

*directPRINTpro* ver 1.0

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## General Description directPRINTpro

The application directPRINTpro should support the user in a comfortable way printing his TIFF-Files to Windows-GDI-Printers.

directPRINTpro opens a specified TIFF-File, modifies then, assisted by special re-sampling filters, the resolution of the raster graphic to the resolution of the destination-printer and outputs the result of this operation to the specified printer.

Alternatively it is possible to output the raster-graphic-data to a specified file. The generation of file names could be influenced by macros.

TIFF-graphics should be printed to scale 1:1 – other scale-factors or other adaptations to the output should follow in further releases.

It is an option for the user to print a specified header on every TIFF-graphic. The position, font and content of the header are defined by the user - direct or influenced by macros.

To support the Windows spooling system and to achieve a higher throughput and better performance for very large (max. 2400 dpi, up to 5m x 6m, 24 Bit) printing-jobs an own Spooling system is integrated into the application. The Window spooling system is preceded by this own Spooling system. Thus the own Spooling system provides for an optimal system utilization at large amounts of data.

With regard to performance the access to large TIFF-graphics, e.g. Multi-paged-TIFF, is partial, i.e. the application reads only the data for an operation, not the whole TIFF-file.

The application directPRINTpro is integrated into the context-menu of the windows-explorer, i.e. the output of TIFF-graphics could be initiated directly from windows-explorer.

If directPRINTpro should be used in automated environments or should be used in conjunction with a document management system (DMS), it is an option to use the batch-mode. The batch-mode allows to fully controlling the application directPRINTpro via the command line and thus requires no further user interaction.

In this context it is very important that the application delivers evaluable return codes and thus the user or script is able to check the correct processing of operations and do further actions accordingly to this result.

Even print preview - with or without title is possible for the selected images while printing.

In addition, run-time messages (positive/ negative) from the application are logged either to the Windows Event Log or specified log files.

## Install directPRINTpro

The installation of directPRINTpro will be executed by an installation program. The setup has been created using Install Shield software. In case of windows 7 and Vista try to execute the setup using run as administrator option which pops up on right clicking the setup.

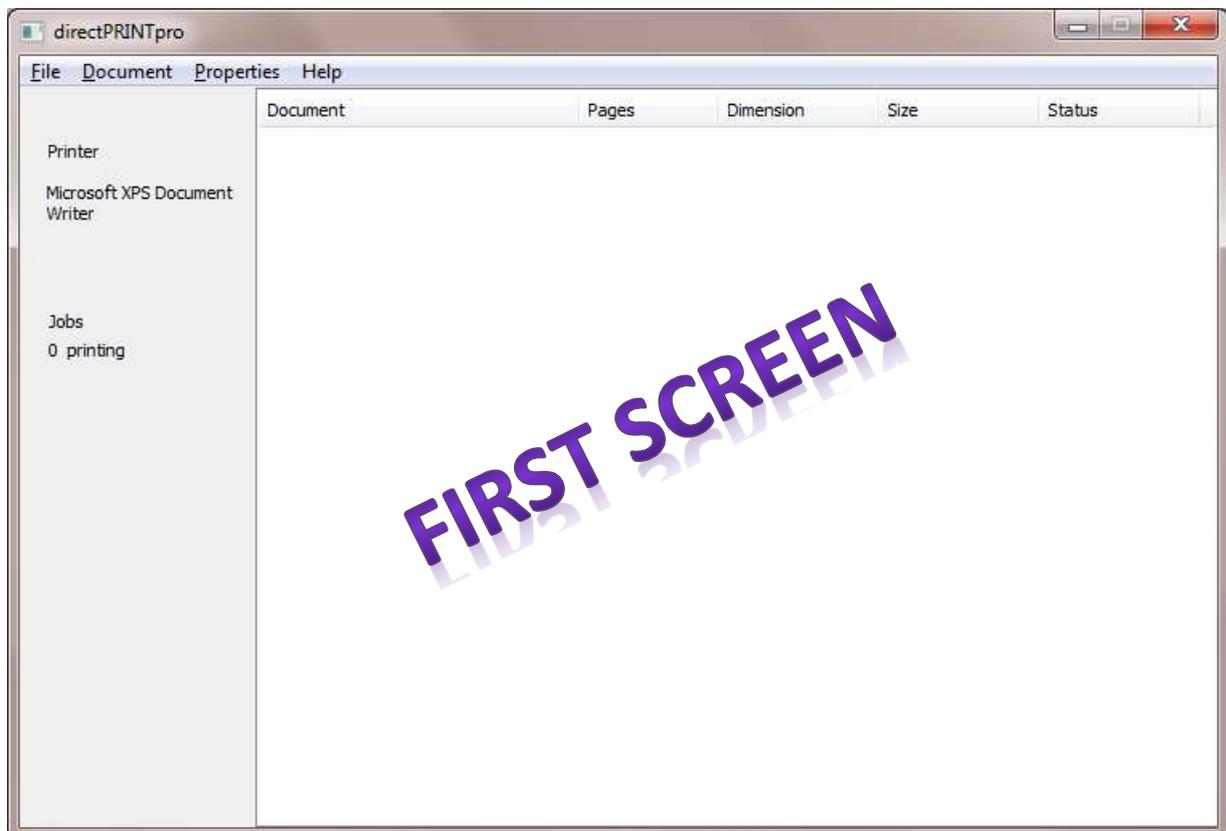
## Uninstall directPRINTpro

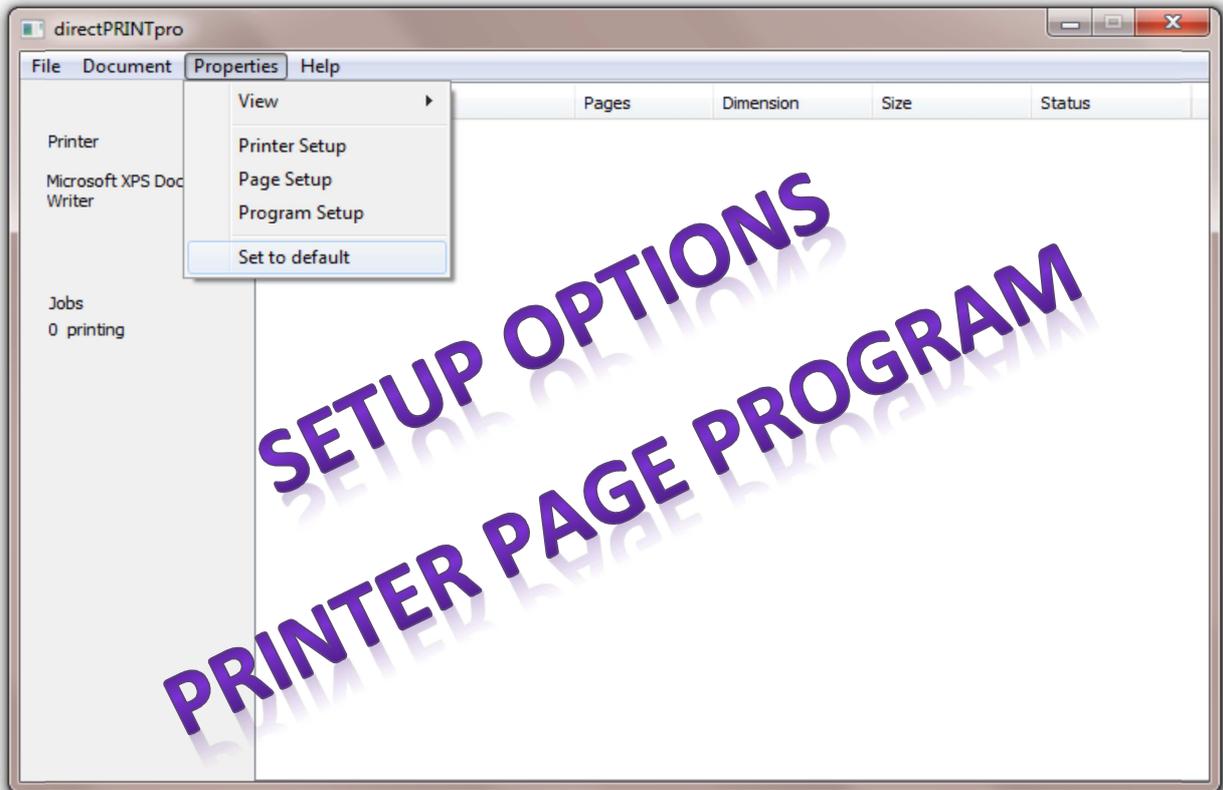
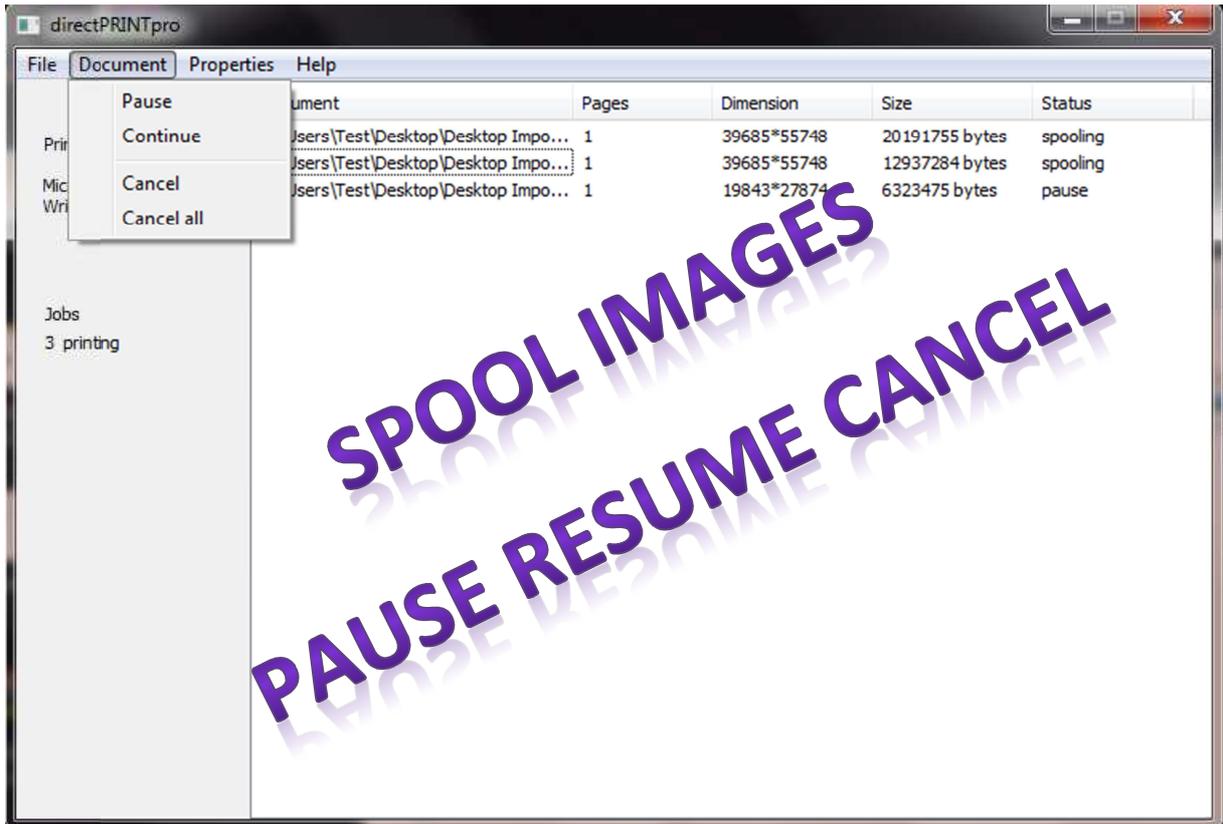
To uninstall directPRINTpro follow the Windows instructions opening Windows "Start - Settings - System control". Go to "Software" respectively "Programs", select "directPRINTpro" and execute command "remove or uninstall program".

## Registration Module

This is limited period application for trial. Registration module is yet to be implemented. For the time being this application will work till this year end.

Enjoy Trial!!





## Page Setup

User can adjust image positions for print area in main menu "Properties - Page Setup".

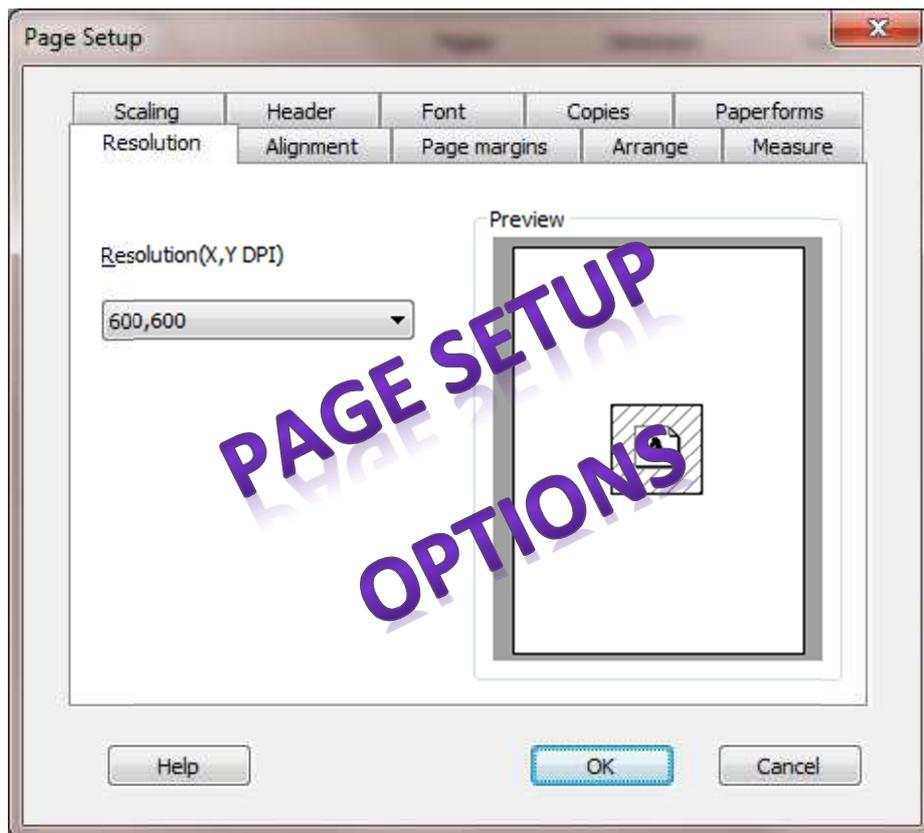
It has following options (can be enabled by pressing the tabs).

### Paper forms

User can select any paper format supported by the printer in the list "Preferred Paper Form".

In the list Alternative Paper Form user may select several paper forms by checking the checkbox at the left side. For every page printed the size of the content is checked against this list of allowed paper forms and the best fitting form is selected.

The column Paper shows the paper name as provided through the printer driver. The second column Size indicates the physical paper size in mm.



## **Alignment**

User can select the portrait or landscape format for TIFF image. At this point the printer is instructed to use the appropriate paper grade or to convert print image accordingly. Select the option Automatic for best possible paper orientation. In this case chosen paper format and TIFF image will be compared and if, e.g., the image's width exceeds its height and the sheet's height exceeds its width, directPRINTpro will automatically select landscape format.

Option Rotation allows rotation of the image during preprocessing. Printing data according to selected alignment of portrait or landscape format will be sent to printer. However, the image content can be printed subject to a value of rotation. The option "Automatic" allows the program an independent selection of settings between 0° and 270° trying to fit the image at its largest size into the sheet.

## **Page Margins**

With entries top, bottom; right, left user can set page margins in mm. The values will be measured from the physical margins of the sheet. Image will be adjusted for printing within these margins. As soon as your cursor leaves the entry box your settings are assumed and shown in the preview.

Irrespective of the page margins you can set position of header (spacing from edge) entering a value into header field. Left and right margins of header are equal to those of the page setup.

## **Arrange**

Images can be positioned relatively on a page with help of the ruler bars position horizontal and position vertical.

## **Measure**

Option object scale (Best-FIT) provides a best possible fitting of images into a page. Thereby all the "Scale" options will be considered and a pixel-to-pixel scaling accomplished. The resolutions of both the output device and the image file are ignored. This option provides best output quality.

Option Objects without measure allows entering a resolution in DPI (Dots per inch). That chosen resolution will be applied if the printing object does not contain any indication to printing resolution.

## **Scaling**

User can enter a scale factor ranging between 1...100000 % to input field Scale. The scale factor may, however, be modified by options as follows. In case of measured printing a scale factor other than 100 % modifies the original size of a document.



Option Oversized objects specifies the treatment of images that appear too large for the print area after scaling. Select Fit to page to print the entire image and scale factor will be adjusted accordingly. Select Scale and crop to keep scale measures and print image without parts cropped before. In the menu you can determine exact positioning (top left, top right, bottom left, bottom right, center) of image to be printed.

The option Undersized objects specifies the treatment of images appearing too small after scaling. Select Scale to apply the scale measures chosen. Select Fit to page to increase and fit image to the area available for printing. You can limit the factor of increasing by entering a value in per cent to the input field Maximum increase. This is to prevent small images from distorting above average. Undersized objects will be positioned on a page as determined in the register "Arrange".

Measured printing: In case of "printing objects measured" you need to adjust only one option for oversized objects. All the other options are disabled. In the menu Scale and crop you can select the alignment of the image to a page margin while parts overlapping other edges will be cropped.

## **Labels and Heading**

Option Header enables an information line similar to the header of a fax document. Click the panel Default to activate default header.

The textbox is to create macros for header. Several parameters and formatting options are available and applicable by the content and tab panels.

User may select further properties of the headline in the Tab "Fonts".

## **Font**

The properties of the tab Fonts affect the font of the headline macro printed. The option "headline" in the tab "headline" must be enabled in order that any changes take effect.

The option Dither colored text is been used only for monochrome output. If a text color other than black has been selected, then the drawing color will be approximated by "dithering". Using large font sizes a transparent and smooth font impression is archived. If the font sizes are too small, then the printed text may be difficult to read. If this option is disabled, the text will be printed always full black during monochrome outputs.

The option transparent text creates labels with a transparent impression. If this option is disabled, the whole background of the label printed is deleted to white.

The option outlined font draws all text symbols outlined (unfilled).

The option Surround white borders improves the readability of transparent text. A small white border line will be drawn around the characters in order to increase the so called color distance between text and document content.



Field Font indicates the font selected for header. By clicking panel Modify you access a dialog to select font type, font size and font color. All scalable Windows fonts can be selected for printing as well as underlined, bold and italic fonts.

### Copies

The input box Copies selects the number of copies. The option Per-Page creates a copy for every page, e.g. for carbon copies. This is the fastest print option for multiplication.

### Resolution

In the list Resolution user can find all the available resolutions of your printer in DPI (Dots per inch, 1 in = 25.4 mm).

Horizontal resolution first, followed by vertical ones.

## Program Setup - Resampling Filter

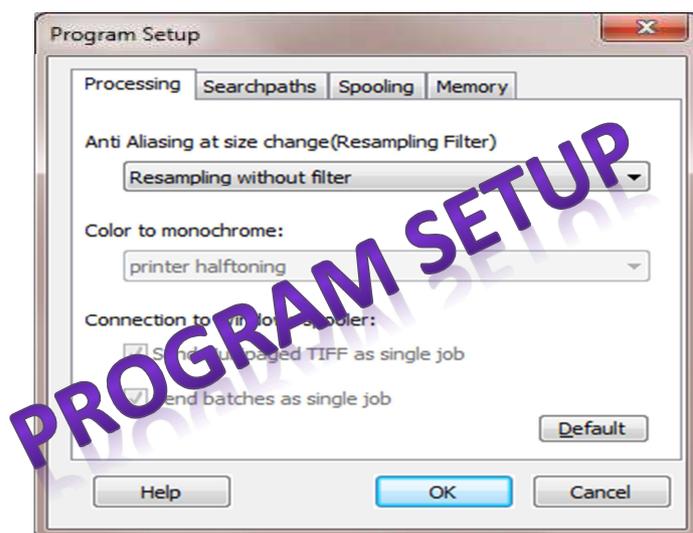
directPRINTpro provides several filter types which can be specified in program settings. The following list of optional filters is to imply how contrasts can be raised and true colors reduced.

### Resampling Without Filter

This method works according to Microsoft Windows. Select this option for an output identical to the Microsoft operating system or to print monochrome images.

### Rectangle Filter (Reduce Contrast)

It is a simple filter to reduce contrasts. Some fine lines may disappear.



**Bilinear Filter (Smudging)**

It is used to reduce contrasts. Fine lines may sporadically disappear.

**Hermite Filter (Hold Contrast)**

It is a filter type to adhere original contrasts by allowing minor deviation of colors.

**Bell Filter (Hold Details)**

It is commonly used filter providing average quality.

**Spline Filter**

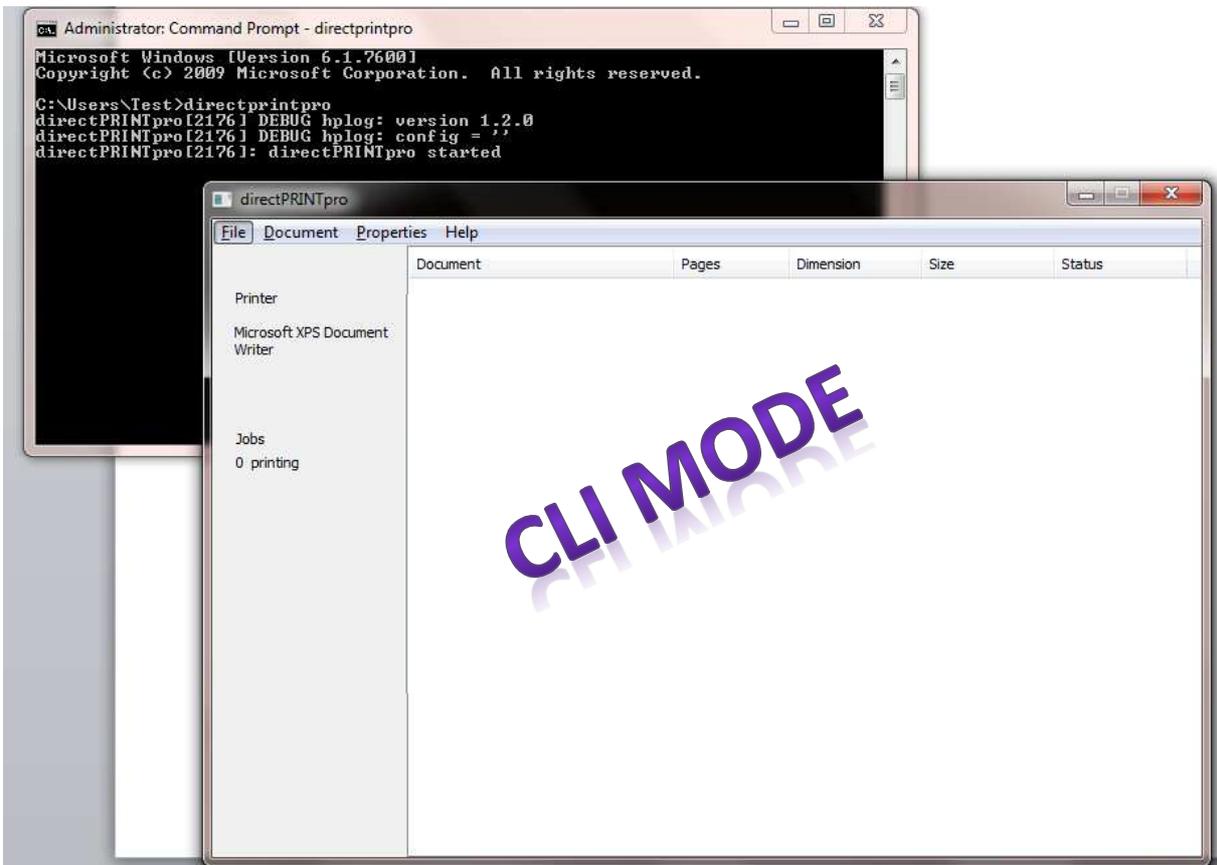
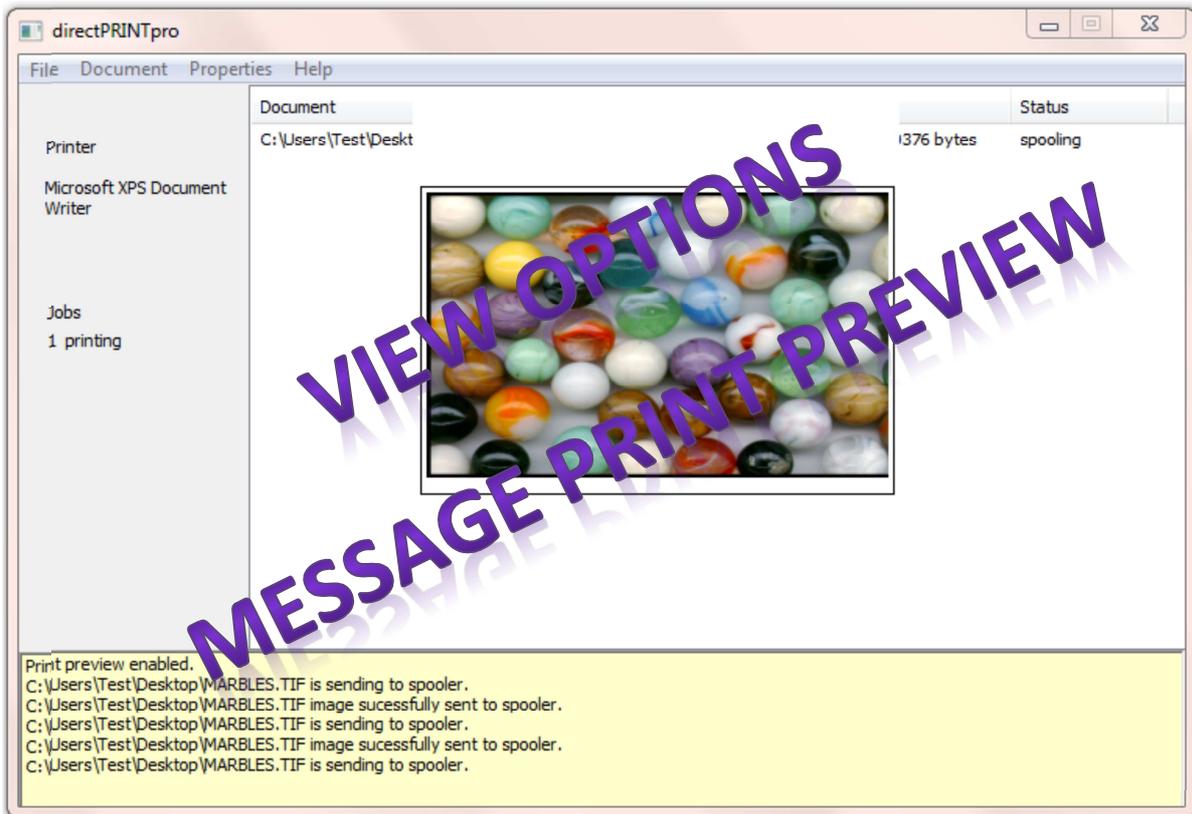
The best compromise to obtain details and contrasts as well. Use this filter with wide range of image contents.

**Lanczos Filter (Improve Contrast)**

This filter is used to raise contrasts and providing semi-untrue colors. Use this filter on digital images with few colors (commercial banners, drawings, texts). Some edges and border lines may be misrepresented, yet this filter provides best readability.

**Mitchell Filter**

This is used to raise contrast with high deviation of colors. In some cases this filter provides better results than Lanczos filter, it may however cause sporadically artifacts.



```
Administrator: Command Prompt

C:\Users\Test>directprintpro
directPRINTpro[2176] DEBUG hplog: version 1.2.0
directPRINTpro[2176] DEBUG hplog: config = ''
directPRINTpro[2176]: directPRINTpro started
directPRINTpro[2176]: directPRINTpro terminated.

C:\Users\Test>directprintpro /HELP
Prints the TIFF-Files to Windows-GDI-Printers

Syntax: directPRINTpro [OPTIONS] filename(s)

If filename(s) contain wildcard '*' or '?', all matching file from directory will be printed

/PRIINTER:<printername> The name of the printer the output is directed to.
/OPEN:<filename> The name of the image to be printed.
/SEARCHPATH:<path> Sets search path to print TIFF Images.
/DPI:<resolution> Defines resolution.
/FILTER:<filtertype> Defines Filter to be applied on images.
    filtertype=0 Without filter
    filtertype=1 Rectangle filter
    filtertype=2 Bilinear filter
    filtertype=3 Hermite filter
    filtertype=4 Bell filter
    filtertype=5 Spline filter
    filtertype=6 Lanczos filter
    filtertype=7 Mitchell filter
/DEFAULT Rest all settings to factory default.
/CLOSE Close the directPRINTpro application.
/USAGE Displays all the switches.
/HELP Displays help.
/QUIET Suppresses all outputs and error messages.

C:\Users\Test>directprintpro /USAGE
/PRIINTER: /OPEN: /SEARCHPATH: /DPI: /FILTER: /DEFAULT /CLOSE
/QUIET /USAGE /HELP

C:\Users\Test>directprintpro /OPEN:image.tif /FILTER:4 /CLOSE
directPRINTpro[3832] DEBUG hplog: version 1.2.0
directPRINTpro[3832] DEBUG hplog: config = ''
directPRINTpro[3832]: directPRINTpro started
directPRINTpro[3832] ERROR: Image not found.
directPRINTpro[3832]: directPRINTpro terminated.

C:\Users\Test>_
```

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