





DP-DS820 System Sample Program (Ver.0.1.0 for VB.Net)

Mar. 18, 2016
Dai Nippon Printing Co., Ltd.

-  The copyrights for this document are the property of the holders of rights. Reproduction of any or all of the contents is prohibited.
-  The contents of this document are subject to change without prior notice.
-  Microsoft, Windows and .NET Framework are registered trademarks of Microsoft Corporation valid in the USA and other countries.
-  You cannot resale/use the DP-DS820 without destination number (A) in the U.S.

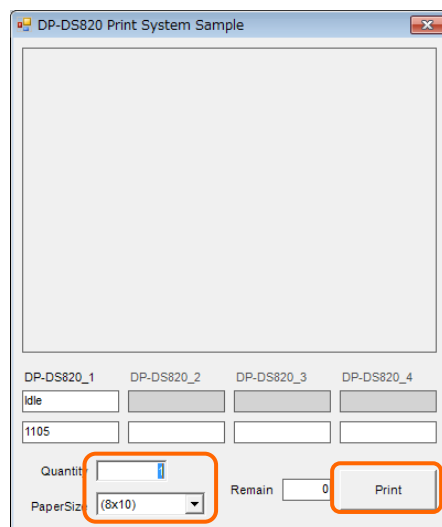
1. Introduction

The sample program supports control of up to 4 DP-DS820 for printing from one Host computer. (It is also possible to support from 1 to 3 printers.) When the program receives a print request, the program will search for an available printer by checking the number of free buffers of each printer, and then send image data to an available printer.

Target of the sample program is a DP-DS820.

2. Operation

Set the print quantity “Quantity” and paper size “Paper Size”, then click the “Print” button. The image will be displayed, and the data will be sent. The life counter and status for each printer will be shown (*1).



*1. In this sample program, the process to re-send data when an error occurs is not included.

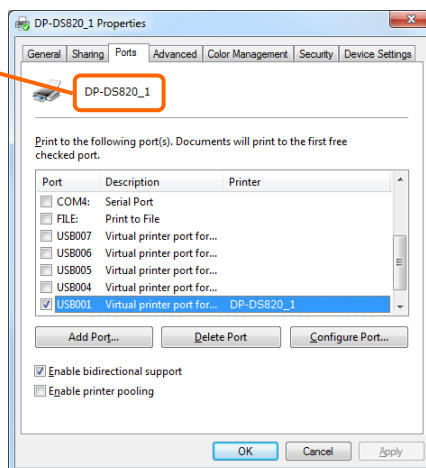
3. Redefining with user's host computer

The sample program is written using VB.Net, and the setting of the printer name is initiated by Form1_Load() of Form1.vb, and these device names should conform with user's host computer.

■ Printer's Device Name

Please designate the printer name installed.

```
PrinterName(0) = "DP-DS820_1"
PrinterName(1) = "DP-DS820_2"
PrinterName(2) = "DP-DS820_3"
PrinterName(3) = "DP-DS820_4"
```



■ 32/64bit OS selection

If the OS is 64bit, you should attach “#Const x64 = True” to the beginning of DS820Stat.vb. The initial setting is for 32bit, and is set as “#Const x64 = False”.

```
#Const x64 = False
```

4. Image data for printing

■ Image Format

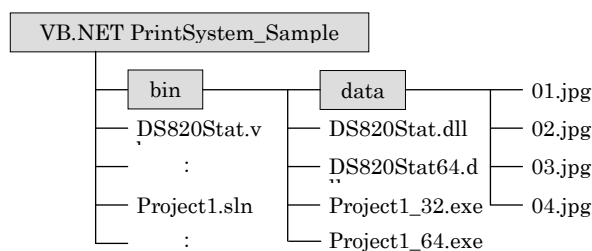
The sample program supports only JPEG format.

■ Folder

Please load the image into the “Data” folder of the sample program folder.

■ File Name

The sample program will send the files 01.jpg through 04.jpg repeatedly. Please load images for printing into the “Data” folder by assigning the file names from 01 to 04.

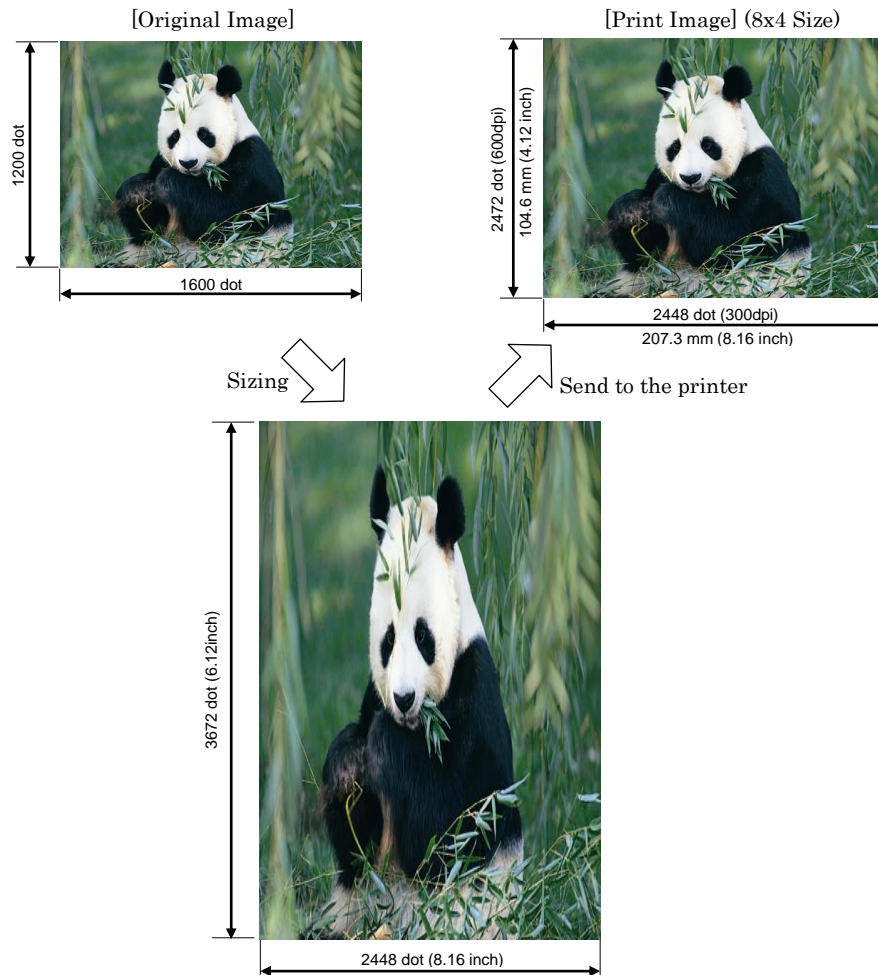


5. Sizing

Printing using “Microsoft .Net” uses “System.Drawing.Printing namespace” from “.NetFramework”.

Enlarge/reduce is done by matching the output size to the size of the paper.

The horizontal size of the paper is defined from the setting of the printer driver, and the horizontal width of the image is resized to that of paper size. Then, the vertical size is calculated based on the horizontal resizing ratio.



■ Process on the application side

In the case of 8x4 size output with 300 x 600dpi, it's necessary to resize the image to 2448×2472dot before printing.

When the image is output to the printer by using the “System.Drawing.Printing namespace”, by selecting to match the output size to the paper size, the image is enlarged or reduced and output to the printer. In doing this, a logical value (a unit of 1/100 inch) is given for the size designation, and this figure is determined by the paper size, regardless of the resolution of the printer. In the case of 8x4 size (207.3 x 104.6mm), the value is 816x412. So, the way to set the output size is to first fix the horizontal size setting to 816, and then calculate the vertical size based on the ratio to the horizontal size, and set the size in “Graphic.Drawimage”.

Actual calling sequence by the program is as follows:

```
' To get output size
Print_Width = e.PageBounds.Width
Ratio_Width = Print_Width / img.Width
Print_Height = Img.Height * Ratio_Width

' Copy the image to printer object
e.Graphics.DrawImage( Img, 0, 0, Print_Width, Print_Height )
```

816 612

816 1600 Horizontal size of the image (pixel)

1200 Vertical size of the image (pixel)

First, it defines the horizontal size as 816. Then it calculates the sizing ratio between the horizontal size of the image and 816. When the vertical size is calculated based on this ratio, 612 will come out.

By setting the value in the “Graphic.Drawimage”, the image is resized to the paper size and sent to the printer. The vertical size of 612 in this case exceeds the actual paper size of 412, and the overflowed area will be cut off.

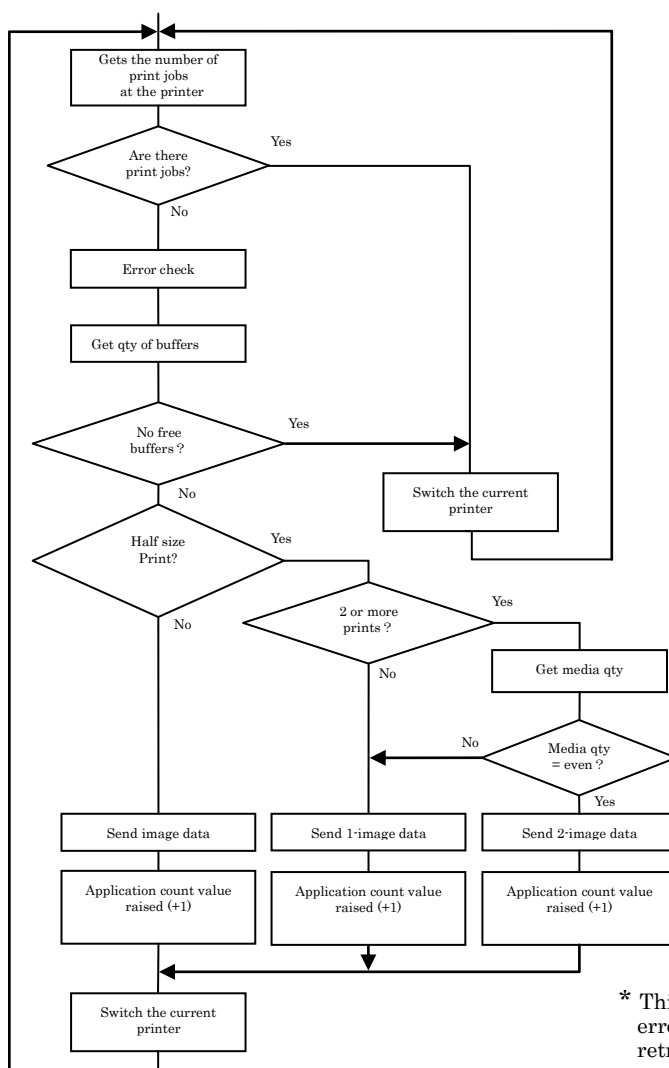
6. Print Data Transmission Order

This sample program transmits the print data in the following order.

- (1) Upon receipt of a print request, it checks if there are any print jobs waiting.
If there are still print jobs waiting after 1 minute, it reports it as an error.
- (2) If there are no print jobs, it gets the printer status, then checks for errors.
- (3) If there is no error at the printer, it gets the printer free-buffers value.
- (4) If there are free buffers at the printer, it gets the printer status again, and checks for errors.
- (5) If there is no error at the printer, the print data will be output.

■ Concerning error recovery

- If, when getting the printer status, there is an error at the printer, error recovery will be necessary. Error recovery means that, when an error occurs, it will compare the printer life-count value to the application side counter value in order to determine the last image printed, then send the data to a printer where no error has occurred.
- When printing occurs normally, the print jobs in line will be sent to the printer within seconds, and erased. Therefore, they should not be kept waiting for very long. However, if for some reason communication is not possible (for example, the cable is disconnected), they may be kept waiting indefinitely. Hence, when a print job is kept waiting, the time is checked, and if the wait is more than a set time, it will be deemed an error, and error recovery will be necessary.



[NOTE]

- Please output print data as 1 print job per sheet.
(If multiple data are sent as 1 job, status can't be obtained while it's in line. Also, in processing multiple images before sending them, the throughput will be slowed down.)
- When printing multiple sheets of the same image, send print quantity data separately for each sheet.

* This sample program doesn't include error recovery processes like retransmission of data.