difficult color combinations, such as gold, or chocolate brown. Spot color is sometimes used by graphic artists to define special corporate colors, for example, for company logos. On the CSX Color Server, spot colors are tanslated into CMYK values using a dictionary, that can be edited to adjust CMYK values.

Step and repeat - The procedure of copying the same image by stepping it in position both horizontally and vertically according to a predetermined layout.

Stochastic screening - A method of creating frequency-modulated halftones that depends on the number of laser dots in a given area rather than the size of the laser dots in a given area. The dots are randomly placed and very small. Areas with a higher dot percent have more spots exposed in that area and those with a low dot percent have fewer spots. Stochastic screening is used to eliminate moiré and improve picture detail and sharpness in high-end color printing.

Subtractive color model - A color process in which the red, green and blue components of the original subject are reproduced as three superimposed images in the complementary (subtractive) colors of cyan, magenta and yellow respectively. See also CMYK, process colors, additive color model.

Three quartertone - Tone area of an image influencing the shadow detail and with density values between the Midtone and the Dark Point. Typically printed with a dot area near 75%.

TIFF - Abbreviation for Tagged Image File Format, a graphics file format. TIFF is a bitmap file format.

Tone compression - The reduction of the density range of an original to the density range achievable in the reproduction.

Tone reproduction curve - A graph showing the density of each point of the original and its corresponding density on the reproduction.

Trapping - Creating and overlap (spread) or an underlap (choke) between colors that adjoin each other to hide misregistration during printing. Trapping is sometimes referred to as spreads and chokes or fatties and skinnies.

UCR - Abbreviation of Undercolor Removal. This is a method for reducing the CMY content in neutral gray shadow areas of a reproduction and replacing them with black. As a result, the reproduction appears normal but less process color inks are used. See also GCR.

Unsaturated color - A color whose highest value is less than approximately 80%. In an unsaturated, dirty color, the difference in the values of the wanted colors and the unwanted color is relatively low.

For example, when the color is red, 30% cyan, 80% magenta, 70% yellow is more unsaturated than 0% cyan, 90% magenta, 80% yellow.

Variable Information (VI) - Variable information (VI) jobs are jobs in which the printed materials are individualized for specific recipients or purposes. These materials can include bills, targeted advertising and direct mailings.

Vector drawing - The geometric system used to define lines and curves in many computer graphics most often used for line drawings.

Vignette - See Degradé.

Virtual Printer - For Macintosh and PC networks, the CSX Color Server provides three default network printers, known as virtual printers. Virtual printers contain preset workflows that are automatically applied to all print jobs processed with that virtual printer.

White point - The whitest neutral area of an original or reproduction that contains detail and is reproduced with the smallest printable dot (typically 3% to 5%).

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