TOSHIBA
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Toshiba Global Commerce Solutions
POS Printer

Native Windows Driver User's Guide 4.1

SC30-4105-12

Note:

Before using this information and the product it supports, be sure to read Safety Information-Read This First, Warranty Information, Uninterruptible Power Supply Information, and the information under "Notices" on page 79.

October 2018

This edition applies to Toshiba® Native Windows Driver User's Guide, and to all subsequent releases and modifications until otherwise indicated in new editions.

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Safety

Before installing this product, read Safety Information.

قبل تركيب هذا المنتج، يجب قراءة الملاحظات الآمنية

Antes de instalar este produto, leia as Informações de Segurança.

在安装本产品之前，请仔细阅读 Safety Information
(安全信息)。

安裝本產品之前，請先閱讀「安全資訊」。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας
(safety information).

.לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza.

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.

Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się
z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Antes de instalar este produto, leia as Informações sobre Segurança.

Перед установкой продукта прочтите инструкции по
технике безопасности.

Pred inštaláciou tohto zariadenia si pečítaje Bezpečnostné predpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Antes de instalar este producto, lea la información de seguridad.

Läs säkerhetsinformationen innan du installerar den här produkten.

About this guide

This guide describes how to install and configure Native Windows Driver Version 4 (NWD) for the Toshiba SureMark™ 4610 Printer and the Toshiba TCx Printer.

This driver supports the following Toshiba SureMark™ 4610 Printer models: TI3, TI4, TI5, TI8, TI9, TG3, TG4, TG5, TG8, TG9, TM6, TF6, TM7, TF7, 2CR, 2NR, and 1NR.

This driver supports the following Toshiba TCx Printer: 2TC, 2TN, and 1TN.

The following 64 bit operating systems are supported: Microsoft™ Windows™® 7, POSReady 7, Windows 8.1, and Windows 10. Both 32 bit and 64 bit applications and API are supported.

The following 32 bit operating systems are supported: POSReady 2009, Windows 7, and POSReady 7.

Who should read this guide

This guide is intended for personnel who are connecting a Toshiba POS Printer to a Microsoft Windows machine, installing the Native Windows Driver, and configuring the printer options.

Where to find more information

Current versions of Toshiba publications are available on the Toshiba Global Commerce Solutions website at www.toshibacommerce.com/support/publications. The publications listed under the General tab are available to the public.

Note: Access to the product publications require valid user credentials. For information on obtaining a user ID and password, click About us, and then FAQs.

To access a specific Toshiba product publication:

1. Enter your user ID and Password.
2. Click Support.
3. Click Publications.
4. Click the Hardware tab.
5. Scroll down and click I/O Devices.
6. Select the appropriate manual listed under the POS Printers header, and the PDF will be downloaded to your computer.

Accessing the TGCS Knowledgebase site

Toshiba Global Commerce Solutions has developed a variety of Knowledgebase articles to assist you in using the Toshiba product set. To access the TGCS Knowledgebase articles:

1. Enter your user ID and Password.
2. Click Support.
3. Click Publications.
4. Click the Hardware dropdown menu.
5. Scroll down and select the desired product.
6. Click Restricted content (Security Alerts, BIOS & Publications).
7. Click the Knowledgebase link.

Notice statements

Notices in this guide are defined as follows:

Note

These notices provide important tips, guidance, or advice.

Important

These notices provide information or advice that might help you avoid inconvenient or problem situations.

Attention

These notices indicate potential damage to programs, devices, or data. An attention notice is placed just before the instruction or situation in which damage could occur.

CAUTION

These statements indicate situations that can be potentially hazardous to you. A caution statement is placed just before the description of a potentially hazardous procedure step or situation.

DANGER

These statements indicate situations that can be potentially lethal or extremely hazardous to you. A danger statement is placed just before the description of a potentially lethal or extremely hazardous procedure step or situation.

Summary of changes

October 2018

This edition includes the following update:

- Concurrent printing mode for 6145 TCx Printer (6145 2TC, 6145 2TN, and 6145 1TN).

September 2018

This edition includes the following updates:

- Support for TCx800.
- Added the setup.exe GUI that displays the name of the product and the following buttons:
  - Install
  - Cancel
  - Restart
  - Close
- Support for the NWD.msi installation process.

Chapter 1. Installing the Native Windows Driver

This chapter contains information on the Native Windows Driver installation.

Before you install

Ensure that you have updated the printer's firmware to the newest revision level that is appropriate for your particular environment and applications.

Attended installation procedure

Do the following to perform an attended installation procedure:

1. Double click on the setup.exe file and you will be prompted to the following screen.

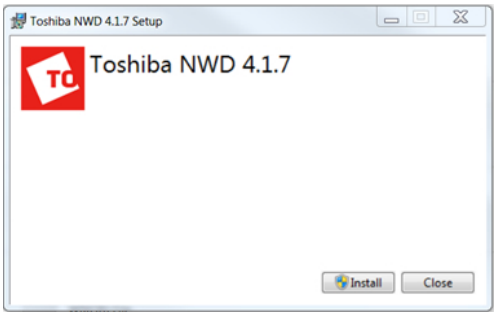

Figure 1. NWD 4.17 installation window

Click the Install button to install NWD or click Close to exit the installation process.

2. Follow the directions provided by the NWD installer.
3. At the end of the installation, you will be prompted to either restart your machine or close the installer. Restart the machine once the installation is complete to ensure NWD starts correctly. If you choose to close the installer, NWD will start the next time you reboot your machine.

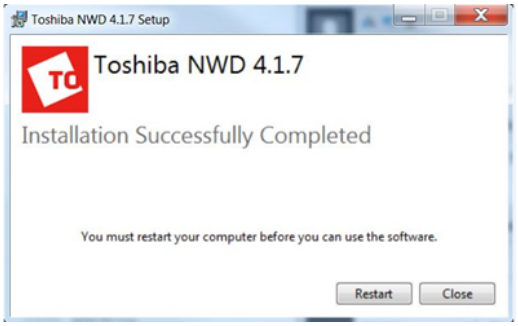

Figure 2. Installation successfully completed

Unattended Installation Procedure

To do a silent install, open the Windows Command Prompt as Administrator and enter the following:.

```
setup.exe -q PORT=<port> BAUDRATE=<baudrate> HANDSHAKE=<handshake>
IPADDRESS=<ip-address>
SETDEFAULTPRINTER=<setdefaultprinter> ENABLESYSMGMT=<enablesysmgmt>
```

Note: The command is to be written in a single line.

The following are the valid property values:

PORT: USB, TCP/IP, COM1, COM2, etc
BAUDRATE: 9600, 19200, 115200
HANDSHAKE: XONXOFF, DTRDSR
IPADDRESS: xxx.xxx.xxx.xxx
SETDEFAULTPRINTER: 0, 1
ENABLESYSMGMT: 0, 1

The following are the default property values:

PORT: USB
BAUDRATE: 9600
HANDSHAKE: XONXOFF
IPADDRESS: 127.0.0.1
SETDEFAULTPRINTER: 1
ENABLESYSMGMT: 0

Examples:

```
setup.exe -q PORT=USB
setup.exe -q PORT=COM1 BAUDRATE=115200 HANDSHAKE=DTRDSR
setup.exe -q PORT=TCP/IP IPADDRESS=127.0.0.1
```

Note:

1. For a silent installation, you must be in the same directory where the setup.exe file is located.
2. After the installation processes successfully, the system will reboot.

Sample Configuration File

Native Windows Driver (NWD) supports unattended installation modes. The process is accomplished through the use of the configuration file, toshibanwdconfig.xml. See the "Sample configuration file contents" section.

Sample configuration file contents

```
;      Sample Configuration File
;
;This file is used in conjunction with the NwdConfig.exe tool to
;setup the Toshiba POS printer.
;
;Make a copy of this file before modifying!!
;
;Follow the descriptions under the various sections of the
;file and modify them accordingly. After modification, run the
;NwdConfig.exe tool to configure the printer and the user preferences.
;
;Syntax:
;  NwdConfig.exe /f:<FilePath> /p:<PrinterName>
```

```
;
;Replace <FilePath> with the full file path of the configuration file.
;The full path is unnecessary if the file is in the same location
;as the NwdConfig Tool.
;
;Replace <PrinterName> with the name of the Toshiba POS Printer.
;The default name of the printer will be \"Toshiba POS Printer\" if this is not
;defined.
;
;Example:
;  NwdConfig.exe /f:"C:\sample folder\config.ini" /p:"Toshiba POS Printer"
;

[Setup]

; Set Setup settings as default for all users
;  Options:
;   0 - Change settings for current user only (default)
;   1 - Change settings for all users
;  Note: Administrator rights is needed to change settings for all users
;  Uncomment the line below to set a different option
;SetPrinterDefaults=0

; Print station selection
;  Options:
;   1 - Customer receipt (default)
;   2 - Document insert
;  Uncomment the line below to set a different option
PrintStation=1

; Paper size selection
;  Options:
;   1 - Receipt 58 x 297 mm
;   2 - Receipt 58 x 3276 mm
;   3 - Receipt 80 x 297 mm (default)
;   4 - Receipt 80 x 3276 mm
;   5 - Document 48 x 274 mm
;   6 - Document 85.7 x 274 mm
;  Uncomment the line below to set a different option
;PaperSize=3

; Paper orientation
;  Options:
;   1 - Portrait (default)
;   2 - Landscape
;  Uncomment the line below to set a different option
;PaperOrientation=1

; Bar code type selection
;  Options:
;    0 - Use application settings (default)
;    1 - CODABAR
;    2 - CODE 128ABC
;    3 - CODE 128C
;    4 - CODE 39
;    5 - CODE 93
;    6 - ITF
;    7 - JAN13 (EAN-13)
;    8 - JAN8 (EAN-8)
;    9 - PDF417
;   10 - UPC-A
;   11 - UPC-E
;   12 - QR Code
;   13 - GS1 Databar Omni-Directional
;   14 - GS1 Databar Omni-Directional Stacked
;   15 - GS1 Databar Expanded
;   16 - GS1 Databar Expanded Stacked
;  Uncomment the line below to set a different option
;BarCodeType=0


; Non-PDF417 bar code settings

;  Options:
;   2
;   3 (default)
```

```
;   4
;  Uncomment the line below to set a different option
;WidthNPDF=3

;  Options:
;   1 to 255
;   162 (default)
;  Uncomment the line below to set a different option
;HeightNPDF=162

;  Options:
;   0 - Not printed (default)
;   1 - Above the bar code
;   2 - Below the bar code
;   3 - Both above and below the bar code
;  Uncomment the line below to set a different option
;HRIPosition=0


; PDF417 bar code settings

;  Options:
;   1 to 9
;   2 (default)
;  Uncomment the line below to set a different option
;WidthPDF=2

;  Options:
;   1 to 9
;   1 (default)
;  Uncomment the line below to set a different option
;HeightPDF=1

;  Options:
;   0 - disabled (default)
;   1 - enabled
;  Uncomment the line below to set a different option
;EnableTruncation=0


; QR Code settings

;  Options:
;   0 - Byte (default)
;   1 - Alpha-Numeric Mode
;   2 - Numeric Mode
;   3 - Kanji Mode
;   4 - Extended Channel Interpretation (ECI) Mode
;   5 - Mixing Mode
;  Uncomment the line below to set a different option
;EncodingMode=0

;  Options:
;   0 - L: 7% recovery (default)
;   1 - M: 15% recovery
;   2 - Q: 25% recovery
;   3 - H: 30% recovery
;  Uncomment the line below to set a different option
;RecoveryLevel=0

;  Options:
;   0 - Cp437 (default)
;   1 - ISO8859_1
;   2 - Cp437
;   3 - ISO8859_1
;   4 - ISO8859_2
;   5 - ISO8859_3
;   6 - ISO8859_4
;   7 - ISO8859_5
;   8 - ISO8859_6
;   9 - ISO8859_7
;  10 - ISO8859_8
;  11 - ISO8859_9
;  12 - ISO8859_10
;  13 - ISO8859_11
;  15 - ISO8859_13
```

```
;  16 - ISO8859_14
;  17 - ISO8859_15
;  18 - ISO8859_16
;  20 - SJIS
;  26 - UTF-8
;  Uncomment the line below to set a different option
;ECIValue=0


; Set Number Of Copies, default value is 1
NumberOfCopies=1

;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
; Options
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;

; Colors selection
;  Options:
;   0 - 2 colors printing
;   1 - monochrome printing (default)
;  Uncomment the line below to set a different option
;Monochrome=1

; 2 colors printing parameter set
;  Options:
;   0 to 3
;   0 (default for monochrome)
;   1 (default for 2 colors)
;  Uncomment the line below to set a different option
;PrintParameterSet=0

; Cut the paper / eject document at the end of the job
;  Options:
;   0 - do not cut the paper / eject document
;   1 - cut the paper / eject document (default)
;  Uncomment the line below to set a different option
;CutPaper=1

; Cut the paper at the end of the page
;  Options:
;   0 - do not cut the paper (default)
;   1 - cut the paper
;  Uncomment the line below to set a different option
;CutPage=0

; Open the cash drawer at the end of the job
;  Options:
;   0 - do not open the cash drawer (default)
;   1 - open the cash drawer
;  Uncomment the line below to set a different option
;OpenCashDrawer=0

; Print in burst mode
;  Options:
;   0 - do not print in burst mode (default)
;   1 - print in burst mode
;  Uncomment the line below to set a different option
;PrintBurstMode=0

; Print with high quality
;  Options:
;   0 - do not print with high quality
;   1 - print with high quality (default)
;  Uncomment the line below to set a different option
;PrintHighQuality=1

; Print upside down
;  Options:
;   0 - do not print upside down (default)
;   1 - print upside down
;  Uncomment the line below to set a different option
;PrintUpsideDown=0

; Beeper
;  Options:
;   0 - OFF (default)
```

```
;   1 - ON
;  Uncomment the line below to set a different option
;Beeper=0

; Code page output
;  Options:
;    1 -  Generic - resident
;    2 -  437 (OEM - United States) - resident
;    3 -  858 (OEM - Multilingual Latin I + Euro) - resident (default)
;    4 -  863 (OEM - Portuguese) - resident
;    5 -  860 (OEM - Canadian French) - resident
;    6 -  865 (OEM - Nordic) - resident
;    7 -  852 (OEM - Latin II) - non-resident*
;    8 -  866 (OEM - Russian) - non-resident*
;     9 -  869 (OEM - Greek) - resident*
;    10 -  857 (OEM - Turkish) - resident*
;    11 -  864 (OEM - Arabic) - resident*
;    12 -  867 (OEM  - Hebrew) - resident*
;    13 -  848 (OEM - Ukraine) - resident*
;    14 -  872 (OEM - Cyrillic) - resident*
;    15 -  775 (OEM - Baltic Rim) - resident*
;    16 -  861 (OEM - Icelandic) - resident*
;   17 - 1250 (ANSI - Central Europe) - non-resident*
;   18 - 1251 (ANSI - Cyrillic) - non-resident*
;   19 - 1252 (ANSI - Latin I) - non-resident*
;    20 - 1253 (ANSI - Greek) - resident*
;    21 - 1254 (ANSI - Turkish) - resident*
;    22 - 1255 (ANSI - Hebrew) - non-resident*
;    23 - 1256 (ANSI - Arabic) - resident*
;    24 - 1257 (ANSI - Baltic) - resident*
;    *For 2CR/2NR and later printers only
;  Uncomment the line below to set a different option
;CodePageOutput=3

; Override font from application
;  Options:
;    1 -  Do not override (default)
;    2 -  Override using Font A
;    3 -  Override using Font B
;    4 -  Override using Font C
;    5 -  Override using Tall A
;    6 -  Override using SBCS #1 font
;    7 -  Override using SBCS #2 font
;    8 -  Override using DBCS
;  Uncomment the line below to set a different option
;OverrideFont=1

;:;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
; Document Header and Footer
;:;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;

; Document header settings

; Logo header
;  Options:
;   0 - no logo (default)
;   1 to 40
;  Uncomment the line below to set a different option
;LogoHeader=0

; Message header
;  Options:
;   0 - no message (default)
;   1 to 25
;  Uncomment the line below to set a different option
;MsgHeader=0

; Message header font
;  Default options:
;   command
;   control
;   Font A
;   Font B
;   Font C
;   Tall A
;  Uncomment the line below and specify the name of the font to be used
```

```
;MsgHeaderFont=<font_name>

; Logo header alignment
;  Options:
;   1 - to the left (default)
;   2 - centered
;   3 - to the right
;  Uncomment the line below to set a different option
;AlignLogoHeader=1

; Message header alignment
;  Options:
;   1 - to the left (default)
;   2 - centered
;   3 - to the right
;  Uncomment the line below to set a different option
;AlignMsgHeader=1

; Header layout
;  Options:
;   0 - message after logo (default)
;   1 - logo after message
;  Uncomment the line below to set a different option
;HeaderLayout=0


; Document footer settings

; Logo footer
;  Options:
;   0 - no logo (default)
;   1 to 40
;  Uncomment the line below to set a different option
;LogoFooter=0

; Message footer
;  Options:
;   0 - no message (default)
;   1 to 25
;  Uncomment the line below to set a different option
;MsgFooter=0

; Message footer font
;  Default options:
;   command
;   control
;   Font A
;   Font B
;   Font C
;   Tall A
;  Uncomment the line below and specify the name of the font to be used
;MsgFooterFont=<font_name>

; Logo footer alignment
;  Options:
;   1 - to the left (default)
;   2 - centered
;   3 - to the right
;  Uncomment the line below to set a different option
;AlignLogoFooter=1

; Message footer alignment
;  Options:
;   1 - to the left (default)
;   2 - centered
;   3 - to the right
;  Uncomment the line below to set a different option
;AlignMsgFooter=1

; Footer layout
;  Options:
;   0 - message after logo (default)
;   1 - logo after message
;  Uncomment the line below to set a different option
;FooterLayout=0
```

```
[Logos]

; Replace 'n' in 'Logo#nm' with a number from 1 to 40 - the logo slot destination in
the printer
; and 'm' with R or D (R = Customer receipt station and D = Document insert station)
; Specify the full path to the image file (must be in bitmap format)
; Do note that if the image is larger than the maximum supported dimensions
; (Thermal 576 x 2040, Impact 472 x 40), the image will be truncated.
; Do ensure that the total size of the images do not exceed the maximum capacity
; of the target printer. Refer to the printer's user guide for more information.
; Uncomment the line below to download a logo to the printer and duplicate it to
; download more logos to different slots to the printer
;Logo#nm=<full_path_to_image_file>

[Messages]

; Replace 'n' in 'Message#n' with a number from 1 to 25 - the message slot
destination in the printer
; Specify the message you want to download after = sign. For new line use '\n'
; Uncomment the line below to download a message to the printer and duplicate it
; to download more messages to different slots to the printer
;Message#n=<message>

[Fonts]

; Specify the SBCS font you want to download like this:
; SBCSFont#n=<font_name> <font_type> <font_script> m
; where n is the printer's font slot - can be 1 or 2
;       <font_name> is the font name as it appears in applications. Ex.: Arial
;       <font_type> can be one of the following strings: "Regular", "Bold", "Italic"
or "BoldItalic"
;       <font_script> is the language script (character set) desired for downloading
and can be:
;         Western
;         Japanese
;         Hangul
;         Hangul(Johab)
;         CHINESE_GB2312
;         CHINESE_BIG5
;         Hebrew
;         Arabic
;         Greek
;         Turkish
;         Baltic
;         Central European
;         Cyrillic
;         Thai
;         Vietnamese
;       m is the font size in points - can be 8, 9 or 10
; Ex. Arial BoldItalic Western 9  will download the Arial font using BoldItalic type
with size 9 pts
; Uncomment the line below to download a SBCS font to the printer or duplicate the
line below to download two fonts to different slots to the printer
;SBCSFont#n=<font_name> <font_type> <font_script> m

; Specify the DBCS font you want to download like this:
; DBCSFont#n=<path_to_the_DBCS_font_file>
; where n is the printer's station - must be 1 (Customer receipt or Document insert)
;       < path_to_the_DBCS_font_file > is the DBCS font file path
; Uncomment the line below to download a DBCS font to the printer
;DBCSFont#n=<path_to_the_DBCS_font_file>

; Motion Detection
;  Options:
;   0 - OFF (default)
;   1 - ON
;  Uncomment the line below to set a different option
;MotionDetection=0

; Partial Cut Detection
;  Options:
;   0 - OFF (default)
;   1 - ON
;  Uncomment the line below to set a different option
```

```
;PartialCutDetection=0

; Low Paper Sensing Detection
;  Options:
;   0 - OFF (default)
;   1 - ON
;  Uncomment the line below to set a different option
;LowPaperSensingDetection=0

; Low Paper Sensing LED
;  Options:
;   0 - OFF (default)
;   1 - ON
;  Uncomment the line below to set a different option
;LowPaperSensingLED=0

[Firmware]

; For updating the printer firmware:
; Uncomment the line below and specify the full path to the printer firmware update
file
;PrinterFirmware=<update_firmware_file_path>

; Paper Saving

; Dots between Printer Line
;  Options:
;   0 - DEFAULT
;   1 - 2 dots
;   2 - 4 dots
;  Uncomment the line below to set a different option
;DotsBetweenPrinterLine=0


; Reduction of Blank Space
;  Options:
;   0 - DEFAULT
;   1 - 50% reduction
;   2 - 75% reduction
;  Uncomment the line below to set a different option
;ReductionOfBlankSpace=0


; Barcode Height Reduction
;  Options:
;   0 - DEFAULT
;   1 - 25% reduction
;   2 - 50% reduction
;   3 - 75% reduction
;  Uncomment the line below to set a different option
;BarcodeHeightReduction=0


; Graphics Whitespace Reduction
;  Options:
;   0 - DEFAULT
;   1 - Reduced whitespace
;   2 - Top & bottom removal
;  Uncomment the line below to set a different option
;GraphicsWhitespaceReduction=0


;                          * * * End of File * * *
```

Using the configuration file

Use the INI file to configure the installation attributes during an unattended installation. You should modify the INI as appropriate for your installation, and then apply it by running the driver install executable, using these command lines in a batch file:

```
setup.exe -q PORT=<port>
"C:\Toshiba\NWD\NwdConfig\NwdConfig.exe" /f:"C:\config.ini" /p:"Toshiba POS Printer"
shutdown /r
```

Note: After the system reboots the NwdConfig.exe will be executed

Using the Ethernet Printer print share mode

An Ethernet-attached Toshiba POS Printer can be shared on multiple POS machines. You will need to run the NwdConfig.exe with the same config.ini file on every POS machine.

For example, in share mode there are two POS machines, for example, POS A and POS B. After modifying config.ini, you can run different commands with the same config.ini on two POS machines.

POS A:

```
NwdConfig.exe /f:"C:\config.ini" /p:"Toshiba POS Printer" /master
```

POS B:

```
NwdConfig.exe /f:"C:\config.ini" /p:"Toshiba POS Printer" /slave
```

If there are more POS machines, all commands will have a /slave parameter. For example:

POS C:

```
NwdConfig.exe /f:"C:\config.ini" /p:"Toshiba POS Printer" /slave
```

POS Z:

```
NwdConfig.exe /f:"C:\config.ini" /p:"Toshiba POS Printer" /slave
```

What is the difference between a /master and /slave POS machine?

If you run a POS machine as a /master, NwdConfig.exe will download logos, messages, SBCS/DBCS fonts and the firmware file into the printer and update the toshibanwdconfig.xml file. Otherwise, the /slave NwdConfig.exe will ignore all downloading tasks and will only update the toshibanwdconfig.xml file. In the end, all POS machines will the keep same configuration and only download data into the printer once.

Uninstall

You can uninstall NWD interactively by using the Add/Remove Programs option in the Windows Control Panel.

To execute an unattended uninstall, open a Command Prompt window as an administrator and enter the following:

```
setup.exe -uninstal1 -quiet
```

The system will reboot after a successful uninstall.

Note:

1. Go to the directory where the setup.exe file for NWD is stored in your system.
2. Files not created by the installer will not be removed during the uninstall.

Chapter 2. Configuring Native Windows Driver

This chapter explains how to configure the Toshiba Native Windows Driver. The following topics are included:

- Configuring the basic printer options
- Setting margins
- Downloading logos and messages to the printer
- Creating headers and footers
- Downloading fonts to the printer

Note: Not all printers support all NWD features. In such cases, the option to configure the feature will not be available.

Opening the Printer Properties Page

Before performing any configuration, the printer properties page has to be opened:

1. To open the printer properties page on POSReady 2009:
    a. Open the Printer and Faxes folder.
    b. Right-click the Toshiba POS Printer.
    c. Select Properties.
2. To open the printer properties page on Windows 7 and above:
    a. Open Print Mangement in Administrative Tools or search for and run the printmanagement.msc file.
    b. Search for your computer name under Print Servers.
    c. Select Printers.
    d. Right click on the Toshiba POS Printer.
    e. Select Properties.
3. Updating Printer Preferences - After the printer properties page is opened, click Printing Preferences. The Printer Preferences window opens with the Setup page selected.
    a. Under Output, select a print station:

        Customer receipt

        Send output to the thermal print station.

        Document insert

        Send output to the impact print station.
    b. Under Paper, select the paper size that you are using.
    c. Under Bar Code, select the bar code type that is appropriate for your environment.

    Note: If Barcode Type setting is used, barcode data, excluding GS1 DataBar and QR Code, will be overwritten by the selection. The GS1 DataBar can only be overwritten by the new GS1 DataBar that is selected. The QR Code will not be overwritten, and the driver only supports customization with Encoding mode, Error Correction Level, and ECI mode for QR Code.
4. Click the Options tab, and set the options that you require.

    Monochrome

    Sets the printer to print using one color.

2 Color

Sets the printer to print using two colors. If you select 2 Color then select a Print parameter set.

The parameter set specifies the print head energy level that is applied to the paper, which will affect print speed.

Experiment with this setting to find the best option for your color thermal paper.

Cut Paper at End of Job

After printing is completed, the printer cuts the paper.

Cut Paper at End of Page

At the end of the page, the printer cuts the paper.

Open Cash Drawer at End of Job

After printing is completed, the cash drawer opens.

Print in Burst Mode

Causes the printer to wait until it receives the entire document before printing. Otherwise, the printer begins to print when it receives the first line.

Note: Burst mode is not required for the Ethernet interface.

Print with High Quality

Prints at 38 lines per second instead of 52. Selecting this option produces printouts that are clearer and sharper, but slows down the printing process.

Print Upside Down

Prints the receipt upside down. This option is useful if your printer is mounted on a wall.

Beeper

Turns the printer beeper on or off.

Code Page Output

Defines the character set that is printed when the printer is sent ASCII code values.

Override Application Font

Do Not Override Font

Prints using the font chosen in the source application, regardless of whether the font is the printer resident. If the font is not printer resident, it will print as an image at very slow print speeds.

Note:

Choose this setting if:

- You care about the output font.
- The application is sending text in the desired printer resident size and font (usually indicated in the application by the

icon or by no icon).

- The application is not sending text in the

OpenFace,

TrueType,

PostScript, or any other version of that font.

Override Using…

The printer always uses the printer resident font that you indicate with this choice.

Note:

Choose one of these settings if:

- You *do not* care about the output font.
- The font is already a printer resident font or you can download it to make it one, *and* you can not change the font in the application that is sending the text (usually because the source is not editable).

5. Click OK to save your printing preferences, then OK again to close the Printer Properties window.

Setting margins

For best printing results, you might have to adjust the margin settings used by your point-of-sale (POS) application. Table 1 lists the minimum margin values for the paper sizes supported by the 4610 printers.

Table 1. Minimum margin values

Paper size	Left and right	Top and bottom
Customer Receipt		
58 x 297 mm	4 mm (0.16 inches)	3 mm (0.12 inches)
58 x 3276 mm	4 mm (0.16 inches)	3 mm (0.12 inches)
80 x 297 mm	4 mm (0.16 inches)	4 mm (0.16 inches)
80 x 3276 mm	4 mm (0.16 inches)	4 mm (0.16 inches)
Document Insert		
48 x 274 mm	2 mm (0.08 inches)	Top - 2 mm (0.08 inches)Bottom - 35 mm (1.38 inches)

Paper size	Left and right	Top and bottom
85.7 x 274 mm	2 mm (0.08 inches)	Top - 2 mm (0.08 inches)Bottom - 35 mm (1.38 inches)

Logos and messages

If there are logos (graphic images) or messages (text strings) that you want to print on every document, you can download them to the internal memory of the printer. You can then use these logos and messages to create a *header* and a *footer* (see “Header and footer” on page 29).

Downloading a logo

You can use any bitmap (BMP), Graphics Interchange Format (GIF), or Joint Photographic Experts Group (JPG, JPEG) graphic as a logo.

To download a logo to the internal memory of the printer:

1. Open the Printer Properties page (see “Opening the Printer Properties Page” on page 25).
2. Click the Logos tab.
3. Select an empty Logo slot (indicated by the words "Not Used").
4. Click Add logo.
5. Select the logo file.
6. From the "Encode for" list, select the print station that will use the logo and how the logo should be handled if it is over the image size limit:

   shrunken

   Scales the logo down so that it fits within the image size limit of 576 pixels wide × 2040 pixels high, while preserving its aspect ratio.

   truncated

   Cuts off any part of the logo that is outside of the image size limit of 576 pixels wide × 2040 pixels high, while preserving its aspect ratio.

   Note: If your logo fits within the image size limit of 576 pixels wide × 2040 pixels high, then this choice is not relevant: the logo will not be shrunken or truncated.
7. Click OK. The logo is stored in the internal memory of the printer.
8. Click Update to save your settings.

Creating a message

To create a message:

1. Open the Printer Properties page (see “Opening the Printer Properties Page” on page 25).
2. Click the Messages tab.
3. Select an empty Message slot (indicated by the words "Not Used").
4. Type your message in the box to the right of the Message slots list. The maximum number of characters in a message is 255.
5. Click Add message. The message is stored in the internal memory of the printer.
6. Click Update to save your settings.

Header and footer

If you have stored logos or messages in the internal memory of the printer (see "Logos and messages" on page 28), you can use them to define a header or footer that is automatically added to every document that you send to the printer.

Configuring the header

The header is automatically printed at the top of every document. It can contain a logo, a message, or both.

To configure the header for all documents:

1. Open the Printer Properties page (see "Opening the Printer Properties Page" on page 25).
2. Click Printing Preferences. The Printing Preferences window opens with the Setup page selected.
3. Click the Document Header tab.
4. Select Use Document Header. The header is empty until you specify a logo, a message, or both.
5. To specify a logo:
   a. From the Logo list, select one of the logos stored in the printer's memory.
   b. If necessary, click one of the following buttons:

      Double Width

      Doubles the pixel width of the logo, but leaves the height the same.

      Double Width Double Height

      Doubles the pixel width and height of the logo.
   c. From the Align list, select whether the logo should be aligned to the left, centered, or to the right.
   d. From the Color list, select one of the following:

      2 colors (half-character)

      Prints the top half of the header logo in color and the bottom half of the header logo in black.

      2 colors (full-character)

      Prints the header logo entirely in color.

      Cancel 2 colors

      Prints the header logo in black only.
6. To specify a message:
   a. From the Message list, select one of the list of messages stored in the printer's memory.
   b. From the Align list, select whether the message should be aligned to the left, centered, or to the right.
   c. From the Font list, select one of the fonts stored in the printer's memory. Refer to the appropriate individual printer's user's guide for a description of these fonts and defaults.
   d. From the Color list, select one of the following:

2 colors (half-character)

Prints the top half of the header message characters in color and the bottom half of the header message characters in black.

2 colors (full-character)

Prints the header message characters entirely in color.

Cancel 2 colors

Prints the header message characters in black only.

7. If you specify both a logo *and* a message, the logo is printed above the message by default. To reverse the order and print the message above the logo, select Logo after message from the Layout list.
8. Click OK to save your setting.

Configuring the footer

The footer is automatically printed at the bottom of every document. It can contain a logo, a message, or both.

To configure the footer for all documents:

1. Open the Printer Properties page (see "Opening the Printer Properties Page" on page 25).
2. Click Printing Preferences. The Printing Preferences window opens with the Setup page selected (see "Opening the Printer Properties Page" on page 25).
3. Click the Document Footer tab.
4. Select Use Document Footer. The footer is empty until you specify a logo, a message, or both.
5. To specify a logo:
   a. From the Logo list, select one of the logos stored in the printer's memory.
   b. If necessary, click one of the following buttons:

Double Width

Doubles the pixel width of the logo, but leaves the height the same.

Double Width Double Height

Doubles the pixel width and height of the logo.

   c. From the Align list, select whether the logo should be aligned to the left, centered, or to the right.
   d. From the Color list, select one of the following:

2 colors (half-character)

Prints the top half of the footer logo in color and the bottom half of the footer logo in black.

2 colors (full-character)

Prints the footer logo entirely in color.

Cancel 2 colors

Prints the footer logo in black only.

6. To specify a message:
   a. From the Message list, select one of the list of messages stored in the printer's memory.

b. From the Align list, select whether the message should be aligned to the left, centered, or to the right.
c. From the Font list, select one of the fonts stored in the printer's memory. Refer to the appropriate individual printer's user's guide for a description of these fonts and defaults.
d. From the Color list, select one of the following:

2 colors (half-character)

Prints the top half of the footer message characters in color and the bottom half of the footer message characters in black.

2 colors (full-character)

Prints the footer message characters entirely in color.

Cancel 2 colors

Prints the footer message characters in black only.

7. If you specify both a logo and a message, the logo is printed above the message by default. To reverse the order and print the message above the logo, select Logo after message from the Layout list.
8. Click OK to save your settings.

Downloading fonts

To improve printer performance, you can copy fonts to the internal memory of the printer. These fonts are used whenever a document requiring them is printed.

DBCS fonts

A collection of DBCS fonts are available in the installation folder C:\Toshiba\NWD. Currently, the supported Double Byte Character Sets are:

1. Japanese Codepage 932
2. Korean Codepage 949
3. Traditional Chinese Codepage 950b
4. Traditional Chinese Codepage 950n
5. Simplified Chinese Codepage 1381

To download the DBCS fonts to the printer:

1. Open the Printer Properties page (see “Opening the Printer Properties Page” on page 25).
2. Click the Fonts tab.
3. Click Select for Font 1 (Customer Receipt Station) or Font 2 (Document Insert Station).
4. Browse to the file location, select, and click to open and download to the printer.
5. Click Update to download the font to the printer.
6. Upon completion, the Properties Font Tab will contain the downloaded character set.

Note: Due to printer limitations when DBCS fonts are used, only SBCS font 2 is available. Any previously downloaded SBCS font 1 will be erased from the printer.

For DBCS fonts in Windows 7: The downloaded DBCS font will no longer be reflected in the application such as Wordpad in Windows 7/POSReady 7 or later versions. If the user wants to print using the downloaded DBCS font, this can be done by setting the override font as a downloaded DBCS font in the printer preferences.

Table 2. DBCS default fonts

DBCS Font	Corresponding Default MS Font
Japanese	MS Mincho
Simplified Chinese	SimSun
Traditional Chinese	SimSun
Korean	Maigun Gothic

For example, after downloading *Japanese.fon*, the printer property page dialog will show *Japanese* in the DBCS slot. Using Wordpad, to utilize the downloaded font, specify *MS Mincho* as the font and the driver will convert the Unicode characters and render an ASCII print job. To print in image, use a font other than MS Mincho. To use MS Mincho for image printing, delete the DBCS font from the printer via the printer properties page.

Downloading TrueType fonts

TrueType fonts that exist on the system can be downloaded to the printer; however, your license for the fonts must authorize you to do so. You are responsible for confirming that you are authorized to download TrueType fonts to the printer.

To download non-Toshiba fonts:

1. Open the Printer Properties page (see “Opening the Printer Properties Page” on page 25).
2. Click the Fonts tab.
3. Click Select for Font 1 or Font 2. The Select Font window opens.

   Note: If you are downloading DBCS fonts to the printer, Font 1 can only be used for the customer receipt station and Font 2 can only be used for the document insert station.
4. A message appears, reminding you that you must confirm that you are authorized to download TrueType fonts before doing so.
5. If you have received authorization, click Yes. The Select Font window is updated to list all of the TrueType fonts installed on your computer.
6. Select a TrueType font, style, and size.
7. Click OK. The font is copied to the internal memory of the printer.
8. Click Update to save your settings.

   Note: The SBCS font download has a problem when font MS Sans serif and MS Serif font are downloaded. For the workaround and to download this specific combination, do the following:

   a. Select MS Sans Serif as Font 1.
   b. Select MS Serif as Font 2.

   Do not change this combination. If change is desired, clean out the printer memory (erase flash) and re-download both fonts again in the stated sequence.

For Windows 7, Font A, B, C, and other Toshiba fonts are available in the TrueTypeFont download selection, which is a known limitation in Windows 7.

Enable/Disable Sensors

The Font Tab in Printer Properties includes these four functions:

- Motion Detection
- Partial Cut Detection
- Low Paper Detection

- Low Paper LED

Motion Detection

This is to turn on/off the paper motion detection sensor of the printer. Motion Detection is only available when the minimum printer firmware version is 0D, and the physical motion sensor is a Type 1 Sensor.

1. Enable the motion detection:
   - Select the Motion Detection check box.
   - Click Apply or OK.
2. Disable the motion detection
   - Clear the Motion Detection check box.
   - Click Apply or OK.

Partial Cut Detection

Partial Cut Detection is to turn on/off the partial cut capability of the printer. The partial cut detection is always available in 1NR. The partial cut detection is not available in certain 2NR/2CR models.

1. Enable the partial cut detection:
   - Select the Partial Cut Detection check box.
   - Click Apply or OK.
2. Disable the partial cut detection:
   - Clear the Partial Cut Detection check box.
   - Click Apply or OK.

Low Paper Detection

Low paper detection is to turn on/off the low paper detection sensor of the printer.

1. Enable the Low Paper Detection:
   - Click the Low Paper Detection check box.
   - Click Apply or OK.
2. Disable the Low Paper Detection:
   - Clear the Low Paper Detection check box.
   - Click Apply or OK.

Low Paper LED

Low paper LED is to turn on/off low paper LED of the printer.

1. Enable the Low Paper LED:
   - Select the Low Paper LED check box.
   - Click Apply or OK.
2. Disable the Low Paper LED:
   - Clear the Low Paper LED check box.
   - Click Apply or OK.

Paper Saving Setting

The Paper Saving button is located on the Firmware and Advanced Configuration tab.

The Paper Saving window includes these functions:

Dots between Print Line
DEFAULT
2 dots
4 dots

Reduction of Blank Space
DEFAULT
50% reduction
75% reduction

Barcode Height Reduction
DEFAULT
25% reduction
50% reduction
75% reduction.

Graphics Whitespace Reduction
DEFAULT
Reduced Whitespace
Top and Bottom Removal

The first three settings are available in 2CR/2NR and 1NR with firmware EC level 0F.xx and above. All settings are available in 2TC/2TN, and 1TN.

Logging configuration

You can configure the logging system of the Native Windows Driver (NWD) to create a trace file with different trace levels and modules. This feature can be used by support teams to resolve problems. To access this feature:

1. Go to the Firmware and Advanced Configuration tab.
2. Select the Logging button to display the Logging configuration window.

The following module options are available on the Logging configuration window:

Printer GUI

Printer properties or preferences setting.

Windows Spooler

Windows printer spooler.

Printer API

A group of API function provided by NWD.

GDI Driver

Windows GDI Driver.

IO/BUS

Operates the interface of the USB/RS232/Ethernet printer.

NWD Service

Maintains all threading and processing of the virtual and physical device interfaces.

Level

- OFF
- CRITICAL

- ERROR
- WARRING
- INFO
- VERBOSE
- DEBUG
- TRACE

File Size

You can create a customized file size for the ToshibaNWD.log file.

File Path

You can create a customized file path for the ToshibaNWD.log file.

Note:

1. Trace information is only configured and recorded for module options that are checked.
2. For normal usage, the trace level is recommended to be set at INFO.
3. When creating trace files for debugging purposes, it is recommended that all modules be turned on and for the trace level to be set to TRACE.

Automatic Firmware Upgrade

Use the following steps to perform an automatic firmware upgrade:

1. Change the firmware filename to the appropriate corresponding filename.

   Table 3. Firmware update filenames

Printer model	Firmware update filename
Tx 3/4/5/6/7	T4610Legacy.hex
TI 8/9	T4610Ti8.hex
1NR/1NA/1ND/2NR/2CR	T4610.hex
2TC/2TN/1TN	T6145.hex

2. Copy the new HEX file into the `C:\Toshiba\NWD\firmware` folder.
3. Restart the POS machine.

   If the firmware file version is higher than the printer's firmware version, NWD will automatically upgrade the printer's firmware at system startup. During this period, the printer's indicator lights are amber and will flash continuously. The printer will not print until the amber light stops flashing.

Note:

1. The Automatic Firmware Upgrade feature is only available for the USB interface.
2. Command Line Utilities is an optional component for POS Ready 2009. Install the component manually for the Automatic Firmware Upgrade feature before you install NWD:
   a. Go to the Control Panel, click Add and remove programs and Add/Remove Windows Components.
   b. Select Accessories and Utilities -> Utilities -> Command Line Utilities to install.

TCx Printer Configuration Utility

The TCx Printer Configuration Utility, from https://www.toshibacommerce.com, can also be used to download firmware and/or configuration file. The following type of configuration files can be generated by the utility:

1. Printer Settings
2. Network Settings
3. DBCS Fonts
4. SBCS Fonts
5. Resident Message
6. Resident Graphics (bitmaps)

However, when this utility is used to download the configurations, the settings will not be integrated into Native Windows Driver (NWD) (that is, printer preferences can not be used to configure the fonts, messages, or graphics).

Chapter 3. Using the printer

This chapter explains how to perform key tasks after the Toshiba SureMark 4610 printer native Windows driver is installed. The following topics are covered:

- Monitoring printer and job status
- Printing with resident or downloaded fonts
- Resident font support with Windows 7
- Printing bar codes
- Compatibility issues for specific applications
- Sending commands to the printer

Monitoring printer and job status

The Language/Port Monitor provides printer and job status for Toshiba POS Printers. Printer and job status are displayed in the status column on the Windows printer queue view, but there are additional places where you can find printer and job status. Applications can make standard Win32 API calls to get printer or job status information directly from NWD's port monitor.

The first place to check status is the Devices and Printers or Printers and Faxes folder in Windows. Select View > Details to show the status of each printer icon in the Status column of that folder view.

The best place to get status information is the standard Windows print queue view for a printer (double-click the relevant printer in the Printers folder). You should check the Windows print queue first for status because:

- This is the only standard way to get job status information for a specific job on a Windows operating system.
- This is the standard way to get printer status on a Windows operating system.
- All status information in the queue view, including the printer status information, is kept up-to-date by the system. This is not true for the Details view of the Printers and Faxes folder. For example, if the port monitor sets the port status for some port to `Out of paper`, the queue view for any printers using that port will immediately show the printer as out of paper, whereas the Status column in the Printers and Faxes folder might not update for minutes.

Note: The Language/Port Monitor reports end-of-job status at the time the job completes printing, not at the time it completes sending. This is known as true end-of-job, and is one of the major benefits of using the port monitor.

These values can be returned for the status of the printer:

- `Door open/Out of paper on Receipt Station`
- `Paper absent on Document insert station`
- `Door open on Document insert station`
- `Offline`
- `Print buffer full`
- `Out of memory`
- `Print Head in Open Throat Position`

The Language/Port Monitor can set the status of a job to any string it chooses. One (or more) of the following values can be returned for the status of a particular print job:

- `Printing`
- `Printed`
- `Canceling`
- `Canceled`

Note:

More than one string can be displayed at a time for a job. For example:

- `Printing - Out of paper`

  This would indicate that the job was a normal job; but the printer is currently out of paper.
- `Error - Printing - Canceling - Out of paper`
- In this example, the spooler adds the first two words (though `Printing` might instead be `Printed`, if the spooler considered the job fully sent).

For the supported Ethernet printers, if there are no print jobs in the Windows spooler, the Language/Port Monitor will not provide a printer status. To set up monitoring for Ethernet printers, use the SNMP configurations to retrieve printer status (refer to the individual printer's user's guide for more information).

Printing with fonts

1. Select Toshiba POS Printer as the default printer.
2. Open the text editor (such as Microsoft Word or WordPad) of the document you are printing and perform the following steps:
   - Select the text to be printed.
   - Specify the resident or downloaded font you want to use.
   - Specify a point size for the selected text.
   - Print the document.

Note: The screen appearance of text that is edited using the resident or downloaded fonts of the printer might not always match the paper printout.

Resident font support

TrueType Font representation of the resident font character set is installed for Windows. The resident font character set that is supported to print text and send commands includes:

- Font A
- Font B
- Font C
- Tall A
- Font A Width X 2
- Font B Width X 2
- Font C Width X 2
- command
- Control

The resident font character set that is supported to print bar codes includes:

- _ibm_Codabar
- Code 39
- Code 93
- _ibm_Code 128ABC
- Code 128C
- ITF
- JAN 8
- JAN 13
- PDF 417
- UPC A

- UPC E
- QR Code
- GS1 DataBar Omni-Directional
- GS1 DataBar Omni-Directional Stacked
- GS1 DataBar Expanded
- GS1 DataBar Expanded Stacked

These fonts can invoke the printer to use the internal resident fonts available on the printer. These fonts should not be used as downloaded TrueType fonts in the Download Fonts Tab in the Printer Properties.

Note: The size of the resident fonts are limited on the printer. It is not a what-you-see-what-you-get (WYSIWYG) representation on the application. For actual WYSIWYG printing, you should only use non-resident fonts on 4610 2xR/1NR and 6145 2Tx/1TN printers.

Printing bar codes

To create a bar code for printing:

1. Select Toshiba POS Printer as the default printer.
2. Open a document in an editing application (such as Microsoft Word or WordPad).
3. Type the text to be printed as a bar code.
4. Select the text and change the font to one of the following bar code fonts:
    - ibm_Codabar
    - ibm_Code 128ABC
    - Code 128C
    - Code 39
    - Code 93
    - ITF
    - JAN13 (EAN-13)
    - JAN8 (EAN-8)
    - PDF417 (Receipt Station only)
    - UPC-A
    - UPC-E
    - QR Code
    - GS1 DataBar Omni-Directional
    - GS1 DataBar Omni-Directional Stacked
    - GS1 DataBar Expanded
    - GS1 DataBar Expanded Stacked
5. Specify a point size for the selected text.
6. Print the document.

Compatibility notes

Native Windows Driver supports printing from the following 32 bit (in 32 bit and 64 bit Windows) and 64 bit (in 64 bit Windows) applications in Windows operating system:

- Microsoft Wordpad
- Microsoft Internet Explorer
- Microsoft Notepad

Please note that the behavior of a 32 bit application and a 64 bit application may be different and the printing from the file created in 32 bit application may not give the same result when it is printed from 64 bit application. The use of other third party applications is at your own risk and

not officially supported. The following sections denote the compatibility issues with some of the third party applications for reference purpose.

Paper sizes

The following applications do not use the paper sizes specified by the Native Windows Driver (NWD):

- Microsoft PowerPoint
- Corel Draw

Resident fonts

The following applications do not use the resident fonts specified by the Native Windows Driver (NWD):

- Microsoft PowerPoint
- Corel Draw
- Notepad

Note: Italic resident fonts do not appear italic.

Sending commands to the printer

You can send commands to the printer with a command font or control font.

Using the command font

The “command” font is usually indicated in an application by the

icon or no icon. Use the font to pass native printer escape sequence commands directly to the printer as ASCII characters in the following ranges:

- 0–9
- a–f
- A–F

Any other character outside of this range is ignored.

To generate commands, the characters are grouped in pairs and the result is sent unaltered to the printer. If there is an odd number of characters, a trailing 0 is added.

Note: When using only the set left margin command (1B 24 n1 n2) — or in conjunction with the set print station parameters (1b 63 31 n 1B 24 n1 n2) — these command sequences must be posted at the beginning of a new line. This will avoid conflicts between these commands and the similar commands that could be sent from the printer driver.

For more information, refer to the individual printer's programming guide.

Using the control font

The “control” font is usually indicated in an application by the

icon or no icon. Use the font to send commands directly to the printer as ASCII characters; each character sent to the printer in the control font represents a specific command (see Table 4).

Table 4. Control font mapping

ASCII character	Command
2	Print to the customer receipt station
4	Print to the document insert station (portrait mode)
8	Print to the document insert station (landscape mode)
a	Open drawer 2 (50 ms drive pulse width)
b	Open drawer 2 (100 ms drive pulse width)
c	Open drawer 2 (150 ms drive pulse width)
d	Open drawer 2 (200 ms drive pulse width)
e	Open drawer 2 (250 ms drive pulse width)
f	Cut receipt
g	Cut receipt
h	Flip check
i	Cancel color printing
j	Enable full-character color printing
k	Enable half-character color printing
l	Enable upside down printing
m	Cancel upside down printing
p	Do not add HRI characters to bar code
q	Add HRI characters (in Font B) to top of bar code
r	Add HRI characters (in Font B) to bottom of bar code
s	Add HRI characters (in Font A) to top of bar code
t	Add HRI characters (in Font A) to bottom of bar code
w	Left-align text
x	Center-align text
y	Right-align text
A	Open drawer 1 (50 ms drive pulse width)
B	Open drawer 1 (100 ms drive pulse width)
C	Open drawer 1 (150 ms drive pulse width)
D	Open drawer 1 (200 ms drive pulse width)
E	Open drawer 1 (250 ms drive pulse width)
F	Cut receipt
G	Print predefined graphics (logo) #1 (normal mode)
H	Print predefined graphics (logo) #2 (normal mode)
I	Print predefined graphics (logo) #3 (normal mode)

ASCII character	Command
J	Print predefined graphics (logo) #4 (normal mode)
K	Print predefined graphics (logo) #5 (normal mode)
P	Cut receipt
R	Right-align column
[	Print predefined graphics (logo) #1 (double-height double-width mode)
]	Print predefined graphics (logo) #2 (double-height double-width mode)
^	Print predefined graphics (logo) #3 (double-height double-width mode)
_	Print predefined graphics (logo) #4 (double-height double-width mode)
'	Print predefined graphics (logo) #5 (double-height double-width mode)

API programming

The Native Windows Driver (NWD) API module that is provided in the installation is useful for developers that build the Toshbia POS Printer applications. This module offers the possibility to do check processing using the Toshiba POS Printer and to monitor the printer status, in conjunction with NWD.

The NWD API module supports both 32 bit and 64 bit applications. The module names are as follow:

- nwdapi.dll (32 bit API module)
- nwdapi64.dll (64 bit API module)

Use the correct module version accordingly.

This section describes the functions that are exported by the NWD API module. It also provides the definitions for all possible return values, with specific possible values listed within each function. Finally, it lists legacy functions that are not exported by the module.

API overview

Table 5 shows the functions grouped by operational categories.

Table 5. API functions by category

Function	Description	Page
Starting and ending communications		
BiOpenMonPrinter	Opens a new session and, if is successfully opened, returns a handle to the specified printer.	“Parameters (BiOpenMonPrinter)” on page 64
BiCloseMonPrinter	Closes the opened session and frees all allocated resources.	“BiCloseMonPrinter function” on page 46
Basic operations		
BiGetType	Acquires the printer's type ID (capabilities).	“BiGetType function” on page 53
BiGetStatus	Acquires the current status of a printer.	“BiGetStatus function” on page 52

Function	Description	Page
BiGetOfflineCode	Acquires a code that indicates why the printer is offline.	“BiGetOfflineCode function” on page 49
BiCancelError	Restores recoverable printer errors by sending a release print buffer command.	“BiCancelError function” on page 46
BiOpenDrawer	Opens the specified cash drawer (1 or 2) after the specified delay (in milliseconds).	“BiOpenDrawer function” on page 63
UpdatePrinterFirmware	Updates the firmware of the connected printer on the specified RSS port.	“UpdatePrinterFirmware function” on page 74
Monitoring operations		
BiSetMonInterval	Specifies the interval of the status monitoring of printers by the API (in milliseconds).	“BiSetMonInterval function” on page 71
BiSetStatusBackFunction	Enables Automatic Status Back mode and registers the address of the callback function where results are notified.	“BiSetStatusBackFunction function” on page 71
BiCancelStatusBack	Disables Automatic Status Back mode.	“BiCancelStatusBack function” on page 46
Check reading operations		
BiMICRSetReadBackFunction	Enables check reading by BiMICRReadCheck and registers the address of the callback function when the results are notified.	“BiMICRSetReadBackFunction function” on page 61
BiMICRSelectDataHandling	Retransmits the check reading results.	“BiMICRSelectDataHandling function” on page 59
BiMICRReadCheck	Selects the check reading data handling mode.	“BiMICRReadCheck function” on page 58
BiMICRRetransmissionCheckData	Executes check reading.	“BiMICRRetransmissionCheckData function” on page 59
BiMICRLoadCheck	Loads the check to the check printing start position.	“BiMICRLoadCheck function” on page 57
BiMICRGetStatus	Acquires the MICR status.	“BiMICRGetStatus function” on page 56
BiMICREjectCheck	Ejects the check.	“BiMICREjectCheck function” on page 56
BiMICRCancelWaitCheckInsertion	Cancels the current check insertion wait period.	“BiMICRCancelWaitCheckInsertion function” on page 56
BiMICRCancelReadBack	Cancels a reading information notification request registered using	“BiMICRCancelReadBack function” on page 55

Function	Description	Page
	BiMICRSetReadBackFunction function.	
Scanning operations		
BiSCNSetImageFormat	Sets the format of the scanning image data.	“BiSCNSetImageFormat function” on page 68
BiSCNGetImageFormat	Acquires the format of the image set in the printer.	“BiSCNGetImageFormat function” on page 65
BiSCNSetReadBackFunction	Enables image scanning with the BiSCNReadImage function, registers the callback function's address called when sending notification of the results, and registers the memory addresses for setting each type of scanned information.	“BiSCNSetReadBackFunction function” on page 69
BiSCNCancelReadBack	Cancels the scanning information notice request registered using the BiSCNSetReadBackFunction function.	“BiSCNCancelReadBack function” on page 65
BiSCNReadImage	Executes image scanning.	“BiSCNReadImage function” on page 66
BiSCNRetransmissionImage	Retransmits the image scanning results.	“BiSCNRetransmissionImage function” on page 67
BiESCNDefineCropArea	Registers a Crop Area or deletes all the registered Crop Areas.	“BiESCNDefineCropArea function” on page 47
BiESCNStoreImage	Registers a Crop image.	“BiESCNStoreImage function” on page 48
BiESCNRetrieveImage	Acquires a Crop image.	“BiESCNRetrieveImage function” on page 48
Output appearance operations		
DownloadLogo	Downloads one or more logos to the connected printer on the specified RSS port.	“DownloadLogo function” on page 73
DownloadMessage	Downloads one or more messages to the connected printer on the specified RSS port.	“DownloadMessage function” on page 73
DownloadFont	Downloads one or two TrueType fonts to the connected printer on the specified RSS port.	“DownloadFont function” on page 72

Note: Some BYTE parameter type values are defined with string descriptors, which must be equated to their ordinal integer values to work in code (for example, the first defined parameter value must be equated to 1; the second, to 2; the third, to 3; and so forth).

Return value definitions

SUCCESS

Execution successfully completed.

ERR_ACCESS

Reading or writing with the printer is not possible (printing in progress).

ERR_CROPAREAID

Crop area selected is not present.

ERR_HANDLE

The handle value that specifies the printer is incorrect.

ERR_NO_MEMORY

Memory is insufficient.

ERR_NO_PRINTER

The specified printer driver does not exist.

ERR_NO_TARGET

An unsupported printer was specified (the printer's power is not ON, the cable connections are faulty, and so forth).

ERR_NOT_SUPPORT

Not supported by this printer.

ERR_NOT_OEM

Not supported by this printer.

ERR_OFFLINE

The printer was opened in the offline state, so it can not be used until the online state is recovered.

ERR_OPENED

The specified printer has already been opened.

ERR_PARAM

Parameter error.

ERR_PRINTER_OPERATION

The command sent to the printer was not correctly processed.

ERR_TIMEOUT

A time out error occurred.

ERR_TYPE

nType parameter error.

ERR_WITHOUT_CB

Can not execute because BiMICRSetReadBackFunction has not been called.

BiCancelError function

This function restores recoverable printer errors by sending a release print buffer command.

```
int WINAPI BiCancelError(
  int nHandle);
```

Parameters (BiCancelError)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

Return values (BiCancelError)

- SUCCESS
- ERR_TIMEOUT
- ERR_ACCESS

BiCancelStatusBack function

This function disables Automatic Status Back mode.

```
int WINAPI BiCancelStatusBack(
  int nHandle);
```

Parameters (BiCancelStatusBack)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

Return values (BiCancelStatusBack)

- SUCCESS
- ERR_HANDLE

BiCloseMonPrinter function

This function closes the opened session and frees all allocated resources.

```
int WINAPI BiCloseMonPrinter(
  int nHandle);
```

Parameters (BiCloseMonPrinter)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

Return values (BiESCNDefineCropArea)

- SUCCESS
- ERR_HANDLE

BiESCNDefineCropArea function

This function registers a Crop Area or deletes all the registered Crop Areas.

```
int WINAPI BiESCNDefineCropArea(
  int  nHandle,
  BYTE bCropAreaID,
  WORD wStartX,
  WORD wStartY,
  WORD wEndX,
  WORD wEndY);
```

Parameters (BiESCNDefineCropArea)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

bCropAreaID

Specifies the cropping area template used for storing images (0 – 255):

0

Clears the cropping area list.

1

Entire image.

wStartX

Specifies the starting X coordinate of the cropping area.

wStartY

Specifies the starting Y coordinate of the cropping area.

wEndX

Specifies the ending X coordinate of the cropping area.

wEndY

Specifies the ending Y coordinate of the cropping area.

Return values (BiESCNDefineCropArea)

- SUCCESS
- ERR_HANDLE
- ERR_NOT_SUPPORT
- ERR_PARAM

BiESCNRetrieveImage function

This function acquires a Crop image.

```
int WINAPI BiESCNRetrieveImage(
  int     nHandle,
  DWORD   dwFileIndex,
  LPSTR   pFileID,
  LPSTR   pImageTagData,
  LPDWORD pImageSize,
  LPBYTE* pImageData);
```

Parameters (BiESCNRetrieveImage)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

dwFileIndex

Specifies the location of the image to retrieve.

pFileID

(Ignored.)

pImageDataTag

Specifies the identification data of the image to retrieve.

pImageSize

Contains the image size of the *pImageData* buffer.

pImageData

Contains the image data.

Return values (BiESCNRetrieveImage)

- SUCCESS
- ERR_NOT_FOUND
- ERR_NOT_SUPPORT
- ERR_PARAM

BiESCNStoreImage function

This function registers a Crop image.

```
int WINAPI BiESCNStoreImage(
  int     nHandle,
  LPDWORD lpdwFileIndex,
  LPSTR   pFileID,
  LPSTR   pImageTagData,
  BYTE    bCropAreaID);
```

Parameters (BiESCNStoreImage)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinterreturn value is used in the handle value.

lpdwFileIndex

Returns the image location where the desired image was stored.

pFileID

(Ignored.)

pImageDataTag

Specifies the identification data of the crop image to be saved. Selectable length of a character string is up to 40 characters. NULL can be used.

bCropAredID

Specifies the crop area ID defined by the BiESCNDefineCropArea function. Selectable values are 1 – 255.

Return values (BiESCNStoreImage)

- SUCCESS
- ERR_CROPAREAID
- ERR_NO_IMAGE
- ERR_NO_MEMORY
- ERR_NOT_SUPPORT
- ERR_PARAM

BiGetOfflineCode function

This function acquires a code that indicates why the 4610 printer is offline (5 bytes).

```
int WINAPI BiGetOfflineCode(
  int    nHandle,
  LPBYTE offlinecode);
```

Parameters (BiGetOfflineCode)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

offlinecode

Sets the bit that indicates the reason for being offline:

Table 6. offlinecode Byte 1 = variable

Bit	Function	Value 0	Value 1	Comments
0	CPU execution error	Did not occur	Occurred	Always 0

Bit	Function	Value 0	Value 1	Comments
1	Read/write (R/W) error in memory	Did not occur	Occurred	Status byte 3 – bit 3
2	R/W error in gate array	Did not occur	Occurred	Always 0
3	Not defined	Fixed at 0		0
4	Not defined	Fixed at 0		0
5	Not defined	Fixed at 0		0
6	Fixed	Fixed at 1		1
7	Fixed	Fixed at 0		0

Table 7. offlinecode Byte 2 = 0x40

Bit	Function	Value 0	Value 1	Comments
0	High voltage error	Did not occur	Occurred	Always 0
1	Low voltage error	Did not occur	Occurred	Always 0
2	Overcurrent error	Did not occur	Occurred	Always 0
3	Not defined	Fixed at 0		0
4	Not defined.	Fixed at 0		0
5	Not defined	Fixed at 0		0
6	Fixed	Fixed at 1		1
7	Fixed	Fixed at 0		0

Table 8. offlinecode Byte 3 = 0x40

Bit	Function	Value 0	Value 1	Comments
0	Thermistor error	Did not occur	Occurred	Always 0
1	Print head high voltage error	Did not occur	Occurred	Always 0
2	Print head low voltage error	Did not occur	Occurred	Always 0
3	RTC error	Did not occur	Occurred	Always 0
4	Number of carriage operations error	Did not occur	Occurred	Always 0
5	Number of pump operations error	Did not occur	Occurred	Always 0
6	Fixed	Fixed at 1		1
7	Fixed	Fixed at 0		0

Table 9. offlinecode Byte 4 = variable

Bit	Function	Value 0	Value 1	Comments
0	Auto cutter error	Did not occur	Occurred	TM6 and TM7 only: Status byte 1 – bit 6 (customer receipt print error)All others: 0
1	Paper roll cover open error (recover automatically)	Did not occur	Occurred	Status byte 1 – bit 6 (customer receipt print error)
2	Not defined	Fixed at 0		0
3	Not defined	Fixed at 0		0
4	Home position detection error	Did not occur	Occurred	Status byte 3 – bit 1 (home error)
5	Carriage detection error	Did not occur	Occurred	Always 0
6	Fixed	Fixed at 1		1
7	Fixed	Fixed at 0		0

Table 10. offlinecode Byte 5 = variable

Bit	Function	Value 0	Value 1	Comments
0	Paper roll cover open error (recover by the command)	Did not occur	Occurred	Status byte 1 – bit 6 (customer receipt print error)
1	Print head high temperature error	Did not occur	Occurred	Always 0
2	Print head low temperature error	Did not occur	Occurred	Always 0
3	Not defined	Fixed at 0		0
4	Not defined	Fixed at 0		0
5	Not defined	Fixed at 0		0
6	Fixed	Fixed at 1		1
7	Fixed	Fixed at 0		0

Return values (BiGetOfflineCode)

- SUCCESS
- ERR_ACCESS
- ERR_HANDLE
- ERR_NO_MEMORY
- ERR_OFFLINE
- ERR_PARAM
- ERR_TIMEOUT

BiGetStatus function

This function acquires the current status of a printer (4-bytes status).

```
int WINAPI BiGetStatus(
  int     nHandle,
  LPDWORD lpStatus);
```

Parameters (BiGetStatus)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

lpStatus

Represents the current status of the specified printer:

Table 11. lpStatus status definitions

EPSON status	Value	OFF	ON	Comments
ASB_NO_RESPONSE	0x00000001	Printer responds	Printer does not respond	If printer responds this bit will be set to 0 (OFF).
ASB_PRINT_SUCCESS	0x00000002	—	Printing finished	This will be internally handled.
ASB_UNRECOVER_ERR	0x00002000	No non-recoverable error	A non-recoverable error has occurred	Status byte 1 – bit 7 (command reject)
ASB_AUTORECOVER_ERR	0x00004000	No auto-recoverable error	An auto-recoverable error has occurred	Always OFF
ASB_OFF_LINE	0x00000008	Online	Offline	If printer responds then this bit will be set to 0 (OFF).
ASB_PRINTER_FEED	0x00000040	Not feeding paper by the paper feed switch	Feeding paper by the paper feed switch	Status byte 7 – bit 4 (printer key pressed)
ASB_PANEL_SWITCH	0x00000200	Panel switch OFF	Panel switch ON.	Always OFF0
ASB_MECHANICAL_ERR	0x00000400	No mechanical error.	A mechanical error has occurred	Always OFF0
ASB_AUTOCUTTER_ERR	0x00000800	No cutter error.	A cutter error has occurred	Status byte 1 – bit 6 (customer receipt print error)

EPSON status	Value	OFF	ON	Comments
ASB_DRAWER_KICK	0x00000004	Drawer kick-out; connector pin 3 is LOW	Drawer kick-out; connector pin 3 is HIGH	Status byte 7 – bit 3 (cash drawer status)
ASB_RECEIPT_END	0x00080000	Paper at the receipt end detector	No paper at the receipt end detector	Status byte 1 – bit 6 (customer receipt print error)
ASB_COVER_OPEN	0x00000020	Cover is closed	Cover is open	Status byte 1 – bit 6 (customer receipt print error)
ASB_RECEIPT_NEAR_END	0x00020000	Paper at the receipt near end detector	No paper at the receipt near end detector	Status byte 1 – bit 6 (customer receipt print error)
ASB_SLIP_TOF	0x00200000	Paper at the Slip TOF detector	No Paper at the Slip TOF detector	Status byte 2 – bit 1 (document present under the front sensor)
ASB_SLIP_BOF	0x00400000	Paper at the Slip BOF detector	No Paper at the Slip BOF detector	Status byte 2 – bit 2 (document present under the top sensor)
ASB_SLIP_SELECTED	0x01000000	Slip is selected.	Slip is not selected	Status byte 7 – bit 4 (station select)
ASB_PRINT_SLIP	0x02000000	Can print on slip	Can not print on slip	Status byte 2 – bit 0 (document ready)
ASB_VALIDATION_SELECTED	0x04000000	Validation is selected	Validation is not selected	Always ON1
ASB_PRINT_VALIDATION	0x08000000	Can print on validation	Can not print on validation	Always ON1
ASB_VALIDATION_TOF	0x20000000	Paper at the validation TOF detector	No Paper at the validation TOF detector	Always ON1
ASB_VALIDATION_BOF	0x40000000	Paper at the validation BOF detector	No Paper at the validation BOF detector	Always ON1

Return values (BiGetStatus)

- SUCCESS
- ERR_HANDLE
- ERR_PARAM

BiGetType function

This function acquires the printer's type ID (capabilities) (1-byte).

```
int WINAPI BiGetType(
  int    nHandle,
  LPBYTE typeID,
  LPBYTE font,
```

```
   LPBYTE exrom
   LPBYTE typeID(B));
```

Parameters (BiGetType)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

typeID

Sets the printer's type ID:

Table 12. typeID bit value definitions

Bit	Function	Value 0	Value 1	Comments
0	2-byte code	Not supported	Supported	Not supported
1	A/C	Without	With	With1
2	Customer display direct connection	Without	With	Without0
3	Equipped with MICR	Without	With	With for 4610 TI3/TI4/TI8/TI9/2CR and 6145 2TC Without for 4610 TM6/TM7/2NR/1NR and 6145 2TN and 1TN
4	not used	Fixed at 0		0
5	not defined	—		0
6	Equipped with endorse printer	Without	With	With for 4610 TI3/TI4/TI8/TI9/2CR/2NR and 6145 2TC/2TN Without for 4610 TM6/TM7/1NR and 6145 1TN
7	not used	Fixed at 0		0

- Example (TI3): `*typeID = 0x46`
- Example (TI4, TI8, TI9): `*typeID = 0x4E`
- Example (TM6, TM7): `*typeID = 0x06`

font

Sets the font mounted on the printer. Refer to the list of installed fonts (ignored for 4610 printers). Example: `*font = 0x00`

exrom

Sets the capacity of the printer's expanded flash ROM. For example, `*exrom = 0x00.`

typeID(B)

Sets another type ID for the printer. For example, `*typeID(B) = 0x7A.`

Table 13. typeID(B) bit value definitions

Bit	Function	Value 0	Value 1	Comments
0	2-byte code	Not supported	Supported	Not supported0
1	A/C	Without	With	With1
2	DM-D connection	OFF	ON	Without0
3	Equipped with MICR	Without	With	With1
4	Equipped with scanner	Without	With	With1
5	Equipped with endorse printer	Without	With	With1
6	not used	Fixed at 1		1
7	not used	Fixed at 0		0

Return values (BiGetType)

- SUCCESS
- ERR_ACCESS
- ERR_HANDLE
- ERR_OFFLINE
- ERR_PARAM
- ERR_TIMEOUT

BiMICRCancelReadBack function

This function cancels a reading information notification request registered using BiMICRSetReadBackFunction function.

```
int WINAPI BiMICRCancelReadBack(
  int nHandle);
```

Parameters (BiMICRCancelReadBack)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

Return values (BiMICRCancelReadBack)

- SUCCESS
- ERR_HANDLE
- ERR_NOT_SUPPORT
- ERR_OFFLINE

BiMICRCancelWaitCheckInsertion function

This function cancels the current check insertion wait period.

```
int WINAPI BiMICRCancelWaitCheckInsertion(
  int nHandle);
```

Parameters (BiMICRCancelWaitCheckInsertion)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

Return values (BiMICRCancelWaitCheckInsertion)

- SUCCESS
- ERR_HANDLE
- ERR_NOT_SUPPORT
- ERR_OFFLINE

BiMICREjectCheck function

This function ejects the check.

```
int WINAPI BiMICREjectCheck(
  int nHandle);
```

Parameters (BiMICREjectCheck)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

Return values (BiMICREjectCheck)

- SUCCESS
- ERR_HANDLE
- ERR_NOT_SUPPORT
- ERR_OFFLINE

BiMICRGetStatus function

This function acquires the MICR status.

```
int WINAPI BiMICRGetStatus(
  int    nHandle,
  LPBYTE pStatus);
```

Parameters (BiMICRGetStatus)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

pStatus

Specifies the memory address where the MICR status is set:

Table 14. pStatus bit value definitions for BiMICRGetStatus

Bit	Function	Value 0	Value 1	Comments
0	Fixed	Fixed at 0		0
1	Fixed	Fixed at 1		1
2	Selects the MICR Function.	Selected.	Not selected	This bit is 0 after a BiMICRSetReadBackFunction function call, until the MICR status is actually returned or until the command is cancelled by a BiMICRCancelReadBack function call.
3	Waits for insertion of a check or cleaning sheet	Do not wait for insertion	Wait for insertion	API internal handling
4	Fixed	Fixed at 1		1
5	TOF Detector	With form	Without form	Status byte 2 – bit 1 (document present under the front sensor)
6	BOF Detector	With form	Without form.	Status byte 2 – bit 2 (document present under the top sensor)
7	Fixed	Fixed at 0		0

Return values (BiMICRGetStatus)

- SUCCESS
- ERR_HANDLE
- ERR_NOT_SUPPORT
- ERR_OFFLINE
- ERR_PARAM

BiMICRLoadCheck function

This function loads the check to the check printing start position.

```
int WINAPI BiMICRLoadCheck(
  int nHandle);
```

Parameters (BiMICRLoadCheck)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

Return values (BiMICRLoadCheck)

- SUCCESS
- ERR_HANDLE
- ERR_NOT_SUPPORT
- ERR_OFFLINE

BiMICRReadCheck function

This function selects the check reading data handling mode.

```
int WINAPI BiMICRReadCheck(
  int  nHandle,
  BYTE readFont,
  BYTE waitInsertionTime);
```

Parameters (BiMICRReadCheck)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

readFont

Specifies the reading font (ignored because printers can not be set to read checks with only one of these fonts; they always try to read both fonts):

0

E13B

1

CMC7

waitInsertionTime

Specifies the check insertion wait time, from 0 – 15 minutes (*waitInsertionTime* × 60 seconds). The printer's default is 0 minutes.

Return values (BiMICRReadCheck)

- SUCCESS
- ERR_HANDLE
- ERR_NOT_SUPPORT
- ERR_OFFLINE
- ERR_PARAM
- ERR_WITHOUT_CB

BiMICRRetransmissionCheckData function

This function executes check reading.

```
int WINAPI BiMICRRetransmissionCheckData(
  int    nHandle,
  LPBYTE pReadBuffSize,
  LPBYTE readCharBuff,
  LPBYTE pStatus,
  LPBYTE pDetail,
  DWORD  timeout);
```

Parameters (BiMICRRetransmissionCheckData)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

pReadBuffSize

Specifies the size of the memory where the reading data is set. After a successful execution of this function, the size of the data that was actually read is set.

readCharBuff

Specifies the memory address where the check reading data is set.

pStatus

Specifies the memory address where the check reading status is set (see Table 15).

pDetail

Specifies the memory address where a check being read ends in an error, which is returned in cases where detailed information is added in accordance with the BiMICRSelectDataHandling function (see Table 16).

Return values (BiMICRRetransmissionCheckData)

- SUCCESS
- ERR_HANDLE
- ERR_NOT_SUPPORT
- ERR_OFFLINE
- ERR_PARAM

BiMICRSelectDataHandling function

This function retransmits the check reading results.

```
int WINAPI BiMICRSelectDataHandling(
  int  nHandle,
  BYTE charSelect,
  BYTE detailSelect,
  BYTE errorSelect);
```

Parameters (BiMICRSelectDataHandling)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

charSelect

Specifies handling of characters that can not be analyzed:

0

Interrupts analysis processing at the point when characters that can not be analyzed are detected; and does not add the reading data.

1

Replaces characters that can not be analyzed with a ? and continues analysis processing. If the reading data size is equal or less than the reading data size specified in BiMICRSetReadBackFunction, the reading data is added (ignored).

detailSelect

Specifies whether to add detailed information after a reading error:

0

Detailed information is not added.

1

Detailed information is added.

errorSelect

Specifies whether to end the MICR function or continue after an error. This setting has no effect if the function ends normally without an error or if an error in adding the reading results is encountered:

0

The MICR function is ended after there is an error.

1

If reading ends due to one of these errors, the MICR function continues even after notification of the reading results:

- A check with a nonstandard length is inserted.
- The magnetic waveform can not be detected.
- Characters that can not be analyzed are detected in analysis processing.
- Errors were detected in the noise measurements.

Return values (BiMICRSelectDataHandling)

- SUCCESS
- ERR_HANDLE
- ERR_NOT_SUPPORT
- ERR_OFFLINE
- ERR_PARAM

BiMICRSetReadBackFunction function

This function enables check reading by BiMICRReadCheck and registers the address of the callback function where results are sent.

```
int WINAPI BiMICRSetReadBackFunction(
  int    nHandle,
  int    (CALLBACK *pMicrCB)(void),
  LPBYTE pReadBuffSize,
  LPBYTE readCharBuff,
  LPBYTE pStatus,
  LPBYTE pDetail);
```

Parameters (BiMICRSetReadBackFunction)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

pMicrCB

Specifies the address of the callback function for notifying the results from reading of a check.

pReadBuffSize

Specifies the size of the memory where the reading data is set. After a successfully execution of this function, the size of the data that was actually read is set.

readCharBuff

Specifies the memory address where the check reading data is set.

pStatus

Specifies the memory address where the check reading status is set:

Table 15. pStatus bit value definitions for BiMICRSetReadBackFunction and BiMICRRetransmissionCheckData

Bit	Function	Value 0	Value 1	Comments
0	Reading font	E13B	CMC7	The 4610 printers can read both these fonts. The API can determine which font was read according to the characters returned. • E13B supports characters 0x24 0x2D 0x41 0x54; and CMC7 does not. • CMC7 supports characters 0x61 0x62 0x63 0x64 0x65; and E13B does not.
1	Reserved	Fixed at 0.		0
2	Reserved	Fixed at 0.		0
3	Detailed information	Not added	Added	The value of parameter *detailSelect* of the BiMICRSelectDataHandling function. Default is 1, if the

Bit	Function	Value 0	Value 1	Comments
				BiMICRSelectDataHandling function was not called.
4	Reread	Enabled	Disabled	Always 0
5	Reading results	Normal end	Abnormal end	Status byte 7 – bit 7 (document feed error)If the printer returns only 0x3F (question mark), this bit will also be 1.
6	Reading data overflow	No	Yes	Always 0
7	Fixed	Fixed at 0		0

pDetail

Specifies the memory address of an error when reading a check. This error is returned in cases where detailed information is added, in accordance with the BiMICRSelectDataHandling function:

Table 16. pDetail byte value definitions for BiMICRSetReadBackFunction and BiMICRRetransmissionCheckData

Value	Information	Comments
0x40	No abnormality	API internal handling
0x41	Check reading was not executed even once. (The BiMICRREADCheck function has not been called.)	API internal handling
0x42	Check insertion wait was canceled. (The BiMICRCancelWaitCheckInsertion function was called.)	API internal handling
0x43	Check insertion wait was canceled because the set time was exceeded. (The timeout set time passed while the BiMICRReadCheck function was being called.)	API internal handling
0x44	A check with a non-standard length was inserted.	Never sent
0x45	The magnetic waveform was not detected.	Never sent
0x46	Characters that could not be analyzed were detected in analysis processing.	Never sent
0x47	An error occurred during check reading processing.	Status byte 7 – bit 7 (document feed error)
0x48	An error was detected in the noise measurement.	Never sent
0x49	Check reading processing was interrupted by the cover being opened.	Never sent

Return values (BiMICRSetReadBackFunction)

- SUCCESS
- ERR_HANDLE
- ERR_NOT_SUPPORT
- ERR_OFFLINE
- ERR_PARAM

BiOpenDrawer function

This function opens the specified cash drawer (1 or 2) after the specified delay (in milliseconds).

```
int WINAPI BiOpenDrawer(
  int  nHandle,
  BYTE drawer,
  BYTE pulse);
```

Parameters (BiOpenDrawer)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

drawer

Specifies the drawer to be opened.

EPS_BI_DRAWER_1

Operates drawer 1.

EPS_BI_DRAWER_2

Operates drawer 2.

pulse

Specifies the interval until drawer operation.

EPS_BI_PULSE_100

Operates the drawer after 100 milliseconds.

EPS_BI_PULSE_200

Operates the drawer after 200 milliseconds.

EPS_BI_PULSE_300

Operates the drawer after 300 milliseconds.

EPS_BI_PULSE_400

Operates the drawer after 400 milliseconds.

EPS_BI_PULSE_500

Operates the drawer after 500 milliseconds.

EPS_BI_PULSE_600

Operates the drawer after 600 milliseconds.

EPS_BI_PULSE_700

Operates the drawer after 700 milliseconds.

EPS_BI_PULSE_800

Operates the drawer after 800 milliseconds.

Return values (BiOpenDrawer)

- SUCCESS
- ERR_HANDLE
- ERR_OFFLINE

Note:

Calling this function using *nType* = TYPE_PORT will cause the API to check whether there is a Toshiba Port created and associated with the specified physical port *pName*. If there is more than one Toshiba Port associated to the physical port *pName*, the API will open the first printer found.

BiOpenMonPrinter function

This function opens a new session and if it is successfully opened, returns a handle to the specified printer.

Note: You must execute this function before you can perform any other API function.

```
int WINAPI BiOpenMonPrinter(
  int   nType,
  LPSTR pName);
```

Parameters (BiOpenMonPrinter)

nType

One of the following two types is specified:

TYPE_PORT

The port name is specified in *pName*.

TYPE_PRINTER

The printer name is specified in *pName*.

pName

Specifies the printer that is opened.

Return values (BiOpenMonPrinter)

- Handle to the specified printer (*nHandle* in other functions), if successful.
- ERR_NO_MEMORY
- ERR_NO_PRINTER
- ERR_NO_TARGET
- ERR_OPENED
- ERR_PARAM
- ERR_TYPE

Note: Calling this function using `nType = TYPE_PORT` will cause the API to check whether there is a Toshiba Port created and associated with the specified physical port `pName`. If there is more than one Toshiba Port associated to the physical port `pName`, the API will open the first printer found.

BiSCNCancelReadBack function

This function cancels the scanning information notice request registered using BiSCNSetReadBackFunction function.

```
int WINAPI BiSCNCancelReadBack(
  int nHandle);
```

Parameters (BiSCNCancelReadBack)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

Return values (BiSCNCancelReadBack)

- SUCCESS
- ERR_HANDLE
- ERR_NOT_SUPPORT
- ERR_OFFLINE

BiSCNGetImageFormat function

This function acquires the format of the image set in the printer.

```
int WINAPI BiSCNGetImageFormat(
  int    nHandle,
  LPBYTE pFormat);
```

Parameters (BiSCNGetImageFormat)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

bFormat

Receives the selected image format in the printer. After a successfully execution, *bFormat* will be:

EPS_BI_SCN_TIFF

TIFF format compressed data (TIFF with CCIT compression)

EPS_BI_SCN_RASTER

Raster format uncompressed data (grayscale with no compression)

EPS_BI_SCN_BITMAP

Bitmap format uncompressed data (BMP with no compression)

EPS_BI_SCN_TIFF256

TIFF format uncompressed data (TIFF with no compression)

EPS_BI_SCN_JPEGNORMAL

JPEG format normal compression data (JPEG with compression)

Return values (BiSCNGetImageFormat)

- SUCCESS
- ERR_ACCESS
- ERR_HANDLE
- ERR_NOT_SUPPORT
- ERR_OFFLINE
- ERR_PARAM
- ERR_TIMEOUT

BiSCNReadImage function

This function executes image scanning.

Note: If not set, the paper insertion wait time defaults to zero (0), and the printer wait time is canceled.

```
int WINAPI BiSCNReadImage(
  int    nHandle,
  WORD   wId,
  BYTE   bSelectSheet,
  BYTE   bWaitInsertionTime,
  BYTE   bAddInforDataSize,
  LPBYTE pAddInforData,
  BYTE   bMemory);
```

Parameters (BiSCNReadImage)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

wId

(Ignored)

bWaitInsertionTime

Specifies the paper insertion wait time, from 0 – 15 minutes (*bWaitInsertionTime* × 60 seconds). The printer's default is 0 minutes.

bAddInforDataSize

(Ignored)

pAddInforData

(Ignored)

bMemory

(Ignored)

Return values (BiSCNReadImage)

- SUCCESS
- ERR_ACCESS

- ERR_HANDLE
- ERR_NOT_SUPPORT
- ERR_OFFLINE
- ERR_PARAM
- ERR_WITHOUT_CB

BiSCNRetransmissionImage function

This function retransmits the image scanning results.

```
int WINAPI BiSCNRetransmissionImage(
  int     nHandle,
  WORD    wId,
  LPDWORD pBuffSize,
  LPBYTE* pBuff,
  LPBYTE  pImageXsize,
  LPBYTE  pStatus,
  LPBYTE  pDetail,
  DWORD   dwTimeout);
```

Parameters (BiSCNRetransmissionImage)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

wId

(Ignored.)

pBuffSize

Specifies the size of memory where image data is to be set. After execution of this function, the actual size of the scanned data is set.

pBuff

Specifies the memory address where image data is set.

pImageXsize

(Ignored.)

pStatus

Specifies the memory address where the read status is set (see Table 17).

pDetail

Specifies the memory address where detailed information is set after scanning ends with an error (see Table 18).

dwTimeout

Specifies the data reading timeout time, in milliseconds. This timeout is a value that is measured from the point when there is no response from the printer after a rereading request.

Return values (BiSCNRetransmissionImage)

- SUCCESS
- ERR_ACCESS

- ERR_HANDLE
- ERR_NOT_SUPPORT
- ERR_OFFLINE
- ERR_PARAM
- ERR_TIMEOUT
- ERR_WITHOUT_CB

BiSCNSetImageFormat function

This function sets the format of the scanning image data.

```
int WINAPI BiSCNSetImageFormat(
  int  nHandle,
  BYTE bFormat);
```

Parameters (BiSCNSetImageFormat)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

bFormat

Specifies image format:

EPS_BI_SCN_TIFF

TIFF format compressed data (TIFF with CCIT compression)

EPS_BI_SCN_RASTER

Raster format uncompressed data (grayscale with no compression)

EPS_BI_SCN_BITMAP

Bitmap format uncompressed data (BMP with no compression)

EPS_BI_SCN_TIFF256

TIFF format uncompressed data (TIFF with no compression)

EPS_BI_SCN_JPEGNORMAL

JPEG format normal compression data (JPEG with compression)

Return values (BiSCNSetImageFormat)

- SUCCESS
- ERR_ACCESS
- ERR_HANDLE
- ERR_NOT_SUPPORT
- ERR_OFFLINE
- ERR_PARAM

BiSCNSetReadBackFunction function

This function enables image scanning by the function BiSCNReadImage, registers the callback function's address called when sending notification of the results, and registers the memory addresses for setting each type of scanned information.

```
int WINAPI BiSCNSetReadBackFunction(
  int     nHandle,
  int     (CALLBACK *pScnCB)(void),
  LPDWORD pBuffSize,
  LPBYTE* pBuff,
  LPBYTE  pImageXsize,
  LPBYTE  pStatus,
  LPBYTE  pDetail);
```

Parameters (BiSCNSetReadBackFunction)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

pScnCB

Specifies the callback function address for sending notification of the results of image scanning.

pBuffSize

Specifies the size of memory where image data is to be set. After execution of this function, the actual size of the scanned data is set.

pBuff

Specifies the memory address where image data is set.

pImageXsize

Specifies the memory address where the number of data (bytes) of image data in the X direction is set.

pStatus

Specifies the memory address where the read status is set:

Table 17. pStatus bit value definitions for BiSCNSetReadBackFunction and BiSCNRetransmissionImage

Bit	Function	Value 0	Value 1	4610 status mapping
0	Reserved	Fixed at 0		0
1	Reserved	Fixed at 0		0
2	Reserved	Fixed at 0		0
3	Reserved	Fixed at 0		0
4	Rescanned	Possible	Not (fixed)	0
5	Scanning results	Ends normally	Ends with an error	Status byte 5 – bit 6Status byte 7 – bit 7

Bit	Function	Value 0	Value 1	4610 status mapping
6	Scanning data overflow	No overflow	Overflow	0
7	Scanning data translation error	No error	Error	0

pDetail

Specifies the memory address where detailed information is set after scanning ends with an error:

Table 18. pDetail byte value definitions for BiSCNSetReadBackFunction and BiSCNRetransmissionImage

Value	Information	4610 status mapping
0x40	No error.	Status byte 5 – bit 6
0x41	The image scanning result does not exist.	Status byte 5 – bit 7
0x44	The cover was opened, so image scanning was interrupted.	Status byte 1 – bit 5
0x45	A recoverable error/automatic reset error occurred during image scanning.	Status byte 1 – bit 5
0x46	Paper with nonstandard length was inserted (longer than approximately 333 mm).	Status byte 7 – bit 7
0x47	Compressed data error—the amount of data increased in data compression processing, and there was insufficient memory.	Status byte 3 – bit 0
0x48	Paper insertion status or paper feed error.	Status byte 7 – bit 7
0x60	Lack of remaining capacity in nonvolatile (NV) memory for saving reading result of images.	Status byte 3 – bit 0
0x61	Failure of writing process of reading result of images to the NV memory.	Status byte 3 – bit 0
0x62	Failure of deletion process of the NV memory for reading result of images.	Status byte 3 – bit 0

Return values (BiSCNSetReadBackFunction)

- SUCCESS
- ERR_HANDLE
- ERR_NO_MEMORY
- ERR_NOT_SUPPORT
- ERR_OFFLINE
- ERR_PARAM

BiSetMonInterval function

This function specifies the interval of the status monitoring of 4610 printers by the API (in milliseconds).

```
int WINAPI BiSetMonInterval(
  int  nHandle,
  WORD wNoPrnInterval,
  WORD wPrnInterval);
```

Parameters (BiSetMonInterval)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

wNoPrnInterval

Specifies the interval to get information from the printer, expressed in milliseconds during non-printing.

wPrnInterval

Specifies the interval to get information from the printer, expressed in milliseconds during printing (ignored).

Return values (BiSetMonInterval)

- SUCCESS
- ERR_HANDLE
- ERR_PARAM

BiSetStatusBackFunction function

This function enables Automatic Status Back mode and registers the address of the callback function to which results are sent. When a printer status change occurs, the API will call the registered callback function with the new 4-bytes status as a parameter.

```
int WINAPI BiSetStatusBackFunction(
  int            nHandle,
  int (CALLBACK *pStatusCB)(DWORD dwStatus));
```

Parameters (BiSetStatusBackFunction)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

pStatusCB

Specifies the address of the callback function to which the 4610 printer status is sent.

Return values (BiSetStatusBackFunction)

- SUCCESS

- ERR_HANDLE
- ERR_PARAM

BiResetPrinter function

This function resets with all default setting values.

```
int WINAPI BiResetPrinter(
  int nHandle);
```

Parameters (BiResetPrinter)

nHandle

Specifies the handle value of the printer being accessed. The BiOpenMonPrinter return value is used in the handle value.

Return values (BiResetPrinter)

- SUCCESS
- ERR_HANDLE

DownloadFont function

This function downloads one or two TrueType fonts to the connected printer on the specified RSS port. The user passes the name of an installed TrueType font on the system, the font type (Regular, Bold, Italic, or BoldItalic), and the font size in logical points (8, 9, or 10). Each call of this function erases the proportional fonts sector of the connected printer before writing all of the new fonts.

```
int WINAPI DownloadFont(
  char*  sPrinterName,
  LPVOID lpFonts);
```

Parameters (DownloadFont)

sPrinterName

Specifies the printer name.

lpFonts

A list of two FONT_API structures. The FONT_API structure is defined as follows:

```
typedef struct _tagFONT_API
{
  char sName[MAX_PATH];
  int  nType;
  char sScript[25];
  int  nSize;
} FONT_API, FAR * LPFONT_API;
```

Return values (DownloadFont)

- SUCCESS
- ERR_OFFLINE
- ERR_PARAM
- ERR_PRINTER_OPERATION

DownloadLogo function

This function downloads one or more logos to the connected printer on the specified RSS port. The user passes an array containing the slot number where the logo should be downloaded, the encoding mode (customer receipt or document insert station), and the full path to the desired bitmap. Each call of this function erases the logos sector of the connected printer before writing all of the new logos.

```
int WINAPI DownloadLogo(
  char*  sPrinterName,
  LPVOID lpLogos);
```

Parameters (DownloadLogo)

sPrinterName

Specifies the printer name.

lpLogos

A list of 40 LOGO_API structures. The LOGO_API structure is defined as follows:

```
typedef struct _tagLOGO_API
{
  char sImgFilePath[MAX_PATH];
  BOOL bReceiptStation;
} LOGO_API, FAR * LPLOGO_API;
```

Return values (DownloadLogo)

- SUCCESS
- ERR_ACCESS
- ERR_NO_MEMORY
- ERR_OFFLINE
- ERR_PARAM
- ERR_PRINTER_OPERATION

DownloadMessage function

This function downloads one or more messages to the connected printer on the specified RSS port. The user passes an array containing the slot number where the message should be downloaded and the message text. New lines should be specified by `\n`. Each call of this function erases the messages sector of the connected printer before writing all of the new messages.

```
int WINAPI DownloadMessage(
  char*  sPrinterName,
  LPVOID lpMessages);
```

Parameters (DownloadMessage)

sPrinterName

Specifies the printer name.

lpMessages

A list of MSG_API structures. The MSG_API structure is defined as follows:

```
typedef struct _tagMSG_API
{
  char sMessage[MAX_MESSAGE_LEN];
} MSG_API, FAR * LPMSG_API;
```

Return values (DownloadMessage)

- SUCCESS
- ERR_OFFLINE
- ERR_PARAM
- ERR_PRINTER_OPERATION

UpdatePrinterFirmware function

This function updates the firmware of the connected printer on the specified RSS port.

```
int WINAPI UpdatePrinterFirmware(
  char* sPrinterName,
  char* sFirmwareFilePath);
```

Parameters (UpdatePrinterFirmware)

sPrinterName

Specifies the printer name.

sFirmwareFilePath

Designates the full path to the update firmware file.

Return values (UpdatePrinterFirmware)

- SUCCESS
- ERR_OFFLINE
- ERR_PARAM
- ERR_PRINTER_OPERATION

Functions not exported by the API

The following legacy functions always return SUCCESS:

- BiSetDefaultEchoTime
- BiSetEtherEchoTime

The following legacy functions always return ERR_NOT_OEM:

- BiDirectIO
- BiDirectIOEx

The following legacy functions always return ERR_NOT_SUPPORT:

- BiGetCounter
- BiResetCounter
- BiGetInkStatus
- BiSCNGetScanArea
- BiSCNSetReadBackWnd
- BiSCNGetClumpStatus
- BiESCNSetAutoSize
- BiESCNGetCutSize
- BiESCNSetCutSize

- BiSetInkStatusBackFunction
- BiSetInkStatusBackWnd
- BiCancelInkStatusBack
- BiMICRSetReadBackWnd
- BiMICRCleaning
- BiSCNPreScan
- BiSCNGetImageQuality
- BiSCNSetScanArea
- BiSCNClumpPaper
- BiSCNSetCroppingArea
- BiSCNGetCroppingArea
- BiSCNDeleteCroppingArea
- BiSCNDeleteImage
- BiSCNGetImageList
- BiSCNSetImageQuality
- BiESCNEnable
- BiESCNGetAutoSize
- BiESCNGetRotate
- BiESCNSetRotate
- BiESCNGetDocumentSize
- BiESCNSetDocumentSize
- BiESCNGetMaxCropAreas
- BiESCNClearImage
- BiESCNGetRemainingImages
- BiGetPrnCapability
- BiSetMonEtherInterval

Concurrent Printing Mode for 6145 TCx Printers

The 6145 TCx Printers have been enabled to support Concurrent Printing Mode. With this feature, the printer will be able to process the print jobs on the USB interface and the option card interface (e.g. Ethernet) at same time. The option card interface will be referred to as the Alternate Interface.

If the Alternate Interface is processing jobs, the USB interface will wait for up to 30 seconds until the Alternate Interface job is finished and the printer is released. If the printer is not ready after this timeout, the print job might be marked as failed. Otherwise, USB should be able to continue printing normally.

This timeout can be configured through the Windows registry. The range can be from 0 to 600 seconds, where 0 means infinite (wait forever until the Alternate Interface releases the printer).

To configure the timeout, create the next registry entry:

Path: HKEY_LOCAL_MACHINE\SOFTWARE\Toshiba\NWD
Key: UsbCommandTimeout
Type: REG_DWORD
Value: from 0 to 600 in decimal

Note: If the value is invalid, the default timeout (30 seconds) will be set.

The printer can handle the USB and Alternate interfaces at the same time, but NWD cannot handle more than one printer at a time. Because of this, NWD must be installed in one machine using either interface, and the other interface must be used by a driver or application in a different machine.

The only way to use the same machine for both interfaces is when NWD uses the USB interface and the other interface is used by a driver or application that does not try to use USB. A possible example is OLE for Point of Sale (OPOS), configured with the DisableUSB registry and configuring the printer via Ethernet bus.

It is important to consider that the purpose of Concurrent Printing Mode is to enable two printing jobs to be handled by the printer, like a receipt for customers and a coupon for printing. CFU, firmware download, font download, bitmap download, or other administrative/maintenance tasks should not be performed on concurrent printing mode; otherwise, unexpected results can occur.

For more details on Concurrent Printing Mode, refer to the 6145 printer documentation.

Appendix A. Systems Management Information

Native Windows Driver (NWD) service acts as a WMI provider to support System Management. NWD printers are classified under the TOSHIBA_NwdPrinter class.

`DeviceID` is the printer name that is seen in the Windows Control panel and if left unchanged after installation, the printer name is Toshiba POS Printer. The following properties are supported by the NWD System Management and the `DeviceID` property and is used to uniquely identify the device.

Name	Type
DeviceID	string
FirmwareVersion	string
ModelName	string
NWDVersion	string
PortName	string
PrinterInterface	string
BarCodePrintedCount	uint32
CashDrawerOpenCount	uint32
CashDrawerOpenFailCount	uint32
CheckFlipCount	uint32
CheckFlipFailCount	uint32
CheckQualityFailCount	uint32
CheckScanCount	uint32
CRNumOfMotorSteps	uint32
DINumOfMotorStarts	uint32
DINumOfMotorSteps	uint32
FailedPaperCutCount	uint32
FormInsertionCount	uint32
HomeErrorCount	uint32
MaximumTempReachedCount	uint32
MICRFailedCount	uint32
MICRNumHighInterferenceReads	uint32
MICRReadCount	uint32
NumOfFailedFlashWrites	uint32
NVRAMWriteCount	uint32
PaperCutCount	uint32

Name	Type
PartialCutCount	uint32
ReceiptCharacterPrintedCount	uint32
ReceiptCoverOpenCount	uint32
ReceiptPaperJamCount	uint32
ReceiptRemainingPaperCount	uint32
ReceiptSlipCount	uint32
SlipCharacterPrintedCount	uint32
SlipCoverOpenCount	uint32
SlipFeedCount	uint32
ManufactureDate	string
SerialNumber	string
ToneSoundedCount	unit32
UnexpectedCoverOpenCount	unit32
UnexpectedRibbonCoverOpenCount	unit32

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