Kothari
Print-Pro™

Special Edition for DTG Viper

This software is based on the custom edition of Kothari Print Pro™.

Kothari Info-Tech Ltd.

This edition of software is based on the custom edition of Kothari Print Pro^{TM}. All the references in this manual to Print Pro are also applicable to the software.

Some of the features (like Dark Color Base Settings, Ink Cost Related Information, Platen Organizer, Page Layout etc.) referred in this manual are Optional features. They may or may not be present in your software depending upon the version. Please ask your vendor / distributor for more details.

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Getting Started

Thank you, for choosing Kothari Print Pro for your digital garment printing needs. This section will help you in installing the software on your computer machine and help you getting it running right away.

Installation

Enter the accompanying CD disk in the CD-ROM drive of your computer and the installation program should start running automatically. If it does not, run \Print Pro\Setup.exe yourself from the CD.

Step 1: Follow the instructions given by the installation program to get the program installed on your hard disk.

Step 2: Go to the root directory of the CD in the Windows explorer. Run the file InstallHasp.exe. This file is the installation program for installing the drivers for the accompanied lock on your PC's hard disk. Follow the instructions given by the installation program.

Step 3: Connect the lock to the parallel/USB port of your PC depending upon the type of lock. If the lock is attached to the parallel port, you may attach printer cable to the other end of the lock.

Step 4: Reboot your PC.

Launching the Software

You can run Print Pro either by *double clicking* its icon on the desktop or by selecting *Start > Programs > Print Pro DTG Viper > Print Pro*.

System Recommendations

- **Processor:** Requires a PC based on Quad Core (2.2 GHz) technology or higher processor.
- **Operating System:** Microsoft® Windows® XP or later.
- **RAM:** 2GB DDR2 or more.
- **Hard Disk:** Hard Drive with SATA interface and 100 GB free disk space.
- **Monitor:** SVGA or better with resolution of 800 x 600 or better. 16 Bits or more color support recommended.
- **Printer:** Subjected to specification.

Limitations

There is practically no limitation on output size when using Print Pro's **custom printer driver.**

Rest of the portion of the manual will help you in getting familiar with the software and putting it to use.

This manual assumes that you are familiar with Microsoft® Windows® Operating system and know the terminology and general Windows UI well.

Most of the examples drawn here in this manual are from Textile printing, but are equally applicable to other forms of printing.

Organization of the Manual

Next topic 'About Print Pro' offers an insight into what this software can do for you.

Rest of the manual is organized into three sections.

Section I **'On The Fast Track'** describes how to get quick production from the machine, the pre-press and the color management topics and Print Pro's support for it. These topics are as follows.

1. **Preparing Images for printing - Underbase Creation.**
2. **Color management.**

Section II deals with the **interface** part of the software. It includes the following topics.

1. **Printing.**
   a. **Queue Manager**
   b. **Port Manager**
   c. **Printer drivers**
   d. **Print options**

2. **Page Layout** *(Optional feature in the basic version of the software).*
3. **Filters.**
4. **The Application Interface.**
5. **Productivity features.**
6. **Common Error messages and Warnings.**

Section III deals with the **'Platen Organizer'** application *(Optional feature in the basic version of the software)*, which is used to create and modify the layout templates.

About KITL

KITL is a young and ambitious company with current focus on tools and technologies for color reproduction.

Currently we at KITL have two major lines of products targeted for graphic arts and textiles.

1. **RIPS** (*Raster Image Processing software*) and **color management** software for:
   - Screen making.
   - Large/ Wide format digital printing.
   - Digital Textile Printing.
   - Digital photo Mini Labs.
   - Proofing solutions for graphic arts.

2. **Color formulation** and **QC** software for textiles.
3. **Inks** and **chemistry solutions** for digital textile printing.

To know more about our products and us please logon to our website
www.kothariinfotech.com.

About Print Pro

This version of Print Pro has been designed for direct inkjet printing on garments. With the printing techniques used in direct garment printing getting increasingly sophisticated, the software catering to these techniques needs to keep in pace with them as well. Print Pro does that and takes it to the next level.

With this special edition of Print Pro, you have,

1. ICC based color workflow.
2. Reads and uses embedded profiles if any, inside the image file.
3. Interpolation support for high quality output.
4. Custom printer driver for various Printer models (these drivers may vary based on the version of this software).
5. Simultaneous RIP and Print.
6. Rip once output many (ROOM).
7. Save Ripped job for future use.
8. Print selected layers from a ripped data, e.g., White underbase layer or color layer.
9. Port manager to manage ports.
10. Queue manager to manage jobs.
11. Lots of other features to boost your productivity.
12. Ability to connect to any windows compatible printer.
13. Powerful page layout feature (Optional feature in the basic version of the software) to print job(s) on a single page with transparency support using predefined designs.

Rest of the topics will explain you in detail the various options that are offered by Print Pro.

Section 1

ON THE FAST TRACK

Getting Productive

This is a quick reference guide that will walk you through some of the most basic features of Print Pro, which will help you start printing images on your machine right away using Print Pro.

Before we begin, it's important for you to know that this edition of Print Pro has been designed to work the best with Adobe Photoshop. Later topics in this chapter will explain this in detail.

Before you start, install the Windows USB port driver for printer as you will be utilizing this USB port for printing from Print Pro.

Configuring Print Pro

Please follow the below mentioned steps carefully.

1. **Launch** Print Pro either using the desktop shortcut or from *Start > Programs > Print Pro DTG Viper > Print Pro*.
2. **Invoke** the menu command *Options > General Preferences…* You will be presented with a dialog box as shown below. Choose the appropriate settings for the options labeled as 'a' and 'b'.
    a. The **value** to be entered here depends upon how you are going to use your system. This value may range from 70% to 30%. For example if you are going to run Adobe Photoshop along with Print Pro at the same time then you may have to share the primary RAM between the 2 applications. Choose 30% for Print Pro and similar amount for Photoshop in the Photoshop. However if you are going to run Print Pro exclusively on the machine then you may choose to give Print Pro 60% or 70% of RAM. (However never allocate more than 600 MB to Print Pro).
    b. **Select** your primary and secondary hard drives from here. Print Pro uses hard drives to handle the images and uses RAM as cache.
    c. Click this button to **remove secondary disks** from the 'Used' column.
    d. Click this button to **add available secondary disks** to the 'Used' column.

e.   Check this button to **use cache for histogram**.
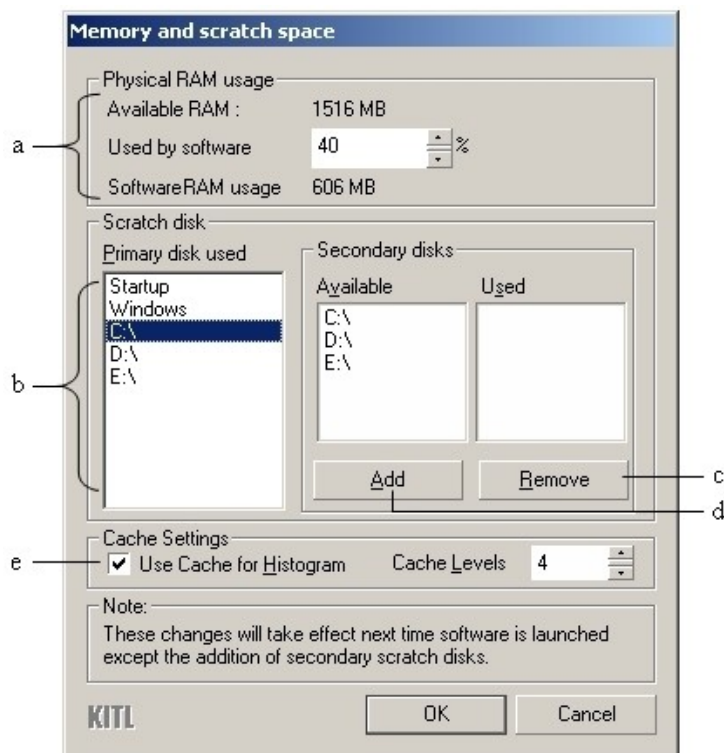
General Preferences

3. **Invoke** the menu command *Queue Manager > Port Manager.* You will be presented with the following dialog box. Choose the appropriate settings for the options labeled as 'a' and 'b'.
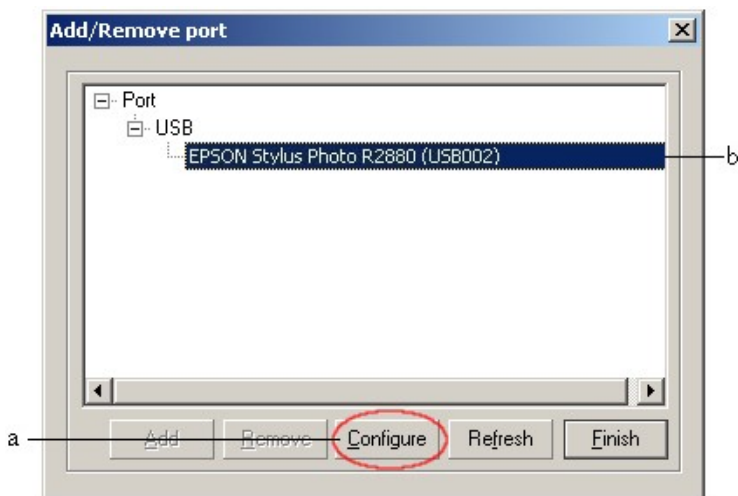
Port Manager

a. Press the **'Configure'** button to configure the port. You will see the following dialog on your screen. Enter 3600 seconds as the timeout setting and press OK.

b. Choose the appropriate **USB Port** from the list.
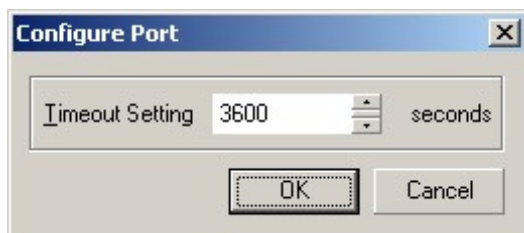
Port Configuration

4. **Invoke** the menu command *Color > Color Management*… or use the keyboard shortcut *<Ctrl> + <Shift> + <K>* to get the following dialog. Choose the appropriate **color spaces**. Say if you are using Adobe Photoshop then you may want to keep the default color spaces same as in Photoshop. Also set the labeled items to following values if they already aren't.
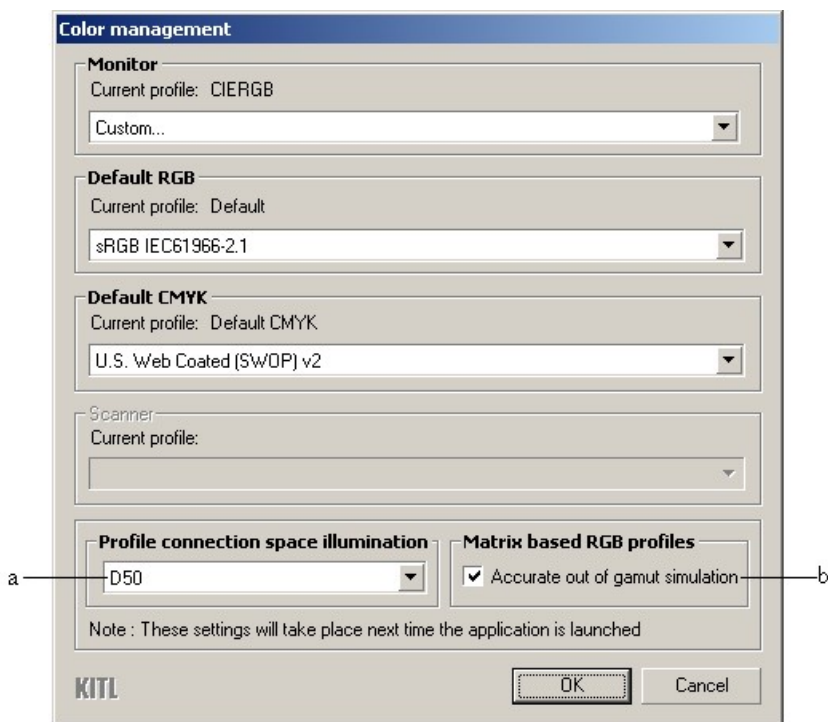
Color Management Options

- **Default RGB :** Select sRGB IEC61966-2.1
- **Default CMYK :** Select U.S. Web Coated (SWOP) v2

a. **PCS Illumination:** Select D50.
b. Check **'Accurate out of gamut simulation'.**

5. Close Print Pro and then **re-launch Print Pro** now for allowing the changes to have an effect.

Printing Images

Printing images in general is a 3 step process.

1. **Open** the image you want to print. Print Pro supports variety of **raster file formats**. However, working with Photoshop's PSD file format is highly recommended as among other things you can have transparency information embedded in it. Also refer 'Preparing Images for Printing' on page **17**.
2. **Tune** the size and placement related information, if required. You can do that using the **QRip**. Access QRip by *View > Show QRip* command. See the figure below. See 'Q Rip' for more details on page **157**.
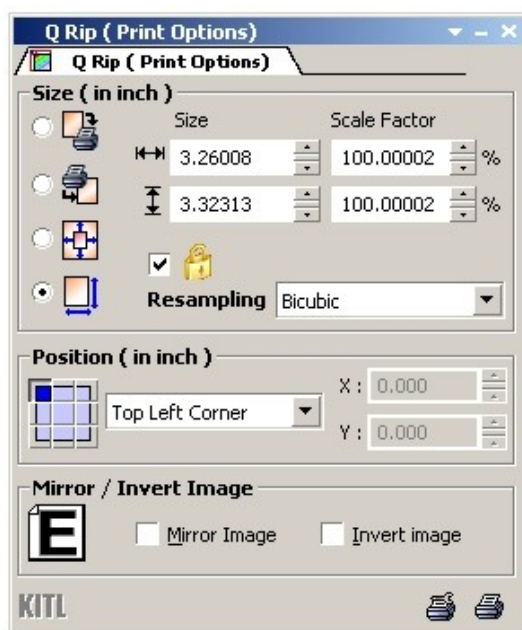
Quick Rip Options
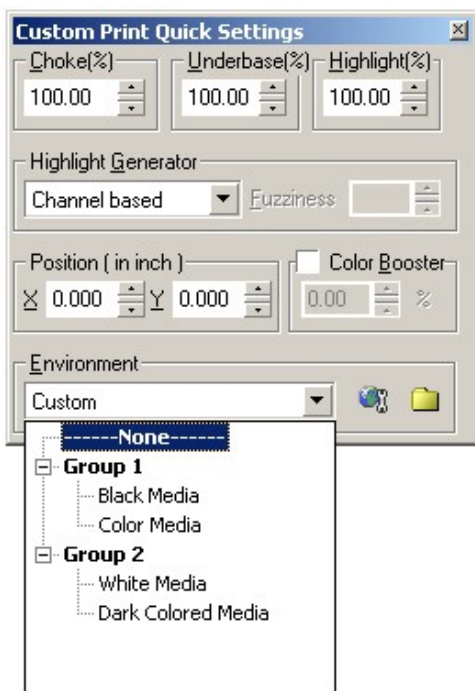
Printer Settings Tool Bar with Environment Selection

3. Select the appropriate print environment from the printer settings tool bar (shown in the above figure) and give the print command *(<Ctrl> + <P>)*.
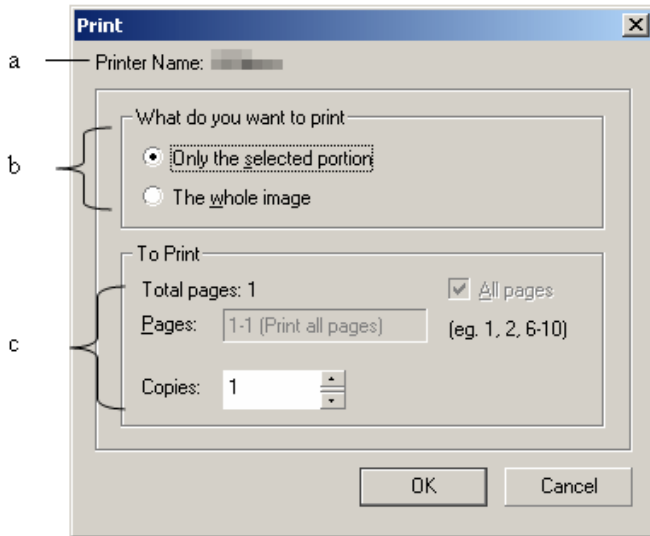
Print Box

a. **Printer Name:** This field specifies the name of the printer that you select to print the page.
b. **What do you want to print:** Select any one option to print either the whole page or selected portion.
c. **To Print:** Enter the number of pages you want to print and the total number of copies that you want.

If you are printing for the first time using the printer settings to the printer, and there is no port associated with it then you may be asked to associate a port with the current printer setting that identifies the printer you would like to print on. See the following figure.
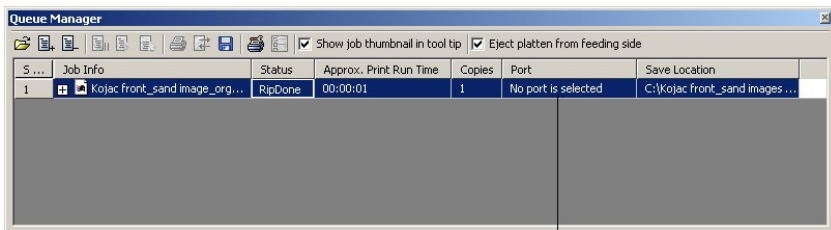
Queue Manager when no Port is selected

a. This field specifies the port on which data will be sent. Currently No port is selected.

The following dialog shows the list of the available ports from which you can select one for your printing needs.
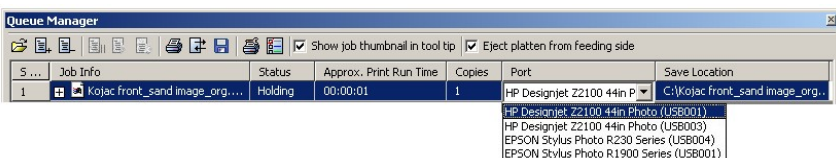
Queue Manager with the Port Selection List

Also refer to 'Preparing White Underbase' on page .

Preparing Images for Printing

If you are using Adobe Photoshop then it is recommended that you work with PSD file format. In that case preparing the image for printing on various color background becomes very simple. All you need to do is to knock the background off and make the area transparent. You can thus have a single target for all color backgrounds.

Another advantage of working with this format is that you can have soft edges on the image boundaries that will allow smooth merging of the image with the background.

In case of other file formats then you may have to generate image having the background color same as that of your printing substrate. For example to print on White substrate the background of the image should be white. Similarly to print on black substrate the background of the image should be black and so on.

Some sample images with background knocked off are shown below.

Background Knock Off Sample

As can be seen from the figure, the background has been knocked off to make it transparent making the image usable with printing base of any color. The grid in the right hand portion of the images represents transparency.

Preparing White Underbase

You don't really have to do anything to create the white underbase, as the software automatically generates this for you. All you need to do is to choose the right printer setting.

However you may feel some time the need for having White highlights. A white highlight is generally the area in the image which is either white or is close to white. Again this can be generated in the Adobe Photoshop and saved with the image as a Spot / Alpha channel. When the image is imported into Print Pro, the highlight channel is also read in. All you need to do before printing the image is to tell the software which channel contains the highlight information. To know more about how to do this, see Channel Palette on page **143**.

Highlight white is printed along with the color pass.

Please note by default the highlight white is not printed along with the color data when printing on the white substrate, however you can turn on the printing of highlight white if you desire so.

Color Management

So far throughout the manual, we taught you how to get productive with the software right away. In the remaining part of the manual we now explain the powerful control that Print Pro offers over the various variables involved in garment printing.

Printing is all about producing color on the desired substrate. The details of the color are derived from the image data. This image data reflects the imagination of its creator. Under most circumstances we would like to have a conforming print to the image data or in other words WYSIWYG.

Print Pro offers considerable support to this in the form of color management. The heart of the Print Pro's color support is its color management module.

Print Pro's Color Management Module (CMM) is based on ICC (International Color Consortium) model. See the figure below.
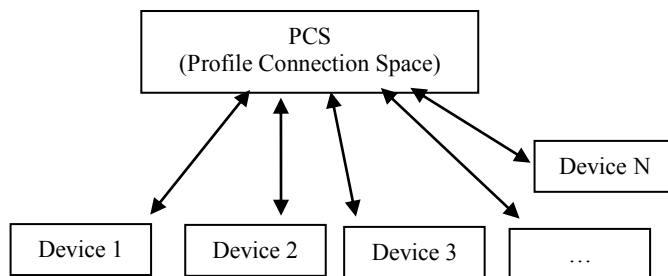
ICC Based Color Workflow

Where Device 1 can be a RGB monitor and Device 2 can be a CMYK printer, and so on. Images rendered on Device 1 are rendered on Device 2 via PCS. This transformation helps in maintaining the same color appearance of the image on two devices. This is step towards WYSIWYG *(What you see is what you get)*.*

* Color management's effectiveness is greatly influenced by the proper characterization of the rendering devices and the differences in their color gamuts.

What is Color Management?

Color management allows you to create designs or images on one device and renders the same on other device having different colorimetry/ technology while maintaining the same color appearance. E.g., Color management will allow image viewed on the RGB monitor to appear same when printed on the CMYK printer.

Print Pro Offers

Print Pro offers color-managed workflow. This essentially means that Print Pro will use the device profiles to manage the color appearance across different color input/ output devices.

Print Pro reads and uses any embedded ICC color profile present in the input image file.

In absence of any embedded profile Print Pro uses one of the appropriate default ICC profiles as specified by the user. Use the Color management Box as shown in the figure below to specify the default color settings.

Color management

Monitor
Current profile: CIERGB

a — sRGB IEC61966-2.1

Default RGB
Current profile: Default

b — Generic Monitor NTSC Illuminant C WP 2.2 Gamma

Default CMYK
Current profile: Default CMYK

c — Euroscale Uncoated v2

Scanner
Current profile:

Profile connection space illumination
d — D65

Matrix based RGB profiles
☑ Accurate out of gamut simulation — e

Note : These settings will take place next time the application is launched

KITL   OK   Cancel

Color Management Box

a. **Monitor Profile:** Select a profile from the drop down list. You can also choose the load option to load a specific ICC monitor profile.
b. **Default RGB:** Select a profile from the drop down list, or choose the custom option from the list to define a RGB Setup. See also: Specifying RGB setup to page **26**. You can also choose the load option to load a specific ICC RGB color profile.
c. **Default CMYK**: Select a profile from the drop down list, or choose the load option to load a specific ICC CMYK color profile.
d. **Source of illumination:** Illumination source for Profile Connection Space.
e. **Matrix based RGB profiles:** Check 'Accurate out of gamut simulation'.

Specifying Spot Color Gain

For spot channels/screens you can specify the spot gain by using the 'Gain Setup Box' as shown in the following figure.
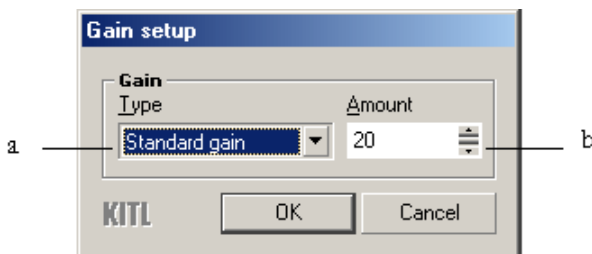
Gain Setup Box

a. **Gain type selection:** If standard gain type option is selected, then use the Value box labeled (b) to enter the gain value at 50% gray level. If the option selected is curve based then use the 'Gain Curve Box' as shown in below figure to specify the desired gain curve.

b. **Amount:** 'Value Box' for gain at 50% gray level. Valid gain range is between (-10% to 50%).
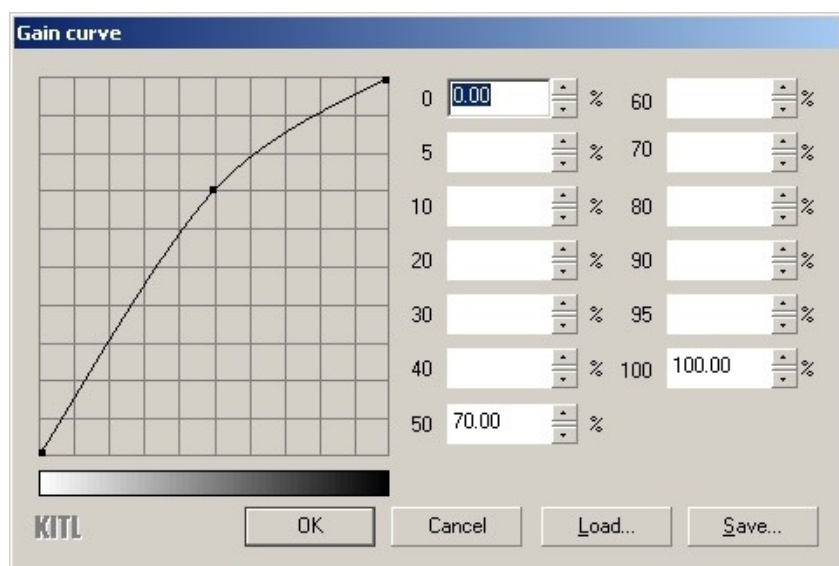
Gain Curve Box

The above figure specifies the options of the Gain curve box.

Print Pro uses CIE LAB as PCS (Profile Connection Space) and uses Relative Colorimetry. See the figure below to know how Print Pro color manages the images.

RGB Image / Indexed Images

RGB Space $\Longrightarrow$ PCS $\Longrightarrow$ Monitor / Printer Space (for printing)
If no RGB profile is present then default RGB profile is assumed.

Grayscale Images

Gray Space $\Longrightarrow$ PCS $\Longrightarrow$ Monitor / Printer Space (for printing)
If no embedded Gray profile is present then default RGB profile is assumed.

CMYK Images

CMYK Space $\Longrightarrow$ PCS $\Longrightarrow$ Monitor / Printer Space (for printing)
If no embedded CMYK profile is present then default CMYK profile is assumed.

Spot-Channel Gain Model

Used for modeling the gain profile of the spot channels during channel composition. CMYK channels are not subjected to spot gain.

Note: All output before transferring to printer is converted to SRGB as almost all windows compatible printer driver assumes the printers to be RGB printers.

Print Pro doesn't use Windows ICM in its processing pipeline.

Print Pro Color Workflow

Transfer Curve Editing
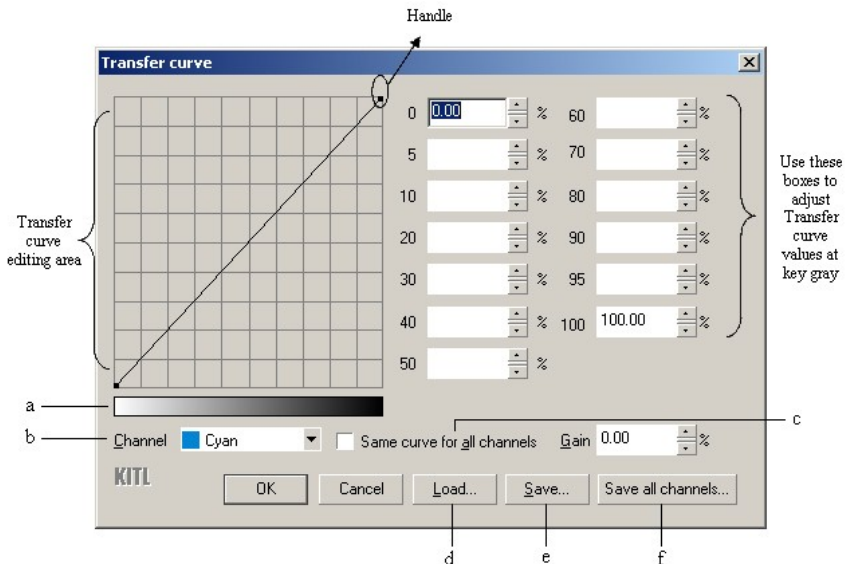
Transfer Curve Adjustment Box

- a. **Gray Ramp:** Indicates ink levels from 0% to 100%.
- b. **Channel Box:** Box listing all the channels/screens in the design showing the channel/screen for which settings currently are being established.
- c. **Same curve for all channels:** Checking this option results in Print Pro using the same TRC for all the screens.
- d. **Load Button:** Press this button to load a previously saved TRC from the disk.
- e. **Save Button:** Press this button to save the current TRC on the disk.
- f. **Save all channels Button:** Press this button to save the TRC of all the channels on the disk.

Editing the transfer curve interactively is a very easy task.

There is a handle to every key gray level specified by the boxes on the right. As you move the mouse and click the left button, depending upon the mouse position, one of these handles gets visible (depending which is the nearest) and gets close to the clicked point. You can then drag the point to give the curve the shape you desire. You can delete/ hide a handle by dragging it outside the grid area, except the first and the last handle. Key values are updated automatically in the respective boxes as the curve is being edited.

Any values entered through the boxes are also reflected on the drawn curve automatically.

Pressing 'Save' button, you can save Transfer Curves as Print Pro's **TRC format** file on the disk for later recall.

Specifying RGB Setup
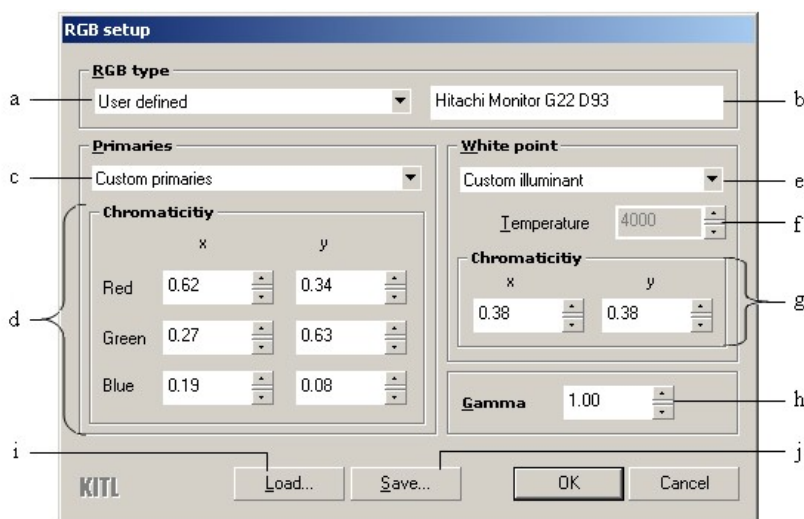
RGB Setup Box

a.   **Predefined** RGB type.
b.   **Custom** RGB setup **name.**
c.   **Predefined** RGB phosphor.
d.   **Custom** RGB phosphor.

e. **White point.**
f. **Custom D illuminant temperature.**
g. **Custom white point.**
h. **Gamma** for RGB.
i. **Load** RGB ICC profile.
j. **Save** current RGB setup as ICC profile.

Color Management Options

The following menu shows the features offered by Print Pro for the color management tasks.

Color
Color Management... Ctrl+Shift+K
Spot color gain... Ctrl+G
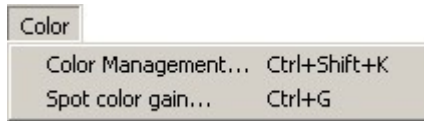
Color Menu

a. **Color Management:** For more details see 'Color Management Box' on page .
b. **Spot color gain:** For more details see 'Specifying Spot Color Gain' on page .

Section 2

THE APPLICATION FEATURES

Printing

Tools for Managing Printing Workflow

Tools for managing printing workflow –

1. **Print queue manager.**
2. **Port manager.**
3. **Printer driver.**

Print settings are accessible through Print Settings Dialog Box.

Let's understand these features one by one.

Print Queue Manager

The Print Queue Manager manages print jobs. It manages a queue of jobs and jobs get *serviced* in order they come.

The queue manager is responsible for simultaneous RIP and Print, RIP once Print many, Job order changing, deleting, holding as per the priority.

How to Use?

You can access Print Queue Manager from Application Window by selecting the *QueueManager > Show Queue Manager.*

The Queue Manager interface will appear as shown in the *Figure* below. In order to hide Queue Manager Interface you can either select *Queue Manager > Hide Queue Manager* or click the close button on the top-right corner of the interface.
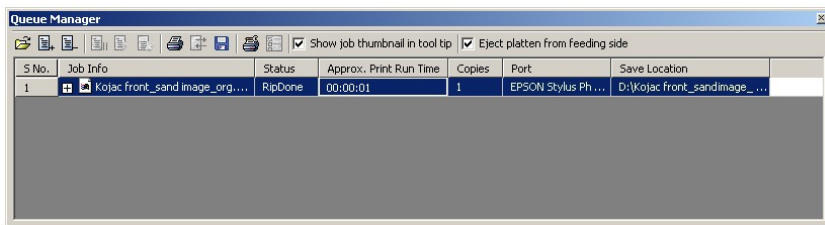
Print Queue Manager Interface

- **Toolbar**
- **Job queue**

Tool Bar

Let's see the Toolbar option of Print Queue Manager. *Figure* below is just a part of the above figure.

Print Queue Manager Tool Bar

a. To **load** a Job in the queue. You can also do this by *QueueManager > Load Job* menu too.
b. To **add** the active document i.e. currently working document. You can also do this by *QueueManager > Add The Active Document* menu too.
c. To **remove** the selected job from the queue.
d. To **pause** the selected job in the queue.
e. To **resume** the selected job in the queue.
f. To **cancel** the processing of the selected jobs in the queue.
g. To **print** the selected jobs in the queue.
h. To **rip** the selected jobs in the queue.
i. To **save** the selected job in **'kprn'** file format.
j. To get the **printer setting** dialog box.
k. To get the **print options** dialog box.
l. **Show Job Thumbnail in tool tip:** Check this option to show the thumbnail of the ripped job. When you move the mouse on the 'Job

Info' field of ripped job at that time thumbnail of job will be visible. If you do not want to display the thumbnail then uncheck this option. This option is helpful when you load the saved job (KPRN file) from disk and you want to know the content of that saved job. See the figure below,
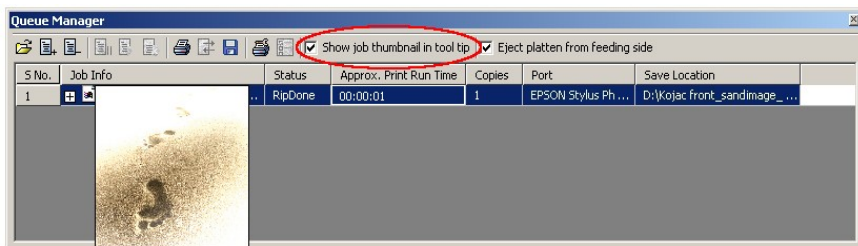
Job Thumbnail in Tool Tip

m. **Eject platen from feeding side:** Check this box to eject platen from feeding side.

Note	KPRN files are Kothari printer files used to save the printer data where as PRN files are printer files written in the internal format needed by the printer. Printing a 'kprn' file is very fast.

Tip	You can also right click and drag to the printer queue, the document that you want to add to the printer queue.

Job queue

As in the figure 'Print Queue Manager Interface', Job Queue contains seven fields for each job. These fields are explained below, in the same order as they appear in the figure from left to right.

1) **S No.**
This field specifies the position of a job in the queue.

2) **Job Info**

This field contains job information in tree form as shown in the following figure. To expand the tree click on the plus sign. To collapse this information, click on the minus sign.

Job Info Tree

The job info tree contains the following information for the job.

- a. **Name of Job:** Root node of the Job Info tree specifies the name of the job.
- b. **Job Dimension:** Specify the width and height of the job in Inches.
- c. **Number of Pages:** This is the total number of pages in the job, irrespective of how many are requested to be printed.

d. **Pages to Print:** Specify the page numbers of the pages to be printed. Initially it shows the string 1-n (where n is the value of the Number of Pages field), which implies that all the pages will be printed. It is an editable field. You can edit this field if the status of the job is in either one of the Holding, Cancel or Error state. If you need to edit this field then enter the page numbers and/or page ranges separated by commas. For example if a job contains total number of 12 pages and you enter the string 1,3,8-12, then following pages will be printed 1,3,8,9,10,11,12.

e. **Input Color Mode:** Specify the input color mode of the job.

f. **Output Color Mode:** Specify the output color mode of the job.

g. **Printer:** Specifies name of printer to which the print is targeted.

h. **Media Type:** Specify the media type on which job was printed.

i. **Ink coverage:** Total ink used to print the current job. Ink usage unit is shows as per the amount of ink used. It shows the ink amount used for all inks individually *(Optional feature).*

j. **Total Ink cost:** Cost of the ink used. You can change the ink cost by using the *Option > Ink cost…* menu command. Refer page **161**. *(Optional feature).*

3) **Status Field**

This field specifies the current status of the job, e.g., Holding, Ripping, Printing, Saving, Pause, Resume or Error (if some error occurs during the processing).

Other states are transient states and their Interpretation is as follows:

a. **Printing Composite / Screen I (Page x of n (y %)):** This message implies that your job contains total number of n pages and page number x is currently being printed and y percent of it is done. Composite implies that current printing page contains the composite color image.

b. **Waiting to print:** This implies that job is waiting for its turn to print as Queue Manager is already servicing the maximum jobs possible.

c. **Waiting to rip:** This implies that job is waiting for ripping because Queue Manager already servicing to the maximum jobs possible.

d. **Waiting to save:** This implies that job is waiting for saving because Queue Manager already servicing to the maximum jobs possible.

e. **Printing (Color layer 1 of Page 1 (600.00 KB/650.00 KB)), Spooling Composite (Color layer 1 of Page 1 of 2 (11%)) :** "Color layer 1 of Page 1 a (KB/MB) / b (KB/MB)" means 'a' KB or MB of data is printed from total of 'b' KB or MB of data of color layer 1 of page 1. Spooling Composite (Color layer 1 of Page x of n (y%)) means color layer 1 of page number 'x' of the total pages 'n' is spooled to 'y' percent.

4) **Approximate Print Run Time**
This field shows the approximate print run time of the job.

5) **Copies Field**
This field specifies the number of copies of the job to be printed. You can edit this field when the job is in one of the following state - Holding, Cancel or Error.

6) **Port Field**
This field specifies the port on which data will be sent. Left clicking on this field a drop down list of ports appears from where you can select any one of the port listed for printing.

7) **Save location**
This field specifies the path of the file where the printer data can be saved. Initially this field displays the default save location. You can change this default save location by clicking on save location field. You can now either enter the path of the saving location directly in the edit box or you can browse for the path by clicking on Save As button as shown in the *Figure* below.

Save Location

On clicking the *Save As* button a common *Save As* dialog box appears. There you can give the path for storing the file.

Tip	Right clicking on the job in the job queue will give you access to options relevant to the current state of the job.

Selective Printing

Selective printing allows you to print only the selected layers from the print job. To use this feature it is necessary to use custom driver for the printer and then rip the print job. After ripping the job successfully you can go on to print selected layers.
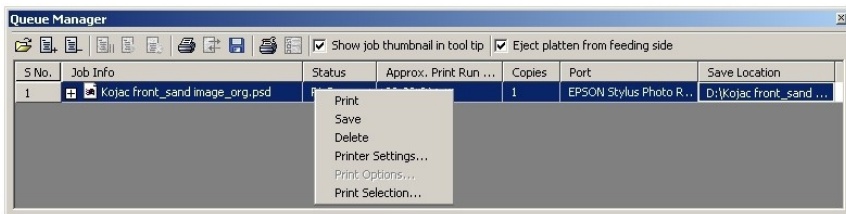
Selective Printing

After the job has been ripped, right click on the job and from the menu that is displayed select 'Print Selection…' item. This dialog allows you to select the desired layers.
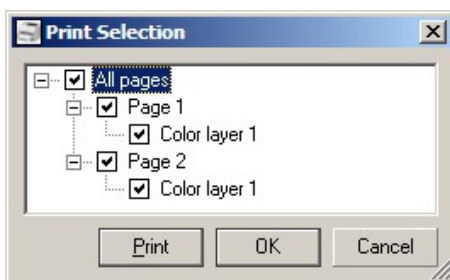
Print Selection

In the above dialog you can select the layers and pages to print by checking the corresponding box.

Print Queue Manager Preferences

There are more options Print Queue Manager offers as preferences to make printing more yielding. These are available as Print Queue Manager's Preferences. You can access 'Print Queue Manager Preferences' by selecting the menu command *Options > Queue Manager Preferences.* The 'Preferences Box' is as shown in below figure.
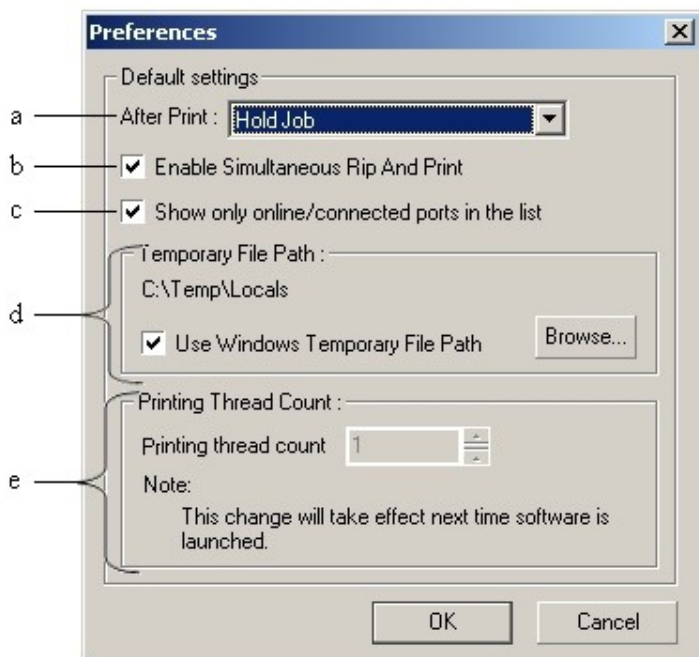
Print Queue Manager Preferences

a.   **After Print:** There are two options either holds the job or remove the job from the queue after a job is printed. This field allows you to select one of the options either Hold Job or Remove Job. By default Print Queue Manager hold the job after print.

b.   **Enable Simultaneous Rip and Print:** There are two ways to print a job either simultaneous rip and print or print the job after ripping the whole job. This check box allows you to enable the simultaneous

rip and print option. By default Print Queue Manager provides simultaneous rip and print.

c. **Show only online/connected ports in the list:** When this option is checked, 'Port Manager' shows USB port only on which currently printer is connected. If this option is unchecked then 'Port Manager' shows all the available USB printer port into the system.

d. **Use Windows Temporary File Path:** Print Queue Manager creates a temporary file for its own use when a job is added in the queue. When you remove the job from the queue QueueManager removes this temporary file. By default Queue Manager chooses the Windows temporary file path for these files but you can change this file path also by using the browse button. Select this check box if you want Windows temporary file path for the creation of these temporary files.

e. **Printing thread count:** This edit box is used to specify the drive number of printers that can be addressed simultaneously. Maximum it can be 100 (Optional feature).

Port Manager

This tool provides the Print Queue Manager with the support of talking to the printing devices. As we have seen in the previous topic in 'Print Queue Manager' the sixth field is for port and the Port manager manages it.

You can access the Port Manager form *QueueManager > Port Manager.*
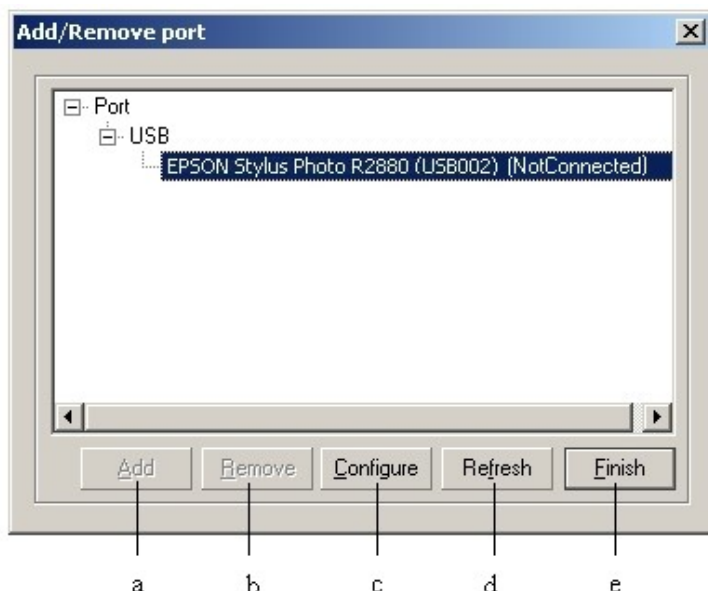
Port Manager

a. **Add:** To add the new port.
b. **Remove:** To remove the existing selected port.
c. **Configure:** To configure the selected port.
d. **Refresh:** To refresh the port tree.
e. **Finish:** To close the Port Manager box.

Configuring the Port

You can configure the ports as per your requirement by pressing the configure button (labeled 'c' in Figure above) for all those ports for which this button is enabled.

For USB ports you will get the following configuration dialog:
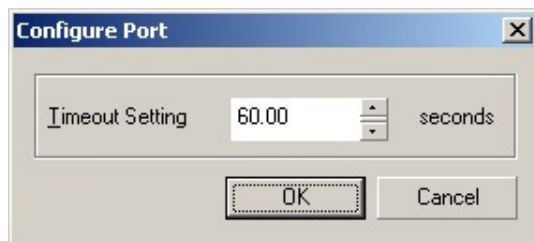
Port Configuration

Timeout Setting: This parameter lets the software know the time interval between two consecutive attempts to connect to the printer.

Printer Driver

This edition of Print Pro offers customized printer drivers for your printing needs. Now onwards we will use the term **Custom Driver** in place of Print Pro Driver.

Now, we will look into the details.

What is Custom Printer?

Custom printer is a collection of printer drivers for which Print Pro does not depend on the printer manufacturer driver but has its own driver, which drives the printer. Custom printer drivers have been specifically designed for the application specific requirements.

Printer setup option for custom driver:

You can access the 'Custom Print' box by *File > Print Setup* or *<Ctrl>+<Shift>+<P>.*

The dialog box is shown in the following page:

This dialog box has two pages accessible through the tabs named 'Print Environment' and 'Summary'.

Before we move further, a word on a concept called print environment. Print environment are the files that saves the snapshots of the settings on a Print setup box. They can be saved on the disk as '.Env' files.

Print environment contains all the information that is needed to print with a certain media. It contains among other the printer driver used, Media properties, selected port, position from where to print etc. All data are selected automatically when you select the appropriate print environment.

Print Environment Page
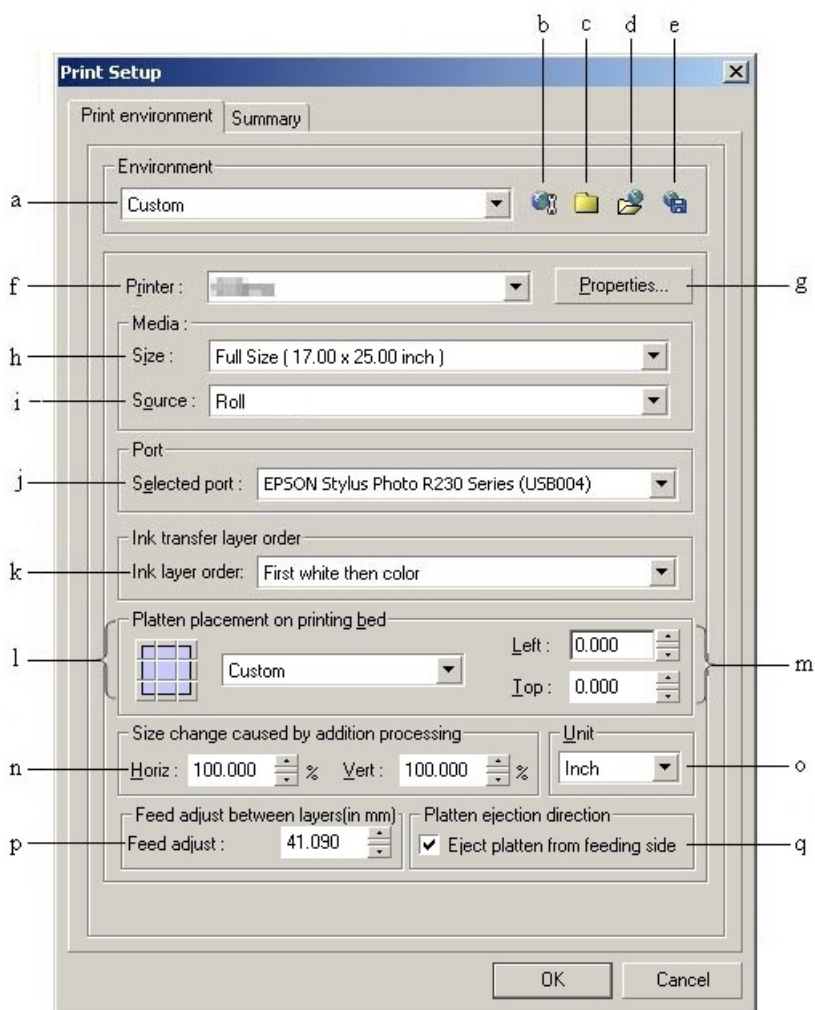
Print Environment Page

a. **Environment name:** It shows the currently loaded environment settings. As described earlier you can save the snap shot of a print setup as print environment file. Default settings of a printer are always loaded as "Custom". You can select the environment from the drop-down list. It shows the environment entries in the tree with group name shown as below,
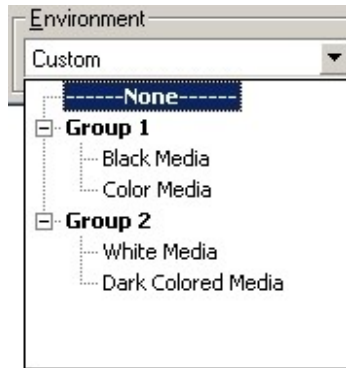
b. **Manage env:** This button enables a user to load to associate a generic name with an environment file. The user can then select the name associated from the name list to load the environment settings saved in the environment file associated with the selected name. Pressing the button displays "Manage Environment" dialog box. For details see "Manage Environment" on page **47**.

c. **Manage env Group:** On clicking this button enables a user to manage the environment file into group. Pressing the button displays the "Manage Environment Group" dialog box. Refer page **50**.

d. **Load env:** This button enables a user to load to a previously saved environment file. A print environment can only be loaded if the printer specified in the environment is currently present in the printer list.

e. **Save env:** 'Save env' button enables a user to save all the printing settings into a file so that he can use this file to print another image with same settings in future.

f. **Printer name:** It shows the currently selected driver. User can select another driver from the dropdown list.

g. **Properties**: On clicking this button lets you to set up the properties for printing accessible through 4 different options as follows-
    1. **Media.**
    2. **Printing Ink Assignment.**
    3. **Color Correction.**
    4. **Device Options.**

h. **Media size:** This field shows the list of media (paper) supported by the printer. Here we can specify the page size we want to use. If the printer supports custom paper sizes then select one of the "User defined" paper sizes from the list whose size can be defined by the user by clicking the 'User size' button.
i. **Source:** This part basically determines from where the media is inserted for printing.
j. **Selected port:** It contains information about the port to which your printer is connected.
k. **Ink layer order:** This field specifies the ink layer transfer order, means whether you want to print first white layer and then color layer or color layer and then white layer.
l. **Platen placement on printing bed:** Specify how you want to place your platen on the printing bed. You can also specify the 'Left' and 'Top' position of the platen by selecting the "Custom" option from the dropdown list.
m. **'Left'** and **'Top'** position specification of platen when 'Custom' option is selected.
n. **Size change caused by addition processing.**
o. **Unit:** This button allows the user to change the measurement unit of various options (like Page size, Margin, Offset…). User can also change the unit by clicking the right mouse button on this page and selecting the desired unit from the menu. The currently supported units are Inch, Centimeter, Millimeter and Points.
p. **Feed adjust between layers (in mm):** Specify the feed adjustment between layers in 'mm'.
q. **Platen ejection direction:** Check this box to eject platen from the feeding side.

Manage Environment

What is an Environment?

Print Pro offers you the feature of saving the printer related settings in a file called an environment file. Print environment contains all the information that is needed to print with a certain media. It contains among others the printer settings used, printer profile and TRC curves used, information about the ink slot order and the inkset used, margins, etc. All data are selected automatically when you select the appropriate print environment.

You can save environment files of different configurations and load them whenever you need them. You can save environment names for env files which makes selecting a set of printing settings just a matter of selecting the environment name. This saves a lot of time spent in selecting the different options as per requirement every time the media or some other parameter is changed.

This dialog allows you to associate generic environment name with an environment file. To load the environment you need to select the environment name from the list.
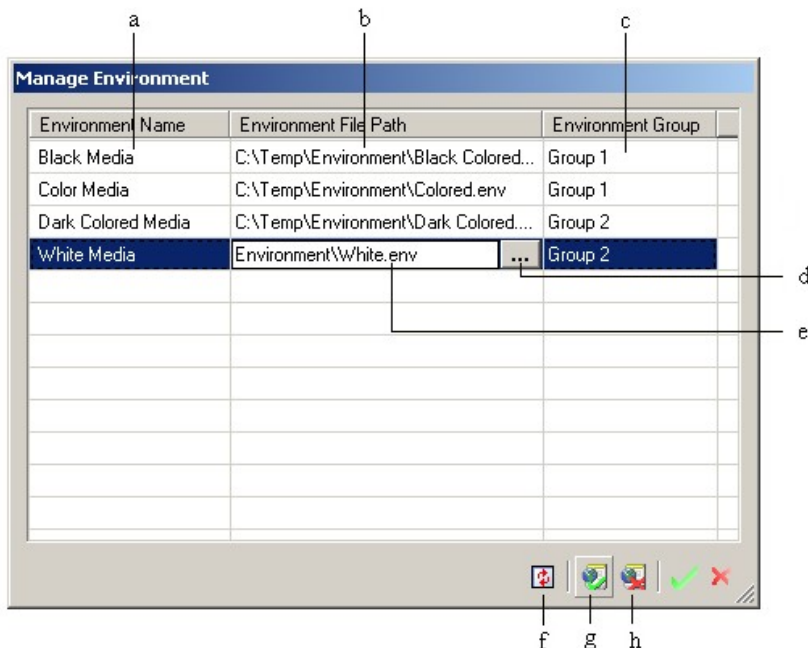
Manage Environment Dialog

a. **Environment Name:** This denotes the name associated with the environment file in the second column. It can be edited by first selecting the desired name and then clicking on the selected name.

b. **Environment File Path:** This is the path of the environment file with which you wish to associate the environment name. This field can be modified in the same way as the environment name can be.

c. **Environment Group:** This is the name of the group to which particular environment belongs. You can change the environment group by click on the group name. It shows the all the available group in the drop-down list as shown in the figure below,
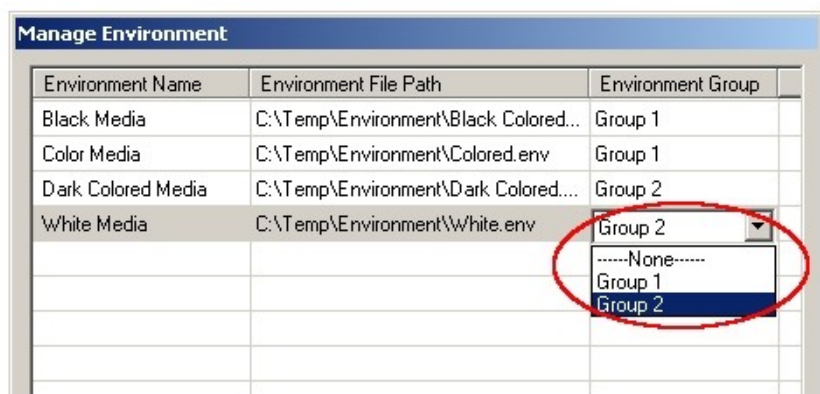
Group in Manage Environment

    d. **Environment File Path Browse button.**
    e. **Environment File Path Edit box.**
    f. **Reset environment list to factory default:** Click this button to reload the environment list to software default.
    g. **Add Env:** Allows you to add a new environment name.
    h. **Delete Env:** Allows you to delete selected entries from the list.

Right clicking in the environment list will display the following menu which allows you to add or delete entries.
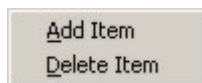
Manage Environment Group

Manage Environment group is helpful to manage the environment files into the group, so you can easily identify the required environment file as per the environment group.
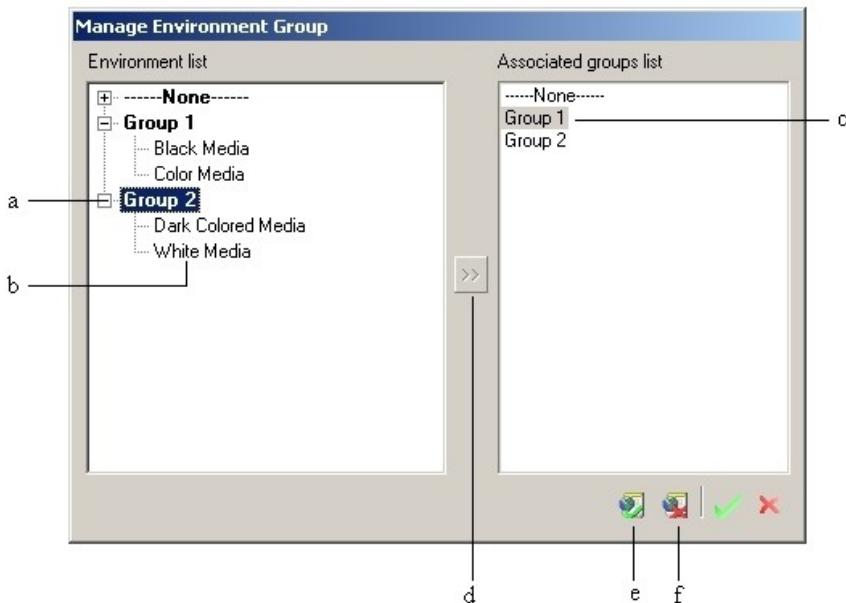
Manage Environment Group Dialog Box

- a. **Name** of the group.
- b. **Environment file name** present into the group.
- c. **Associated group list.**
- d. Press this button to **move** the environment file into the selected group item into the associated group list. This buttons enabled only when appropriate environment is selected in 'Environment list' and appropriate group is selected in the 'Associated group' list.
- e. **Add** new group. You can use *<Insert>* key to add a new group.
- f. **Remove** the selected group. Environment file present into the group which is going to delete are moved into the 'None' group. By using *<Del>* key you can delete the selected group.

Right clicking in the environment group item or folder will display the following menu which allows you to add, delete and rename group item and transfer environment into new associated group.

```
Add Group
Delete Group
Rename Group
Transfer Environment
```

Note	You can re-group the environment file by using the *<Ctrl>* + *Dragging the item and dropping* on to the new group.

Note	You can not delete the item 'None' from the Environment list.

Summary Page
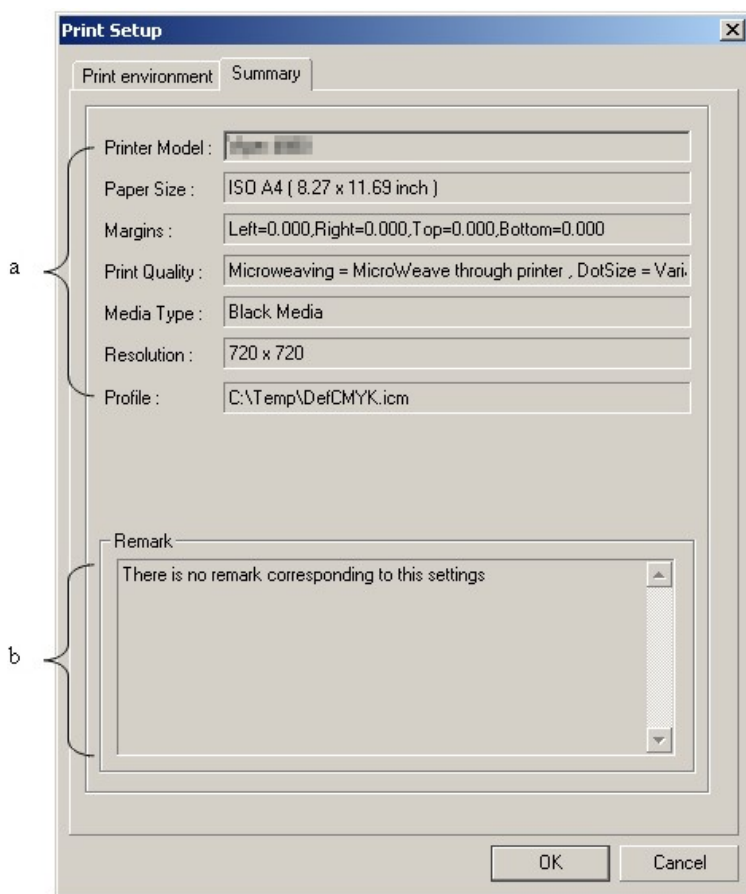
Summary Page of Custom Print

a. **Summary:** Summary of the settings made by the user.
b. **Remark:** User Sets remarks.

Summary page shows the summary of the options selected for printing the document. This page shows the current printer selected, paper size used to

print, print margins, print quality, media type used for printing, print resolution, currently loaded ICC profile, and user remarks if any specified by the user while creating the print environment.

On pressing the button with the caption "Properties…" labeled as 'g' in 'Print Environment page' you will be presented with the **print properties dialog**.

Print properties are grouped under 4 main categories accessible through individual tabs on the 'Print Properties Box'. These are as follows-

1. **Media.**
2. **Printing Ink Assignment.**
3. **Color Correction.**
4. **Device Options.**

Media Page
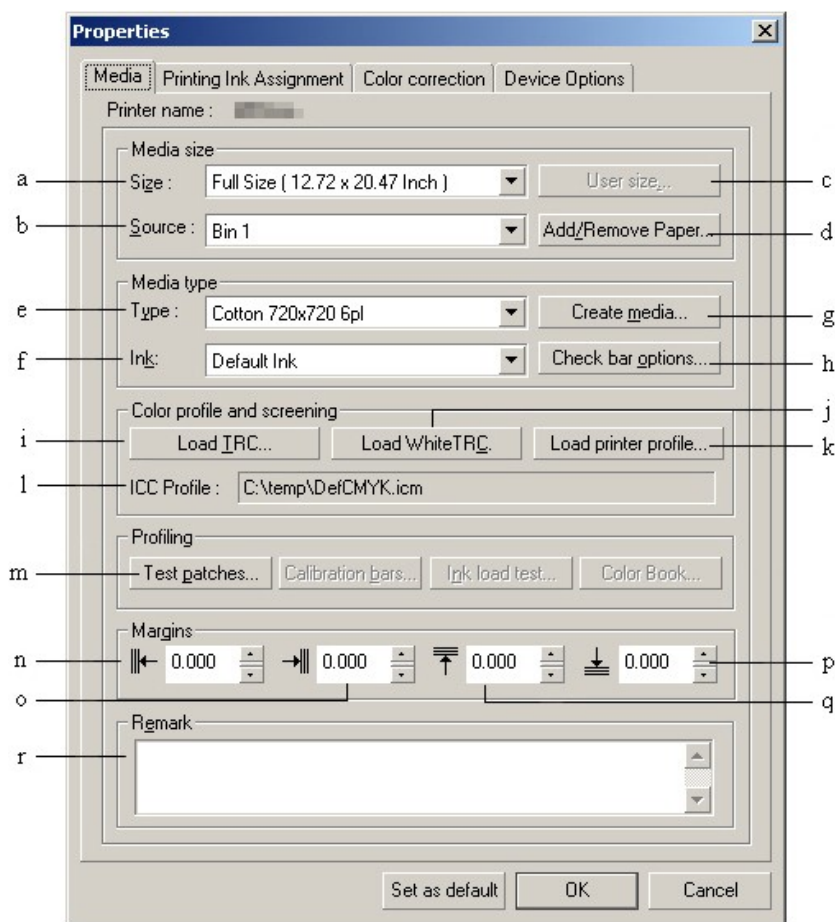
Media Properties Page

a. **Media size:** Media size shows the list of media (paper) supported by the printer. Here we can specify the page size we want to use. If the printer supports custom paper sizes then select one of the "User

defined" paper sizes from the list whose size can be defined by the user by clicking the 'User size' button (labeled 'c')

b. **Source:** This is from where the media is to be inserted for printing.

c. **User size...:** This button is enabled when the user selects "User defined" paper size from the media size list. When you click this button a dialog box appears asking for the width and height of the new media you want to create.

d. **Add/Remove paper...:** This button is used to add the new paper size or you can remove the paper size which is newly added by you.

e. **Media type:** It specifies the media on which user wants to print. This can be a user created media or a predefined media. Basically by selecting a new media user selects a new ICC profile and TRC curves for printing which was selected by the user while creating that media. Media type can be dependant on ink type or can be independent depending on the printer selected. If a media type is dependant on ink type then only those media are shown which the selected ink type supports. User can still override the ICC profile or the TRC curve used by selecting appropriate files using 'Load TRC...' and 'Load printer profile...' buttons.

f. **Ink:** Ink type shows the list of ink type supported by the printer. Many printers have media type dependant on ink type i.e. for one media type you may want to select the different TRC curve and ICC profile and for other ink type a different set.

g. **Create media...:** Create media button is used to create a new media or remove a media created.

h. **Check bar options...:** Use this button for the alignment of bars.

i. **Load TRC:** Use this option to change the TRC curves used for printing an image.

j. **Load White TRC:** Use this option to change the TRC curves used for printing the white base for an image.

k. **Load printer profile:** Use this option to select a different ICC profile for printing. Remember always load the same number of channel ICC profile as in the currently loaded inkset.

l. **ICC Profile:** ICC Profile shows the currently loaded ICC profile name.

m. **Test Patches**: This test is carried out to determine the order of inks in the printer, for printing other test patches.

n. **Left Margin.**

o. **Right Margin.**

p. **Bottom Margin.**

q. **Top Margin.**

r. **Remark:** Remarks are the user given comments for the given environment setting. The user for recalling why he made these settings for the environment can use this as a memory aid.

User Size

Working with Non-Standard Paper Sizes

Specify a media of a non-standard size. Enter the width and the height of the page and press OK denoted by the "tick" marked button. You can change the unit of parameters by right clicking in the area of the dialog box and change the unit to any one of cm, inch, mm, point.
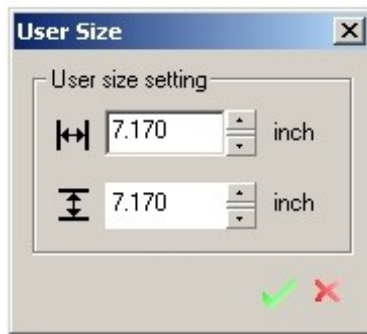
User Size Box

Add Remove Paper Size

In addition to that you can also save a specific user sized paper with any name you want by pressing the button with the caption "Add/Remove Paper.." labeled as 'd' in 'Media Properties Page' figure. You will see the following dialog.
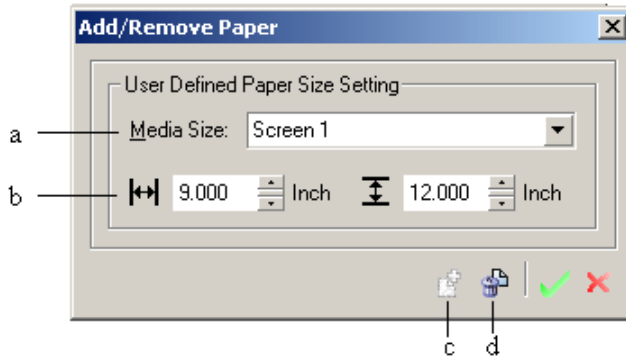
Add / Remove Paper Box

a. **Media Size:** This field shows the name of the user defined paper size.
b. **Width** and **Height** of the media.
c. **Add Paper:** Add the user defined paper size in the list.
d. **Remove Paper:** Remove the paper size from the list.

Create Media

Media is a combination of a TRC, an ICC profile and an inkset (if applicable to that printer) that can be saved by the user and utilized later. On selecting a particular media, the corresponding TRC and ICC are both loaded.

To create a new media or to alter the settings of an existing media click the button labeled as 'g' in 'Media Properties Page' figure and you will be presented with the following dialog.
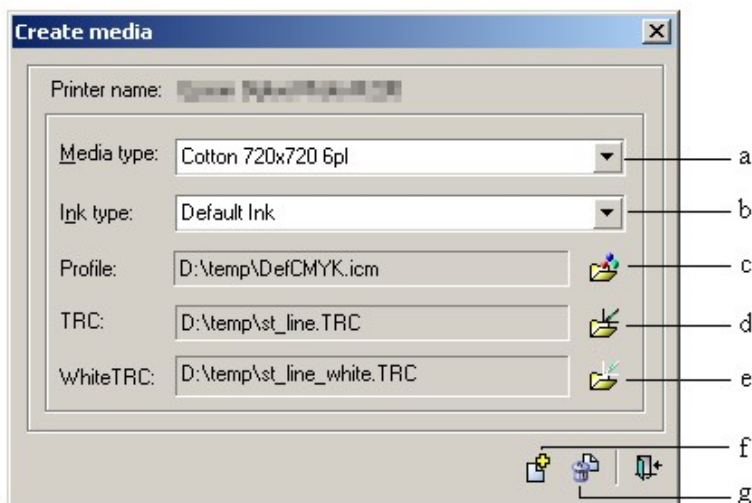
Create Media Box

a.   **Media type:** Name of the media that can be specified by the user or can be selected from the drop-down list. Ink type: Name of the media that can be specified by the user or can be selected from the drop-down list.

b.   **Ink type:** Name of the media that can be specified by the user or can be selected from the drop-down list.

c.   **Load Profile:** Specify the path of the suitable ICC profile for the specified media.

d.   **Load TRC:** Specify the path of the suitable TRC curve for the specified media.

e.   **Load White TRC:** Specify the path of the suitable TRC curve for the specified media for printing using white base.

f. **Add media:** Click on this to add the newly specified media.
g. **Remove media:** Remove the current media.

Note	A user can delete all media for a given inkset except the last i.e. at least one media should be present for a given ink type.

Check Bar Options
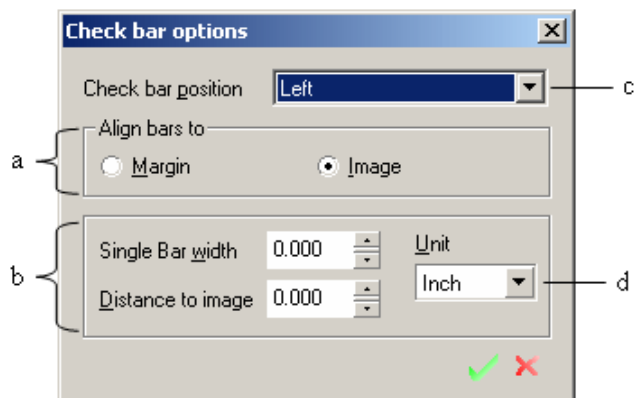
Check Bar Options Box

a. **Align bars to:** Select bars to align either to margin or Image.
b. Enter the **width** of the bar and its **distance** from the image.
c. **Bar position:** Select the position of the bar.
d. **Unit:** Unit of measurement.

Note	You can right click anywhere within the dialog box to change the units of measurement.

Generate Ink Order Test Patches
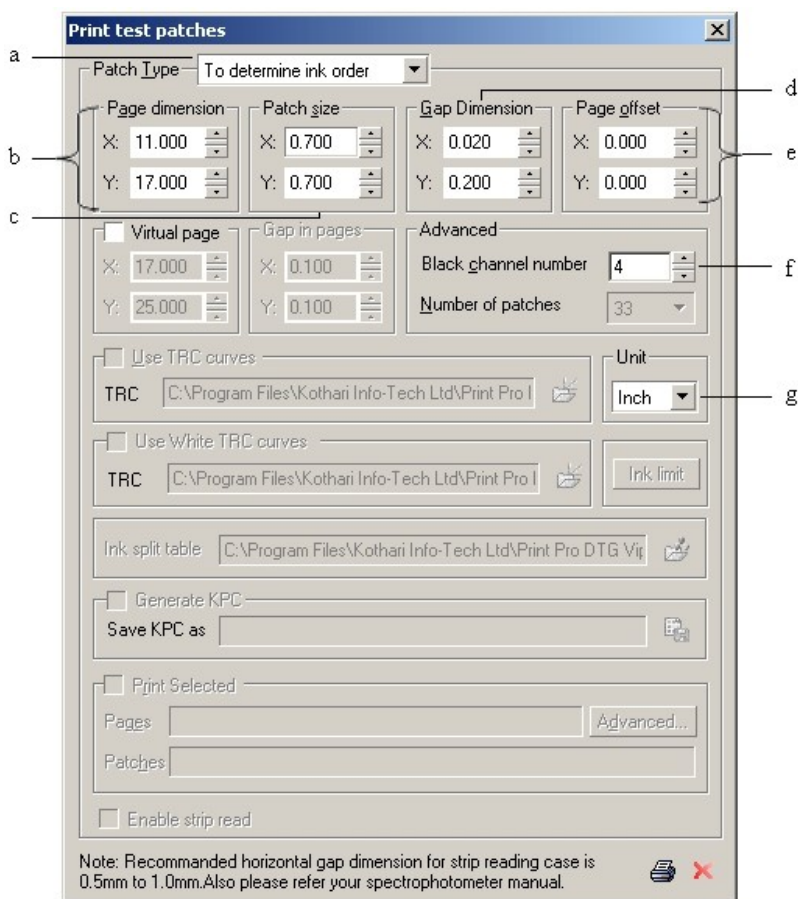
Test Patches Box

a. **Patch Type:** You can select the following patch type - To determine ink order.

b. **Page dimension:** The dimension of the page on which the patches are being printed.

c. **Patch Size:** Size of the patch Width (X) and Height(Y).

d. **Gap Dimension:** Gap between neighboring patches horizontally(X) and vertically(Y).

e. **Page offset:** Specify the offset with which the page will be printed.

f. **Black channel number:** For CMYK the channel number is 4. This color will be used for labeling the patches being printed.

g. **Unit:** You can select the units as per your requirement from this drop-down list.

As can be seen in the above figure there are more options but these are irrelevant to Ink order test. After having entered the input parameters press 'Print' button at the bottom of the dialog shown by the printer icon on the bottom right corner of the dialog.

In the test print you will observe a patch for every ink present in the inkset of the printer and a number printed alongside each patch. These numbers represent ink slot number. Select color as printed corresponding to each slot number in the 'Printing Ink Assignment' page of the Print properties dialog box. Now the software knows which printer channel contains what ink.

Ink Assignment Page

Ink assignment page contains the information about the currently loaded inkset used for printing. This page will show only those inksets which are supported by the printer i.e. if the printer is a 4 channel printer then only those inksets will be shown for which the number of inks in the inkset is equal to or less than four. Once a proper inkset has been chosen then always remember to choose the corresponding ICC profile. Now assign each channel with the given slot in the printer. If you don't want to print using a channel then set that channel slot number as zero. Color channels marked for no use are ignored during printing but each specified color channel has to be rasterized.
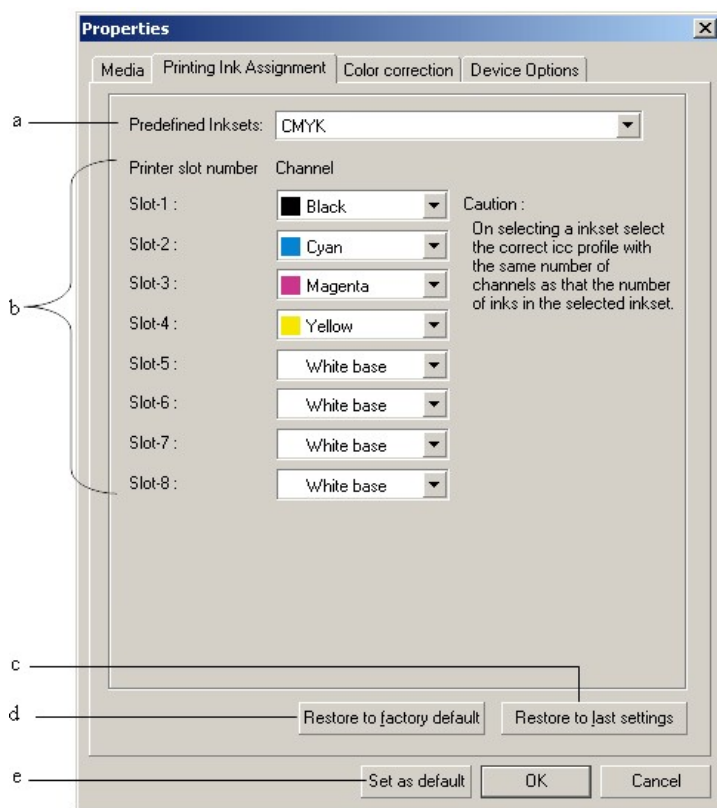
Ink Assignment Page

a. **Predefined Ink sets:** List of inkset supported by printer.
b. **Entries of the selected inkset**.
c. **Restore to last settings:** On clicking this option the last settings that were set by the user, as the default will be restored.
d. **Restore to factory default:** On clicking this option the printer setting in the software will restore to the factory default settings.
e. **Set as default:** when user clicks this button then the current setting will be set as the last used settings and these settings will be loaded automatically when the user selects this printer next time or clicks the button "Restore to last setting".

Note	When the specified color order does not meet the actual color order in your printer "false" colors will be printed.

Note	This feature *("Ink Assignment Page")* may not be available in some cases depending upon whether your printer supports modifying of printing ink assignment or not.

Color Correction Page
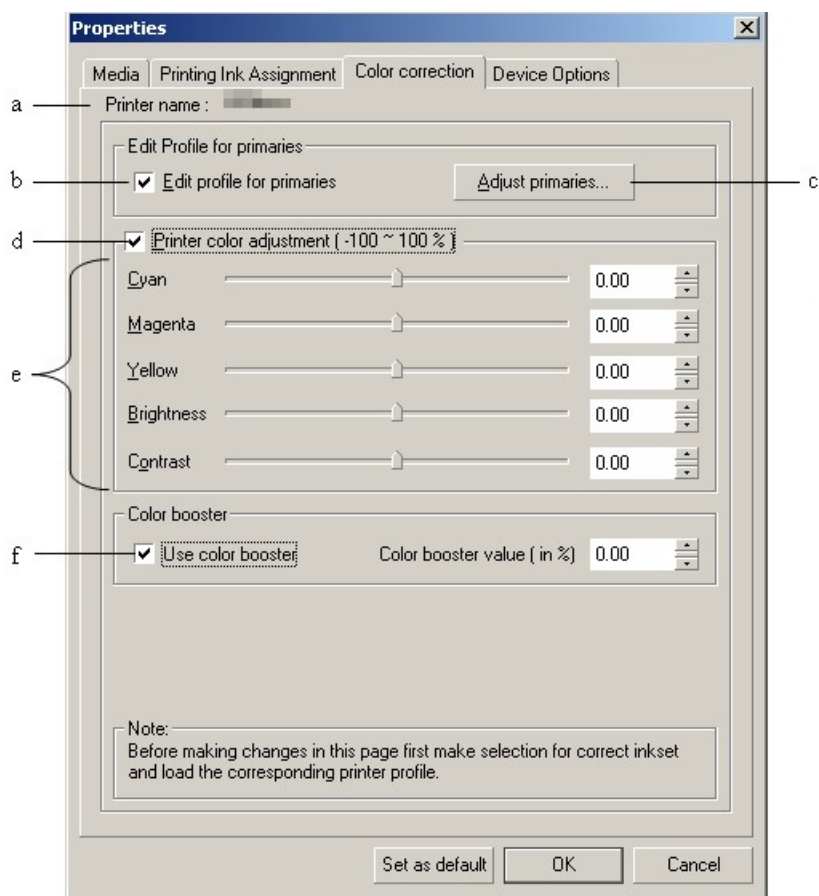
Color Correction Page

a. **Printer Name:** Displays the name of the selected printer.
b. **Edit Profile for primaries:** Check this to edit manually change the blends of the selected profile.

c. **Adjust Primaries:** This button pop ups the dialog box which lets you adjust the blend manually.
d. **Printer color adjustment:** Check this for color adjustment.
e. **Sliders:** Use these sliders for color correction.
f. **Color booster:** Adjust the percentage to increase the amount of color depth.

Primary Adjustment

Primaries	Cyan	Magenta	Yellow	Black
Red	0.0000	68.1916	74.2495	0.0000
Green	66.5197	0.0000	73.1011	0.0000
Blue	58.8235	68.6275	0.0000	0.0000
Cyan	71.7226	0.0000	18.4975	0.0000
Magenta	3.0367	67.3147	0.0000	0.0000
Yellow	12.5490	0.0000	92.0641	0.0000
Black	100.0000	100.0000	100.0000	100.0000
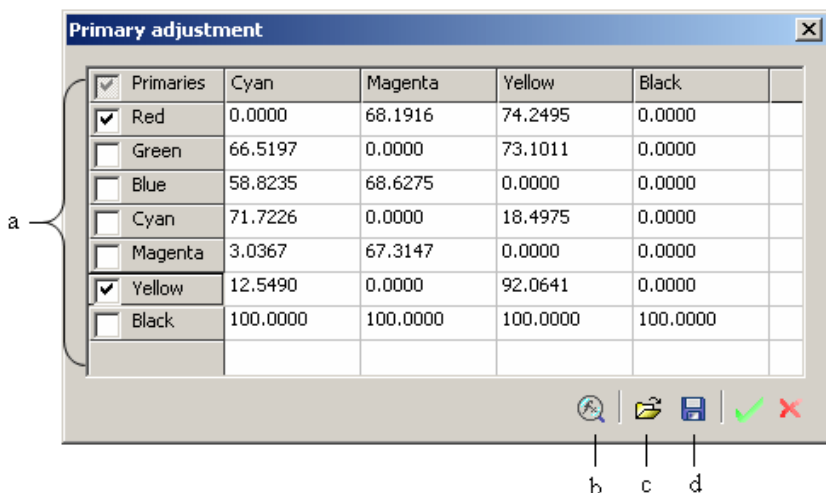
Primary Adjustment Dialog Box

a. **Manually adjust** the blend of the selected profile.
b. On clicking this button will **automatically** estimate the amount of color used for any primaries.
c. **Load** the primary adjustment.
d. **Save** the changes made in the primary adjustment.

Device Options
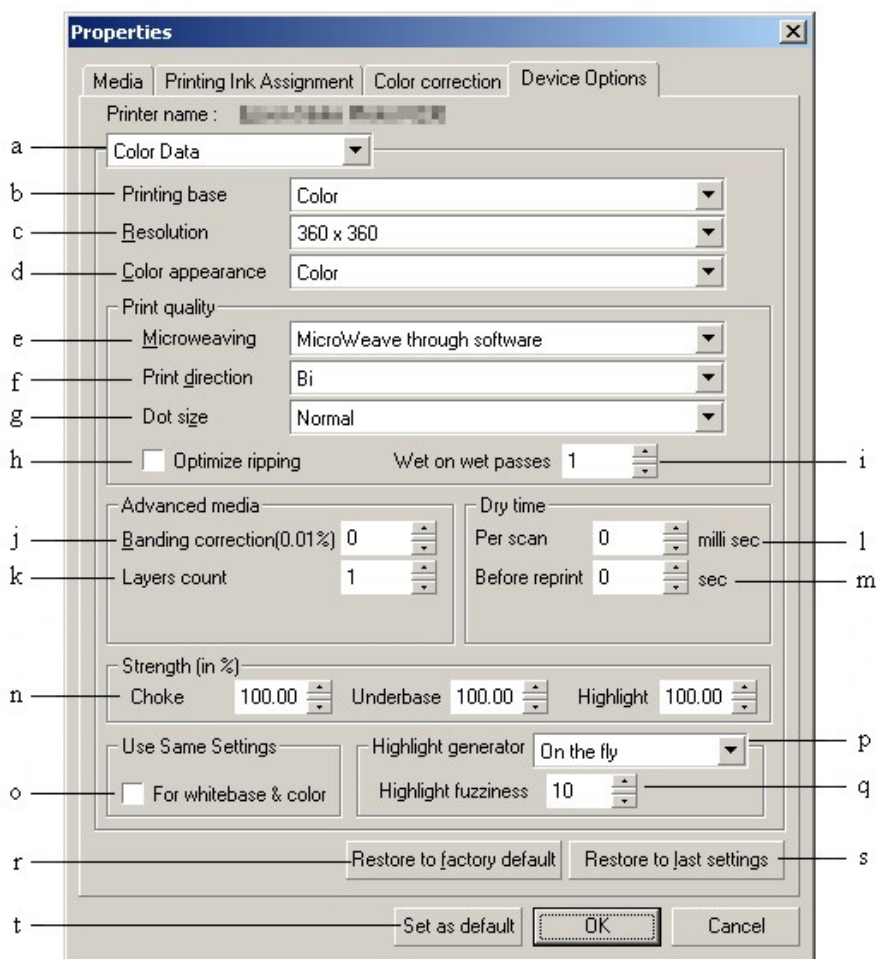
Device Options Page

a. **Underbase option:** This underbase option will allow you to select whether the printing is for white underbase printing or for color data printing. This option is disabled when either the printing is on white

printing base (see 'b') or "Use same settings for white base or color" (see 'o') has been set.

b. **Printing base:** It allows you to select the color of the printing base. It can be one of the following:
   1. **White**
   2. **Black**
   3. **Color**
   4. **Dark Color** *(Optional feature in the basic version of the software)*

c. **Resolution:** Select the resolution at which you wish to print.

d. **Color appearance:** Select the output color mode which is by default selected as 'Colored'.

e. **Microweaving:** This option allows the printer to generate superior output because graphics data is reordered and is printed in finer increments. It reduces the possibility of banding, the light horizontal lines that can mar an image.

f. **Print Direction:** This option allows you to set the printing direction. It can be unidirectional or bidirectional or automatic.

g. **Dot size:** Using this option you can set the size of the dot for printing.

h. **Optimize Ripping:** Checking this option will increase the ripping speed.

i. **Wet on wet passes:** Number of passes to be printed on same position.

j. **Banding correction:** Perform settings for media feed compensation. This corrects the errors in the amount of feed of the grit rollers due to the type of media used. Correcting the amount of feed improves the dot positioning accuracy in the feed direction, which can help in enhancing the image quality.

k. **Layers count:** Enter the no. of layers of white underbase or color data to be printed depending on the option selected currently.

l. **Dry time per scan:** Specify the time (in milliseconds) for which the head waits before printing each line.

m. **Dry time before reprint:** This setting allows the control of the amount of time (in seconds) after which the next layer is to be printed.

n. **Strength:** As the name suggests the strength option is to control the amount of application of each individual option. 0% means no strength and 100% means full strength. In past whatever you may have created and used with the software was at full strength 100%.

Now you could control the application of the amount of the feature. For example, if you use the Choke Strength to be 50% then the choking will be applied by 50% amount of the gray value in the corresponding channel. Similarly, if you use the Underbase Strength to be 50%, the underbase that will be printed will be half the strength that otherwise would be printed when this value is 100%.

o. **Use Same Settings:** Allows you to set the same settings for white underbase and color layer(s). The option will be enabled only if you are printing on black or colored printing base.

p. **Highlight Generator:** There are four options-

    1. **None:** If you don't want to use "Highlight Generator" during printing then select this option.

    2. **Channel Based:** Highlight option will work as usual using the channels. Fuzziness value is disabled and ignored.

    3. **On the fly:** The RIP will generate the white highlight on the fly during ripping using the fuzziness value that you supply there. This will ignore any highlight channel set otherwise in the channel palette. The fuzziness value works similar to the highlight channel creation option.

    4. **Combine:** The RIP will generate the white highlight on the fly during ripping using the fuzziness value that you supply there and will combine it with the highlight channels set in the channel palette. The fuzziness value works similar to the highlight channel creation option.

q. **Highlight Fuzziness:** The fuzziness value works similar to the highlight channel creation options. This will be disabled in the case of Channel based Highlight generator.

r. Allows you to set the settings **back to factory default**.

s. Allows you to restore the **last settings**.

t. Allows you to set the **current settings as default settings**.

Print Settings

Print Pro offers comprehensive control over print settings. Print setting is accessible through *File > Print Option* from the Application Window or by using the shortcut *<Ctrl> + <T>*.
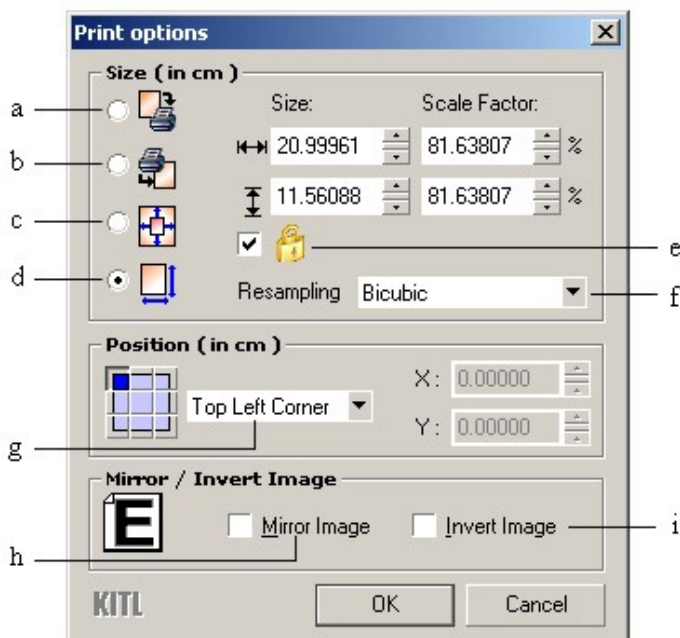
Print Options Dialog Box

a. **As in document:** The image in output print is exactly of the same size as the document's dimension.

b. **1 to 1:** Selecting this option results in Print Pro using the printer's resolution for the image, in place of the original image resolution. In other words each image pixel corresponds to a printer pixel. This option is not allowed in layout.

c. **Fit to page:** Selecting this option results in Print Pro scaling the image to fit the page size. In case of Page Layout, set job sizes same as platen size. This option fit the job size into platen.

d. **Custom:** Selecting this option allows you to adjust size or scale factor of the image or job.
e. **Maintain aspect ratio:** Checking this option forces Print Pro to maintain the aspect ratio of the image.
f. **Resampling:** The following resampling methods are available:
    1. **Stretch and truncate:** Fastest method for expansion or reduction of images.
    2. **Bilinear:** Little slower, but produces better images than stretch and truncate.
    3. **Bicubic:** Expensive, but produces best results of the three available methods.

g. **Image positioning:** Use one of the predefined positions or supply the custom position to place the print's Top Left on the output. In case of Page Layout negative placement is allowed when 'Custom' option is selected in position.
h. **Mirror Image:** Checking this option will mirror the image about the vertical axis in the print.
i. **Invert Image:** Checking this option inverts the colors of the image in the print.

Note	Pixel unit is defined in the image space and appropriate scaling is done before printing to the printer.

Note	In case of 'Page Layout' you can set placement position within the allowed range such that job does not goes out side the platen rectangle.

Print Previewing

This feature allows user to view what each page will carry when it is printed. User can change the settings and Preview the effect immediately. Please refer figure below for more details.
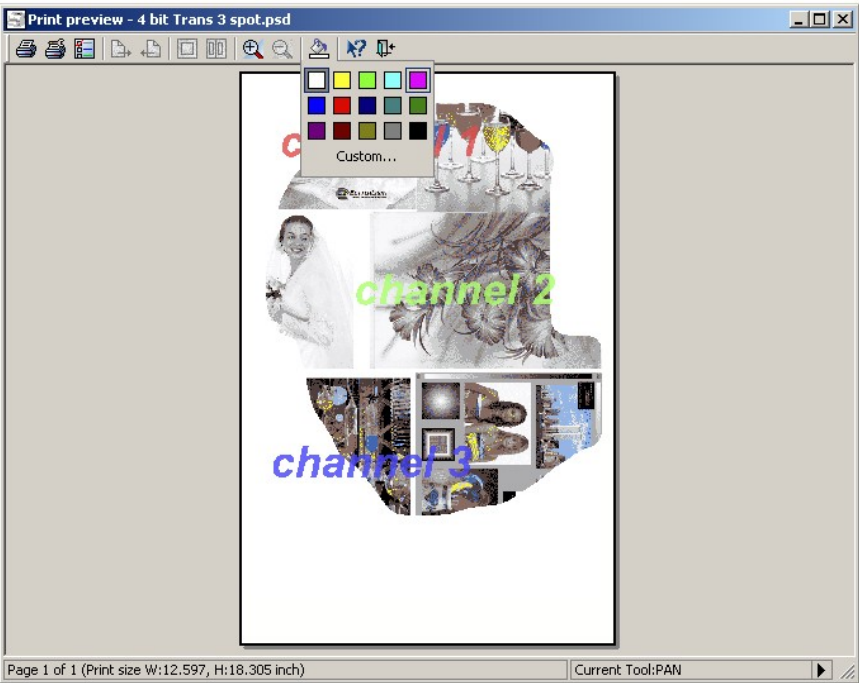
Preview Window
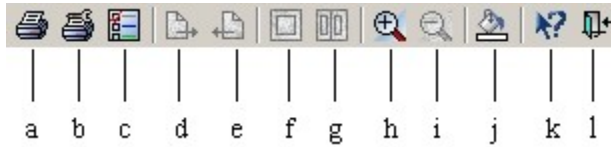
Print Preview Toolbar

a. **Print the document.**
b. **Printer settings.**
c. **Print options.**
d. **Advance to the next page.**
e. **Go back to previous page.**
f. **Preview single page at a time.**
g. **Preview two pages at a time.**
h. **Zoom In.**
i. **Zoom Out.**
j. Click here to **change the Background color** for print previewing. After selecting the color background the image will look as in the figure given below. The background color is applied all over in the transparency part of the image.
k. **Context sensitive help.**
l. **Cancel preview.**

Image after Applying Background Color

Note	Right click anywhere inside the window to access the list of commonly used commands as shown in the next figure.

Right Click Commands in Print Preview Mode

Page Layout

The Print Pro RIP offers you a very reliable and handy "Page Layout" feature which allows the use of predefined templates for job placements. Using this feature you can print on white, color and black media at the same time!

What is 'Page Layout'?

There can be times when the jobs to be printed are much smaller than the print bed of the printer. Thus multiple such jobs can be printed at the same time to boost the productivity. Usually the placement of such jobs is fixed on the print bed. Such placements can be specified in the form of predefined templates (please see "Platen Organizer" on page). Page layout allows using such layout templates to do job placements.

With in the same layout, the jobs placed can have input images having various color spaces, e.g. CMYK, sRGB, AdobeRGB, Lab etc.

Page layout feature handles transparent areas of images as well (available with PSD or PNG). This means the images can be targeted for different colored backgrounds.

Note	The layout is displayed on pressing *<Ctrl>+<L>* or by selecting *Layout > Open Page Layout*.

More details on what you can do with 'Page Layout' are given below

1. Arrange images in a single page regardless of its file format.
2. Layout images/ jobs each having with its own color profile and color space (Like CMYK, RGB, Lab and Multi Channel etc).
3. Layout the jobs on the page with more accuracy and ease with the help of rulers and guidelines.
4. Open as many numbers of different page layouts template and print them one by one with great ease.
5. Each job in the layout can have its own output parameters (profile, TRC, etc), its own underbase settings and its own white highlight settings.
6. Allows setting placement position for film with in the job platen. If Job size is large than the platen size then job is clipped as per the placement settings.
7. Allows the free movement of job within the platen with keyboard and mouse.

Open Layout Template

You can create new layout only by opening the saved layout template file, created using "Platen Organizer" application. Refer page **181**.

You can open layout template file by following ways,

1. Select 'Open layout template' from Layout setting toolbar combo, which is shown in below figure.
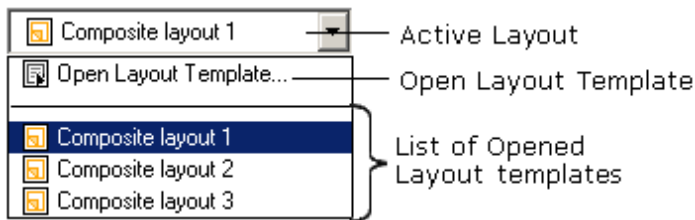
Layout List Drop Down Box

2. By selecting *Layout > Open layout template* command from menu or *right click context menu > Open layout template* in layout view.

3. By selecting managed layout template file list, which appears clicking on quick open button marked as 'B' in below figure. You can manage this list using 'Layout Template Management', which appears when you click on Template management button Marked as 'A' in below figure.
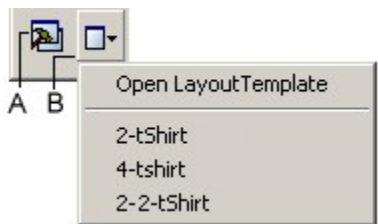
Managed Layout List

Page Layout Controls
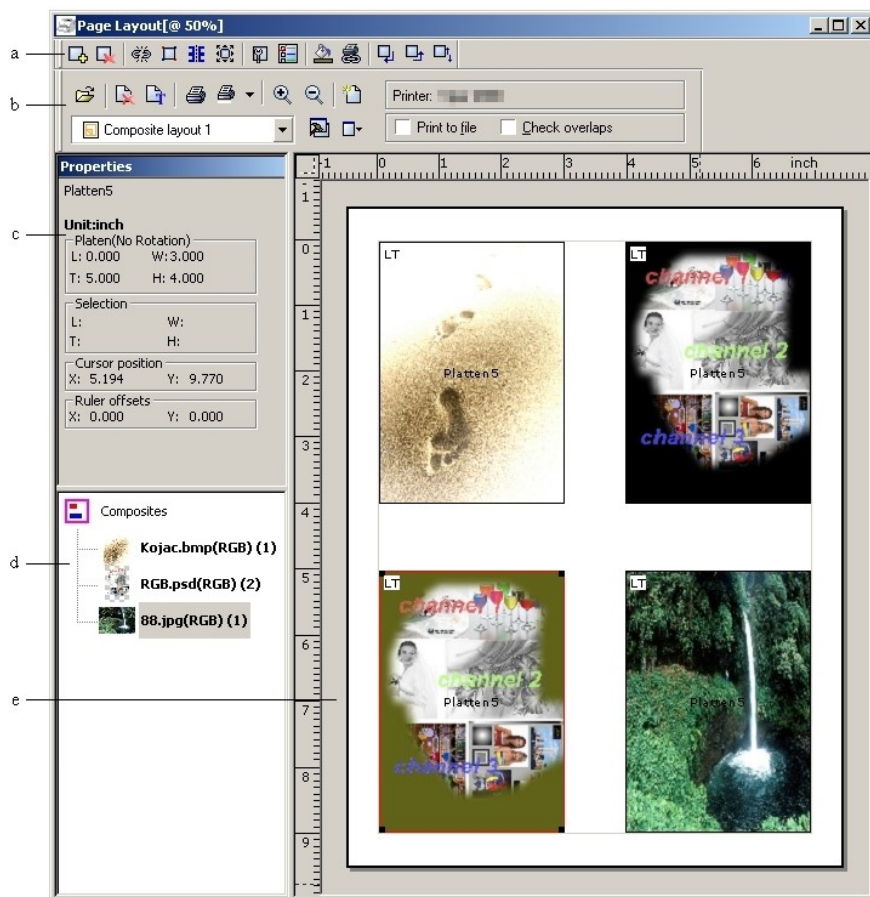
Page Layout

a. **Layout Job Transformation toolbar.** Refer page **78**.
b. **Layout setting toolbar:** We'll see detail about it later in this section. Refer page **80** for details.
c. **Properties window:** Refer page **82**.

d. **Job list view:** Job list view contains list of jobs. We'll see more about it later in this section. Refer page **83**.

e. **Layout view:** Layout view is the preview of the current layout. It is the main working area of the page layout window. We'll see more about it later in this section. Refer page **84**.

Note	You can create as many layouts as you would like and traverse through them using the 'layout name' combo box in the layout tool bar.

Layout Job Transformation Toolbar
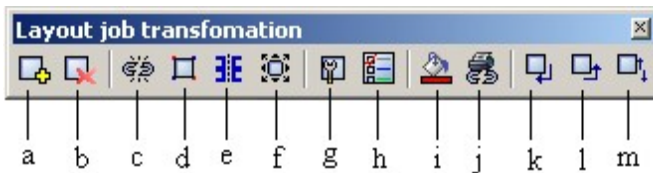
Layout Job Transformation Toolbar

a. **Add** new Job in layout. The selected Job in the layout list view will be added.

b. **Delete** selected Job(s).This will delete the all selected Jobs of layout.

c. **Link/ Unlink** the selected Jobs :
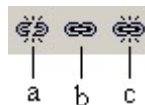
When selected Job(s) are linked with native document then icon marked as 'a' is set and if not then icon marked as 'b' is set for button. In multiple selection if some Jobs are linked and some are not then icon marked as 'c' is set for button.

d. **Show/ Hide** the bounding box:
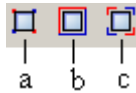
When bounding box around the selected Job(s) are visible then icon marked as 'a' is set and if not then icon marked as 'b' is set for button. In multiple selections if bounding box of some Jobs are visible and in some jobs are not visible not then icon marked as 'c' is set for button.
e. **Mirror** the selected Job(s).
f. **Scale** the selected Job.
g. Change **Job printing setup** to custom.
h. Change **Job placement and other settings**.
i. **Color garment background visualization color**.
j. **Sync/ Un-sync** selected job(s) with working or current base type printing settings.
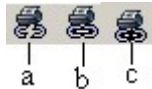
When selected Job(s) are synchronized with current base type printing settings then icon marked as 'a' is set and if not then icon marked as 'b' is set for button. In multiple selection if some Jobs are synchronized and some are not then icon marked as 'c' is set for button.
k. Rotate job(s) by **90 degree clockwise.**
l. Rotate job(s) by **90 degree counter clockwise.**
m. Rotate job(s) by **180 degrees.**

Note	All the operations mentioned will be applied to all the selected jobs in particular layout.

Note	You can not delete or move the platens in the Page Layout.

Layout Setting Toolbar
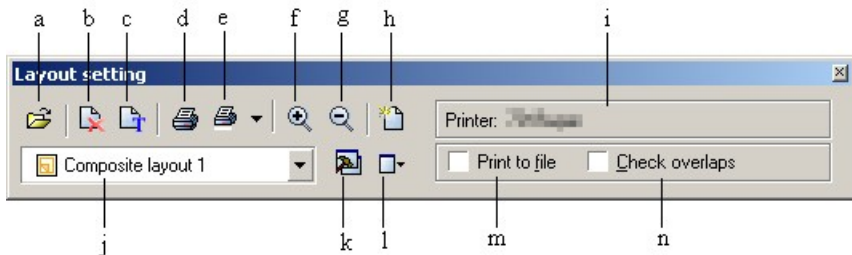
Layout Setting Toolbar

a. **Open** the Layout Template.
b. To **remove** layout.
c. To **change the default name** of the layout. Clicking this, you will be presented with 'Layout Rename Dialog Box'. Use it to rename the layout.
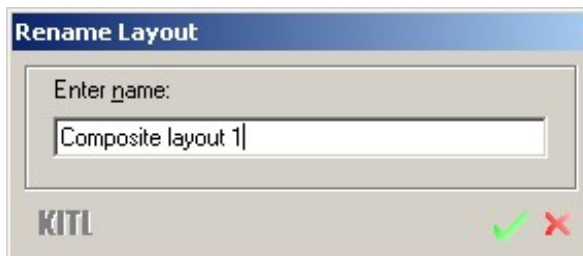
Rename Box

d. To **print the layout by Queue Manager**. You can't modify the layout till it is in the queue manager.
e. **Layout current printing background type:** The following drop-down list will appear when you click the button.
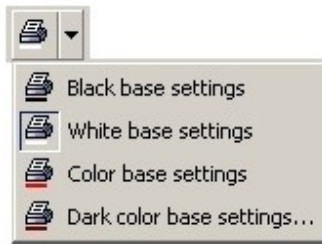
By selecting any printing background type print setting option you can make it as current printer settings for layout, so when new job is inserted then it takes default printer settings from that current layout printing settings.

f.   **Zoom In.**
g.   **Zoom Out.**
h.   **Open** template Organizer application.
i.   It shows **the printer driver type** selected for the layout.
j.   **Layout Name.**
k.   **Layout template management:** It associate generic name with the layout template file.
l.   **Quick open for managed layout template file(s):** The following drop-down list will appear as you click the button.
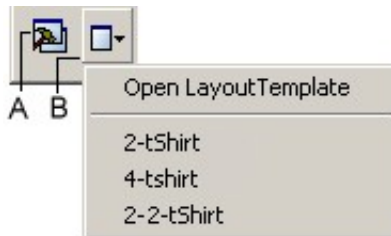
This command shows the managed template file list. You can quickly open layout template file by selecting given generic name to template file path. Also you can browse the template file by selecting 'Open Layout Template'.

m.   **Print to file** option to print the layout in KPRN files.
n.   **Check Overlaps.**

Properties View
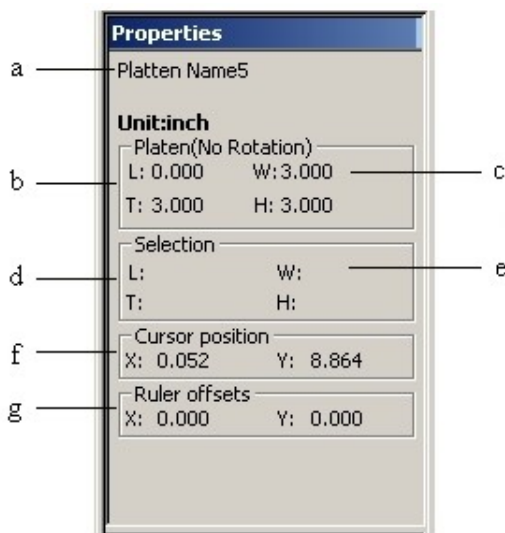
Properties View

a. **Platen Name.**
b. **Left-top coordinates** of the **platen.**
c. **Dimension** of the **platen.**
d. **Left-top coordinates** of the **selection rectangle.**
e. **Dimension** of the **selection rectangle.**
f. **Current cursor position.**
g. The **ruler offsets** are the horizontal and vertical offset of the layout rulers from left top margin of the page.

Property window shows some important properties of the selected platen in the layout.

At the top it shows the platen name. If multiple or none of the platens are selected then it shows appropriate message as per selection type.

Then comes the unit in which all other elements are displayed. Here in this example the unit used is inch. You can change unit by selecting required unit from right click context menu.

Next Left and Top offset of the selected platen is displayed. These offsets are from the left of margin and top margin of the page. Then height and width of the selected platen is shown.

Cursor position shows the current cursor position with respect to the ruler. The left and top offset of the current platen is also in ruler co-ordinate space.

Job List View

The job list view on the lower left side of the page layout window shows all the jobs present in currently opened documents in Print Pro. This list gets updated automatically whenever you open a new document or close an already existing one. This view shows only relevant jobs.
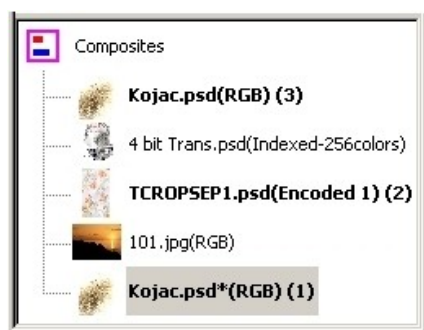
Job List View

In the list a document with '*' after its name denotes that it is an imported document or Unlinked document.

If you try to close a document, which has at least one job present in any of the page layouts, Print Pro will warn you about the same and ask for permission to close it any way. If you close the document, the jobs from this document in all the layouts in which it is present will be removed.

The fly-over tip in the job list view shows the respective job size in inches apart from job name and type if the cursor is placed above the job's name.

When the cursor is above a document name then fly-over tip shows the full path name of the document. If this document is created by Print Pro and you have not saved it yet, the tool tip will say that this is '*Not a disk file'.*

A number inside the braces beside the job name indicates how many copies of this job are in the current layout. E.g., "*TCROPSEP1.psd (2)*" tells that the job named '*TCROPSEP1*' has got two copies in the current layout.

Layout View

The layout view shows preview of the current layout. This shows all the job(s) in the page at their respective positions with thumbnail. The gray rectangle inside the page indicates the page margin.
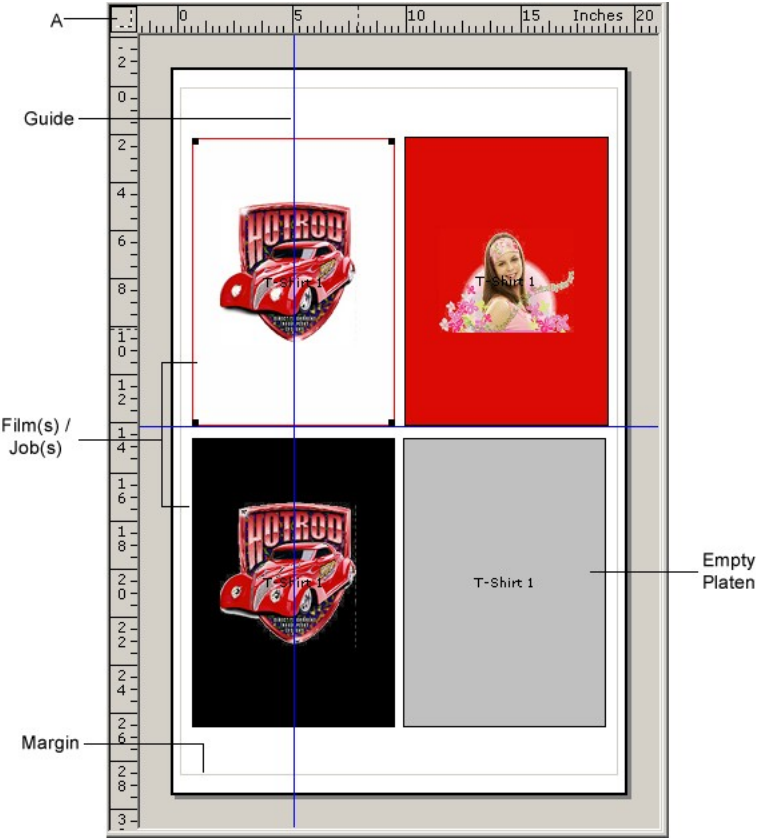
Layout View

To select a job by the platen or to toggle among several jobs in the layout view you can either click on the Job or use the *<Tab>* key.

To move a job, drag the job while holding the *<Ctrl>* key. Or use *< Up >* or *<Down>* or *<Left>* or *<Right>* keys.

To change print options Use *<Alt>* + *<Enter>* keys simultaneously to get the print option property sheet of the selected job. In this property sheet only those options relevant to the layout is enabled.

By right click on the job you can scale, translate and rotate in step of 90°. (*Popup menu > Scale This Job…*). Use the handles around the job to move its edges. Drag inside the bounding box to move the job. While dragging to restrict the movement to steps of 45° hold *<Shift>.* While dragging an edge of the bounding box use *<Shift>* to maintain the aspect ratio and use *<Alt>* to get reflection around the center. You can also move the center if you want.
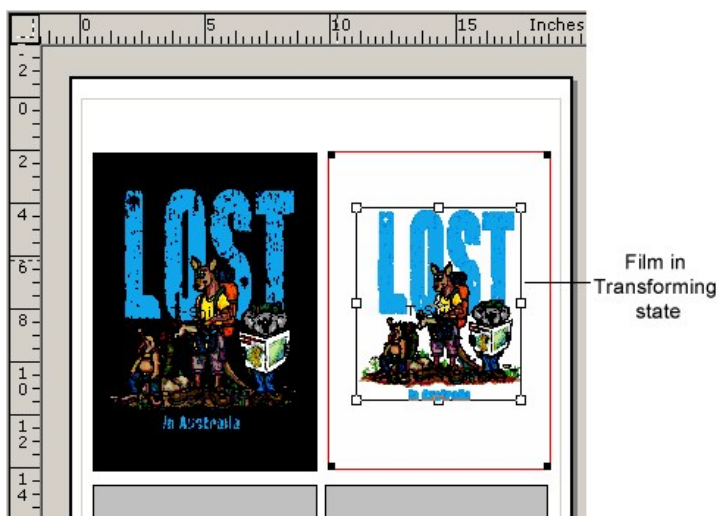
Transformation of Job

You can scale the image on a selected platen by double clicking on it while holding the *<Ctrl>* key.

During transformation operation you can cancel it by pressing *<Esc>* key or using menu command *Right click > Cancel Transformation*. To commit a

transformation use *<Enter>* key or double click inside the bounding box or use command *Right click > Apply Transformation*.

Job in the layout can be rotated in steps of 90°. To rotate a job use the right click menu commands or during transformation of job rotate using mouse move.

Initially the ruler origins are aligned with page margins (left and top). You can change this origin by dragging the cursor from the box marked as **'A'** in the figure above named as "Layout View". To reset the origin to the left top of page margin double click in 'A'.

To create guide Drag the cursor from the horizontal or vertical ruler and drop in position where you want the guide. You can use *<Alt>* key to rotate the guide 90°. You can also add a guide by using the menu command *View > Guides > New Guides…*

To move a guide Drag the guide while holding *<Ctrl>* key.

To delete a guide Move the guide out of the page. To delete all the guides use menu command *View > Guides > Clear Guides*.

Moving in between job list view & layout view:

Using Keyboard:

Use *<Spacebar>* + *<Tab>* keys to move to and fro.

Using Mouse:

Click on the appropriate view.

Note	You can not Move, Delete or Copy platen(s) in layout view.

Using Layout Option
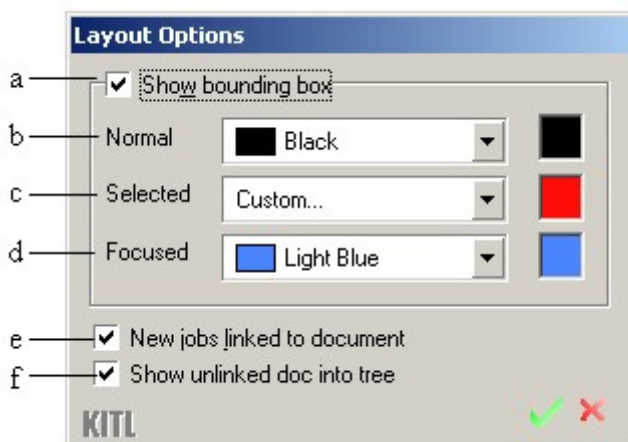
Layout Option Box

a. **Check** to show bounding box around the platen.
b. **Normal:** Non-selected platen bounding box color.
c. **Selected:** Selected platen bounding box color.
d. **Focused:** Focused platen bounding box color.
e. New Job remains **linked** to native document or **unlinked** when inserted into layout.
f. **Show unlinked document into tree:** This option allows you to show or hide unlinked document into the job list view. When unlinked document is visible into job list view you can add new Jobs of that unlinked document into another layout.

Know the Important Menus and Submenus for Page Layout
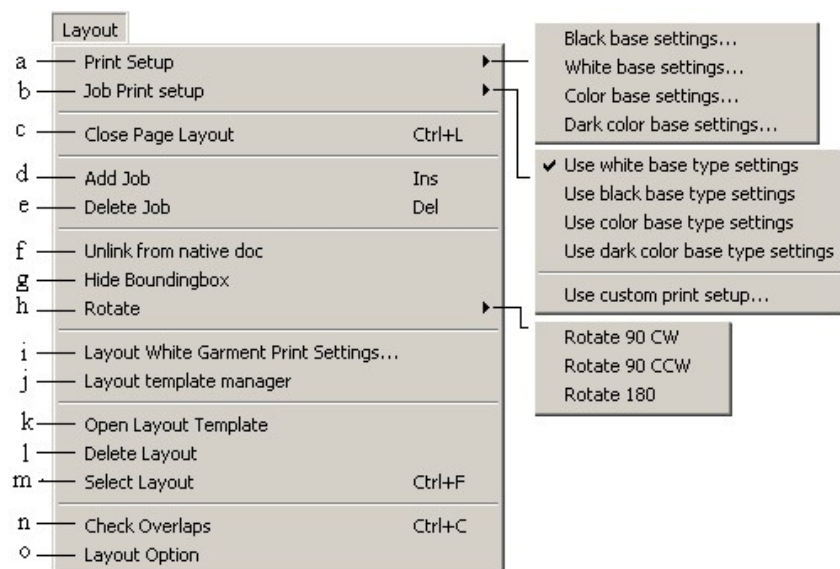
Layout Menu

a. **Printer Setup:** Using this command you can change printing settings for each background type.
b. **Job Print Setup:** Using this command you can synchronize selected jobs with any of the printing background type printing settings or set customized printing settings.
c. **Open/Close Page Layout:** To show and hide the page layout. Shortcut *<Ctrl>+<L>.*
d. **Add Job:** Clicking on this menu will add a single copy of the selected original image into all the selected platen(s) in current Layout. Refer to the following figure for better understanding. If you want to add the image two times, you have to click on this menu two times. This function can also be achieved by pressing the *<Insert>* key.

Job List View for Composites

e. **Delete Job:** To delete the job/s in your layout, press *<Ctrl>* *and left click* on the image that you want to remove/ delete from layout. The particular image will be selected. Then, press 'Delete' button. The job will be removed from the layout. You can also press the *<Del>* key.

f. **Unlink from native doc:** Using this command you can link/unlink the selected job(s) with the native doc.

g. **Show/Hide Bounding box:** Using this command you can show/hide bounding box of selected platens.

h. **Rotate:** Using this command option you can rotate selected job(s) in 90 degree clock wise, 90 degree anti clock wise and 180 degree.

i. **Layout Print Setup:** When you click on this menu item it shows the current printing base type printer setup settings.

j. **Layout Template Manager:** When you click on this menu item it shows Layout Template Management dialog.

k. **Open Layout Template:** Using this command you can open saved layout template file.

l. **Delete Layout:** This command delete the current layout.

m. **Select Layout:** When you click on this menu item it drop down the layout list combo in Layout setting tool bar.

n. **Check Overlaps:** This menu will help to ascertain if there is any job overlaps in the current layout. When you will click on this menu, it will show message box 'Overlap found' OR 'No overlap found' for the current page layout.

o. **Layout Option:** Refer "Using Layout Option" on page **87**.

Commands	Short Keys
Open / Close Page Layout	*Ctrl + L*
Open Layout Template	*Ctrl + Shift + O*
Adding up job in layout	*Insert*
Delete a job	*Del*
Select a job in layout	*Ctrl + Left Click on that particular job*
Select layout	*Ctrl + F*
Check overlap	*Ctrl + C*
Zoom In	*Ctrl + +*
Zoom Out	*Ctrl + --*
Print Layout	*Ctrl + P*
Layout Print Setup	*Ctrl + Shift + P*
Job Property	*Alt + Enter or Shift + Double click on job*
Select All job(s)	*Ctrl + A*
Deselect all job(s)	*Ctrl + D*

List of Shortcuts

Adding jobs to the Layout

By dropping the necessary files from the Windows Explorer or from the 'File Browser' tab into the layout. This will add job into job list view.

New job is added into all the selected platen(s).

   a. By *double clicking* on the appropriate job from the list on the left pane.
   b. Selecting the job and clicking *'Add'* button on the layout tool bar.
   c. Selecting the job and pressing *<Enter>*.
   d. Selecting the Job and pressing *<Insert>.*
   e. By *Dragging* the Job from Job list view and *Dropping* on the Platen.

These controls will remain disabled initially because there are no jobs selected in the job list. You can determine a job's size in inches from the fly-over tip by placing the mouse cursor above the job name in the job list view.

Note	If any job is already present into platen and you add new job on that platen, then previous job is automatically deleted.

Placing a job in the Layout View

Adding a job places it in selected platen. Then you can move it to anywhere within the platen rectangle.

Use zoom-in and zoom-out commands on the layout tool bar to get a proper view of the page in use.

To move a job by using the keyboard, you need to select it first. Then use the arrow keys in your keyboard to move the selected job in appropriate direction. For faster displacement, use *<Shift>* key in combination with these keys.

If you want to use the mouse, click the left mouse button inside the desired job rectangle and drag it with mouse button still down to the location of your wish.

Note	Print Pro constraints the placement of the job within the platen rectangle.

Selecting a job in the Layout View

Using Keyboard:

You can navigate through the jobs by pressing the *<Tab>* key. Press *<Shift>* + *<Tab>* to navigate in the opposite direction.

Using Mouse:

Click inside the rectangle that represents the desired job. Press *<Shift>* key along while clicking to select a job that is hidden (overlapped) by another job.

Selecting multiple jobs:

Press *<Shift>* key along with *<Ctrl>* and mouse click to select multiple jobs. You can also use *<enter>* key while moving between the jobs using the *<tab>* or *<shift>+<tab>* key to make multiple selections.

You can also use *<ctrl>+<A>* to select all the jobs in the layout. You can use *<ctrl>+<D>* to deselect the jobs.

You can also select multiple jobs by drawing a selection rectangle starting form the blank space in the layout while holding the *<ctrl>*key down. All the jobs having **at least 8%** of their area in the selection rectangle get selected.

You can also toggle the selection status of the jobs inside the selection rectangle by holding the *<shift>* key down in the operation as described above.

While performing any select operation with *<shift>* key down, it results in toggling the selection status of the job in question.

Multiple selections allow you to align various jobs with respect to each other.

Note	You can delete selected job(s) by using the *<Del>* key.

Snapping

To place job(s) and guides easily Print Pro snaps the moving guide to the nearest hot edge. In case of guide movement this hot edge is the nearest border or halfway mark of a Platen. This snapping facility for the current moving object can be overridden holding *<shift>* while dragging the guide.

Open Document from Job List View

When ever you are importing image or unlink job(s) from native document in layout the newly imported/created document is shown into job list view (Unlinked shown only when 'Show unlinked document into tree' option is checked in Layout Option). But if you want to perform operation(s) on that document, like applying filter, changing printer settings, then you need to open that document.
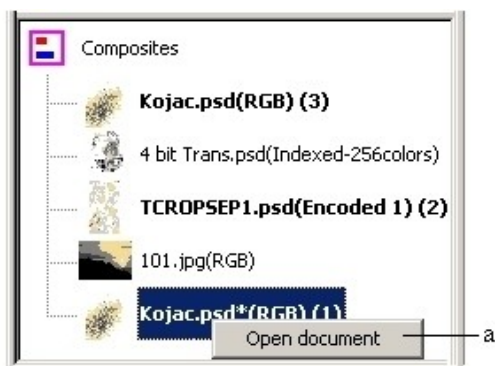
Open Document from Job List View

To open imported document or unlinked document (marked with '*' in Job list view), **right click on the document name shown into the job list view**. This will show the context menu to open document, which is shown in the above figure.

By selecting menu item 'Open Document', the selected document will be opened into the application.

This feature is helpful when you have applied some filters on job and that job is unlinked. Now you want that document for further use, then by opening document from job list view you can perform operation on it.

Channel Palette in Layout

By using channel palette in layout you can change the channel visibility, channel type related data of the selected job(s).
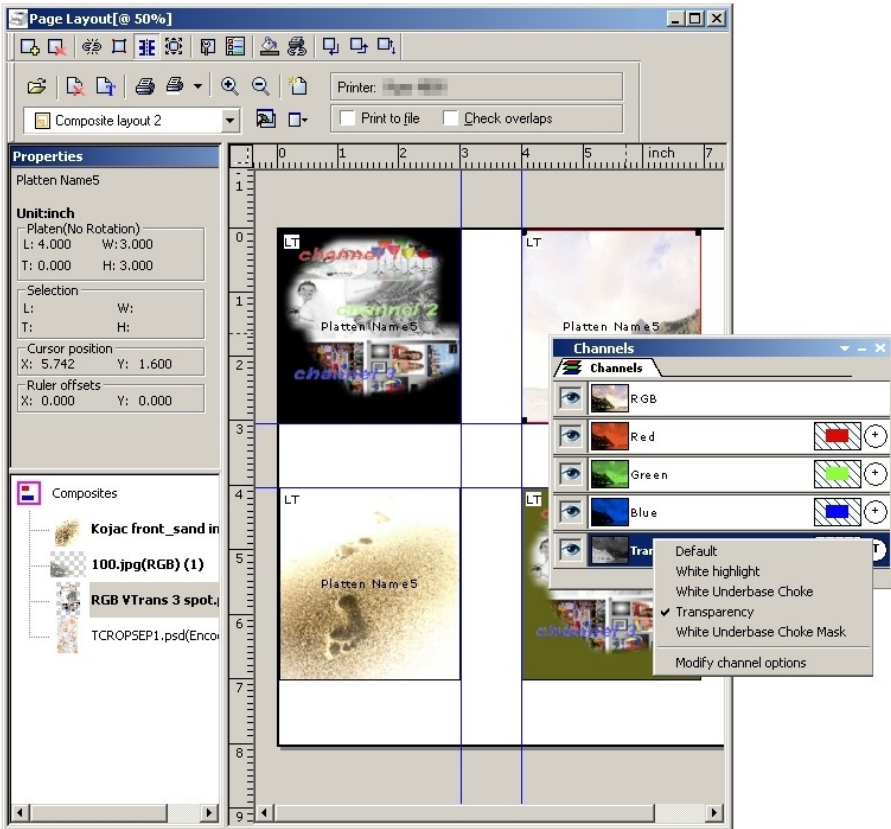
Channel Palette in Page Layout

You can change channel type of selected job(s) by selecting option from the right click context menu on the channel in channel palette as shown in the above figure.

Printing a Layout

To print the currently active layout, click 'Print' on the layout toolbar or select *Layout > Print layout* command. If you want to output to a file instead of a printer, check the 'Print to file' box in the layout toolbar.

Print Option for Layout

Print option allows you to set placement setting, size and other printing related option for selected job.
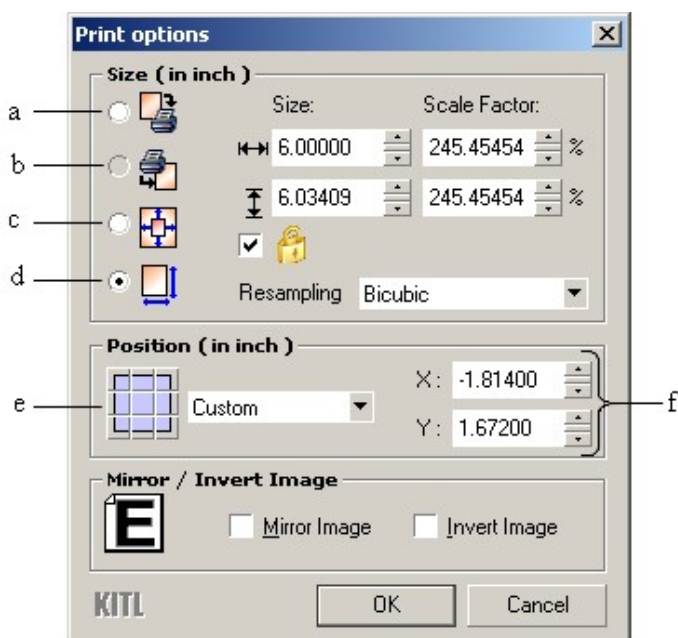
Print Option Box

a. **As In Document:** Set job sizes same as document size.
b. **1 to 1 (Printer Resolution):** This option is not allowed in layout.
c. **Fit to page:** Set job sizes same as platen size. This option fit the job size into platen.
d. **Custom:** You can set size, scale factor manually.

e. **Position:** Placement position of job.
f. **Custom Placement Position:** You can set placement settings as per your requirement. In layout negative placement is allowed. You can set placement setting within the allowed range such that job does not goes out side the platen rectangle.

Layout Print Settings

Printing setting of each background type need to set appropriately otherwise you are not able to print layout.

Here you can change each base printer settings by selection appropriate base settings option from menu. If you select option from Layout setting tool bar button then current printer setting base is changed and it shows on the button. But if you select option from right click context menu then active base type setting is not changed.

Here, Black Base, White Base, Color Base and Dark Color Base settings options are available for garment printing.

In each background base settings printing base in device option tab must be set as per the option name.

Note	If you change inkset related settings, port settings and other printing parameters then it is reflected into other three printing background printer settings.

The dialog in the following page shows the four different kinds of print settings as you click on the 'Print Setup' button on the layout setting toolbar.
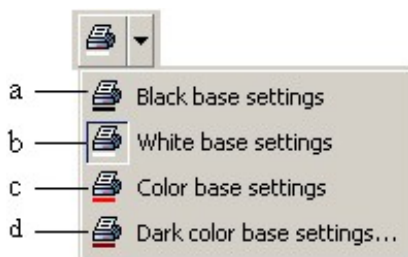
Print Setup Button on Layout Setting Toolbar

a.   **Black base settings:** Change the print settings for black garment.
b.   **White base settings:** Change the print settings for white garment.
c.   **Color base settings:** Change the print settings for color garment.
d.   **Dark Color base settings:** Change the print settings for dark color garment (Optional feature in the basic version of the software).

Right Click Context Menu

When ever you are printing layout and if printing settings are not appropriate then you get the error message and based on that error message you can identify that which printing background settings are not match and which field is not appropriate in that printing settings.

Here from printing settings dialog you can not change the page size and other parameters which affect page size.

Note	In case of 'Page Layout' you can not change the Page size of layout any way. All the controls in 'Print Setup' will remains disabled which affects the page size of the layout.

Job Printing Settings

Job print settings command allows you to set printing settings for job as per printing background type.

Job print settings allows you to set printing background, printing Media type, Printer profile, TRC curves, color correction data and printing background related data for each job.

You can use printer settings of layout for job directly, by selecting printing background type settings option from job print settings menu as per required printing background type.

If you are using any layout printer settings for job then when any change made in the printing settings of layout then it is automatically reflected into the job print settings. For e.g. Job is using white base type settings and you change any parameters in white base type print settings of layout then it is reflected into job printing settings.
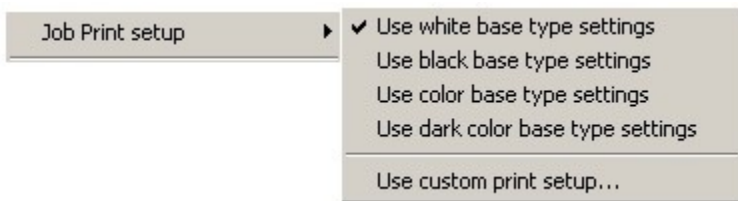
Screen Print Setup Option in Menu

If you select custom print settings for job then you can specify printing related parameters individually for each job.

You can set custom settings by selecting 'Use custom print setup...' from menu or clicking on the layout job transformation button, shown in below figure with circle around it.

Custom Print Setup for Job

When you select *'Use custom print settings'* it shows the printing setting dialog. Using that dialog you can change printing related settings for job.

Custom Print Properties for Job
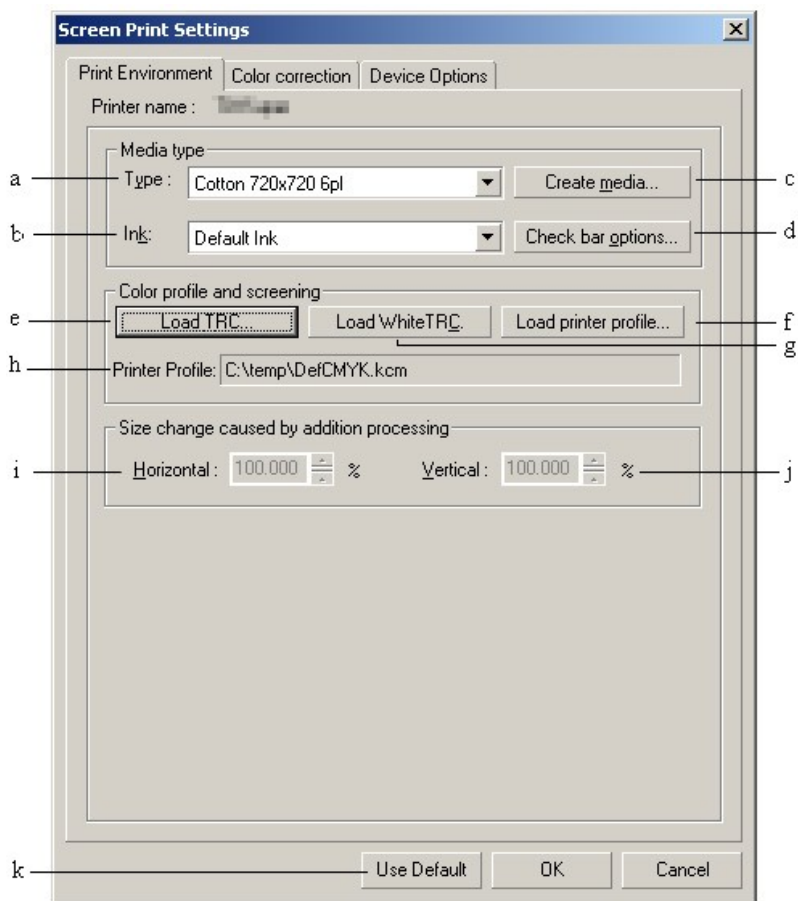
Print Environment Page for Job Print Setup

a. **Media type:** Specifies the media on which user wants to print. This can be a user created media or a predefined media. Basically by selecting a new media user selects a new ICC profile and TRC curves for printing which was selected by the user while creating that media. Media type can be dependent on ink type or can be independent depending on the printer selected. If a media type is dependent on ink type then only those media are shown which the selected ink type supports. User can still override the ICC profile or the TRC curve used by selecting appropriate files using 'Load TRC…' and 'Load ICC…' buttons.

b. **Ink type:** Shows the list of ink type supported by the printer. Many printers have media type dependent on ink type i.e. for one media type you may want to select the different TRC curves and ICC profile and for other ink type a different set.

c. **Create Media:** This button is used to create a new media or remove a media created. Refer page **58 .**

d. **Check bar options:** Use this button for the alignment of bars. Refer page **59.**

e. **Load TRC:** Use this option to change the TRC curves used for printing an image.

f. **Load Printer Profile:** Use this option to select a different printer profile for printing. Remember always load the same number of channel printer profile as in the currently loaded inkset.

g. **Load White TRC:** Use this option to change the TRC curves used for printing the white base for an image.

h. **Printer Profile:** It shows the currently loaded printer profile name.

i. **Horizontal Size change by addition processing.**

j. **Vertical Size change by addition processing.**

k. **Use default:** This command loads the default settings, which are same as the layout printer settings as per the current printing background type.

Color Correction Page

See "Color Correction Page" for more detail on page .

Device Options for Job Printer Settings
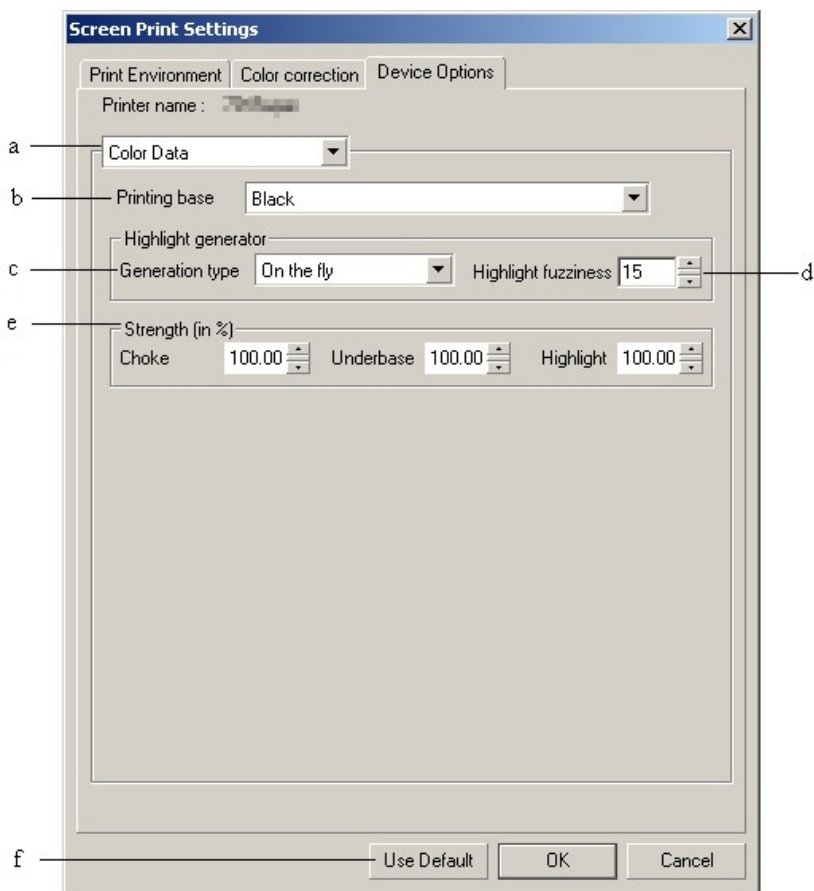
Device Options for Job Print Setup

a. **Underbase option:** This underbase option will allow you to select whether the printing are for white underbase printing or for color data printing. This option is disabled when the printing is on white printing base (see b) has been set.

b. **Printing base:** It allows you to select the color of the printing base. It can be any one of the following -
   1. **White**
   2. **Black**
   3. **Color**
   4. **Dark Color** *(Optional Feature in the basic version of the software).*

c. **Highlight Generator:** There are four options from which you can choose the best one for your printing needs -
   1. **None:** If you don't want to use "Highlight Generator" during printing then select this option.
   2. **Channel Based:** Highlight option will work as usual using the channels. Fuzziness value is disabled and ignored.
   3. **On the fly:** The RIP will generate the white highlight on the fly during ripping using the fuzziness value that you supply there. This will ignore any highlight channel set otherwise in the channel palette. The fuzziness value works similar to the highlight channel creation option.
   4. **Combine:** The RIP will generate the white highlight on the fly during ripping using the fuzziness value that you supply there and will combine it with the highlight channels set in the channel palette. The fuzziness value works similar to the highlight channel creation option.

d. **Highlight Fuzziness:** The fuzziness value works similar to the highlight channel creation options. This will be disabled in the case of Channel based Highlight generator.

e. **Strength:** As the name suggests the strength option is to control the amount of application of each individual option. 0% means no strength and 100% means full strength. In past whatever you may have created and used with the software was at full strength i.e. 100%. Now you could control the application of the amount of the feature. For example if you use the Choke Strength to be 50% then the choking will be applied by 50% amount of the gray value in the corresponding channel. Similarly, if you use the Underbase Strength to be 50%, the underbase that will be printed will be half the strength that otherwise would be printed when this value is 50%.

f. **Use Default:** Load the default settings for Job print setup.

Note	If multiple Jobs are selected then focused job's printing data is filled into above dialogs for displaying. Also when settings are applied then all the selected job's printing settings changed as per the new settings.

Filters

What are Adjustment filters?

These filters make adjustments in the pixel color, based either some statistical property of the image or on its color value or a combination of both.

Print Pro offers the following two types of filters:

A. **Based on statistical information of the image:**
    1. **Levels**
    2. **Auto Levels**
    3. **Auto Contrast**
    4. **Curves**
    5. **Equalize**
    6. **Threshold**

B. **Based on the pixel color value:**
    1. **Brightness / contrast**
    2. **Color Balance**
    3. **Hue / Saturation / Lightness**
    4. **Desaturate**
    5. **Channel Mixer**
    6. **Invert**
    7. **Posterize**
    8. **White Highlight Channel**
    9. **White Underbase Choke Mask**
    10. **Add Transparency channel**

C. **Histogram:** Technically not a filter, but only displays the statistical information of the image.

In General, filters with tunable properties will show an options dialog, where you can fine tune the filter's specific option(s). Each such options dialog will have a preview checkbox in common as shown in the figure below.
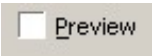
Check this box to view the effect of the settings in the options box online.

Making Color Adjustments

You can access these filters by invoking the appropriate submenu from the Adjustment menu or alternatively by using the appropriate shortcut key.

Adjustment Menu

The following details regarding each of these filters will help you in choosing what filter to apply.

Levels

You can correct the tonal range and color balance of an image by adjusting the levels of intensity of the image's shadows, midtones and highlights. Levels dialog can visually guide you to adjust the important tones in an image. You can also save and load a particular set of levels parameters from within the dialog.

Choose *Adjustment > Levels…* or the keyboard shortcut *<Ctrl>+<E>* to open the levels dialog box shown below.
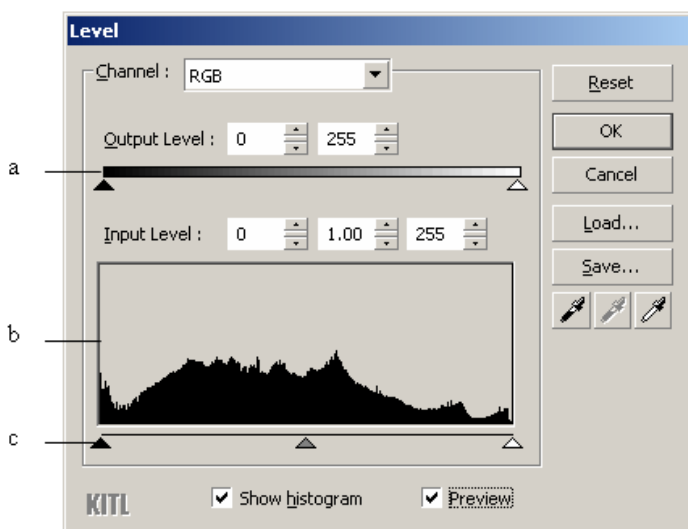
Level Adjustment Dialog

    a.   **Output slider**
    b.   **Image level histogram**
    c.   **Input slider**

Using Levels to set highlights, shadows, and midtones:

By moving the inputs sliders, you can set the highlights and shadows in an image to the first group of pixels on both ends of the Levels histogram. This results in the mapping of these pixels (the darkest and the lightest) to black

and white, increasing the tonal range of the image and improving the overall contrast. For making adjustments to the midtones intensity values use the middle Input slider.
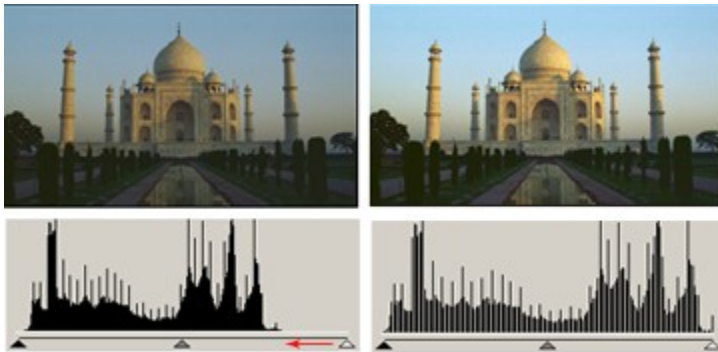
Levels Filter Sample

To adjust tonal range using levels:

1. Invoke the levels dialog box.
2. To adjust tones for a specific color channel, choose an option from the Channel menu.
3. To adjust the shadows and highlights, do one of the following:
   - Drag the black and white Input Levels sliders to the edge of the first group of pixels on either end of the histogram. You can also enter values directly into the first and third Input Levels text boxes.
   - Drag the black and white Output Levels sliders to define new shadow and highlight values. You can also enter values directly in the output levels text boxes.

For example, suppose your image pixels cover only the range 0-X for some X < 255. If the input slider is dragged to X, pixels with intensity values of X and higher are mapped to 255; pixels with lower intensity values are mapped to corresponding lighter values. This normalization lightens the image, increasing the contrast in highlight areas.

Suppose instead you want to decrease the contrast in the image then you will have to drag the Output Levels slider to X, pixels with intensity values of 255 are remapped to X, and pixels with lower intensity values

are mapped to corresponding darker values. By doing this, you will darken the image because of decrease in contrast in the highlight areas.

4. Click OK.
5. To view the adjusted histogram, reopen the Levels dialog box or open the Histogram Dialog Box.

Auto Levels

This filter will automatically set the shadows and highlights in an image. It defines the lightest and darkest pixels in each color channel as white and black and then redistributes intermediate pixel values proportionately. Since, this filter manipulates each channel individually it might introduce or eliminate color casts. Auto Levels gives good results when an image with an average distribution of pixel values needs a simple contrast adjustment or when an image has an overall color cast.

Choose *Adjustment > Auto Levels* or keyboard shortcut *<Shift> + <Ctrl> + <E>* to apply auto-levels to an image.

The effect of applying the Auto Levels is shown in the following figure.
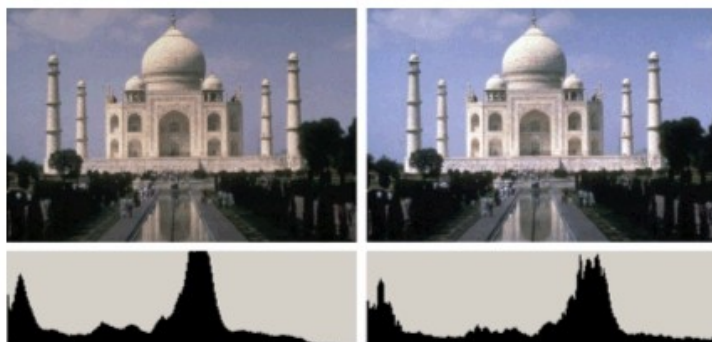
Original Image with Histogram   After applying Auto Levels

Auto Levels Filter Sample

Auto Contrast

The Auto Contrast command adjusts the overall contrast and mixture of colors in an image automatically. Since auto contrast filter does not manipulate individual channels it won't eliminate or introduce color casts. After applying this filter, highlights will become lighter and shadows will become darker.

Auto Contrast can improve the appearance of many photographic or continuous-tone images. It does not improve flat-color images.

To use the Auto Contrast command:

Choose *Adjustment > Auto Contrast* or the keyboard shortcut *<Alt> + <Shift> + <Ctrl> + <E>.*

The effect of applying the Auto Contrast is shown in the following figure:

Original Image and histogram   After applying auto contrast
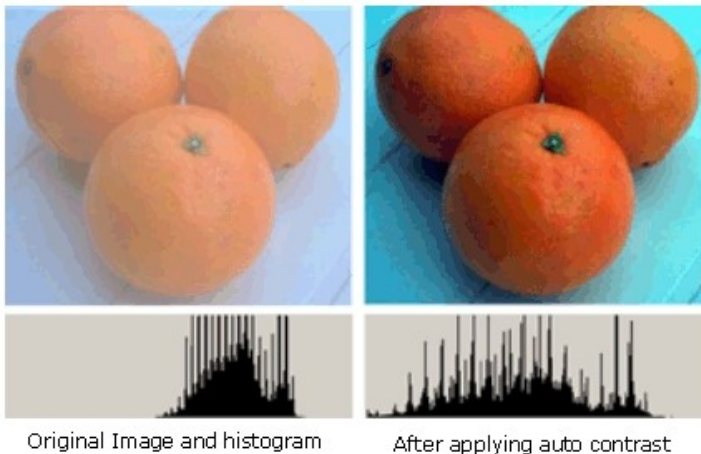
Auto Contrast Sample

Curves

Like the Levels dialog box, the Curves dialog box lets you adjust the entire tonal range of an image. However, instead of making adjustments using only three variables (highlights, shadows, midtones), with Curves you can adjust any point along a 0-255 scale while keeping up to 16 other values constant. Using curves you can make accurate changes to individual color channels in an image. You could save the currently defined curve or load a previously saved curve from within the dialog.

Choose *Adjustment > Curves...* or the keyboard shortcut *<ctrl> + <shift> + <M>* to invoke the curves dialog. The dialog is shown as follows:
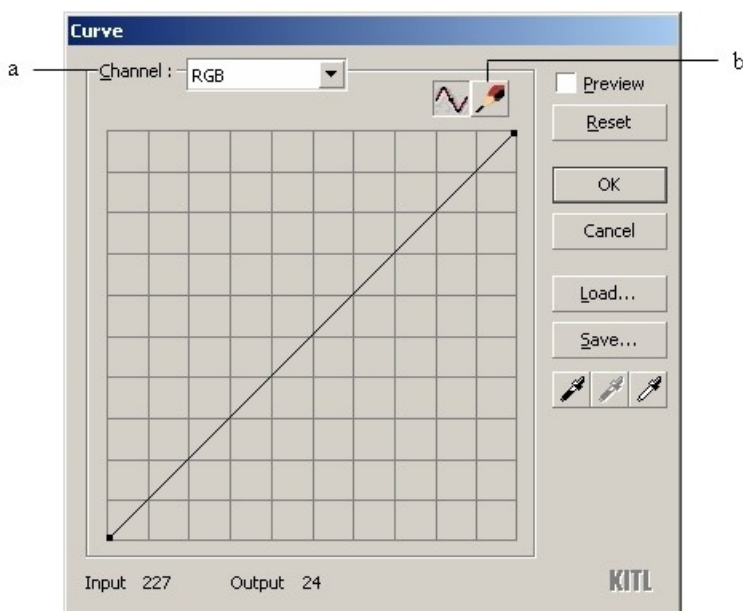
Curves Dialog

a. Click here to select a **particular channel**.
b. Click here to draw the curve in **free hand** using the mouse.

To adjust the color balance of the image, choose the channel (or channels) you want to adjust from the Channel menu.
Do any of the following to adjust the curve:

1. Click on the curve to **define the point** and **move** the points around for changing the shape of the curve.
2. You can use the pencil tool provided in the dialog box to draw the curve **using the mouse.**

Equalize

The Equalize command redistributes the brightness values of the pixels in an image so that they more evenly represent the entire range of brightness levels.

You might use the Equalize command when a scanned image appears darker than the original and you want to balance the values to produce a lighter image. You could use equalize and histogram in combination to compare the brightness before and after applying equalize filter.

To use the Equalize command:

Choose *Adjustment > Equalize…*

Threshold

The Threshold command converts grayscale or color images to high-contrast, black-and-white images. You can specify a certain level as a threshold. All pixels lighter than the threshold are converted to white; all pixels darker are converted to black.

To use this command:

Choose *Adjustment > Threshold…*

To use the Threshold command to convert images to black and white:

Open the Threshold dialog box.

The Threshold dialog box displays a histogram of the luminance levels of the pixels in the current image.
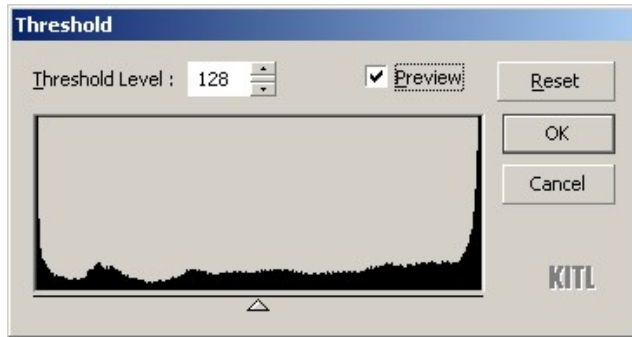
Threshold Dialog

Drag the slider below the histogram until the threshold level you want appears at the top of the dialog box, and click OK.

Brightness / Contrast

The Brightness / Contrast command lets you make simple adjustments to the tonal range of an image. Unlike Curves and Levels, this command makes the same adjustment to every pixel in the image. The Brightness / Contrast command does not work with individual channels and it is advisable not to use it for high-end output because there could be a loss in the image details.

To use the brightness/contrast command:

Choose *Adjustment > Brightness/Contrast...*

The following figure shows the Brightness / Contrast dialog box.
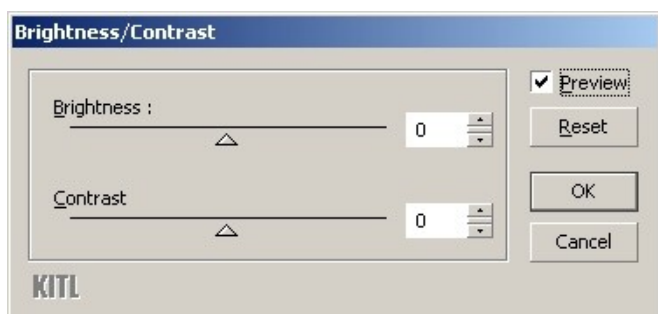
Brightness / Contrast Dialog

Color Balance

The Color Balance command changes the overall mixture of colors in an image for generalized color correction.
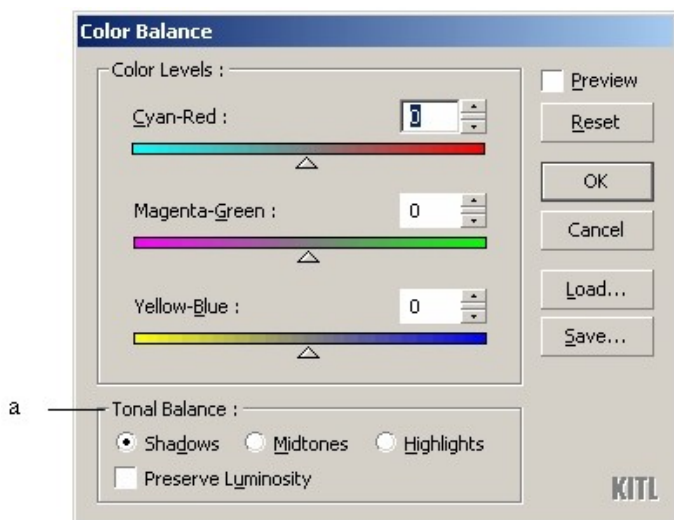
Color Balance Dialog

a. **Select the tonal range** to be changed from here.

You can access this filter by the following mentioned path:

Choose *Adjustment > Color Balance…* or the keyboard short-cut *<ctrl> + <B>.*

To use the Color Balance command:

- Make sure the composite channel is selected in the Channels palette. This command is available only when you're viewing the composite channel e.g. RGB and not R & B alone.
- Open the Color Balance dialog box.
- Select Shadows, Midtones, or Highlights to select the tonal range on which you want to focus the changes.
- Select Preserve Luminosity to prevent changing the luminosity values in the image while changing the color. This option maintains the tonal balance in the image.
- Drag a slider toward a color you want to increase in the image; drag a slider away from a color you want to decrease in the image.
- You can also provide values for the parameters in the text box provided alongside every slider.

Hue/Saturation/Lightness Adjustment

The Hue/Saturation command lets you adjust the hue, saturation, and lightness of the entire image or of individual color components in an image.

There are two ways this filter could be used:

1. To give a tint to the whole image.
2. To adjust the hue/saturation.

To use this filter:

Choose *Adjustment > Hue/Saturation…* or using the keyboard short-cut *<ctrl> + <U>.*
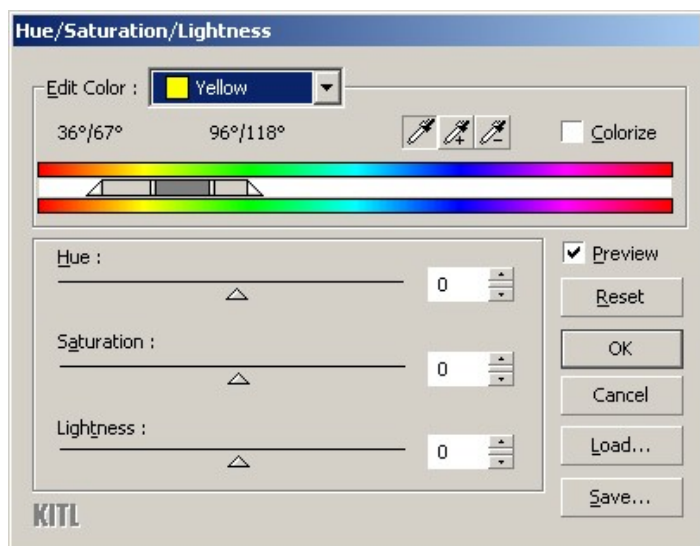
Hue/Saturation/Lightness Dialog

To use the Hue/Saturation command:

1. Open the hue/saturation dialog box. The two color bars in the dialog box represent the colors in their order on the color wheel. The upper color bar shows the color before the adjustment; the lower bar shows how the adjustment affects all of the hues at full saturation.
2. For Edit, choose which colors to adjust:
   - Choose Master to adjust all colors at once.
   - Choose one of the other preset color ranges listed for the color you want to adjust. An adjustment slider appears between the color bars, which you can use to edit any range of hues.
   - If you tick the **colorize** option, you won't be able to make adjustments for individual hue areas.

3. Tick the **colorize** option to give a tint to the image.
4. For Saturation, enter a value or drag the slider to the right to increase the saturation or to the left to decrease it. Values can range from -100 to +100.
5. For Lightness, enter a value or drag the slider to the right to increase the lightness or to the left to decrease it. Values can range from -100 to +100.

To modify the range of an adjustment slider:

1. Choose an individual color from the Edit menu in the dialog box.
2. Do any of the following to the adjustment slider:
   - Drag one of the white bars to adjust the amount of color fall-off without affecting the range.
   - Drag the area between the triangle and the vertical bar to adjust the range without affecting the amount of fall-off.
   - Drag the center area to move the entire adjustment slider, selecting a different color area.
   - Drag one of the vertical white bars next to the dark gray area to adjust the range of the color component. Increasing the range decreases the fall-off, and vice versa.
   - Ctrl-drag the color bar so that a different color is in the center of the bar.
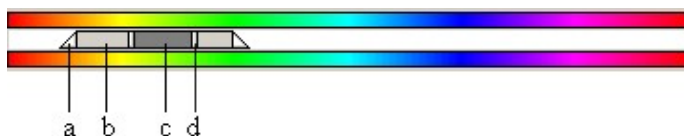
Adjustment Slider Dialog

   a. Adjusts fall-off without affecting range.
   b. Adjusts range without affecting fall-off.
   c. Moves entire slider.
   d. Adjusts range of color component.

3. To edit the range by choosing colors from the image, select the eyedropper tool in the dialog box and click in the image. Use the

eyedropper + tool to add to the range; use the eyedropper - tool to subtract from the range.

Note	Always select the Eyedropper from the Tool Palette before editing the range of colors from the image.

Desaturate

The Desaturate command converts a color image to a grayscale image in the same color mode. For example, it assigns equal red, green, and blue values to each pixel in an RGB image to make it appear grayscale. The lightness value of each pixel does not change.

This command has the same effect as setting Saturation to -100 in the Hue/Saturation dialog box.

To use the Desaturate command:

Choose *Adjustments > Desaturate* or the keyboard shortcut *<shift> + <ctrl> + <U>.*

Channel Mixer

The Channel Mixer command lets you modify a color channel using a mix of the current color channels. With this command, you can do the following:

- Make creative color adjustments not easily done with the other color adjustment tools.
- Create high-quality grayscale images by choosing the percentage contribution from each color channel.
- Create high-quality tinted images.
- Swap or duplicate channels.

To mix color channels:

1. In the Channels palette, select the **composite** color channel.

2. Choose *Adjustment > Channel Mixer…*
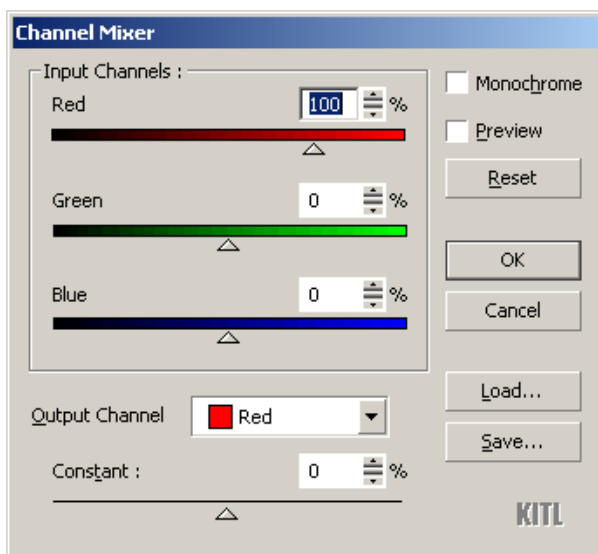
Channel Mixer Dialog

3. For Output Channel, choose the channel in which to blend one or more existing (or *source*) channels.
4. Drag any source channel's slider to the left to decrease the channel's contribution to the output channel or to the right to increase it, or enter a value between -200% and +200% in the text box. Using a negative value inverts the source channel before adding it to the output channel.
5. Drag the slider or enter a value for the Constant option. This option adds a black or white channel of varying opacity; **negative** values act as a **black** channel, **positive** values act as a **white** channel.
6. Select Monochrome to apply the same settings to all the output channels, creating a color image that contains only gray values.

Use the Channel Mixer with the Monochrome option applied to control the amount of detail and contrast in the images you plan to convert to grayscale.

If you select and then deselect the Monochrome option, you can modify the blend of each channel separately, creating a tinted appearance.

Invert

The Invert command inverts the colors in an image. You might use this command to make a positive black-and-white image negative or to make a positive from a scanned black-and-white negative.

When you invert an image, the brightness value of each pixel in the channels is converted to the inverse value on the **256-step color-values scale**. For example, a pixel in a **positive** image with a value of **255 is changed to 0**, and a pixel with a value of **x to 255-x.**

To use the Invert command:

Choose *Adjustment > Invert* or by using keyboard shortcuts as *<Alt> + <Ctrl> + <I>.*

Posterize

The Posterize command lets you specify the number of tonal levels (or brightness values) for each channel in an image and then maps pixels to the closest matching level. For example, choosing two tonal levels in an RGB image gives six colors, two for red, two for green, and two for blue.

This command is useful for creating special effects, such as large, flat areas in a photograph. Its effects are most evident when you reduce the number of gray levels in a grayscale image. But it also produces interesting effects in color images.
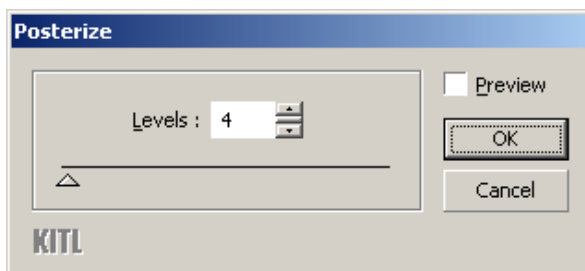
Posterize Dialog

To use the Posterize command:

Choose *Adjustment > Posterize...* and enter the number of tonal levels you want and click OK.

White Highlight Channel Creator
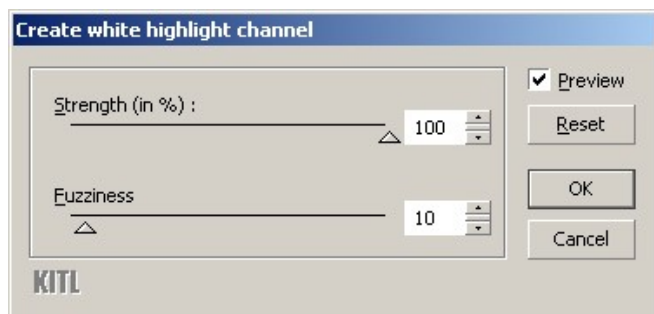
White Highlight Channel Creator

To use the White Highlight Channel creator command:

Choose *Image > Add White Highlight Channel...*

Strength as the name suggests the amount by which to reduce the gray value representing the amount of white ink for the pixel under consideration. This value is constant for all the pixels of the image. 100% represents full strength, whereas 0% represents no inking.

Fuzziness determines the selection of the colors that are near to white. Large value will include more colors that are away from white.

Usually a **Fuzziness** value of **15** and **strength** value of **255** works well for most classes of images.

White Underbase Choke Mask Channel

To use the choke feature:

1. Load any image.
2. Select the correct printing mode. Please note in case of black background, the profile also has an impact on the choke mask generated.

Choose *Image > Add WhiteUnderbase choke...*

You will get the dialog that will help you create the boundaries.
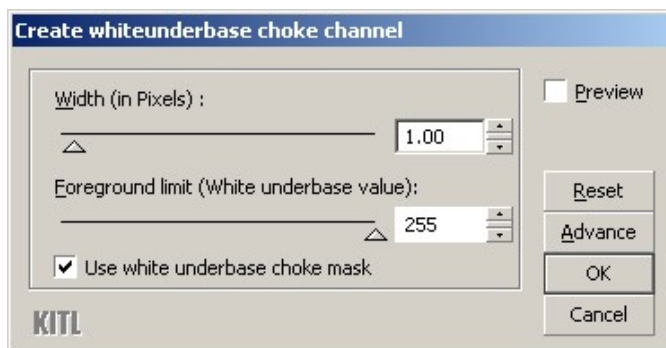
White Underbase Choke Mask Channel Creator

Choke boundary can be defined as number of pixel wide. This number can be in fraction of the pixel. The white pixels edges in the image are however spared from being choked. See the example image below.

Sample Test Image

Advance Dialog

By default white pixels are defined as RGB 255,255,255. You can specify the starting values in the Advance dialog as shown below. In that case the white pixels will be defined as per range from the RGB value defined in the Advance dialog box to RGB 255, 255, 255.
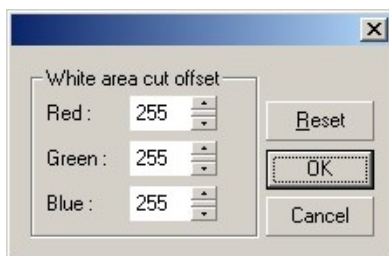
White Area Cut Offset

Note	On the Device Option tab of the printer properties dialog, there is a setting that can be used to control the strength of the choke. The range is between 0....255. **255 is the maximum choke strength.**

Note	You can create multiple choke channels and combine them by setting their visibility on. Print Pro will combine these channels into the single choke channel during the print.

If you want to **mask** the white underbase in some portion of image then 'White underbase choke mask' is useful. Create spot channel on the portion where you do not want to apply the choke and make that channel as 'white underbase choke mask'. Now add new white underbase choke mask channel and tick the 'Use white underbase choke mask' to mask the portion of image for white underbase where white underbase choke mask is present.

Add Transparency Channel

Transparent images are useful when you are not certain of the page background color on which your image will be displayed, or you intend to display your image in front of a complex background rather than a single background color. It also helps you to knock out some colors which you don't want to print on image without the intervention of other software.

To use this tool, either go to *Image > Add Transparency Channel* or press *<Ctrl> + <Shift> + <T>.* The following dialog will be prompt.
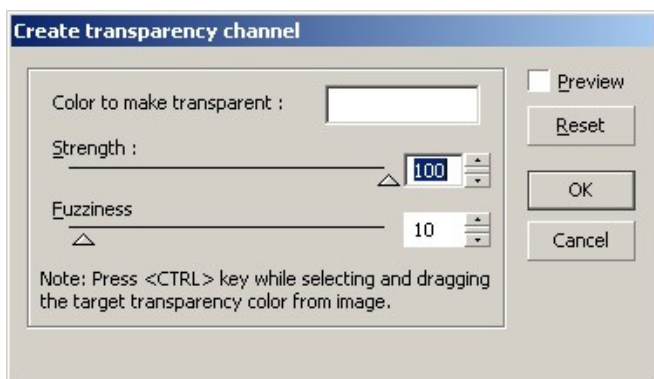
Add Transparency Channel

In this dialog, you can select the color that you want to make transparent by clicking on the color bar shown in the dialog. The color picker dialog will be popped-up in which you can select the color from the color window, or

manually enter the color values. Instead of remembering the color values, simple press the *<Ctrl>* key. The eyedropper is ready to pick the color from the image and drag it on the color bar of the dialog box.

Strength: Strength is defined as transparency depth. Using this you can make the selected color portion 100% transparent by entering 100 in strength edit box or semi – transparent by entering 50 in the strength edit box.

Fuzziness: Enter the value for color distance from 0 to 200. Enter the low value (say 0) to match the exact color value that you want to make transparent. Higher value will make the broader range of selected color to be transparent.

On pressing the "OK" button, one channel named as "Transparency1" will be created in the channel palette.

Consider the image.

Image With Transparent Channel

If you want to print on any color substrate, the white background will be printed which looks like the patch in the printing. To avoid this type of the printing problem, knock off the white background using this tool.

Histogram

Other than Filters the Adjustment menu has one more command of "Histogram".

A histogram illustrates how pixels in an image are distributed by graphing the number of pixels at each color intensity level. This can show you whether the image contains enough detail in the shadows (shown in the left part of the histogram), midtones (shown in the middle), and highlights (shown in the right part) to make a good correction.

Choose *Adjustment > Histogram*…

The histogram gives a quick picture of the tonal range of the image. The following diagram shows an image and its corresponding histogram. If you hover the mouse pointer over the histogram you will see the corresponding statistics of that portion of histogram. You can also select a portion of the histogram to see the statistics of that selected portion.
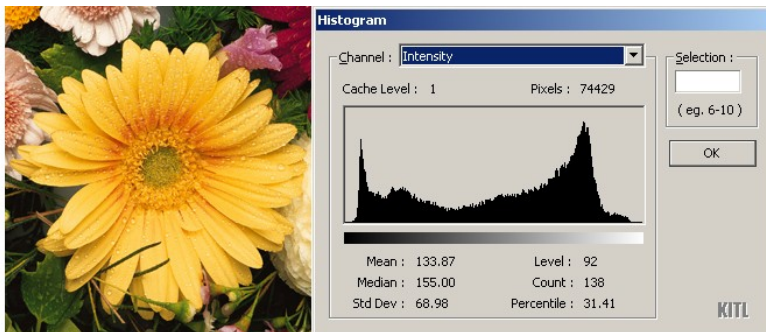
Histogram

Statistical information about the intensity values of the pixels appears below the histogram:

1. **Mean:** Represents the average intensity value.
2. **Standard deviation (Std Dev):** Represents how widely intensity values vary.
3. **Median:** Shows the middle value in the range of intensity values.
4. **Level:** Displays the intensity level of the area underneath the pointer.

5. **Count:** Shows the total number of pixels corresponding to the intensity level underneath the pointer.
6. **Percentile:** Displays the cumulative number of pixels at or below the level underneath the pointer. This value is expressed as a percentage of all the pixels in the image, from 0% at the far left to 100% at the far right.
7. **Pixels:** Represents the total number of pixels used to calculate the histogram.
8. **Cache Level:** Shows the setting for the image cache. If the Use Cache for Histograms option is selected in the Memory and Image Cache, the histogram displays more quickly and is based on a representative sampling of pixels in the image (based on the magnification), rather than on all of the pixels (equivalent to a cache level of 1). Deselect this option if you want to check for posterization in the image.

The Application Interface

In this chapter, we will look at the general interfaces and other features offered by Print Pro for carrying out the task of printing images.

The Application Window
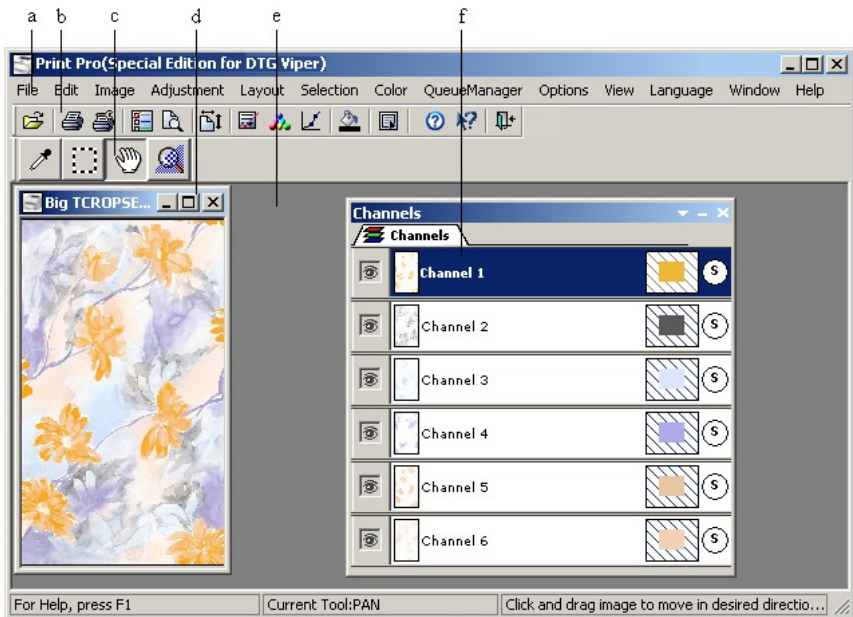
Application Window

a. **Menu bar.**
b. **Tool bar.**

c. **Tool Palette** (*Eye Dropper, Selection Tool, Pan tool, Zoom tool*).
d. **Design Window:** Shows the composite design output. Right click anywhere on the window to get the access to list of commonly used commands.
e. **Application background:** Double click here to get the 'File Open Box'.
f. **Channel Palette:** Lists all the channels present in the design.

Menu Bar

List of commands offered by Application 'Menu bar'.

File Menu Commands
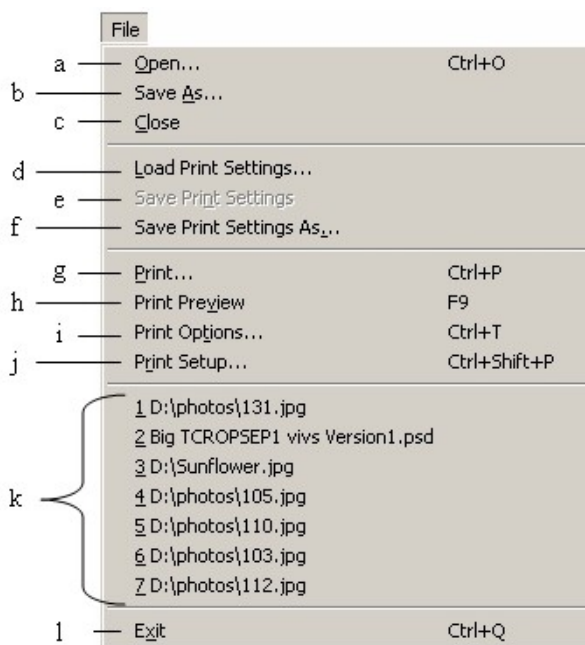
File Menu

a. **Open:** Open a design document. Refer 'File Format Support' on page **163**.
b. **Save As:** Save the design document in either of bmp, Jpeg, Pcx, Png, Psd, Tiff or Tga format.
c. **Close:** Close the active design document.
d. **Load Print Settings:** Load Printer settings from the file for the active design document.
e. **Save Print Settings:** Save Printer settings of the active design document to a file. Refer 'About PST Files' on page **164**.
f. **Save Print Settings As:** Enables saving printer settings with another name. Refer 'About PST Files' on page **164**.
g. **Print:** Print the active design document.
h. **Print Preview:** Preview the active design document, with page layout etc.
i. **Print Options:** Print settings for the active design document.
j. **Print Setup:** Printer settings.
k. **Recent active windows:** Last accessed design documents.
l. **Exit:** Exit Print Pro.

Edit Menu Commands

Edit Menu

a. **Undo / Redo:** Use this command to restore the change, when any filter is applied on the image.
b. **Step Forward:** To get the next series of changes applied by filters on any image.
c. **Step Backward:** To get the previous series of changes applied by filters on any image.

Image Menu Commands
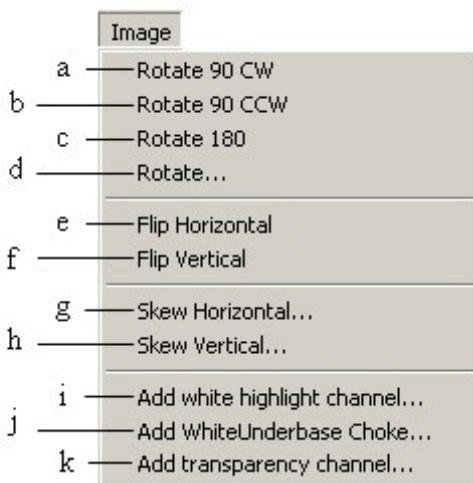
Image Menu

a. **Rotate 90 CW:** Rotate the image by 90 degrees in Clock Wise direction. A new document is created in this case.
b. **Rotate 90 CCW:** Rotate the image by 90 degrees in Counter Clock Wise direction. A new document is created in this case.
c. **Rotate 180:** Rotate the image by 180 degrees. A new document is created in this case.
d. **Rotate...:** Rotate the image by user specified angle and options. A new document is created in this case.
e. **Flip Horizontal:** Flip the image horizontally. A new document is created in this case.
f. **Flip Vertical:** Flip the image vertically. A new document is created in this case.
g. **Skew Horizontal:** Skew the image horizontally by desired degree. A new document is created in this case.
h. **Skew Vertical:** Skew the image vertically by desired degree. A new document is created in this case.
i. **Add White highlight channel**. Refer page **121**.
j. **Add White Underbase Choke Mask**. Refer page **122**.
k. **Add Transparency channel.** Refer page **124**.

Adjustment Menu Commands

See 'Making Color Adjustments' on page .

Selection Menu Commands
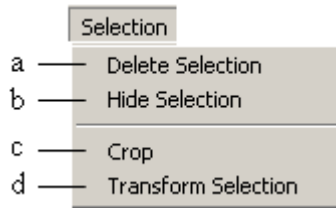
Selection Menu

a. **Create/ Delete selection:** To Create/ Delete the selection.
b. **Show / Hide selection:** To Show / Hide the selection.
c. **Crop:** Crop the selected portion as a new document.
d. **Transform Selection:** Resize the selection.

Color Menu Commands

See 'Color Management Options' on page .

Queue Manager Menu Commands
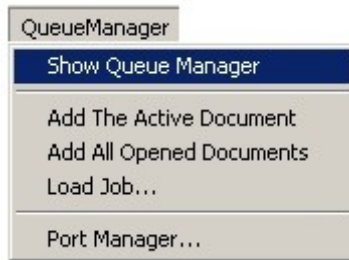
Queue Manager Menu

- **Show/Hide Queue Manager:** To Show/ Hide the Queue Manager interface.
- **Add The Active Document:** To add the active document to the print queue.
- **Add All Opened Documents:** To add all the opened documents to the print queue.
- **Load Job...:** To load a job from the disk.
- **Port Manager...:** To access the port manager.

Note	See also Chapter on 'Printing' on page **31**.

Options Menu Commands
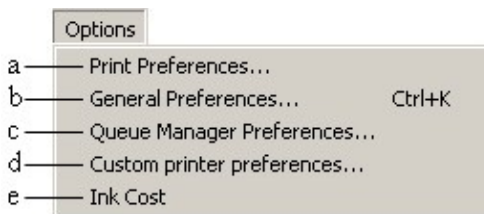
Options Menu

a. **Print preferences:** These are the settings that are assigned by default to a job whose print settings are not set even once. See also 'Using Print Preferences' on page **159**.

b. **General Preferences:** Settings for cache and scratch space. See also 'Using Memory and Scratch Space Settings' on page **158**.

c. **Queue Manager Preferences:** See 'Print Queue Manager Preferences' on page **39**.

d. **Custom Printer Preferences:** See 'Custom Print Preference' on page **160**.

e. **Ink Cost:** Refer page **161** for more details.

View Menu Commands
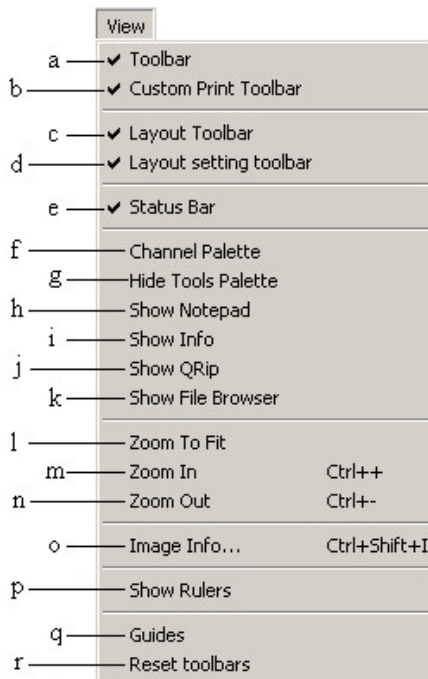
View Menu

a. **Toolbar:** Shows or hides the toolbar.

b. **Custom Print Toolbar:** Shows or hides the Printer settings toolbar.
c. **Layout Toolbar:** Shows or hides the Layout toolbar.
d. **Layout Setting Toolbar:** Shows or hides the layout settings toolbar.
e. **Status Bar:** Shows or hides the status bar.
f. **Channel Palette:** See figure below.

Channel Palette in View Menu

- Show/Hide the channel palette.
- Show/Hide the channel thumbnail view.

g. **Show/hide Tool Palette:** See 'tool palette' on page **142**.
h. **Show/hide Notepad:** See 'Notepad' on page **155**.
i. **Show/hide Info palette:** See 'Info palette' on page **144**.
j. **Show/hide Q Rip:** See 'Q Rip' on page **157**.
k. **Show/hide File browser:** See 'file browser' on page **156**.
l. **Zoom to Fit:** Zoom the active design to fit the window size that is containing it.
m. **Zoom In:** Zoom in the active design.
n. **Zoom Out:** Zoom out the active design.
o. **Image Info:** Image related information. See also 'Image Info' on page **149**.
p. **Show Rulers:** Show or hide the rulers for the current document.
q. **Guides:** See figure below.

Guides in View Menu

- When you want to lock all the guides, use command (1).

- When you tick on option (2), your guidelines in the document will remain visible in blue color. If you don't tick on this option, guideline properties will remain but guidelines will not be visible.
- Option (3) is useful when you want to clear/ remove all the guidelines from the document. To clear individual guideline, drag and drop the guideline over the ruler.

r. **Reset Toolbars:** Resets the position, visibility state and floating state of all toolbars.

Language Menu Commands

The Language menu offers the following commands, which enables you to run the application in different languages as per your choice:

Language Menu

As shown in the above dialog, the 'Language menu' may offer several languages from which you can select any one in which you would prefer to run the Print Pro application.

Note	The *"Language Menu"* command will be available only when your version of software supports **multiple languages.** Options in this menu may differ according to the languages supported by your version of software.

Window Menu Commands
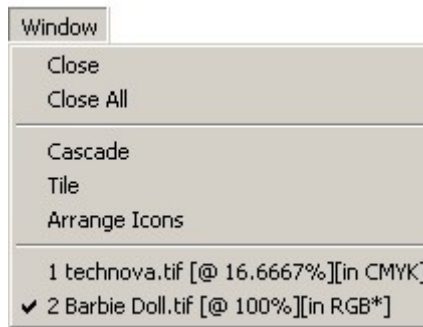
Windows Menu

The Window menu offers the following commands, which enable you to arrange multiple views of multiple documents in the application window:

- **Close:** Close the current file in use.
- **Close All:** Close all the opened files.
- **Cascade:** Arranges windows in an overlapped fashion.
- **Tile:** Arranges windows in non-overlapped tiles.
- **Arrange Icons:** Arranges icons of minimized windows.
- **Window 1, 2...:** Goes to specified window.

Help Menu Commands
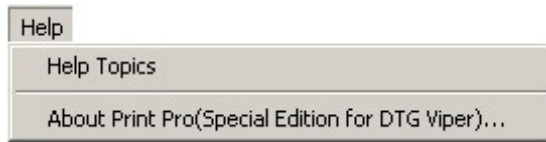
Help Menu

The Help menu offers the following commands, which provide you assistance with this application:

- **Help Topics:** Offers you an index to topics on which you can get help.
- **About Print Pro...:** Displays the copyright notice and version number of this application.

Toolbar

Toolbar provides shortcuts to the most commonly used menu commands.
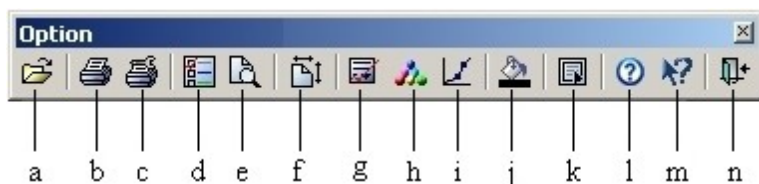
Application Window Toolbar

a. **Open** a design document.
b. **Print** the active design document.
c. **Printer settings.**
d. **Print options** for the active design document. See also chapter on 'Printing' on page **31**.
e. **Preview** the active design document, with page layout etc. See also chapter on 'Printing' on page **31**.
f. **Image related information.** See also 'Image Info' on page **149**.
g. **Settings for cache and scratch space.** See also 'Using Memory and Scratch Space Settings' on page **158**.
h. **Color management settings.** See also chapter on 'Color Management' on page **20**.
i. **Spot color gain.** See also chapter on 'Color Management' on page **22**.
j. Click here to set the **color** in which you want to view the **white highlight channel data.**
k. **Open or close** the **Layout** session interface.
l. **About Print Pro.**
m. **Context sensitive help.**
n. **Exit Print Pro.**

Printer Settings Toolbar
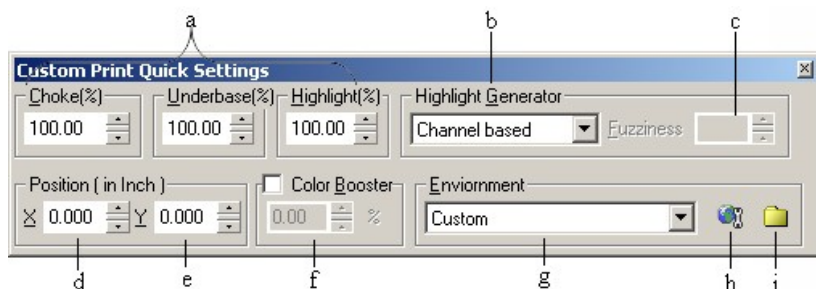
Custom Print Toolbar

a. **Strength:** This is a strength option which is used to control the amount of application of each individual option. 0% means no strength and 100% means full strength. In past whatever you may have created and used with the software was at full strength i.e. 100%. Now you could control the application of the amount of the feature. For example if you use the Choke Strength to be 50% then the choking will be applied by 50% amount of the gray value in the corresponding channel. Similarly, if you use the Underbase Strength to be 50%, the underbase that will be printed will be half the strength that otherwise would be printed when this value is 100%.

b. **Highlight Generator:** There are four options-
   1. **None:** If you don't want to apply 'Highlight Generator' feature, then select this option.
   2. **Channel Based:** Highlight option will work as usual using the channels. Fuzziness value is disabled and ignored.
   3. **On the fly:** The RIP will generate the white highlight on the fly during ripping using the fuzziness value that you supply there. This will ignore any highlight channel set otherwise in the channel palette. The fuzziness value works similar to the highlight channel creation option.
   4. **Combine:** The RIP will generate the white highlight on the fly during ripping using the fuzziness value that you supply there and will combine it with the highlight channels set in the channel palette. The fuzziness value works similar to the highlight channel creation option.

c. **Highlight Fuzziness:** The fuzziness value works similar to the highlight channel creation options. This will be disabled in the case of Channel based Highlight generator.

d. **Horizontal Position** specifies the offset with which the page will be printed.

e. **Vertical Position** specifies the offset with which the page will be printed.

f. **Color booster:** Adjust the percentage to increase the amount of color depth.

g. **Environment:** Environment name shows the currently loaded environment settings. As described earlier you can save the snap shot of a print setup as print environment file. Default settings of a printer are always loaded as "Custom".

h. **Manage env:** Manage env button enables a user to load to associate a generic name with an environment file. The user can then select the name associated from the name list to load the environment settings saved in the environment file associated with the selected name. Pressing the button displays "Manage Environment" dialog box. Refer page **47** for more details.

i. **Manage env Group:** Manage env Group button enables a user to manage the environment file into group. Pressing the button displays the 'Manage Environment Group' dialog box. Refer page **50** for more details.

Tool Palette
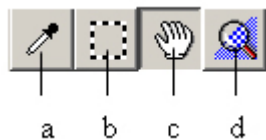
Tool Palette

a. **Eye Dropper Tool:** The eyedropper tool samples color to designate a new foreground or background color.

b. **Selection tool:** Use this tool to create a selection (Use *<Shift>* + *<Click>* to open 'Creating Selection' box).

c. **Pan tool:** Use this tool to navigate through the design.

d. **Zoom tool:** Zoom in or out the design. Press *<Alt>* key along with the mouse click to zoom out.

Channel Palette
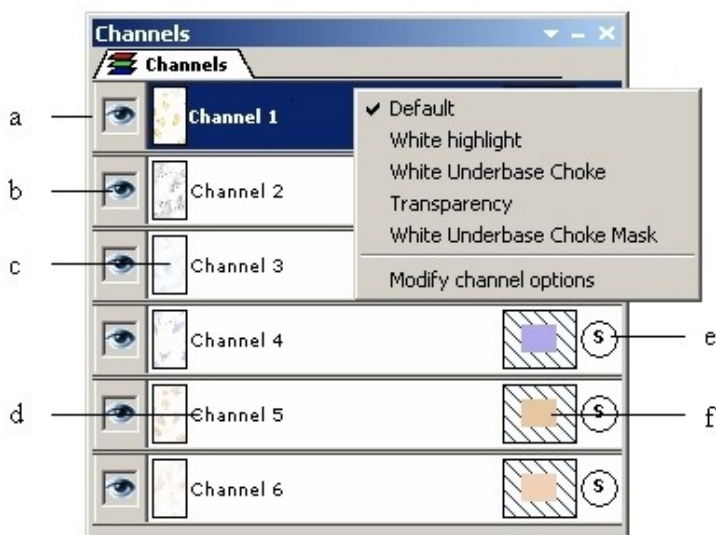
Channel Palette

a. **Channel Information.**
b. **Channel Visibility.**
c. **Channel Thumbnail.**
d. **Cannel Name.**
e. **Channel Type*.**
f. **Channel Color.**

* Legends: A- Alpha, + - Additive (e.g. RGB), - - Subtractive (e.g. CMYK), E – Encoded (e.g. LAB), T - Transparent, W - White Highlight, C - White Underbase Choke, M – White Underbase choke mask, S - Spot.

White Highlight on Spot / Alpha Channels:

To use a spot/alpha channel as a white highlight data, right click on the channel and in the menu that appears set the option to use the channel for white highlight.

Info Palette

Info palette lets you know the color value of the pixel below the mouse pointer when the mouse hovers over the image. The info palette also shows a visual color sample of that pixel color and much more. Info palette lets you compare the color value of a pixel in two different color spaces simultaneously.

Info palette is capable of providing all of the following information:

- The numeric value (Grayscale, RGB, HSB, CMYK, Lab and LCH) of the color beneath the mouse pointer in two different color spaces simultaneously.
- The opacity value for the pixel below the pointer.
- The x and y-co-ordinates (in inch/cm/mm/points/pixels) of the pointer.
- The width, height and the anchor point, when a region of the image is selected using the selection tool. You can view this information in all basic units (inch, cm, mm, points and pixels).

When you use any color adjustment dialog box (for example, Curves), the Info palette displays the before and after color values of the pixels beneath the pointer.

You can view the info palette by choosing the command *View > Show Info* from the menu.

You can use the info palette to see the color value of pixels of the image under the pointer. It also shows the width and height of the selected portion in units that are being used in the rulers.
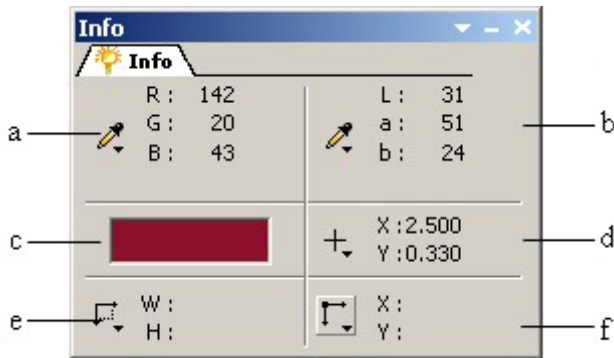
Info Palette

The info palette is shown below along with the details of the information available from the info palette.

   a.   Tracks **actual color value.**
   b.   Tracks **user chosen color value**.
   c.   Shows a **visual sample** of the pixel color.
   d.   Tracks **cursor co-ordinates** below mouse pointer.
   e.   Tracks selection **width and height.**
   f.   Shows **anchor position** of the selected area.

By default the top-left cell shows the color value in the color mode of the image and the top-right cell displays in Lab.

Info palette after applying color adjustments filters:

The info palette lets you know the current pixel color as well as the pixel color before applying filters (if applied) simultaneously. A sample palette window after making color adjustments is shown below.
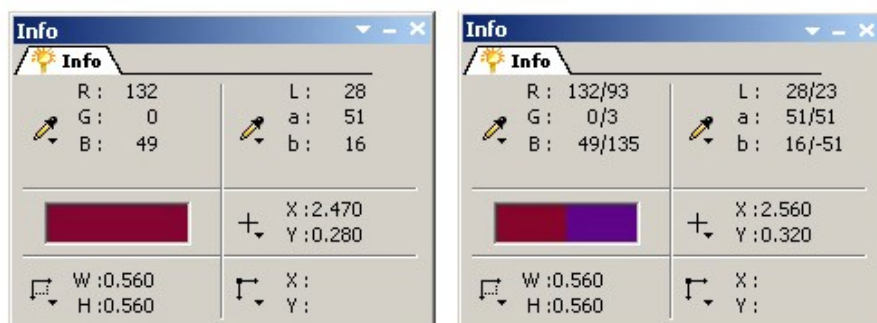
Info Palette after Applying the Filters

The color sample patch is divided into two parts. The left part of the sample box shows the original color and the right part shows the color after the adjustment. The numeric values also denote the color value in "original/current" format.

Using different options in info palette:

a. You could change the **color space** in which the numeric values of the color are displayed at any point of time using the menu provided with these cells. The menu will be presented to you when you press the button in the cells denoting the color values.

The following figure shows this menu.
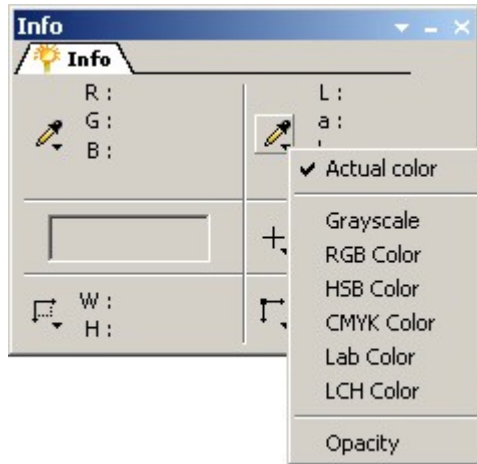
Info Palette with Menu

The menu has the items listed below:

    i.   **Actual color:** This selection will show the color value in the current color mode of the image.

    ii.   **Different color spaces:** You are also given the option to view the color value in grayscale, RGB, HSB, CMYK, Lab and LCH mode.

    iii.   **Opacity:** You can select this option if you want to view the opacity of the pixel below the pointer.

b.   You will see a tick mark besides the option using which the color value is being viewed currently. You can change the **units** in which you are viewing the mouse co-ordinates, the width and height of selection and the anchor point of the selection. You need to click on the button provided in their respective cells to change the units. You are provided the options to view them in inches, cm, mm, points and pixels. You can click on the buttons , and in the window to view the units menu. Changing the units using any of these buttons will change the units in all the cells. The menu is shown in the following page.
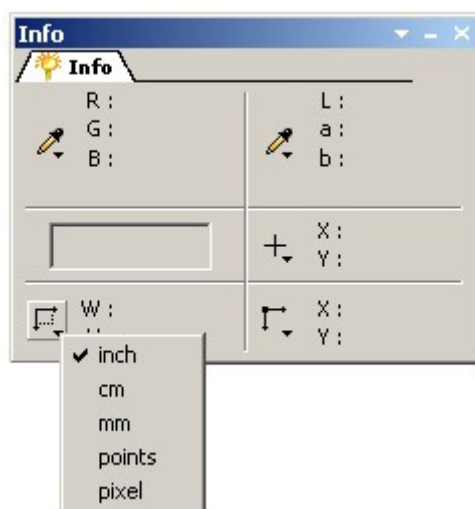
Info Palette with Unit Menu

Other Features

Let's take a closer look at the other features that provide useful support to rest of the application components.

Image Info
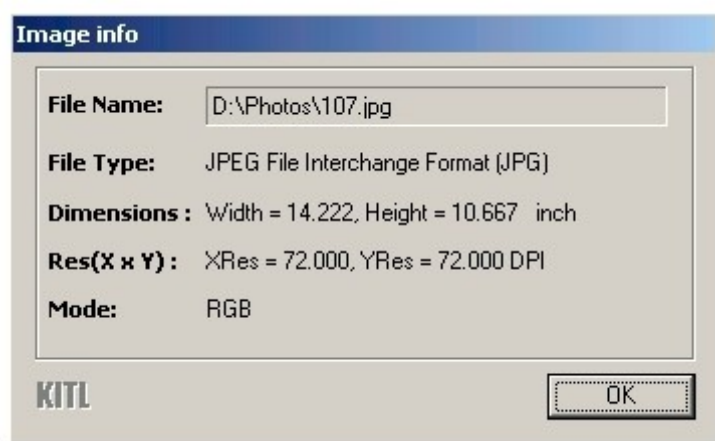
Image Information Box

The information about the design selected for printing can be obtained collectively from the Image information box which can be accessed from *View > Image Info*. This information includes file name along with the path, file type, dimensions of the design, design resolution and design mode.

Note	Right mouse click allows the dimension unit to be changed.

Creating Selection

Selection Tool

a. **Style:** You can select either the normal style in which the selection box is of any size and the other style is 'Fixed' style in which the selection rectangle is of fixed size. Another one is 'Fixed Aspect Ratio' style in which you have to specify the aspect ration in X and Y direction and selection rectangle will increase as per that aspect ratio.

b. **Height** and **Width** of the selection rectangle when the fixed style is selected and Aspect ratio in case of 'Fixed aspect ratio' style.

c. **Unit:** It specifies the unit of measurement.

Note	You can open this selection box either by *<Shift> + <Click>* on Selection tool in the tool palette or by going as *Selection > <Shift> + New Selection* i.e. *<Shift> + <Click>* inside the selection while transform selection is being applied.

Color Picker

You can use the Color Picker to select the foreground or background color by choosing from a color spectrum or by defining colors numerically.
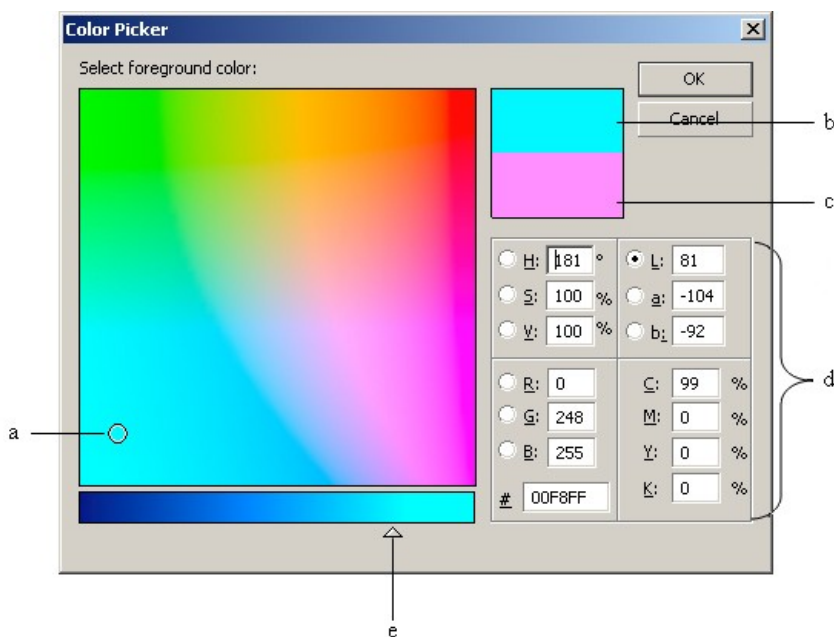
Color Picker

a. Slider for the **unselected values.**
b. **Currently selected color.**
c. **Previously selected color.**
d. **Numerically** select the color based on the *HSV, RGB, Lab* and *CMYK* color model.
e. Slider for the **selected values** *(Radio Selected value).*

Rotate

Rotation of the image by a user specified angle and background color. A new document is created in this case.
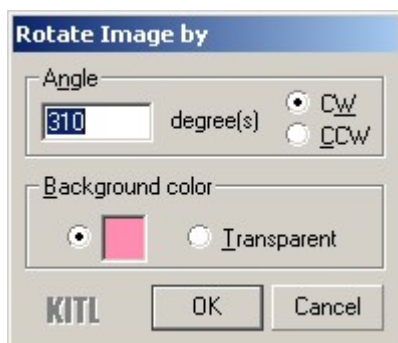
Rotate Parameters

You can rotate the image either clockwise (select C<u>W</u>) or Counter clockwise (select <u>C</u>CW).

You can skew the image either horizontally or vertically by desired degree. A new document is created in this case also.

Note	You can access Rotate feature by going as *Image > Rotate...*

File Saving Options

Bmp Options
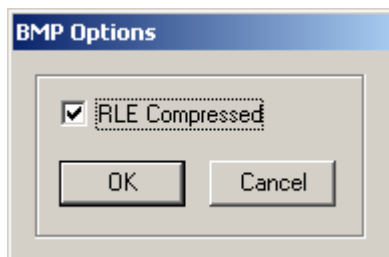
BMP Save Option Box

While saving the file in the BMP format, you can select whether the file should be compressed or not.

Tiff Options
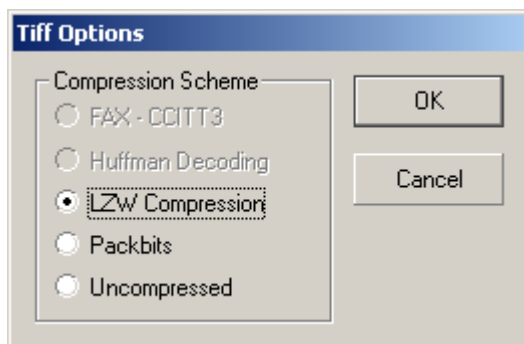
Tiff Save Option Box

Many file formats use compression to reduce the file size of images. You can select any of the given compression scheme while saving the file in ".tiff" format.

Jpeg Options
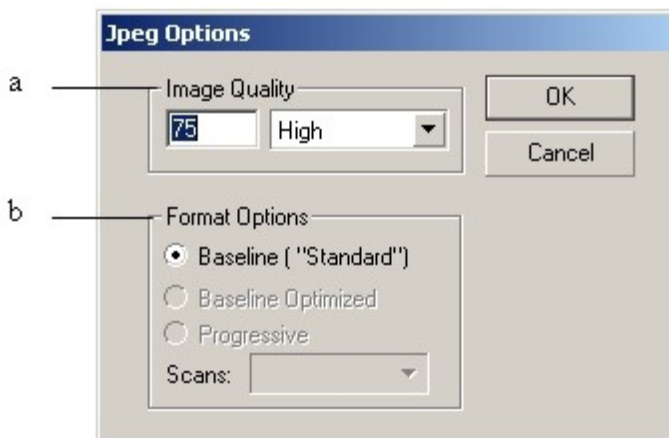
Jpeg Save Option Box

a. **Image Quality:** To specify the image quality, choose an option from this menu.
b. **Format options:** You can select any of the following format options:
    1. Select *Baseline ("Standard")* to use a format recognized by most Web browsers.
    2. Select *Baseline Optimized* for optimized color and a slightly smaller file size.
    3. *Progressive* to display a series of increasingly detailed scans (you specify how many) as the image downloads.

Notepad
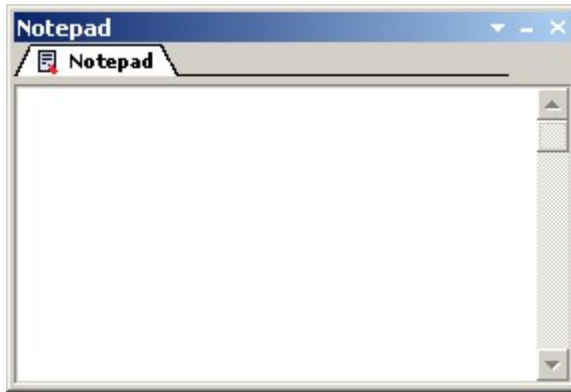
Notepad

Notepad can be used to write comments related to a design, and these comments are automatically saved in the PST file on close of the image next time these comments will be automatically loaded.

File Browser
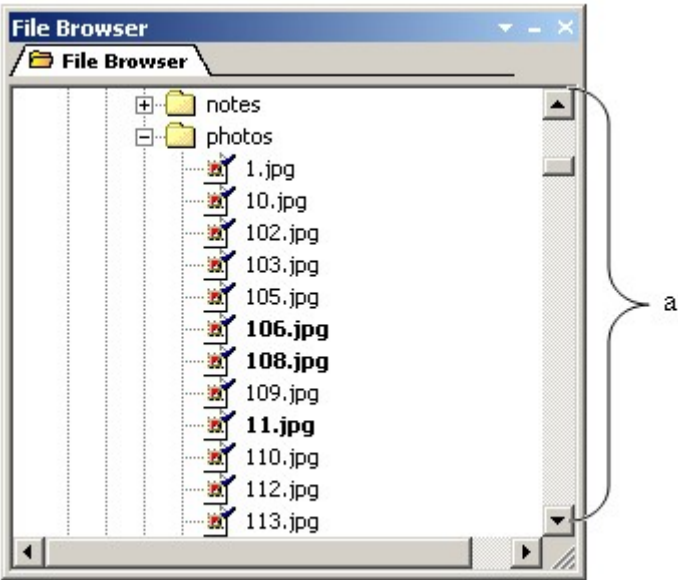
File Browser

a. List of the files in a folder that can either be opened inside Print Pro or can be imported directly into the page layout by drag and drop. Files shown in the bold letters indicate that a corresponding .PST files exists. In this figure equivalent .PST for 106.jpg, 108.jpg and 11.jpg.

Quick RIP
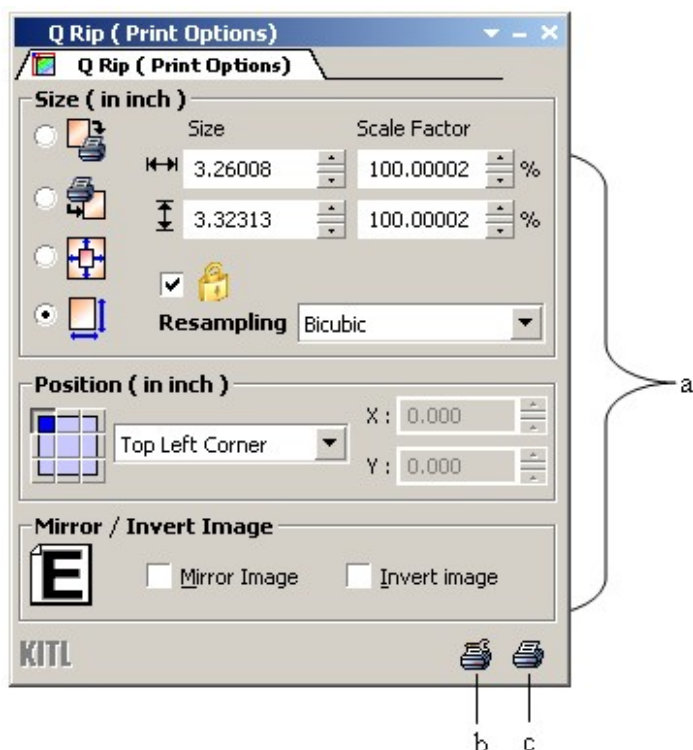
Quick RIP

a. **Q Rip Settings:** Commonly used settings for a print job including its size, position in page layout, mirroring the image about the vertical axis and inverting the colors of the image in the print. See also 'Print Settings' on page **69**.
b. **Print Setup:** Access to printer setup.
c. **Print:** Print the active document / job.

Using Memory and Scratch Space Settings
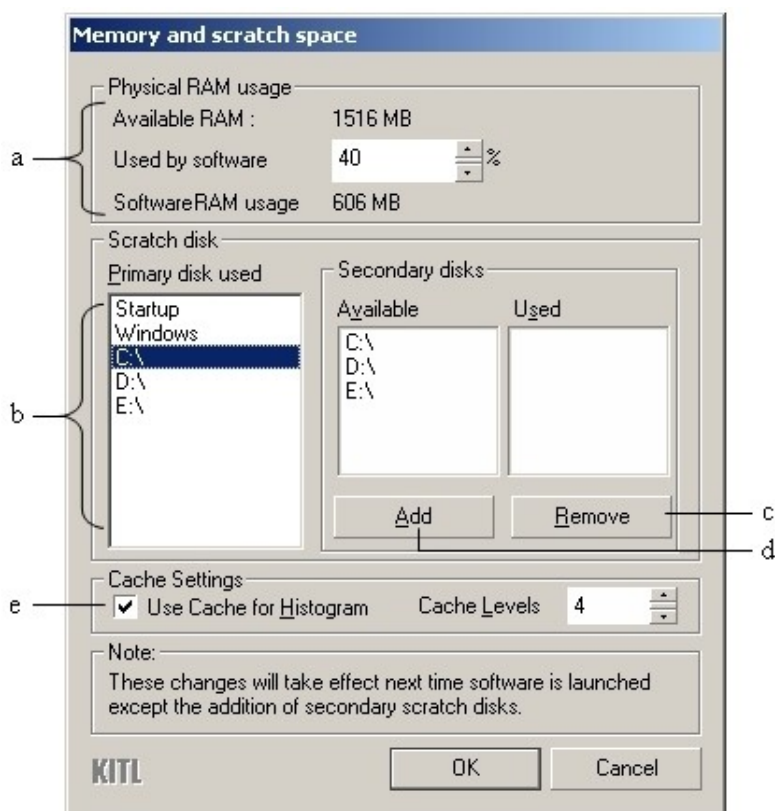
Memory and Scratch Space Adjustment Box

a. **Physical RAM usage:** Physical RAM usage box provide the detail information about available system RAM, RAM used by the Print Pro and instructed RAM amount for use by Print Pro.
b. **Primary disk used:** Select a Primary Scratch Space from the list of available spaces.
c. **Remove** secondary disks from the used list.
d. **Add** secondary disk spaces from the available list.

e. **Cache Settings:** Cache levels and flag to indicate whether to use the cache levels when computing the histogram for the images.

Using Print Preferences
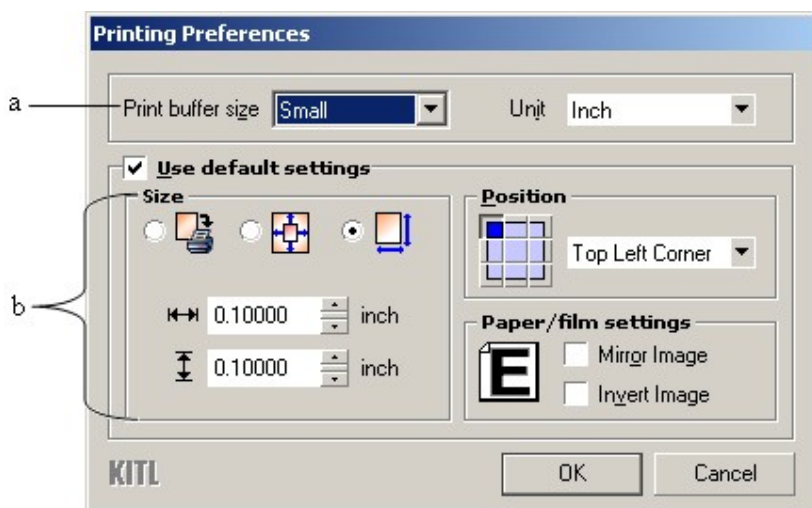
Print Preferences

a. **Print Buffer Size:** The amount of design data transferred to the printer in single shift (W x H = Size x Size).
b. **Standard Prepress values:** These values are to be used when loading the file and no previous settings are present. For more details 'Print Options'.

These default settings are used for the designs that are opened for the first time or the one's having no equivalent .PST files. See also 'About PST files' on page **164**.

Using Custom Print Preferences
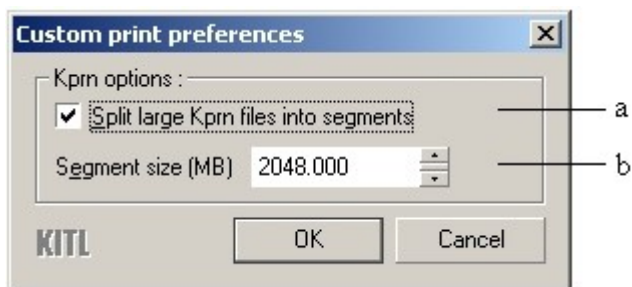
Custom Print Preferences

a. **Specify the segment size checkbox:** Check this button to specify the segment size. This option is not available in Microsoft® Windows® 98 & Microsoft® Windows® ME systems.

b. **Segment size (in MB):** Maximum size for the each segment which you want to allow. In the Windows® 98 & ME systems, the maximum size allowed for file is 2GB. If you are saving the kprn file which is more than 2GB & if your operating system is Windows® 98 & ME, then that kprn file will not be saved. To overcome this problem we are allowing you to specify the maximum size of each segment so that your kprn file will be saved & gets loaded properly. By default we are keeping the segment size as 2GB for Windows® 98 & ME systems.

Ink Cost
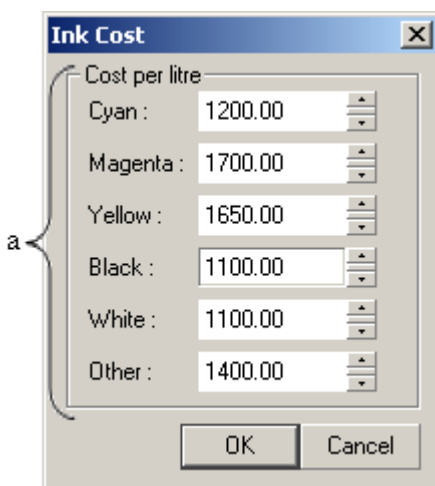
Ink Cost Dialog

    a.   Ink cost per liter for the individual ink. If any ink present other than the CMYK and White then set cost into the 'Other'.

Use the above dialog to specify the ink **cost per liter** of ink. This cost is used to compute the cost of the print. The currency for the cost is taken from the regional settings. Regional settings for modifying the currency can be accessed from Control Panel. The path to change the currency depends upon the operating system.

- **For Windows XP/Vista:** *Control Panel > Regional & Language Options > press the 'Customize this format' button*, Go to *'currency'* tab and *change the currency symbol as desired.*
- **For Windows 95, 98, ME and 2000:** *Control Panel > Regional Options > Go to 'currency' tab and change the currency symbol as desired.*

Cost of the print is available for viewing in the "Print Queue" as shown in the figure below. You can view these details after the job is saved, ripped or printed. There are two details that are displayed.

1. **Individual ink consumption** *(Optional feature).*
2. **Total cost of the print** *(Optional feature).*

This cost analysis is for single copy irrespective of the total number of copies entered in queue manager. However this does include the number of passes of underbase layer, color layer, and white highlight layer if any.
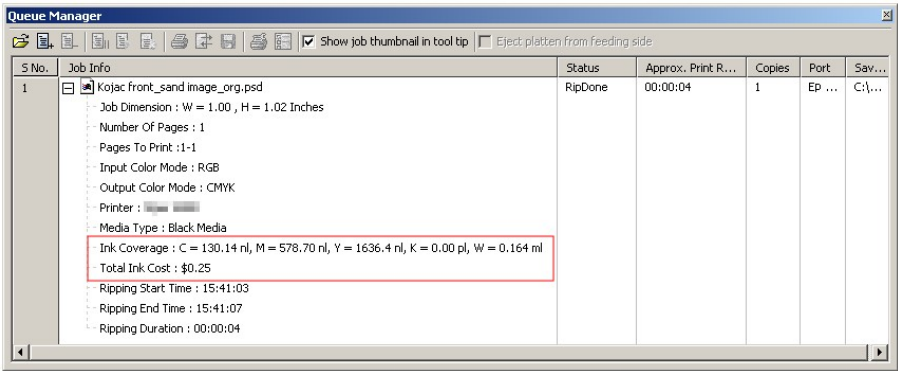
Ink Coverage & Cost of the Print in the 'Print Queue'

Note	This dialog *("Ink Cost")* is marked as the Optional feature; so it may or may not be present in the basic version of the software.

Supported Image File Formats

Print Pro supports only raster file formats. The formats recognized by Print Pro are as follows.

1. **BMP:** It doesn't support files with Jpeg and ICC extensions.
2. **GIF:** Version 89a.
3. **JPG:** Version 1.02. It does not support YcbCr, YCCk color spaces.
4. **PCX:** Version 3.0.
5. **PNG:** It does not support 2 bit per pixel PNG.
6. **TGA:** Version 2.0.
7. **TIF:** It doesn't support files with Jpeg and Zip compression.
8. **PSD**.

Other File Formats

1. ***.kcm :** Kothari Color Management files
2. ***.env :** Kothari Environment files
3. ***.kpa :** Kothari Primary Adjustment files
4. ***.pst :** Printer settings files
5. ***.trc :** Tone Reproduction Curve files
6. ***.lin :** Linearization files
7. ***.fcm :** Channel Mixer files
8. ***.fsc :** Selective Color files
9. ***.fhs :** Hue Saturation files
10. ***.flv :** Level files
11. ***.fcv :** Curve files
12. ***.fcb :** Color Balance files
13. ***.icc, *.icw :** ICC Color Profiles
14. ***.prn, *.kprn :** File format to save ripped data
15. ***.klt :** Kothari Layout Template

About PST Files

PST is Print Pro's file format for storing the print options that you may specify for the document in Print Pro. Since none of the image file formats mentioned above supports the features offered by Print Pro, therefore Print Pro makes a file with the same path, name and .PST extension when you close the design. Next time when you open the same design Print Pro will read these options automatically, so as you don't have to remember and re-enter those options.

Productivity Features

Print Pro's user interface has been designed to boost your productivity.

General Patterns

Commonly needed tasks are either accessible through right button click 'List of commands' or keyboard shortcuts.

Shortcuts

The '*Application Window*' provides the following keyboard shortcuts,

- **Open :** <Ctrl> + <O>
- **Print :** <Ctrl> + <P>
- **Print Preview :** <F9>
- **Print Options :** <Ctrl> + <T>
- **Print Setup :** <Ctrl> + <Shift> + <P>
- **General Preferences :** <Ctrl> + <K>
- **Color Management :** <Ctrl> + <Shift> + <K>
- **Spot Color Gain :** <Ctrl> + <G>
- **Image Info :** <Ctrl> + <Shift> + <I>
- **Zoom In :** <Ctrl> + <+>
- **Zoom Out :** <Ctrl> + <->
- **Help :** <F1>
- **Context Sensitive Help :** <Shift> + <F1>
- **Next Pane :** <Ctrl> + <F6>
- **Previous Pane :** <Shift> + <Ctrl> + <F6>

The '*Adjustment Interface'* provides the following keyboard shortcuts,

- **Levels :** <Ctrl>+<E>
- **Auto Levels :** <Shift>+<Ctrl>+<E>
- **Auto Contrast :** <Alt>+<Shift>+<Ctrl>+<E>
- **Curves :** <Ctrl>+<Shift>+<M>
- **Color Balance :** <Ctrl>+<B>
- **Hue / Saturation :** <Ctrl>+<U>
- **Desaturate :** <Shift>+<Ctrl>+<U>

The '*Print Preview Interface'* provides the following keyboard shortcuts,

- **Print :** <Ctrl> + <P >
- **Print Setup :** <Ctrl> + <Shift> + <P>
- **Print Options :** <Ctrl> + <T>
- **View Next Page :** <Ctrl> + <PgDn>
- **View Previous Page :** <Ctrl> + <PgUp>
- **View One Page :** <Ctrl> + <1>
- **View Two Pages :** <Ctrl> + <2>
- **Zoom In :** <Ctrl> + <+>
- **Zoom Out :** <Ctrl> + <->
- **Close Print Preview :** <Esc>

The *"Edit Menu"* provides the following keyboard shortcuts,

- **Undo :** <Ctrl> + <Z>
- **Step Forward :** <Shift> + <Ctrl> + <Z>
- **Step Backward :** <Alt> + <Ctrl> + <Z>

Right click 'List of Commands'

For Application Window

Zoom to fit	
Zoom In	Ctrl++
Zoom Out	Ctrl+-
Image Info...	Ctrl+Shift+I
Print Preview	F9
Print...	Ctrl+P
Load Printer Settings...	
Save Printer Settings...	

Right Click Options Available in Application Window

For Print Preview

Zoom In	Ctrl++
Zoom Out	Ctrl+-
Background Color...	
Print Options...	Ctrl+T
Print Setup...	Ctrl+Shift+P
Print...	Ctrl+P

Right Click Options Available in Print Preview Interface

Others

1. Whenever you need to change units, right click option to change the units is available.
2. In every value edit box along with a spin control, values can be incremented or decremented by using *<Up>* and *<Down>* keys respectively.

Common messages and trouble-shooting

Messages

Printing Related

"Print settings have changed. Save new settings?"

Print Pro will ask you this question before closing a document, if it finds print options for this document has changed. Upon confirmation it saves the modified print options in a file on the disk with name same as that of the document but with the extension PST.

"There is nothing to print. Please make a selection for printing."

If there is no job selected for printing Print Pro will issue this message. It is possible that you may have forgotten to select the job that you want to print.

"There are no channels visible in the document. So the document will be blank."

Make at-least one channel visible by selecting it on the channel palette. This message generally appears when no channel is visible and user is trying to print a composite/color image.

"Failed to acquire printer. Check the printer availability."

Print Pro issues this message when it fails to get handle to the printer driver. There may be no printer driver installed on the system. If so, install the driver for the printer you want to work with. If driver is already installed, then restart the system.

"Not a valid media Info"

TRC and ICC profiles as specified in the media definition are missing.

"Ink Type not present"

Ink type for the given media type is not present. Remedy is to reinstall the software.

"Media Type not present"

Current selected media type definition cannot be found. Remedy is to reinstall the software.

"Loaded Env file <name> is empty"
"Environment file <name> is damaged"

Currently loaded environment file is empty/ damaged. Load correct/different environment file.

"Loaded Kprn file <name> is empty"
"Kprn file <name> is damaged"

'.Kprn' file contains the ripped data. Currently loaded ripped file is empty/ damaged. Load correct/different ripped file.

"Error in RTL Writer"
"Custom writer has performed an illegal operation"
"CustomPrint has performed an illegal operation"

Error occurred while converting the data to the printer format. We recommend you to save all the data and restart your computer.

"Error in writing printer data"

There was some error while writing the ripped data to the temporary file. We recommend you to increase the free disk space and restart the job.

"Error in transforming image data"

There was some error while converting the given image data into the desired mode. We recommend you to save all the data and restart your computer.

"The margins overlap or they are off the paper. Enter a different margin size."

Margins of the paper are overlapping i.e. very less effective page size is remaining for printing. So either increase the page size or decrease the margin.

"White base is present in more slots than allowed."

The number of ink slots assigned to the white under base ink is more than the maximum permissible slots for the white under base. The maximum value is the difference between the total ink slots in the printer and

"Selected port is not a valid port name."
"Default printer is not found"
"Error in starting the print job."
"Cannot read from the Spot Gain file. Using default value instead. Choose the appropriate setup using the Spot gain setup box."

When the spot gain file is corrupted for some reason the default gain file is utilized. This message conveys the same.

"Too small page size to hold a single calibration bar."

When the calibration bar cannot be printed within a single selected page size.

"Error in generating patches."

When some error occurs while creating test patches for printing.

"The margins overlap or they are off the paper. Enter a different margin size."

The margins are not valid for the selected paper size.

"Error while generating printing data"
Some error occurred while generating printing data.

"Error while resampling image data."

Error occurred while applying the sampling method to the data.

"<name> is not a valid port name."

Port selected for printing is invalid.

Color Management Related

"Error in color profile"
"Doesn't recognize this printer profile"

Currently selected ICC profile for printing the image data is not valid. Select a valid ICC profile.

"Error in initializing the TRC Curves"
"Error in reading the TRC Curves"

There was some error in reading the TRC Cures. We recommend you to check the TRC Curves file. If problem persist then restart your computer.

"Didn't got the Working RGB profile"

We recommend you to select a valid RGB profile from color management dialog box.

KDEF Related

"Media is Already Present"

Informs that an exact media is already present for the printer selected, when a new one of same name and settings is added.

"Not a valid media Info"

The settings for the media were invalid.
"Ink Type not Present"

The ink type requested is not present.

"Media Type not Present"

The media type requested not present.

"Last media entry cannot be deleted."

The media that the user is trying to delete is the last user, hence cannot be deleted. There has to be at least one media present.

"Damaged KDF File"
"KDF file for printer <printer name> is damaged"
"KDF file for printer <printer name> is empty"
"File <filename> is not a valid KDF File."

Printer definition file for the Print Pro's custom driver is damaged. Remedy is to reinstall the software.

"Not a valid paper Info"

Information provided for paper is invalid.

"Last paper entry cannot be deleted"

The paper info that the user is trying to delete is the last user, hence cannot be deleted. There has to be at least one user-defined paper info present.

"Paper Size not present"

Requested paper size is not available.

"Unable to Add/Remove paper size as other properties dependant on it."

It is not possible to modify paper info since there are other dependents on it.

"Kdef file reader has performed an illegal operation"

There was some error while interpreting the data for custom printer driver. We recommend you to save all the data and restart the application. If the problem persists then restart the computer.

Standard Error Messages

"Low on memory"

The system is low on memory.

"Error in Tiff Seperation Writer"

Error in tiff writer.

"Error while halftoning the image data"

Error occurred while halftoning the data.

"Error in color profile"

Error occurred because of some problem in color profile.

"Error in writing printer data"
"Error in transforming image data"

Error occurred while applying transformation to the image data.

"Error in initializing the TRC Curves"

TRC curves could not be initialized.

"Error in reading the TRC Curves"
"Didn't get the SRGB profile"

The sRGB profile is unavailable.

"Didn't got the Working RGB profile"

The working RGB profile is unavailable.

"No printer selected"
"No printer to remove"
"No printer is selected to be added"
"Default printer is not present in the selected printer list."

"Damaged CustomPrint.ini file"

The .ini file for Print Pro is damaged.

Resources Related

"System is low resources. We recommend you to shut down and start again."
"Low on memory"
"Not enough memory to complete the operation"

This message is issued typically when the RAM available to Print Pro is very less, or Print Pro fails to acquire the required resources to carry out the requested operation. It is a general indication of system getting unstable.

"Lower RAM than minimum required for working of the application. Upgradation of RAM suggested."

This message is issued at the time of application initialization, if the available RAM is less than that instructed to use for Image management. Remedy is to add more RAM to the system. Print Pro needs minimum of 4 MB physical RAM for its image handling system.

"Low RAM available than requested. Trying with maximum available RAM."

This message is issued at the time of application initialization, if the available RAM is less than that instructed to use for Image management. Print Pro continues initialization with whatever amount of physical RAM available.

File Reading / Writing Related

"Could not read the file. An error occurred while reading."

The file may be corrupt.

"Could not write the file. An error occurred while writing."

Disk may be full. Free some space on the disk and try again. Or you may be trying to write on a read only media.

"Unable to read/write ICC profile."

The given ICC profile may be either corrupt or may not be compatible with Print Pro.

Application Related

"Application could not be initialized properly .We recommend you to reinstall the application."

Initialization file/s may have got corrupted. Reinstall the application.

Page Layout Related

"Layout is empty nothing will be printed." or "There are no jobs in the layout to print."

Print Pro will issue this message when the page layout being printed is empty.

"The following layout(s) contain(s) screen or composites from this document. If you close this document these screens will be removed from respective layout" "DO you still want to CLOSE?"

Print Pro issues this message when you are closing an open document and jobs from that document are present inside a page layout.

"Error in rotating the image buffer for printing."

When some error occurs in rotating the image while printing the layout.

"Template file <file name> is invalid."
"Error in reading layout template file <file name>."

Template file you are trying to open is invalid or corrupted.

Section 3

PLATEN ORGANIZER

Platen Organizer

What is 'Platen Organizer'?

Platen Organizer allows to place multiple platens in a single page. Through use of platen organizer one can avoid wastage of printing material as well as time by efficient placement of platens. Platen is used to hold the print job within the platen bounding rectangle.

Platen Organizer allows you to create layout template using various page size and printer combinations as you want and that designed template is used into Print Pro to print the composed design.

To launch the Platen Organizer application click on the 'Open Platen Organizer' button in 'Layout Setting' toolbar of Print Pro as shown in below figure.

Launch Platen Organizer button in Print Pro

Another ways to launch the platen organizer is *Start > Programs > Print Pro DTG Viper > Platen Organizer*.

More details on what you can do with 'Platen Organizer'

1. Arrange platens in a single page with different page size and printer combinations.
2. Layout the platens on the page with more accuracy and ease with the help of rulers and guidelines.
3. Automatic spacing between different platens on the page at equal or any other distance as desired.
4. Layout and nest multiples copies of the original platen in fraction of a second.
5. With Multiple selections of the platens in the platen organizer, replicating each job is easy.
6. Arrange the bunch of designs in exact center of the page and also align other platens as per the focused platen placement.
7. It allows you to specify printer settings for white, black, color and dark color background garments.
8. Manage list of platens with various size as per requirement.
9. Saving/Loading of layout template.
10. Manage list of saved layout template files for quick open.

Application Window
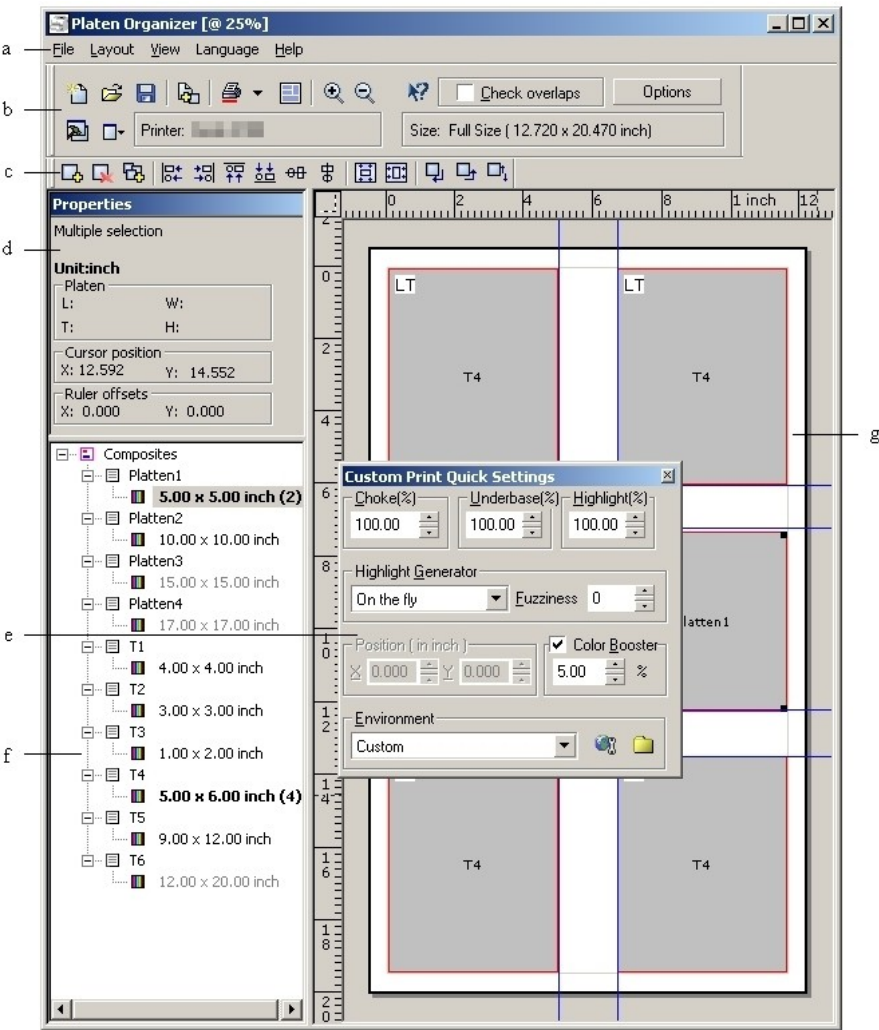
Application Window

a. **Menu bar.**
b. **Layout template setting tool bar.**
c. **Layout platen adjustment tool bar.**
d. **Job properties** view shows properties of the currently selected platen.
e. **Custom print quick settings tool bar.**
f. **Job list view** contains list of available platens to add into the layout.
g. **Layout view** is the preview of the current layout. It is the main working area of the platen organizer.

Menu Bar

List of commands offered by Application 'Menu bar'.

File Menu

The File menu offers the following commands:
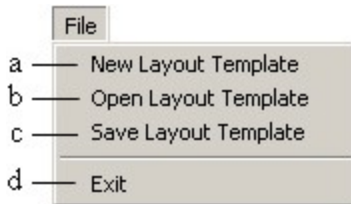
File Menu

a. **New Layout Template:** Create a new layout template.
b. **Open Layout Template:** Open a saved layout template file.
c. **Save Layout Template:** Save the designed template into file.
d. **Exit:** Exit from the application.

Layout Menu

The Layout menu offers the following commands:
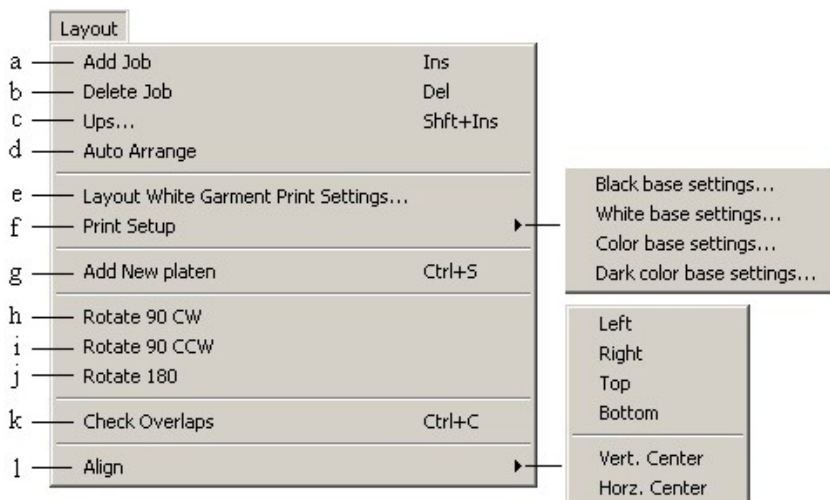
Layout Menu

a. **Add Job:** Clicking on this menu will add a single copy of the selected original platen in current Layout. Refer following figure for better understanding. If you want to add the platen two times, you have to click on this menu two times.
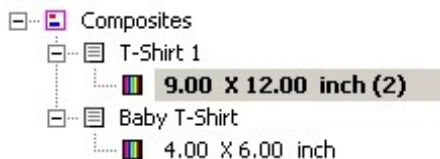
Job List

Alternatively, you can press on *'Add'* button on the page layout window to add a copy of the selected platen.

b. **Delete Job:** To delete the platens in your layout, press *<Ctrl>* and right click on the platen that you want to remove/delete from layout. The particular platen will be selected. Then, press *'Delete'*

button. The platen will be removed from the layout. You can also press the *<Del>* key.

c. **Ups:** Clicking on this menu will display following dialog box. Enter the number of copies of original platen wanted and press OK button. Automatically all the copies will be placed in the layout page immediately.
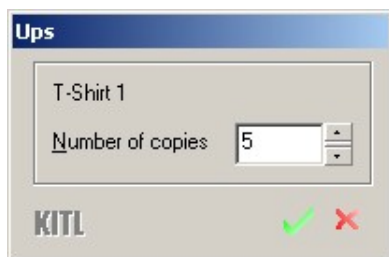
Ups Dialog Box

d. **Auto Arrange:** Selection of this menu will automatically guide the software to arrange platen in the layout while optimizing media space. Alternatively, you can right click on your layout and select the option 'Auto Arrange' from the menu bar.

e. **Layout White Garment Print Settings:** This option is allowed to change the print setup for the current background print settings.

f. **Print Setup:** Change the print setup as per the selected print background type.

g. **Add new platen:** Allows adding new platen into the job list view.

h. **Rotate 90 CW:** Rotate the selected platens in 90 degree clock wise.

i. **Rotate 90 CCW:** Rotate the selected platens in 90 degree counter clock wise.

j. **Rotate 180:** Rotate the selected platens in 180 degree.

k. **Check Overlaps:** This menu will help to ascertain if there is any platen overlaps in the current layout. When you will click on this menu, it will show message box 'Overlap found' OR 'No overlap found' for the current page layout. Refer the following figure. If there will not be any overlaps in your layout, it will show message – "No overlap found".
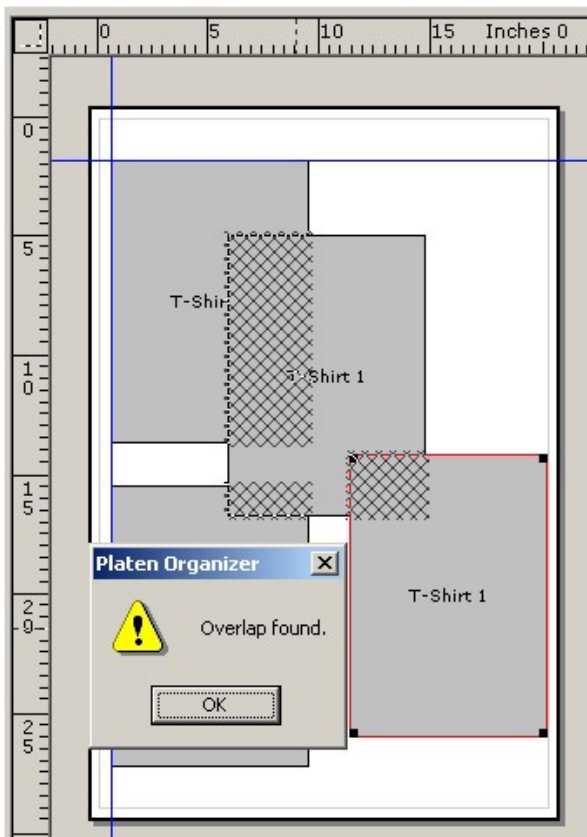
Check Overlaps

This feature is very useful when you place multiple copies of the platen in your layout and do not specify any gap in between the platens.

l. **Align:** Align selected platen left, right, top, bottom as per the focused platen. To put selected platen horizontally and vertically center in page select Horz. Center and Vert. respectively.

View Menu

The View menu offers the following commands:
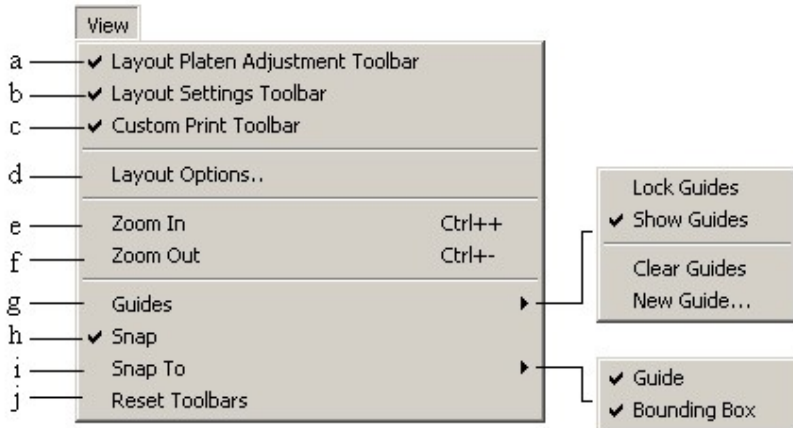
View Menu

a. **Layout Platen Adjustment Tool Bar:** Shows or hides the layout platen adjustment tool bar.

b. **Layout Settings Toolbar:** Show or hides the layout settings tool bar.

c. **Custom Print Toolbar:** Show or hides custom print tool bar.

d. **Layout Options...:** These are the various settings like spacing between the platens and color of the bounding rectangle for the platens etc. that can be specified by the user.

e. **Zoom In:** Zoom in the active design.

f. **Zoom Out:** Zoom out the active design.

g. **Guides.**

h. **Snap:** Checking this option results in snapping of the objects while dragging/moving.

i. **Snap To.**

j. **Reset Tool bars.**

Language Menu

The Language menu in the 'Platen Organiser' application offers the following commands, which enables you to run the application in different languages as per your choice:

Language Menu

As shown in the above dialog, the 'Language menu' may offer several languages from which you can select any one in which you would prefer to run the Print Pro Platen Organiser application.

Note	The *"Language Menu"* command in Platen Organiser will be available only when your version of software supports **multiple languages.** Options in this menu may differ according to the languages supported by your version of software.

Help Menu

The Help menu offers the following commands:
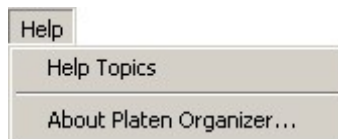
Help Menu

The Help menu offers the following commands, which provide you assistance with this application:

- **Help Topics:** Offers you an index to topics on which you can get help.
- **About Platen Organizer...:** Displays the copyright notice and version number of this application.

Layout Template Setting Toolbar
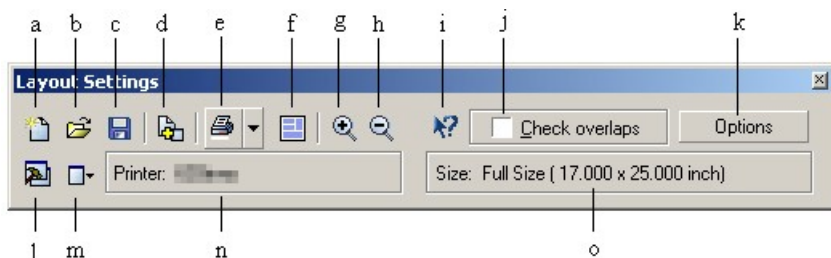
Layout Template Setting Toolbar

a. **Create** new layout template.
b. **Open** saved layout template file (*.klt).
c. **Save** layout template into template file (*.klt).
d. **Add new platen** into job list view.
e. **Change the page printer settings** of this layout. Here when you click on the arrow button the following options are shown.
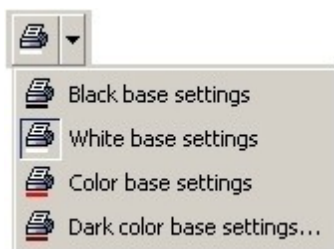
f. **Automatically arranges the present platens in the layout** to optimize the space used by them in the layout. If required it will also rotate the platen in order to optimize the space consumed. This also takes into account the default spacing between the platens as specified in the "Layout options".
g. **Zoom in.**
h. **Zoom out.**
i. **Context Help.**
j. **Check to find overlap.**
k. **Open layout option dialog**.

l. **Open layout template manager** for maintaining the templates.
m. **Opens layout template** from managed files.
n. **Currently selected printer name.**
o. **Page name and size of layout.**

Layout Platen Adjustment Toolbar
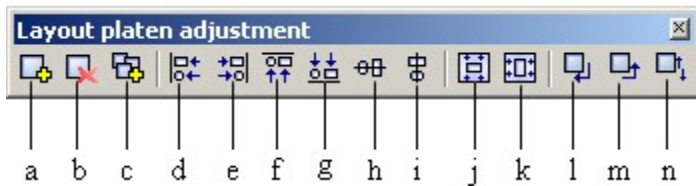
Layout Platen Adjustment Toolbar

a. **Add** a platen in layout. See 'Adding Platens into Layout' on page .
b. **Delete** selected layout platen(s).
c. **Duplicate** the selected platen(s).
d. **Align** the selected Platen(s) to the **left** of the focused Platen.
e. **Align** the selected Platen(s) to the **right** of the focused Platen.
f. **Align** the selected Platen(s) to the **top** of the focused Platen.
g. **Align** the selected Platen(s) to the **bottom** of the focused Platen.
h. **Align** the selected Platen(s) to the **vertical** center of the focused Platen.
i. **Align** the selected Platen(s) to the **horizontal** center of the focused Platen.
j. **Align** the selected Platen(s) to the **vertical** center of the page.
k. **Align** the selected Platen(s) to the **horizontal** center of the page.
l. **Rotate** platen(s) by **90 degrees clockwise.**
m. **Rotate** platen(s) by **90 degrees counter clockwise.**
n. **Rotate** platen(s) by **180 degrees.**

Custom Print Quick Setting Toolbar

Refer "Printer settings Toolbar" on page .
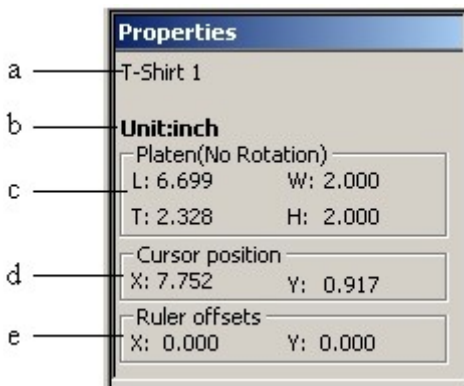
Properties View

Properties View

a. **Platen name.**
b. **Unit:** Unit in which values are shown.
c. **Left (L)-top (T) position** of the platen in the layout.
d. **Current cursor (XY) position.**
e. **Ruler offsets:** The offset of the origin of the ruler with respect to the origin of the printable area of the page (margins excluded from the physical page size).

Property window shows some important properties of the selected platen in the layout.

At the top it shows the platen name.

Then comes the unit in which all other elements are displayed. Here in this example the unit used is inch. This unit is always same as that of the layout ruler. This can be changed by right clicking on the layout ruler.

Next Left and Top offset of the selected platen is displayed. These offsets are from the left of margin and top margin of the page.

Cursor position shows the current cursor position with respect to the ruler.
The left and top offset of the current platen is also in ruler co-ordinate space.

Job List View

The job list view on the lower left side of the platen organizer shows all the available platen. This list gets updated automatically whenever you add a new platen.

Job List View

When ever platen organizer application is started, standard platens managed by user is automatically added into job list view.

When template file is opened in platen organizer, platens present into the template file are added into the job list view.

Layout View

The layout view shows preview of the current layout. This shows all the platens in the page at their respective positions. The gray rectangle inside the page indicates the page margin. Platen can not move beyond this rectangle. The margin can be changed by changing printer options.
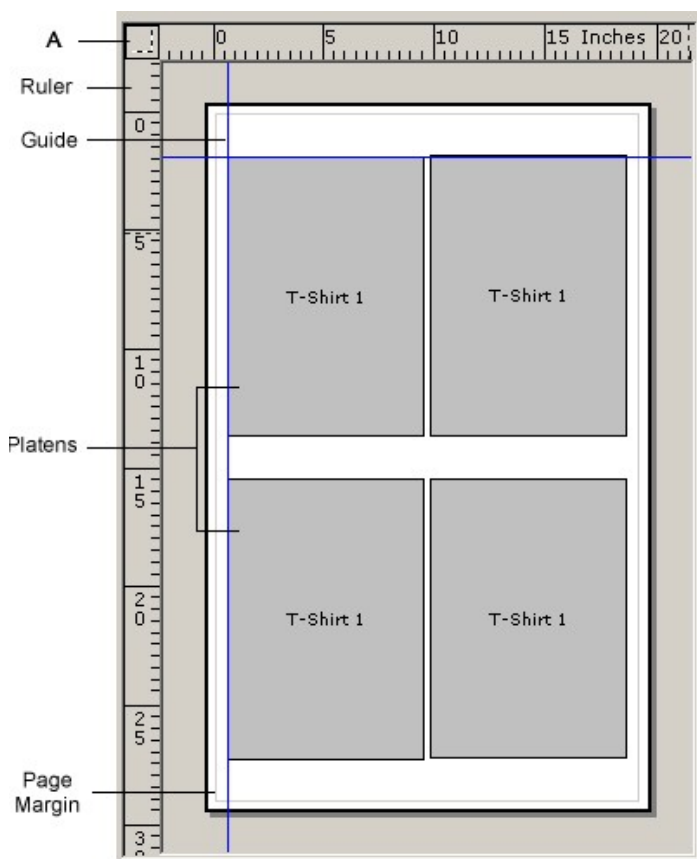
Layout View

To select a platen you can either click on the platen or use *<Tab>* key. In case of overlapped platen you can click by holding *<Shift>* key to select a platen below the selected platen.

To move a platen, drag the platen while holding *<Ctrl>* key. Or use *<Up>* or *<Down>* or *<Left>* or *<Right>* keys. You can move a copy of the selected platen by holding the *<Alt>* key.
Platen in the layout can be rotated in steps of 90°. To rotate a platen uses right click menu commands.

Initially the ruler origins are aligned with page margins (left and top). You can change this origin by dragging the cursor from the box marked as **'A'** in the figure above. To reset the origin to the left top of page margin double click in **'A'.**

To create guide Drag the cursor from the horizontal or vertical ruler and drop in position where you want the guide. You can use *<Alt>* key to rotate the guide 90°. You can also add a guide by using the menu command *Layout > Guides > Create Guides…*.

To move a guide *Drag* the guide while holding *<Ctrl>* key.

To delete a guide Move the guide out of the page. To delete all the guides use menu command *View > Guides > Clear Guides*.

Right Click Context Menu

| Layout Template | ▶ |
| Layout template manager | |

| New Layout Template |
| Open Layout Template |
| Save Layout Template |

| Add New platen | Ctrl+S |
| Delete platen(s) | |

| Black base settings... |
| White base settings... |
| Color base settings... |
| Dark color base settings... |

| Zoom In | Ctrl++ |
| Zoom Out | Ctrl+- |

| Layout White Garment Print Settings... | |
| Print Setup | ▶ |

| Rotate 90 CW |
| Rotate 90 CCW |
| Rotate 180 |

| Auto Arrange | |
| Check Overlaps | Ctrl+C |

| Lock Guides |
| ✔ Show Guides |
| Clear Guides |
| New Guide... |

| Rotate | ▶ |

Guides	▶
✔ Snap	
Snap To	▶

| ✔ Guide |
| ✔ Bounding Box |

| Left |
| Right |
| Top |
| Bottom |
| Vert. Center |
| Horz. Center |

| Align | ▶ |

| Toolbars | ▶ |

| ✔ Layout platen Adjustment |
| ✔ Layout Settings |
| ✔ Custom Print Toolbar |
| Reset Toolbars |

Right Click Context Menu

Commands	Short Keys
Insert new platen in job list view	*Ctrl + S*
Close Page Layout	*Ctrl + L*
Ups	*Shift + Insert*
Adding up platen in layout	*Insert*
Delete a platen	*Del*
Select a platen in layout	*Ctrl + Left Click on that particular platen*
Align left	*Ctrl + Left Arrow*
Align right	*Ctrl + Right Arrow*
Align Top	*Ctrl + Up Arrow*
Align Bottom	*Ctrl + Down Arrow*
Select all platen	*Ctrl + A*
Deselect all platen	*Ctrl + D*
Change printer settings	*Ctrl + Shift + P*
Check overlap	*Ctrl + C*
Zoom In	*Ctrl + +*
Zoom Out	*Ctrl + --*

List of Shortcuts

Creating New Layout Template

You can create the new layout template by using the 'New Layout Template' wizard. It will guide you throughout the wizard that how to create new layout template with required settings.

To open a layout template wizard click on the 'New Layout Template' button in layout setting toolbar or select new layout template option from the *File > New Layout Template* menu.

New Layout Template Wizard

Note	In the ongoing discussions related to the **"Creating New Layout Template"**, we can find mention of the *'Dark Color Background Settings'* in several places. This feature is marked as the 'Optional feature'. So settings related to this option may not be present in the basic version of this software.

Step 1: Define Printer Settings.

In this step specify that, how do you want to begin? By loading printer settings for all background type from existing template file or continue with the default print settings.
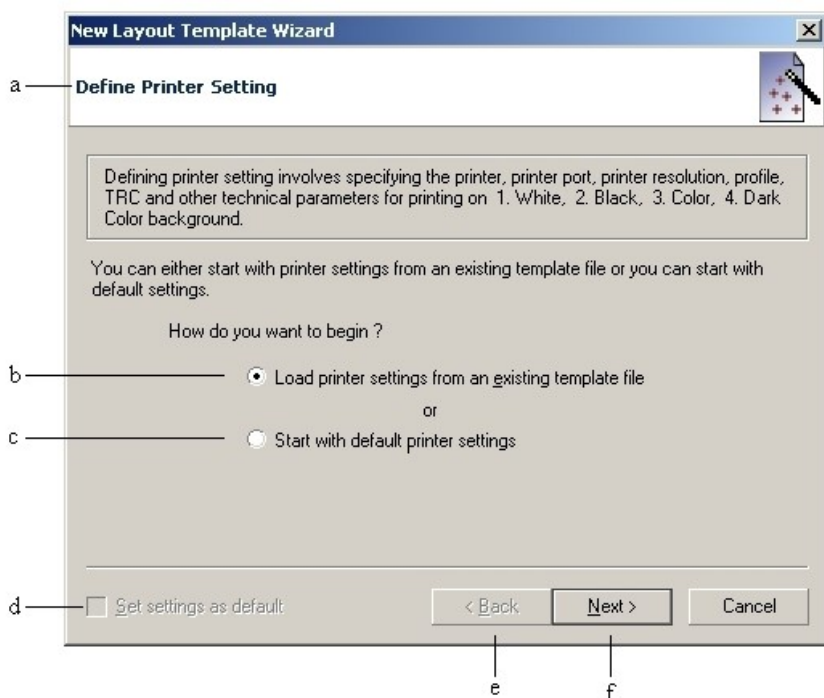
a. Showing the **short description** about the current step.
b. **Load printer settings from an existing template file:** By selecting this option you can load printer settings from the existing template (.klt) files which are previously saved.
c. **Start with default printer settings:** You can continue with the default settings which are previously saved default settings by you.
d. **Set Settings as default:** This option is used to set the configured printer settings as default for the current printer when you finished the wizard. This option will become enabled only when the last page comes. So next time print settings will be automatically loaded into wizard when particular printer is selected.

e.   Moves to the **previous step.**
f.   Moves to the **next step.**

Step 2: Loading Printer Settings from the Existing Template.

This page is visible only when you select the 'Load settings from existing template' in step 1.
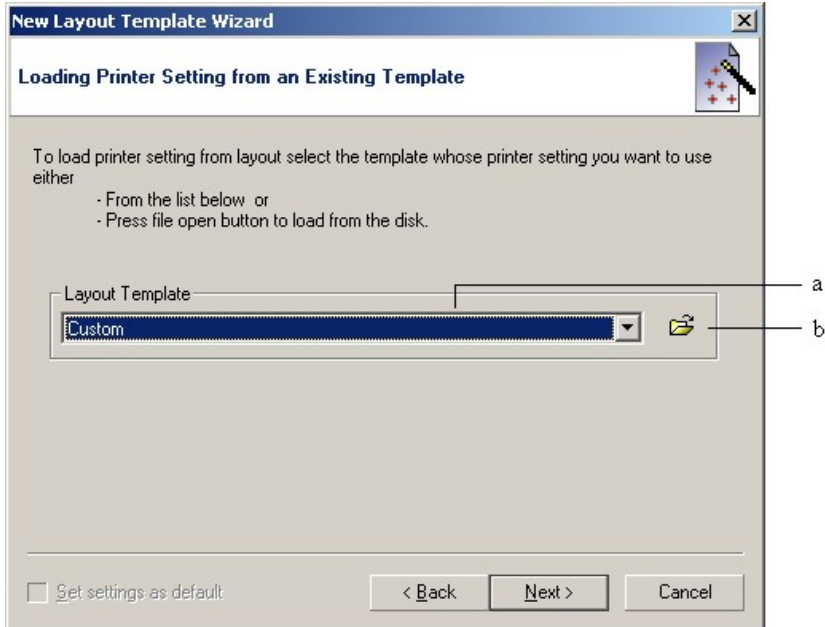
You can load printer settings of existing template (klt) file for create new wizard.

a.   List showing the **list of template file** which are managed using the layout template manager.
b.   Click on the **open** button to load template file from the disk.

Step 3: Specify Printer, Printer Port, Ink Layer Order, Feed Adjust between Layers and Platen Ejection Direction.
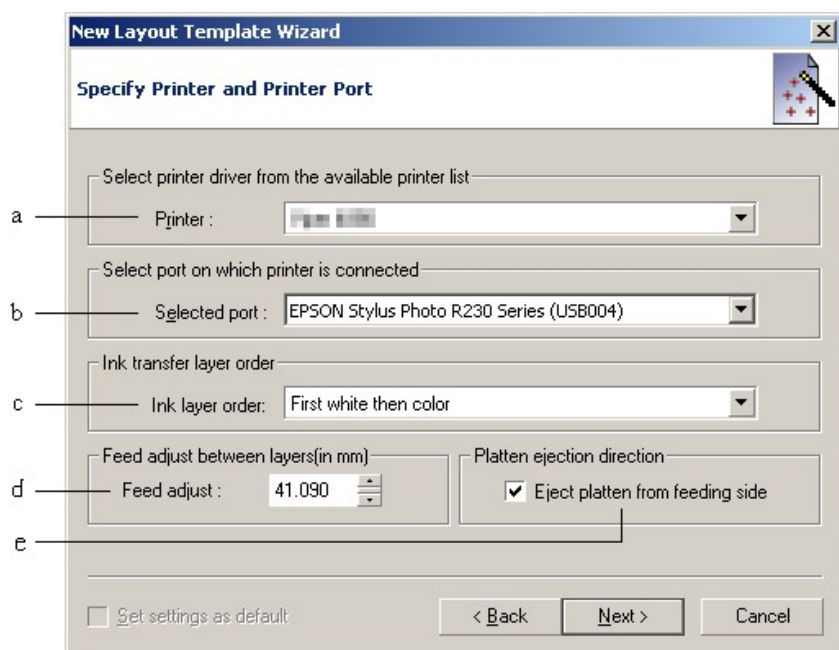
In this step you can specify the printer and port on which printer is connected.

a. **Printer:** This shows the list of available printers. When ever you change the printer, default settings for that printer is loaded.

b. **Printer Port:** This shows the list of available printer port. Select printer port from the list on which printer is connected.

c. **Ink Layer order:** It specifies the ink layer transfer order, means whether you want to print first white layer and then color layer or color layer and then white layer.

d. **Feed adjust between layers (in mm):** Specify the feed adjust between layers in mm.

e. **Platen ejection direction:** Check this box to eject platen from feeding side.

Step 4: Specify Media Size and Margins.
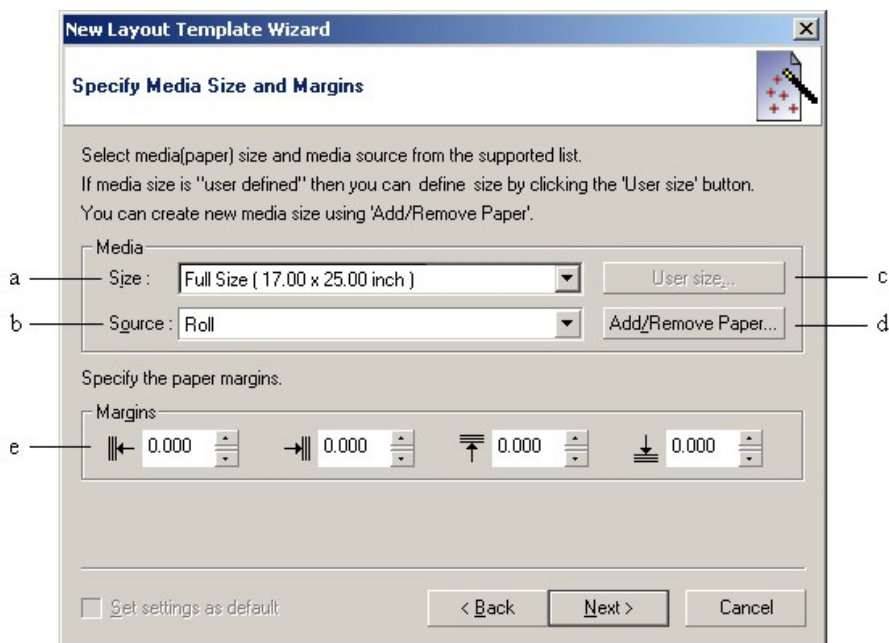
In this step you can specify the paper and margins.

a. **Media size:** This field shows the list of media (paper) supported by the printer. Here we can specify the page size we want to use. If the printer supports custom paper sizes then select one of the "user defined" paper sizes from the list whose size can be defined by the user by clicking the 'User size' button.

b. **Source:** It determines from where the media is inserted for printing.

c. **User size:** This button is enabled when the user selects "User defined" paper size from the media size list. When you click this button a dialog box appears asking for the width and height of the new media you want to create.

d. **Add/Remove paper:** This button is used to add the new paper size or you can remove the paper size which is newly added by you.

e. **Margins:** From this field you can specify the left, right, top and bottom margin for the paper. Specify margins such that they does not overlap or go off the paper.

Step 5: Specify Printer Ink Slots.
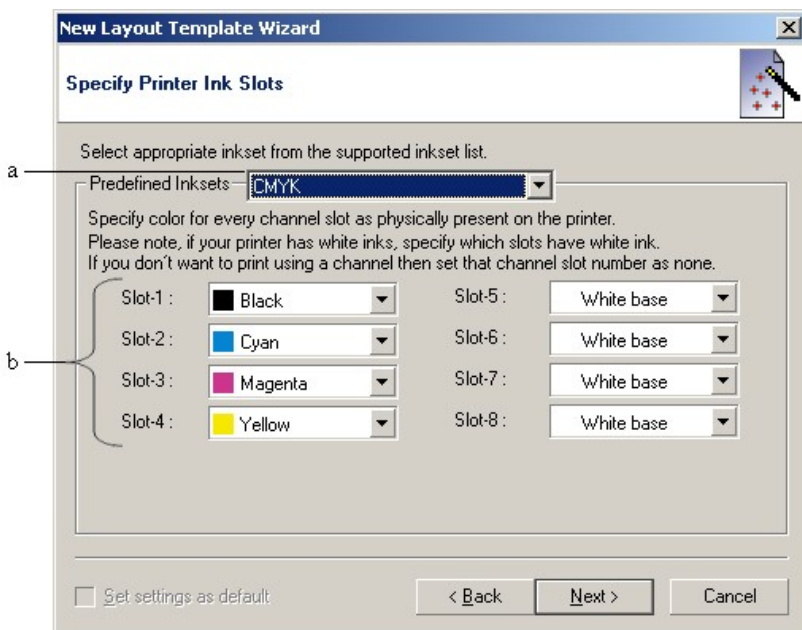
Ink assignment page contains the information about the currently loaded inkset used for printing. This page will show only the inkset which are supported by the printer i.e. if the printer is a 4 channel printer then only those inkset will be shown for which the number of inks in the inks set is equal to or less than four.

a. **Predefined Inksets:** List the inkset supported by the currently selected printer.
b. **Entries of the selected inkset**: These fields are used to specify colors for every channel slot as physically present on the printer, i.e. specify on which slot which ink is present for the concerned printer. If your printer has white inks, specify which slots have white ink. If you do not want to print using a channel then set that channel slot number as 'None'.

Step 6: Specify Media type, Printer Profile and TRC for White background.

In this step you can specify the media type, profile and TRC settings for the white background garment.
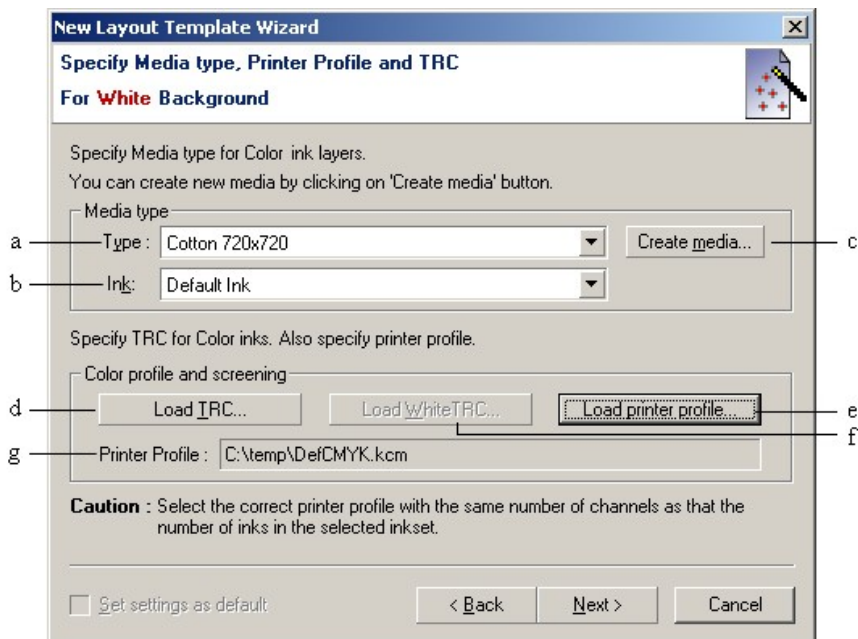
a. **Media type:** It specifies the media on which user wants to print. This can be a user created media or a predefined media. Basically by selecting a new media user selects a new ICC profile and TRC curves for printing which was selected by the user while creating that media. Media type can be dependent on ink type or can be independent depending on the printer selected. If a media type is dependent on ink type then only those media are shown which the selected ink type supports. User can still override the ICC profile or the TRC curve used by selecting appropriate files using 'Load TRC…' and 'Load ICC…' buttons.

b. **Ink type:** This field shows the list of ink type supported by the printer. Many printers have media type dependent on ink type i.e.

for one media type you may want to select the different TRC curves and ICC profile and for other ink type a different set.

c. **Create media:** This button is used to create a new media or remove a media created.

d. **Load TRC:** Use this option to change the TRC curves used for printing an image.

e. **Load printer profile:** Use this option to select a different printer profile for printing. Remember always load the same number of channel printer profile as in the currently loaded inkset.

f. **Load White TRC:** Use this option to change the TRC curves used for printing the white base for an image. For white background white TRC is not required, so this button will remains disabled.

g. **Printer Profile:** Printer profile shows the currently loaded printer profile name.

Step 7: Specify Media type, Printer Profile and TRC for Black background.

In this step you can specify the media type, profile and TRC settings for the black background garment.

In this step all the input remains same as the 'Step - 6' except 'Load White TRC…' button remains enabled to specify the White TRC for white layer labeled as 'f'.

Step 8: Specify Media type, Printer Profile and TRC for Color background.

In this step you can specify the media type, profile and TRC settings for the color background garment.

In this step all the input remains same as the 'Step - 6' except 'Load White TRC…' button remains enabled to specify the White TRC for white layer labeled as 'f'.

Step 9: Specify Media type, Printer Profile and TRC for Dark color background.

In this step you can specify the media type, profile and TRC settings for the dark color background garment.

In this step all the input remains same as the 'Step - 6' except 'Load White TRC…' button remains enabled to specify the White TRC for white layer labeled as 'f'.

Step 10: Specify Color Correction Settings for White background.
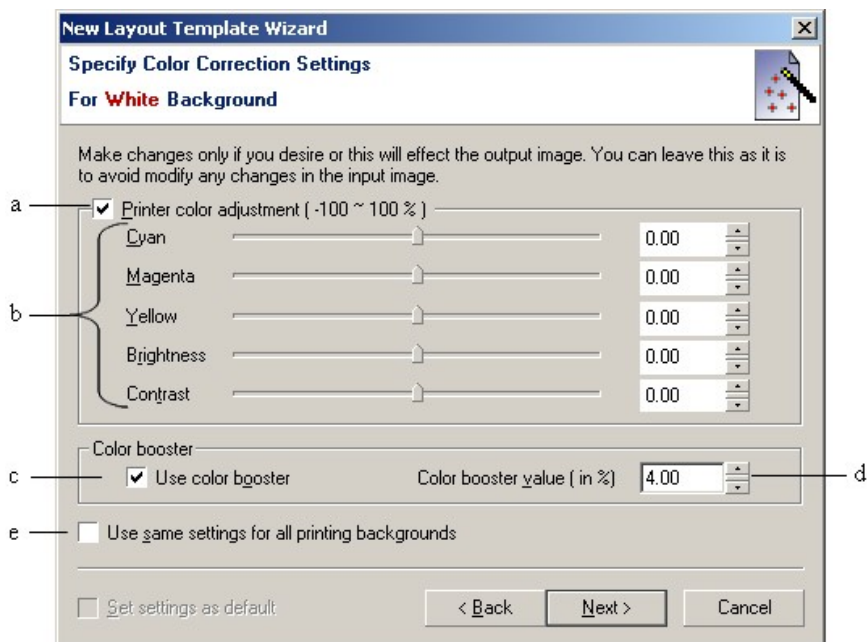
a. **Printer color adjustment:** Check this for color adjustment.
b. **Sliders** for color correction.
c. **Use Color booster:** Check this to enable color booster.
d. **Color booster value:** Adjust the percentage to increase the amount of color depth.
e. **Use same settings for all printing backgrounds:** Check this option to use same color correction settings for the white, black, color and dark color garment backgrounds.

Note	Make changes only if you desire or this will affect the output image. Leave these settings as it is to avoid modify any changes in the input image.

Step 11: Specify Color Correction Settings for Black background.

All the input remains same as Step−10 for black background type.

If you check the option 'Use same settings for all printing backgrounds' then this step is skipped and color correction settings specified in step-10 is used.

Step 12: Specify Color Correction Settings for Color background.

All the input remains same as Step−10 for color background type.

If you check the option 'Use same settings for all printing backgrounds' then this step is skipped and color correction settings specified in step-10 is used.

Step 13: Specify Color Correction Settings for Dark Color background.

All the input remains same as Step−10 for dark color background type.

If you check the option 'Use same settings for all printing backgrounds' then this step is skipped and color correction settings specified in step-10 is used.

Step 14: Specify Print Quality Settings for Color Ink layer.
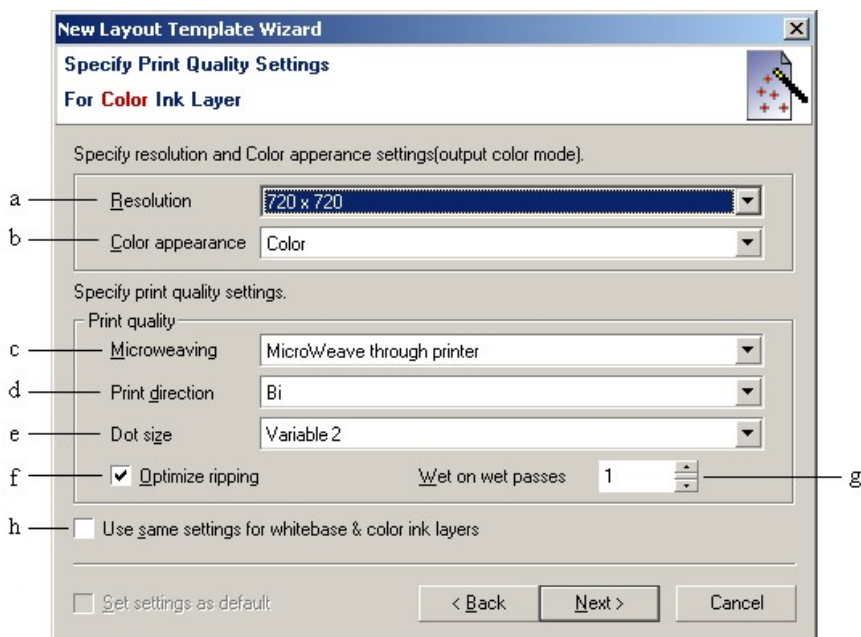
a. **Resolution:** Select the resolution at which you wish to print.
b. **Color appearance:** Select the output color mode. Colored or monochrome.
c. **Micro weaving:** This option allows the printer to generate superior output because graphics data is reordered and is printed in finer increments. It reduces the possibility of banding, the light horizontal lines that can mar an image.
d. **Print Direction:** This option allows you set the printing direction. It can be unidirectional or bidirectional.
e. **Dot size:** Using this option you can set the size of the dot for printing.
f. **Optimize Ripping:** Checking the Optimize Ripping will increase the ripping speed.
g. **Wet on wet passes:** Number of times same row to be printed.
h. **Use Same settings for whitebase & color ink layers:** Check this button to use current print quality and advanced media settings for white base and color ink layers.

Step 15: Specify Print Quality Settings for White Ink layer.

This step takes the print quality and resolution settings for white ink layer.

The user interaction will remain same as step-14 except 'color appearance' labeled as 'b' is remains disabled for white ink layer.

This step is skipped if 'Use same setting for whitebase and color ink layers' labeled as 'h' is selected.

Step 16: Specify Advanced Media and Dry Time Settings for Color Ink layer.

a. **Banding correction:** Perform settings for media feed compensation. This corrects the errors in the amount of feed of the grit rollers due to the type of media used. Correcting the amount of feed improves the dot positioning accuracy in the feed direction, which can help in enhancing the image quality.

b. **Layers count:** Enter the no. of layers of white under base or color data to be printed depending on the option selected currently.

    c.   **Dry time per scan:** Specify the time (in milliseconds) for which the head waits before printing each line.

    d.   **Dry time after print:** This setting allows the control of the amount of time (in seconds) after which the next layer is printed.

Step 17: Specify Advanced Media and Dry Time Settings for Whitebase Ink layer.

This step takes the advanced media and dry time settings for whitebase ink layer.

The user interaction will remains same as step-16.

This step is skipped if 'Use same setting for whitebase and color ink layers' is check in step-14.

Step 18: Specify Strength and Highlight Generator Settings for Black background.

Strength option is to control the amount of application of each individual option. 0% means no strength and 100% means full strength. In past whatever you may have created and used with the software was at full strength i.e. 100%. Now you could control the application of the amount of the feature.

Specify Strength and Highlight Generator Settings

For Black Background

These settings required only when printing with white inks.

Specify strength option to control the amount of application of each individual option. 0 means no strength and 255 means full strength.

Strength (in %)

a — Choke   100.00

b — Underbase 100.00

c — Highlight 100.00

Specify the Highlight generation type and fuzziness as per generation type.

Highlight generator

d — Generation Type   On the fly

e — Highlight fuzziness 15

f — Set settings as default   < Back   Next >   Cancel
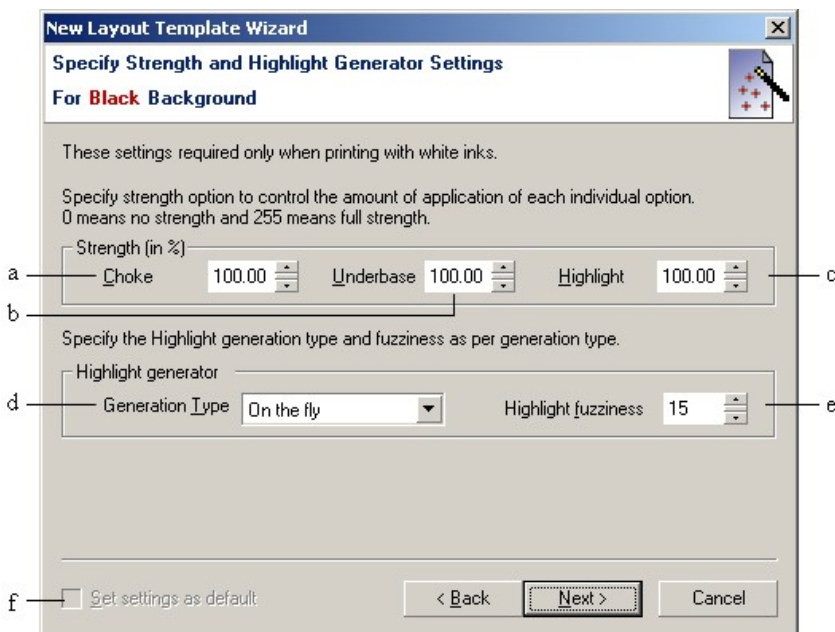
a. **Choke mask strength:** Used to control the strength of the choke mask channel. For example if you use the Choke Strength to be 50% then the choking will be applied by 50% amount of the gray value in the corresponding channel.

b. **Underbase strength:** Used to control the strength of the underbase channel. For example if you use the Underbase Strength to be 50%, the underbase that will be printed will be half the strength that otherwise would be printed when this value is 100%.

c. **Highlight strength:** Used to control the strength of the highlight channel.

d. **Highlight Generator:** There are four options,

1. **None:** When you do not want to apply highlight generator, select 'None' from the dropdown list.

2. **Channel Based:** Channel Based Highlight option will work as usual using the channels. Fuzziness value is disabled and ignored.

3. **On the fly:** The RIP will generate the white highlight on the fly during ripping using the fuzziness value that you supply there. This will ignore any highlight channel set

otherwise in the channel palette. The fuzziness value works similar to the highlight channel creation option.

4. **Combine:** The RIP will generate the white highlight on the fly during ripping using the fuzziness value that you supply there and will combine it with the highlight channels set in the channel palette. The fuzziness value works similar to the highlight channel creation option.

e. **Highlight Fuzziness:** The fuzziness value works similar to the highlight channel creation options. This will be disabled in the case of Channel based Highlight generator.

f. **Set settings as default:** Check on this button to set currently configured printer settings as default the selected printer. Whenever you change the printer during new layout creation dialog these settings will be automatically loaded. This option will be enabled in the **Next** (or in the **Last** step depending on your version of software) step.

Step 19: Specify Strength and Highlight Generator Settings for Color background.

In this step specify the Strength and Highlight generation settings for Color background.

All the controls for input will remain same as 'Step-18'.

Step 20: Specify Strength and Highlight Generator Settings for Dark Color background.

In this step specify the Strength and Highlight generation settings for Dark Color background.

All the controls for input will remain same as 'Step-18' except 'Set settings as default' will become enabled in this step, labeled as 'f'.

Adding Platens into Layout

By using menu command *Layout > Add new platen*, you will get an 'Insert Platen' dialog to add new platen. This will add new platen into the job list view.
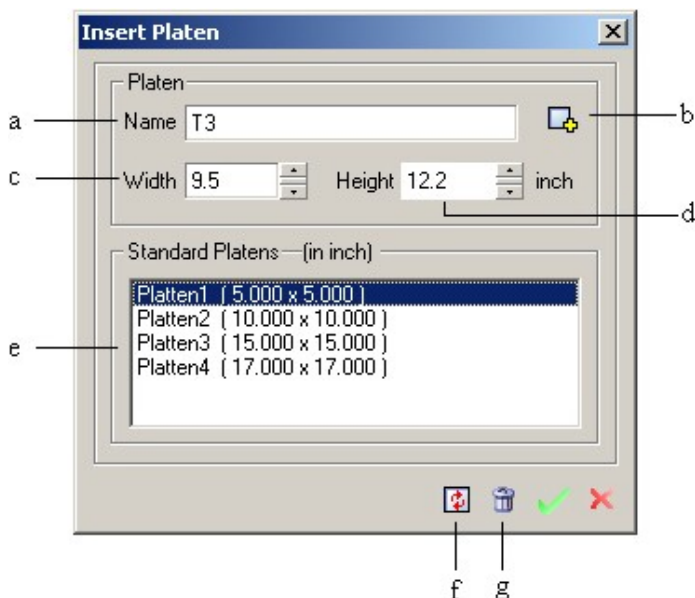
Insert Platen Dialog Box

  a. **Platen name:** Platen name should be unique; otherwise new platen is not added into job list view.
  b. **Add** current platen info into the standard platen list.
  c. **Width of platen:** This should be up to maximum allowed paper width for current printer.
  d. **Height of platen:** This should be up to maximum allowed paper height for current printer.
  e. **List** of the available **standard platens.**
  f. **Reset** standard platen list with **factory defaults.**
  g. **Delete** selected platen from **standard platen list.**

You can add new platen into page as follows:

1. By **double clicking** on the appropriate job from the list on the left pane.
2. **Selecting** the job and clicking **'Add'** button on the layout tool bar.
3. **Selecting** the job and pressing *<Enter>.*
4. By **dragging** the job from job list view and **placing** into the layout view.

Note	If the platen cannot be accommodated in the page in erect position, it tries to put it through 90° rotation. Rotated platens are indicated by vertically displayed platen names.

Note	Standard platens are automatically added into job list view when application starts.

Placing a Platen in Layout View

Adding a platen places it at the first location on the media where it can fit it in an optimized way. Then you can move it to anywhere within the margins of the page.

Use zoom-in and zoom-out commands on the layout tool bar to get a proper view of the page in use.

To move a platen by using the keyboard, you need to select it first. Then use the arrow keys in your keyboard to move the selected platen in appropriate direction. For faster displacement, use *<Shift>* key in combination with these keys.

If you want to use the mouse, pressing *<Ctrl>* key, click the left mouse button inside the desired platen rectangle and drag it with mouse button still down to the location of your wish.

While dragging a platen if its edge reaches near enough to an edge of another platen, the other platen attracts it and tries to place it as closer as possible without overlaps. (This is done to save printing material). If you want to override this snapping feature then use *<Shift>* key while dragging and place the platen anywhere you like.

Note	Platen Organizer constraints the placement of the platen within the margins of the page.

Selecting a Platen in Layout View

Using Keyboard:

You can navigate through the platens by pressing the *<Tab>* key. Press *<Shift> + <Tab>* to navigate in the opposite direction.

Using Mouse:

Click inside the rectangle that represents the desired platen. Press *<Ctrl>* key along while clicking to select a platen that is hidden (overlapped) by another platen.

Selecting multiple Platens:

Press *<Shift>* key along with *<Ctrl>* and mouse click to select multiple platens. You can also use <enter> key while moving between the platens using the *<tab>* or *<shift>+<tab>* key to make multiple selections.

You can also use *<ctrl>+<A>* to select all the platens in the layout. You can use *<ctrl>+<D>* to deselect the platens.

You can also select multiple platens by drawing a selection rectangle starting form the blank space in the layout while holding the *<ctrl>*key down. All the platens having **at least 8% of their area** in the selection rectangle get selected.

You can also toggle the selection status of the platens inside the selection rectangle by holding the *<shift>* key down in the operation as described above.

Checking for Overlaps

Platen Organizer offers automatic checking for overlaps between any two platens of a layout. To use page optimally, platens should be placed as near as possible. But while doing so sometimes a platen may be placed over another.

Check 'Check overlaps' on the layout tool bar to prevent such catastrophe. Overlaps would be highlighted in real time (as you move a platen) by crossed hatch marks over the overlapped area as shown in the Figure below. You can also use *Layout > Check Overlaps* to check current overlap status (this is a one time checking as against real time checking).

Note	If Overlap is present then you are not able to save the layout template.
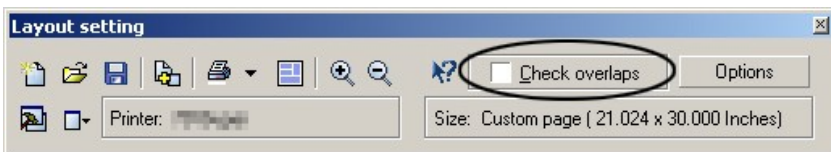
Check Overlap Button

It can also issue warnings about overlapping of platens visually in real time if you want.

When you will check the for the overlap region, it will show message box 'Overlap found' OR 'No overlap found' for the current page layout.
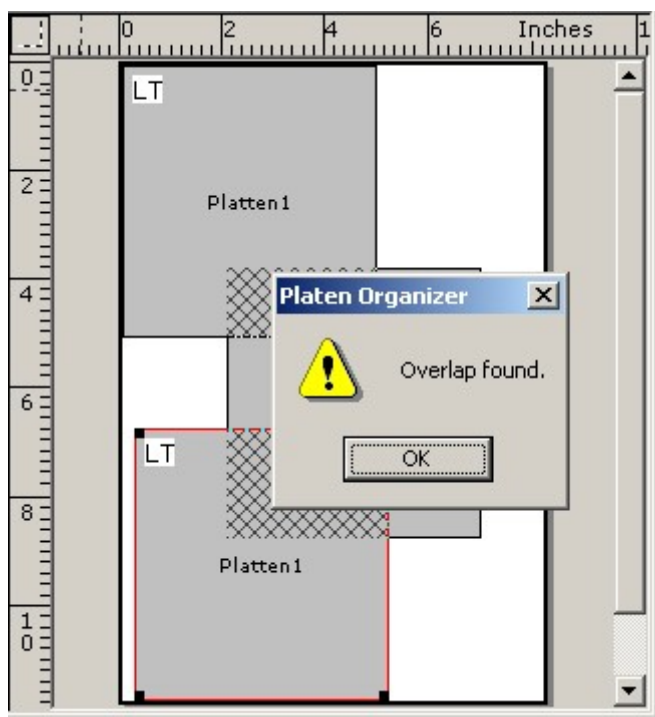
Overlapped Platens

Auto Arrange

Platens are placed in the layout one after another as you keep adding. But they can be arranged in the layout such that their cumulative area is minimized.

The auto-arrange command tries to arrange all platens in such a way that they occupy minimum printable area.

The space between two successive platens can be set from *View > Layout Options….*

Snapping

To place platens and guides easily Platen Organizer snaps the moving platen or guide to the nearest hot edge.

In case of guide movement this hot edge is the nearest border or halfway mark of a platen.

In case of platen movement a hot edge is the nearest edge of another platen or a guide.

This snapping facility for the current moving object can be overridden holding *<shift>* while dragging the object (a platen or guide.)

If you don't want snapping by default, check off menu command *View > Snap*. Checking this command again will enable snapping.

You can also switch off snapping with platen bounding box and guides individually. Use menu command *View > Snap To > Guide* switch on/off snapping with guides. Use menu command *View > Snap To > Bounding Box* switch on/off snapping with platen bounding boxes.

Layout Template

Layout template is all about saving of the multiple platens in a single page with printer settings and placement positions that you made for each base type, with or without guidelines. Place the multiple platens in a layout whose width and height is defined by you.

Save the layout using "Save layout template". This can be achieved from the following ways:

Save Layout Template Option

a. **Right clicking layout** will pop up the context menu in which Layout template will help you to save the layout or from the main layout menu *File > Save Layout Template* will help you the same.
b. By using the **Save** button of Layout setting tool bar.

While saving the layout template following requirements should be fulfilled.

1. No **overlap** should be present into layout.
2. **Printer settings** for each printing base type should set appropriate as per the printing background type for color data and white data.

It saves the template file with *.klt *(Kothari layout template)* extension. It saves the printer settings, guidelines and platens with their positions.

Open layout template from file using "Open Layout Template". This can be achieved from the following ways:
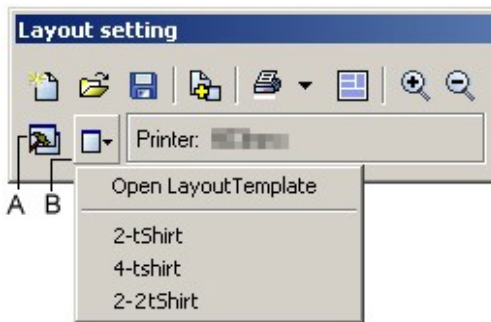

Open Layout Template Option

1. Click on **open** button in **Layout setting tool bar.**
2. From **right click context menu** select *Layout Template > Open Layout Template.*
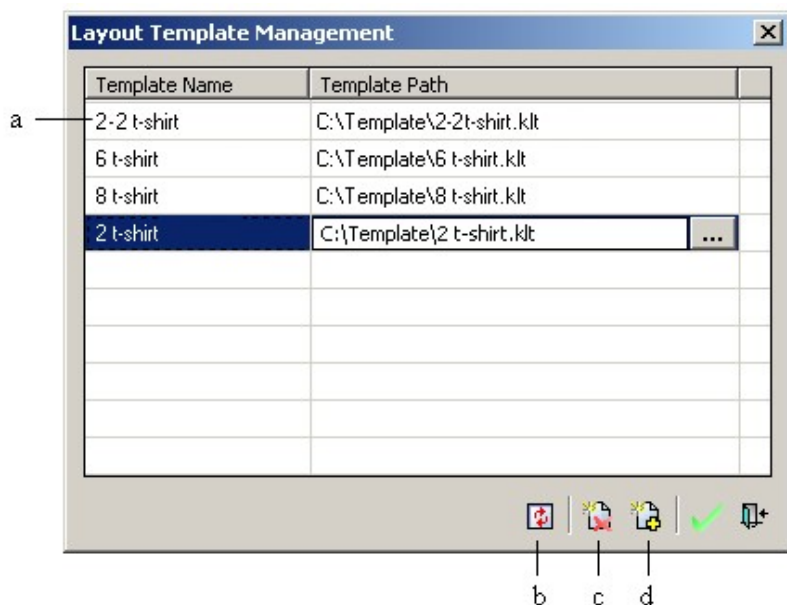
Layout Template Management

Layout template management feature allows you to manage list of saved layout template file for quick access.

When ever you click on the button layout management button in layout setting tool bar, shown as 'A', it will show the following dialog for maintaining the template file list. Managed list of template is shown in pop up menu when you click on button shown as 'B'.


**Template Management in Layout Setting Toolbar**

Layout Template Management Dialog

    a. **List of managed template files:** It shows Template name in first column and template file path in second column. You can edit the information by double clicking on the item. When you double click on template file path column it shows edit box with browse button.

    b. **Reset** layout template management info to the **factory defaults.**

    c. **Delete layout template:** To delete the selected layout template information.

    d. **Add new layout template:** To add new layout template information.

Right clicking in the list will display the following menu which allows you to add or delete entries.
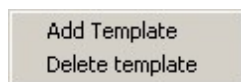
Using Layout Options
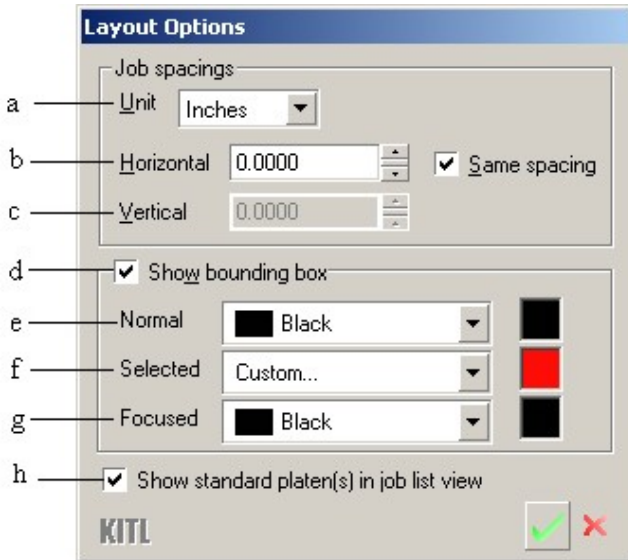
Layout Options Box

a. **Unit:** Unit of displayed job spacing values.
b. **Horizontal:** Default horizontal spacing desired between the jobs in the layout.
c. **Vertical:** Default vertical spacing desired between the jobs in the layout. If same spacing button is checked then vertical spacing set same as horizontal spacing.
d. **Show bounding box:** Check to show bounding box around the platen.
e. **Normal:** Non-selected platen bounding box color.
f. **Selected:** Selected platen bounding box color.
g. **Focused:** Focused platen bounding box color.
h. **Show standard platen(s) in job list view:** If this option is unchecked then standard platens will not be added into the job list view when application starts or new template is created.

When the number of platens exceeds the page size in a page layout, further platens can only be added after resizing the page. Auto resizing is available for only those printers, which supports it.

Appendix A

Glossary

Calibration

Adjusting the instrument so that it produces accurate and consistent results.

Channel

Equivalent of a printing plate.

CMYK

It is a color space comprising of four inks Cyan, Magenta, Yellow and Black based upon subtractive color mixing theory.

Color separation

Process of converting a color image into one or more color plates is called color separation. These plates would then used for reproducing the original color image on a press.

Densitometer

It is an instrument for measuring the gray density in an area on the film.

Dot gain

The change in the size of a printing dot from the film to the printed sheet, usually expressed in terms of percentage.

Gamma

A numerical value use to represent the non-linear response curve of an output device to light intensity.

Gray scale

Shades between black and white colors.

Interpolation

Interpolation is a process useful in generating the missing information from the given data samples. Alternatively in the context of images, interpolation is addition of pixels between others, usually done when enlarging the bitmap.

Pixel

It is the smallest addressable unit on the printer/monitor.

RGB

It is a color space comprising of three basic primaries Red, Green and Blue based upon additive color mixing theory.

Resolution

Resolution is usually defined as the number dots in a linear inch (DPI).

Threshold

This is a level, below which all pixels are considered as black and otherwise as white.

TRC compensation

Tone Reproduction Curve compensation. Process of compensating for tonal gains/losses during printing.

Wedges

Gray scale ramp varying from 100% black to 0% black, changing with predefined steps.

White Highlight

A white highlight is generally the area in the image which is either white or is close to white.

White Underbase

The white mask that is printed using white ink over the printing base on which color data will be printed during subsequent pass.

Appendix B

The length that can be output by Print Pro on your printer using Windows Printer Driver is a function of two variables. The resolution at which you want to print and the version of Microsoft Windows you are running Print Pro on.

Windows 95, 98 or ME puts the limitation of the maximum number of pixels that can be addressed on the printer to 32767. Let us call this as addressable length X. If you were printing on a printer with a resolution of Y DPI (dots/pixels per inch), then it would translate to X/Y inches in physical terms. For example, if you are printing on a 300 DPI printer the maximum length/width that can be printed on a page is 32767 / 300 inches or approx. 109.223 inches.

Windows NT or 2000 puts the limitation on maximum number of pixels that can be addressed to 2147483648 pixels. This would mean that on the same 300 DPI printer you can print a length of up to 2147483648 / 300 inches or 7158278.826 inches approx.

Not only the above limitation, but there is another limitation which is enforced by the common dialog library of Windows on the reported page sizes by them. This size is limited to 129 inches in width and height. On all the Windows 95, 98 or ME and Windows NT or 2000 this limitation is applicable.

The above discussion is true for both Non-Postscript and Postscript printers when printing is done through Windows GDI. Print Pro uses GDI for communicating with the printer. Postscript printer tries to solve the issue by dividing the reported printer DPI by 2 till the resulting number of pixels remain well within the range, but the limitation on the paper size reported still remains.

You can still have any size plots from Print Pro by the help of its pagination feature, which of course needs to be stitched together.

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