Toshiba Global Commerce Solutions
SureMark 4610 Printers

Hardware Guide
Models 2CR and 2NR

Note:

Before using this information and the product it supports, be sure to read Safety Information, Warranty Information, Uninterruptible Power Supply Information, and the information under Notices.

April 2016

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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.

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

安裝本產品之前，請先閱讀「安全資訊」。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

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

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

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

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

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

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

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

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

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

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

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

Перед установкой продукта прочтите инструкции по
технике безопасности.

Pred inštaláciou tohto zariadenia si pečítaje Bezpečnostné predpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

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

Läs säkerhetsinformationen innan du installerar den här produkten.

About this guide

This guide contains information about installing, using, and maintaining the Toshiba® 4610 SureMark™ Model 2CR and 2NR printers.

Who should read this guide

This guide is intended for personnel who are installing and using the Toshiba 4610 SureMark Model 2CR and 2NR printers.

Where to find more information

For information on Toshiba Global Commerce Solutions products and services, start at https://www.toshibacommerce.com. Click on the support link for information on the latest versions of Toshiba Global Commerce Solutions documentation.

Note: Access to Toshiba online publications requires an Enterprise ID. For more information, contact your Toshiba representative, or toshiba_comms@toshibagcs.com.

Additional information

The following publications provide additional information about the 4610 SureMark Models 2CR and 2NR printers:

- *SureMark 4610 Printers: Hardware Service Guide for Models 2CR and 2NR*, TC61-5003
- *SureMark 4610 Printers: Programming Guide for Models 1xR and 2xR*, TC62-5005

Notice statements

Notices in this guide are defined as follows:

Notes

These notices provide important tips, guidance, or advice.

Important

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

Attention

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

CAUTION

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

DANGER

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

Chapter 1. Introducing the SureMark 4610 Models 2CR and 2NR printers

The Toshiba SureMark™ 4610 Models 2CR and 2NR are dual station, point-of sale (POS) printers. The SureMark 4610 printer is available in two models:

- Model 2CR provides thermal station and impact station printing for your cash register receipts, check processing, bar codes, and documents.
- Model 2NR provides thermal station and impact station printing for your cash register receipts, bar codes, and documents.

With a print speed of 80 lines per second (LPS) and a 4-inch paper roll diameter, this high-speed printer lets you quickly print long receipts, monitor paper status, and gather printer usage statistics.
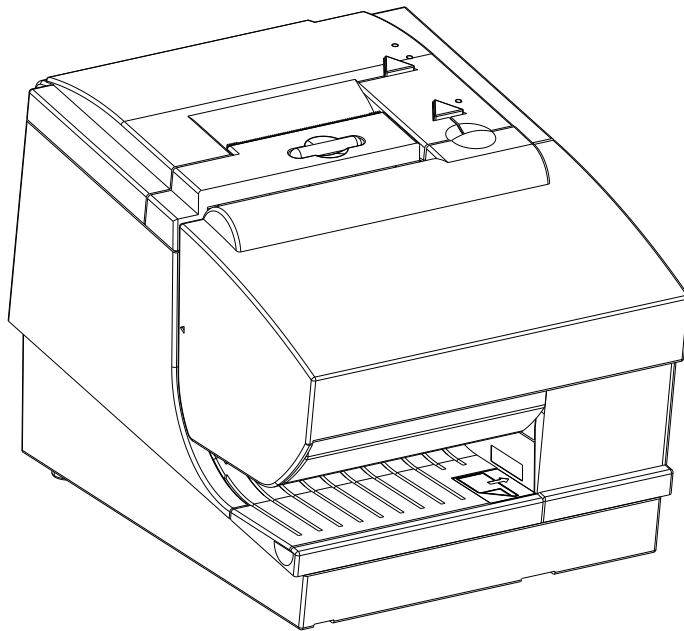
Figure 1. SureMark 4610 printer

Features and specifications

The key features of the Models 2CR and 2NR include:

- Print speeds of 80 lines per second (LPS).
- One-hand paper loading with the touch of a button.
- System management sensors that alert you to:

  - Close the cover on the printer.
  - Replace the receipt paper.
  - Status of the printhead.
- Efficient replacement of receipt paper and ribbon cartridge, including larger paper rolls to accommodate printing more receipts.
- Three megabytes of memory to store messages, logos, codes pages, and User Defined Storage.
- Magnetic ink character resolution (MICR) enables electronic check conversion (Model 2CR only).

- Downloadable DBCS fonts for thermal (24x24 matrix) and impact (9x16 or 16x16 matrix) printing.

Table 1 summarizes the specifications of the Models 2CR and 2NR printers.

Table 1. Printer specifications

Features	2CR	2NR
Cash receipt/document insert	Thermal/Impact	
Print Speed Thermal	(8 lpi) 80 lps	
Print Speed Impact	(8 lpi) 4.7 lps narrow format, 4.1 lps wide format	
Usage data	Yes	
User defined fonts (including proportional fonts)		
Scalable fonts up to 8X		
Journal station	No	
Single pass MICR, check franking, flipping, printing	Yes	No
Document insert station		Yes
Document insert print width	83.0 mm	
Document insert form width	58 mm minimum	
Document flipper form width	102 mm maximum 80 mm minimum	N/A
Document flipper form length	223 mm maximum 65 mm minimum	N/A
Multipart form	Yes	
Barcode printing		
Receipt paper loading	Drop and load	
Receipt paper cutter	Standard	
Receipt tear bar		
Receipt paper width	80 mm	
Print fonts (CPI)	12, 15, 17, 20	
Rotate print (line by line)	Yes	
DBCS thermal font - 24x24 matrix	Yes	
DBCS impact font - 9x16 or 16x16 matrix	Yes	

Communication and power

An interface card is shipped with the 4610 SureMark™ printers to provide communication to the system unit. Depending on your connectivity requirements, you will have one of the cards listed in Table 2.

Table 2. Communication interface, rate, and power source

Device	Description	Power
USB	USB is 2.0 Compliant Full Speed HID; Bulk transfers at 12 Mbps (Mega bits per second)	System unit input voltage (+24 V); separate power supply if standard USB connector is used
RS-485	Toshiba proprietary	System unit input voltage +38 V or +24 V (Japan only)
RS-232	9.6K - 115.2K (selectable using offline or online configuration) Baud rate	Separate power supply
Ethernet	10/100 Ethernet port for connection to an industry standard Ethernet LAN	Separate power supply
WiFi	801.11 a/b/g/n/ac Wireless LAN Adapter	Separate power supply

Figure 2 illustrates the different communications connections on the USB interface card.
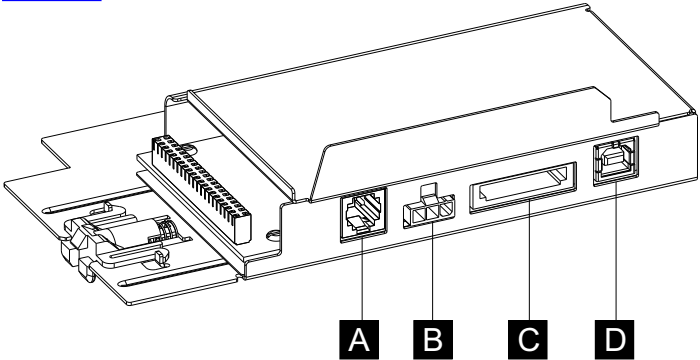
Figure 2. USB interface card

Device	Description
A	Cash drawer
B	Power supply
C	Powered USB drawer
D	Standard USB

Figure 3 illustrates the communications connections on the RS-485 interface card.
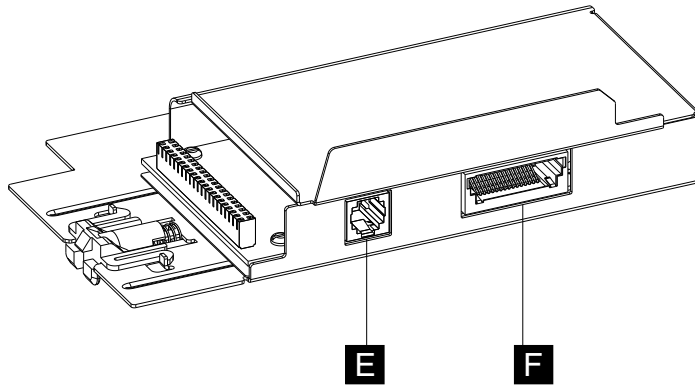
Figure 3. RS-485 interface card

Device	Description
E	Cash drawer
F	RS-485

Figure 4 illustrates the communications connections on the RS-232 interface card.
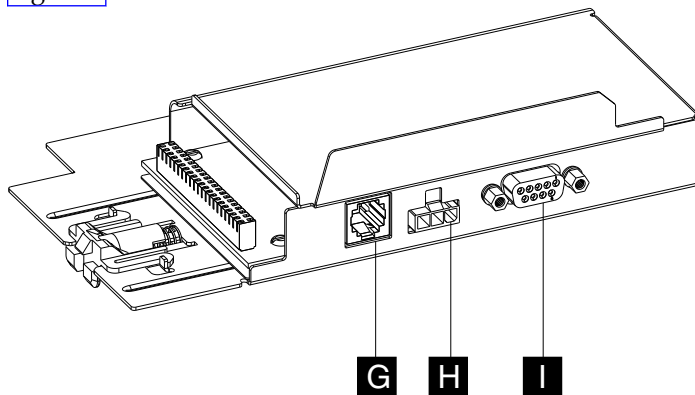
Figure 4. RS-232 interface card

Device	Description
G	Cash drawer
H	Power supply
I	RS-232

Figure 5 illustrates the communications connections on the Ethernet interface card.
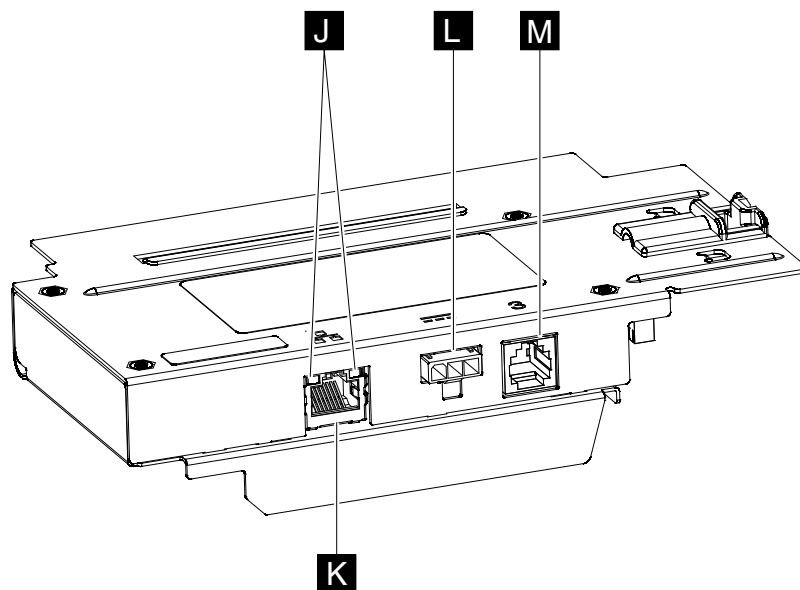
Figure 5. Ethernet interface card

Device	Description
J	Ethernet indicator lights
K	Ethernet
L	Power supply
M	Cash drawer

Figure 6 illustrates the communications connections on the WiFi interface card:

- Frequency Band of 802.11 b/g/n - 2.4 Ghz, power 18.30 dBm
- Frequency Band of 802.11 a/n/ac - 5 Ghz, power 19.12dBm
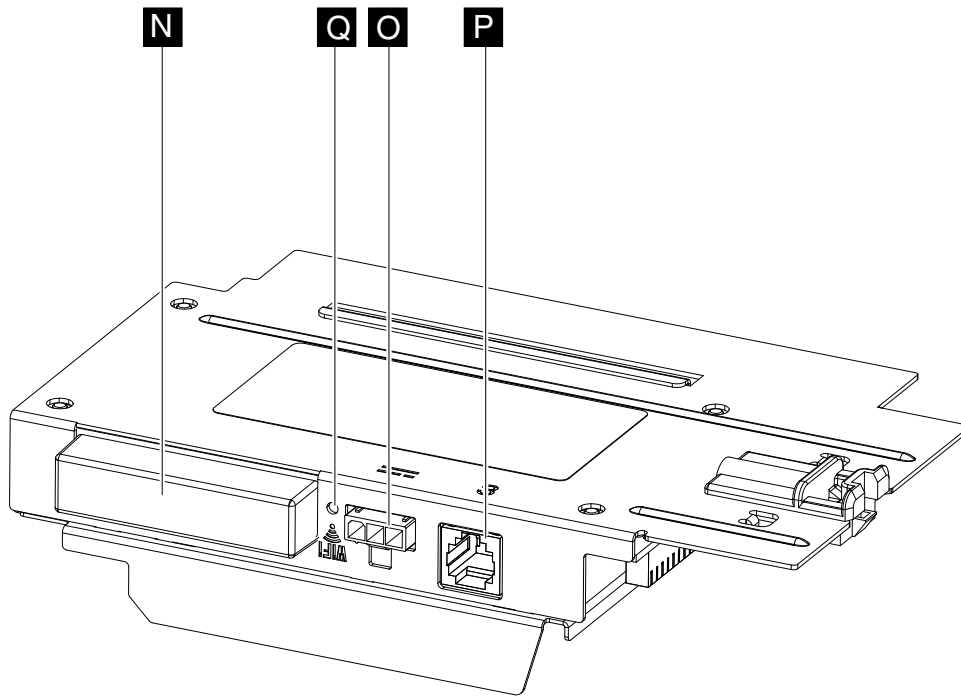
Figure 6. WiFi interface card

Device	Description
N	WiFi antenna
O	Power supply
P	Cash drawer
Q	WiFi indicator light

Network interface adapter prerequisites

The network interface adapters (Ethernet and WiFi) have dependencies on the level of the printer and printer firmware.

- The printer manufacturing date must be later than June 10, 2013. The main logic card of printers built prior to June 10, 2013 will not support these adapters. The manufacturing date is located on the bottom of the printer.
- Firmware level 14 and higher is required for an Ethernet interface adapter.
- Firmware level 18 and higher is required for a WiFi interface adapter. Some older versions of firmware will enable basic function, but that function will not match the function described in this manual. These firmware levels will print a message, as part of a test receipt, that indicates the firmware should be upgraded.

Note: The required firmware levels will not allow back-leveling to a version that does not fully support the installed adapter.

If a network interface adapter is installed in a printer that has back level firmware or a main logic card that does not support it, the printer indicates an error:

- The ready light will blink amber and the internal LED#2 will be lit, which indicates that the printer firmware is back level. If the firmware is known to be at the minimum level identified, then this condition indicates a failed adapter or other hardware problem,

- A message is printed in the receipt station stating that the main logic card does not support network adapters, which indicates that the main logic card is back level and cannot be used with the installed adapter.

Operating system requirements

You can download drivers from the Toshiba Global Commerce Solutions support website: www.toshibacommerce.com/support.

The printer provides a compatibility mode to enable use of older drivers and applications with only minor modifications. The default operating system is referred to as "Native Mode". "Native Mode" provides functional enhancements and is supported by the most current applications and drivers.

Table 3 includes a list of the printer interface options that are supported for each OS/Driver combination.

Table 3. OS printer interface options

OS	Driver/API					
	4690 API	JavaPOS Drivers 1.14.0 or later	OPOS Drivers 1.14.0 or later	OPOS Drivers 1.14.0 or later	OPOS Drivers 1.14.0 or later	Direct IO
4690	USB RS485	All				
POSReady 2009		All	All	All	USB RS232 Ethernet WiFi	RS232 Ethernet WiFi
Windows 7		All	All	All	USB RS232 Ethernet WiFi	RS232 Ethernet WiFi
POSReady 7		All	All	All	USB RS232 Ethernet WiFi	RS232 Ethernet WiFi
Windows Embedded 8.1 Pro/Industry (64-bits only)		All	All	All	USB RS232 Ethernet WiFi	RS232 Ethernet WiFi
Windows 8.1 Pro/Enterprise (64-bits only)		All	All	All	USB RS232 Ethernet WiFi	RS232 Ethernet WiFi
Windows 10 Pro/Enterprise		All	All	All	USB	RS232

OS	Driver/API					
	4690 API	JavaPOS Drivers 1.14.0 or later	OPOS Drivers 1.14.0 or later	OPOS Drivers 1.14.0 or later	OPOS Drivers 1.14.0 or later	Direct IO
					RS232 Ethernet WiFi	Ethernet WiFi
SUSE Linux Enterprise 11 SP1 (SLE 11)		All				RS232 Ethernet WiFi
PC DOS 2000						RS232

Note:

1. Toshiba 4610 Ethernet Printer iOS SDK is supported with iOS 8.x or later for use with the Ethernet and WiFi interface adapters.
2. Toshiba 4610 Ethernet Printer Android SDK is supported with Android 4.0 or later for use with the Ethernet and WiFi interface adapters.
3. Only those items listed are supported.

Hardware requirements

SureMark printers work with the following systems:

- 4694 systems
- 4695 systems (RS-232 connection only and with power supply)
- PC or other store controller with an RS-232, USB, WiFi, or Ethernet port
- SurePOS 100 Series systems
- SurePOS 300 Series systems
- SurePOS 500 Series systems
- SurePOS 700 Series systems
- Self Checkout solution
- AnyPlace™ Kiosk
- TCx™ Wave
- TCx700
- TCx300
- iOS, Android, and Windows mobile devices

Identifying the controls and indicators

This section contains information on the controls and indicators of the 4610 Model 2CR and 2NR printers. Figure 7 provides a diagram of these indicators and controls.
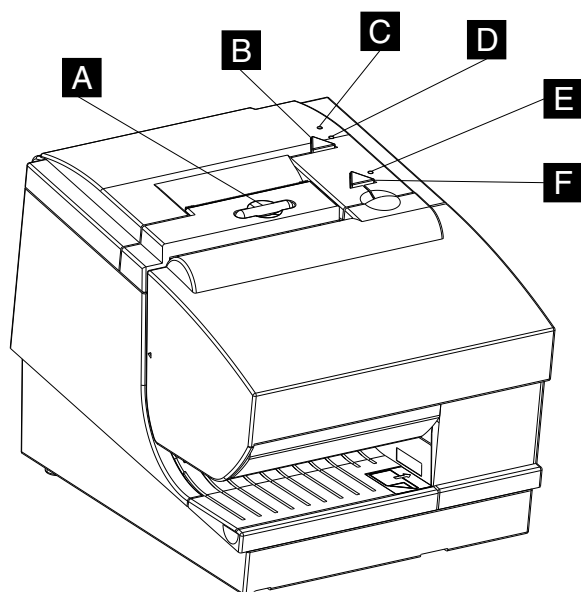
Figure 7. Indicators and controls

Device	Description
A	Paper door release button
B	Paper feed button; press to advance the customer receipt paper
C	Paper supply LED indicator (see Table 4)
D	Printer ready LED indicator (see Table 5)
E	Document presence LED indicator (see Table 6)
F	Document feed button; press to advance the document

Table 4 describes the LED indicators that show the status of the paper supply:

Table 4. Paper supply LED Indicator

LED Indicator (**C**)		
Amber (orange)	On	Paper out
	Off	Paper sufficient
	Blinking	Critically low paper supply

Table 5 describes the LED indicators that communicates the printer status:

Table 5. Printer ready LED indicator

Printer ready (D)		
Amber (orange)	Blinking (0.5s on / 0.5s off)	Station not ready; recoverable error: paper jam, cover open, cutter jam
	Blipping (0.25s on / 1.75s off)	Offline or hardware failure: Cannot communicate with paper motion sensor, or the thermal printhead, MLC or IFC problem

Green	On	Station is ready

Table 6 describes the LED indicators that reflect document status:

Table 6. Document presence LED indicator

Document inserted / No document inserted (**E**)		
Green	On	Station is ready
Amber (orange)	Blinking (0.5s on / 0.5s off)	Station is not ready or one of the following conditions exists: • Station is waiting for document • The cover is open • The printer has a nonrecoverable home error

Table 7 describes the Ethernet LED indicators that reflect printer status.

Table 7. Ethernet LED indicator

Color	State	Function
Green	Off - No link	Ethernet Good Link / Activity
	On - Good link	
	Blinking - Network activity	
Amber	Off - 10 MB mode	Ethernet 10/100Mb
	On - 100 MB mode	

Table 8 describes the indicators that reflect the status of the WiFi connection.

Table 8. WiFi LED indicator

Color	State	Function
Amber	Off - No link	WiFi connected
	On - Link established	

Locating the power button

The power button (**R** in Figure 8) of the Models 2CR and 2NR is located under the paper door. A removable cover is included over the power button.

Figure 8. Power button
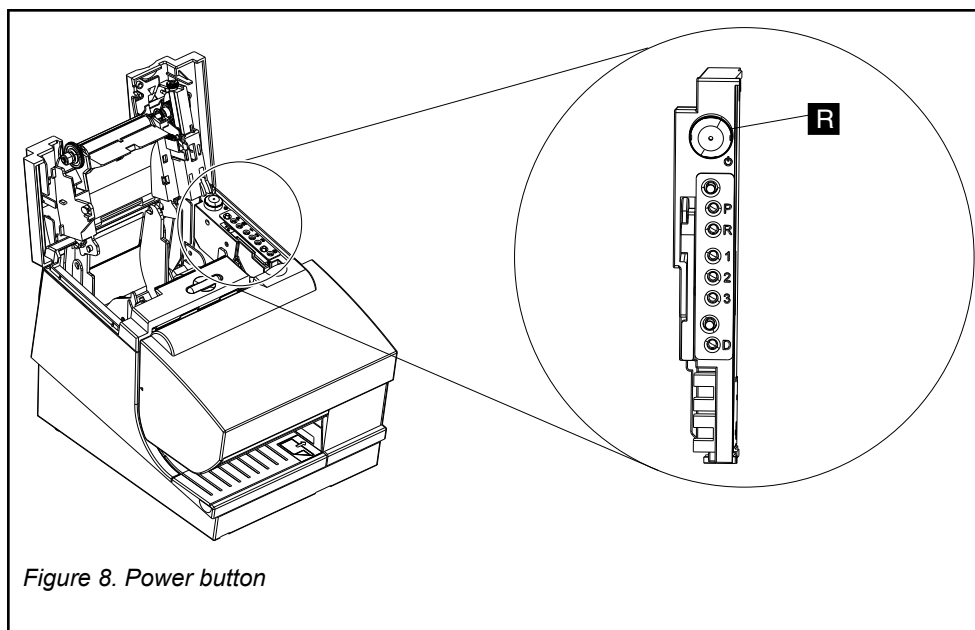
Understanding the Light-Path LEDs

The light-path LEDs illuminate to indicate a potential problem with the printer. To locate the light-path LEDs, open the paper door to see the LED lights (see Figure 9) on the far right side of the printer. Table 9 includes a description of these indicators.
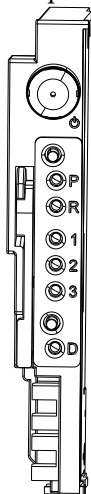
Figure 9. Illustration of the diagnostic LEDs

Table 9. Light-path LED conditions

LED	Failing Component
1	Main logic card
2	Interface card
3	Thermal printhead

Calling for service

When you call Toshiba for warranty information or service, be sure to have the serial number and model number of the printer available. The serial number and model number are located beside the flipper door (see **S** in Figure 10).
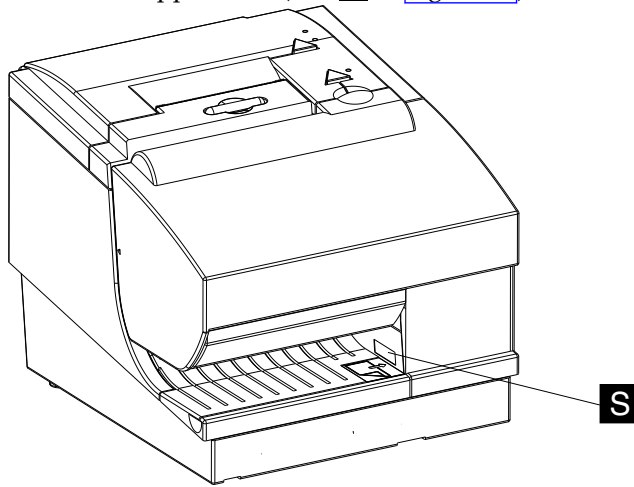
Figure 10. Location of serial number

Chapter 2. Product specifications

This section describes the physical specifications for Models 2CR and 2NR, including the printer size, temperature guidelines, connector pin assignments, print dimensions, printer speed, printer acoustics, bar codes generated, and resident code pages.

Physical dimensions
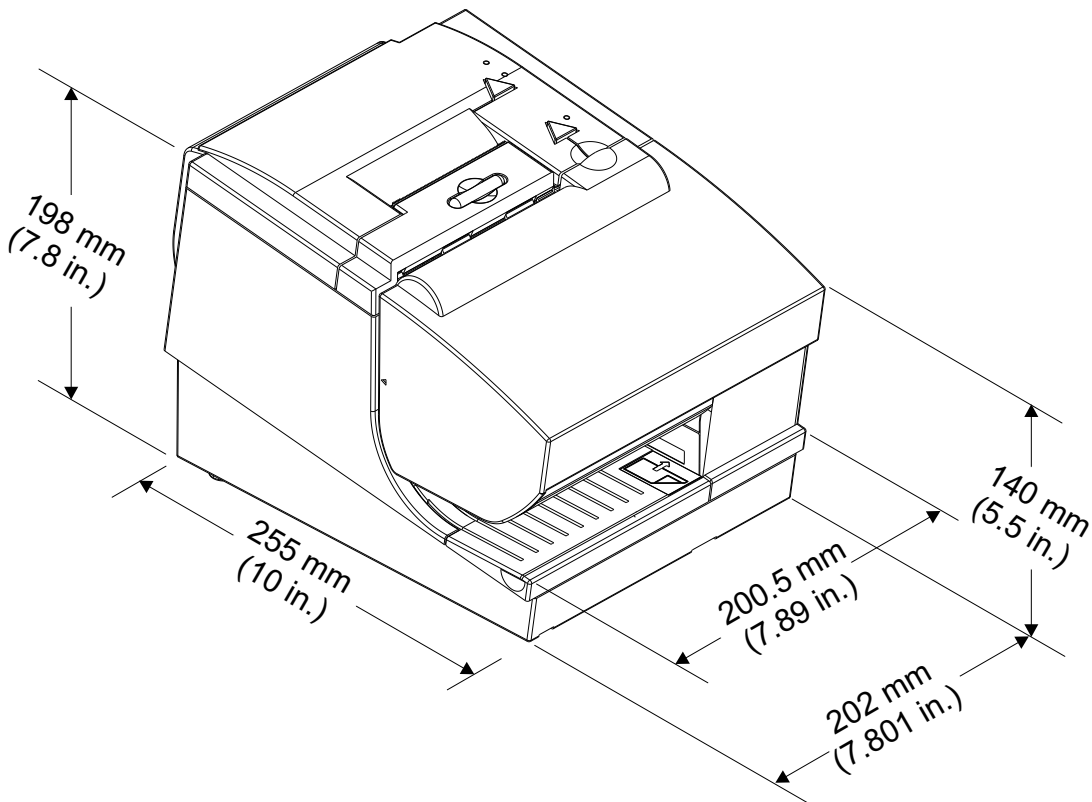
Figure 11. Physical dimensions of SureMark 4610 Models 2CR and 2NR

Table 10. Summary of dimensions

Width:	202 mm (7.801 in.) footprint
	200.5 mm (7.89") with overhanging edge
Height:	Front: 140 mm (5.5 in.)
	Rear: 198 mm (7.8 in.)
Depth:	277 mm (10.914 in.)
Weight:	4.8kg (10.582 lb)

Temperature and humidity limits

Extreme temperatures can impact the performance and durability of the 4610 Model 2CR and 2NR printers. The following list contains the humidity and temperature limits for the 4610 Model 2CR and 2NR printers:

Shipping

-40° to 60° C (-40° to 140° F) with 5% to 100% relative humidity including condensation, but excluding rain

Storage

0° to 60° C (32° to 140° F)

Operating

5° to 40° C (41° to 104° F) with 8% to 80% relative humidity

Chapter 3. Installing and configuring the 4610 printer

This section provides safety information, and steps on installing and configuring your printer.

Before you begin

Before you install your SureMark™ printer, be sure to read this section and the Safety Information manual, GC32-0609.

Verify your order

Your order should contain the following components:

- 4610 printer
- Safety manual
- Ribbon
- Paper roll (specified by the customer)
- Customized printer options (packaged separately), including:

  - Interface card (a RS-232, RS-485, USB, or Ethernet, or WiFi)
  - Fillers
  - Cables
  - Power bricks

Understanding your configuration

Your printer can be set up in an integrated or distributed configuration. An *integrated* configuration has all parts of a system assembled in one location. A *distributed* configuration is set up with the parts of the system in different physical locations. In an integrated configuration, you can install the printer on the input/output tray option (with the fillers that contains the printer and display) on top of the wide-footprint system units. Other tray options include mounting the printer on the full-size cash drawer or directly on the counter.

Installing the interface card

The interface card (either an RS-232, RS-485, USB, Ethernet, or WiFi interface) is shipped in a separate box with your printer. To install the interface card, complete the following steps:
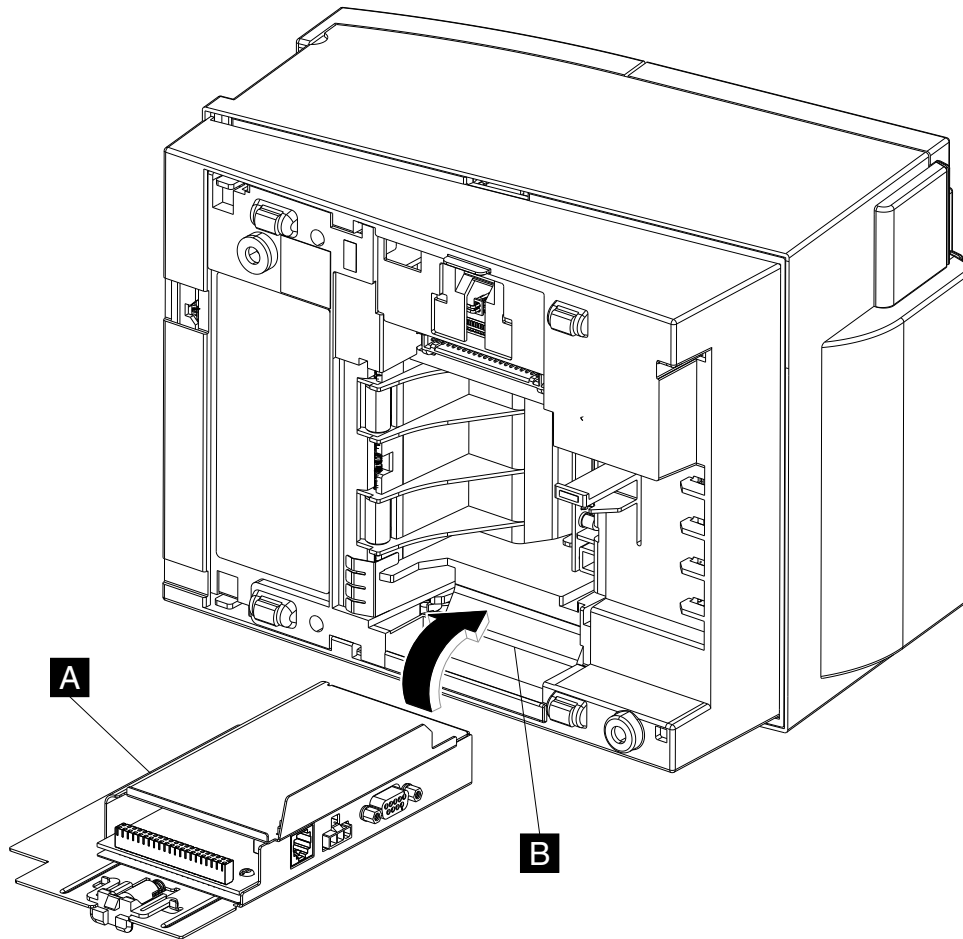
Figure 12. Installing the interface card

1. Place the printer unit on one side, as shown in Figure 12.
2. Align the bottom of the interface card (**A**) to the slot (**B**) on the base of the printer and press to secure the latch.
3. Connect the printer with your system unit or network (using the RS-232, RS-485, USB, or Ethernet connector).

   Note: You can plug all cables into the interface card before installation; however, do not plug in the power until after installation.
4. If you have a power cord, connect it to the printer.

Installing the fillers

The fillers are an important part of your integrated system. They securely position your printer into position with the system unit and other peripherals.

Refer to the installation documentation for your system unit for complete instructions.

Chapter 4. Using and maintaining the 4610 printer

This section contains information about the proper use and maintenance of the 4610 Model 2CR and 2NR printers. For detailed technical information, see Chapter 2, Product specifications on page 25.

Attention: All covers must be installed on the SureMark printers during operation.

Replenishing consumable supplies

You are responsible for replenishing consumable supplies, which includes:

- Paper rolls
- Inserted forms
- Ribbon cartridges

paper rolls. Make sure that you are using the recommended supplies for the 4610 Model 2CR and 2NR printers, which are described in the following sections.

Loading and replacing the paper roll

The 4610 printers can accommodate a four inch printer roll. When your paper roll is running low, the paper supply LED indicator will blink continuously. Once the paper is out, the amber (orange) light of the paper supply LED indicator will remain lit until you replace the roll.

Important: See "Supported paper types" on page 30 to verify that you are using the correct paper for the 4610 Model 2CR and 2NR printers.

To properly install the paper roll, make sure you install the paper with the printing side facing out. The paper should not be attached to the core in any manner. To load a new paper roll, complete the following steps:
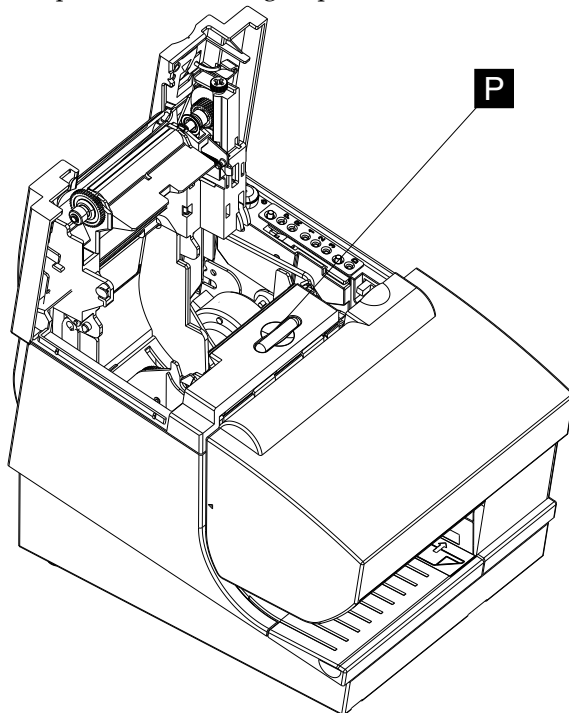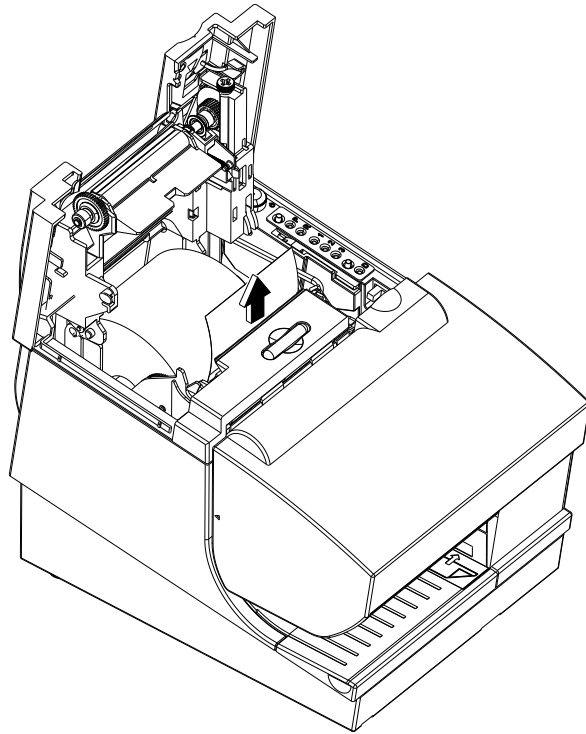

Figure 13. Opening the paper door

1. Press and release the blue release button (**P** in Figure 13) to release the paper door.
2. If necessary, remove any unused paper or empty paper roll cores from the paper roll bucket before inserting a new paper roll.

   Note: Refer to the label inside the rear wall of the printer for a diagram of how to load paper.

Figure 14. Paper roll placement

3. Place the paper roll into the paper roll bucket with the leading edge of the paper coming from the bottom of the roll, as shown in Figure 14.

   Note: The thermal printhead will not print on paper with glue on it. If the new paper roll was sealed by glue, tear off the 6 to 8 inches of paper with glue on it before loading it.
4. Close the paper cover.
5. Press the customer receipt feed button to advance the paper about 30 cm (about 1 ft.) to test for proper feeding and correct alignment.
6. Tear off excess paper.

Attention: Do not pull the receipt paper out of the printer with the paper access cover closed. This disengages the paper feed. The paper feed motor must then catch up before the printer can feed the paper, which causes missing lines or partial lines of print. Use the customer receipt feed button to advance the receipt, and all lines will print.

Supported paper types

The type of paper required for the 4610 is dependent on the printer model. The 4610 Models 2CR and 2NR printers require paper that supports both thermal and impact printing.

Attention: Using an inferior grade of paper can affect the print quality, printhead life expectancy, and printer mechanisms.

Note: When selecting a paper, ensure that the paper's archive life meets the requirements of the tax authorities of your country for archiving tax-related data.

Thermal paper

The paper used in the thermal receipt station must meet the following requirements:

Width

> 79.5 ± 0.5 mm (3.13 ± 0.02 in.)

Outside Diameter

> 102 mm (4.0 in.) maximum

Thickness

> 57 μm (0.00225 in.) Range: 41 μm (0.0016 inches) minimum to 99 μm (0.0039) maximum
>
> Paper has a significant manufacturing tolerance and nominal paper designations do not reflect actual measurements. The manufacturing tolerance must fall within the published operating thickness range. You should test paper in your specific configuration before using. If any spot measurement of the paper is outside the specified range, the paper does not meet the paper specification, which will result in an end-user error paper jam.

To find supported papers:

1. Visit the Toshiba Global Commerce Solutions support website at www.toshibacommerce.com/support.
2. Select **SureMark™ Printers**.
3. Click on **OEM Paper Testing** under **4610-2CR/2NR** to view the supported papers.

Attention: Printer reliability and performance are directly related to the quality of the supplies you use. The published parameters for printer performance are established using supplies that meet the specifications listed above.

Thermal paper with watermarks, coupons, or advertisements printed on the front or back of the paper **is not covered by Toshiba specifications**. Some inks and printing processes will work acceptably, while others will not. Printer problems that are caused by supplies that do not meet Toshiba specifications might result in a billable service call, regardless of the existence of a service contract.

Impact printing

With thermal impact station printing, both models can print up to three parts on a multi-part form. Table 11 lists the specifications of supported single and multi-part forms.

- Test all forms in the printer to ensure acceptable performance prior to buying a significant quantity.
- No binding holes or other holes should be within 10 mm (0.4 in.) from the right edge of the form.
- Forms less than 0.15 mm (0.006 in.) thick with the grain of the paper perpendicular to the feed direction (short-grain paper) should not be used for landscape printing.
- All documents with color will feed properly in the impact printing station. You should verify your documents before use. See Figure 3 for document specification details.

Table 11. Specifications of supported single and multi-part forms

Specification	Value
Minimum width:	50 mm (2 in.)

Specification	Value
Maximum thickness of multi-part forms:	0.47 mm (0.0185 in.)
Maximum thickness of front sheet, multi-part forms:	0.08 mm (0.003 in.)
Minimum thickness of single-part form:	0.10 mm (0.004 in.)
Maximum thickness of single-part form:	0.2 mm (0.008 in.)
Weight range for single-part forms:	68–90 g/m^2 (18–24 #)
For best reliability, paper grain should be in the direction that the paper is fed into the printer.	

Supported documents that are flipped

The flipping of multi-part forms and short-grain single-part forms is not supported. describes the supported flipping specifications.

Table 12. Supported flipping specifications

Specification	Value
Minimum form length:	80 mm (3.14 in.)
Maximum form length:	223 mm (8.78 in.)
Minimum form width:	65 mm (2.56 in.)
Maximum form width:	102 mm (4 in.)
Paper weight:	75–95 g/m^2

Loading large paper rolls

You can load extra large paper rolls (up to 15 in.) below the printer to reduce how often you need to replace the paper roll. Mounting hardware is necessary to avoid placing undue strain on the paper feed motor. See your Toshiba representative for additional information.

Replacing the ribbon

When the print quality is not clear, it might be necessary to replace the ribbon on your printer. To replace the ribbon:

1. Open the ribbon door. As the door is opened, the printhead moves to a position where you can easily load the ribbon.
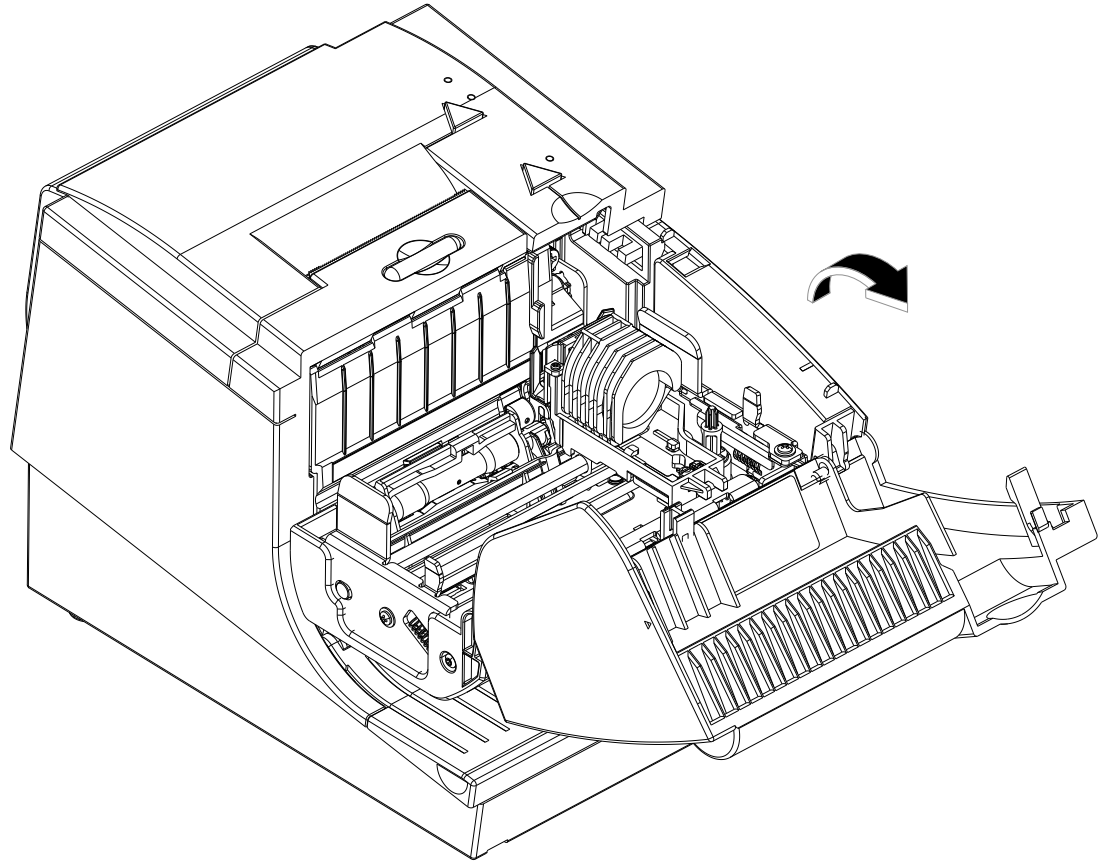
Figure 15. Opening the ribbon cover

2. If a ribbon cartridge is installed, remove it by lifting it straight up.

Note: You might need to grasp the body of the cartridge rather than the top to remove it.
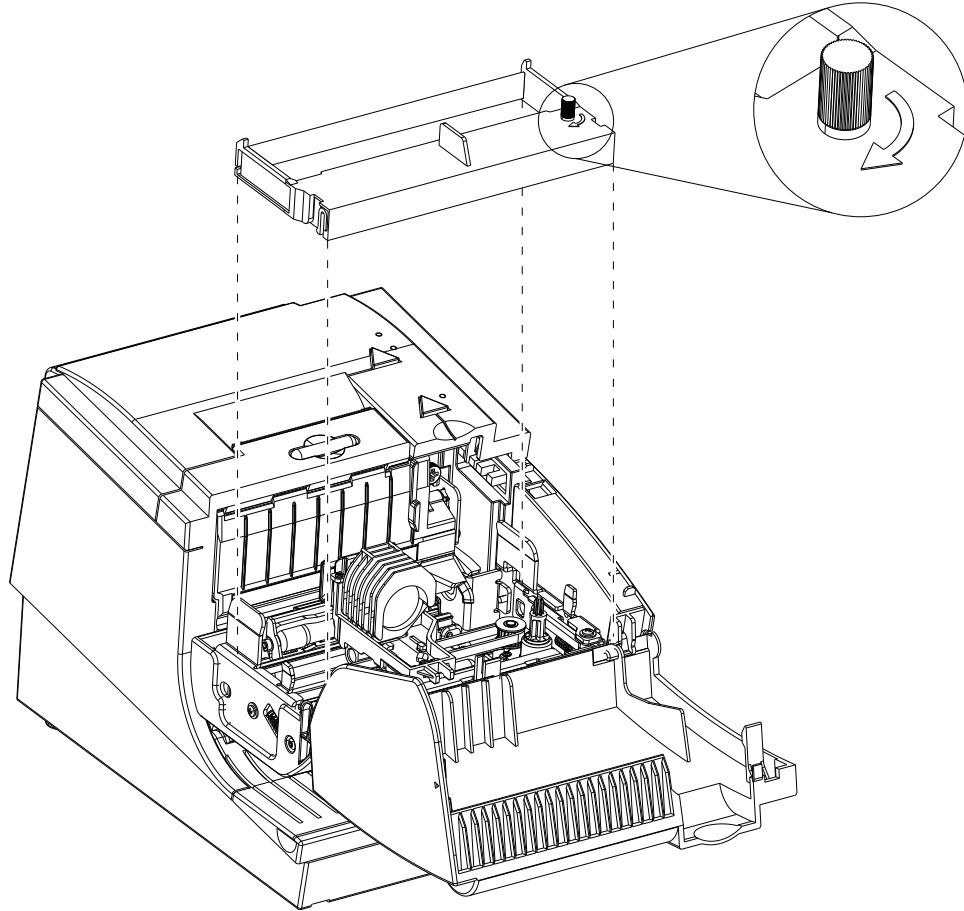
Figure 16. Ribbon cartridge loading

3. Maintain ribbon tension by turning the ribbon cartridge knob as shown in Figure 16. Lower the cartridge into position until the notches on its sides snap into place on the printer guides.

Correct placement of the ribbon (**A**) around the printer guides (**B**)
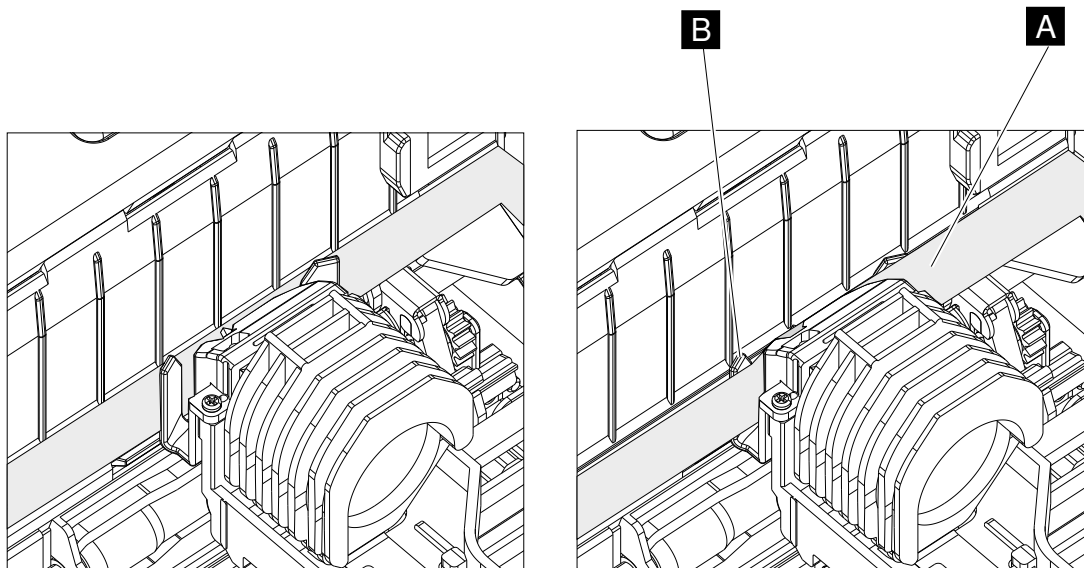
Incorrect   Correct

Figure 17. Ribbon path around the printhead

4. Make sure the ribbon is correctly positioned with the print head guides, as shown in Figure 17.

5. Once the cartridge is in place, close the ribbon cover. The ribbon will be moved into the correct position.

Supported ribbon types

Attention: Using an inferior grade of ribbon can affect the print quality, printhead life expectancy, and printer mechanisms.

The 4610 Models 2CR and 2NR require a stuffer-box ribbon type (feed rollers pull the ribbon from one end of the cartridge and stuff it into the cartridge cavity of the other end). The Epson ERC 35 ribbon meets these specifications; however, other original equipment manufacturers also offer replacements that are adequate.

Inserting checks (Model 2CR only)

The Model 2CR printer is capable of printing verification information on a check or an inserted document. You must correctly insert your check or document into the printer to use this printer feature. To correctly insert a check into the printer, complete the following steps, as shown in Figure 18.

**Insertion of Check
for MICR Reading
and Franking**
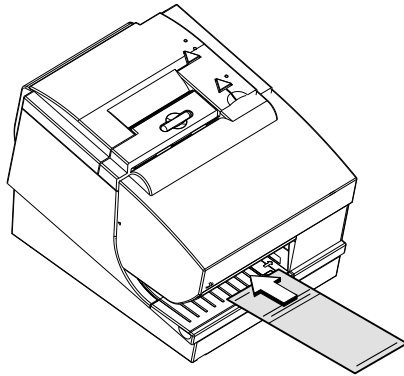
**Insertion of Check
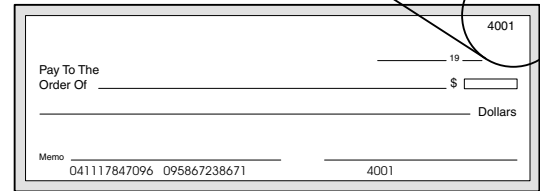for Printing the Face**
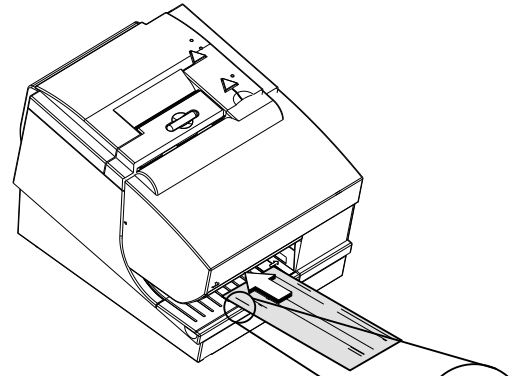
Figure 18. Inserting checks

Inserting documents from the side

You can also insert documents from the side of the Models 2CR and 2NR printers. If you are inserting a document from the side, complete the following steps:

1. Press the **A** and **B** buttons at the same time (see Figure 19). When you press both buttons at the same time and then release, the document insert throat opens.

**Insertion of Document
(Side Load)**
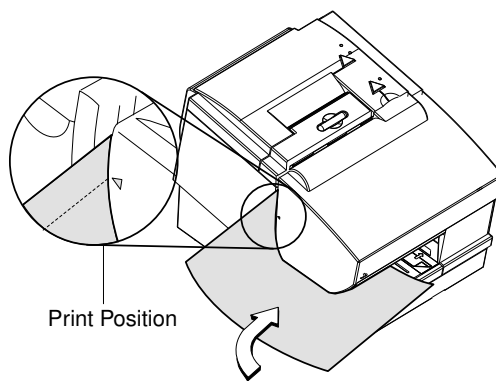
**Insertion of Document
(Front Load)**

Print Position
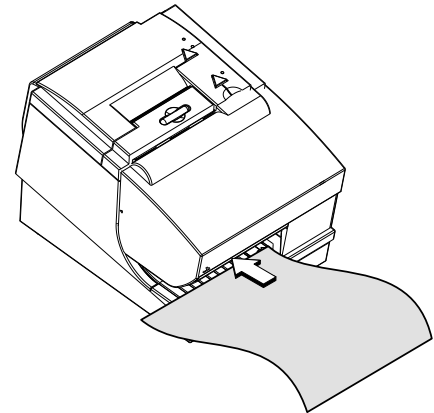
Figure 19. Inserting documents from the side

2. Insert the document facedown into the right side of the printer (see Figure 21).

   Note: The throat must be open to insert a document from the side.
3. Press and then release both buttons again to close the throat.

Buttons **A** and **B** are also used to test the printer.

Retrieving printer statistics

The Model 4610 2CR and 2NR printers retain usage statistics to help you evaluate your printer's usage and performance. The statistics available for your printer are defined during printer configuration. System management tools provide usage statistics, and a subset of these usage statistics are printed at the bottom of a Test/Status Receipt.

Figure 20 is an example of a printed receipt with usage statistics for the 4610 Model 2CR and 2NR printers.

```
Toshiba 4610-2CR
Printer's S/N: 41-PPHT1
Microcode EC level: 18.06
MICR reader enabled
Check flipper enabled
DBCS enabled
Compatibility Mode
Interface: USB

Character examples
Font C          Bold Font C
Font A          Bold Font A
Tall A          Bold Tall A
Font B          Bold Font B

 !"#$%&'( )*+,-./0123456789:;<=>?@ABCDE
FGHIJKLMNOPQRSTUVWXYZ[ \ ]^_`abcdefghijk
lmnopqrstuvwxyz{ | }~aÇüéâäàåçêëèïîìÄÉæ
ÆôöòûùÿÖÜ¢£¥$ƒáíóúñÑªº¿⌐¬½¼¡«»░▒▓│┤ÁÂÀ©
╣║╗╝¢¥⌐¡░░░ ãÃ└┴┬├─┼ãÃ╚╔ ▐
    ðÐÊËÈıÍÎÏ┘┌█▄¦Ì▀ÓßÔÒõÕµþÞÚÛÙýÝ¯´± ■ ▶

HW diagnostics
Top = 057, 76 Bot = 007, 76
Pool 18, Obj 17619252 130C 0090
Type 1 Paper Out Sensor 1.5 04/15/2013
MLC = 1 LP 018

Printer Usage Statistics
Cuts:                              126337
CR Characters Printed:          128147519
CR Paper Fed (km):                   12.5
CR Cover Openings:                    389
DI Characters Printed:            2292442
DI Paper Fed (km):                    4.0
DI Transport Motor Passes:         142380
DI Cover Openings:                   1241
DI Documents Inserted:               1595
MICR Reads:                           692
High Interference MICR Read:            0
Check Flips:                         3128
Barcodes Printed:                  191611
Manufactured date:     week 19 of 2009
```

Figure 20. Receipt showing usage statistics

In addition to the Usage Statistics, the printer stores statistics on errors or unexpected events for use in predicating problems. See the *SureMark Printers: Programming Guide for Models 1xR and 2xR*, TC62-0005 for commands to retrieve this data.

The available statistics for the 4610 Model 2CR and 2NR printers include:

• Unexpected Ribbon Cover Open Count

- Number of Failed Flash Writes
- Unexpected Cover Open Count
- Current MCR noise value (Model 2CR only)
- Number of Impact Head failed coils
- Thermal Print Head element failure
- Printer serial number
- Manufacturing Week Code
- Number of paper cuts
- Number of characters printed on the CR (thermal) station
- Number of steps performed by the CR paper feed motor (200 steps per inch of paper)
- Number of times the customer receipt cover was opened
- Number of failed paper cuts
- Number of characters printed at the DI (impact) station – thermal/impact printers only
- Number of MICR reads (Model 2CR only)
- Number of high-interference MICR reads (Model 2CR only)
- Number of check flips performed (Model 2CR only)
- Number of check flip failures (Model 2CR only)
- Number of Flash Erase commands performed (NVRAM write count)
- Cash drawer opened successfully count
- Cash drawer failed to opened count
- Number of bar codes printed
- Number of times the max temperature of either the motors or the print heads have been reached

Cleaning recommendations

You should periodically inspect your 4610 printer and clean the cover as required. Use a soft, clean cloth with warm soapy water to clean the plastic parts. Do not use abrasives or any alkaline, ammonia, or chloride-based cleaner.

Note: Do not apply cleaning solution directly to the cover. Always apply the cleaner on a clean cloth and then wipe the cover with the damp cloth. Be certain that the cloth is only damp and not dripping wet.

Cleaning the MICR read head (Model 2CR only)

You should clean the MICR read head after 10,000 checks are processed, or every three months. Clean the MICR read head using a cotton swab soaked in isopropyl alcohol.

To clean the MICR read head:

1. Open the ribbon door by rotating it downward.
2. Remove the ribbon cartridge by lifting it out.
3. Move the carriage to the right until it stops, or as shown in Figure 21.
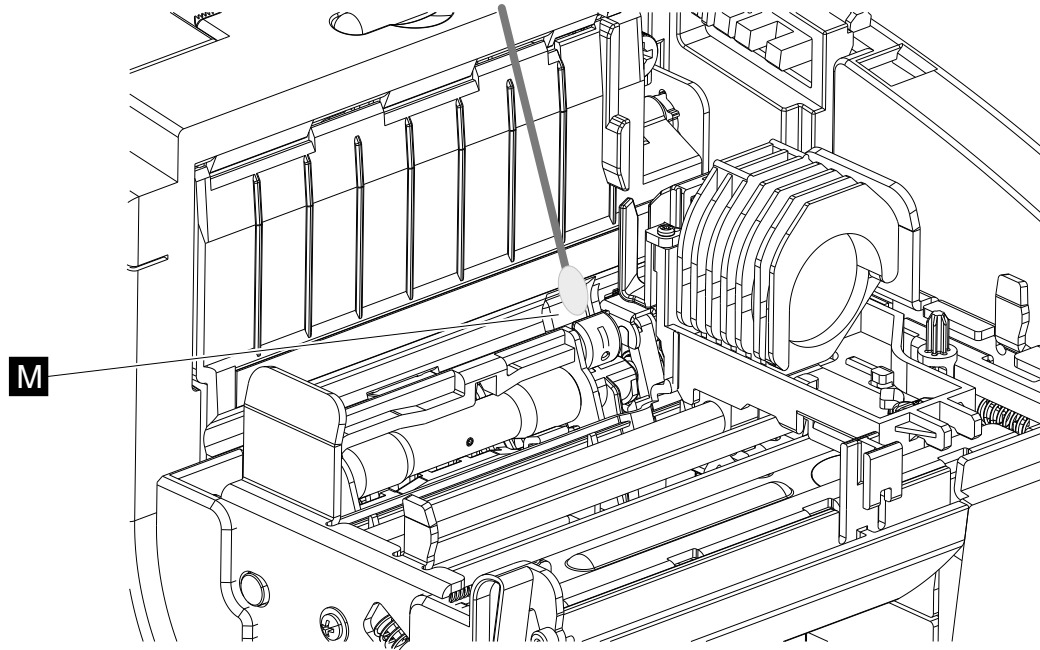
Figure 21. Cleaning the MICR read head

4. Prepare a swab with isopropyl alcohol.

5. Gently wipe the head (see **M** in Figure 21) with the swab several times. Wipe away any residual alcohol with a dry swab.

6. Replace the ribbon and close the ribbon door.

If cleaning the MICR read head does not solve the problem you are having, you might be experiencing electromagnetic noise interference. Sources of electromagnetic noise (for example, displays, security towers, and other sources) can interfere with the MICR read head. The printer is equipped to filter noise from many devices. If the MICR read head does not function properly, rearranging the printer relative to the noise source might improve MICR reading. The noise source should be as far away as possible from the right side of the printer.
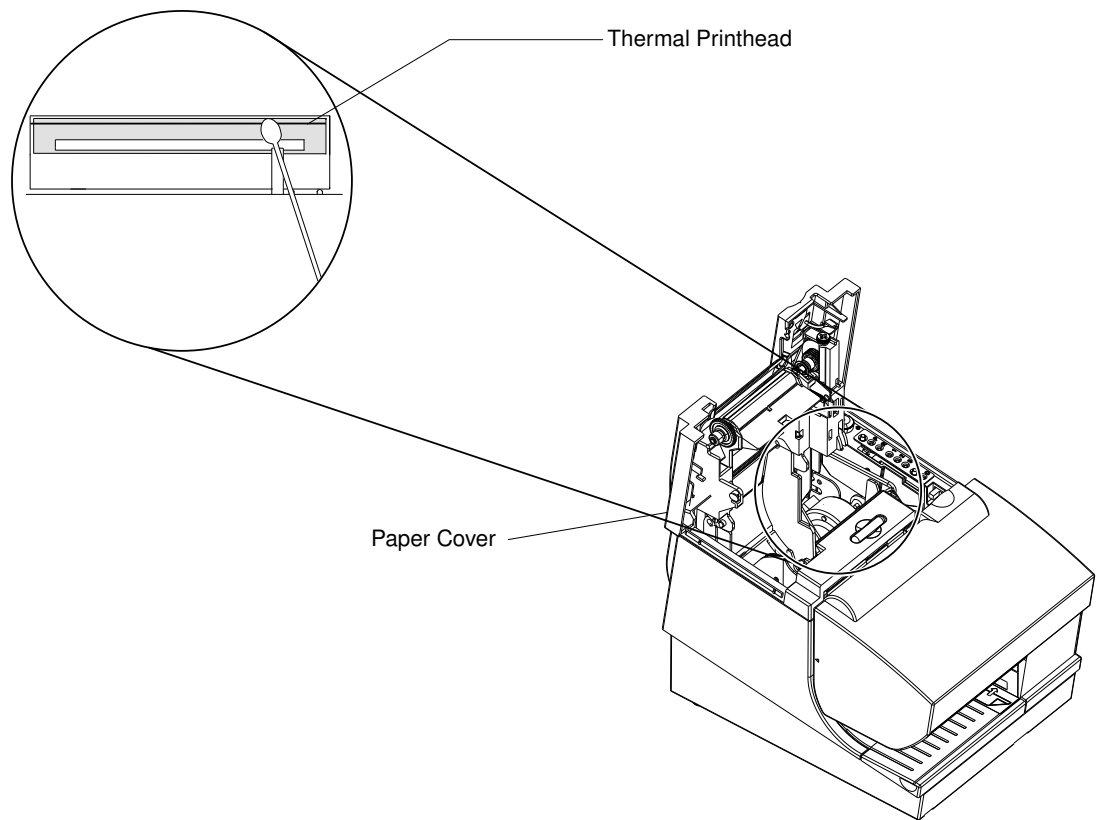
Cleaning the thermal printhead

The thermal printhead should be cleaned at regular intervals or when the print quality has noticeably deteriorated. There are many factors that affect cleaning frequency. Poor paper quality, high printer usage, or a dirty environment are all reasons to clean the thermal printhead more often. Complete the following steps to clean the thermal printhead:

1. Open the paper cover by pushing the large blue button on the top of the printer.

Detailed View of Thermal Printhead

Thermal Printhead

Paper Cover

*Figure 22. Cleaning the thermal printhead*

2. Using a cotton swab soaked in isopropyl alcohol, gently wipe the printhead several times on its print line and on the surrounding area.
3. Wipe off any residual alcohol with a dry swab.

If print quality does not improve after cleaning the thermal printhead, contact your Toshiba Global Commerce Solutions service Representative.

Clearing jams in the check flipper area

If a check jams in the check flipper mechanism, you can remove the flipper door to clear the jam. Complete the following steps to clear a paper jam:
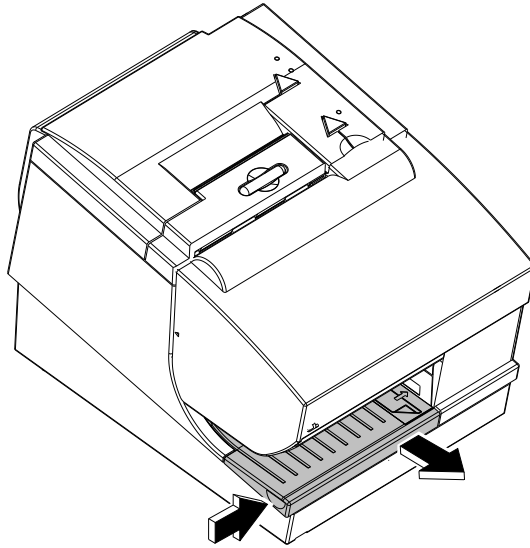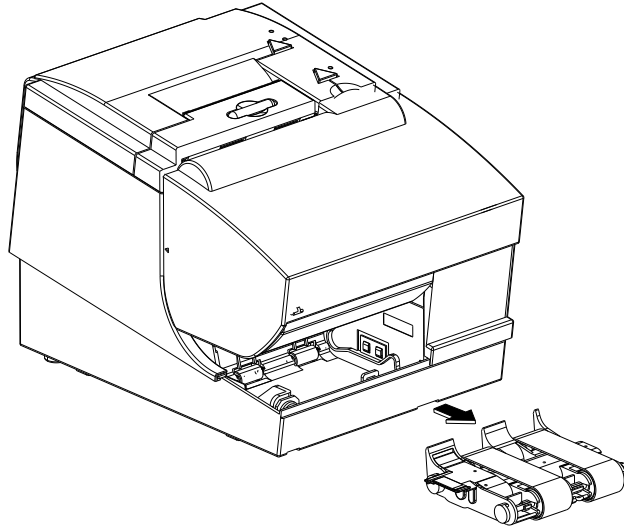
Figure 23. Removing the flipper door (lower document insert cover)

1. Lift up the left front corner of the flipper door (document insert cover) and pull the cover from the printer (see Figure 23).
2. If the document is visible, remove the document.
3. Replace the flipper door.
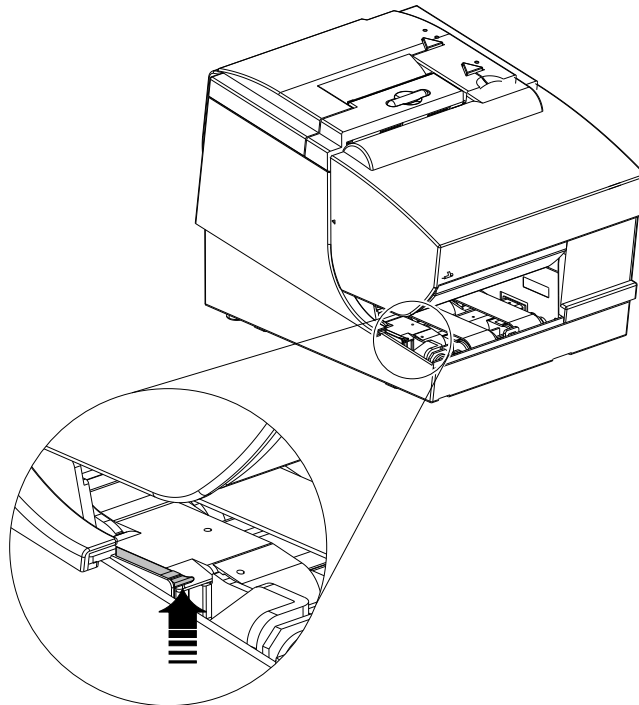
Figure 24. Lifting up on the thumb tab

4. If you cannot remove the document, lift up the tab on the left side of the check flipper cartridge (with a blue label) and remove the check flipper cartridge from the printer (see Figure 25).

Figure 25. Removing the check flipper cartridge

5. Reach inside the document insert station and carefully remove the jammed check.

6. Reinstall the check flipper cartridge and the flipper door.

Notices

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Toshiba Global Commerce Solutions
Attn: General Counsel
3901 South Miami Blvd.
Durham, NC 27703
United States of America

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This information is for planning purposes only. The information herein is subject to change before the products described become available.

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.

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.

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 Class A Emission Compliance statement

This Class A digital apparatus complies with Canadian ICES-003 and RSS247.

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.

Avis de conformité à la réglementation d'Industrie Canada

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. Ce périphérique ne doit pas causer d'interférences;
2. Ce périphérique doit accepter toutes les interférences reçues, y compris celles qui risquent d'entraîner un fonctionnement indésirable.

Industry Canada Radiation Exposure Statement

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.

European Union Electromagnetic Compatibility (EMC) Directive Conformance Statement

This product is in conformity with the protection requirements of EU Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility. Toshiba Global Commerce Solutions cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-Toshiba Global Commerce Solutions option cards.

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to CISPR 22/European Standard EN 55022. 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
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
Toshiba Court, Weybridge Business Park, Addlestone Road, Weybridge, Surrey, KT15 2UL, UK

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 2004/108/EG zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der EN 55022 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

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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 2004/108/EG in der Bundesrepublik Deutschland.

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) (bzw. der EMC EG Richtlinie 2004/108/EG) 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
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
Toshiba Court, Weybridge Business Park, Addlestone Road, Weybridge, Surrey, KT15 2UL, UK

Generelle Informationen:

Das Gerät erfüllt die Schutzanforderungen nach EN 55024 und EN 55022 Klasse A.

Australia and New Zealand Class A statement

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.

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.

People's Republic of China Class A electronic emission statement

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.

中华人民共和国"A类"警告声明

```
              声  明
    此为 A 级产品，在生活环境中，该产品可能会造成无线电干扰。在这种
情况下，可能需要用户对其干扰采取切实可行的措施。
```

Russian Electromagnetic Interference (EMI) Class A statement

ВНИМАНИЕ! Настоящее изделие относится к классу А. В жилых помещениях оно может создавать радиопомехи, 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

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.

Japan Electronics and Information Technology Industries Association (JEITA) statement

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

Korean communications statement

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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.

Taiwan Class A compliance statement

警告使用者:
這是甲類的資訊產品,在居住的環境中使用時,可能會造成射頻干擾,在這種情況下,使用者會被要求採取某些適當的對策•

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. Se puede encontrar información sobre las ofertas de reciclado de productos de Toshiba Global Commerce Solutions en el sitio web Toshiba Global Commerce Solutions product recycling programs.

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

Appliances are labeled in accordance with European Directive 2002/96/EC 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 2002/96/EC 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 2002/96/EC(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 2006/66/EC 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 2006/66/EC, 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 2006/66/EC 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 2006/66/EC, 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

Connecticut: Visit the website of the Department of Energy & Environmental Protection at www.ct.gov/deep for information about recycling covered electronic devices in the State of Connecticut, or telephone the Connecticut Department of Environmental Protection at 1-860-424-3000.

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/kj/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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