PT390

OKI

Windows Driver User's Guide

Table of Contents

1   Introduction

1.1   Overview

This document describes how to use the Windows printer driver for the PT390 printer.

The PT390 Windows printer driver is a software program for printing documents from Windows applications to the PT390 printer. It converts printing data from applications into the format required by the PT390 and sends it to the printer. You can also set various printing functions such as bar codes, paper saving, print position alignment, and paper cutting.

1.2   Trademarks

All company names and product names contained in this manual are registered trademarks or trademarks of their respective owners.

1.3   System Requirements

This printer driver can be used with the following system configurations.

> **Printer Setup**
>   · Error :   Auto Recovery
>   · Cover Open Error: Auto Recovery

   <Guide> The above settings are the factory defaults.
              Usually, you do not have to modify the setting. However, the OPOS driver uses "Recovery by Command" as the [Error] setting and therefore you need to change the default value in this case.
              For information on how to set the value, please see the printer User's Guide.

> **Host Hardware**
> A personal computer with the following interfaces running one of the listed operating systems (OS).

>   · Serial interface
>   · Parallel interface compatible with Centronics
>   · USB interface
>   · LAN interface

   <Guide> LAN Interface
              When using the driver on a LAN, install the "PR-PortManager", printing client software. For information on how to install and use "PR-PortManager", please see the "Installation Guide".

➢ **Operating System (OS)**

・ Microsoft® Windows® 2000	(*1)
・ Microsoft® Windows® XP Professional	(*2)
・ Microsoft® Windows® XP Home Edition	(*2)
・ Microsoft® Windows Vista® Enterprise	(*3)
・ Microsoft® Windows Vista® Business	(*3)
・ Microsoft® Windows Vista® Ultimate	(*3)
・ Microsoft® Windows Vista® Home Premium	(*3)
・ Microsoft® Windows Vista® Home Basic	(*3)
・ Microsoft® Windows® 7 Ultimate	(*4)
・ Microsoft® Windows® 7 Enterprise	(*4)
・ Microsoft® Windows® 7 Professional	(*4)
・ Microsoft® Windows® 7 Home Premium	(*4)
・ Microsoft® Windows® 7 Starter	(*4)
・ Microsoft® Windows Server® 2003, Enterprise Edition	(*5)
・ Microsoft® Windows Server® 2003, Standard Edition	(*5)
・ Microsoft® Windows Server® 2008, Enterprise Edition	(*6)
・ Microsoft® Windows Server® 2008, Standard Edition	(*6)
・ Microsoft® Windows Server® 2008 R2, Enterprise Edition	(*7)
・ Microsoft® Windows Server® 2008 R2, Standard Edition	(*7)
・ Microsoft® Windows® Embedded for Point of Service	(*8)
・ Microsoft® Windows® Embedded POSReady 2009	(*9)

<Guide> The 64-bit OS versions are also supported.

In this document, each of the products is abbreviated as follows:

*1： Windows 2000

*2： Windows XP

*3： Windows Vista

*4： Windows 7

*5： Windows Server 2003

*6： Windows Server 2008

*7： Windows Server 2008 R2

*8： WEPOS

*9： WEPOS 2009

2   Installing and Uninstalling the Driver

For information on how to install or uninstall this printer driver, please see the following topics:
"3. Installation" in the "Installation Guide"
"5. Uninstallation" in the "Installation Guide"

3   How to Use the Printer Driver

This section describes how to setup the printer driver and the typical printing methods for printing documents from Windows applications to the PT390 printer.

After the printer driver is installed, printing a document from an application is performed as follows:

Ⅰ Install the printer driver

Ⅱ Set the port

> If using with serial interface, configure the settings for the serial interface on the [Ports] tab of the [Printer Properties].
> ⇒ **[See Also]**
>> 3.1.1 How to Display the Printer Properties
>> 3.2.1 Setting Port (for Serial Interface)

Ⅲ Set the custom paper type

> While this printer driver provides four standard paper sizes, you can also create and register new paper sizes for the printer driver using the [Custom Paper] tab of [Printer Properties].
> ⇒ **[See Also]**
>> 3.1.1 How to Display the Printer Properties
>> 3.2.2 Setting Custom Paper

Ⅳ Print from application

> Configure the print setup for the printer driver and print the document created in the application with the printer.
> ⇒ **[See Also]**
>> 3.1.2 How to Display the Printing Preferences (Document Properties)
>> 3.3 Printing from an Application
>>
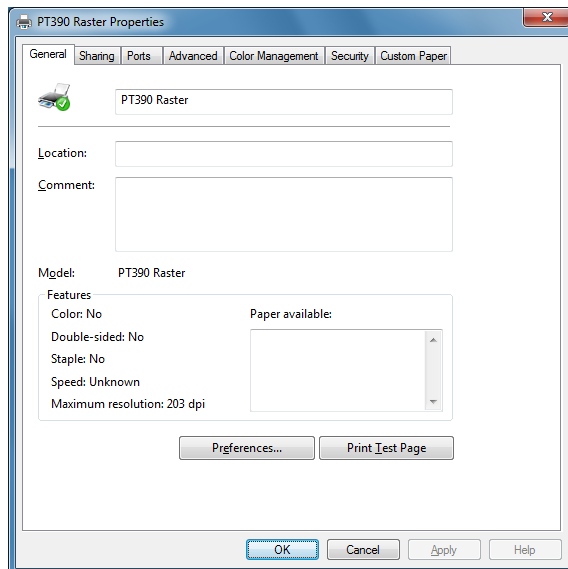>> <Typical Printing Method>
>> 3.4 Printing Bar Codes and 2D Codes

3.1   How to Display the Setting Screen

There are two types of setting screens for the printer driver:
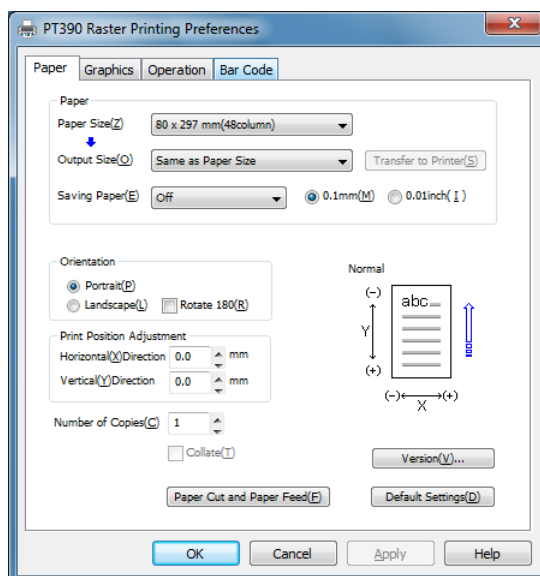
◆   **Printer Properties**
In the [Printer Properties] screen, you configure the initial settings required for the printer driver to print documents, such as the custom paper and port (serial interface, for example) settings.

◆   **Printing Preferences (Document Properties)**
In the Printing Preferences screen, you configure various printing features of the printer driver (for example, bar code or paper cut).

The following section explains how to display each of the screens.
Please note that the actual menu names may vary depending on the Windows screen settings.

3.1.1 How to Display the Printer Properties

Administrative privileges are required to change the printer properties. Log on with an Administrator account to change the settings.

(1) Open the Printer folder.

> For Windows 2000

From Windows' [Start] menu,
select [Settings]→[Printers].

> For Windows XP Professional

From Windows' [Start] menu,
select [Printers and Faxes].

> For Windows XP Home Edition

From Windows' [Start] menu,
select [Control Panel]→[Printers and Other Hardware], and
on the [Printers and Other Hardware] screen,
select [View installed printers or fax printers].

> For Windows Server 2003

From Windows' [Start] menu,
select [Printers and Faxes].

> For Windows Vista

From Windows' [Start] menu ,
select [Control Panel], and
on the [Hardware and Sound] screen,
select [Printers].

> For Windows Server 2008

From Windows' [Start] menu,
select [Control Panel]→[Printers].

> For Windows 7

From Windows' [Start] menu ,
select [Devices and Printers].

> For Windows Server 2008 R2

From Windows' [Start] menu,
select [Devices and Printers].

(2)   Right-click "PT390 Raster" and select [Properties].

  * For Windows Vista and Server 2008, if [Run as administrator] is displayed when you right-click a printer name, select [Run as administrator]→[Properties].
     If the [User Account Control] dialog is displayed, select [Continue].

  * For Windows 7 and Server 2008 R2, right-click the printer name and select [Printer Properties].

(3)   The properties screen is displayed for the selected printer.
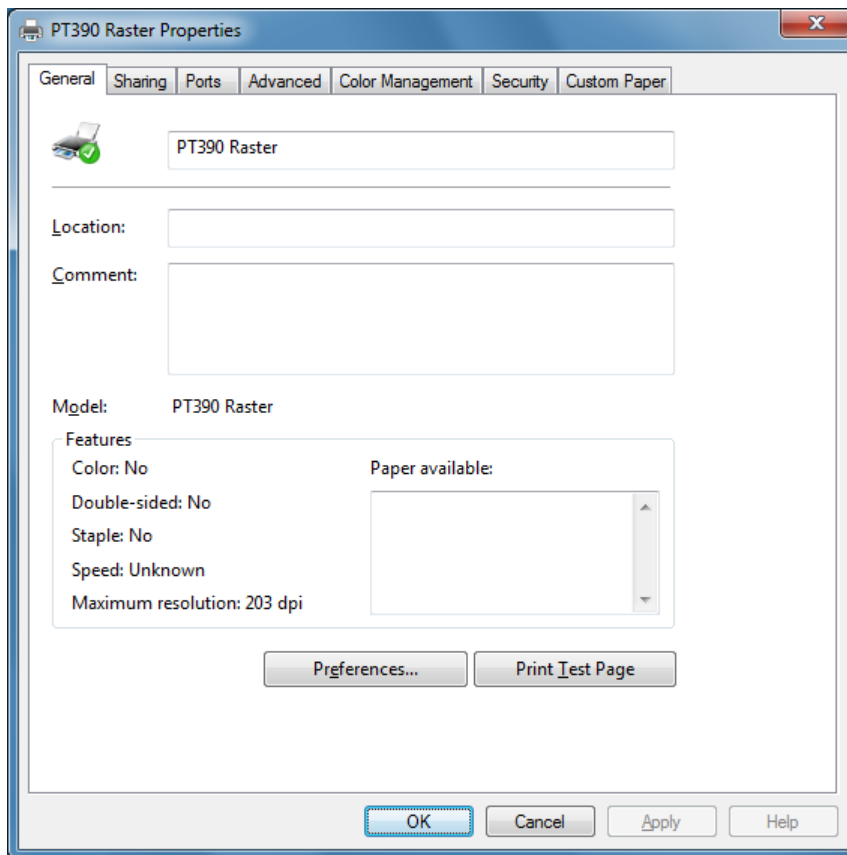
3.1.2 How to Display the Printing Preferences (Document Properties)

(1) Open the Printer folder.
 See 3.1.1(1) for instructions on how to open the Printer folder.

(2) Right-click "PT390 Raster" and select [Printing Preferences].

(3) The Printing Preferences screen is displayed for the selected printer.
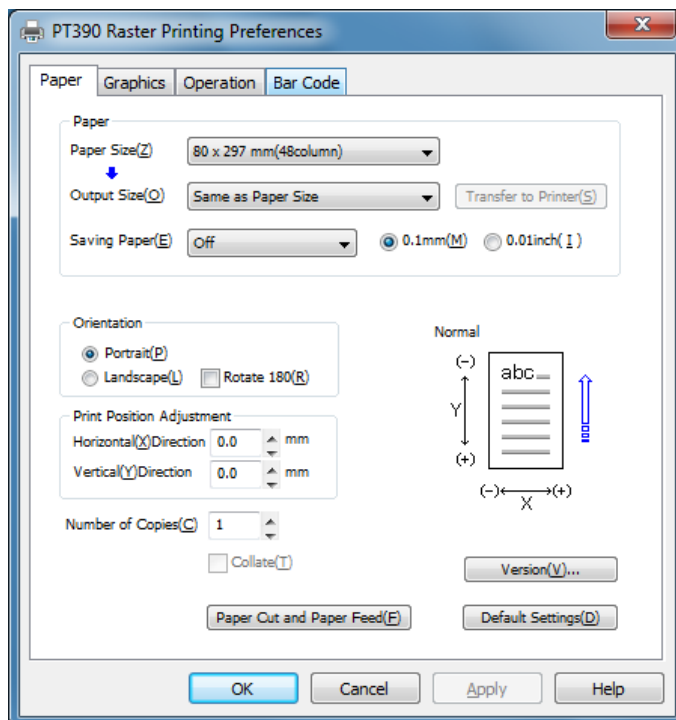
The values specified in the printer folder (shown above) are used as the initial values when printing from an application. You can also set the values for each job from within the application. For information on how to set the values in the application, please see "3.3 Printing from an Application".

3.2 Initial Settings

Setup the following items before using the printer driver to print documents. The initial values are specified in the printer properties screen.

- ◆ **Set Port (for Serial Interface)**
- ◆ **Set Custom Paper**

The settings are as follows.

3.2.1 Port Setting (for Serial Interface)

If this printer driver is used with the serial interface, set the port as follows:

- ・ Bits per second : 115200
- ・ Data bits : 8
- ・ Parity : None
- ・ Stop bits : 1
- ・ Flow control : Hardware

The procedure is as follows.

(1) Open the Printer folder.
    See 3.1.1(1) for instructions on how to open the Printer folder.

(2) Right-click "PT390 Raster" and select [Properties].

* For Windows Vista and Server 2008, if [Run as administrator] is displayed when you right-click a printer name, select [Run as administrator]→[Properties].
  If the [User Account Control] dialog is displayed, select [Continue].

* For Windows 7 and Server 2008 R2, right-click a printer name and select [Printer Properties].

(3) Click the [Ports] tab and select the connected port (COMx:).
    * "x" of "COMx:" indicates the port number.

(4) Click the [Configure Port] button.

(5) In the [COMx Properties] screen, set the bits per second, data bits, parity, stop bits, and flow control, and click the [OK] button.

(6) Click the [OK] button in the properties screen.

3.2.2 Setting Custom Paper

This printer driver provides the following four standard paper sizes.

Paper Size	Margin (mm)			
	Left	Right	Top	Bottom
83 x 297 mm (53 column)	1.0	2.0	0.0	0.0
80 x 297 mm (48 column)	4.0	4.0	0.0	0.0
80 x 297 mm (42 column)	8.0	8.0	0.0	0.0
60 x 297 mm (36 column)	3.0	2.5	0.0	0.0
58 x 297 mm (35 column)	3.0	2.5	0.0	0.0
58 x 297 mm (32 column)	5.0	5.0	0.0	0.0

If printing documents on different-sized paper, use the printer driver to define a custom paper size in advance. To specify a custom paper size, specify the printing paper size, assign a name, and register it with the printer driver. The following section describes how to setup custom paper sizes.

(1) Open the Printer folder.
See 3.1.1(1) for instruction on how to open the Printer folder.

(2) Right-click "PT390 Raster" and select [Properties].

* For Windows Vista and Server 2008, if [Run as administrator] is displayed when you right-click a printer name, select [Run as administrator]→[Properties].
If the [User Account Control] dialog is displayed, select [Continue].

* For Windows 7 and Server 2008 R2, right-click a printer name and select [Printer Properties].

(3) Click the [Custom Paper] tab.
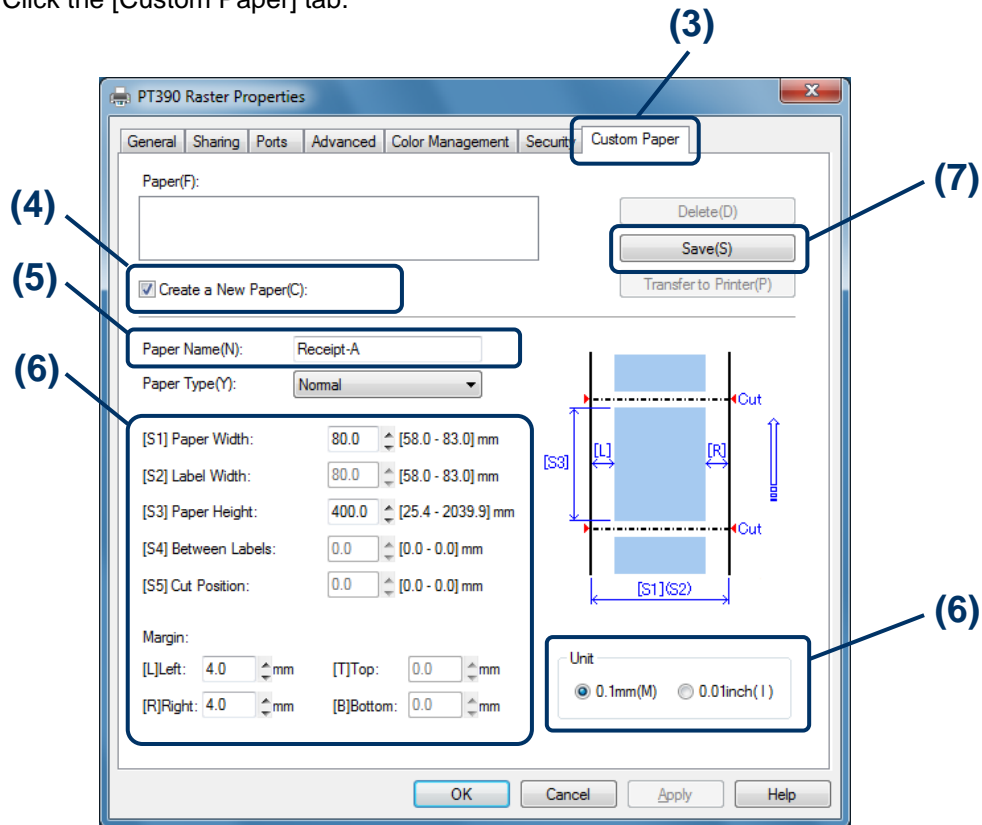
(4) Check [Create a New Paper].

(5) Enter a paper name in [Paper Name].

   * The paper name can be unique.
     The figure above shows an example with the name "Receipt-A."

(6) Select the [Unit], and enter the [S1], [S3], [L] and [R] values according to the layout shown in the box.

   * Changing between units can result in a rounding error of 0.1mm.
     If this happens, set the value again.

   * The [Paper Type], [S2], [S4] and [S5] settings are used for label printers.
     They cannot be specified for this printer.
     In addition, the margins [T] and [B] are fixed at "0.0."

(7) Click the [Save] button.
    The created paper is added to the [Paper] list.
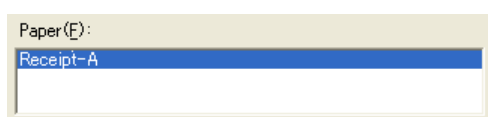
(8) Click the [OK] button to close the properties screen.

* When printing documents, the registered paper will be available for selection in the [Paper Size] field in the [Printing Preferences] screen.
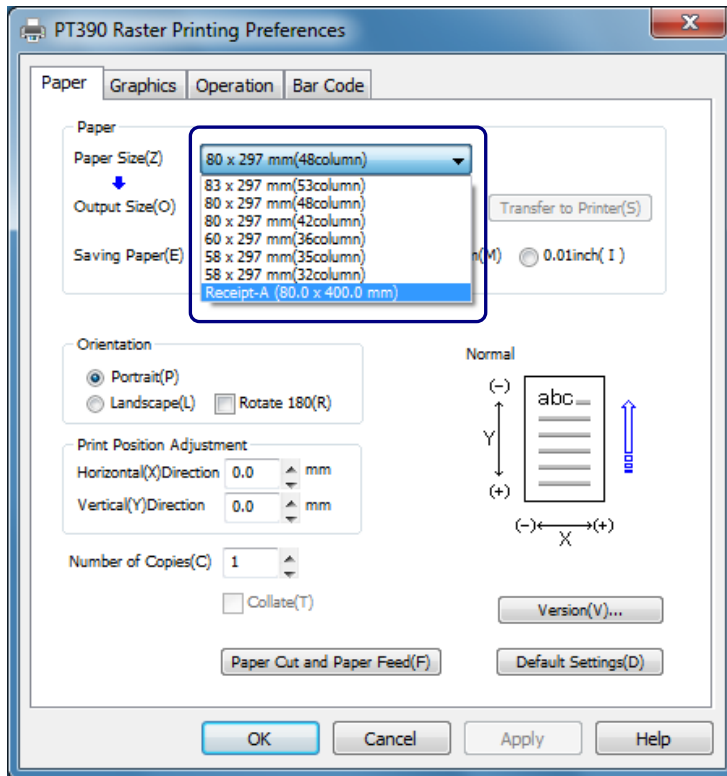

The figure shows an example named "Receipt-A" that was registered as a custom paper size with a width of 80mm and height of 400mm.

3.3   Printing from an Application

You can use the paper types registered with the printer driver to print documents from applications. As an example, this section describes how to print a document on the PT390 printer using WordPad.

(1)   Select [Page setup] from the [File] menu of WordPad.
(2)   In the [Page Setup] screen, set the Paper Size, Orientation and Margins, and click the [OK] button.
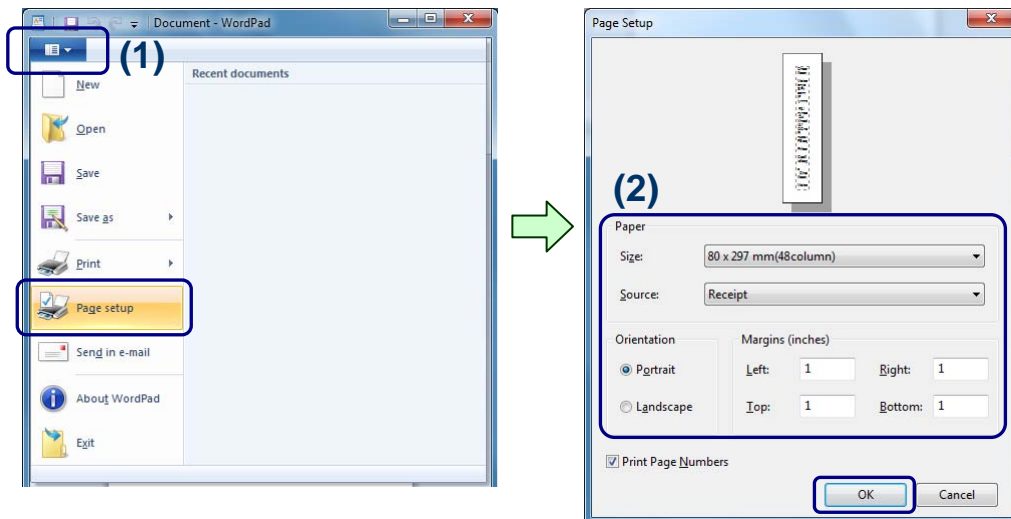
(3)   Edit the document in the WordPad screen.

(4)   Select [Print] from the [File] menu.
(5)   The [Print] screen is displayed.
      Specify the "PT390 Raster" printer in [Select Printer].
(6)   To specify the settings for the printer driver, click the [Preferences] button.
      *This button depends on the application.
       In Word or Excel, for example, the button name becomes [Properties].
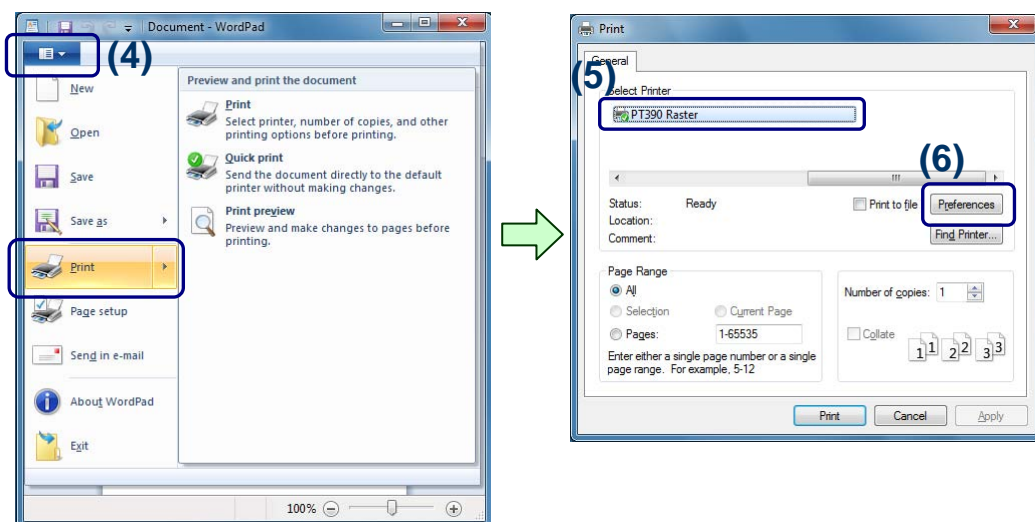
(7) The [PT390 Raster Properties] (Printing Preferences) screen is displayed.
Specify the settings and click the [OK] button.

(8) Specify [Page Range] or [Number of copies] as needed, and click the [Print] button.
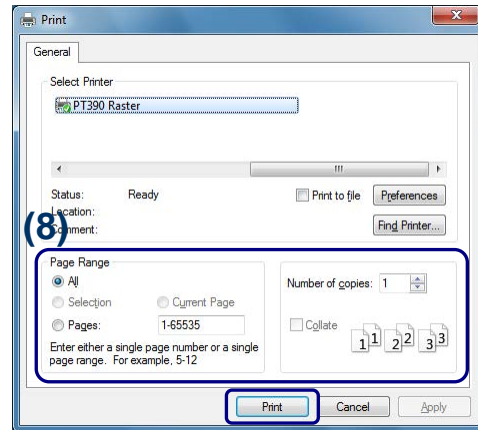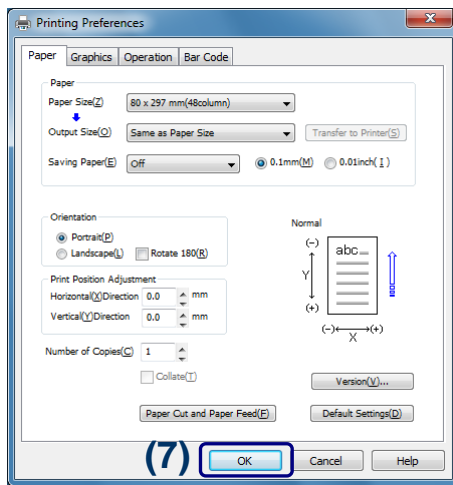
(9) The print data is sent to the printer and the document is printed.

3.4 Printing Bar Codes and 2D Codes

This printer driver supports printing of various bar codes and 2D codes. This enables you to print bar code or 2D codes from general applications such as Word or Excel.

| How a bar code or 2D code is printed |

When the printer driver is used, a number of fonts with names corresponding to types of bar code (see ［1］ bar code font) are added to the fonts available in the application. To print text as a bar code, enter the text in the document (see ［2］ bar code data) and assign the desired bar code font. The same method can be used to print 2D codes.
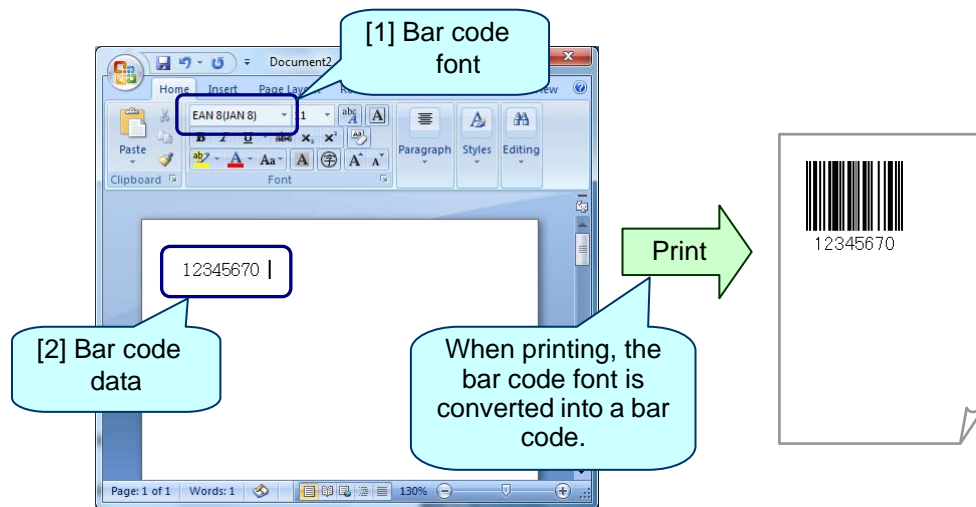
The procedure for printing a bar code or 2D code is as follows.

| How to print a bar code or 2D code |

(1) Start the application and set the paper size for the document.

(2) In the application's edit screen, enter the data to be printed as a bar code or 2D code.
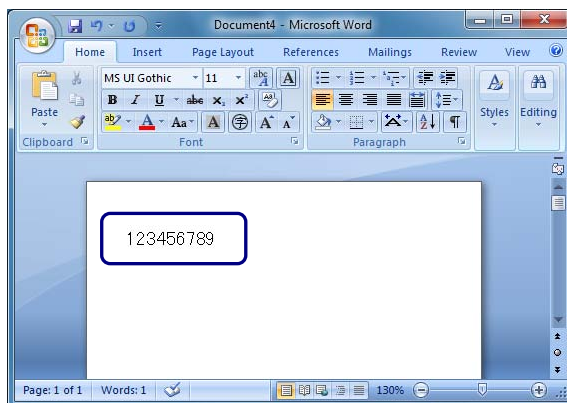
(3) Select the entered bar code or 2D code data then use the application's font selection list to select the font corresponding to the type of bar code or 2D code you want to print. The following example prints a "QR code" (a type of 2D code).
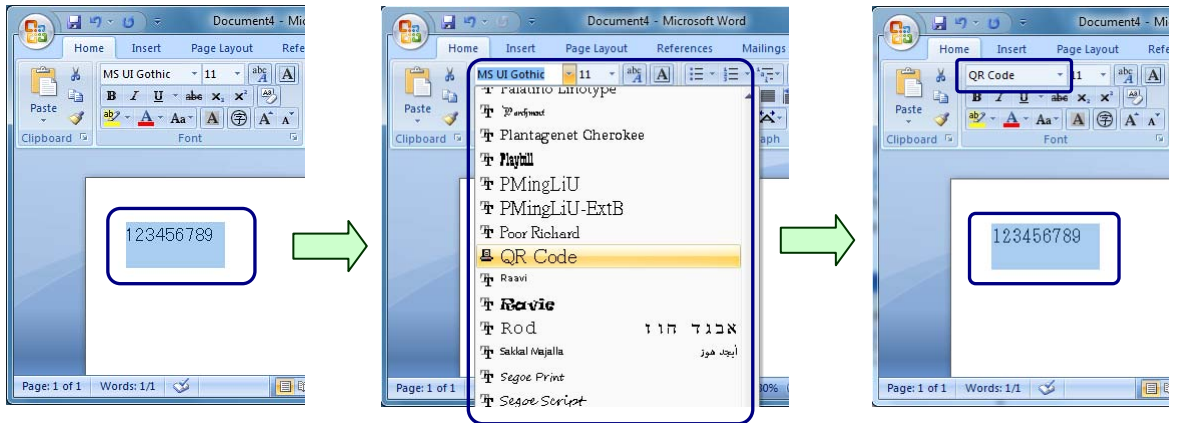
(4) Select [Print] from the [File] menu. The [Print] dialog is displayed.
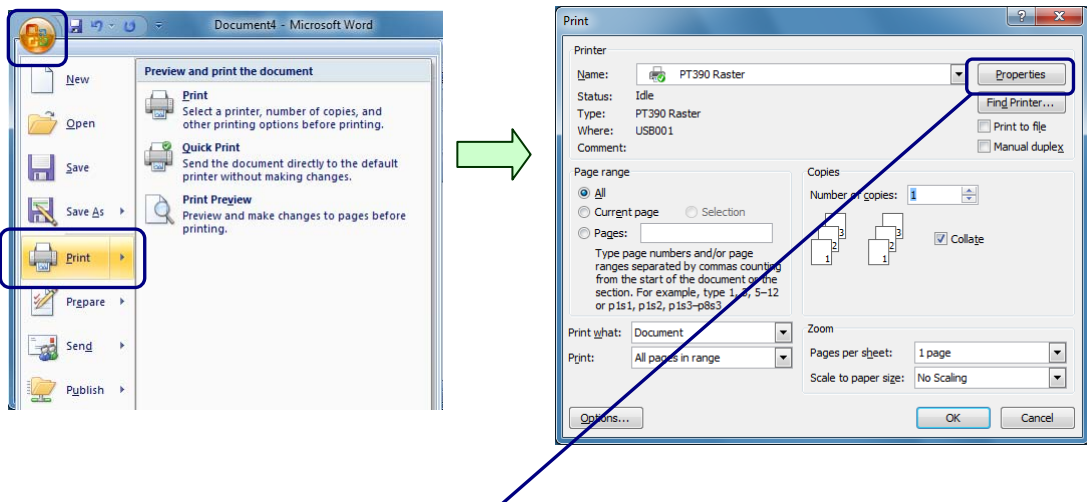
* To specify the bar code or 2D code settings (size, rotation, and so on), click the [Properties] button to open the [Printing Preferences] screen for the printer driver.
For detailed information on setting the values, please see "4.6 [Bar Code] Tab".

(5) Click the [OK] button to print out the document.
The text to which the bar code font is assigned is printed as a bar code or 2D code.
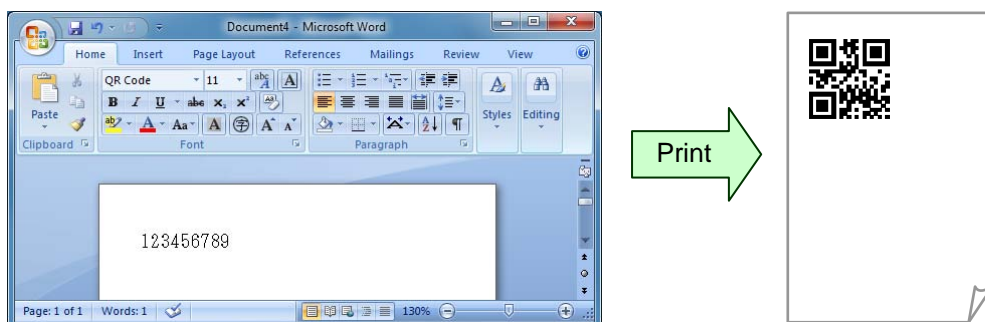
4   Setting up the Printer Driver

This section describes the functions in the [Printer Properties] and [Printing Preferences] screens. The figure below shows how the printer driver settings screen is organized. This section describes the settings specific to this printer driver (indicated by ☐). Please refer to Windows Help for information about the Windows settings (indicated by ☐).

Printer Properties	
General	Edit printer name, specify the print settings, and print a test page.
Sharing	Configure the printer share settings.
Ports	Configure the port settings.
Advanced	Configure the print settings.
Security	Set the printer driver's security.
Custom Paper	Create or edit a custom paper size.

Printing Preferences	
Paper	Configure the paper settings and display the version information. <Paper Size, Output Size, Saving Paper, Paper Feed Direction, Print Position Adjustment, Copies, Collate>
Paper Cut and Paper Feed	Configure the paper cut and feeder. <Paper Cut, Paper Feed, Top of Form Position, Reducing Blank lines, Skip Blank Pages>
Graphics	Configure the graphics settings. <Color, Half toning, Max Speed, Print Density, BK Density>
Operation	Configure the operational settings. <Drawer, Buzzer, Logo Printing>
Bar code	Configure the bar code and 2D code settings. <Bar Code Settings>

4.1   [Custom Paper] Tab

Administrative privileges are required to change the [Custom Paper] settings.

Log on with an Administrator account to change the settings.

If you are using Windows Vista or Server 2008, open the properties for the printer from [Run as administrator]. If you are using Windows 7 or Server 2008 R2, open "Printer Properties". For more information, please see "3.1.1 How to Display the Printer Properties."

Setting	Description and Setting Options or Range
Paper	Lists the registered custom paper sizes.
Create a New Paper	Select this checkbox if you want to create a new paper size. Clear if you want to edit a paper size that has already been registered (the paper size selected in the [Paper] list).
Delete	Deletes the paper size selected in the [Paper] list.
Save	Saves the paper size. If you selected [Create a New Paper], the new paper size is added to the [Paper] list. If [Create a New Paper] is cleared, saving overwrites the paper size selected in the [Paper] list.
Transfer to Printer	* This setting only applies to label printers. It appears grayed out for this printer and cannot be selected.

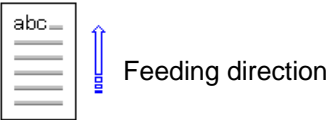| Setting	Description and Setting Options or Range
Paper Name	Specify the name of the paper size. The name can be unique. The name can be entered if you select [Create a New Paper].

Paper Type	Specify the type of the paper that you create or modify.
	
	* This setting only applies to label printers.
	  It does not need to be specified for this printer.
	  Use "Normal".
	
	Selection
	  Normal

[S1]Paper Width	Specify the width of the paper. If you selected an existing custom paper size, the width of the custom paper size is displayed. Setting range 58.0 - 83.0mm (2.28 - 3.27inch)
[S2]Label Width	Specify the width of the label that you create or modify. * This setting only applies to label printers. It appears grayed out for this printer and cannot be selected.
[S3]Paper Height	Specify the height of the paper that you create or modify. If you selected an existing custom paper size, the height of the custom paper size is displayed. Setting range 25.4 - 2039.9mm (1.00 - 80.31inch)
[S4]Between Labels [S4]BM Length	Specify the interval between the labels or the BM length. * This setting only applies to label printers. It appears grayed out for this printer and cannot be selected.
[S5]Cut Position	Specify the cut position. * This setting only applies to label printers It appears grayed out for this printer and cannot be selected.

Margin   [L]Left
          [R]Right
          [T]Top
          [B]Bottom
	Specify the left and right margins.
	If you selected an existing custom paper size, the margins of the custom paper size are displayed.
	
	* For this printer, [T] and [B] are fixed as "0.0mm."

Unit	Specify the units for the paper size dimensions. Setting 0.1mm — Displays in millimeters. 0.01inch — Displays in inches.
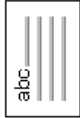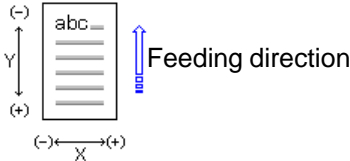
4.2 [Paper] Tab
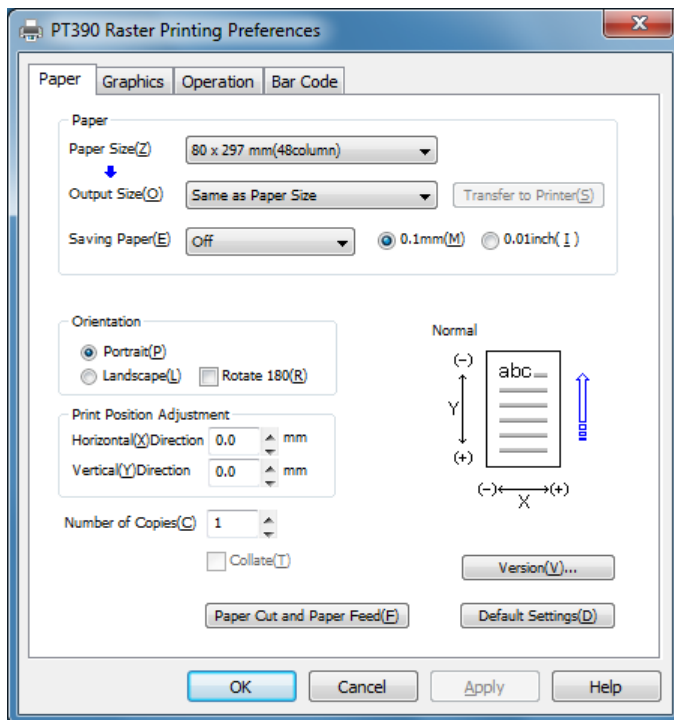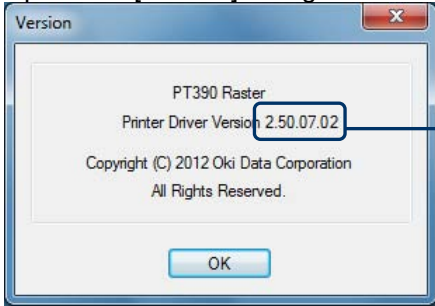
Setting	Description and Setting Options or Range (*: Default Value)
Paper Size	Specify the size of the paper.
	Selection
	83 x 297 mm (53 column)
	* 80 x 297 mm (48 column)
	80 x 297 mm (42 column)
	60 x 297 mm (36 column)
	58 x 297 mm (35 column)
	58 x 297 mm (32 column)
	<Guide> In addition to the above defaults, any paper sizes you have defined using [Custom Paper] are also available. For custom paper sizes, the paper size is displayed after the paper name.

Setting	Description and Setting Options or Range (*: Default Value)	
Output Size	Specify whether to print the document scaled to match the selected paper size (output).	
	Selection	
	* Same as Paper Size	Uses the size specified in [Paper Size]. The document is printed with no scaling. (Normal printing)
	<Paper smaller than the paper size>	Prints the document scaled to match the specified paper size. Only paper sizes with a print area smaller than the paper set in [Paper Size] can be specified.
	<Guide> ・ This setting is available when "Off" is selected for [Saving Paper]. ・ Warning when using scaling 　・ Problems with print quality such as ink bleed may occur if the specified size is too small or depending on the size or type of characters being printed. Use the preview image on the right of the screen to check the scaling before printing the document scaled to the size. 　・ The bar codes and logos predefined in the printer driver are printed without scaling. If a bar code cannot fit within the downscaled paper, it is not printed. Also, the bar code and other print data may overlap depending on the print position. In this case, the bar code size and print position should be adjusted before printing.	
Transfer to Printer	* This setting only applies to label printers. It appears grayed out for this printer and cannot be selected.	

Setting	Description and Setting Options or Range (*: Default Value)	
Saving Paper	Specify whether to scale the print data vertically to save paper.	
	Selection	
	* Off	Prints the document normally without saving paper. (Normal printing)
	1/4	Shrinks the document vertically to save 1/4 of the paper.
	1/2	Shrinks the document vertically to save 1/2 of the paper.
	<Guide> ・ This setting can be specified when "Same as Paper Size" is selected in [Output Size]. ・ If "1/4" or "1/2" is specified, blank lines at the bottom of the paper are automatically deleted when printing. ・ Warning when performing saving (scaling) print 　・ Problems with print quality such as ink bleed may occur depending on the size or type of character. Check the print quality when using this function. 　・ The bar codes and logos predefined in the printer driver are printed without scaling. If a bar code cannot fit within the downscaled paper, it is not printed. Also, the bar code and other print data may overlap depending on the print position. In this case, the bar code size and print position should be adjusted before printing.	
Orientation	Specify the orientation of the document to be printed.	
	Selection	
	* Portrait	Prints the document vertically. Feeding direction
	Landscape	Prints the document horizontally. Feeding direction

Setting	Description and Setting Options or Range (*: Default Value)
Rotate 180	Specify whether to rotate 180 degrees to print the document.

	Selection	
	* Off (cleared)	Prints the document without rotating 180 degrees. Orientation = Portrait Landscape Feeding direction
	On (Selected)	Prints the document after rotating 180 degrees. Orientation = Portrait Landscape Feeding direction

Print Position Adjustment	Aligns the print start position. Horizontal (X) Direction Aligns the horizontal position relative to the feeding direction. If a negative value is specified, the left margin is decreased. If a positive value is specified, the left margin is increased. Vertical (Y) Direction Aligns the vertical position relative to the feeding direction. If a negative value is specified, the top margin is decreased. If a positive value is specified, the top margin is increased.
	Setting range Horizontal (X) Direction ±Paper Width (*Default value: 0.0mm, Range: 0.5mm) Vertical (Y) Direction ±Paper Height (*Default value: 0.0mm, Range: 0.5mm) Feeding direction
	\<Guide\> This setting does not apply to logo printing.

Setting	Description and Setting Options or Range (*: Default Value)	
Number of Copies	Specify the number of copies to print.	
	Setting range 1 - 999 (* Default value: 1)	
Collate	Specify whether multiple copies of the document are printed by document or by page.	
	Selection	
	* Off (cleared)	Prints the copies of the document by page.
	On (selected)	Prints the copies of the document by document.
Paper Cut and Paper Feed	Opens the [Paper Cut and Paper Feed] dialog box. For information on the [Paper Cut and Paper Feed] dialog box, please see Chapter 4.3.	
Version	Opens the [Version] dialog. The version of this printer driver is displayed.	
Default Settings	Resets the settings in the [Paper] tab to the default (initial) value.	

4.3 [Paper Cut and Paper Feed] Dialog Box
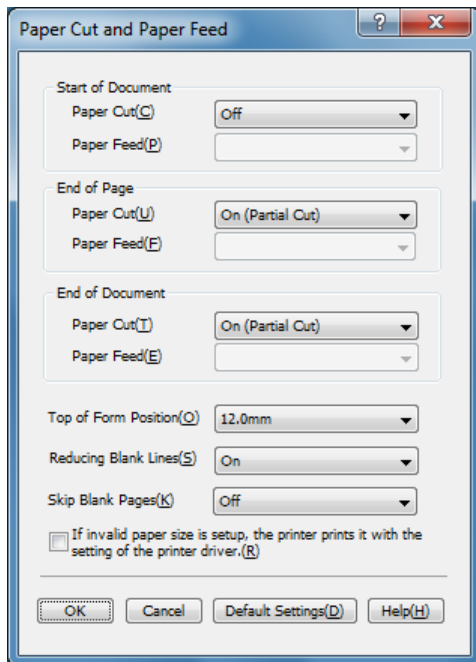
Setting	Description and Setting Options or Range (*: Default Value)	
Start of Document	Specify whether to perform a paper cut and feed when printing starts.	
Paper Cut	Specify whether to perform a paper cut when printing starts.	
	Selection	
	* Off	Do not cut the paper.
	On (Partial Cut)	Partially cuts the paper.
	On (Full Cut)	Fully cuts the paper.
	<Guide> For the partial cut model, it partially cuts the paper even if you specified "Full Cut".	
Paper Feed	Specify whether to perform a paper feed when printing starts. * This setting only applies to label printers. It appears grayed out for this printer and cannot be selected.	

Setting	Description and Setting Options or Range (*: Default Value)	
End of Page	Specify whether to perform a paper cut and feed at the end of each page.	
Paper Cut	Specify whether to perform a paper cut at the end of each page.	
	Selection	
	Off	Do not cut the paper.
	* On (Partial Cut)	Partially cuts the paper.
	On (Full Cut)	Fully cuts the paper.
	\<Guide\> For the partial cut model, it partially cuts the paper even if you specified "Full Cut".	
Paper Feed	Specify whether to perform a paper feed at the end of each page. * This setting only applies to label printers. It appears grayed out for this printer and cannot be selected.	
End of Document	Specify whether to perform a paper cut and feed at the end of each document.	
Paper Cut	Specify whether to perform a paper cut at the end of each document.	
	Selection	
	Off	Do not cut the paper.
	* On (Partial Cut)	Partially cuts the paper.
	On (Full Cut)	Fully cuts the paper.
	\<Guide\> For the partial cut model, it partially cuts the paper even if you specified "Full Cut".	
Paper Feed	Specify whether to perform a paper feed at the end of each document. * This setting only applies to label printers. It appears grayed out for this printer and cannot be selected.	

Setting	Description and Setting Options or Range (*: Default Value)	
Top of Form Position	Specify the print position from the top edge of the paper.	
	Selection	
	* 12.0mm	Starts to print the document at 12.0mm from the top edge of the paper.
	4.5mm	Starts to print the document at 4.5mm from the top edge of the paper.
Reducing Blank Lines	Specify whether to save paper by not feeding the margin if there is no print data at the bottom (bottom edge if [Orientation] is "Portrait", or right edge if [Orientation] is "Landscape") of the print image.	
	Setting	
	Off	Feeds the paper to the specified paper-length position even if there is no print data in the page.
	* On	Saves paper by not feeding when there is no print data in the page.
	\<Guide\> This setting can be specified when "Off" is selected in [Saving Paper].	
Skip Blank Pages	Specify whether to save paper by not outputting blank pages.	
	Setting	
	* Off	Prints blank pages. Outputs a blank page for pages with no print data.
	On	Does not print blank pages. Does not output a blank page for pages with no print data.
If invalid paper size is setup, the printer prints it with the setting of the printer driver	Specify whether to print the document using the settings from the driver properties if the application specifies an undefined paper size (dmPaperSize). The recommended setting is "Off". However, turn this setting on if documents printed by an application do not have the expected size or the paper is not cut correctly.	
	Selection	
	* Off (cleared)	Prints the document based on the other paper definition (dmFormName) if an undefined paper is specified in dmPaperSize.
	On (selected))	Prints the document based on the driver properties if an undefined paper is specified in dmPaperSize.

Setting	Description and Setting Options or Range (*: Default Value)
OK	Closes this dialog box and saves the changes.
Cancel	Closes this dialog box without saving the changes.
Default Settings	Resets the settings in the [Paper Cut and Paper Feed] dialog box to their default (initial) values.
Help	Displays help for this dialog box.

4.4 [Graphics] Tab
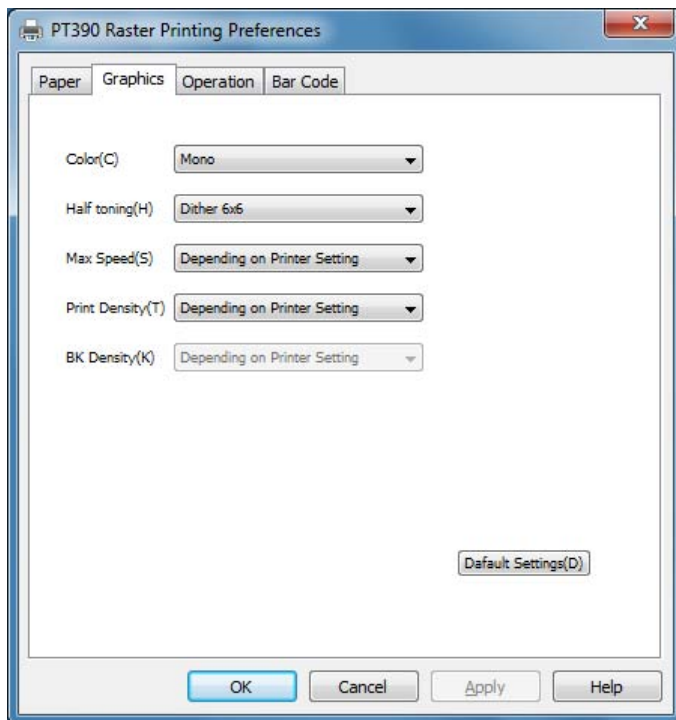
Setting Item	Description and Setting Options or Range (*: Default Value)	
Color	Specify a color mode.	
	Selection	
	* Mono	Prints the document in monochromatic.
	2 Color	Prints the document in two colors.
	<Guide> To print the document with "2 Color", please use the paper for two-colors.	
Half toning	Specify how to perform half toning when colors are converted to black and white.	
	Selection	
	* Dither 6x6	Prints the image with fine mesh pattern. The gradation range is relatively narrower.
	Dither 8x8	Prints the image with coarse mesh pattern. The gradation range is relatively wider.
Max Speed	Sets the print speed.	
	Selection	
	* Depending on Printer Setting	Prints the document using the printer setup settings.
	1st (Low Speed) : 11th (High Speed)	You can select a speed from 1st (Low Speed) to 11th (High Speed).

Setting Item	Description and Setting Options or Range (*: Default Value)	
Print Density	Specify the print density.	
	Selection	
	* Depending on Printer Setting	Prints the document using the printer setup settings.
	130% (Darkest) : 70% (Lightest)	You can select a darkness by units of 5% from 130% (darkest) to 70% (lightest).
BK Density	Specify the black density when printing the document in two colors.	
	Selection	
	* Depending on Printer Setting	Prints the document using the printer setup settings.
	130% (Darkest) : * 100% : 70% (Lightest)	You can select a darkness by units of 5% from 130% (darkest) to 70% (lightest).
	<Guide> This setting can be specified when "2 Color" is selected in [Color].	
Default Settings	Resets the settings in the [Graphics] tab to the default (initial) value.	

4.5　[Operations] Tab
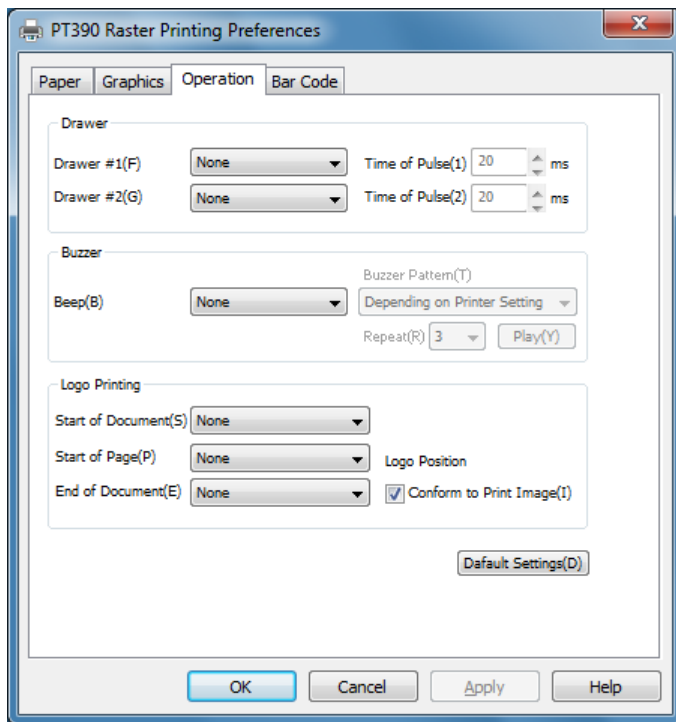
Setting	Description and Setting Options or Range (*: Default Value)	
Drawer	Specify the kick behavior of the drawers.	
Drawer #1	Specify the kick behavior of drawer #1.	
	Selection	
	* None	Does not open drawer #1.
	Start of Document	Opens drawer #1 when printing starts.
	End of Document	Opens drawer #1 when printing ends.
Time of Pulse	Specify the kick time (in milliseconds) when drawer #1 is open.	
	Setting range * 20ms 　　|　　(Range: 20ms) 　500ms	
Drawer #2	Specify the kick behavior of drawer #2.	
	Selection	
	* None	Does not open drawer #2.
	Start of Document	Opens drawer #2 when printing starts.
	End of Document	Opens drawer #2 when printing ends.
Time of Pulse	Specify the kick time (in milliseconds) when drawer #2 is open.	
	Setting range * 20ms 　　|　　(Range: 20ms) 　500ms	

Setting	Description and Setting Options or Range (*: Default Value)	
Buzzer	Specify the behavior of the buzzer.	
Beep	Specify when to ring the buzzer.	
	Selection	
	* None	The buzzer does not ring.
	Start of Document	The buzzer rings when printing starts.
	End of Document	The buzzer rings when printing ends.
Buzzer Pattern	Specify a sound pattern for the buzzer.	
	Selection	
	* Depending on Printer Setting	The buzzer rings according to the printer settings.
	Pattern 1	Uses Pattern 1 (40ms ON / 120ms OFF).
	Pattern 2	Uses Pattern 2 (140ms ON / 140ms OFF).
	Pattern 3	Uses Pattern 3 (200msON / 200msOFF).
	Pattern 4	Uses Pattern 4 (10msON / 50msOFF).
	Pattern 5	Uses Pattern 5 (30msON / 50msOFF).
Repeat	Specify the number of repetitions for the buzzer.	
	Setting range 1 - 5 (* Default value: 3)	
	<Guide> This setting can be specified when other than "Depending on Printer Setting" is selected in [Buzzer Pattern].	
Play	The pattern specified in [Buzzer Pattern] and [Repeat] is played back. Click if you want to check how the buzzer actually sounds on the printer. To play the sound, ensure that the printer is connected and ready to print before clicking the button.	

Setting	Description and Setting Options or Range (*: Default Value)	
Logo Printing	Specify how to perform logo printing. **\<Guide\>** Before printing a logo, use the utility to register the logo with the printer. For information on how to register logos, please see "3.4 Setting a Logo" of "Utility User's Guide."	
Start of Document	Specify the logo to print when printing starts.	
	Selection	
	* None	Does not print a logo when printing starts.
	Logo 1 (2020) | Logo 60 (205B)	Prints the specified logo when printing starts. The number in the brackets is the key code of the logo registered in the printer. The keycode can be checked using the utility.
Start of Page	Specify the logo to print at the start of each page.	
	Selection	
	* None	Does not print the logo at the head of the page.
	Logo 1 (2020) | Logo 60 (205B)	Prints the specified logo at the head of the page. The number in the brackets is the key code of the logo registered in the printer. The keycode can be checked using the utility.
End of Document	Specify the logo to print at the end of each document.	
	Selection	
	* None	Does not print the logo when printing ends.
	Logo 1 (2020) | Logo 60 (205B)	Prints the specified logo when printing ends. The number in the brackets is the key code of the logo registered in the printer. The keycode can be checked using the utility.

Setting	Description and Setting Options or Range (*: Default Value)	
Logo Position Conform to Print Image	Specify where to print the logos specified in [Start of Document], [Start of Page] or [End of Document].	
	Selection	
	Off (cleared)	Prints the [Start of Document], [Start of Page] or [End of Document] logo at a position based on the feeding direction without considering the finished print image. The logo is printed at a fixed position, ignoring the "Rotate 180" setting of [Orientation].
	* On (selected))	Prints the logo at a position determined by the finished print image. If "Rotate 180" is specified in [Orientation], both the print image and logo are rotated by 180 degrees when printing the document.
Default Settings	Resets the settings in the [Operations] tab to the default (initial) value.	

4.6 [Bar Code] Tab

You can change the bar code and 2D code settings such as the width or height and set these in the printer driver. Registered bar codes appear as printer fonts in applications. If you assign one of these fonts to text, the corresponding bar code or 2D code is printed.

This section describes the bar codes and 2D codes supported by the printer driver, how to register a new bar code, and how to change existing bar code settings. It also explains each of the settings.

4.6.1 List of Supported Bar Codes and 2D Codes

The table below lists the types of bar code and 2D code supported by the printer driver.

The supported bar codes and 2D codes (bar codes and 2D codes supported in [Type]) appear as the initial defaults in the [Bar Code Font List].

○: Supported, −: Unsupported

Bar code font name initially registered in the Bar Code Font List	Bar Code Types	PT390
Codabar	Codabar	○
Code 128	Code 128	○
Code 39	Code 39	○
Code 93	Code 93	○
EAN 13(JAN 13)	EAN 13(JAN 13)	○
EAN 8(JAN 8)	EAN 8(JAN 8)	○
ITF	ITF	○
UPC type A	UPC type A	○
UPC type E	UPC type E	○
DataMatrix Code	DataMatrix Code	○
PDF417 Code	PDF417 Code	○
QR Code	QR Code	○

4.6.2 How to Register a New Bar Code Font

(1) Open the printer driver's print settings from the printer folder.

(2) Open the [Bar Code] tab and select the [Create a New Bar Code] checkbox. (New creation mode)
To copy font settings from an existing bar code or 2D code, select the bar code font from [Bar Code Font List].
↓
The name and settings of the selected bar code font appear in [Bar Code Font Name] and [Bar Code Settings].

(3) Enter the new bar code font name in [Bar Code Font Name].

(4) Make any changes to [Bar Code Settings].

(5) Click [Add].
↓
The bar code font is added to [Bar Code Font List].
The added font is listed alphabetically (in ascending order) sorted by whether they are 1D or 2D.

* If you select another item from [Bar Code Font List] without clicking [Add], the changes made in steps (3) and (4) are discarded.

(6) Click [Apply] or [OK] to apply the added settings to the driver.

* Note that if you click [Add] and then [Cancel], the settings will not be applied.

4.6.3 How to Change Bar Code Font Settings

(1) Open the printer driver's print settings from the printer folder.

(2) Open the [Bar Code] tab and clear the [Create a New Bar Code] checkbox. (Edit mode)

(3) Select a bar code font to edit from [Bar Code Font List].
↓
The name and settings of the selected bar code font appear in [Bar Code Font Name] and [Bar Code Settings].

(3) Make any changes to [Bar Code Settings].

(4) Click [Apply] or [OK] to apply the added settings to the driver.

* If you select another item from [Bar Code Font List], any changes you made will remain available temporarily. However, you need to click [Apply] or [OK] to apply the settings to the driver.

4.6.4 Setting Items (for all Bar Codes)

Setting	Description and Setting Options or Range (*: Default Value)
Bar Code Font List	Lists the bar code fonts registered with the driver. **\<Guide\>** ・Bar code fonts in this list are registered in the operating system (OS) as printer fonts and become available for use in applications. ・The bar codes or 2D codes supported by the printer driver are set as defaults. For more information, please see "4.6.1 List of Supported Bar Codes/2D Codes." ・Up to 30 fonts can be registered (including those initially registered). ・The bar code fonts in the list appear alphabetically (in ascending order) sorted by whether they are 1D or 2D.
Delete	Deletes the bar code font selected in [Bar Code Font List]. **\<Guide\>** This setting is available if: ・You open the driver properties (Printing Preferences screen) from the printer folder. You cannot specify the setting when you open the driver properties from an application.

Setting	Description and Setting Options or Range (*: Default Value)	
Create a New Bar Code	Select if you want to create a new bar code font.	
	Selection	
	* Off (cleared)	Edit mode Use this to edit the settings of a registered bar code font (the font selected in [Bar Code Font List]).
	On (selected))	Create mode Use this to create a new bar code font. The font is registered in [Bar Code Font List] by clicking the [Add] button.
	<Guide> This setting is available if: ・ You open the driver properties (Printing Preferences screen) from the printer folder. ・ The number of registered bar code fonts is less than the maximum (30).	
Bar Code Font Name	Enter the name of the new bar code font.	
	<Guide> This setting is available if: ・ You open the driver properties (Printing Preferences screen) from the printer folder. ・ You specified create mode (the [Create a New Bar Code] checkbox is selected). Up to 31 characters (for 1-byte) or 15 characters (for 2-byte) can be entered. The following characters cannot be used: ・ Space (blank) at the head or tail of the name ・ "@" symbol	
Add	Adds the bar code font [Bar Code Font List]. The settings specified in [Bar Code Settings] are saved.	
	<Guide> This setting is available if: ・ You open the driver properties (Printing Preferences screen) from the printer folder. ・ You specified create mode (the [Create a New Bar Code] checkbox is selected). ・ There is no font with the same name in [Bar Code Font List] or registered in the system (OS).	

Setting	Description and Setting Options or Range (*: Default Value)	
Bar Code Settings	Specify the various settings for the bar code or 2D code in create or edit mode.	
Type	Specify the type of bar code or 2D code. For information on the available code types, please see "4.6.1 List of Supported Bar Codes/2D Codes."	
	<Guide> This setting is available if: ・ You open the driver properties (Printing Preferences screen) from the printer folder. If you change this setting, the other [Bar Code Settings] are updated with the default values for the new [Type].	
Replacement Font	Use this setting if you want to print using the bar code or 2D code selected in [Type] in place of a font registered in Windows.	
	Selection	
	* None	Does not replace a Windows-registered font with a bar code or 2D code when printing. Instead, only prints a bar code or 2D code for the bar code or 2D code type selected in [Type].
	(Font registered in Windows)	Replaces the specified Windows-registered font with the bar code or 2D code selected in [Type].
Default Settings	Resets the settings of the bar code (2D code) selected in [Type] to the default (initial) value.	

4.6.5 Bar Code Settings

Setting	Description and Setting Options or Range (*: Default Value)	
Type	Please see "4.6.4 Setting Items (for all Bar Codes)."	
Replacement Font	Please see "4.6.4 Setting Items (for all Bar Codes)."	
Width	Specify the width of the narrow bar. (by 1/203 inch.) Setting range 1 - 6 *Default value: 2 **\<Guide\>** A setting of at least two dots is recommended for the [Width]. When using a one-dot width, be sure to carefully evaluate factors such as the bar code reader, the paper, and the printer's print darkness settings.	
Height	Specify the height of the bar code. (by 1/203 inch.) Setting range 1 - 255 *Default value: 162	
HRI Text	Specify whether and how to print the HRI text.	
	Selection	
	* None	Does not print the HRI text.
	Top	Prints the HRI text above the bar code.
	Bottom	Prints the HRI text below the bar code.
	Top and Bottom	Prints the HRI text above and below the bar code.
HRI Font	Specify the typeface for the HRI text. This setting can be specified when "Print Top (Bottom, or Top and Bottom)" is selected in [HRI Text].	
	Selection	
	* Font A	Prints the HRI text with Font A.
	Font B	Prints the HRI text with Font B.
	Font C	Prints the HRI text with Font C.
Rotation	Specify the rotation angle for the bar code.	
	Selection	
	* 0 degrees	Prints the bar code based on the [Orientation] setting, without rotating it.
	90 degrees	Prints the bar code, rotating 90 degrees relative to the [Orientation] setting.
	180 degrees	Prints the bar code, rotating 180 degrees relative to the [Orientation] setting.
	270 degrees	Prints the bar code, rotating 270 degrees relative to the [Orientation] setting.

\<Guide\>
・For Code 39 bar codes:
  - Alphabetical characters (A - Z) should be specified in uppercase.
  - The start and stop codes (*) are automatically appended by the printer.
  - If '*' exists in the string, the bar code is printed up to '*'. The subsequent string is printed as normal
    text.

・For Code128 bar codes:
  - Append the start code ({A,{B,{C * 1-byte) at the head of the string.
    If there is no start code, the Code128 bar code is not printed.
  - For the start code C, the code or function should not be specified
    except at the head of the string.

・For ITF bar codes:
  - You can only specify even number of characters.
    If an odd number of characters is specified, one letter at the end of the string is omitted to create the
    bar code.

4.6.6 DataMatrix Code Settings

Setting	Description and Setting Options or Range (*: Default Value)
Replacement Font	Please see "4.6.4 Setting Items (for all Bar Codes)."
Type	Specify the type, square or rectangle. Selection * Square Rectangle
Square Size	Specify the size of the square. Setting Range 0, 10 - 144 * Default value: 0 (Auto)
Rectangle Size	Specify the size of the rectangle. Selection * 18x8 32x8 26x12 36x12 36x16 48x16
Cell Size	Specify the size of the cell. Setting Range 3 - 16 * Default value: 5
Rotation	Specify the rotation angle for the DataMatrix Code.

Rotation Selection:

Selection	Description
* 0 degrees	Prints the DataMatrix Code based on the [Orientation] setting, without rotating it.
90 degrees	Prints the DataMatrix Code, rotating 90 degrees relative to the [Orientation] setting.
180 degrees	Prints the DataMatrix Code, rotating 180 degrees relative to the [Orientation] setting.
270 degrees	Prints the DataMatrix Code, rotating 270 degrees relative to the [Orientation] setting.

4.6.7 PDF417 Code Settings

Setting	Description and Setting Options or Range (*: Default Value)
Replacement Font	Please see "4.6.4 Setting Items (for all Bar Codes)."
Column	Specify the number of columns. Setting Range 0 - 30 * Default value: 0 (Auto)
Row	Specify the number of rows. Setting Range 0, 3 – 90 * Default value: 0 (Auto)
Width	Specify the width. Setting Range 2 - 8 * Default value: 3
Height	Specify the height. Setting Range 2 - 8 * Default value: 3

Error Correction	Specify the error correction level of the PDF417 code.
	
	Selection
	  Level 0
	* Level 1
	  Level 2
	  Level 3
	  Level 4
	  Level 5
	  Level 6
	  Level 7
	  Level 8

Compact PDF	Specify this setting if the PDF417 code is printed as a Compact PDF. Selection * Off (Unchecked) On (Checked)

Setting	Description and Setting Options or Range (*: Default Value)	
Rotation	Specify the rotation angle for the PDF417 Code.	
	Selection	
	* 0 degrees	Prints the PDF417 Code based on the [Orientation] setting, without rotating it.
	90 degrees	Prints the PDF417 Code, rotating 90 degrees relative to the [Orientation] setting.
	180 degrees	Prints the PDF417 Code, rotating 180 degrees relative to the [Orientation] setting.
	270 degrees	Prints the PDF417 Code, rotating 270 degrees relative to the [Orientation] setting.

<Guide>

If the Column = 0 and Row = 0 (default value), the PDF417 Code is printed by calculating the number of rows based on the minimum number of columns.

4.6.8 QR Code Settings

Setting	Description and Setting Options or Range (*: Default Value)	
Replacement Font	Please see "4.6.4 Setting Items (for all Bar Codes)."	
Cell Size	Specify the size of the cell.	
	Setting range 3 - 12 * Default value: 4	
Model	Specify the type of the QR code.	
	Selection	
	Model 1	Specifies QR code model 1.
	* Model 2	Specifies QR code model 2.
	Micro	Specifies a micro QR code.
Error Correction	Specify the error correction level of the QR code.	
	Selection	
	* Level L	Can be restored if about 7% of the code is damaged.
	Level M	Can be restored if about 15% of the code is damaged.
	Level Q	Can be restored if about 25% of the code is damaged.
	Level H	Can be restored if about 30% of the code is damaged. This setting cannot be specified when [Model] is [Micro].
Rotation	Specify the rotation angle for the QR Code.	
	Selection	
	* 0 degrees	Prints the QR Code based on the [Orientation] setting without rotating it.
	90 degrees	Prints the QR Code rotated 90 degrees relative to the [Orientation] setting.
	180 degrees	Prints the QR Code rotated 180 degrees relative to the [Orientation] setting.
	270 degrees	Prints the QR Code rotated 270 degrees relative to the [Orientation] setting.

5 Displaying Printer Status Information

The PT390 printer driver displays printer status information in the printer folder or spooler window when using a serial, parallel or USB interface connection.

・ Displayed in "Status" in the printer folder
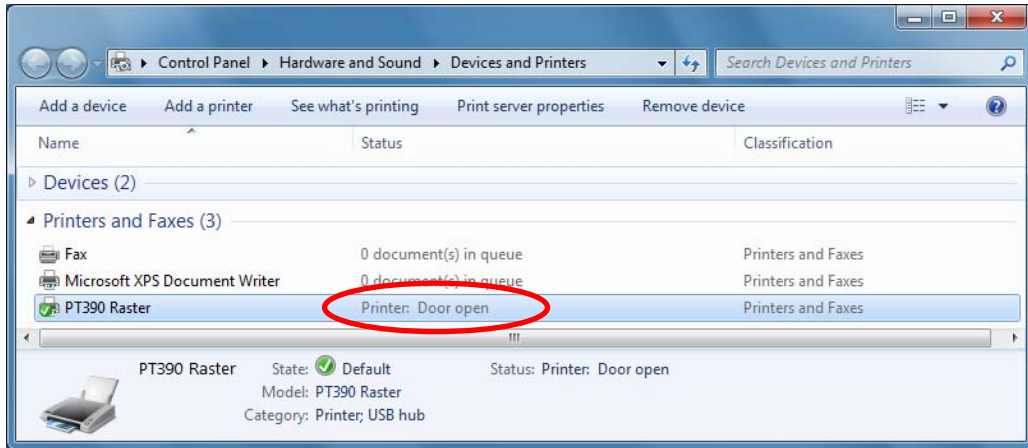
・ Displayed in the title bar of the spooler
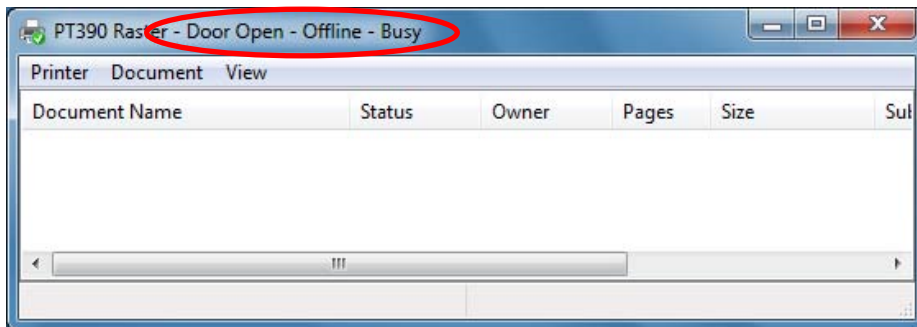
The displayed information may vary depending on the OS.
The following table shows the examples for Windows XP and Windows 7.

<Example of Printer Status Information>

Printer Status	[Status] in Printer Folder		Title Bar of Spooler	
	Windows XP	Windows 7	Windows XP	Windows 7
Offline	Offline	(None displayed)	Offline	Offline
Cover Open	Door Open Offline Busy	Door open	Door Open Offline Busy	Door Open Offline Busy
Paper Out	Out Of Paper Offline Busy	Paper out	Out of Paper Offline Busy	Out of Paper Offline Busy
Head Hot	Offline Busy	(None displayed)	Offline Busy	Offline Busy
Hardware Error	Offline Not Available	Not Available	Not Available Offline	Not Available Offline
Communication Error	Not Available	Not Available	Not Available	Not Available Use Printer Offline

\<Guide\>

・ The printer status information can be displayed when using a serial, parallel or USB interface connection. It is not available when using a LAN interface.

Note that the USB interface uses the printer class. The virtual COM class cannot be used. The [USB] setting in the Printer Setup should be left as "Printer".

・ The printer status information can be displayed when bi-directional communications is enabled for the printer driver.

The default setting in the PT390 printer driver is enabled, so no changes are required.
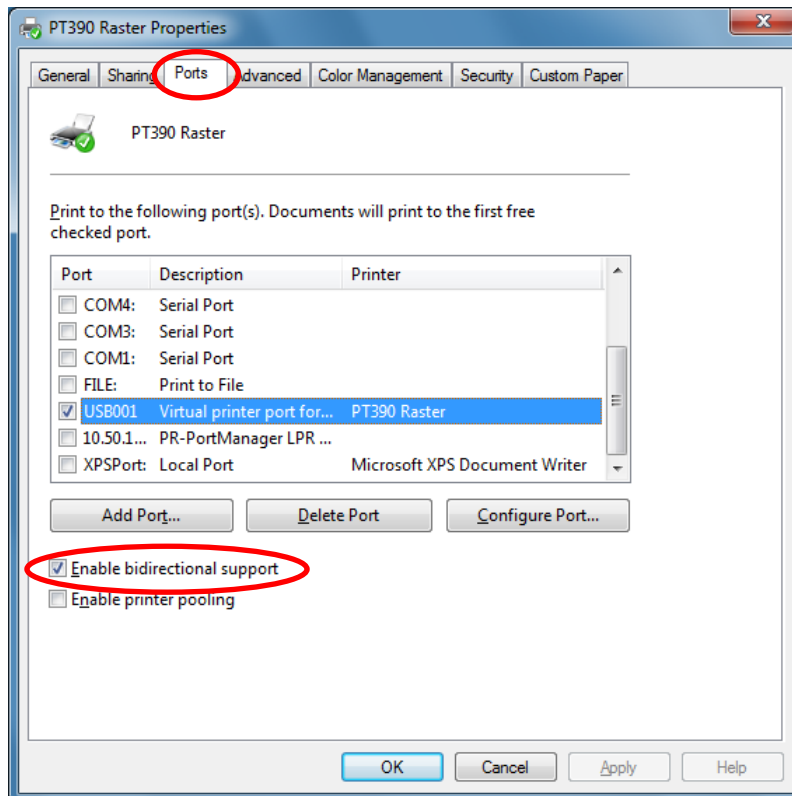
・ If using the serial interface, the printer status information does not display a "Communication Error" if you turn off the printer when any of the following errors occur during printing.

- ・ Head hot
- ・ Paper Out
- ・ Cover Open
- ・ Hardware Error

・ Printer status information is not supported when multiple printers are connected. If multiple printers are connected, valid status information is not displayed.

・ If you are using the serial interface, a baud rate of 115200bps is recommended.

・ If you use the parallel interface, the powered-off status cannot be detected for up to 90 seconds after the printer is turned off.

- The printer status information cannot be used if you run any applications that send control commands to the printer. The application malfunctions because it sends and receives commands to get the printer status information. In this case, disable the bi-directional communication function in the printer driver (uncheck [Enable bidirectional support]) before running the application.

6   Precautions for Use

6.1   Warnings for Printer Driver Settings

(1) Do not select the [Hold mismatched documents] checkbox in the [Advanced] tab. Otherwise, the message "Invalid print setting" is displayed (in the status on the spooler) and the document cannot be printed.

(2) Set [Enable bidirectional support] in the [Ports] tab of the Printer Properties as follows depending on the interface being used.
- If using a serial, parallel or USB interface: Selected (Default)
- If using a LAN interface (PR-PortManager):   Cleared

(3) To use a USB connection to connect two or more of this model of printer:
To add more printers, follow these steps to install the printer driver:
1. Set [Serial No] to "Enable" when adding each printer.
2. Install the printer driver again.

   * The printer setup can be performed from the utility. Please see "Utility User's Guide" for information on how to use the utility. See "3. Installation" of "Printer Driver Installation Guide" for information on how to install the printer driver.

6.2 Application Warnings

(1) If printing a document from application software designed for a different version of the Windows operating system, the printout may be different to that version of Windows.

(2) Depending on the application that you use, the document may not be printed properly if you decrease the margin. In the case of the printer driver's default paper sizes, set the margins to values greater than those shown below.
For custom paper sizes, set the margin when you define the custom paper size.

Paper Size	Orientation: Portrait				Orientation: Landscape			
	Left Margin	Right Margin	Top Margin	Bottom Margin	Left Margin	Right Margin	Top Margin	Bottom Margin
83 x 297 mm (53 column)	1.0	2.0	0.0	0.0	0.0	0.0	2.0	1.0
80 x 297 mm (48 column)	4.0	4.0	0.0	0.0	0.0	0.0	4.0	4.0
80 x 297 mm (42 column)	8.0	8.0	0.0	0.0	0.0	0.0	8.0	8.0
60 x 297 mm (36 column)	3.0	2.5	0.0	0.0	0.0	0.0	2.5	3.0
58 x 297 mm (35 column)	3.0	2.5	0.0	0.0	0.0	0.0	2.5	3.0
58 x 297 mm (32 column)	5.0	5.0	0.0	0.0	0.0	0.0	5.0	5.0

[Unit : mm]

(3) If you want to print multiple copies, select the collate checkbox. Depending on the application that you use, the document may not be printed properly if you clear the collate checkbox. For applications (such as Microsoft Excel) that print multiple copies by creating multiple print jobs, the [End of Document]-[Paper Cut] setting may not work correctly.

(4) If using this printer driver to collate copies, the maximum number allowed in the application is "999."
To set a higher number, print the job multiple times.

6.3   Bar Code and 2D Code Warnings

(1)   The bar code fonts provided by the printer driver are defined as printer fonts. These printer fonts may not appear in the font list of some applications. In this case, you can still print bar codes by using the [Replacement Font] setting to specify substitution of a Windows font with a bar code font.

(2)   If an application has a font substitution function, the bar code font may be replaced by a different font in the application.

(3)   A bar code may not be printed if it exceeds the print area for the specified paper due to the settings (narrow bar or rotation, etc.), position, or number of characters. Check the printed result to set the values.

(4)   Do not apply effects (such as bold, italic or outline) when using bar code fonts. Note that the bar code is not printed properly for vertical or wrapped text.

(5)   The printed bar code is not displayed on the application screen.
   –   Adjust the position to avoid the bar code or 2D code from overlapping the neighboring characters.
   –   The same bar code or 2D code cannot be printed repeatedly on the same line.

(6)   Some applications do not send 2- or 1-byte spaces at the end of strings to the printer driver correctly. If 2- or 1-byte space is specified at the end of the string from an application, the bar code may not print as expected.

(7)   Restrictions for 2D codes
   –   Depending on the application, 2-byte spaces in the specified string are printed as 1-byte spaces.

(8)   Bar code and 2D code data
   –   If the number of characters in the bar code text is invalid (too many or too few), it is not printed.
   –   The following table lists the available character sets and string lengths for bar codes and 2D codes.

[Bar Code]

Bar Code Type	Available Character Set	String Length
Codabar	Numeral: '0' - '9' Symbol: '$', '+', '-', '.', '/', ':', '\' Start/Stop Character: 'A' - 'D' (automatically appended)	1 - 210
Code 128	Code Set A: '{A' 0x00 - 0x5F Code Set B: '{B' 0x20 - 0x7F Code Set C: '{C' 0x00 - 0x63 However, the character '{' is not included.	3 - 210
Code 39	Numeral: '0' - '9' Alphabetical: 'A' - 'Z' Symbol: ' ', '%', '$', '+', '-', '.', '/' * The start/stop character '*' is automatically appended.	1 - 210
Code 93	0x00 - 0x7F	1 - 210
EAN 13 (JAN 13)	Numeral: '0' - '9'	12 - 13
EAN 8 (JAN 8)	Numeral: '0' - '9'	7 - 8
ITF	Numeral: '0' - '9'	2 - 210
UPC type A	Numeral: '0' - '9'	11 - 12
UPC type E	Numeral: '0' - '9'	11 - 12

[2D Code]

2D Code Type	Available Character Set	String Length
DataMatrix	All the codes (0x00 - 0xFF)	Alphanumeral: - 2335 Numeral: - 3116
PDF417	0x00 - 0xFF. However, 0x00 - 0x7F should conform to the ASCII code, and 0x80 - 0xFF should conform to the extended character set of the English table in PC437 (USA:Standard Europe).	Alphanumeral: - 1850 Numeral: - 2710
QR Code	All the codes (0x00 - 0xFF)	**Model 1** Alphanumeric: - 707 Numeral: - 1167 Kanji: - 299 **Model 2** Alphanumeric: - 4296 Numeral: - 7089 Kanji: - 1817 **Micro QR** Alphanumeric: - 21 Numeral: - 35 Kanji: - 9

6.4 Other Notes

(1) If you "cancel" a print job while printing from the printer port, please turn the printer off and on again. If you resume printing a document without restarting the printer, problems such as incorrect print out may occur.

(2) If used with a USB interface on Windows 2000, please turn the printer off and on again after recovering your computer from standby or pause mode. If you print a document without restarting the printer, communication errors may occur and the print job may not be discarded correctly

(3) If you change the port settings in print properties, please restart the computer. If you skip the restart, "Not Available" will be displayed on the spooler and problems such as the print job not completing may occur.

(4) Problems such as failure to print correctly from the OPOS(JavaPOS) driver may occur if the Windows driver and OPOS(JavaPOS) driver are both installed in the same system. In this case, it is recommended that you uninstall the driver that is not being used.

7   Revision History

Revision	Updated date
1.0.0.0	First Edition (2011/07/08)
1.0.1.0	2012/03/01
1.0.1.1	2012/08/02

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