Toshiba Global Commerce Solutions
POS Printer

Native Windows Driver User's Guide 4.6

SC30-4105-17

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 73.

August 2023

This edition applies to Toshiba® Native Windows Driver 4.6 User's Guide, and to all subsequent releases and modifications until otherwise indicated in new editions.

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Contents

Tables..... 5

Safety.....7

About this guide..... 9
Who should read this guide..... 9
Where to find more information.....9
Notice statements.....9
Summary of changes..... 10

Chapter 1. Native Windows Driver installation.....11
Installing the Native Windows Driver.....11
Silently Installing the Native Windows Driver..... 11
Installing with a Configuration File..... 13
Ethernet Printer print share mode.....13
/primary and /secondary POS machines..... 14
Uninstalling the Native Windows Driver..... 14

Chapter 2. Native Windows Driver Configurations..... 15
Configuring the Printer Preferences.....15
Logos and messages..... 17
Downloading a Logo..... 17
Creating a Message..... 18
Header and footer..... 18
Configuring the Header..... 18
Configuring the Footer..... 19
Fonts.....21
Downloading DBCS fonts..... 21
GB18030..... 21
Downloading TrueType fonts..... 22
Printer Sensor Settings..... 23
Enabling Motion Detection.....23
Enabling Partial Cut Detection.....23
Enabling Low Paper Detection.....23
Enabling Low Paper LED 23
Paper Saving Setting.....24
Configuring Logging Settings.....24
Automatic Firmware Upgrade.....25
TCx Printer Configuration Utility..... 26

Chapter 3. Key Printer Tasks.....27
Monitor Printer and Job Status..... 27
Print with Resident Fonts..... 28
Printing bar codes..... 29
Compatibility Notes..... 29
Printer Commands.....30
API Programs..... 32
Return value definitions.....35
BiCancelError function..... 36
BiCancelStatusBack function..... 37
BiCloseMonPrinter function..... 37
BiESCNDefineCropArea function..... 38
BiESCNRetrieveImage function.....39
BiESCNStoreImage function.....39
BiGetOfflineCode function..... 40
BiGetStatus function..... 43
BiGetType function..... 45
BiMICRCancelReadBack function..... 47
BiMICRCancelWaitCheckInsertion function..... 47
BiMICREjectCheck function..... 48
BiMICRGetStatus function.....48
BiMICRLoadCheck function.....49
BiMICRReadCheck function.....50
BiMICRRetransmissionCheckData function..... 51
BiMICRSelectDataHandling function..... 52
BiMICRSetReadBackFunction function..... 53
BiOpenDrawer function..... 55
BiOpenMonPrinter Function..... 56
BiSCNCancelReadBack function.....57
BiSCNGetImageFormat function..... 58
BiSCNReadImage function..... 59
BiSCNRetransmissionImage function.....60
BiSCNSetImageFormat function..... 61
BiSCNSetReadBackFunction function.....62
BiSetMonInterval function.....64
BiSetStatusBackFunction function..... 64
DownloadFont function..... 65
DownloadLogo function..... 66
DownloadMessage function.....67
UpdatePrinterFirmware function..... 68
Functions Not Exported by the API..... 68
Concurrent Printing Mode for 6145 TCx Printers.....69

Appendix A. Systems Management Information.....71
Notices.....73
Telecommunication regulatory statement..... 74
Electronic emission notices.....74
Federal Communications Commission (FCC) statement.....74
FCC Radiation Exposure Statement..... 75
Industry Canada Statement / Règlement d’Industry Canada..... 75
Industry Canada Radiation Exposure Statement / Déclaration d'exposition aux radiations..... 76
Aviso para los usuarios de México..... 76
European Union Electromagnetic Compatibility (EMC) Directive Conformance Statement..... 76

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United Kingdom Electromagnetic Compatibility (EMC) Directive Conformance Statement..... 78
Germany Class A statement..... 78
Australia and New Zealand Class A statement.....79
Brasil INFORMAÇÕES REGULAMENTARES:..... 80
People's Republic of China Class A electronic emission statement.....80
Russian Electromagnetic Interference (EMI) Class A statement..... 80
Japanese Electrical Appliance and Material Safety Law statement.....80
Japanese power line harmonics compliance statement.....81
Japan Voluntary Control Council for Interference Class A statement.....81
Japan Electronics and Information Technology Industries Association (JEITA) statement.....81
Korean communications statement..... 81
Taiwan Class A compliance statement.....82
Taiwan contact information.....82
Cable ferrite requirement.....83
Electrostatic discharge (ESD)..... 83
Product recycling and disposal.....83
Battery safety..... 84
Battery return program..... 85
For Taiwan:.....85
For the European Union:.....85
For California:..... 86
Flat panel displays..... 86
Monitors and workstations.....86
Trademarks..... 86

Tables

1. DBCS default fonts.....21
2. Firmware update filenames.....25
3. Control font mapping.....30
4. offlinecode Byte 1 = variable.....41
5. offlinecode Byte 2 = 0x40.....41
6. offlinecode Byte 3 = 0x40.....41
7. offlinecode Byte 4 = variable.....42
8. offlinecode Byte 5 = variable.....42
9. lpStatus status definitions.....43
10. typeID bit value definitions.....45
11. typeID(B) bit value definitions.....46
12. pStatus bit value definitions for BiMICRGetStatus..... 49
13. pStatus bit value definitions for BiMICRSetReadBackFunction and BiMICRRetransmissionCheckData.....54
14. pDetail byte value definitions for BiMICRSetReadBackFunction and BiMICRRetransmissionCheckData.....54
15. pStatus bit value definitions for BiSCNSetReadBackFunction and BiSCNRetransmissionImage..... 62
16. pDetail byte value definitions for BiSCNSetReadBackFunction and BiSCNRetransmissionImage..... 63

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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.

Пре инсталирања овог производа, прочитајте Безбедносне информације.

Перш ніж встановлювати продукт, прочитайте Інформацію про безпеку.

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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: 2CR, 2NR, and 1NR.

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

Microsoft™ Windows 10 operating system is supported. Only 64 bit applications and API are supported.

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

The most current versions of the Toshiba publications are available on the Toshiba Global Commerce Solutions website at https://commerce.toshiba.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. Go to https://commerce.toshiba.com/support/publications.
2. Click the appropriate product category (for example, Hardware).
3. Scroll down and select the required product.
4. Scroll down and select the appropriate manual listed under the Publications header.

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. Sign into the Toshiba Global Commerce Solutions web site at https://commerce.toshiba.com/.
2. Click Support.
3. Select a product from the Hardware or Software drop-down menu to display the product page.
4. Scroll down and select Read more under Knowledgebase.
5. Reselect your product from the Hardware or Software drop-down menu to display the Knowledgebase articles.

Notice statements

Notices in this guide are defined as follows:

Note: These notices provide important tips, guidance, or advice.

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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

August 2023

This edition includes the following updates:

- Support for Toshiba TCx 900 4901-91x, E1x, C1x
- Replaced master and slave terminology with primary and secondary.

July 2022

This edition includes the following updates:

- Support for Chinese National Standard GB 18030-2005: Information Technology - Chinese coded character set (only supported in image mode)
- Support for separate driver installation by station

October 2021

This edition includes the following updates:

- Support for Toshiba TCx 810 6201-2xx
- Support for Toshiba TCx 810E 4828-T2x

March 2021

This edition includes the following update:

Several fix integrations for driver stability and performance

July 2019

This edition includes the following update:

- Support for TCx300 4810-3x1
- Support for TCx700 4900-7x7

October 2018

This edition includes the following update:

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

Chapter 1. Native Windows Driver installation

This chapter contains information on the Native Windows Driver installation.

Installing the Native Windows Driver

Updated the printer's firmware to the latest release level that is appropriate for your particular environment and applications.

Complete the following steps to install the Native Windows Driver:

1. Complete the following steps to download the driver:
   a. Go to https://commerce.toshiba.com/.
   b. Navigate to Support > Hardware > Common Packages - Diagnostic, Drivers & Downloads.
   c. Navigate to PUBLIC TGCS PACKAGES (MUS, VSP, NWD, SSDLM, INVENTORY & SENSOR DRIVER) > Native Windows Driver.
   d. Click Windows to download the latest driver.
2. Open File Explorer and navigate to the directory where you downloaded the driver.
3. Extract the `nwd` file.
4. Double click the `setup.exe` file.
5. Click Install.
6. Follow the directions provided by the NWD Install Wizard.
7. After a successful installation, click Restart.

Silently Installing the Native Windows Driver

Updated the printer's firmware to the latest release level that is appropriate for your particular environment and applications.

1. Open a Command Prompt window as an administrator.
2. Change to the `nwd` directory.
3. Review the following command line properties:

   Note: All property names and values are case-sensitive.

   PORT

   The supported port values are `USB`, `TCP/IP`, and `COM1` to `COM5`, depending on the number of COM ports your system has.

   Default value: `USB`

   BAUDRATE

   The supported baud communication rates are `9600`, `19200`, and `115200`.

   Default value: `9600`

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HANDSHAKE

The supported handshake values are `XONXOFF` and `DTRDSR`.

Default value: `XONXOFF`

IPADDRESS

The supported IP address format is `xxx.xxx.xxx.xxx`.

Default value: `127.0.0.1`

SETDEFAULTPRINTER

The supported set default printer values are `0` and `1`.

Default value: `1`

ENABLEDOCSTATION

The supported enable doc station values are `0` and `1`.

Default value: `0`

ENABLESYSMGMT

The supported enable system management values are `0` and `1`.

Default value: `0`

4. Run one of the following commands, on a single line, to silently install the Native Windows Driver:

Note: The following commands are only valid for a single station printer. To install a dual station printer, add the ENABLEDOCSTATION=1 parameter to each option. You can only add the second station during the NWD installation. If you install NWD with a single station and decide to add a second station later, you must uninstall and then reinstall NWD. If you install NWD with 2 stations and decide to use a single station printer, you can delete the second station in the Printer Management settings.

USB Printer with system management enabled

```
setup.exe -q PORT=USB ENABLESYSMGMT=1
```

RS232 Printer with system management enabled

```
setup.exe -q PORT=COMport# BAUDRATE=115200 HANDSHAKE=DTRDSR
ENABLESYSMGMT=1
```

`COM`*`port#`* is the physical port where your printer is connected. If you don't know the number for your COM port, use `COM1` or leave blank. You can also change the

port value later. You can set BAUDRATE to a different value but `115200` is the recommended speed for a COM port setting.

Network Printer with system management enabled

```
setup.exe -q PORT=TCP/IP IPADDRESS=Printer_IP ENABLESYSMGMT=1
```

Printer_IP is the current IP address printer. If you don't know the IP address yet, leave blank. You can change this value later in the Printer properties menu.

5. Restart your system after the installation successfully completes.

Installing with a Configuration File

Native Windows Driver (NWD) supports unattended installations using the `config.ini` configuration file. The configuration file is located in the `Toshiba\NWD\NwdConfig\` directory.

Use the `config.ini` file to configure the installation attributes during an unattended installation. You can use the file from the previous installation with the modified values to apply the configuration. Run the following commands in a batch file:

1. Open the `config.ini` file from a previous install or manually install the driver.
2. Modify the file with the values that apply to your configuration.
3. Open a Command Prompt window as an administrator.
4. Run the following command in a batch file:

```
setup.exe -q -norestart PORT=port
"C:\Toshiba\NWD\NwdConfig\NwdConfig.exe" /f:"pathto\config.ini" /p:"Toshiba POS
Printer"
shutdown /r /t 0
```

5. After the `NwdConfig.exe` task completes, the system automatically reboots.

Ethernet Printer print share mode

An Ethernet-attached Toshiba POS Printer can be shared on multiple POS machines. You must run the `NwdConfig.exe` command 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 the `config.ini` file, you can run different commands with the same `config.ini` file on two POS machines.

POS A

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

POS B

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

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

POS C

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

POS Z

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

/primary and /secondary POS machines

If you run a POS machine as the /primary, `NwdConfig.exe` downloads logos, messages, SBCS/DBCS fonts, and the firmware file into the printer and updates the `toshibanwdconfig.xml` file. Otherwise, on the /secondary machine, `NwdConfig.exe` ignores all downloading tasks and only updates the `toshibanwdconfig.xml` file. In the end, all POS machines keep the same configuration and only downloads data into the printer once.

Uninstalling the Native Windows Driver

Choose one of the following options to uninstall the Native Windows Driver:

- Use the Apps & features setting to uninstall the driver:
  1. Navigate to Settings > Apps & features.
  2. Click the Native Windows Drive application and select Uninstall.
  3. Restart your system after the uninstall successfully completes.
- Use the `setup.exe` command to uninstall the driver:
  1. Open a Command Prompt window as an administrator.
  2. Change to the `nwd` directory.
  3. Run the following command to uninstall the Native Windows Driver:

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

  4. Restart your system after the uninstall successfully completes.

     Note: Files not created by the installer are not removed during the uninstall.

Chapter 2. Native Windows Driver Configurations

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.

Configuring the Printer Preferences

Open the Toshiba POS Printer Properties page to configure your printer preferences.

1. Complete the following steps to open the printer properties page:
   a. Open Print Mangement in the Windows Administrative Tools folder 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.
2. Click Preferences. The Printing 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 appropriate receipt paper size.

      Note: For best printing results, adjust the margin settings used by your point-of-sale (POS) application.
   c. Under Barcode, select the bar code type that is appropriate for your environment and then define the Width Ratio, Height, and HRI Position.

      Note: If the Barcode Type setting is used, the selection, excluding GS1 DataBar and QR Code, overwrites the barcode data. Only a new GS1 DataBar selection can overwrite the existing GS1 DataBar. The QR Code is not overwritten, and the driver only supports customization with Encoding mode, Error Correction Level, and ECI mode for QR Code.
   d. To print more than one receipt, change the number of copies.
3. Click the Options tab, and set the options that you require.

   Monochrome

   Sets the printer to print using one color.

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2 Color

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

The parameter set specifies the print head energy level that is applied to the paper, which affects 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 any of the following font types:

  OpenFace,

  TrueType,

  PostScript, or any other version of that font

Override Using Font A, B, or C

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

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).

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

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 18).

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 Toshiba POS Printer Properties from the Print Management window.
2. Click the Logos tab.
3. Select a Logo slot that is not used.
4. Click Add logo.
5. Select the logo file.
6. From the Encode for drop-down menu, 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 Open. The logo is stored in the internal memory of the printer.
8. Click OK to save your settings.

Creating a Message

To create a message:

1. Open the Toshiba POS Printer Properties from the Print Management window.
2. Click the Messages tab.
3. Select a Message slot that is 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 OK 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 17), 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 Toshiba POS Printer Properties from the Print Management window.
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 before the message by default. To reverse the order and print the message before 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.

Complete the following steps to configure the footer for all documents:

1. Open the Toshiba POS Printer Properties from the Print Management window.

2. Click Printing Preferences. The Printing Preferences window opens with the Setup page selected.

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 before the message by default. To reverse the order and print the message before the logo, select Logo after message from the Layout list.
8. Click OK to save your settings.

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.

Downloading DBCS fonts

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

- Japanese Codepage 932
- Korean Codepage 949
- Traditional Chinese Codepage 950b
- Traditional Chinese Codepage 950n
- Simplified Chinese Codepage 1381

Complete the following steps to download the DBCS fonts to the printer:

1. Open the Toshiba POS Printer Properties from the Print Management window.
2. Click the Font tab.
3. Check the DBCS user defined fonts box.
4. Click Select for Font 1 (Customer receipt and document insert station).
5. Browse to the file location, and select the font to download to the printer.
6. Click Update to download the font to the printer.
7. Upon completion, the Properties Font Tab contains 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 are erased from the printer.

For downloaded DBCS fonts in the printer preferences: The downloaded DBCS font is no longer reflected in the application, such as Wordpad in Windows 10 or later. To print using the downloaded DBCS font, use the override font setting as a downloaded DBCS font in the printer preferences.

Table 1. 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 shows *Japanese* in the DBCS slot. In Wordpad, to use the downloaded font, specify `MS Mincho` as the font and the driver converts the Unicode characters and render an ASCII print job. To print an 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.

GB18030

NWD supports the Chinese National Standard GB 18030-2005: Information technology - Chinese coded character set. In NWD, the GB18030 character set can be used in image mode or as a downloaded font (using the override font option).

Note: Always ensure you have installed the latest drivers and printer firmware in order to use the latest NWD features.

Image mode

Image mode does not require a font to be downloaded to the printer. To print using the GB18030 character set, the document to be printed must contain the GB18030 characters you want to see on paper and the override font option inside printer preferences must not be used. To check the preferences of the printer, see "Configuring the Printer Preferences" on page 15).

Override font

This mode requires that a GB18030 font already be downloaded to the printer. To set the TCx Printers to use the GB18030 character set, edit the preferences of the printer inside printer management (see "Configuring the Printer Preferences" on page 15). Once the Properties page is open, click Preferences and select the Options tab. Under Override Application Font, select CHINESE_GB18030. A warning message will be displayed indicating that a GB18030 font must be downloaded with an external tool to NWD. Select the GB18030 font previously downloaded. The printer can now print a document with Chinese characters. The Chinese characters within the document must be written with a font that supports such symbols (SimSun, for example).

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 Toshiba POS Printer Properties from the Print Management window.
2. Click the Fonts tab.
3. Click Select for Font 1 or Font 2. The 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. Confirm you are authorized to download TrueType fonts when the message appears. The Select Font window is updated to list all of the TrueType fonts installed on your computer.
5. Select a TrueType font, style, and size.
6. Click OK. The font is copied to the internal memory of the printer.
7. Click Update to save your settings.
8. The SBCS font download has a problem when font MS Sans serif and MS Serif font are downloaded. Complete the following steps to download this specific font combination
   a. Select MS Sans Serif as Font 1.
   b. Select MS Serif as Font 2.

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

Printer Sensor Settings

The Font Tab, in the Printer Properties dialog, includes the following printer sensor settings:

- Motion Detection
- Partial Cut Detection
- Low Paper Detection
- Low Paper LED

Enabling Motion Detection

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

1. Open the Toshiba POS Printer Properties from the Print Management window.
2. Click the Font tab.
3. Select the Motion Detection checkbox to activate the printer when it detects motion.
4. Click OK.

Enabling Partial Cut Detection

This setting turns the Partial Cut Detection capability of your printer on or off. The partial cut detection is always available in 1NR. The partial cut detection is not available in certain 2NR/2CR models.

1. Open the Toshiba POS Printer Properties from the Print Management window.
2. Click the Font tab.
3. Select the Partial Cut Detection checkbox to leave a tiny piece of the receipt connected to the printer.
4. Click OK.

Enabling Low Paper Detection

This setting turns the low paper detection sensor on or off. This setting is applied after you restart the printer.

1. Open the Toshiba POS Printer Properties from the Print Management window.
2. Click the Font tab.
3. Select the Low Paper Detection checkbox to activate low paper detection on your printer.
4. Click OK.

Enabling Low Paper LED

This setting turns the low paper LED printer setting on or off.

1. Open the Toshiba POS Printer Properties from the Print Management window.
2. Click the Font tab.
3. Select the Low Paper LED checkbox to activate the LED to signal when the paper is low.

4. Click 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.

Configuring Logging Settings

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.

1. Open the Toshiba POS Printer Properties from the Print Management window.
2. Click the Firmware and Advanced Configuration tab.
3. Click Logging.
4. Select from the following modules to configure your logging settings:

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/WiFi 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:

- Trace information is only configured and recorded for module options that are checked.
- For normal usage, the trace level is recommended to be set at INFO.
- 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.

5. Click Save.

Automatic Firmware Upgrade

Use the following steps to perform an automatic firmware upgrade:

1. Download the appropriate firmware file for your printer from I/O Devices Support.
2. Change the firmware filename to the appropriate corresponding filename:

Table 2. Firmware update filenames

Printer model	Firmware update filename
1NR/1NA/1ND/2NR/2CR	T4610.hex
2TC/2TN/1TN	T6145.hex

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

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

Note: The Automatic Firmware Upgrade feature is only available for the USB interface.

TCx Printer Configuration Utility

You can also use the TCx Printer Configuration Utility, from https://commerce.toshiba.com, to download firmware and configuration files. The utility can generate the following types of configuration files:

- Printer Settings
- Network Settings
- DBCS Fonts
- SBCS Fonts
- Resident Message
- Resident Graphics (bitmaps)

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

Chapter 3. Key Printer Tasks

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

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

Monitor Printer and Job Status

The Language and Port Monitor provides printer and job status for Toshiba POS Printers. The status column displays the printer and job status on the queue view, but there are additional places where you can find printer and job status. Applications can make standard 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. 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 printer queue. Double-click the relevant printer in the Printers folder. Check the Windows print queue first for status because:

- It is the only standard way to get job status information for a specific job
- It is the standard way to get printer status
- The system keeps all status information in the queue view, including the printer status information, up-to-date

Note: The Details view of the Printers and Faxes folder does not keep up-to-date information. For example, if the port monitor sets the port status to `Out of paper`, the queue view for any printers using that port immediately shows the printer as out of paper, whereas the Status column in the Printers and Faxes folder might not update for minutes.

Note: The Language and Port Monitor reports end-of-job status when the job completes printing, not when 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 or Port Monitor can set the status of a job to any string it chooses. The following values can be returned for the status of a particular print job:

- `Printing`
- `Printed`

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- `Canceling`
- `Canceled`

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

- `Printing - Out of paper`: indicates that the job is normal, but the printer is currently out of paper.
- `Error - Printing - Canceling - Out of paper`: the spooler adds the first two word if the spooler considers the job fully sent.

For the supported Ethernet printers, if there are no print jobs in the Windows spooler, the Language or Port Monitor does 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 user's guide for information.

Print with Resident Fonts

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.

Before you print, select one of the resident font options and text size in your 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.

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 64-bit Windows:

- Microsoft Wordpad
- Microsoft Internet Explorer
- Microsoft Notepad

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.

Printer Commands

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

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

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.

Table 3. Control font mapping

ASCII character	Command
2	Print to the customer receipt station
4	Print to the document insert station (portrait mode). To print preloaded logos in the DI station, use logos with the following defined the maximum values: • Width: 475 dots • Height: 40 dots

ASCII character	Command
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)
J	Print predefined graphics (logo) #4 (normal mode)
K	Print predefined graphics (logo) #5 (normal mode)
P	Cut receipt
R	Right-align column

ASCII character	Command
[	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 Programs

The Native Windows Driver (NWD) API module is useful for developers who build the Toshiba 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 is named `nwdapi64.dll` and supports 64-bit applications.

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

The following information shows the functions grouped by operational categories:

To start and end conversations

BiOpenMonPrinter

Opens a new session and, if is successfully opened, returns a handle to the specified printer.

"Parameters (BiOpenMonPrinter)" on page 57

BiCloseMonPrinter

Closes the opened session and frees all allocated resources.

"BiCloseMonPrinter function" on page 37

Basic operations

BiGetType

Acquires the printer's type ID (capabilities).

"BiGetType function" on page 45

BiGetStatus

Acquires the current status of a printer.

"BiGetStatus function" on page 43

BiGetOfflineCode

Acquires a code that indicates why the printer is offline.

"BiGetOfflineCode function" on page 40

BiCancelError

Restores recoverable printer errors by sending a release print buffer command.

"BiCancelError function" on page 36

BiOpenDrawer

Opens the specified cash drawer (1 or 2) after the specified delay (in milliseconds).

"BiOpenDrawer function" on page 55

UpdatePrinterFirmware

Updates the firmware of the connected printer on the specified RSS port.

"UpdatePrinterFirmware function" on page 68

Monitoring operations

BiSetMonInterval

Specifies the interval of the status monitoring of printers by the API (in milliseconds).

"BiSetMonInterval function" on page 64

BiSetStatusBackFunction

Enables Automatic Status Back mode and registers the address of the callback function where results are notified.

"BiSetStatusBackFunction function" on page 64

BiCancelStatusBack

Disables Automatic Status Back mode.

"BiCancelStatusBack function" on page 37

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 53

BiMICRSelectDataHandling

Retransmits the check reading results.

"BiMICRSelectDataHandling function" on page 52

BiMICRReadCheck

Selects the check reading data handling mode.

"BiMICRReadCheck function" on page 50

BiMICRRetransmissionCheckData

Runs check reading.

"BiMICRRetransmissionCheckData function" on page 51

BiMICRLoadCheck

Loads the check to the check printing start position.

"BiMICRLoadCheck function" on page 49

BiMICRGetStatus

Acquires the MICR status.

"BiMICRGetStatus function" on page 48

BiMICREjectCheck

Ejects the check.

"BiMICREjectCheck function" on page 48

BiMICRCancelWaitCheckInsertion

Cancels the current check insertion wait period.

"BiMICRCancelWaitCheckInsertion function" on page 47

BiMICRCancelReadBack

Cancels a reading information notification request registered using BiMICRSetReadBackFunction function.

"BiMICRCancelReadBack function" on page 47

Scanning operations

BiSCNSetImageFormat

Sets the format of the scanning image data.

"BiSCNSetImageFormat function" on page 61

BiSCNGetImageFormat

Acquires the format of the image set in the printer.

"BiSCNGetImageFormat function" on page 58

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 62

BiSCNCancelReadBack

Cancels the scanning information notice request registered using the BiSCNSetReadBackFunction function.

"BiSCNCancelReadBack function" on page 57

BiSCNReadImage

Runs image scanning.

"BiSCNReadImage function" on page 59

BiSCNRetransmissionImage

Retransmits the image scanning results.

"BiSCNRetransmissionImage function" on page 60

BiESCNDefineCropArea

Registers a Crop Area or deletes all the registered Crop Areas.

"BiESCNDefineCropArea function" on page 38

BiESCNStoreImage

Registers a Crop image.

"BiESCNStoreImage function" on page 39

BiESCNRetrieveImage

Acquires a crop image.

"BiESCNRetrieveImage function" on page 39

Output appearance operations

DownloadLogo

Downloads one or more logos to the connected printer on the specified RSS port.

"DownloadLogo function" on page 66

DownloadMessage

Downloads one or more messages to the connected printer on the specified RSS port.

"DownloadMessage function" on page 67

DownloadFont

Downloads one or two TrueType fonts to the connected printer on the specified RSS port.

"DownloadFont function" on page 65

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 run 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 4. offlinecode Byte 1 = variable

Bit	Function	Value 0	Value 1	Comments
0	CPU execution error	Did not occur	Occurred	Always 0
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 5. 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 6. 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

Bit	Function	Value 0	Value 1	Comments
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 7. 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 8. 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

Bit	Function	Value 0	Value 1	Comments
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 9. 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)

EPSON status	Value	OFF	ON	Comments
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)
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

EPSON status	Value	OFF	ON	Comments
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 10. 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

Bit	Function	Value 0	Value 1	Comments
				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 11. 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 12. 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 runs 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 13).

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 14).

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 this function successfully runs, 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 13. 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 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 is also 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 14. pDetail byte value definitions for BiMICRSetReadBackFunction and BiMICRRetransmissionCheckData

Value	Information	Comments
0x40	No abnormality	API internal handling
0x41	Check reading was not run, 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

Value	Information	Comments
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 run 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 runs 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 15).

pDetail

Specifies the memory address where detailed information is set after scanning ends with an error (see Table 16).

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 15. 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

Bit	Function	Value 0	Value 1	4610 status mapping
4	Rescanned	Possible	Not (fixed)	0
5	Scanning results	Ends normally	Ends with an error	Status byte 5 – bit 6Status byte 7 – bit 7
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 16. 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
- BiSetInkStatusBackFunction
- BiSetInkStatusBackWnd
- BiSCNGetScanArea
- BiSCNSetReadBackWnd
- BiSCNGetClumpStatus
- BiSCNClumpPaper
- BiSCNSetCroppingArea
- BiESCNSetAutoSize
- BiESCNGetCutSize
- BiESCNSetCutSize
- BiESCNGetRotate
- BiESCNSetRotate

- BiCancelInkStatusBack
- BiMICRSetReadBackWnd
- BiMICRCleaning
- BiSCNPreScan
- BiSCNGetImageQuality
- BiSCNSetScanArea
- BiSCNGetCroppingArea
- BiSCNDeleteCroppingArea
- BiSCNDeleteImage
- BiSCNGetImageList
- BiSCNSetImageQuality
- BiESCNEnable
- BiESCNGetAutoSize
- BiESCNGetDocumentSize
- BiESCNSetDocumentSize
- BiESCNGetMaxCropAreas
- BiESCNClearImage
- BiESCNGetRemainingImages
- BiGetPrnCapability
- BiSetMonEtherInterval

Concurrent Printing Mode for 6145 TCx Printers

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

If the Alternate Interface is processing jobs, the USB interface waits 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 can 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 following 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) is 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 on one machine using either interface, and the other interface must be used by a driver or application on 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 and 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

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Name	Type
PaperCutCount	uint32
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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Telecommunication regulatory statement

This product is not intended to be connected directly or indirectly by any means whatsoever to interfaces of public telecommunications networks, nor is it intended to be used in a public services network.

Electronic emission notices

When you attach a monitor to the equipment, you must use the designated monitor cable and any interference suppression devices that are supplied with the monitor.

Federal Communications Commission (FCC) statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense. There is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or experienced radio TV technician for help.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Toshiba Global Commerce Solutions is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

FCC WARNING:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operat the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

The Product Unique Identifier

The Contact Information of Responsible Party in U.S.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION: When using IEEE 802.11a wireless LAN, this product is restricted to indoor use, due to its operation in the 5.15- to 5.25-GHz frequency range. FCC/Industry Canada requires this product to be used indoors for the frequency range of 5.15 GHz to 5.25 GHz to reduce the potential for harmful interference to co-channel mobile satellite systems. High-power radar is allocated as the primary user of the 5.25- to 5.35-GHz and 5.65- to 5.85-GHz bands. These radar stations can cause interference with and/or damage to this device. The antennas for this device are not replaceable. Any attempt at user access will damage your computer.

This device meets all the other requirements specified in Part 15E, Section 15.407 of the FCC Rules.

Prohibited for control of or communications with unmanned aircraft systems, including drones.

- FCC regulations restrict the operation of this device to indoor use only.
- Operation prohibited on oil platforms, cars, trains, boats, and aircraft, except that operation of this device is permitted in large aircraft while flying above 10,000 feet.

FCC Radiation Exposure Statement

To comply with the FCC RF exposure compliance requirements, the separation distance between the antenna and the body of all persons must be at least 20 cm (8 inches).

Industry Canada Statement / Règlement d'Industry Canada

This Class A digital apparatus complies with Canadian ICES-003 and RSS247. This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil numérique de la classe A est conforme aux normes NMB-003 et RSS247 du Canada.

Le fonctionnement est soumis aux conditions suivantes:

1. Cet appareil ne doit pas provoquer d'interférences.
2. Cet appareil doit accepter toute interférence, y compris les interférences pouvant entraîner un fonctionnement indésirable de l'appareil.

CAN ICES-003(A)/NMB-003(A)

CAUTION:

User should also be advised that:

(i) The device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

(ii) The maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall comply with the Effective Isotropic Radiated Power (EIRP) limit.

(iii) The maximum antenna gain permitted for devices in the band 5725-5825 MHz shall comply with the EIRP limits specified for point-to-point and non point-to-point operation as appropriate. High-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Les utilisateurs devraient aussi être avisés que

(i) Les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

(ii) Le gain maximal d'antenne permis pour les dispositifs utilisant les bandes 5250-5350 MHz et 5470-5725MHz doit se conformer à la limite de p.i.r.e.;

(iii) Le gain maximal d'antenne permis (pour les dispositifs utilisant la bande 5725-5825 MHz) doit se conformer à la limite de p.i.r.e. spécifiée pour l'exploitation point à point et non point à point, selon le cas.

De plus, les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5250-5350 MHz et 5650-5850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

- Operation shall be limited to indoor use only
- Operation on oil platforms, automobiles, trains, maritime vessels and aircraft shall be prohibited except for on large aircraft flying above 3,048 m (10,000 ft)
- Leur utilisation doit être limitée à l'intérieur seulement;
- Leur utilisation à bord de plateformes de forage pétrolier, d'automobiles, de trains, de navires maritimes et d'aéronefs doit être interdite, sauf à bord d'un gros aéronef volant à plus de 3 048 m (10 000 pi) d'altitude

Industry Canada Radiation Exposure Statement / Déclaration d'exposition aux radiations

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm (8 inches) from the body of all persons.

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Aviso para los usuarios de México

La operación de este equipo está sujeta a las siguientes dos condiciones:

1. Es posible que este equipo o dispositivo no cause interferencia prejudicial.
2. Este equipo o dispositivo debe aceptar cualquier interferencia. Incluyendo la que pueda causar su operación no deseada.

Para saber el modelo de la tarjeta inalámbrica utilizada, revise la etiqueta regulatoria de la impresora.

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This product is in conformity with the protection requirements of EU Council Directive 2014/30/EU on the approximation of the laws of the Member States relating to electromagnetic

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This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to CISPR 32/European Standard EN 55032. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

Attention: This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

Responsible manufacturer:

Toshiba Global Commerce Solutions, Inc.
3901 South Miami Blvd.
Durham, NC 27703
United States of America

European Community contact:

Toshiba Global Commerce Solutions, Inc.
Brand Manager - Europe, Middle East & Africa
Z.1 Researchpark 160, 1731 Asse, Belgium
Tel: +43 676 9077970
e-mail: Dries.deBeul@toshibagcs.com

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This device operates in the 5150 – 5350 MHz frequency range and is restricted to indoor use only. Outdoor operation in this range is prohibited.

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Responsible manufacturer:

Toshiba Global Commerce Solutions, Inc.
3901 South Miami Blvd.
Durham, NC 27703
United States of America

United Kingdom Contact:

Toshiba Global Commerce Solutions, Inc.
Charlie Templeton
Custom House Quay | Greenock, PA15 1EQ | United Kingdom
Tel: +44 1475 880 103
e-mail: charlie.templeton@toshibagcs.com

This device operates in the 5150 – 5350 MHz frequency range and is restricted to indoor use only. Outdoor operation in this range is prohibited.

Germany Class A statement

Deutschsprachiger EU Hinweis: Hinweis für Geräte der Klasse A EU-Richtlinie zur Elektromagnetischen Verträglichkeit

Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie 2014/30/EU zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der EN 55032 Klasse A ein.

Um dieses sicherzustellen, sind die Geräte wie in den Handbüchern beschrieben zu installieren und zu betreiben. Des Weiteren dürfen auch nur von der Toshiba Global Commerce Solutions empfohlene Kabel angeschlossen werden. Toshiba Global Commerce Solutions übernimmt keine Verantwortung für die Einhaltung der Schutzanforderungen, wenn das Produkt ohne Zustimmung der Toshiba Global Commerce Solutions verändert bzw. wenn Erweiterungskomponenten von Fremdherstellern ohne Empfehlung der Toshiba Global Commerce Solutions gesteckt/eingebaut werden.

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Deutschland: Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Geräten

Dieses Produkt entspricht dem “Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG)”. Dies ist die Umsetzung der EU-Richtlinie 2014/30/EU in der Bundesrepublik Deutschland.

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) (bzw. der EMC EG Richtlinie 2014/30/EU) für Geräte der Klasse A

Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

Verantwortlich für die Einhaltung der EMV Vorschriften ist der Hersteller:

Toshiba Global Commerce Solutions, Inc.
3901 South Miami Blvd.
Durham, NC 27703
United States of America

Der verantwortliche Ansprechpartner des Herstellers in der EU ist:

Toshiba Global Commerce Solutions, Inc.
Brand Manager - Europe, Middle East & Africa
Z.1 Researchpark 160, 1731 Asse, Belgium
Tel: +43 676 9077970
e-mail: Dries.deBeul@toshibagcs.com

Generelle Informationen:

Das Gerät erfüllt die Schutzanforderungen nach EN 55035 und EN 55032 Klasse A.

Australia and New Zealand Class A statement

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Brasil INFORMAÇÕES REGULAMENTARES:

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

People's Republic of China Class A electronic emission statement

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中华人民共和国“A 类”警告声明

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警告：在居住环境中，运行此设备可能会造成无线干扰。

Russian Electromagnetic Interference (EMI) Class A statement

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снижения которых необходимы дополнительные меры

Japanese Electrical Appliance and Material Safety Law statement

本製品およびオプションに電源コードセットが付属する場合は、それぞれ
その装置専用のものになっていますので他の機器には使用しないで下さい。

Japanese power line harmonics compliance statement

高調波ガイドライン適合品

Japan Voluntary Control Council for Interference Class A statement

この装置は、クラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。　　ＶＣＣＩ－Ａ

Attention: This is a Class A product based on the standard of the Voluntary Control Council for Interference (VCCI). If this equipment is used in a domestic environment, radio interference may occur, in which case, the user may be required to take corrective actions.

5 GHz帯を使用する特定無線設備は屋内使用に限られています。この機器を屋外で使用することは電波法で禁じられています。

Japan Electronics and Information Technology Industries Association (JEITA) statement

高調波ガイドライン適合品

Japan Electronics and Information Technology Industries Association (JEITA) Confirmed Harmonics Guidelines with Modifications (products greater than 20 A per phase).

Korean communications statement

이 기기는 업무용(A급)으로 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.

This is electromagnetic wave compatibility equipment for business (Type A). Sellers and users need to pay attention to it. This is for any areas other than home.

해당 무선설비는 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없음

당해 무선설비는 운용 중 전파혼선 가능성이 있음

Taiwan Class A compliance statement

警告使用者：
此為甲類資訊技術設備，於居住環境中使用時，可能會造成射頻擾動，在此種情況下，使用者會被要求採取某些適當的對策。

"警告：為避免電磁干擾，本產品不應安裝或使用於住宅環境。"

Taiwan contact information

台灣 TGCS 產品服務聯絡方式：
台灣東芝全球商業解決方案有限公司
台北市南港區園區街 3-2 號 5 樓之 1
電話：0800-001-939

Toshiba Global Commerce Solutions Taiwan Product Service Contact Info:
Toshiba Global Commerce Solutions, Inc.

Rm. 1, 5F., No.3-2, Park St., Nangang Dist., Taipei City, Taiwan
Telephone: 0800-001-939

Cable ferrite requirement

All cable ferrites are required to suppress radiated EMI emissions and must not be removed.

Electrostatic discharge (ESD)

Attention: Electrostatic discharge (ESD) damage can occur when there is a difference in charge between the part, the product, and the service person. No damage will occur if the service person and the part being installed are at the same charge level.

ESD damage prevention

Anytime a service action involves physical contact with logic cards, modules, back-panel pins, or other ESD sensitive (ESDS) parts, the service person must be connected to an ESD common ground point on the product through the ESD wrist strap and cord.

The ESD ground clip can be attached to any frame ground, ground braid, green wire ground, or the round ground prong on the AC power plug. Coax or connector outside shells can also be used.

Handling removed cards

Logic cards removed from a product should be placed in ESD protective containers. No other object should be allowed inside the ESD container with the logic card. Attach tags or reports that must accompany the card to the outside of the container.

Product recycling and disposal

This unit must be recycled or discarded according to applicable local and national regulations. Toshiba Global Commerce Solutions encourages owners of information technology (IT) equipment to responsibly recycle their equipment when it is no longer needed. Toshiba Global Commerce Solutions offers a variety of product return programs and services in several countries to assist equipment owners in recycling their IT products. Information on Toshiba Global Commerce Solutions product recycling offerings can be found on the Toshiba Global Commerce Solutions product recycling programs website.

Español: Esta unidad debe reciclarse o desecharse de acuerdo con lo establecido en la normativa nacional o local aplicable. Toshiba Global Commerce Solutions recomienda a los propietarios de equipos de tecnología de la información (TI) que reciclen responsablemente sus equipos cuando éstos ya no les sean útiles. Toshiba Global Commerce Solutions dispone de una serie de programas y servicios de devolución de productos en varios países, a fín de ayudar a los propietarios de equipos a reciclar sus productos de TI. La situación de cada cliente es única, por lo que se puede encontrar información sobre las ofertas de reciclaje de productos de Toshiba poniéndose en contacto con su TGCS representante.

Note: This mark applies only to countries within the European Union (EU) and Norway.

Appliances are labeled in accordance with European Directive 2012/19/EU concerning waste electrical and electronic equipment (WEEE). The Directive determines the framework for the return and recycling of used appliances as applicable throughout the European Union. This label is applied to various products to indicate that the product is not to be thrown away, but rather reclaimed upon end of life per this Directive.

Remarque : Cette marque s'applique uniquement aux pays de l'Union Européenne et à la Norvège. L'etiquette du système respecte la Directive européenne 2012/19/EU en matière de Déchets des Equipements Electriques et Electroniques (DEEE), qui détermine les dispositions de retour et de recyclage applicables aux systèmes utilisés à travers l'Union européenne. Conformément à la directive, ladite étiquette précise que le produit sur lequel elle est apposée ne doit pas être jeté mais être récupéré en fin de vie.

注意: このマークは EU 諸国およびノルウェーにおいてのみ適用されます。

この機器には、EU 諸国に対する廃電気電子機器指令2012/19/EU(WEEE) のラベルが貼られています。この指令は、EU 諸国に適用する使用済み機器の回収とリサイクルの骨子を定めています。このラベルは、使用済みになった時に指令に従って適正な処理をする必要があることを知らせるために種々の製品に貼られています。

In accordance with the European WEEE Directive, electrical and electronic equipment (EEE) is to be collected separately and to be reused, recycled, or recovered at end of life. Users of EEE with the WEEE marking per Annex IV of the WEEE Directive, as shown above, must not dispose of end of life EEE as unsorted municipal waste, but use the collection framework available to customers for the return, recycling, and recovery of WEEE. Customer participation is important to minimize any potential effects of EEE on the environment and human health due to the potential presence of hazardous substances in EEE. For proper collection and treatment, contact your local Toshiba Global Commerce Solutions representative.

Disposal of IT products should be in accordance with local ordinances and regulations.

Battery safety

警告：本电池包含锂。为避免爆炸，请勿焚烧电池或对其充电。
请勿：把电池投入或浸入水中、把电池加热到 100°C (212°F) 以上、修理或拆卸。 (C003)

注　意

用错误型号电池更换会有爆炸危险

务必按照说明处置用完的电池

CAUTION: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

警 告:
如果更換不正確之電池型式會有爆炸的風險.
請依製造商說明書處裡用過之電池.

Battery return program

This product may contain sealed lead acid, nickel cadmium, nickel metal hydride, lithium, or lithium ion battery. Consult your user manual or service manual for specific battery information. The battery must be recycled or disposed of properly. Recycling facilities may not be available in your area. For information on disposal of batteries outside the United States, go to the Battery disposal website or contact your local waste disposal facility.

电池回收计划

本产品可能包含密封铅酸、镍镉、镍氢、锂或锂离子电池。有关特定的电池信息，请参阅用户手册或维修手册。必须正确地回收或处理这类电池。在您所在的地区中可能没有回收设施。有关在美国之外处理电池的信息，请访问 http://www.ibm.com/ibm/environment/products/batteryrecycle.shtml，或与当地的废品处理机构联系。

For Taiwan:

Please recycle batteries.

For the European Union:

Notice: This mark applies only to countries within the European Union (EU)

Batteries or packaging for batteries are labeled in accordance with European Directive 2013/56/EU concerning batteries and accumulators and waste batteries and accumulators. The Directive determines the framework for the return and recycling of used batteries and accumulators as applicable throughout the European Union. This label is applied to various batteries to indicate that the battery is not to be thrown away, but rather reclaimed upon end of life per this Directive.

Les batteries ou emballages pour batteries sont étiquetés conformément aux directives européennes 2013/56/EU, norme relative aux batteries et accumulateurs en usage et aux batteries et accumulateurs usés. Les directives déterminent la marche à suivre en vigueur dans l'Union

Européenne pour le retour et le recyclage des batteries et accumulateurs usés. Cette étiquette est appliquée sur diverses batteries pour indiquer que la batterie ne doit pas être mise au rebut mais plutôt récupérée en fin de cycle de vie selon cette norme.

バッテリーあるいはバッテリー用のパッケージには、EU 諸国に対する廃電気電子機器指令 2013/56/EUのラベルが貼られています。この指令は、バッテリーと蓄電池、および廃棄バッテリーと蓄電池に関するものです。この指令は、使用済みバッテリーと蓄電池の回収とリサイクルの骨子を定めているもので、EU 諸国にわたって適用されます。このラベルは、使用済みになったときに指令に従って適正な処理をする必要があることを知らせるために種々のバッテリーに貼られています。

In accordance with the European Directive 2013/56/EU, batteries and accumulators are labeled to indicate that they are to be collected separately and recycled at end of life. The label on the battery may also include a chemical symbol for the metal concerned in the battery (Pb for lead, Hg for mercury and Cd for cadmium). Users of batteries and accumulators must not dispose of batteries and accumulators as unsorted municipal waste, but use the collection framework available to customers for the return, recycling and treatment of batteries and accumulators. Customer participation is important to minimize any potential effects of batteries and accumulators on the environment and human health due to the potential presence of hazardous substances. For proper collection and treatment, contact your local Toshiba Global Commerce Solutions representative.

This notice is provided in accordance with Royal Decree 106/2008 of Spain: The retail price of batteries, accumulators and power cells includes the cost of the environmental management of their waste.

For California:

Perchlorate material – special handling may apply

Refer to www.dtsc.ca.gov/hazardouswaste/perchlorate.

The foregoing notice is provided in accordance with *California Code of Regulations Title 22, Division 4.5, Chapter 33: Best Management Practices for Perchlorate Materials*. This product/part includes a lithium manganese dioxide battery which contains a perchlorate substance.

Flat panel displays

The fluorescent lamp in the liquid crystal display contains mercury. Dispose of it as required by local ordinances and regulations.

Monitors and workstations

Oregon: For information regarding recycling covered electronic devices in the state of Oregon, go to the Oregon Department of Environmental Quality site at www.deq.state.or.us/lq/electronics.htm.

Washington: For information about recycling covered electronic devices in the State of Washington, go to the Department of Ecology Website at fortress.wa.gov/ecy/recycle/ or telephone the Washington Department of Ecology at 1-800-Recycle.

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Index

Numerics

2 color 16

A

API functions
- defined 32
- return values 35

API programming functions
- BiCancelError function 36
- BiCancelStatusBack function 37
- BiCloseMonPrinter function 37
- BiESCNDefineCropArea function 38
- BiESCNRetrieveImage function 39
- BiESCNStoreImage function 39
- BiGetOfflineCode function 40
- BiGetStatus function 43
- BiGetType function 45
- BiMICRCancelReadBack function 47
- BiMICRCancelWaitCheckInsertion function 47
- BiMICREjectCheck function 48
- BiMICRGetStatus function 48
- BiMICRLoadCheck function 49
- BiMICRReadCheck function 50
- BiMICRRetransmissionCheckData function 51
- BiMICRSelectDataHandling function 52
- BiMICRSetReadBackFunction function 53
- BiOpenDrawer function 55
- BiOpenMonPrinter function 56
- BiResetPrinter function 65
- BiSCNCancelReadBack function 57
- BiSCNGetImageFormat function 58
- BiSCNReadImage function 59
- BiSCNRetransmissionImage function 60
- BiSCNSetImageFormat function 61
- BiSCNSetReadBackFunction function 62
- BiSetMonInterval function 64
- BiSetStatusBackFunction function 64
- DownloadFont function 65
- DownloadLogo function 66
- DownloadMessage function 67
- UpdatePrinterFirmware function 68

automatic firmware upgrade 25

B

bar codes
- printing 29
- type 15

Basic operations API functions
- BiCancelError function 36
- BiGetOfflineCode function 40

Basic operations API functions *(continued)*
- BiGetStatus function 43
- BiGetType function 45
- BiOpenDrawer function 55
- BiResetPrinter function 65
- UpdatePrinterFirmware function 68

battery return program 85
beeper 16
burst mode 16

C

cable ferrite requirement 83
cash drawer 16
Check reading API functions
- BiMICRCancelReadBack function 47
- BiMICRCancelWaitCheckInsertion function 47
- BiMICREjectCheck function 48
- BiMICRGetStatus function 48
- BiMICRLoadCheck function 49
- BiMICRReadCheck function 50
- BiMICRRetransmissionCheckData function 51
- BiMICRSelectDataHandling function 52
- BiMICRSetReadBackFunction function 53

Class A compliance statement
- Australia and New Zealand 79
- China 80
- European Union 76
- FCC (USA) 74
- Germany 78
- Japan 81
- Russia 80

code page 16
color 16
command font 30
commands
- sending to printer 30

compatibility 29
Concurrent Printing Mode for 6145 TCx Printers 69
configuration file, sample 13
configuring
- downloading fonts 21
- footer 19
- logos and messages 17

control font 30
Corel Draw 29, 30
creating messages 18
cutting 16

D

damage from electrostatic discharge 83
DBCS fonts 21
disposal of equipment 83
downloading
downloading *(continued)*
- DBCS fonts 21
- fonts to printer 22
- logos to printer 17

E

electromagnetic Interference statement
- Russia 80

electronic emissions notices
- Australia and New Zealand 79
- China 80
- European Union 76
- FCC (USA) 74
- Germany 78
- Japan 81
- Korea 81

electrostatic discharge (ESD) 83
Enable/Disable sensors Printer Sensor Settings 23
end of life disposal 83
equipment disposal 83
European Union battery recycling statement 85

F

ferrite requirement 83
flat panel displays 86
font
- override 16

fonts
- bar codes 29
- command font 30
- control font 30
- DBCS font 21
- printing with 28
- using in documents 28

fonts TrueType fonts
- from other sources 22

footer 19
Functions not exported by the API 68
functions, API programming 32

I

installation Native Windows Driver
- attended 11

installation procedure
- unattended
  - silent 11

installing the printer Native Windows Driver 11

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J

Japan Electronics and Information Technology Industries Association statement 81
Japanese Electrical Appliance and Material Safety Law statement 80
Japanese power line harmonics compliance statement 81
Japanese VCCI Council Class A statement 81
job status 27

K

Korean communications statement 81

L

Language or Port Monitor 27
logging configuration 24
logos
- downloading to printer 17
- using in footer 20
- using in header 18

Low Paper Detection 23
Low Paper LED 23

M

mercury-added statement 86
messages
- creating 18
- using in footer 20
- using in header 19

Microsoft PowerPoint PowerPoint 29, 30
monitoring
- job status 27
- printer status 27

Monitoring operations API functions
- BiCancelStatusBack function 37
- BiSetMonInterval function 64
- BiSetStatusBackFunction function 64

monochrome 15
Motion Detection 23

N

Notepad 30
notices
- battery recycling 85
- cable ferrites 83
- electronic emissions 74
- electrostatic discharge (ESD) 83
- end of life disposal 83
- Toshiba 73

O

opening the Printer Properties Page 15
Output appearance API functions
- DownloadFont function 65
- DownloadLogo function 66
- DownloadMessage function 67

P

paper
- cutting 16
- size 15

Paper Saving Setting 24
parameter set 16
Partial Cut Detection 23
perchlorate 86
print parameter set 16
printer status 27
printing
- high quality 16
- upside down 16

programming
- API 32

R

return values 35

S

safety information 7
sample configuration file 13
Scanning operations API functions
- BiSCNCancelReadBack function 57
- BiSCNGetImageFormat function 58
- BiSCNReadImage function 59
- BiSCNRetransmissionImage function 60
- BiSCNSetImageFormat function 61
- BiSCNSetReadBackFunction function 62

starting and ending communication API functions
- BiCloseMonPrinter function 37
- BiOpenMonPrinter function 56

status
- job 27
- printer 27

systems management information 71

T

Taiwanese battery recycling statement 85
TCx Printer Configuration Utility 26
Telecommunications regulatory statement 74
Toshiba
- native Windows driver 11

Toshiba 4610
- native Windows driver 71

trademarks 86

U

uninstalling existing drivers
- unattended 14

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SC30-4105-17