

Setting Guide

● Overview

About NExD feature

● How to Use and Rerence

About a simple method of use of NExD, property and tool

● Restriction

About restriction of NExD

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Following signage are used in this guide. Understand the meaning of each signage before the product.

 Note	Vital observance in use is described. In correct handling against this indication may cause breakdown or operation failure of the product.
 Reference	Supplemental remarks and related matters are described

Restrictions in use

Use this product with attention to safety design of whole system by fail safety design or redundant design to sustain reliability and safety of whole system in case of being used applications which require for high reliability and safety in function and accuracy such as equipment, disaster prevention and security device directly related to operation of airplane, train, vessel, auto-mobile etc.

This product is not designed for use of aerospace hardware, main communication equipment, atomic control device, medical instrument etc. which require extremely higher reliability and safety. Make sure your decision upon users' enough acknowledgement to adequateness of this product in such applications.

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Introduction

NPI Ex Driver (hereinafter referred as to NExD) is Windows driver for printing product made by Nippon Primex Inc.

NExD can control printer with NExD API for POS/Kiosk applications.



This manual explains with screen of Windows XP.
Read this manual as for other OS when different OS used.

Display content of property and tool change depending on each printer to be used.

Contact us

Refer to our website.

<http://www.primex.jp/>

Feature of NExD

Simple

- Enable printing from commercially available application.
- General driver setting with simple setting can be selected
- Logo and graphics are enable to be printed.
- Cut command can be transmitted to printer. (refer to [Paper feed, cut and margin saving] on page 26).
- Open command can be transmitted to cash drawer. (refer to [Drawer Control] on page 28)
- Various printer command can be transmitted to printer at each timing.
- Barcode and 2D barcode can be printed as device font.

Fast

- High speed printing is available to both of device font and full image.
- Image file can be printed at high speed by registering logo into printer. (refer to [Logo Printing] on page 23)

Convenience

- Rotated print enables landscape printing for a bill of receipt. In case printer deployed vertically (wall mount), printing from rear is available for customers' easy viewing. (refer to [Rotated Printing] on page 19)
- It is able to layout character and image behind and to print it. (refer to [Water mark printing] on page 21)
- Reduced printing of documents is available at arbitrary reduction ratio.

Expandability

- Printer command can control printer. (refer to [How to Use NII Control A Font] on page 16)

Programming

- Corresponding to Win32/.Net environment.
Refer to [SDK Guide] for supporting development language.
- Printer status can be confirmed by API of SDK.

Installation

- It is able to reflect preset NExD and printer environment to different computer.
(Printer Setting Control)

How to use NExD and Reference

This guide shows how to use function and tool intergrated with NExD.

Note

Property setting of printer driver must be done by user of Windows administrative right.

Printer Setting of Application

Explains setting to print to printer from application of Windows

Set printer and form from a current using application.

Here directed to word pad. (* Font (Device Font, Barcode Font and Control Font) setting in “word pad” is available only for Windows XP)

Launch [All the programs] from [Start] – [Accessory] – [WordPad].

1. Selecting printer driver

Select [file] – [print] and show print dialogue.

Select target printer to be used.

Reference

This procedure is not required if target printer is set as usual use.

2. Page Setting

Select [file] – [page setting] and show dialogue of page setting. Select paper to be used.

Set margin and click [OK] button.

→Paper width of word pad become the width selected in page setting.

3. End of setting

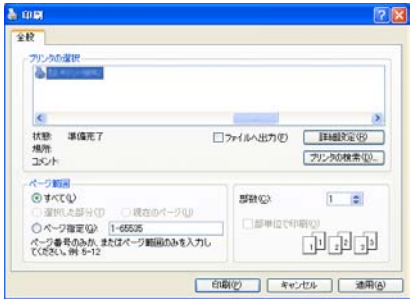
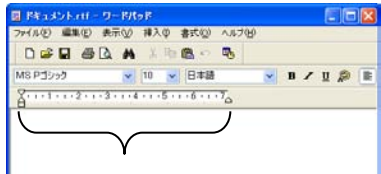


Fig. 1: [Print] dialogue



Fig. 2: [Page setting] dialogue



Selected paper width

Fig.3: WordPad after change in paper

Printing Character (TrueType font)

Printer by TrueType font such as MS P Gothic, MS P Mincho, Arial etc. integrated in Windows. Freely enable character modification like oblique type and font size. In addition, enable printing nearly to screen image.

Reference

TrueType font is printed as image data.

Printing will slow for a long time communication with printer due to a large quantity of printing data when serial interface in use

Printing Character (Device font)

Device font means a built-in font set with printer. Enable acquiring print quality as per printers' printing performance. When serial interface use, it is printed at higher speed than that of TrueType font. It is required for output from method with NExD API in case of printing device font under .NET environment. Refer to [Print Device Font under .NET environment] on page 80 for more details.

Reference

USB interface enables the equally high printing speed both in device font and TrueType font. Considering expressive power of font and freedom degree of layout, it is recommended to use TrueType font.

Note

- Selecting bold/oblique to character is not reflected.
- Under line is printed but position moves over.
- Printing combination of device font, barcode and 2D barcode font in 1 line is not available.
- Barcode and 2D barcode font are not expressed as image in preview and edit screen.
- Device font is effective only when printing direction is vertical and at FALSE for ALL image property.

Note

Device font is not effective at TRUE for [Property] – [Printing Setting] – [All image] items within [Details Setting].
When all image is set to FALSE, water mark printing, rotated printing, and reduced printing are not effective.

How to use NExD and Reference

Variety, size and style of device font

NII ANK A(8.5 point)	= Standard font	NII ANK A(17 point)	= Double height font
NII ANK A Wide(8.5 point)	= Double width font	NII ANK A Wide(17 point)	= Quadruple font
NII ANK B(6 point)	= Standard font	NII ANK B(12 point)	= Double height font
NII ANK B Wide(6 point)	= Double width font	NII ANK B Wide(12 point)	= Quadruple font
NII ANK C(5.5 point)	= Standard font	NII ANK C(11.5 point)	= Double height font
NII ANK C Wide(5.5 point)	= Double width font	NII ANK C Wide(11.5 point)	= Quadruple font
NII GB(8.5 point)	= Standard font	NII GB(17 point)	= Double height font
NII GB Wide(8.5 point)	= Double width font	NII GB Wide(17 point)	= Quadruple font
NII KSK(8.5 point)	= Standard font	NII KSK(17 point)	= Double height font
NII KSK Wide(8.5 point)	= Double width font	NII KSK Wide(17 point)	= Quadruple font

Font name	5. 5 point	6 point	8.5 point	11. 5 point	12 point	17 point
NII Font A	×	×	European	×	×	European
NII Font A Wide	×	×	European	×	×	European
NII Font B	×	European	×	×	European	×
NII Font B Wide	×	European	×	×	European	×
NII Font C	European	×	×	European	×	×
NII Font C Wide	European	×	×	European	×	×
NII Barcode1	×	×	European	×	×	×
NII Barcode2	×	×	European	×	×	×
NII Barcode3	×	×	European	×	×	×
NII Barcode4	×	×	European	×	×	×
NII Barcode5	×	×	European	×	×	×
NII Barcode6	×	×	European	×	×	×
NII Barcode7	×	×	European	×	×	×
NII Barcode8	×	×	European	×	×	×
NII Barcode9	×	×	European	×	×	×
NII Barcode10	×	×	European	×	×	×
NII 2D-Barcode1	×	×	European	×	×	×
NII 2D-Barcode2	×	×	European	×	×	×
NII 2D-Barcode3	×	×	European	×	×	×
NII 2D-Barcode4	×	×	European	×	×	×
NII 2D-Barcode5	×	×	European	×	×	×

How to use NExD and Reference

Font name	5. 5 point	6 point	8.5 point	11. 5 point	12 point	17 point
NII Control	×	×	European	×	×	×
NII ControlA	×	×	European	×	×	×
NII SJIS A	×	×	Japanese	×	×	Japanese
NII SJIS A Wide	×	×	Japanese	×	×	Japanese
NII SJIS B	×	Japanese	×	×	Japanese	×
NII SJIS B Wide	×	Japanese	×	×	Japanese	×
NII SJIS C	Japanese	×	×	Japanese	×	×
NII SJIS C Wide	Japanese	×	×	Japanese	×	×
NII GB	×	×	CHINESE_GB2312	×	×	CHINESE_GB2312
NII GB Wide	×	×	CHINESE_GB2312	×	×	CHINESE_GB2312
NII KSX	×	×	Korean	×	×	Korean
NII KSX Wide	×	×	Korean	×	×	Korean
NII RAW	×	×	European	×	×	×
NII SJIS RAW	×	×	Japanese	×	×	×
NII GB RAW	×	×	CHINESE_GB2312	×	×	×
NII KSX RAW	×	×	Korean	×	×	×

Printing Device Font

Programming

Refer to the following programming example.

<European>

```
' Character set
Printer.Font.Charset = 0
' Font
Printer.Font.Name = "NII ANK A"
' Number of point
Printer.Font.Size = 8.5
' Input string
Printer.Print "Device Font"
```

<Japanese>

```
' Character set
Printer.Font.Charset = 128
' Font
Printer.Font.Name = "NII SJIS A "
' Number of poing
Printer.Font.Size = 8.5
' Input string
Printer.Print "Device Font"
```

<Simplified Chinese Character>

```
' Character set
Printer.Font.Charset = 134
' Font
Printer.Font.Name = "NII GB"
' Number of point
Printer.Font.Size = 8.5
' Input string
Printer.Print "Device Font"
```



Refer to previous item [Variety, size and style of device font] for Printer.Font.Name and Printer.Font.Size.

How to use Barcode Font

NExD incorporates barcode font in it.

For that reason, it enables barcode printing without producing barcode in application side.

Barcode font is used after registering barcode variety and size in property.

NExD is capable of registering 10 kinds (NII Barcode 1 ~ 10).

Note

Device font is not effective at TURE for item [All Image] in [Detail Setting] under [Printer Property] – [Print Setting].

Water mark printing, rotate printing and reduced printing are not available if All image is set to FALSE.

Reference

Set printing speed to quality priority if rotation of barcode selected.

If printing speed is set to speed priority, there may be difficult to recognize barcode.

1. Open [Property] – [Printer setting] – [Setting Printer] – [Font option] tab – [Barcode font setting]
2. Select font name for use [NII Barcode 1 ~ 10].
3. Select barcode for use from variety and select each setting.
4. Click on setting button to store set contents
5. Select a set barcode font (one of NII Barcode 1 ~ 10) from application to write data by selecting size (8.5), Style (European)

Reference

Input data in conformity with a data condition of each barcode.

Printing setting example

Font name: NII Barode1

Type: CODE39

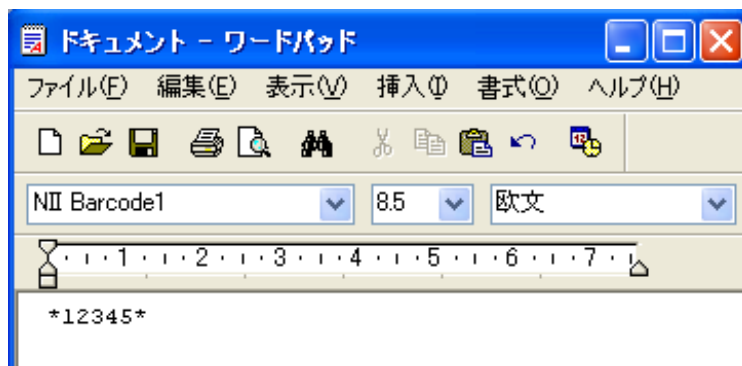


Fig. 4: Printing Setting Example – barcode font

Refer to [Printing Device Font] on page 11 for programming.

How to use 2D Barcode Font

NExD implements 2D barcode font

For that reason, enables 2D barcode printing without making it in application side.

Use 2D barcode font with registering type and size of 2D barcode.

NExD enables registering setting of 5 types (NII 2D-Barcode 1 ~ 5)

Note

When [Printer Property] – [Print setting] – [All image] items within [Detail setting] is set as TRUE, device font is not effective.

When All Image is set as FALSE, water mark printing, rotated printing and reduced printing are not available.

Reference

In case rotation of barcode is selected, set print speed to quality priority. If print speed is set to speed priority, it may be difficult to recognize barcode.

1. Open [Property] – [Printer setting] – [Setting printer] – [Font Option] tab – [2D Barcode font setting].
2. Select font name [NII 2D-Barcode 1 ~ 5] to use.
3. Select 2D Barcode to use from type and select each setting.
4. Click on setting button and restore set contents.
5. Select a selected 2D barcode (one on NII 2D-Barcode 1 ~ 5) from application and select size (8.5), style (European), and write data.

Reference

Input data based on each barcode condition

Printing setting example

Font name: NII Barcode1

Type: QR model 2

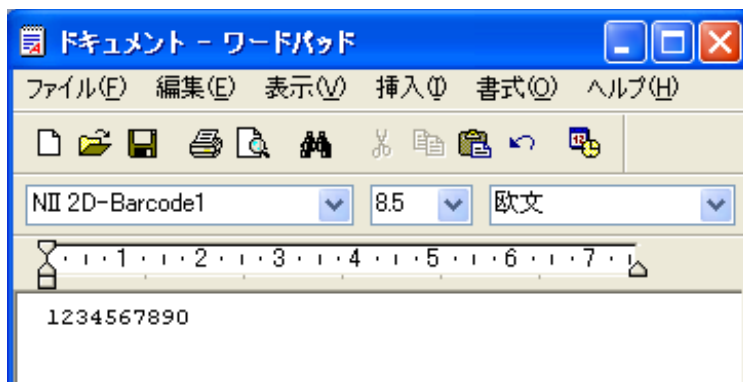


Fig. 5: Printing Setting Example – 2D barcode font

Refer to [Printing Device Font] on page 11 for programming.

How to use Control Font

Control font is a special font execute printer command allocated to fixed character from document.

Note

If [All Image] item in [Detail Setting] under [Printer Property] – [Printing setting] is TRUE, device font is not available.

If All Image is set to FALSE, disable water mark printing, rotated print and reduced printing.

Allocation character and its behavior

Allocation character	Behavior
5	HT
6	LF
7	CR
a	Drawer open 5 pin 50ms
b	Drawer open 5 pin 100ms
c	Drawer open 5 pin 150ms
d	Drawer open 5 pin 200ms
e	Drawer open 5 pin 250ms
f	No paper feed + Full cut
g	No paper feed + Partial cut
h	Printing NV image 0
i	Printing NV image 1
j	Printing NV image 2
m	Selecting inverted character
n	Releasing inverted character
o	Selecting black/white reversed
p	Releasing Black/white reversed
q	Selecting underline
r	Releasing underline

Allocation character	Behavior
s	Selecting enhanced print
t	Releasing enhanced print
u	Selecting 90° clockwise rotated character
v	Releasing 90° clockwise rotated character
w	Position alignment Left
x	Position alignment Center
y	Position alignment Right
A	Drawer open 2 pin 50ms
B	Drawer open 2 pin 100ms
C	Drawer open 2 pin 150ms
D	Drawer open 2 pin 200ms
E	Drawer open 2 pin 250ms
P	Paper feed + Partial cut
Q	Pater feed + Full cut

How to use NExD and Reference

1. Select control font (NII Control) from application, select size (8.5) and style (European), and write data (refer to allocation character and its behavior in previous item).

Printing setting example

Font name: NII Control

Allocation character: x (position alignment Center)

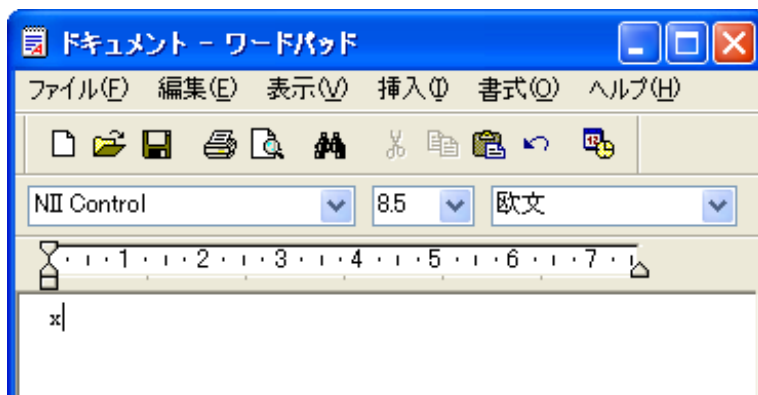


Fig. 6: Printing Setting Example

How to use Control A Font

Control A font is a specific font to execute printer command pre-allocated to arbitrary character from document.

Note

If [All Image] item in [Detail Setting] under [Printer Property] – [Printing setting] is TRUE, device font is not available.

If All Image is set to FALSE, disable water mark printing, rotated print and reduced printing.

Reference

Refer to product specifications of printer for printer command

1. Open [Property] – [Printer Setting] – [Setting printer] – [Font Option] tab – [NIIControl A font setting]
2. Select character to allocate
3. Click on [Edit] button to write target printer command in Command field.

Describe input content as character string for hexadecimal code.

* It is not necessary to display “0 x etc.” at this time.

Example

ESC → 1B

0x303132 → 303132

- Direct selection of character data become effective by surrounding target character data with "" (double quotation)

Example

ESC @ (Printer initialization command) → 1B"@"

12345LF → "12345"0A

* When "" (double quotation) output, select "" (double quotation) twice in a row.

4. Determine edit content by [Enter key] or changing cell during selection.
5. Store setting content by clicking on setting button.
6. Select control A font (NII Control A) from application, select size (8.5) and style (European), and write data.

How to use NExD and Reference

Printing Setting Example

Font name: NII Control A

Allocation character. ! (arbitrary selection content: partial cut)

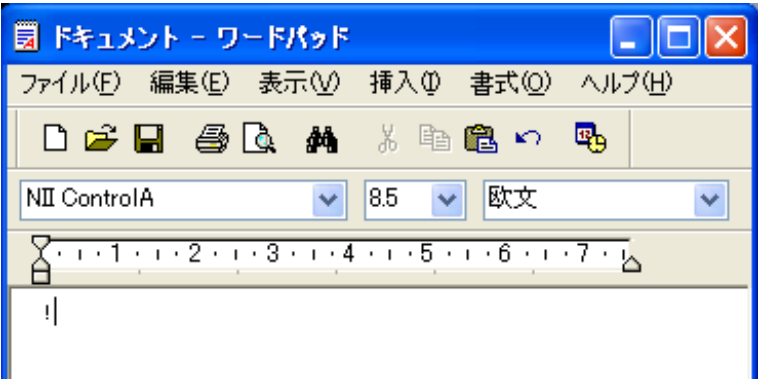


Fig. 7: Print Setting Example – Control A Font

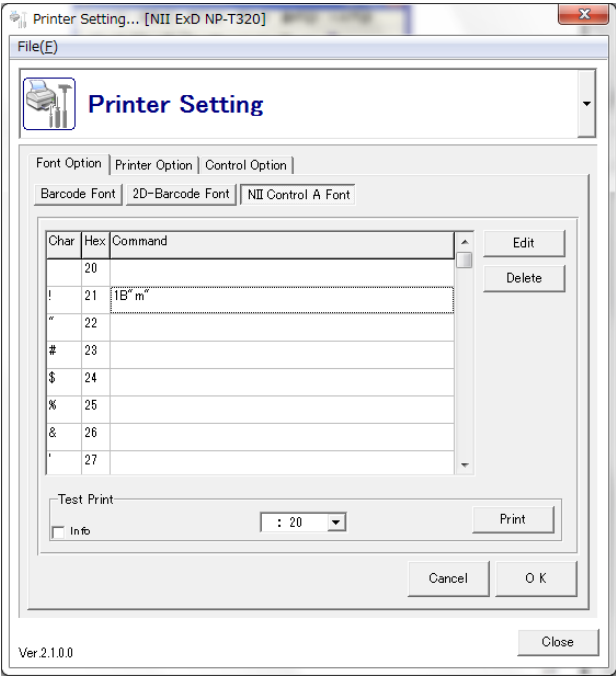


Fig. 8: Command Setting example – Control A font

Density Adjustment

NExD supports 2 types of density adjustment.

1st one to select a standard, dark or light from density selection of formatting window.

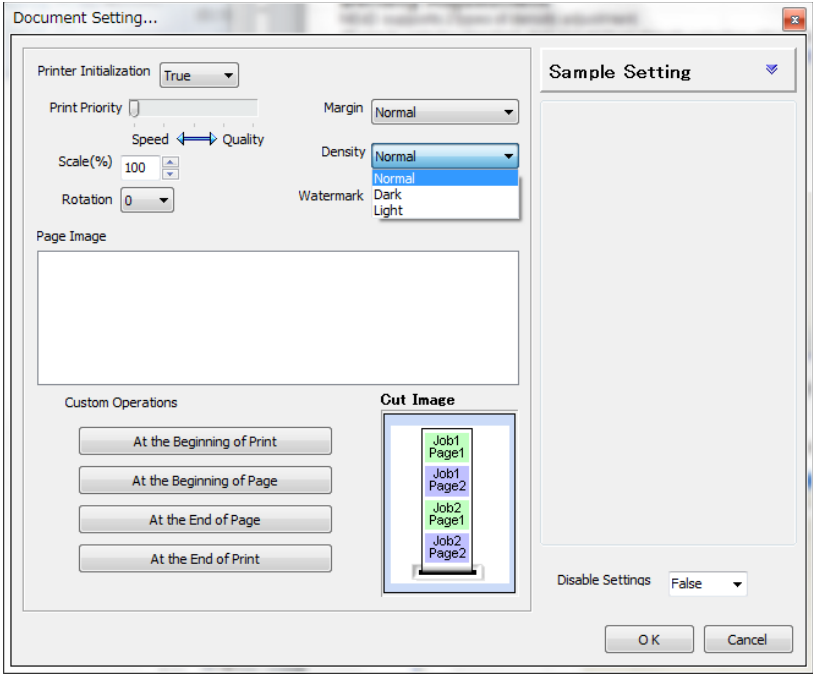


Fig. 9: Simple Density Setting

The 2nd one enable selection from Custom dialogue opened by click on [Formatting] – [Operation at starting point] – [Command transmitting (...)] button.

Reference Refer to product specification of printer for effective value of density.

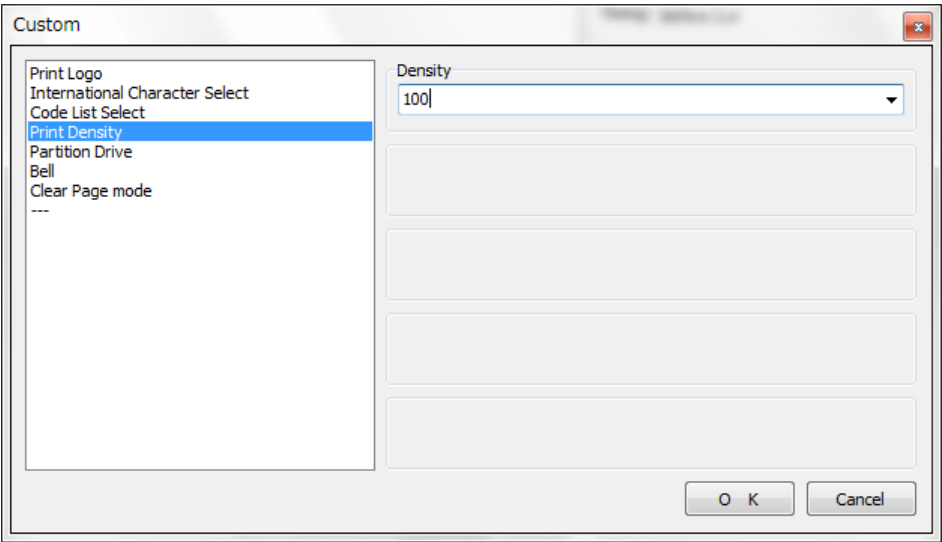


Fig. 10: Custom Density Setting

Rotated Printing

Able to rotate data to print. If 180° clockwise rotating (inverted print) in vertical use of printer, it will be printed in easy viewing direction for customer.

In addition, printer driver enable setting of rotated printing when a bill of receipt needed for Horizontal direction (landscape).

Note

Designating rotation automatically change to TURE for [Printer Property] – [Printer Setting] – [All Image] item in [Detail Setting]
Accordingly, device font is desable.

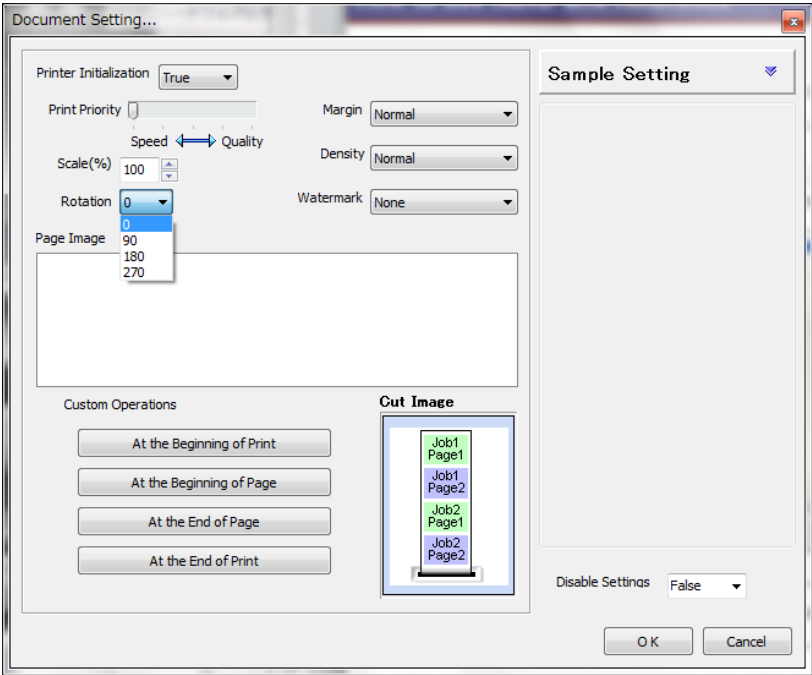


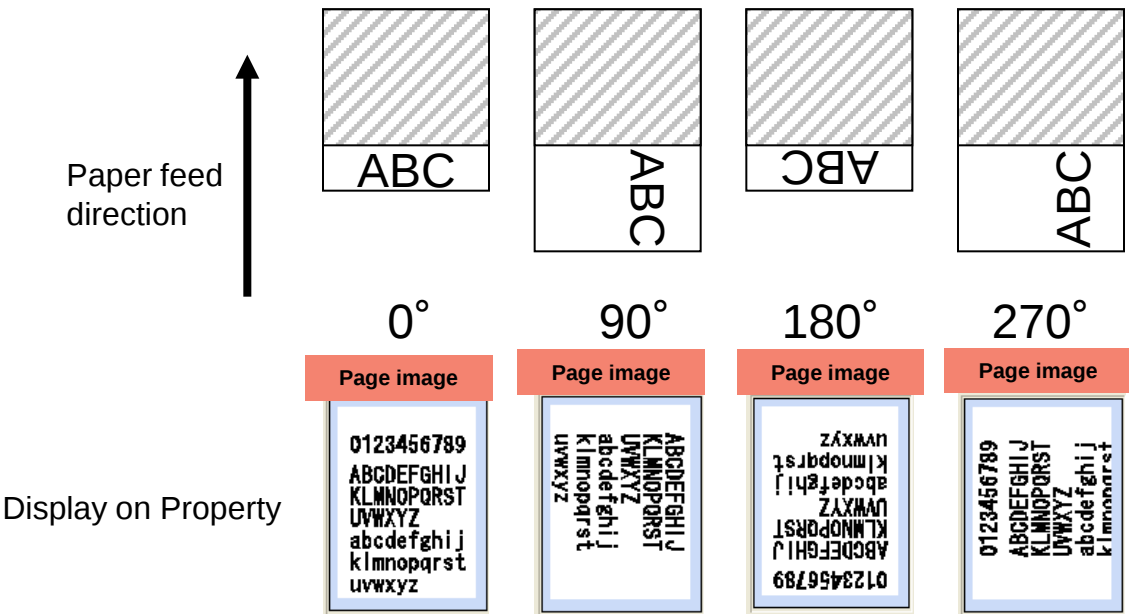
Fig. 11: Designating rotation

Note

Exceeding part from paper after 90° and 270° rotation is discarded.

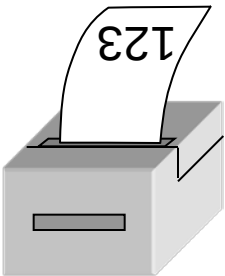
How to use NExD and Reference

Rotated Printing Direction

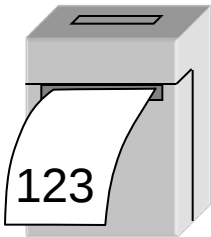


means margin. In order to save paper of this part, designating [Save] in setting [Margin] in property leads to smaller margin.

Printing example
Rotated: 180°



Horizontal



Vertical

Printing Water Mark

Water mark printing equals to superimpose printing image (page) and pre-registered image (NV image: Water Mark).

Note

Designating Water Mark automatically change to TRUE for [Printer Property] – [Printer Setting] – [All Image] item in [Detail Setting]. Accordingly, device font is disabled.

1. Register image to superimpose from [Printer Property] – [Printer Setting] – [NV Image Registration]

Reference

Refer to [Printer Setting – NV Image Registration] for registration of Image to print by superimposing.

2. Designate Water Mark of formatting window.

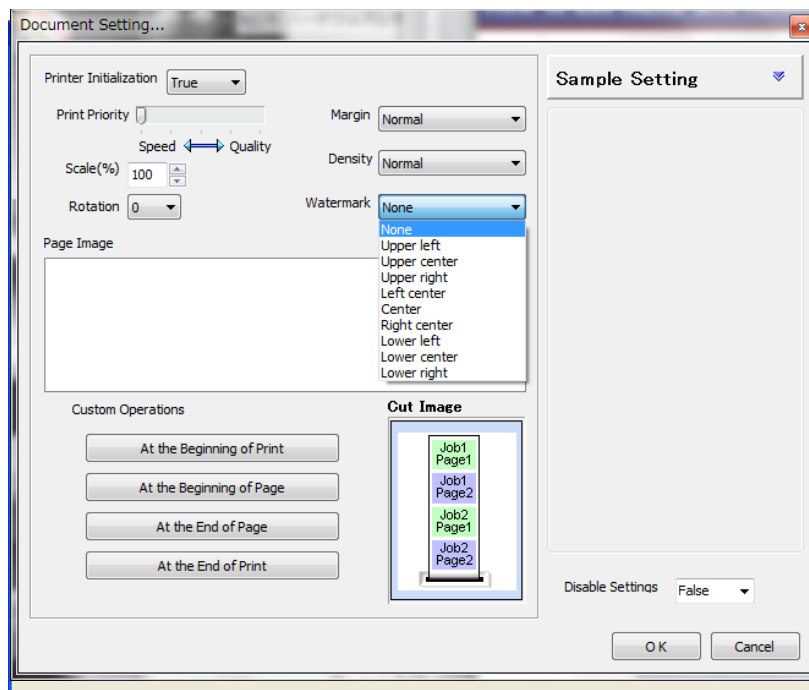
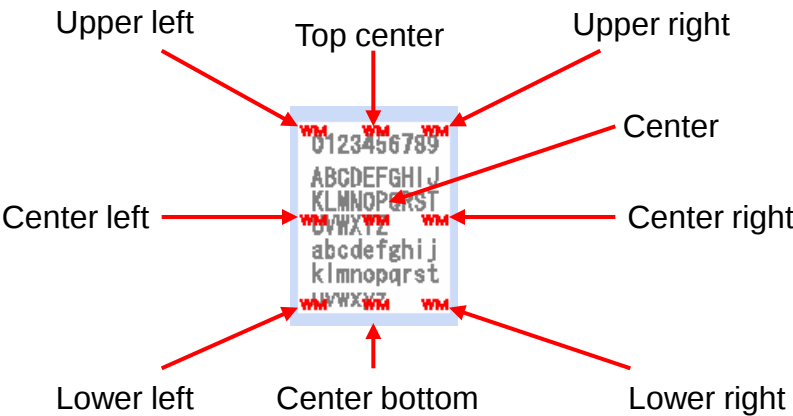


Fig. 12: Water Mark designation

3. Water Mark is printed when printing activated from application.

How to use NExD and Reference

Water Mark Display Position



Printing Example

Water Mark: Center
NV image Pattern0:

SAMPLE

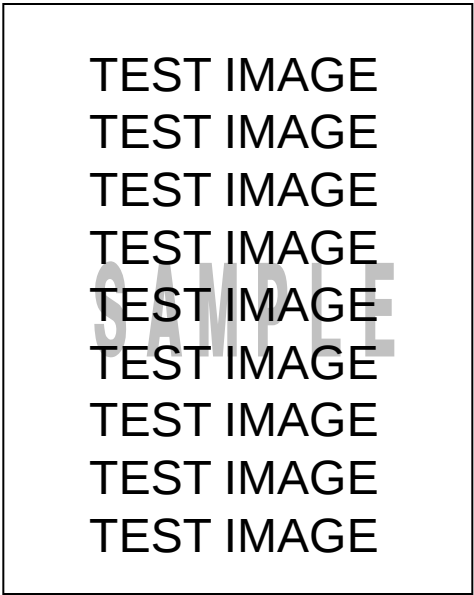


Fig. 13: Example of Water Mark Printing

Printing Logo

It is adequate way to print NV image such as a shop's logo.

Register image data NV memory (nonvolatile memory) in printer with NV image registration tool for a registration of bitmap data.

This memory keeps data even if printer power turned off.

Refer to [Printer Setting – NV image registration] on page 71 for more details.

There are following various ways to print bitmap registered in printer.

- Setting with printer property: print image before/after document or page
- Designating with control font: use control font at position to print bitmap to print.

Setting with Printer Property

1. Open formatting window and click on operation button of desired timing to print logo.

- Operation at starting printing
- Operation at page start
- Operation at end of page
- Operation at end of printing

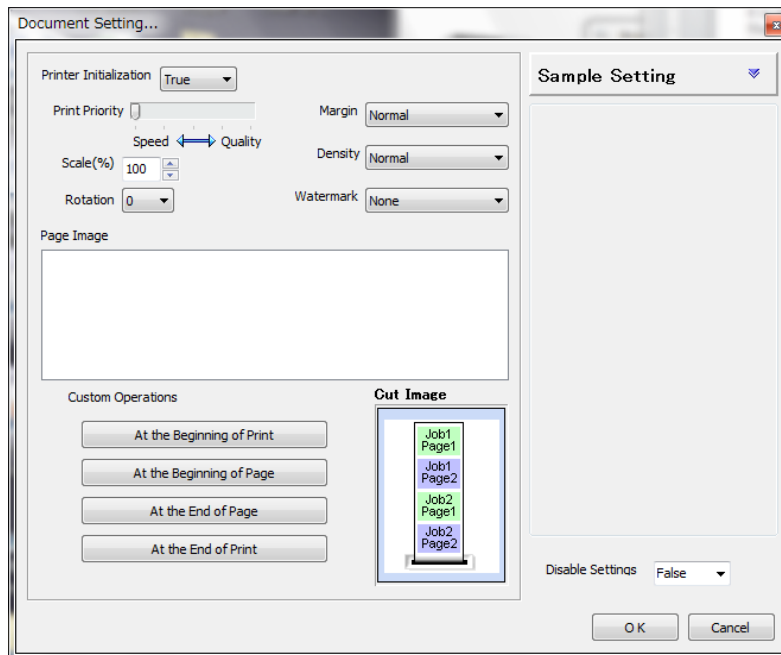


Fig. 14: Formatting ... Window

How to use NExD and Reference

2. Click on [Command Transmission (...)] to open Custom dialogue

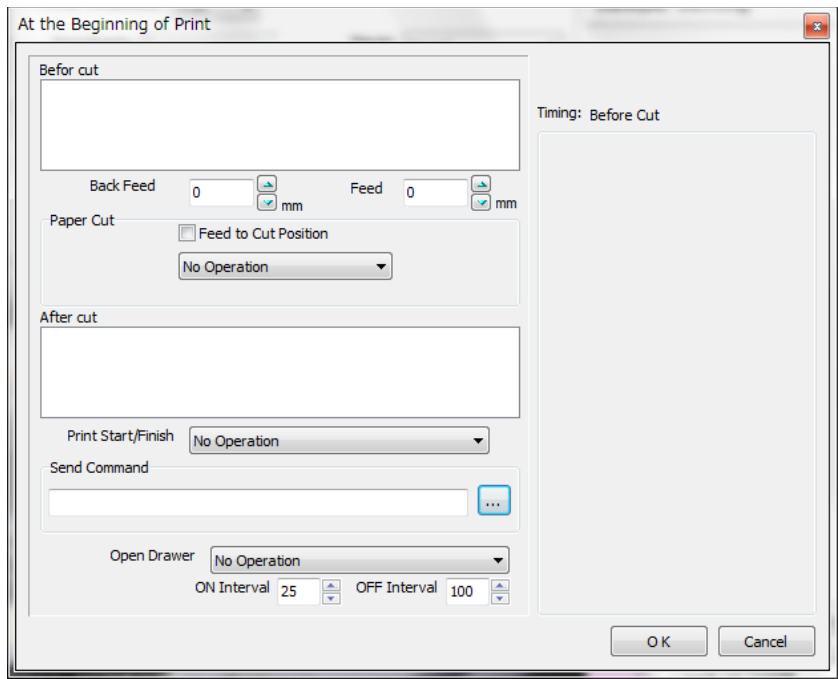


Fig. 15: Operation dialogue at end of page

3. Click on logo printing from list, designate pattern No. (0 ~ 2) and click on OK



Pattern No. 0 ~ 2 designate pattern 0 ~ 2 logo registered in NV image registration

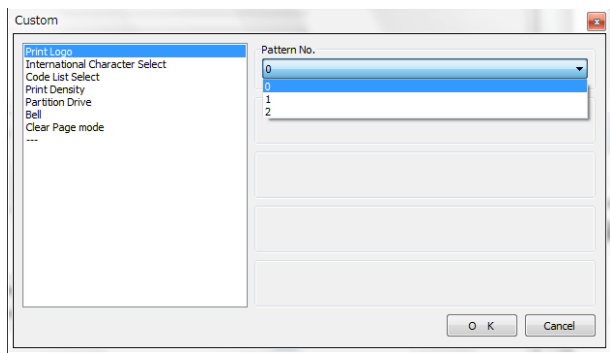


Fig. 16: Custom Dialogue

4. Logo is printed at a designated timing if executing printing from application

How to use NExD and Reference

Print by control font designation

1. Select Control Font (NII Control) application, select size (8.5) and style (European), and write data (refer to [allocation character and its movement] on page 14)

Printing Setting Example

Font name: NII Control

Allocation character: h (NV image 0 printing)

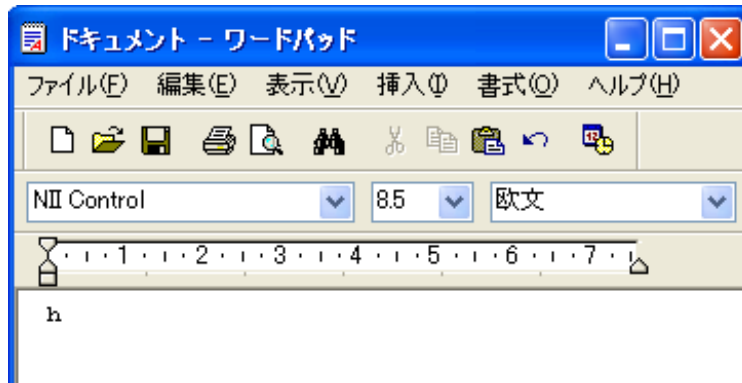


Fig. 17: Printing Setting – Control Font (logo printing)

Refer to [Printing of Device Font] on page 11 as to programming.

Paper feeding and cutting, and saving margin

Paper feeding and cutting are designated by each timing in [Formatting ...].

3 kinds of designation as a means of paper feeding are prepared.

- Fixed value by back feed/feed
- Paper feeding of paper dependence by black mark sensing (it is precondition that black mark option must be added to printer)
- Feeds print termination to cut position

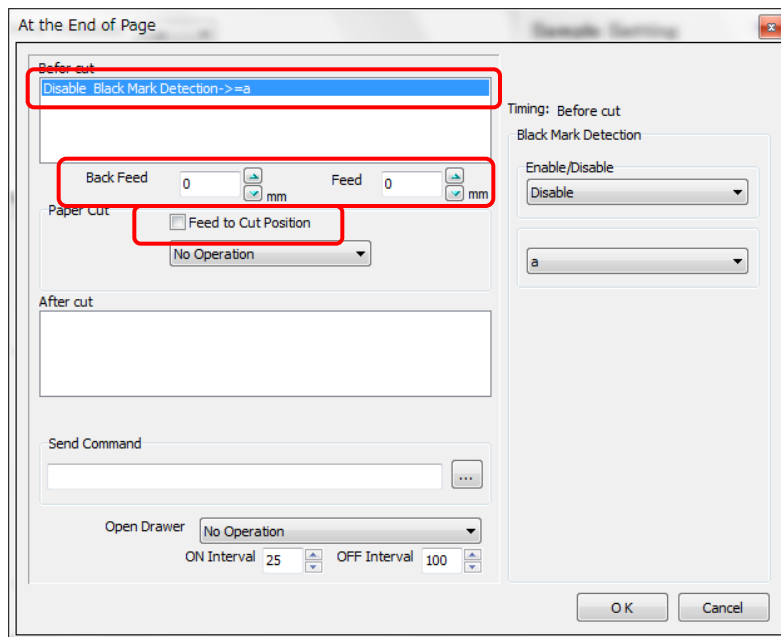


Fig. 18: Designation of Paper feeding

Following conditions disable designation as to paper cut.

Conditions of designating paper cut

- If cut designated by operation at printing start: cut designation is disabled by operation at end of printing.
- If cut designated by operation at page start: cut designation is disabled by operation at page end.
- If cut designated by operation at page end: cut designation is disabled by operation at page start
- If cut designated by operation at print end: cut designation is disabled by operation at print start.

Reference

Designation is available by releasing each condition.

How to use NExD and Reference

Margin length for margin saving at paper top will be short by selecting saving for margin item in [Formatting...]

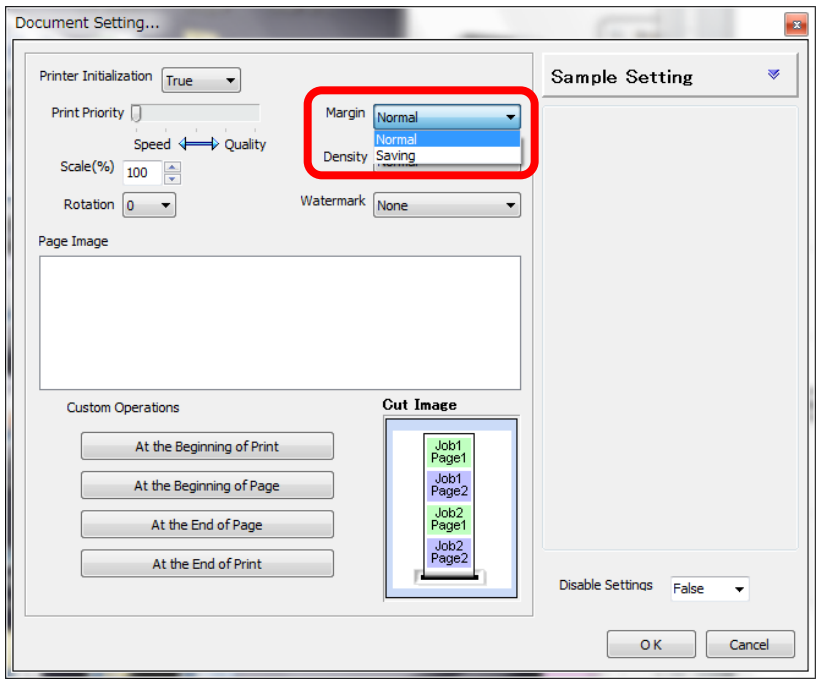


Fig. 19: Designation of Margin



As back feed activated before printing, if margin saving is designated, printing time will be longer

Drawer Control

Drawer is controlled as follows;

- Setting by Printer Property: control drawer before/after document or page
- Selecting by control font: control drawer with control font

Setting by Printer Property

1. Open formatting window, click on operation button of desired timing to control drawer.

- Operation at Printing start
- Operation at Page start
- Operation at Page end
- Operation at Printing end

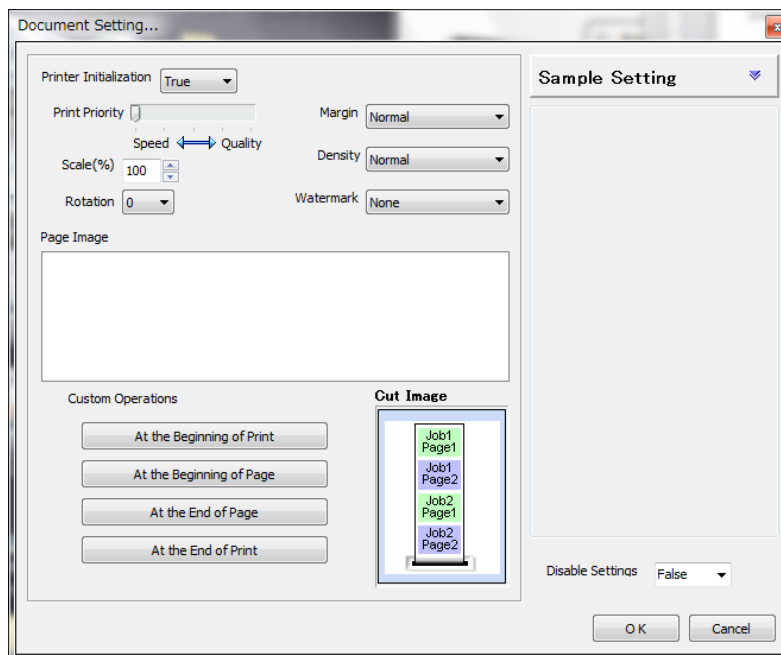


Fig. 20: Formatting ... Window

How to use NExD and Reference

2. Select drawer open 1 (2 pin)/drawer open 2 (5 pin) from drawer open dialogue, designate ON Time or OFF Time

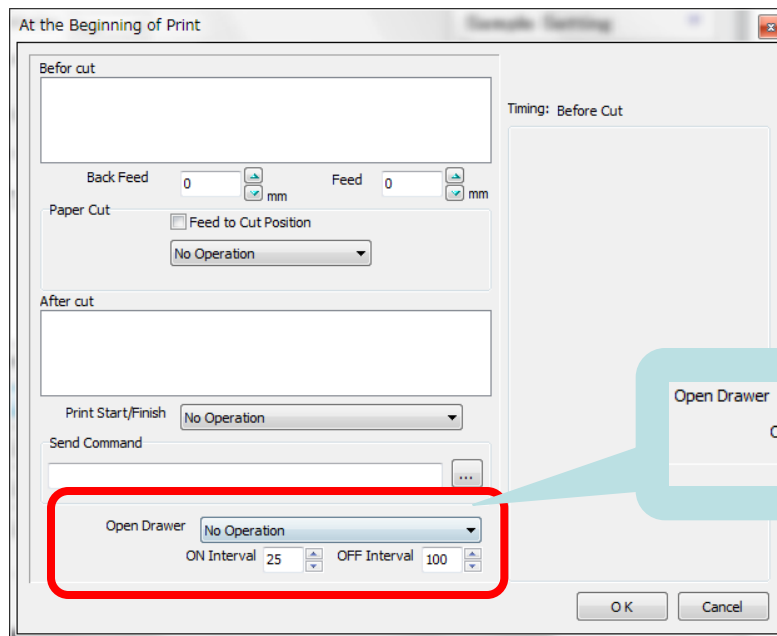


Fig. 21: Dialogue for operation at printing start

3. To activate printing from application enable drawer control at designated timing.

How to use NExD and Reference

Print by designating control font

1. Selecting Control Font (NII Control) from application, select size (8.5) and style (European), and write data (refer to [allocation character and its movement] on page14)

Example for Printing setting

Font name: NII Control

Allocation character: A (drawer open 2 pin 50ms)

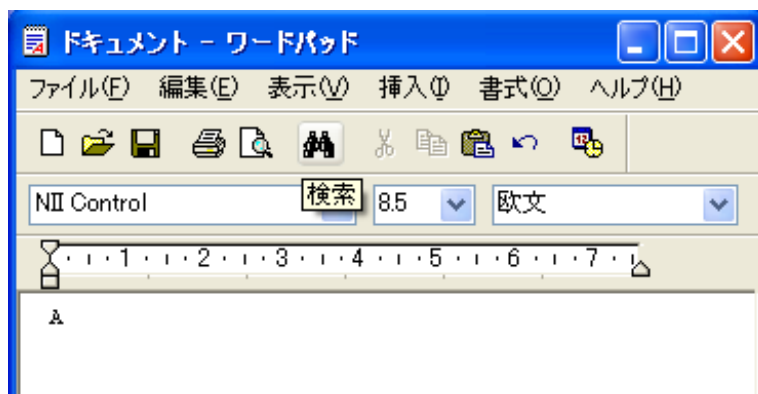
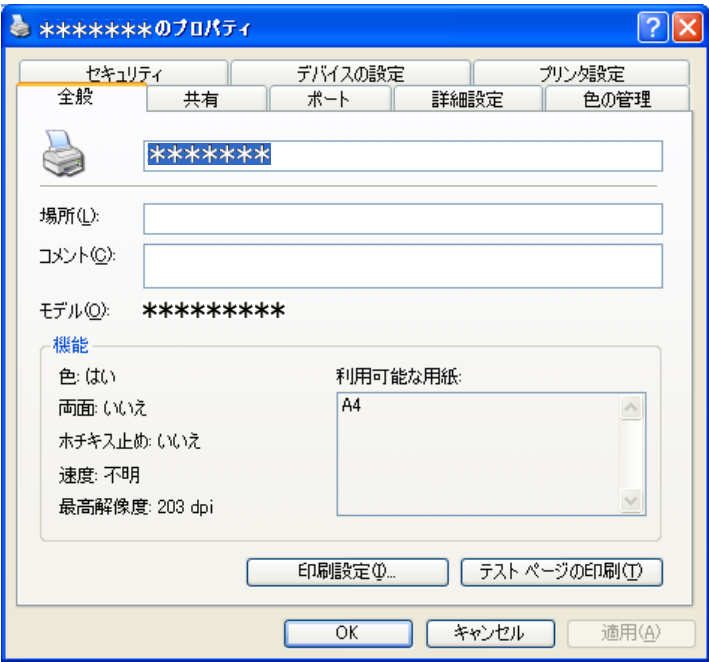


Fig. 22: Printer Setting Example – control font

Refer to [Printing of Device Font] on page 11 for programming.

Property

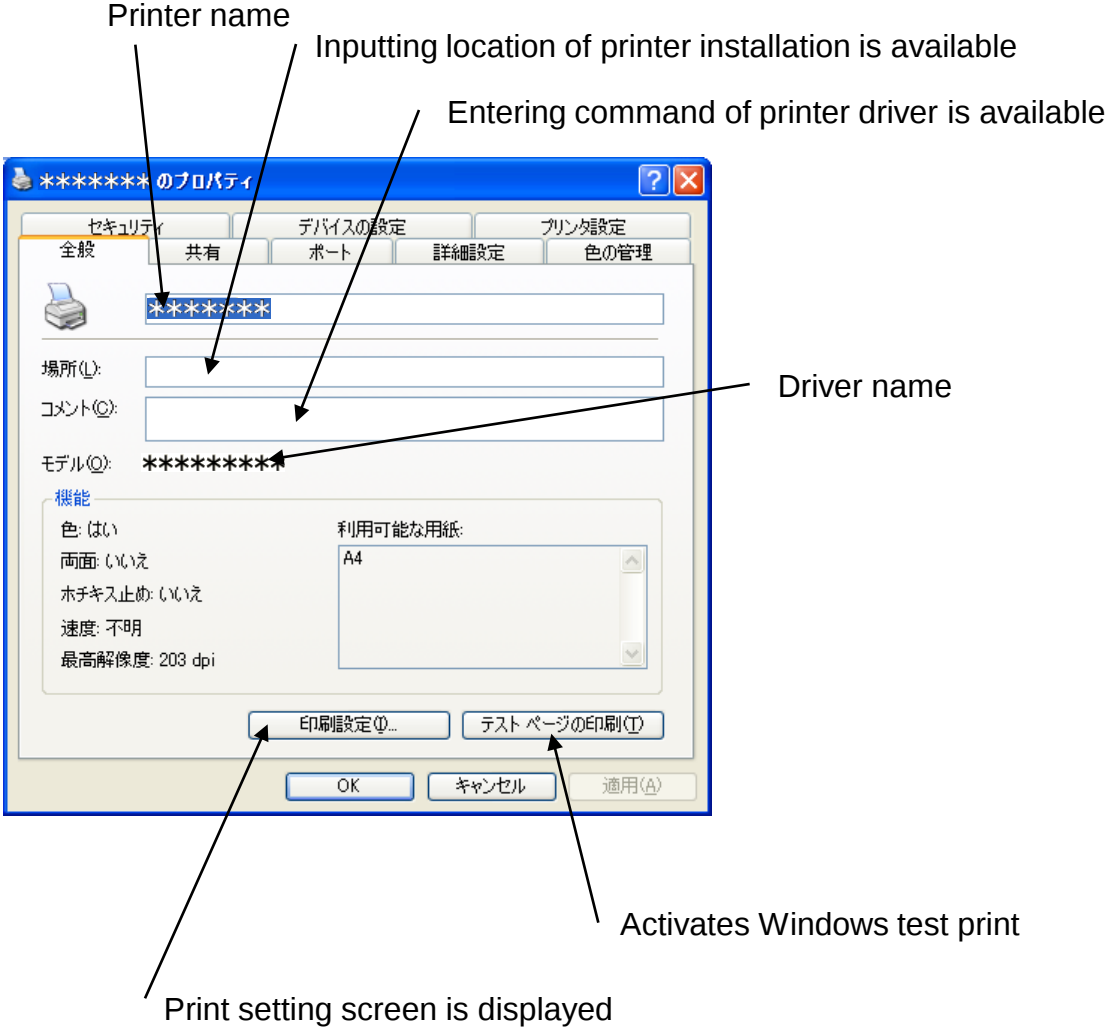
Set as follows in property



Tab	Overview
General	Printer name and print setting, and test printing
Common	Common setting of printer
Port	Setting port
Detail Setting	Designating details at printing
Color control	Designate color to display. (not in use for NExD)
Security	Setting security of Windows
Device Setting	Designate paper feed method of device and paper allocation. (not in use for NExD)
Printer Setting	Display of driver version, and display printer setting window

Property - General

Displaying/changing printer name, displaying print setting screen and printing test page are available.

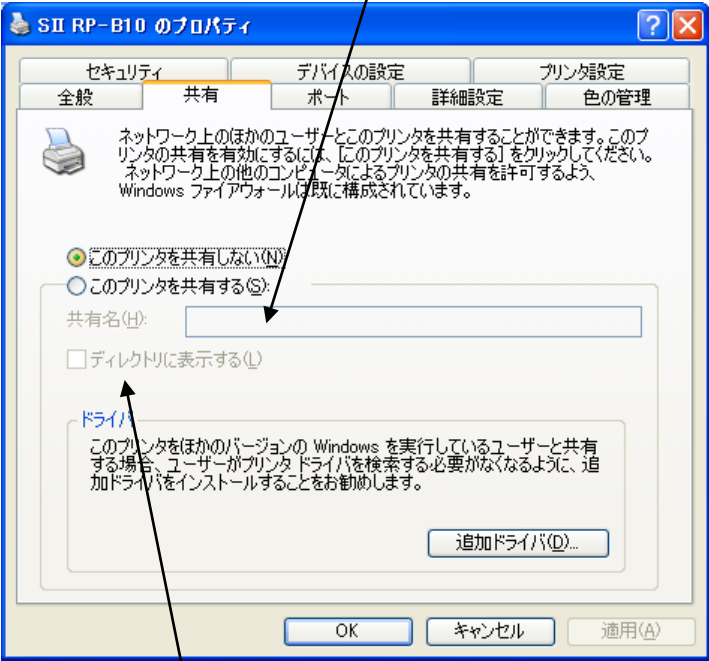


When changing printer name is necessary, reboot computer or print spooler (Service name: Spooler) from [Control Panel] → [Management Tool] → [Service]

Property - Common

Printer common is set.

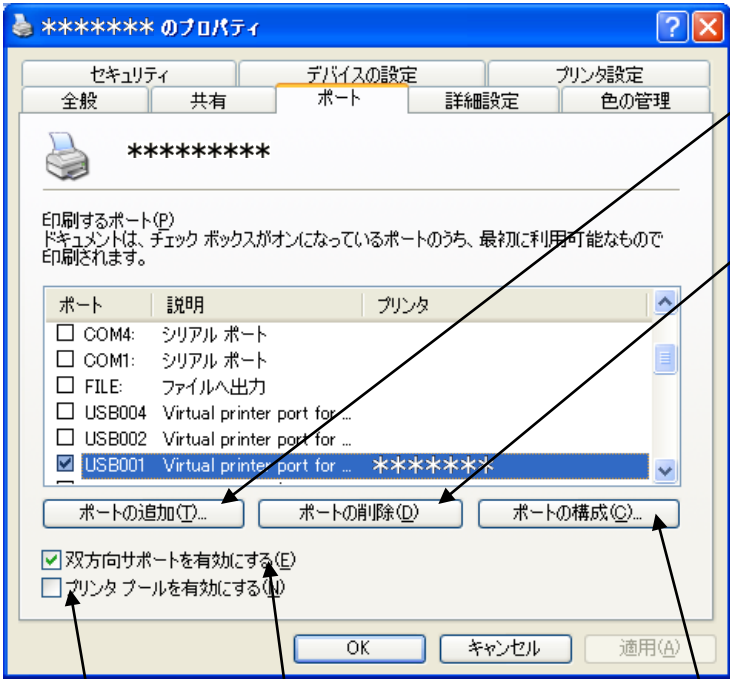
Designate common name of printer.



Determine if displayed on Active Directory.

Property - Port

Port to use is set



A new port is added

Port is deleted

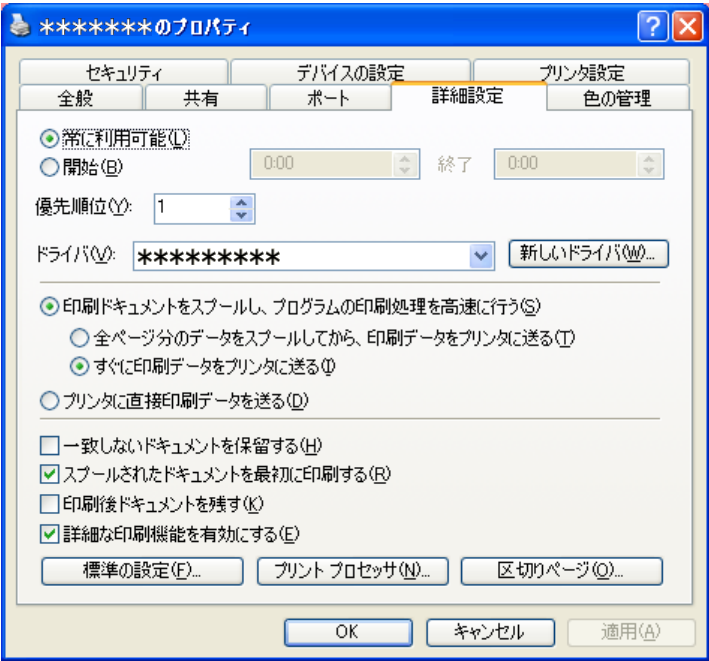
Port is set

DO NOT uncheck the check box. It disable use of NExD

Check boxes of multiple ports can be checked by this checking.
→ Enables printing the same contents with printers connected to multiple ports

Property – Detail Setting

Print detail is set. Use it with default.



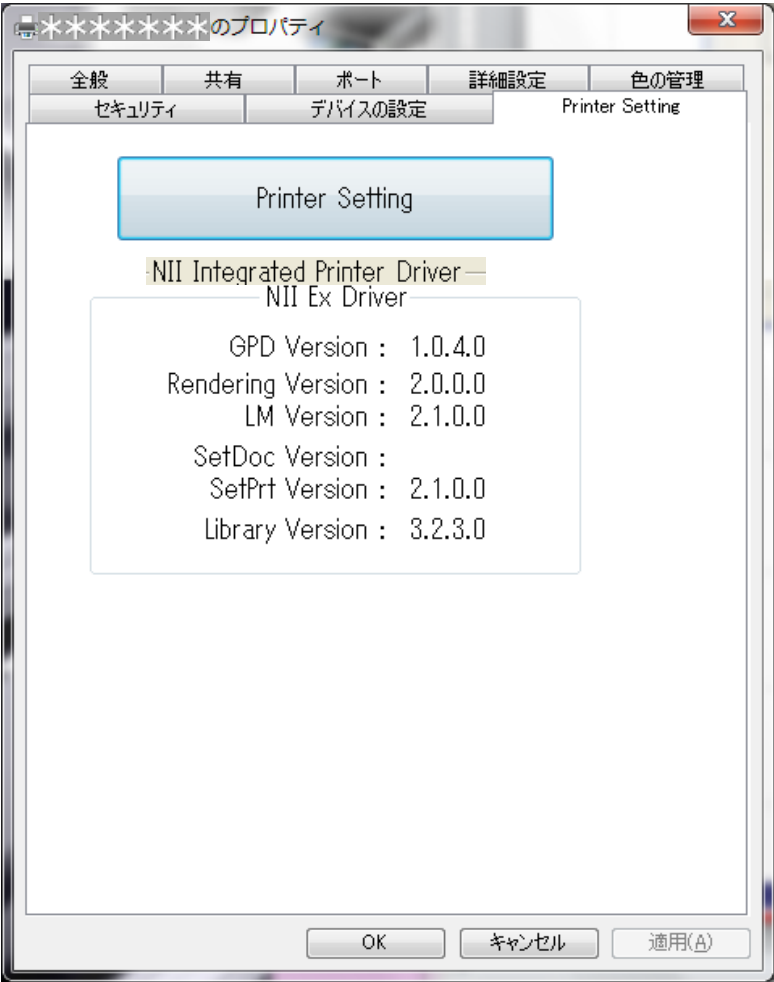
Item	Description
Continuously available (L)	Keeps printer available at any time.
Start (B)/End	Available time of printer is restricted. Stays in spooler during restricting period.
Priority sequence (Y)	Current priority setting is displayed. Higher priority document is printed faster than that of lower priority.
Driver (V)	Installed printer drivers listed.
Printing program is processed at high speed by printing document is spooled. (S)	Document is spooled before printing it.
After spooling data for all pages, printing data is transmitted to printer. (I)	Final page of document before printing starts.

How to use NExD and Reference

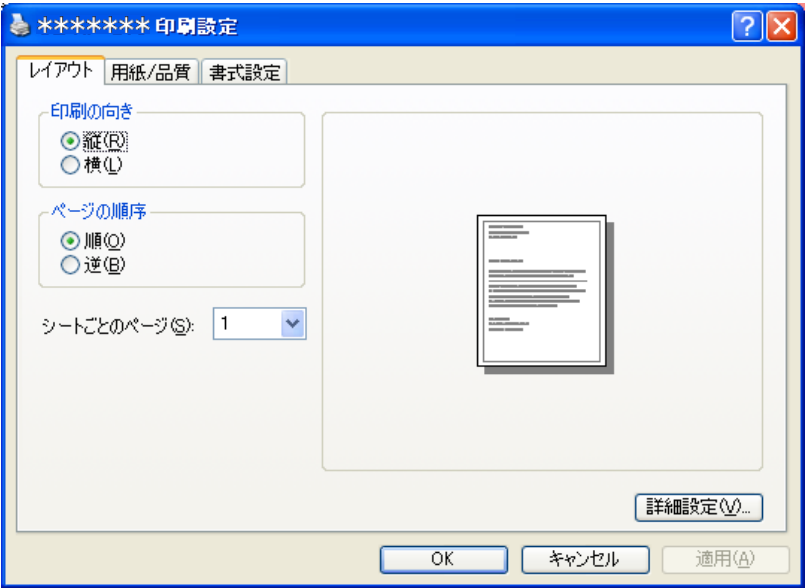
Item	Description
Printing data is transmitted to printer promptly (<u>I</u>)	Designates printing start after spooling top page of document.
Printing data is transmitted to printer directly. (<u>D</u>)	Document is transmitted to printer without spooling it.
Unmatched document is held. (<u>H</u>)	Before transmitting document to printer, printer setting is confirmed by spooler, checks against document setting, and document is held in spooler in case information is unmatched.
Spooled document is printed at first. (<u>R</u>)	If [Print spooled document at first] is ON, when spooler judges a next order to print, even if spooled document at time of spool completion if lower order against document during spool, the spooled document is printed on a priority basis. In addition, in case there is not document completely spooled, spooler prints the largest one among documents during spool on a priority basis. If [Print Spooled Document at first] is OFF, since spooler prints document based on priority basis, even if there is a spooled document, if the other document during spool is set higher priority than the spooled document, the document during spool is printed on priority basis.
Document is left after printing. (<u>K</u>)	Since the document after printing is left in printing spooler, a prompt reprint is enabled.
Detailed print function is activated. (<u>E</u>)	Document is transmitted with MetaFileData type (EMF), detailed function such as page order, booklet printing, number of page per sheet etc. is enabled. When problem with compatibility occurred, disable this function.
Standard Setting	Click in case of making print setting as standard.
Print Processor	Click when designating variety of data. Normally it is not necessary to change predetermined print processor and variety of data.
Partition page	Not available.

Property – Printer Setting

Printer setting window is activated and each file version of driver is display

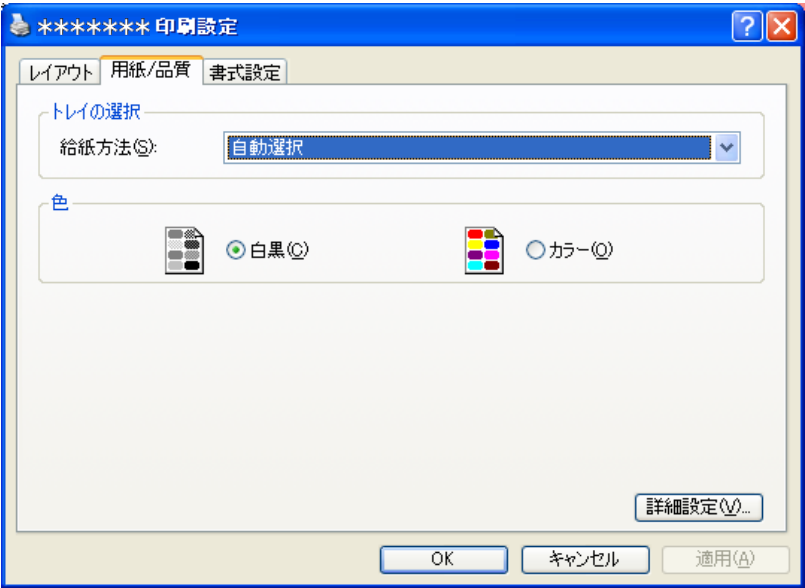


Print Setting - Layout



Item name	Value
Print direction	Vertical (printing vertically against paper)
	Horizontal (printing horizontally against paper) Text font is unavailable. Use Windows font.
Page order	Order (the first page is printed at first)
	Reverse (the first page is printed at the end)
Page per sheet	1 (select this normally)
	2, 4, 6, 9, 16 (not supported)

Print Setting – Paper/Quality

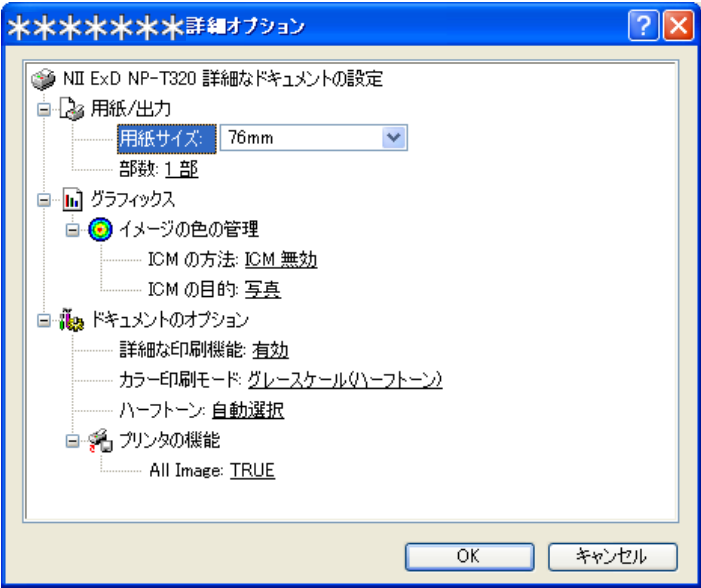


Item name	Value
Paper feed method	Automatic selection (select this normally)
	Roll Paper Holder (printing from roll paper holder)
Color	Color is grey scale (halftone)



Set All Image of detail setting to TRUE when color set.
Automatic setting from spooler may not be activated normally.

Print Setting – Detailed Setting



Item name	Value
Paper size	Select the same size as the paper set in the printer.
Number of copy	Set number of copy when copy is necessary
Method of ICM	ICM invalid
	ICM handling by host system
	ICM handling by printer
Purpose of ICM	Graphic
	Picture
	Proofreading
	Chord
Detailed print function	Valid (select this normally)
	Invalid (print direction, order, page per sheet and number of copy are reset)
Color print mode	Monochrome
	Grey scale (halftone)



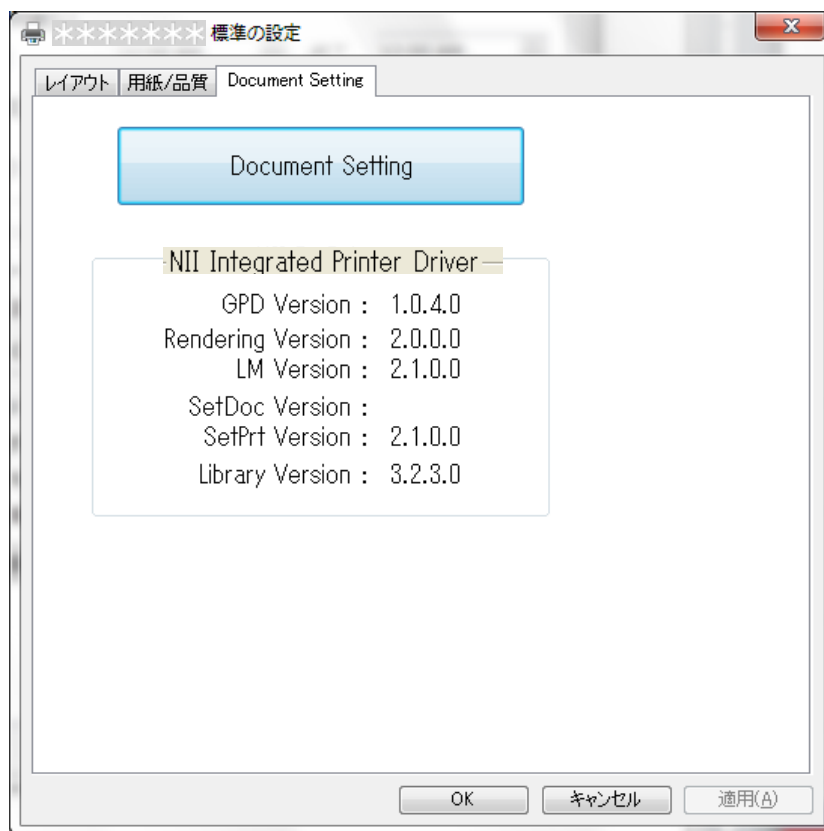
Set All Image of detailed setting to TRUE when color print mode set to Grey Scale (halftone). Automatic setting from spooler may not activate normally.

How to use NExD and Reference

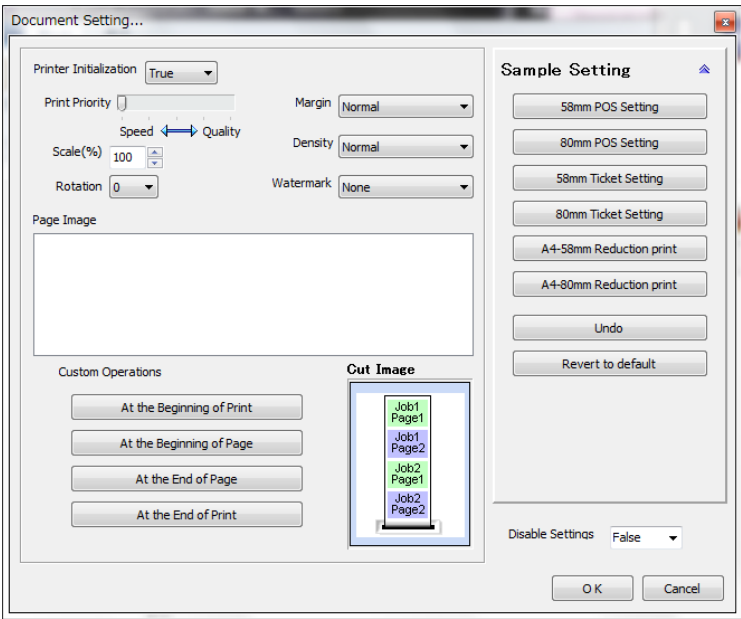
Item name	Value
Halftone	Automatic selection (select this normally)
	SuperCell (unidriver activate halftone processing)
	Dithering 2x2 (unidriver activates halftone processing)
	Dithering 4x4 (unidriver activates halftone processing)
	Dithering 6x6 (unidriver activates halftone processing)
	Dithering 8x8 (unidriver activates halftone processing)
All Image	FALSE (bit image output: device font is available to use)
	TRUE (Raster output: device font is available to use)

Print Setting – Format Setting

Display formatting... activating window and displaying each file version of driver



Print Setting – Format Setting. . .



Item name		Value
Easy Setting		Batch changing to designated setting
	58mm POS setting Button is displayed by clicking easy setting.	Paper: 58mm Scale: 100% Rotation: 0° Movement at print start ⇒ drawer open: drawer open 1 ON Time: 25 (50msec) OFF Time: 100 (200msec) Print notice setting: flag + notice + discard after read Action at the end of printing ⇒ feed to cut position: ON Partial cut Print notice setting: flag + notice + discard after read
	80mm POS setting Button is displayed by clicking easy setting.	Paper: 80mm Scale: 100% Rotation: 0° Action at print start ⇒ drawer open: drawer open 1 ON Time: 25 (50msec) OFF Time: 100 (200msec) Print notice setting: flag + notice + discard after read Action at the end of printing ⇒ feed to cut position: ON Partial cut Print notice setting: flag + notice + discard after read

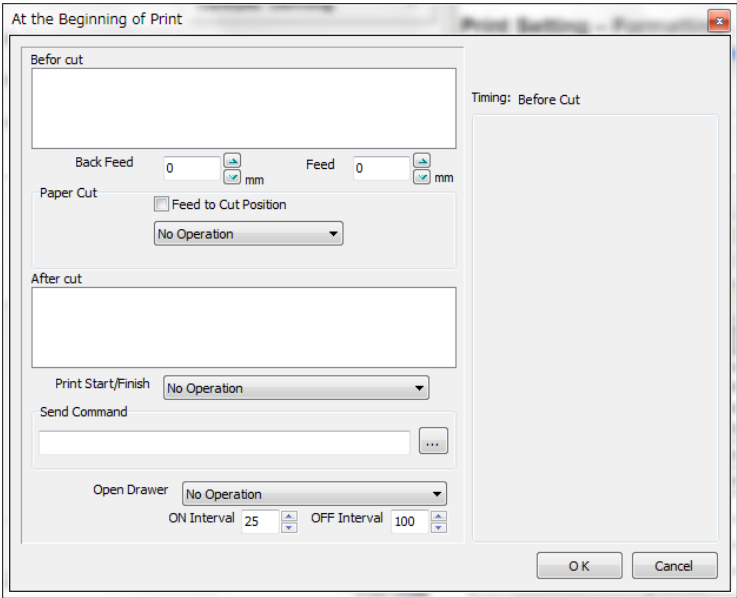
How to use NExD and Reference

Item name		Value
Simple Setting		Batch changing to designated setting
	58mm ticket setting Button is displayed by clicking simple setting	Paper: 58mm Scale: 100% Rotation: 0° Action at print start ⇒ Print notice setting: flag + notice + discard after reading Action at the end of page ⇒ Feed to cut position: ON Partial cut Action at the end of printing ⇒ Print notice setting: flag + notice + discard after reading
	80mm ticket setting Button is displayed by clicking simple setting	Paper: 80mm Scale: 100% Rotation: 0° Action at print start ⇒ Print notice setting: flag + notice + discard after reading Action at the end of page ⇒ Feed to cut position: ON Partial cut Action at the end of printing ⇒ Print notice setting: flag + notice + discard after reading
	A4-58mm reduced printing Button is displayed by clicking simple setting	Paper: A4 Scale: 27% Rotation: 0° Action at the end of page ⇒ Feed to cut position: ON Partial cut
	A4-80mm reduced printing Button is displayed by clicking simple setting	Paper: A4 Scale: 38% Rotation: 0° Action at the end of page ⇒ Feed to cut position: ON Partial cut
	Return before change Button is displayed by clicking simple setting.	Returns setting contents to status before change
	Return to default Button is displayed by clicking simple setting.	Sets setting contents to default. * The contents differs based on each model.

How to use NExD and Reference

Item name	Value
Printer initialization	True (select this normally)
	False (select this when initialization is not preferred)
Printing speed	Print speed setting (speed priority ⇔ print quality priority) 5 steps.
Margin	Standard
	Saving
Density adjustment	Standard (select this normally)
	Dark (select this for thick paper and color-dulling paper)
	Light (select this for thin paper and non color-bulling paper)
Water mark	Select position to print superimposed image registered in pattern 0 of NV image. Refer to [Water Mark Printing] on page 21 for detail..
Scale	25% ~ 100%
Rotation	0° / 90° / 180° / 270° Refer to [Rotation Print] on page 19 for detail.
Setting disable	All the contents of formatting are disabled by selecting TRUE. (except for scale and rotation)

Print Setting – Formatting. . . – Operation at Starting Print



Item name	Value
Drawer open	Not open (not to send command) Drawer open 1 Drawer open 2 Refer to [Drawer Control] on page 28 for detail
Back feed	0-31.875mm
Feed	0-31.875mm
Feed to cut position	ON/OFF
Paper cut	No cut
	Partial cut
	Full cut

How to use NExD and Reference

Item name	Value
Print notice setting * Make the same setting even for operation at the end of printing if designated except for [without]	Without (not to transmit any command)
	Flag + discard after reading
	Flag + not to discard after reading
	Flag + with notice + discard after reading
	Flag + with notice + not to discard after reading
	Flag + buffering + discard after reading
	Flag + buffering + not to discard after reading
	Flag + buffering + notice + discard after reading
	Flag + buffering + notice + not to discard after reading
Command transmitting	Direct input/edit printer command, or display custom dialogue from [. . .] button to make simple input

Note

Due to exclusive condition as to paper cut, status incapable of setting may take place.

Refer to [Paper feeding, cutting and saving margin] on page 26 for details.

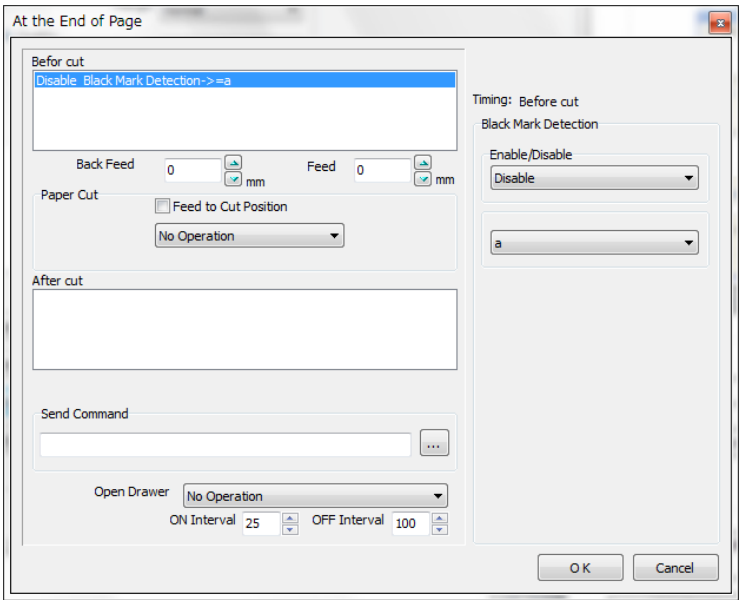
Print Setting – Formatting. . . – Operation at Page Start

Item name	Value
Drawer open	Not open (not to transmit command) Drawer open 1 / Drawer open 2 Refer to [Drawer Control] on page 28 for detail.
Back feed	0-31.875mm
Feed	0-31.875mm
Feed to cut position	ON/OFF
Paper cut	No cut
	Partial cut
	Full cut
Command transmitting	Directly input/edit printer command, or display Custom dialogue from [. . .] button to make simple input.



Due to exclusive condition as to paper cut, status incapable of setting may take place.
Refer to [Paper feeding, cutting and saving margin] on page 26 for detail.

Print Setting – Formatting. . . – Operation at Page End

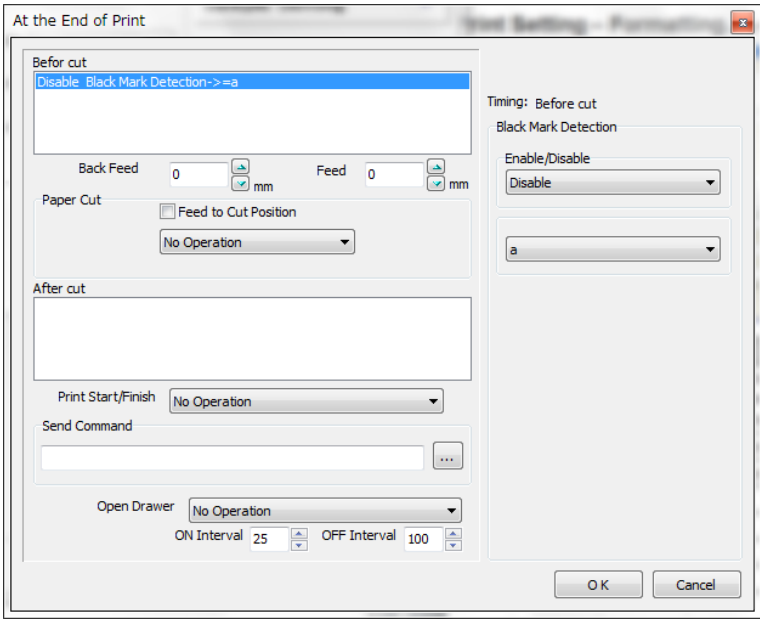


Item name	value
Drawer open	Not open (not to transmit command) Drawer open 1 / Drawer open 2 Refer to [Drawer Control] on page 28 for detail.
Back feed	0-31.875mm
Feed	0-31.875mm
Feed to cut position	ON/OFF
Paper cut	No cut
	Partial cut
	Full cut
Command transmitting	Directly input/edit printer command, or display Custom dialogue from [. . .] button to make simple input.



Due to exclusive condition as to paper cut, status incapable of setting may take place
Refer to [Paper feeding, cutting, and saving margin] on page 26 for detail

Print Setting – Formatting. . .–Operation at Ending Print



Item name	Value
Drawer open	Not open (not to transmit command) Drawer open 1 / Drawer open 2 Refer to [Drawer Control] on page 28 for detail.
Back feed	0-31.875mm
Feed	0-31.875mm
Feed to cut position	ON/OFF
Paper cut	No cut
	Partial cut
	Full cut

How to use NExD and Reference

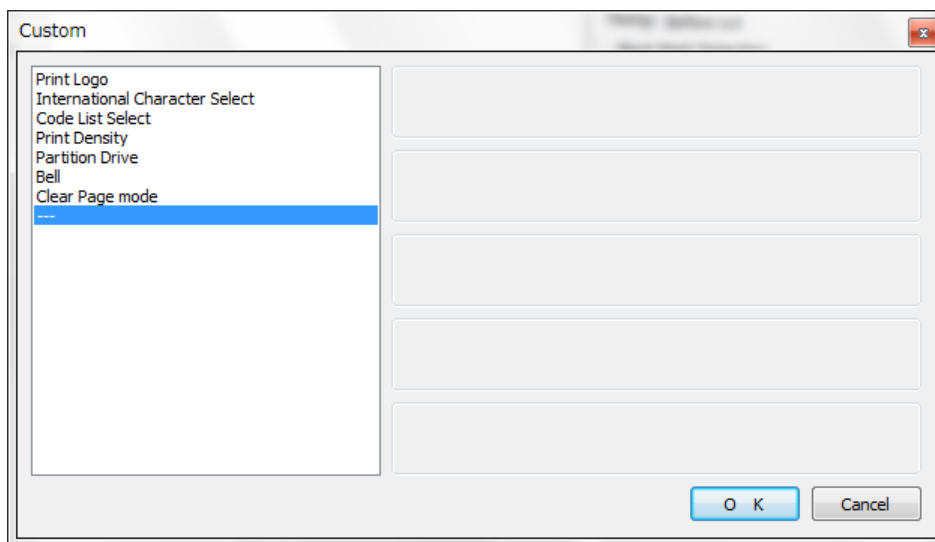
Item name	Value
Print notice setting * Make the same setting even for operation at print start if designated except for [No]	No (not to send command)
	Flag + discard after reading
	Flag + not to discard after reading
	Flag + notice + discard after reading
	Flag + notice + not to discard after reading
	Flag + buffering + discard after reading
	Flag + buffering + not to discard after reading
	Flag + buffering + notice + discard after reading
	Flag + buffering + notice + not to discard after reading
Command transmission	Directly input/output printer command, or display Custom dialogue from [. . .] button to make simple input



Due to exclusive condition as to paper cut, status incapable of setting may take place
Refer to [Paper feeding, cutting, and saving margin] on page 26 for detail.

Print Setting – Formatting ... – Operation at *** - Custom Dialogue

Click command desired to issue from list at left side, addition of command is enable by clicking on [OK] button after setting parameter setting

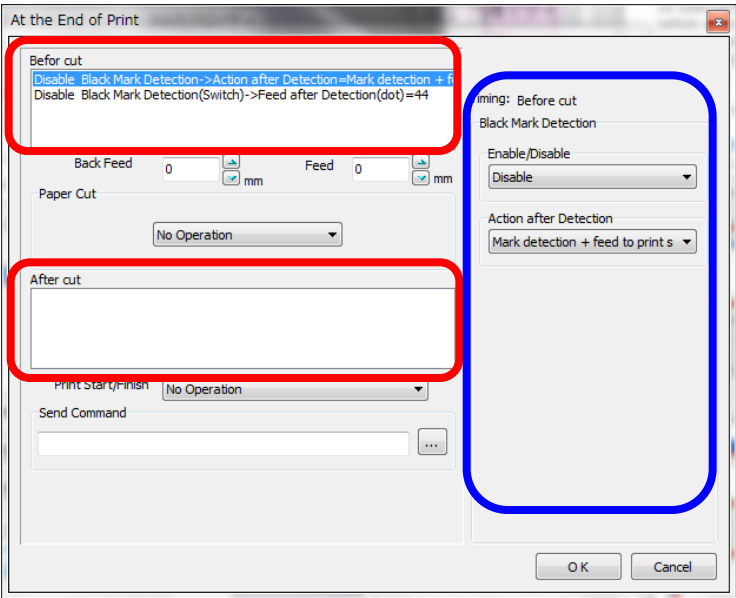
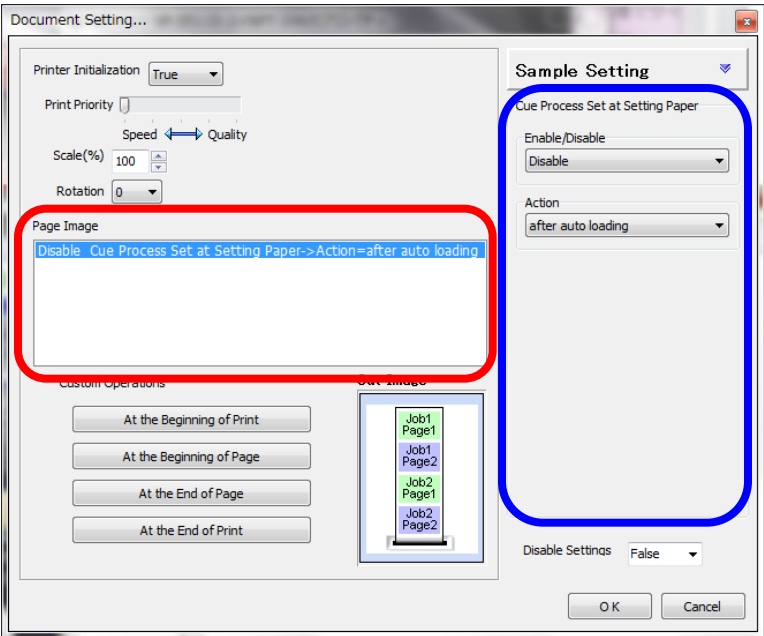


Print Setting – Formatting... Extended Property

As extended property, operation at connecting printer, operation of each document, operation before and after cutting are accommodated.

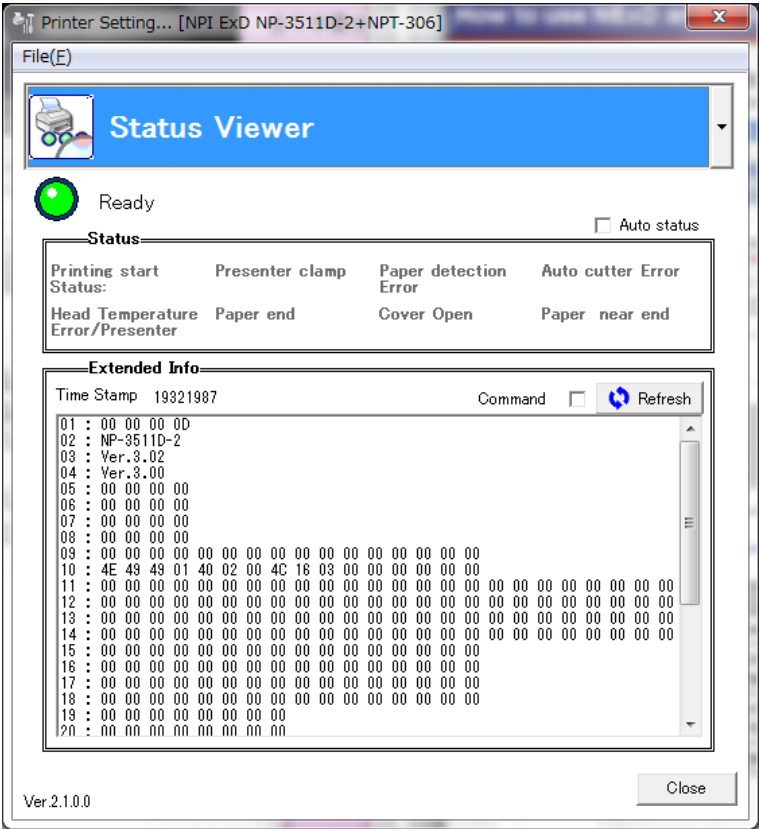
As to the setting method, each item is displayed in setting area (part surrounded with a blue frame) at right side by clicking on a target property in extended property part surrounded with a red frame).

* As to operation at connecting printer, the content set from standard setting of detailed setting.



Printer Setting – Status Viewer

Shows status of printer and information of printer



Item name	Value
Auto acquisition	Renewing standard status at every 50msec
Time Stamp	Acquisition time of selected extended information is shown by elapsed time after Windows booted.
Command	Issue request command in reacquisition of extended information
Refresh	Activate reacquisition of extended information.

How to use NExD and Reference

Extended information: refer to product specifications of printer for detailed content.

Type ID	Data size	Content
Type 1	4 byte (fixed)	Extended status 1 st byte: undefined 2 nd byte: undefined 3 rd byte: undefined 4 th byte (least significant 4 bit): printer receipt buffer remainder [KBYTE]
Type 2	32 byte (delimiter)	Model name
Type 3	8 byte (fixed)	F/W version
Type 4	8 byte (fixed)	Boot version
Type 5	4 byte (fixed)	Reserved
Type 6	4 byte (fixed)	Number of head current carrying line
Type 7	4 byte (fixed)	Number of running dot line number
Type 8	4 byte (fixed)	Cutting number
Type 9	16 byte (fixed)	<User maintenance counter: number of head conducting dot line, number of running dot line, number of cutting and reserved>
Type 10	16 byte (fixed)	Reserved
Type 11	64 byte (delimiter)	Undefined
Type 12	32 byte (delimiter)	Undefined
Type 13	32 byte (delimiter)	Undefined
Type 14	32 byte (fixed)	Reserved
Type 15	16 byte (fixed)	Undefined
Type 16	16 byte (fixed)	Undefined
Type 17	16 byte (fixed)	Undefined
Type 18	16 byte (fixed)	Undefined
Type 19	8 byte (fixed)	Print End Notice: Job ID and end status at the end of document are described by designation of print notice setting. Upper 4 byte = job ID, lower 4 byte = end status
Type 20	8 byte (fixed)	Reserved
Type 21	8 byte (fixed)	Undefined

How to use NExD and Reference

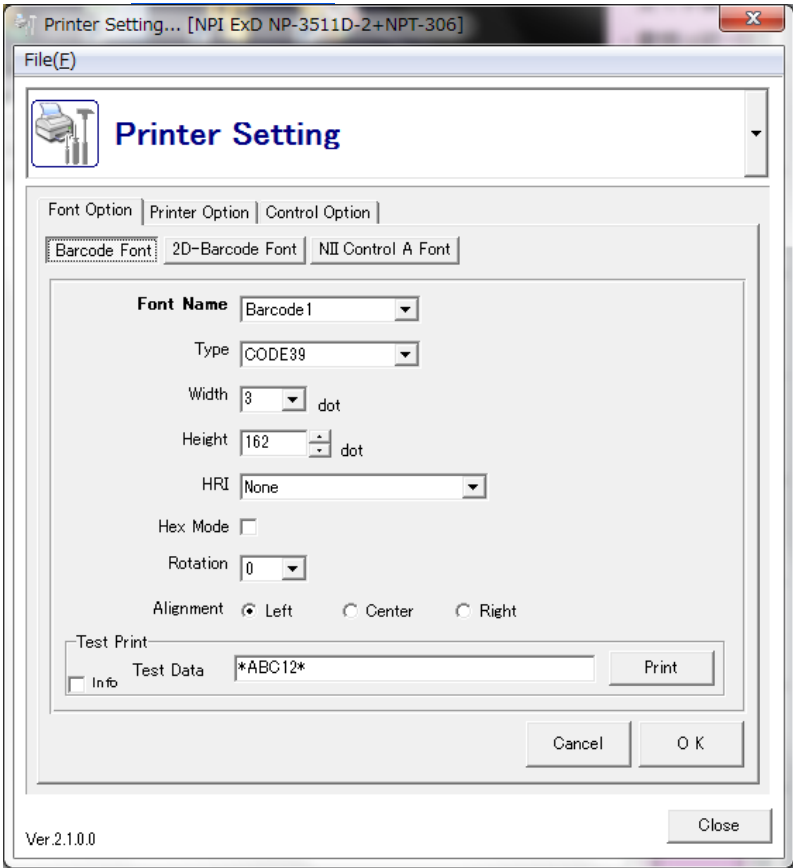
Type ID	Data size	Content
Type 22	8 byte (fixed)	Undefined
Type 23	8 byte (fixed)	Undefined
Type 24	4 byte (fixed)	Undefined
Type 25	4 byte (fixed)	Transmission completed notice: job ID completed transmitting is describe
Type 26	4 byte (fixed)	Reserved
Type 27	4 byte (fixed)	Undefined
Type 28	2 byte (fixed)	Reserved
Type 29	2 byte (fixed)	Undefined
Type 30	2 byte (fixed)	Undefined
Type 31	2 byte (fixed)	Communication status information: USB: 0x0000 fixed COM: 1 st byte CTS, 2 nd byte DSR * Stamp acquisition time of final signal status to renew flag.

Printer Setting – Printer Setting

Makes each setting as Font option, Printer option and Control option

Font Option (Barcode Font Setting)

Sets barcode font.
Barcode font is used after registering barcode type and size in property beforehand.
NExD enable a registration of setting for 10 kinds (NII Barcode 1 ~ 10)



Item name	Value
Font name	Selects barcode font (NII Barcode 1 ~ 10) to configure
Types	Selects barcode type (UPC-A / UPC-E / EAN13 / EAN8 / CODE39 / ITF / CODABAR / CODE128 / CODE93). Default setting is UPC-A
Width	Sets element width Barcode's narrow element width by dot Configurable range is 2 ~ 4. Default value is 3

How to use NExD and Reference

Item name	Value
CODABAR — Start Bit	Designates start bit character of CODABAR. Configurable range is A ~ D and default setting is A.
CODABAR — Stop Bit	Designates stop bit character of CODABAR. Configurable range is A ~ D and default setting is A.
Height	Designates height of element by dot. Configurable range is 1 ~ 255 (dot) and default value is 162.
HRI	Select position and type of HRI character (data of barcode) added to barcode. Default setting is Non.
Hex input mode	Check in case describing data by hexadecimal code string. Default setting is unchecked.
Rotation	Enable to designate printing direction of barcode Configurable range is 0° / 90° / 180° / 270° and default is 0°
Layout	Selects layout position of barcode Default is left justify * Since this selection is reflected other than barcode, declare layout position again by control font after changing.
Test printing – test data	Inputs data to make a test printing
Test printing - execution	Barcode is printed by data input into test data.
Info	Contents including setting contents are printed in test printing by checking.
Setting	A current status is stored.
Cancel	Returns to status before editing.

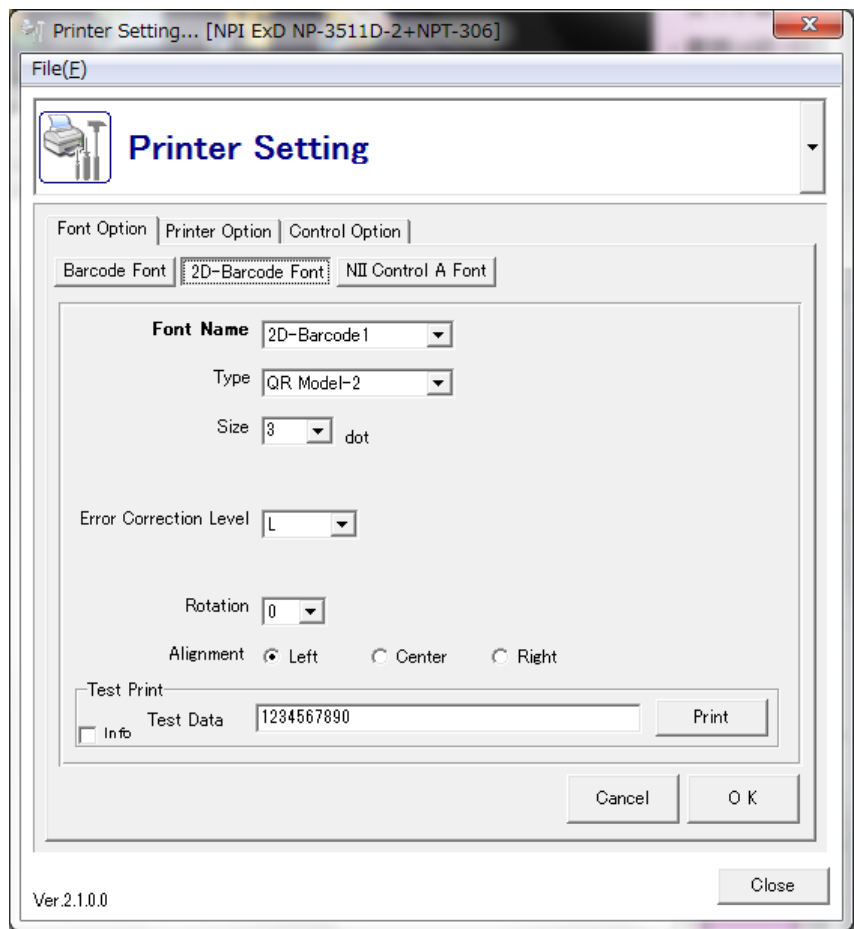
How to use NExD and Reference

Font Option (2D Barcode Font Option)

Sets 2D barcode font.

2D barcode font is used after registering type and size of 2D barcode in property beforehand.

NExD is capable of registering a setting of 5 kinds (NII 2D-Barcode 1 ~ 5)



Item name	Value
Font name	Selects 2D barcode font (NII 2D-Barcode 1 ~ 5) to configure.
Types	Selects type (QR model-2 / PDF417) of 2D barcode. Default setting is QR Model-2
Size	Set size of 1 module. Configurable range is: Selecting PDF417: 2 ~ 4 and default setting is 3 Selecting QR Model-s: 2 ~ 8 and default setting is 3

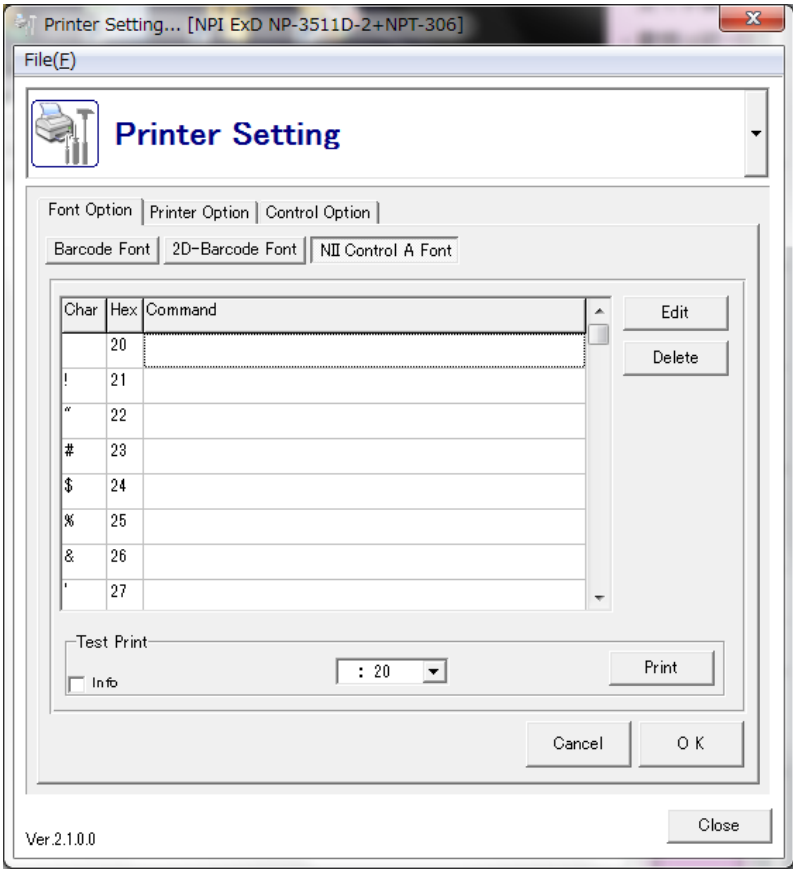
How to use NExD and Reference

Item name	Value
PDF417 – height ratio (x = 1 : Y)	Designates height ratio of PDF417. Configurable range is 1 ~ 6 and default setting is 6
PDF417 – error correction level	Designates error correction level of PDF417. Configurable range is Auto / 0 ~ 8 and default setting is Auto.
QR Model 2 – error correction level	Designates error correction level of PDF417. Configurable range is Auto / 0 ~ 8 and default setting is Auto.
PDF417 – ECC percent	Designate ECC percent of PDF417 Configurable range is 0 ~ 200 and default setting is 0
Rotation	Enables designating print direction of barcode Configurable range is 0° / 90° / 180° / 270° and default setting is 0°
Layout	Selects layout position of barcode Default setting is left justify. * Since this designation is reflected other than 2D barcode, declare layout position again by control font after changing.
Test printing – test data	Inputs data to conduct a test printing.
Test printing – execution	2D barcode is printed by data input into test data.
Info	Contents including setting contents are printed in test printing by checking.
Setting	A current status is stored.
Cancel	Returned to status before editing

How to use NExD and Reference

Font Option (NII Control A Font Setting)

Configures control font A

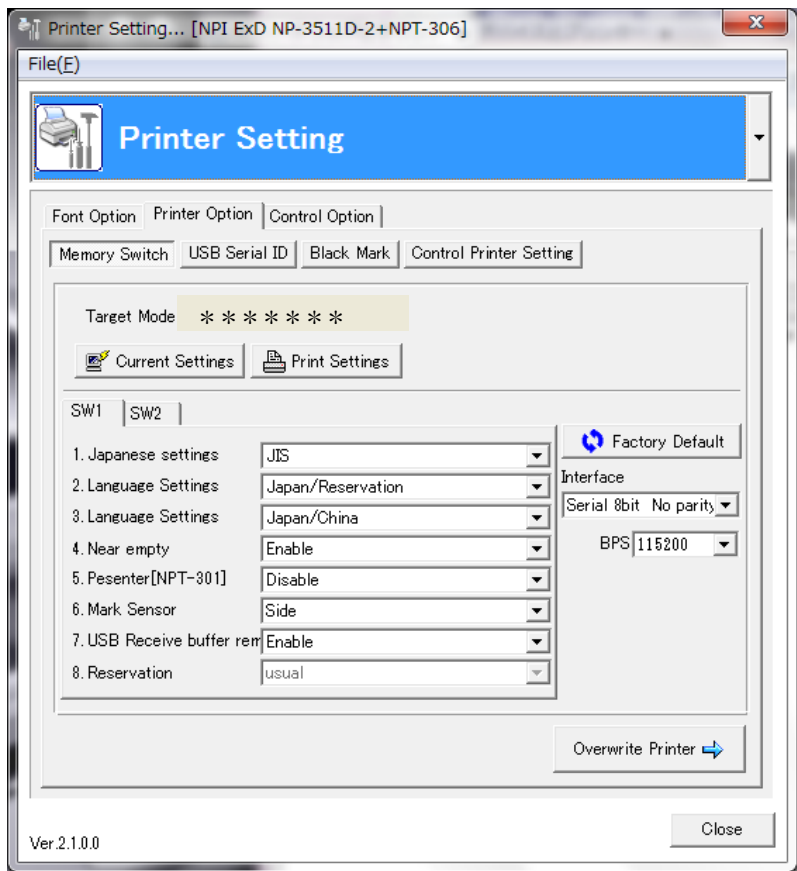


Item name	Value
Command	Inputs printer command by hexadecimal string.
Edit	Enable input of command list of list under selection. * Change "Enter" key or selecting cell to determine input.
Delete	Clears character to conduct test printing
Test printing – test character	Selects character to conduct test printing.
Test printing – execution	Prints command designated by character.
Info	Contents including setting contents are printed in test printing by checking.
Setting	A current status is stored
Cancel	Returns to status before edit.

How to use NExD and Reference

Printer Option (Memory Switch)

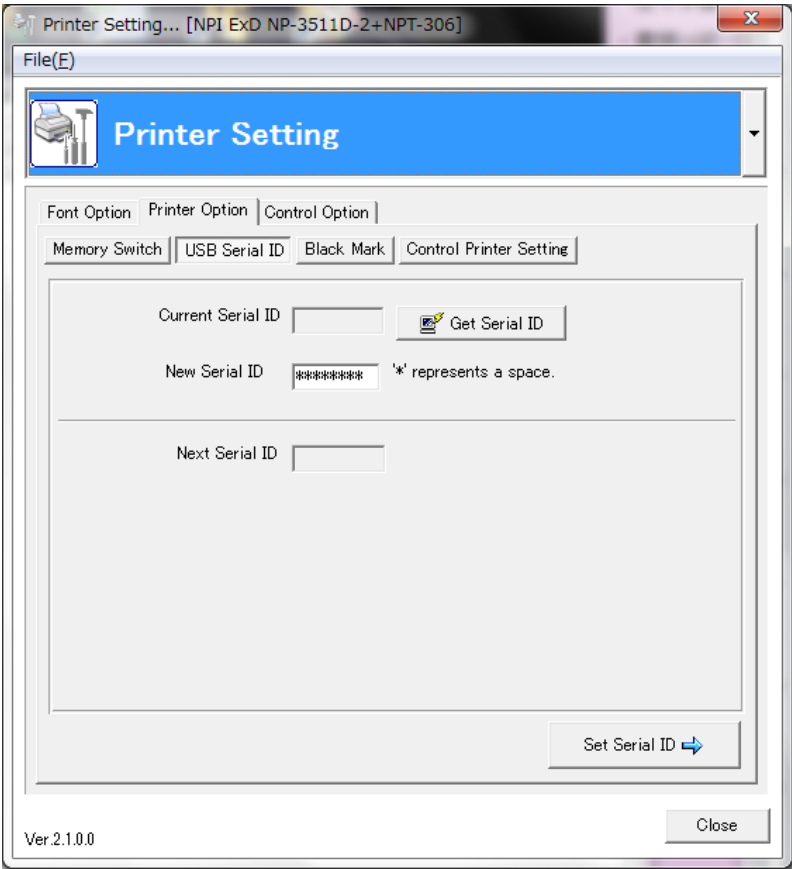
Sets memory switch of printer.



Item name	Value
Intended printer	Shows model name and version of printer currently connected.
Reading from printer	Reads current setting content of printer
Printing setting contents	Prints current setting contents of printer
Factory setting	Sets to factory setting.
Interface	Sets interface to selected content.
Bit/sec	Sets to selected baud rate.
Write to printer	Sends configured contents to printer and changes configuration of printer

Printer Option (USB Serial ID)

Sets USB serial ID of printer



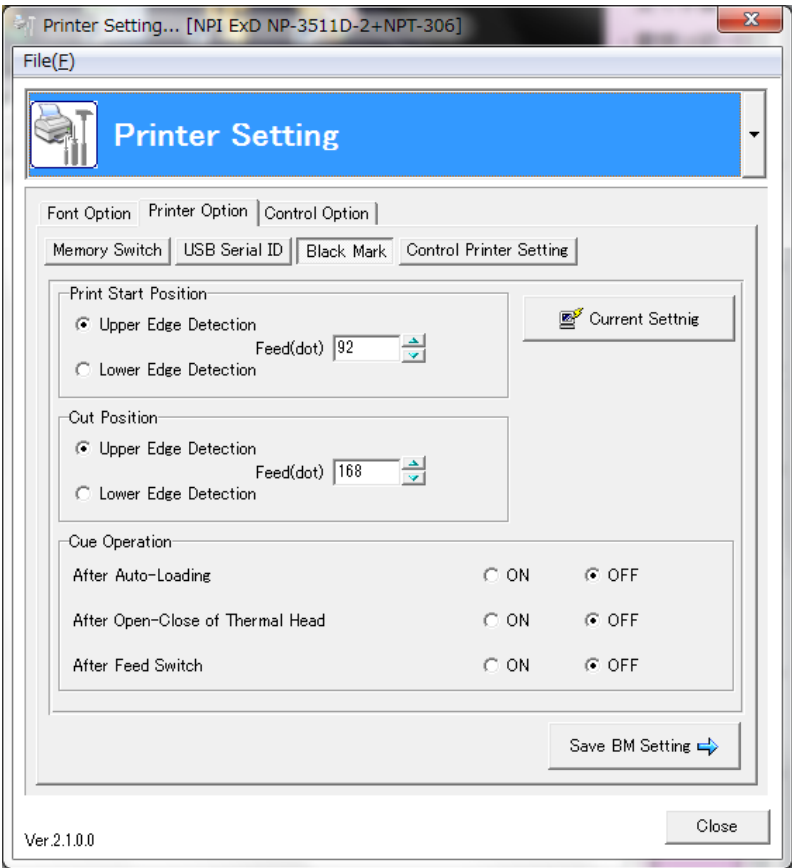
Item name	Value
Serial ID acquisition	Acquire USB serial ID of printer connected currently
Current serial ID	Shows USB serial ID of currently connected printer
New serial ID	Designates a new USB serial ID * Blank is shown with [*] * Blank designation enables USB serial ID clear * Alphanumeric is only capable character for inputting.
Next serial ID	Shows USB serial ID at next booting.
Serial ID configuration	Sends designated USB serial ID to printer to change printer setting.

How to use NExD and Reference

Printer Option (Black Mark)

Sets a black mark of printer

* Black mark sensor is an option parts of printer.



Item name		Value
Reading from printer		Acquire black mark setting of current connected printer.
Print start position		Validates when position alignment after sensing black mark is designated to print start position. * This value is used for black mark sensing of driver
	Upper edge detection	Activates mark detection at upper edge of black mark
	Lower edge detection	Activates mark detection at lower edge of black mark.
	Amount of feed	Designates position correction after sensing black mark. Configurable range is -32767 ~ 32767. * Available range varies on each printer.

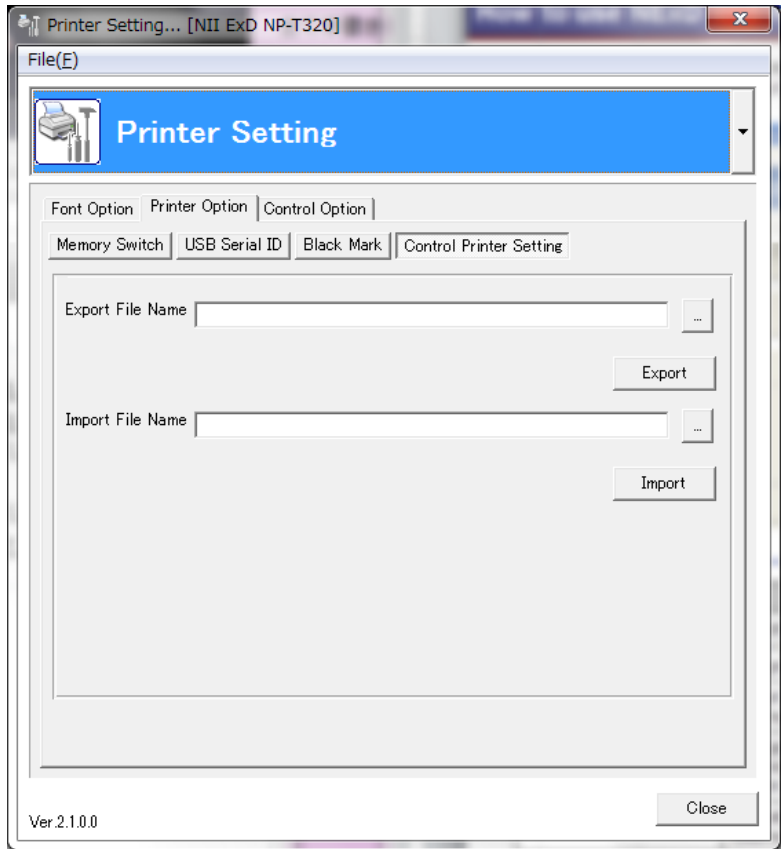
How to use NExD and Reference

Item name	Value
Cutting position	Validates when position alignment after black mark sensing is designated to cutting position
Upper edge detection	Validate mark detection at upper edge of black mark.
Lower edge detection	Validate mark detection at lower edge of black mark.
Amount of feed	Designate position correction after black mark sensing. Configurable range is -32767 ~ 32767. * Available range varies on each printer.
Cue handling at setting paper	Designates operation of printer when paper set.
Cue operation after auto loading	Determines action of printer when paper set
Cue operation after thermal head cover open/close	Determines whether of not to detect black mark when paper is auto-loaded
Cue operation after holding down Feed switch	Designates whether or not to conduct black mark sensing after holding down feed button of printer
BM setup saving	Transmits a designated black mark setup to printer to change setup of printer.

How to use NExD and Reference

Printer Option (Management of Printer Setting)

As printer management, content of driver and printer setup is exported to file / imported from file.

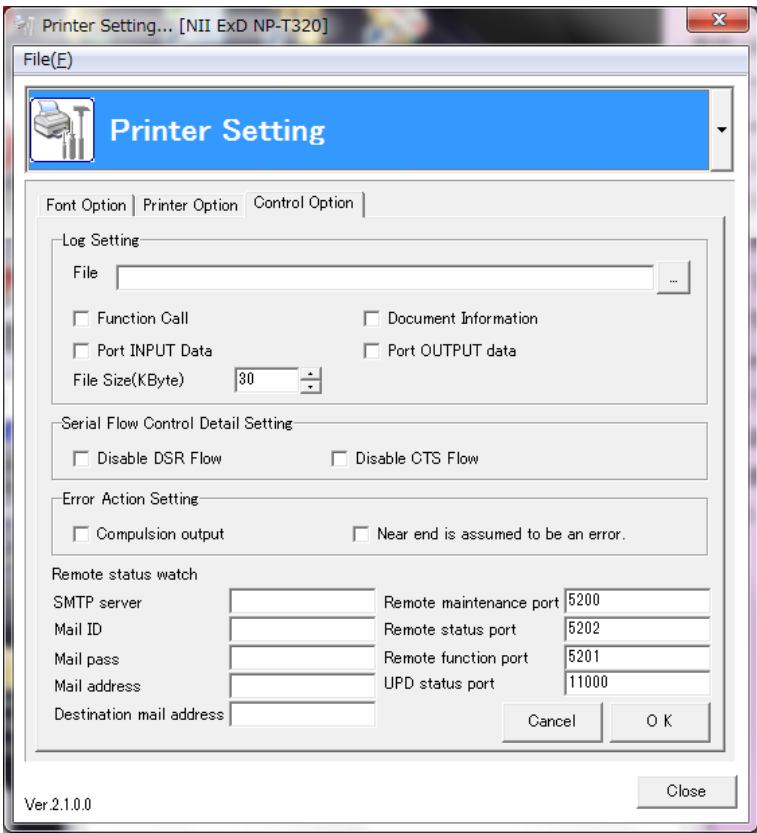


Item name	Value
Export file	Designates file name saving a setup of current printer and driver by absolute path. Clicking on [. . .] button enables designation from saving dialogue.
Export	Export a printer set up information and driver set up information to file name designated in export file.
Import file	Designates file name of printer and driver set up file (file generated by export) by absolute path. Clicking on [. . .] button enable designation from reading dialogue.
Import	Imports printer set up information and driver set up information from file designated in import file.

How to use NExD and Reference

Control Option

Designates log setting and behavior at error



Item name	Value
Log setting	Designate this item when acquiring log of printer operation.
File	Designates file name to output log. Un-input does not acquire log.
Function call	Output function call and information as output target.
Document information	Output information per document as output target.
Port receive data	Output data received from port
Port transmit data	Output data transmitted from port.
File size	Designates maximum size of file when acquiring log
Setting	A current status is stored
Cancel	Returns to status before edit.

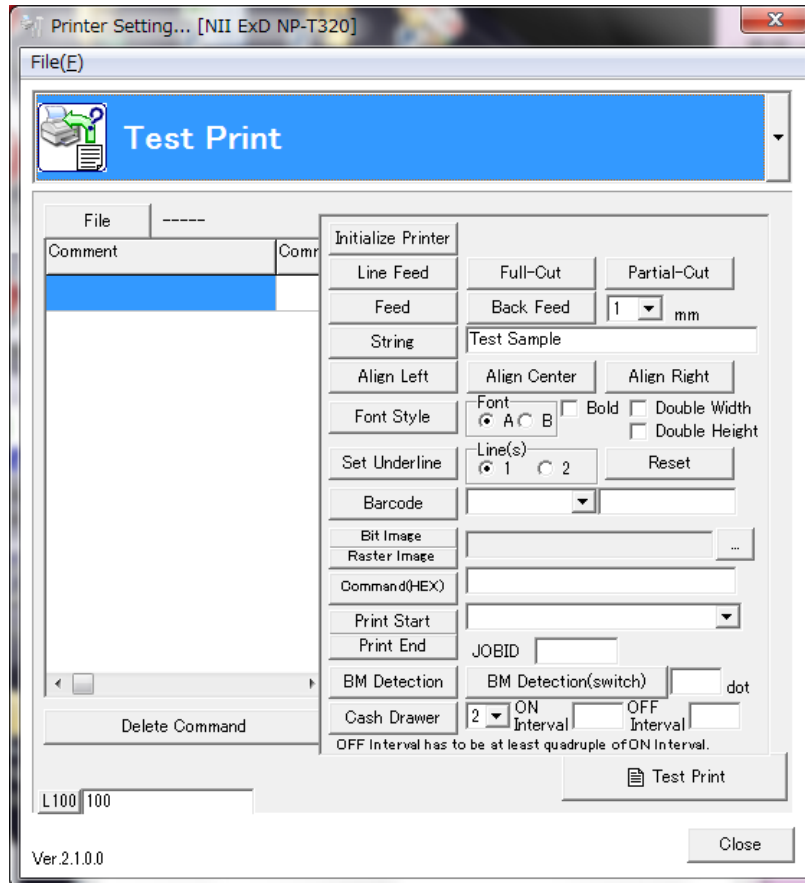
How to use NExD and Reference

Control option

Item name	Value
Action at error	Designates behavior when printer has error
Compulsory output	Validate to transmit data to printer even if printer has an error.
Near end is treated as error	Transmitting data to printer is stopped as error when detecting paper near end. * Document during printed will be printed continuously.
Serial signal line	Designates control corresponding to wiring status of serial communication.
DSR control OFF	Designates this when control by DSR signal line is not conducted.
CTS control OFF	Designates this when control by CTS signal line is not conducted.
Remote status monitor	Designates this when printer status is monitored remotely.
SMTP server	Designates SMT server to use when transmitting email
Mail ID	Designates ID when transmitting email.
Mail PASS	Designate password to Mail ID
Sender mail address	Designates sender email address.
Destination mail address	Designates destination email address
Remote maintenance port	This item is used at remote maintenance. Designates port number of TCP/IP Default value = 5200
Remote status port	This item is used when monitoring status by using printer common. Designates port number of TCP/IP. Default value = 5202
Remote function port	This item is used when conducting function processing by using printer common. Designate port number of TCP/IP. Default value = 5201.

Printer Setting – Test Print

Tool makes test print of arbitrary image and print it.



operating instructions

●Creates & output print sample

1. Continue to add target command from command list locates at right side scree.
2. [Command Name] and [Command Code] or added command is shown in grid at lefd side screen
 - * If there is command line ([Command Name] and [Command Code]) desired to delete, selected command line only is deleted by selecting target command line, click on [Command Delete] button.
3. Print sample created in [test printing] is output into printer.
 - * Be sure to build connecting properly to printer before test printing.

How to use NExD and Reference

Screen Instructions

- [File] menu
 - ◆ [Work Area Clear (X)] menu
Clears print sample on grid.
 - ◆ [Open (Y)] menu
Selects “nsl” format file and able to open.
 - ◆ [Save as] menu
Saves a created print sample with name in “nsl” format file.
- [Test Print] button
Prints a print sample on grid.
- Grid at left side screen.
Added command is shown in command name + command code
Ex) paper feed 10mm + full cut.

Comment	Comr
Feed10mm	1b" J"
Full cut	1b" i"

- [Character data] button
Click on [Character data] button after inputting character data desired to add into text box at [Character data] button right side.
- [Barcode] button
Select type of barcode desired to add from combo box and click on [Barcode] button after inputting into text box at [Barcode] combo box right side.

Reference Input data along with each barcode data condition.

- [BitImage] button/[Raster Image] button
Dialogue box is displayed upon click on [. . .] button.
Select target image. Path name is shown in text box.
Added to the grid by clicking on [Bit Image] button/[Raster Image] button
- [Command delete] button
Moves focus to command desired to delete.
Command is deleted by clicking on [Command detail] button.

* Refer to printer command on product specifications of printer for other button.

Printer Setting – NV Image Registration

A tool to register image into NV memory of printer and to conduct a test printing.



About logo file

Size of logo file to prepare varies on resolution described in product specifications.

Ex) Printer resolution: 203dpi

Width: 30mm

In case of printing 15mm height logo, calculate size of logo file with a following calculation .

Dot equivalent value = $25.4(1\text{inch}) / \text{resolution (dpi)}$

$$0.125 = 25.4 / 203 ;$$

* Rounded to fore decimal place

Image width (dot number) = width (mm) / dot equivalent

$$240 = 30 / 0.125$$

Image height (dot number) = width (mm) / dot equivalent

$$120 = 15 / 0.125$$

It will be a logo file of 240 x 120 dot.

How to use NExD and Reference

Operating Instructions

- 1.Designates image file name by absolute path.
Able to designate from read dialogue by click on [...] button.
- 2.Selects registration destination (Mono [0-2/0-255], Gradation [0-24], Water Mark).
- 3.Register NV image by clicking on [NV image registration] button

Screen Instruction

●[NV image print] button

When printer selects Mono as registration destination and does not correspond to 256 NV registrations:
Prints 3 patterns of registered NV bit image and water marl (only when printer is set).

When printer selects Mono as registration destination and corresponds to 256 NV registrations:

Print NV bit image of selected registration number. When blank is selected, prints all of registered NV bit image.

When printer selects Gradation as registration destination and corresponds to gray scale NV registration:

Prints gray scale NV bit image of selected register number. When blank is selected, prints all of registered gray scale NV bit image.

●[Returns to storage condition] button

Returns to default data.

●[Undo] button

Cancels content worked just before once.

●[Redo] button

Return content canceled by [Undo] button.

●[Rotation] button

Rotates image by designated direction and angle.

●[Resize] button

Resizes image to designated value (percent of dot)

* Keeps height and width ratio of image when ratio retention is checked.

●[Patterning] button

Display image by 16 gray scale.

Fixed: displays image by 16 gray scale pattern by fixed value.

Variable: displays image by 16 gray scale pattern depending on color generation density.

For gray scale: displays image including gray scale value by fixed value.

* Display pattern after image editing when automatic editing is checked.



Original image

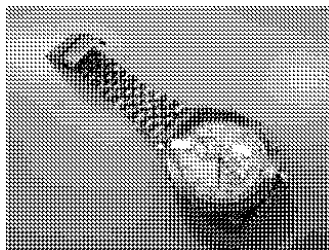


Image after converted.
Fixed

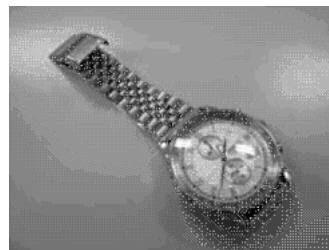


Image after converted
For gray scale

How to use NExD and Reference

- [Brightness] button
Changes brightness by selected $\pm$ value.
- [Contrast] button
Changes contrast by selected $\pm$ value.
- [Half tone] button
Displays image converted by particular filter.



Original image

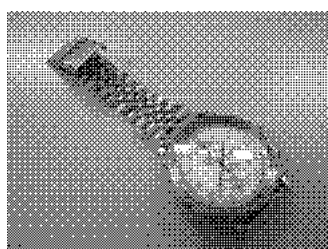


Image after conversion

- [Error diffusion] button
Displays image converted by error diffusion.



Original image

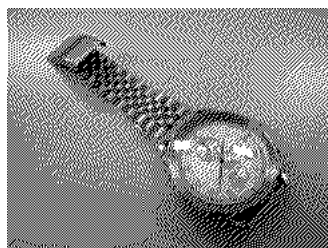


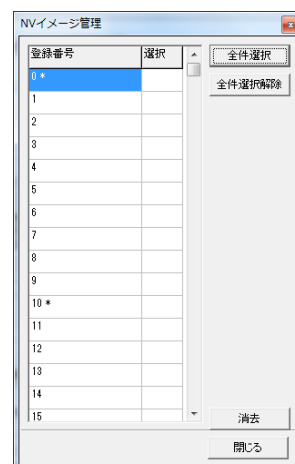
Image after converted

Reference

This tool has a simple image change function, but we recommend to design by black/white or gray scale with a dedicated tool beforehand.

- [NV image management] button
Displays NV image management window of selected registration destination.
Confirmation of registered number and saved position (only when gray scale NV image) and deletion of corresponding NV image are available on NV image management window.

- * NV image is registered to register number which has “*” mark after the number when Mono.
- * NV image is registered to displayed register number when gray Scale.

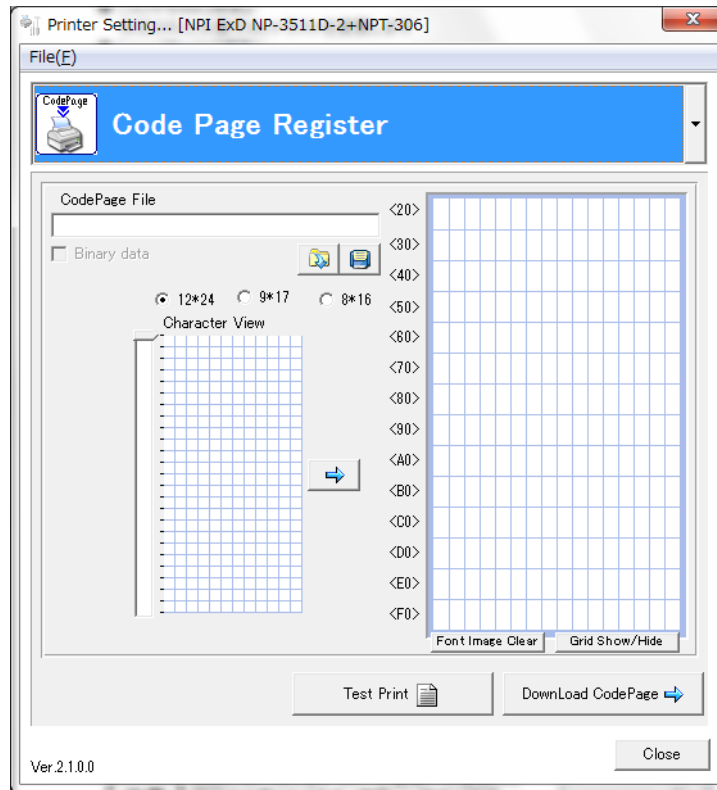


Note

Sequential area is required for registration of large image when gray scale. Area lack error occurs when sequential area is not ensured.

Printer Setting – Code Page Registration

Tool to register and edit user code page, and to conduct a test printing



Operating instructions

- 1.Designates code page file from [] button .
Code page file is available for black/white bitmap file or binary file of
Font A (12x24) = 192x336 and Font B (8x16) = 128x224.
- 2.Register in user code page by clicking on [Code Page download] button.

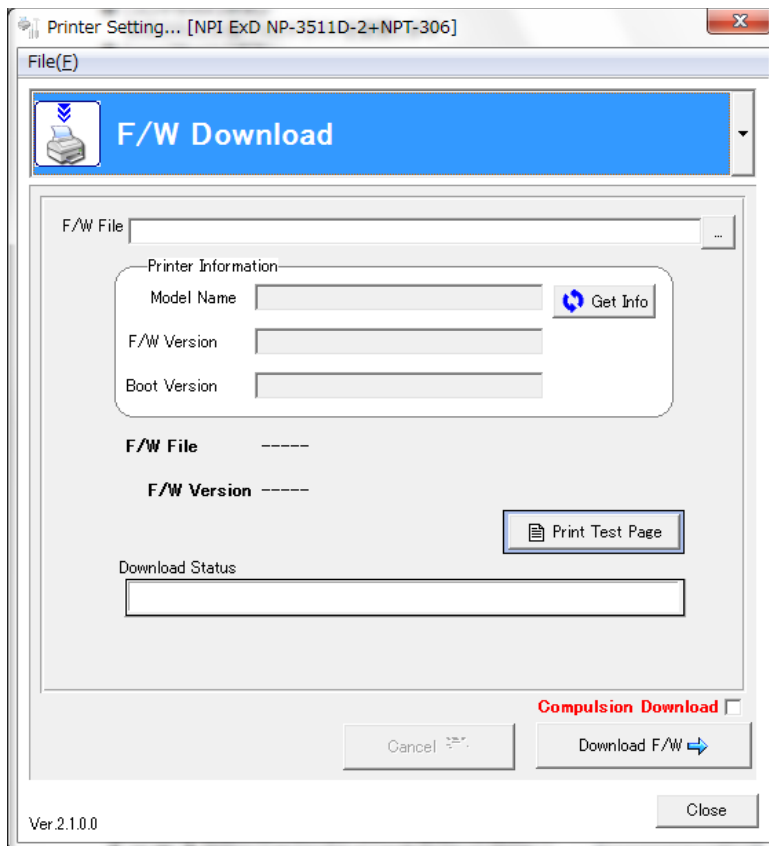
Screen explanation

- [] button
Opens code page file.
- [] button
Saves font image under edit in file name (absolute path designation) designated in
Code Page File
- [Character View]
It will be displayed if making a double click on specific character of character list
image at right side.
Editing each character is also available.
Mouse right click: white
Mouse left click: black

- [Character Size]
Select 12x24 or 8x16.
12x24 is treated as Font A.
8x16 is treated as Font C8*16
 - [Character View Image]
Shows font image under edition.
Enlarged in Character View by double click on the specific character and edition is available.
 - [Grid Show/Hide]
Switches display/non display of grid on character view image.
 - [Code Page Download]
Registers font image under editing to printer.
 - [Test Printing]
Print all the characters currently registered in user code page.
- * Once printing test of code page conducted, following character code table will be USER Code Page until change by command.

Printer Setting – F/W Download

Tool to download F/W to printer.



Note

F/W updating is a service conducted under customer's responsibility.
Card failure by updating is repaired at customer's expense.

Reference

When the end of F/W download conducted during downloading firmware,
F/W will not be downloaded correctly. DO NOT end during downloading F/W.

Operation Instruction

●F/W download (On Line)

1. Confirm if connection to printer is established correctly in [Printing Test Page].
2. Acquire connecting printer information before F/W download.
3. Designate target F/W file.
4. Confirm if F/W file and version information are matched.
5. Click [F/W download] button to start F/W download.

6. Once download started, ALM Lamp of Printer starts blinking. After repeating light on/blinking, finally reset is executed to complete F/W download.

Reference

On the way, as timing of blinking get slower, it interprets failure in F/W download to printer, click [Cancel] button to stop transmitting. Then turn the printer OFF to end F/W download.

Reference

With printer downloading mandatorily, once downloaded from ON line, printer gets freeze. At that time, click [Cancel] button to stop transmitting. Once powered off printer, end this screen to download with mandatory download procedure.

7. Once download is completed correctly, get a connecting printer information or output self-diagnostic print to confirm F/W is written newly.

● F/W Download (mandatory download)

1. Make sure that communication setting between PC and printer are matched.
2. Boot printer at mandatory download mode.
ALM lamp of printer start blinking.
Refer to product specifications for how to boot at mandatory download mode.
3. Check [Mandatory download]
4. Designate target F/W file.
5. Be sure that F/W file and version information are matched.
6. Start F/W download by clicking [F/W download] button.
7. Once download started, printer ALM lamp changes to ON from blinking.
After that, light-on will be kept, finally reset is executed to complete download. Use again once turned the printer OFF.

Note

It is necessary to check mandatory output of movement at error in printer setting → Control option beforehand. If no check, F/W data may not be transmitted.

- [connecting printer information] item
Enable to acquire following information by clicking [Acquisition] button.
 - ◆ Model information
 - ◆ F/W version information
 - ◆ Boot version information
- [F/W file:] & [Version information] item
Displays content of selected target F/W file.

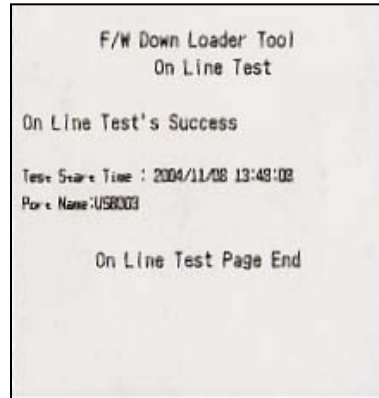
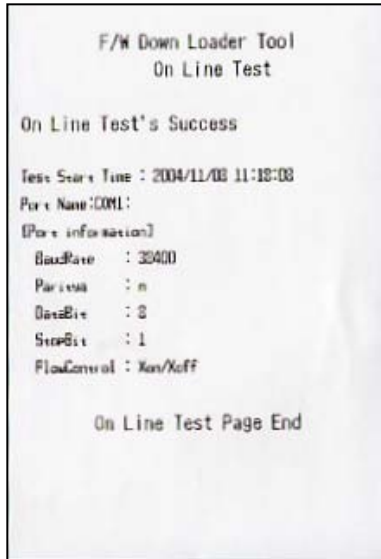
How to use NExD and Reference

- [Test page printing] button
Conducts printing to confirm the communication setting is matched.
Following print sample is printed depending on printer driver communication configuration

Print Sample

Serial connection

Other connection than Serial



- [F/W download] button
Activates F/W download
- [Cancel] button
Stops transmitting

Note

Pay attention that F/W is not written correctly at cancel

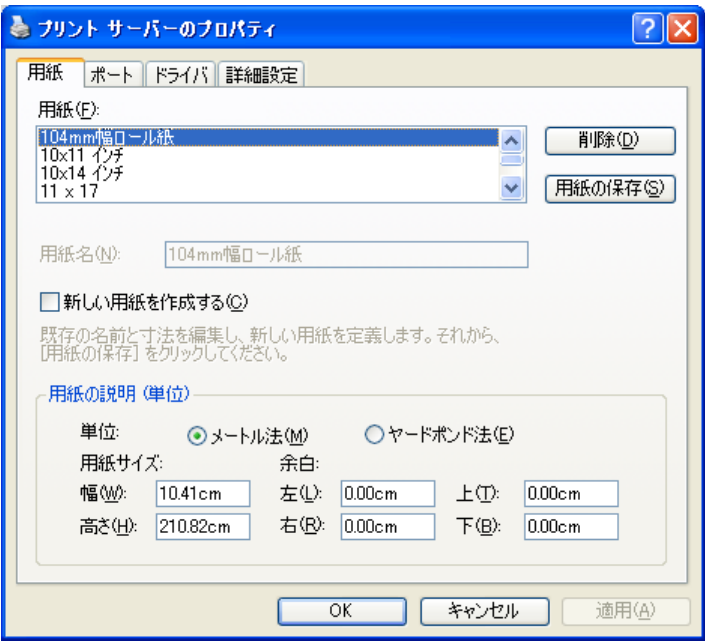
- [Download status] bar
Displays transmitting status

Note

F/W download may not complete even if the bar moves 100%.
Activate power OFF/ON and unplug the cable after printer reset.

Making Customized Form

[Property of Print Server] window is displayed when executing [Property of Server (V)] command of [File (E)] menu from (Printer & Fax) window.



- 1. Select from closer to a from to use and check [Make new form (C)]
- 2. Assign arbitrary form name, form width, height and so on.
- 3. Save form.

Note

Assigning duplicative form may cause deleting setting of original from

Reference

In application supporting only from of fixed size, the same printing as preview is enabled by leveraging application once after making customized form

Printing Device Font Under .NET Environment.

Since .NET Framework supports only True Type font and Open Type font, Device Font is disabled to use. Therefore, by using GDI function (Gdi32.dll) or Win32API, Device font is enabled to use even with .NET Framework.

[GDI function to use]

CreateFont
SelectObject
DeleteObject
TextOut

[How to use]

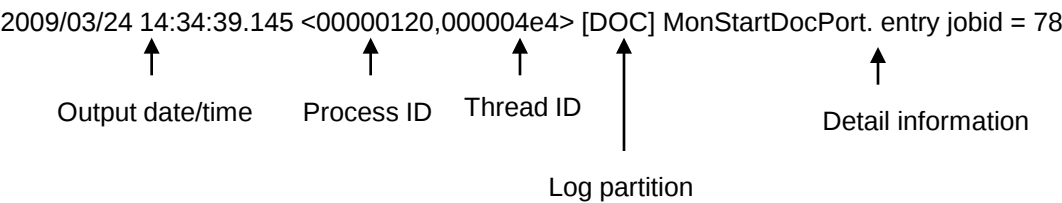
- ① Import functions mentioned above.
- ② Make printing event (Print Page) of Print Document
- ③ Acquire device context.
by PrintPageEventArgs ev
- ④ Declare device font. (CreatFont, SelectObject)
Font height at this time will be:
NII FONT A = 12/48
NII ANK B = 9/36
NII ANK B = 8/32
NII Barcode* = 8
NII Control = 8
NII ControlA = 8
NII 2D-Barcode* = 8
- ⑤ Output by using TextOut function.
* Designate byte size for cdStrin argument. (not character number)
- ⑥ Open generated Font.



Provide sample output of device font from C# in sample source [DeviceFont_CS.sln]

How to look at Log File

Following is how to look at 1 record of Log file.



Log partition	Contents of detail
OUT	Data bump at port level to printer. Hexadecimal data of 16 byte and its display with character dode. [OUT] 1B 21 00 1B 2D 00 1B 45 00 1B 47 00 1C 2E 1C 21 ! - E G . !
I N	Data dump at port level printer. Output in the same format as OUT. Ex) [I N] 00 FF 01 00 00 00 0D
DOC	Function calls related to document, and output of setup control
FNC	Function call of SDK and output of returnca

Ex)

2009/03/24 14:34:39.145 <00000120,000004e4> [DOC] MonStartDocPort. entry jobid = 78
2009/03/24 14:34:39.145 <00000120,000004e4> [DOC] MonStartDocPort. end
2009/03/24 14:34:39.145 <00000120,00001ed0> [DOC] StartDoc entry. Jobld = 78
2009/03/24 14:34:39.145 <00000120,00001ed0> [DOC] PaperSize = 3
2009/03/24 14:34:39.145 <00000120,00001ed0> [DOC] Color mode = 0
2009/03/24 14:34:39.145 <00000120,00001ed0> [DOC] All Image = 0
2009/03/24 14:34:39.145 <00000120,00001ed0> [DOC] Print speed = 0
2009/03/24 14:34:39.145 <00000120,00001ed0> [DOC] Print density = 0
2009/03/24 14:34:39.145 <00000120,00001ed0> [DOC] Watermark = 0
2009/03/24 14:34:39.145 <00000120,00001ed0> [DOC] Printing-action = Flag + Ack
2009/03/24 14:34:39.145 <00000120,00001ed0> [DOC] StartDoc end.
2009/03/24 14:34:39.161 <00000120,00001ed0> [DOC] StartDoc entry. Jobld = 0
2009/03/24 14:34:39.161 <00000120,00001ed0> [DOC] PaperSize = 3
2009/03/24 14:34:39.161 <00000120,00001ed0> [DOC] Color mode = 0
2009/03/24 14:34:39.161 <00000120,00001ed0> [DOC] All Image = 0
2009/03/24 14:34:39.161 <00000120,00001ed0> [DOC] Print speed = 0
2009/03/24 14:34:39.161 <00000120,00001ed0> [DOC] Print density = 0
2009/03/24 14:34:39.161 <00000120,00001ed0> [DOC] Watermark = 0
2009/03/24 14:34:39.161 <00000120,00001ed0> [DOC] Printing-action = Flag + Ack
2009/03/24 14:34:39.161 <00000120,00001ed0> [DOC] StartDoc end.

Remote Maintenance

NExD has a remote maintenance function for printer F/W and printer drive in it.

HTTP server is required to make use of maintenance function.

Authorization of protocol is required since UDP communication (Port number: 5200 <Default>) is used.

Change in control option is enabled by remote status monitor.

What maintenance function can be are of:

- 1.Download and execution of Exe file from HTTP server
- 2.Download of FWF file and F/W download to target printer from HTTP server.
- 3.Delete of download file.

Executing remote maintenance is activated with a dedicated tool.

* Not opened in public. Contact the seller for detailed information.

Executing result of remote maintenance is enabled to receive by email.

Necessary setting for email is available by remote status monitor of Control open.

Restriction

Restrictions of NExD is explained in this chapter.
Environment, OS configuration

1. In case of serial connection, “??” may be printed when recovered from Sleep or quiescent mode on start-up of OP.
2. Use Windows XP/Vista on mode of [enable detail print function] of printer driver [detail setting] (EMF Spool configuration)
3. Operation is not guaranteed under multi-user environment of Windows XP.
4. Reserved name of resource
NExD reserves a following each namespace.
Shared memory: Global¥SHMEM/ <printer name> /monitor /status
SHMEM/ <printer name> /uni /devmode /
Each printer name is inserted in a part of <printer name> in this name.
5. In case multi-printer drivers are allocated to the same port, the accurate status is not acquired.
6. The driver set up is conducted by user for remote maintenance.
7. UPD (port: 5200 <default value>) is used for remote maintenance.
8. TCP (port: 5201 <default value>), UDP (port: 5202 <default value>) are used in case a common printer is used.
9. Status etc. may not be imported correctly in common printer use, depending on usage situation of network.
10. User switching is not supported in use of common printer.
11. The data may not exist in case the file is opened during output to log file in generated log file.
12. Paper size is not imported correctly when using a customized paper in importing control of printer configuration.
13. Following files under “Windows¥system32” folder are not deleted by Nex_UnInstaller.exe under 64bit environment. Manually stop spooler and delete before activating spooler. * Stop/activation of spooler is conducted by Print Spooler within a service.
 - NExLM.DLL
 - NExStDoc.EXE
 - NExStPrt.EXE
 - NExStPrt.EXE.manifest
 - NExL_RSV.EXE
14. In serial communication, if printer’s power OFF/ON (including software reset) is repeated, it may be judged as OFF line tentatively.
15. There is a log function of IN/OUT to port, but it does not guarantee input/output.
16. As mode of color printing is set to other except monochrome, transmitting data to printer will be increased depending on size of color expression.
17. Some of configurable items in this driver may not be supported as printer.
18. It is necessary to reboot in order to enable change of remote maintenance Port/remote status Port.
 - * Function such as NiiGetStatus etc. automatically switch as needed.
19. It does not correspond to uninstall by “Nex_UnInstallwe.exe” in Windows 7 or 64bit OS.
20. When printer driver was deleted by “Nex_UnInstaller.exe,” after rebooting, it may become the condition that installed printer driver again. If this problem occurs, delete the device from “devices and printers” and also delete the driver from server properties.
21. If you set driver for the second, third and after PC in Windows 7, the setting driver becomes NP-211, so it needs to change the settings manually.
22. Note that more than 255 of half size of character cannot be used when device font is used.
23. Restart PC before reinstalling this driver.
24. Unprintable beyond 1m with color printing.
25. Be noted that multiple printers cannot be used with Bluetooth connection or combination of Bluetooth and COM.
26. Be noted that “Switching from ONLINE to OFFLINE” and “switching from OFFLINE to ONLINE” take 5 to 60 seconds (or longer in some case). Confirm switching ONLINE/OFFLINE by status monitor.