TJ-4005DN/4010TN
TJ-4020TN/4021TN/4021TNR
TJ-4120TN/4121TN/4121TNR

User's Guide (English)

Version 03

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ENG

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Not all models are available in all countries or regions.

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1. Introduction

1.1 Product Introduction

The robust design of the label printer can handle up to 450 m of ribbon (except TJ-4005DN) and has the capacity to handle 8" label rolls.

The label printer comes equipped with a number of functions, including:

- Built-in Ethernet
- RS-232C interface
- USB ports (for connecting a keyboard or barcode scanner)
- Wi-Fi Interface Expansion Slot (for the optional Wi-Fi Interface (PA-WI-002))
- 3.5" color Touchscreen (TJ-4021TN/TJ-4021TNR/TJ-4121TN/TJ-4121TNR only)

The label printer uses its high-performance and high-quality built-in Monotype Imaging® TrueType font engine with the CG Triumvirate Bold Condensed smooth scalable font. It also provides a choice of eight different sizes of the alphanumeric bitmap font and supports most of the standard barcode formats.

1.2 Additional Product Reference

For information on how to write custom programs for your label printer, see the *Command Reference* on your model's **Manuals** page at support.brother.com.

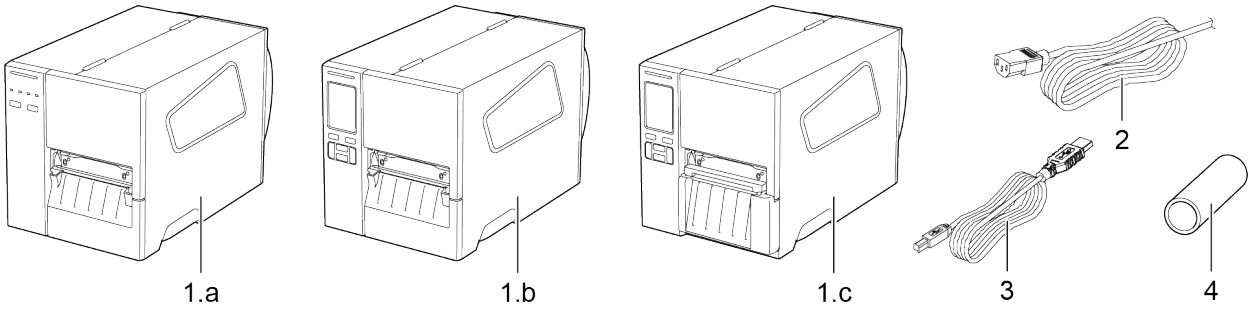
2. Operations Overview

2.1 Unpack the Label Printer and Check the Components

Note

Keep the packaging materials in case you must ship the printer.

The components included in the box:



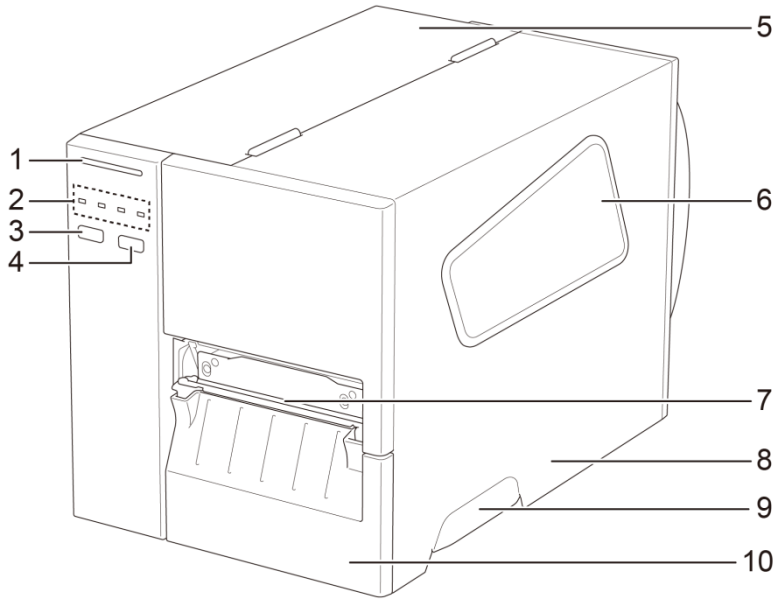
1. Label Printer
   a. TJ-4005DN/TJ-4010TN/TJ-4020TN/TJ-4120TN
   b. TJ-4021TN/TJ-4121TN
   c. TJ-4021TNR/TJ-4121TNR
2. Power Cord
3. USB Cable
4. Paper Core (Not included in TJ-4005DN)

If any components are missing, contact the product manufacturer's customer service or your local dealer.

2.2 Printer Overview

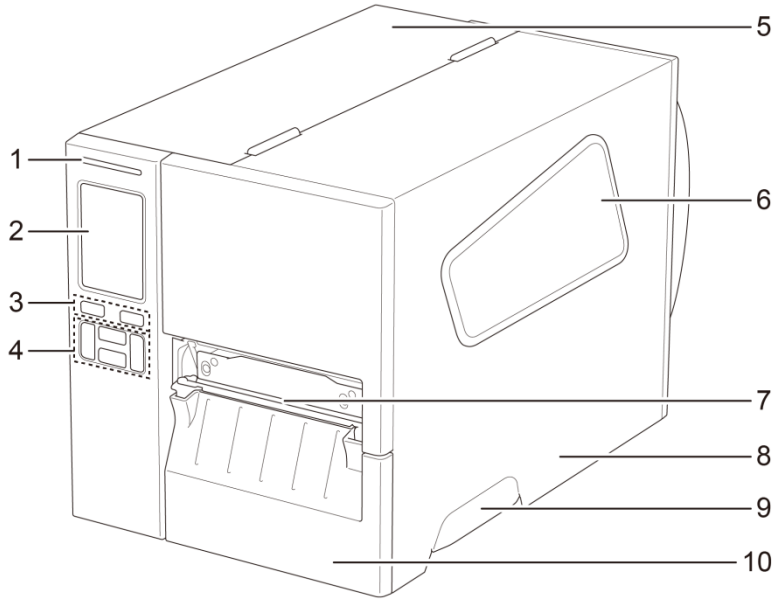
2.2.1 Front View

TJ-4005DN/TJ-4010TN/TJ-4020TN/TJ-4120TN



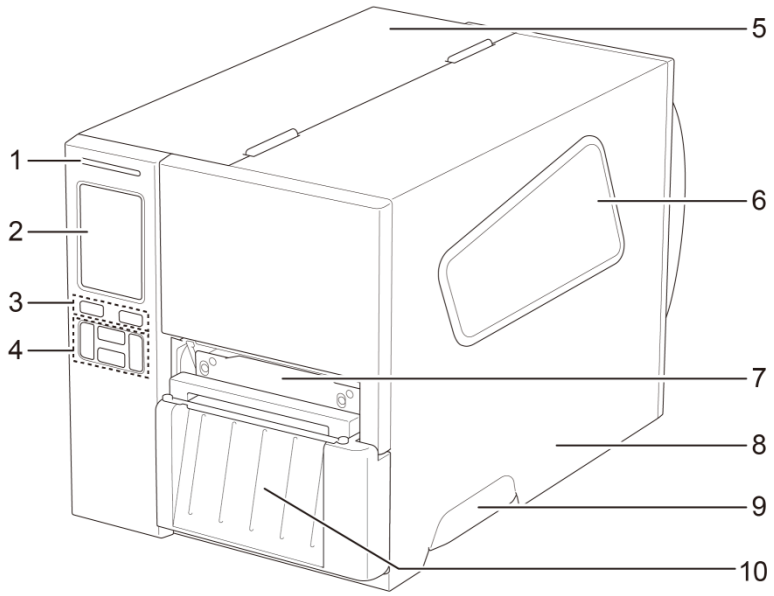
1. Power LED
2. LED Indicators
3. Pause Button
4. Feed Button
5. PCB Cover
6. Media View Window
7. Media Output Slot
8. Media Cover
9. Media Cover Handle
10. Lower Front Panel

TJ-4021TN//TJ-4121TN



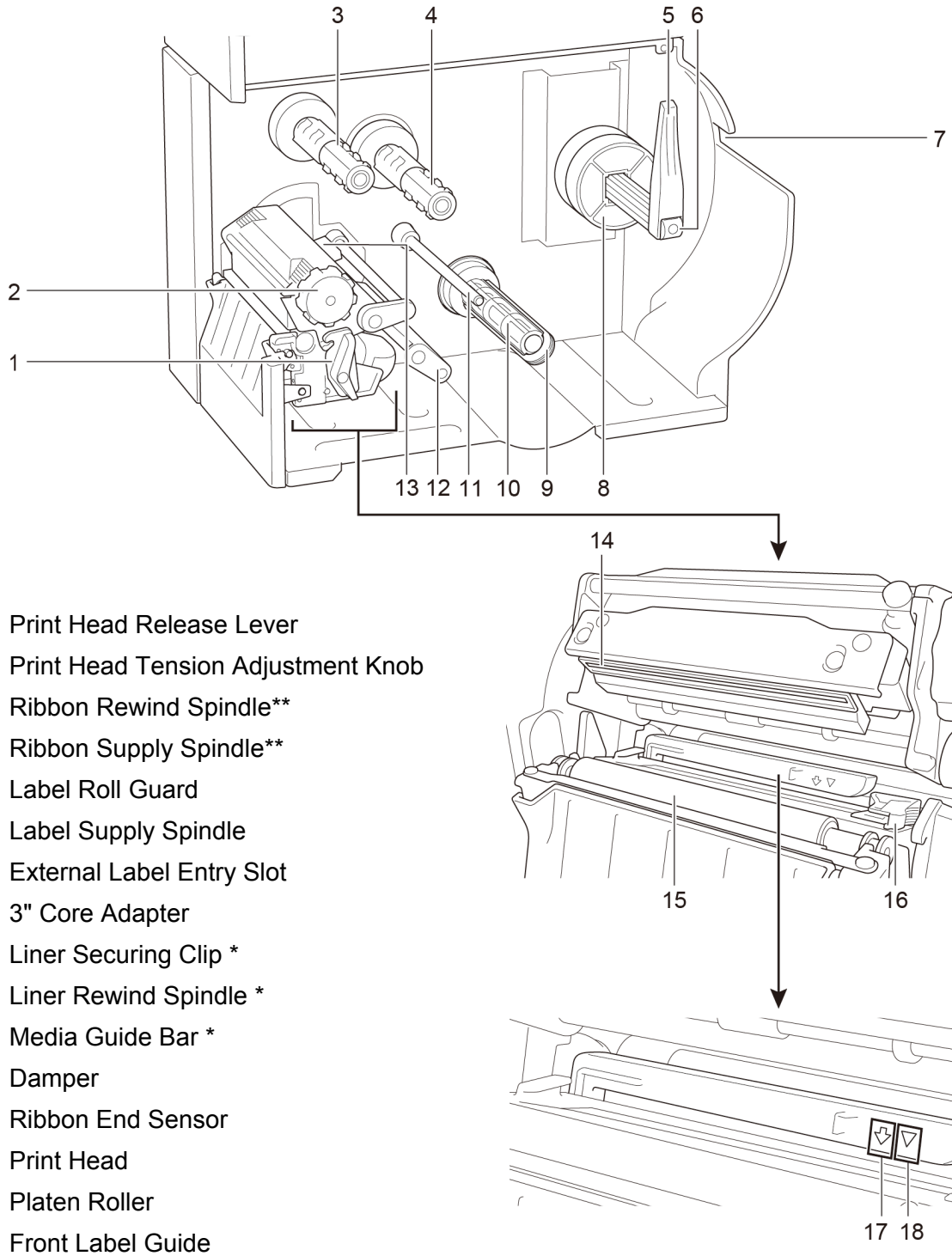
1. Power LED
2. Touchscreen
3. Selection Buttons
4. Navigation Buttons
5. PCB Cover
6. Media View Window
7. Media Output Slot
8. Media Cover
9. Media Cover Handle
10. Lower Front Panel

TJ-4021TNR/TJ-4121TNR



1. Power LED
2. Touchscreen
3. Selection Buttons
4. Navigation Buttons
5. PCB Cover
6. Media View Window
7. Media Output Slot
8. Media Cover
9. Media Cover Handle
10. RFID Tear Cover

2.2.2 Interior View

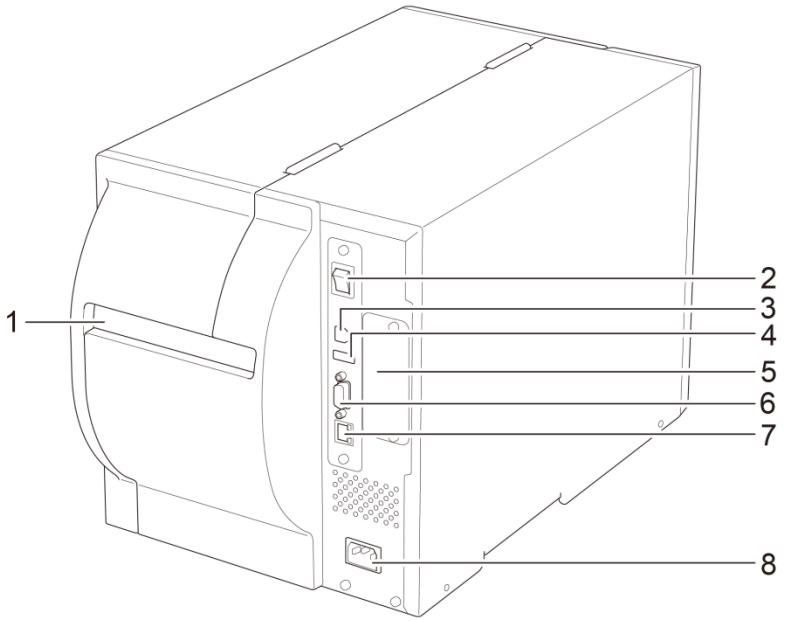


1. Print Head Release Lever
2. Print Head Tension Adjustment Knob
3. Ribbon Rewind Spindle**
4. Ribbon Supply Spindle**
5. Label Roll Guard
6. Label Supply Spindle
7. External Label Entry Slot
8. 3" Core Adapter
9. Liner Securing Clip *
10. Liner Rewind Spindle *
11. Media Guide Bar *
12. Damper
13. Ribbon End Sensor
14. Print Head
15. Platen Roller
16. Front Label Guide
17. Black Mark Sensor (shown as ⇩)
18. Gap Sensor (shown as ▽)

* Optional accessories for the Label Peeler Assembly.

** TJ-4005DN does not support Thermal Transfer mode with ink ribbon.

2.2.3 Rear View

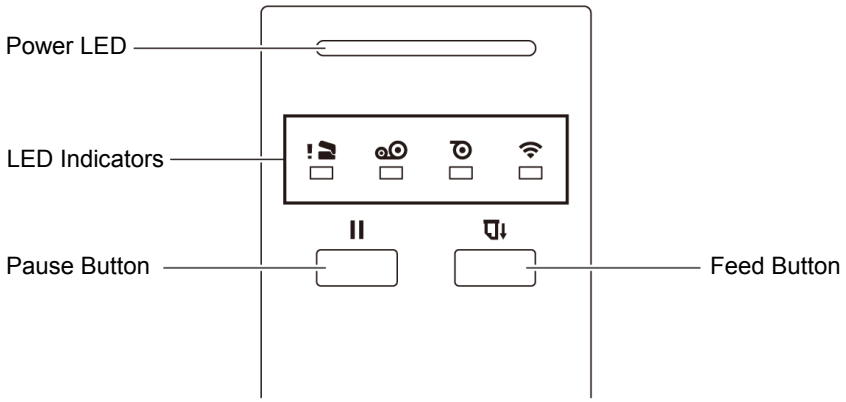


1. External Label Entry Slot
2. Power Switch
3. USB Port (USB 2.0/Hi-Speed Mode)
4. USB Host Port
5. Wi-Fi Interface Expansion Slot *
6. RS-232C Serial Port
7. Ethernet Port
8. Power Cord Socket

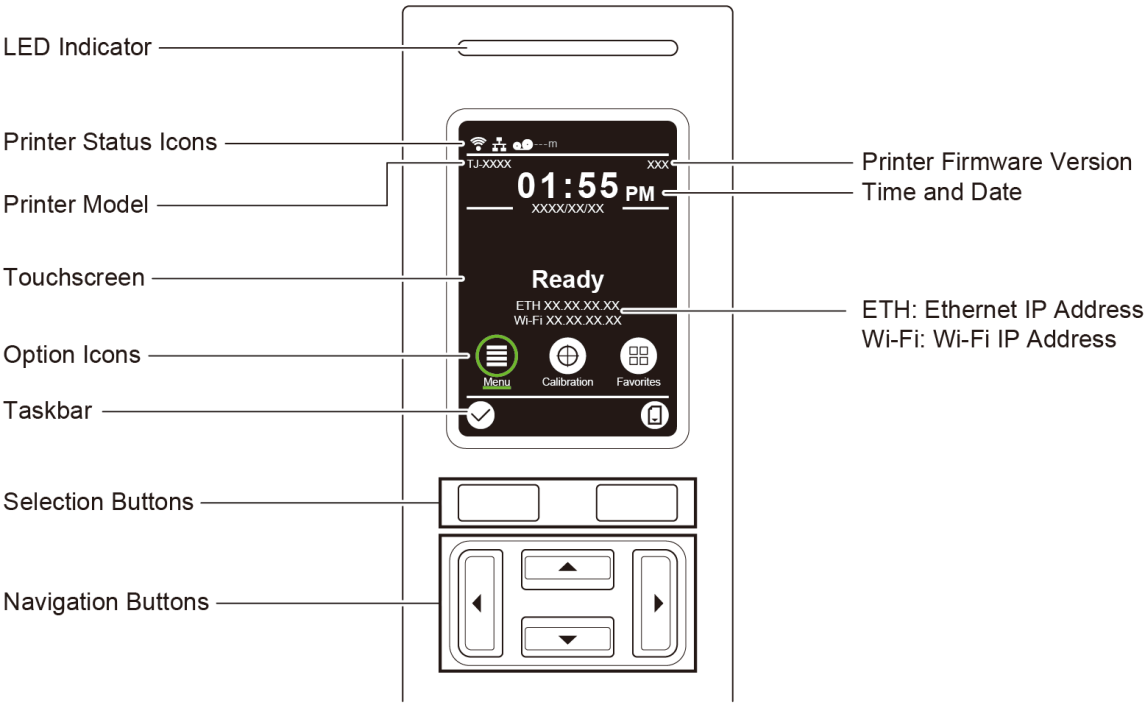
* For the optional Wi-Fi Interface (PA-WI-002).

2.3 Control Panels

TJ-4005DN/TJ-4010TN/TJ-4020TN/TJ-4120TN



TJ-4021TN/TJ-4021TNR/TJ-4121TN/TJ-4121TNR



2.3.1 LED Indicators and Buttons

Power LED Indications (All Models)

LED Color	Description
Green (Lit)	The power is on and the printer is ready to use.
Green (Flashing)	- The printer is downloading data from a computer. - The printer is paused.
Amber	The printer is removing data from memory.
Red (Lit)	The Print Head is open or there is a Cutter error.
Red (Flashing)	There is a printing error, such as “Paper Empty”, “Paper Jam”, “Ribbon Empty”, or “Memory Error”.

TJ-4005DN

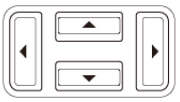
LED Indicators				
Icons				
Name	Print Head	Ribbon	Paper	Communication
Status	Lit: Print Head open	Lit: Ribbon installed *	Lit: Out of paper Blinking: Paper jam	Lit: Radio-Frequency connected Blinking: Radio-Frequency communication

* TJ-4005DN does not support Thermal Transfer mode with ink ribbon.

TJ-4010TN/TJ-4020TN/TJ-4120TN

LED Indicators				
Icons				
Name	Print Head	Ribbon	Paper	Communication
Status	Lit: Print Head open	Lit: Out of ribbon • Blinking (after powering the printer on): Awaiting the first print job • Blinking (between print jobs): Ribbon near end	Lit: Out of paper Blinking: Paper jam	Lit: Radio-Frequency connected Blinking: Radio-Frequency communication

TJ-4021TN/TJ-4021TNR/TJ-4121TN/TJ-4121TNR

Buttons	Function
Selection Buttons	Use to select highlighted icons and menus.
Navigation Buttons 	Use to navigate the Touchscreen and highlight icons and menus.

2.3.2 Home Screen Icons (Touchscreen Models Only)

Printer Status Icons

Icon	Indication
	Wi-Fi device is ready (Available when the Wi-Fi Interface is installed)
	Ethernet is connected
	Ribbon capacity (%)
	TPH cleaning
	Security lock

Option Icons

Icon	Function
	Access the Main Menu For more information, see section *2.3.3 Touchscreen Overview*.
	Calibrate the media sensor
	Enter the “Favorites” screen For more information, see section *2.3.3 Touchscreen Overview*.

Taskbar Icons

Icon	Function
	Accept your selection
	Feed one label

2.3.3 Touchscreen Overview

(Available for TJ-4021TN, TJ-4021TNR, TJ-4121TN and TJ-4121TNR only)

Tap the icons to access printer features and change settings.

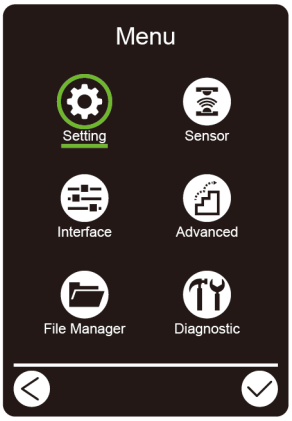
Access the Main Menu

Make sure the printer's Touchscreen displays "Ready". If not, tap the **Menu** icon .

Note

You can also use the Control Panel buttons. Use the Navigation buttons to select the **Menu** icon, and then press the Selection button under icon.

To select an option on the Main Menu, tap the option's icon.



Note

You can also use the Control Panel buttons. Use the Navigation buttons to browse the options, and then press the button under the icon. To return to the previous screen, press the button under the icon.

Main Menu Overview

Use the Main Menu options to configure various printer settings without connecting the printer to a computer.

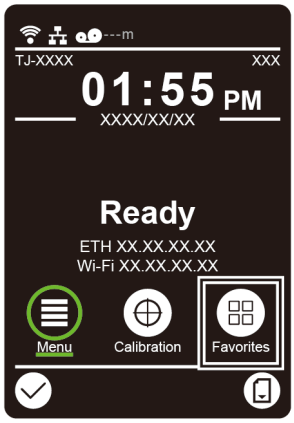
Icon	Option	Description
	Setting	Configure the printer's FBPL and ZPL2 settings.
	Sensor	Calibrate the selected media sensor. We recommend calibrating the sensor every time you change the media.
	Interface	Configure the printer interface settings.
	Advanced	Configure the printer's Touchscreen, initialization, cutter type, or media low warning settings.
	File Manager	Check or manage the available printer memory.
	Diagnostic	Check the printer status to help troubleshoot any issues.

Note

For more information about printer settings, see section *7. Change Printer Settings using the Touchscreen*.

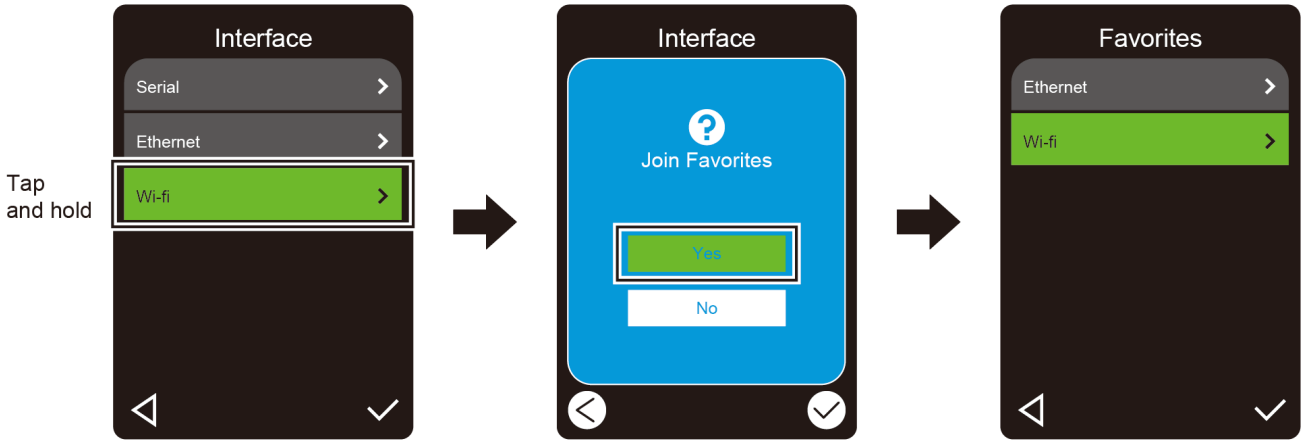
Favorites

Add frequently used Main Menu options to “Favorites” for quick access. To display the “Favorites” list, tap the Favorites icon .



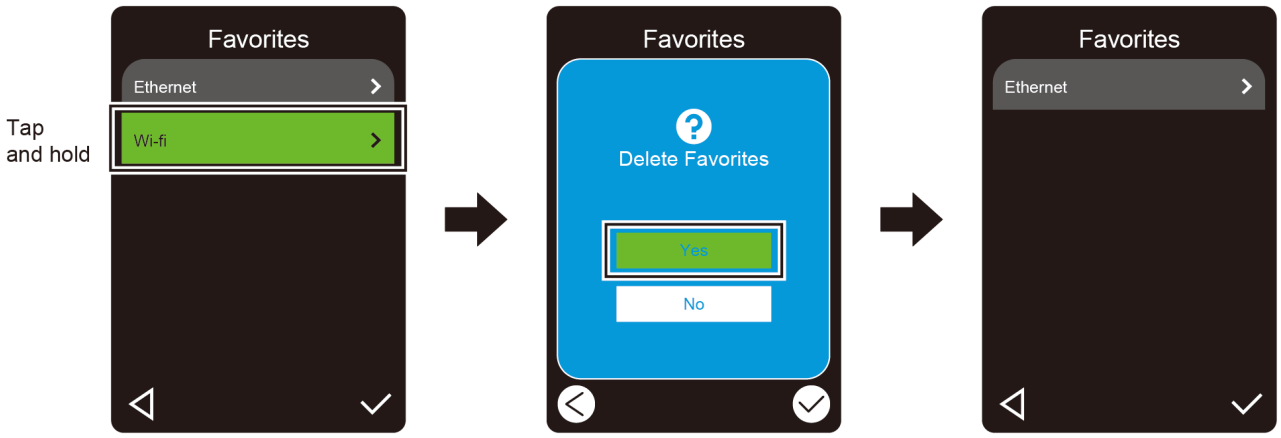
To add an option to the “Favorites” list:

1. Tap and hold the option you want to add to favorites until “Join Favorites” appears.
2. Tap “Yes”.



To remove an option from the “Favorites” list:

1. Tap and hold the option you want to remove from favorites until “Delete Favorites” appears.
2. Tap “Yes”.



3. Set Up Your Printer

3.1 Connect the Power Cord

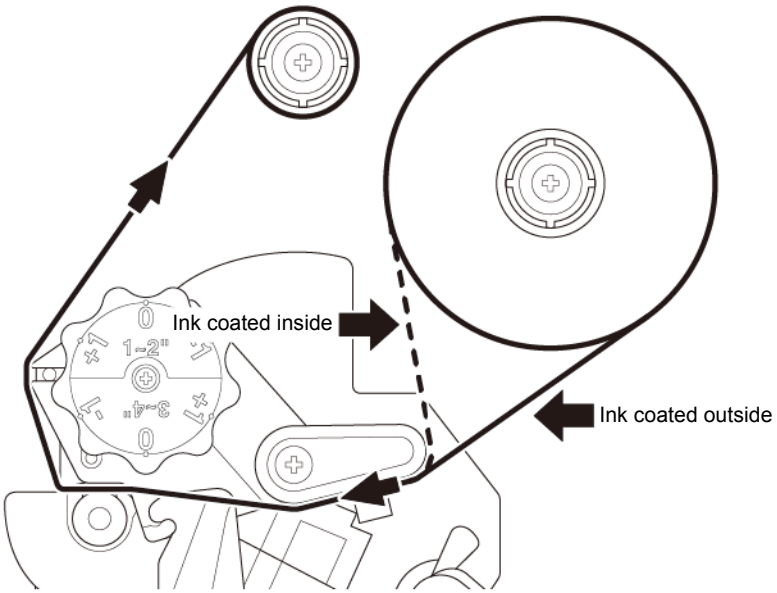
1. Place the printer on a flat, secure surface.
2. Make sure the Power Switch is in the OFF position.
3. Connect the printer to the computer using a USB cable.
4. Plug the Power Cord into the Power Cord Socket at the rear of the printer, and then plug the Power Cord into a correctly grounded power outlet (earthed electrical socket).

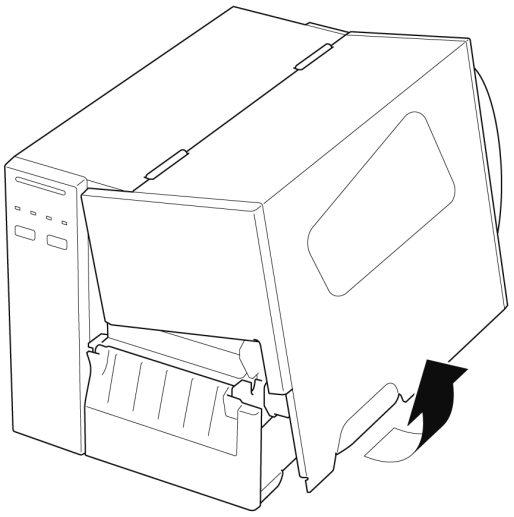
Note

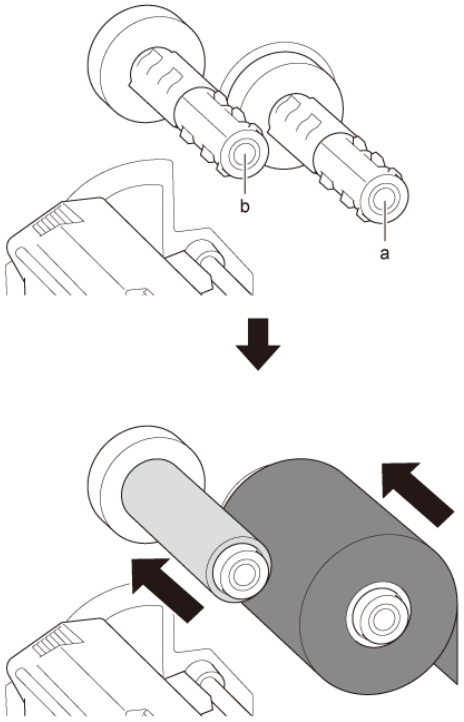
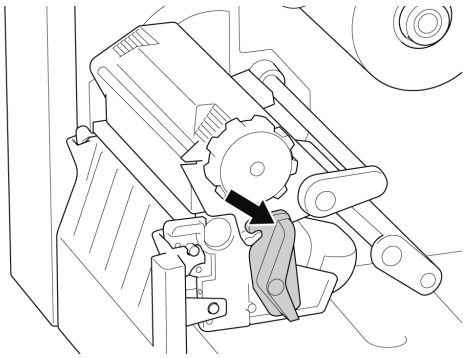
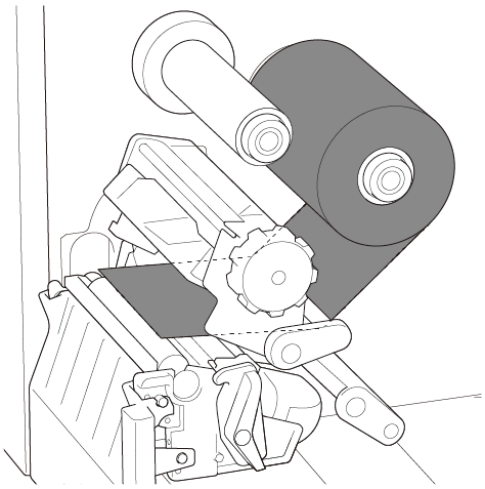
- Before plugging the Power Cord into the printer's Power Cord Socket, make sure the printer's Power Switch is in the OFF position.
- After powering the printer on, the LED blinks until the printer receives the first print job.

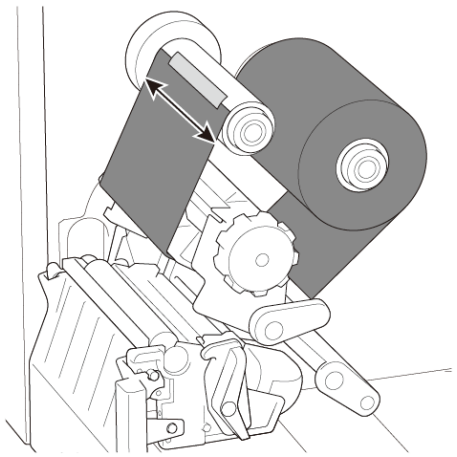
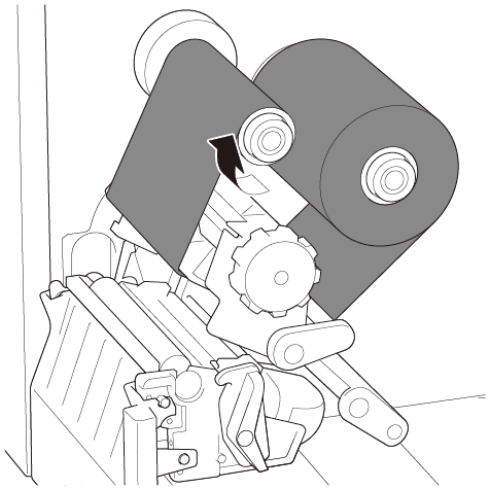
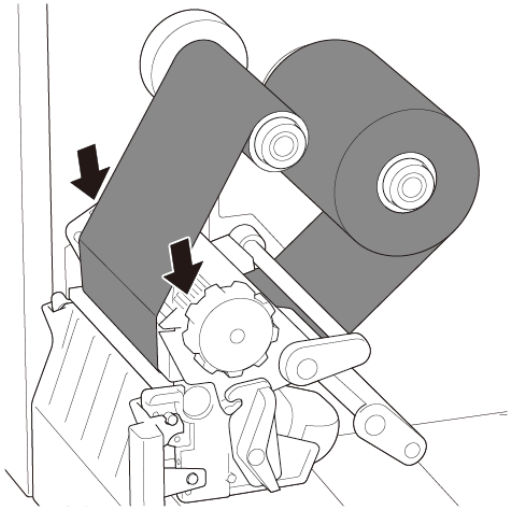
3.2 Load the Ribbon (Not available for TJ-4005DN)

Ribbon loading path



1. Open the Media Cover.	

2. a. Install the ribbon onto the Ribbon Supply Spindle. b. Install the Paper Core onto the Ribbon Rewind Spindle.	
3. Push the Print Head Release Lever to open the Print Head.	
4. Thread the ribbon under the ribbon guide bar and through the ribbon sensor slot following the loading path printed on the Label Printer Cover.	

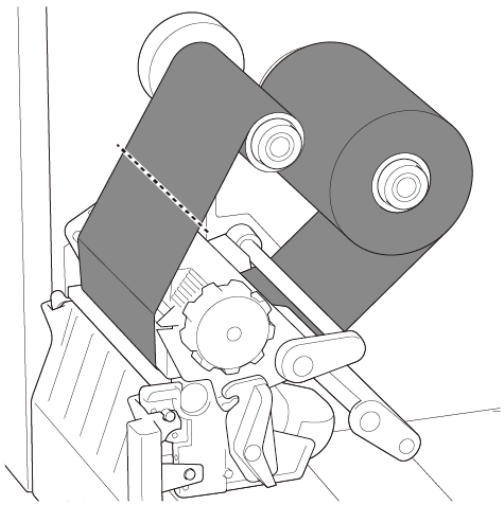
5. Adhere the ribbon leader onto the Ribbon Rewind Paper Core. Keep the ribbon flat and without wrinkles.	
6. Wind the Ribbon Rewind Spindle counterclockwise about three to five turns until the ribbon is smooth, flat and without wrinkles.	
7. Close the Print Head by pushing down on both sides of the Print Head Release Lever.	

Note

- TJ-4005DN does not support Thermal Transfer mode with ink ribbon. If the ribbon is installed onto the ribbon supply spindle, the printer shows the ribbon error status.
- For more information, see section *2.3.1 LED Indicators and Buttons*.

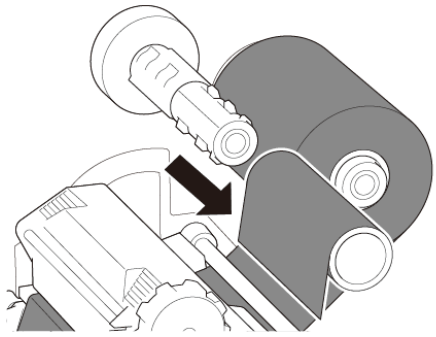
3.3 Remove Used Ribbon (Not available for TJ-4005DN)

1. Cut the used ribbon with scissors along the dotted line.



2. Remove the ribbon from the Ribbon Rewind Spindle.

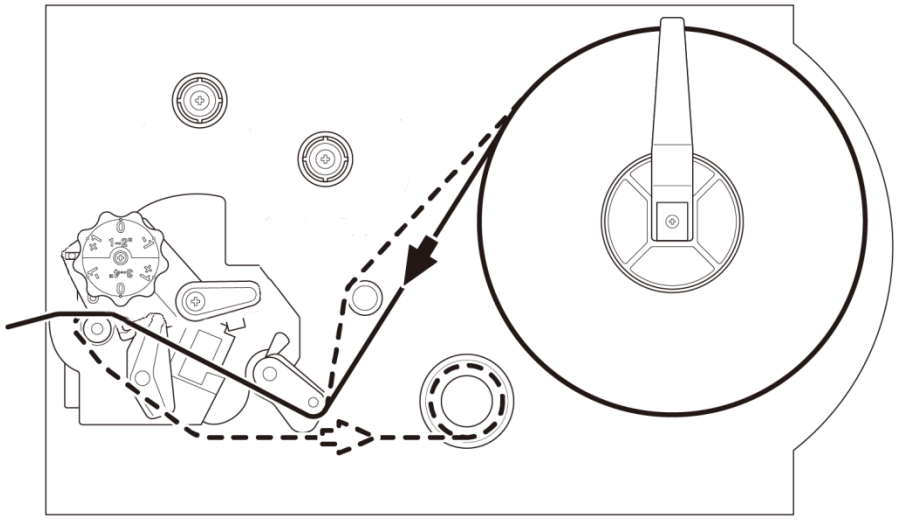
> **Note**
> We recommend destroying the used ribbon if it has retained any visible prints.

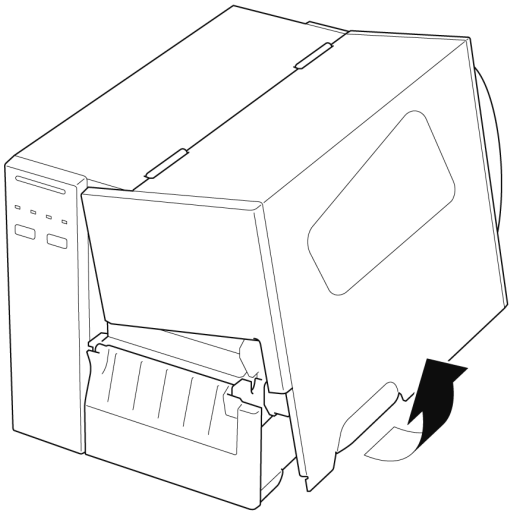
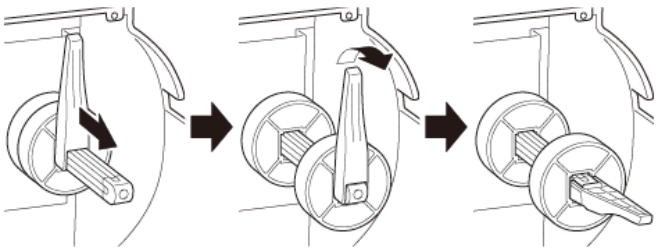


3.4 Load the Media

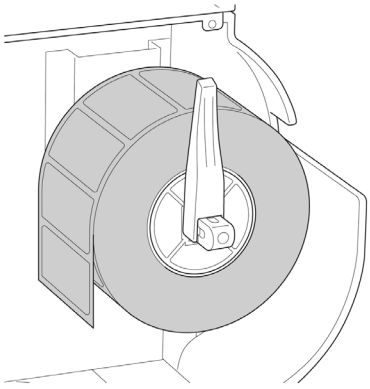
3.4.1 Load Label Roll

Label Roll loading path



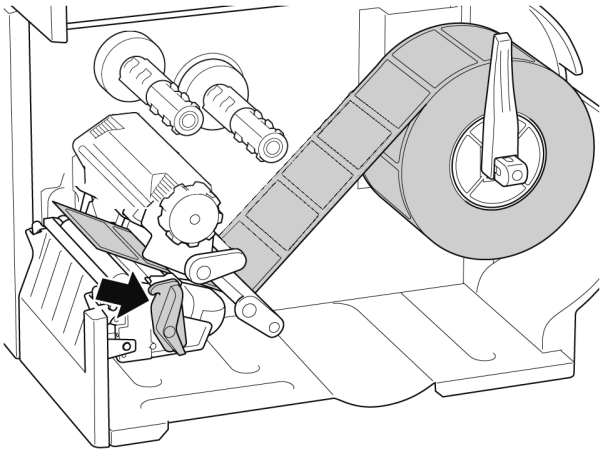
1. Open the Media Cover.	
2. Slide the Label Roll Guard horizontally to the end of the Label Supply Spindle, and then flip down the Label Roll Guard.	

3. Place the label roll on the Label Supply Spindle and then flip the Label Roll Guard upwards to hold it in place.

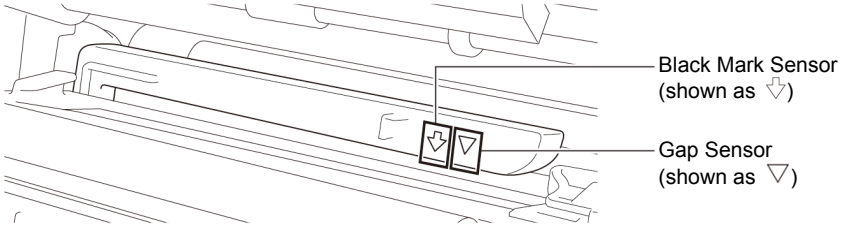


> **Note**
> Make sure the label print side is facing up.

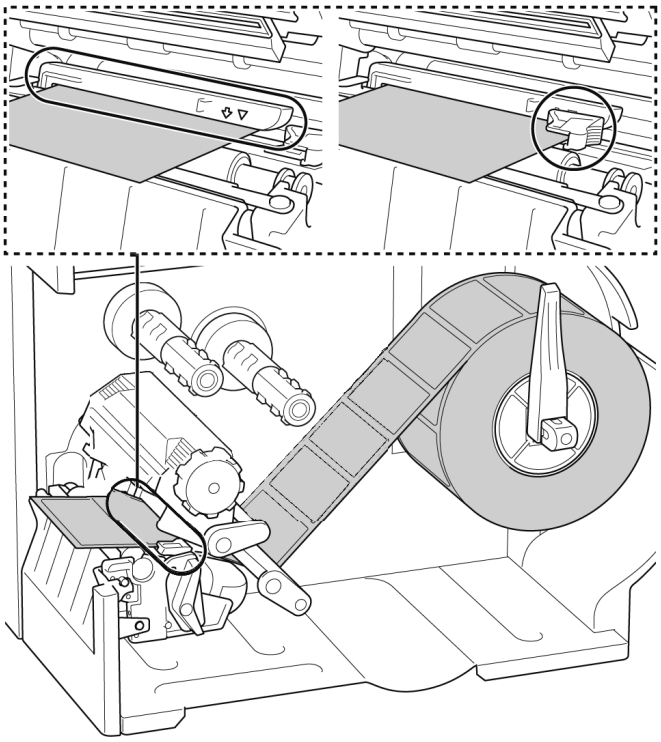
4. Push the Print Head Release Lever and thread the label through the Damper, Media Sensor, and Front Label Guide to install the media.



5. Move the Media Sensor by adjusting the Media Sensor Position Adjustment Knob. Make sure the position of the Gap or Black Mark Sensor matches the position of the Gap/Black Mark on the label roll.



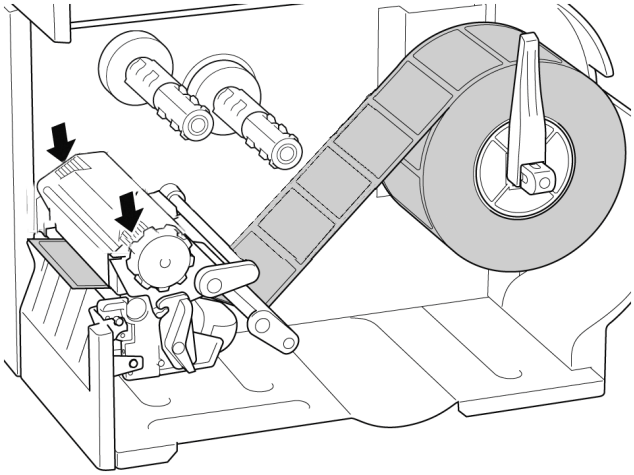
6. Adjust the Front Label Guide to fix the media position.



Note

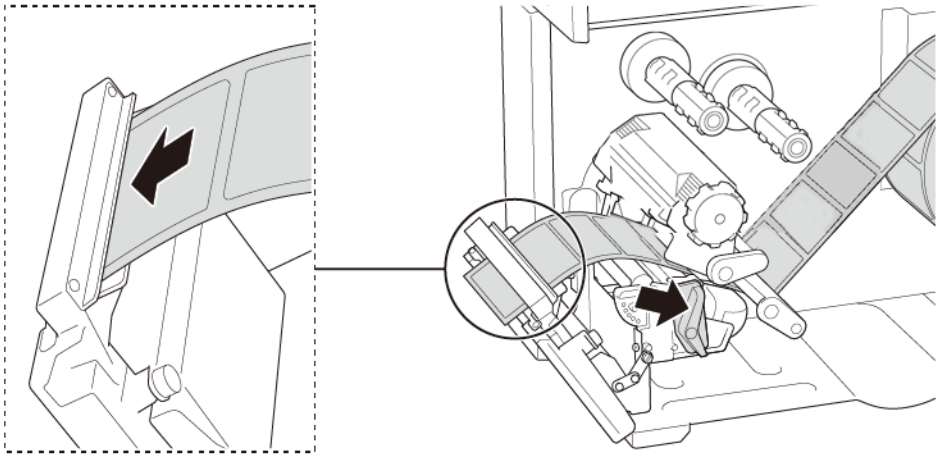
- Make sure you thread the media through the Media Sensor.
- The sensor locations are marked by the triangle mark ▽ (Gap Sensor) and the arrow mark ⇩ (Black Mark Sensor) at the sensor housing.
- The Media Sensor position is adjustable. Make sure the position of the Gap or Black Mark Sensor matches the position of the Gap/Black Mark on the label roll.

7. Close the Print Head on both sides and make sure it locks into place.
8. Set the media sensor type and calibrate the selected sensor.



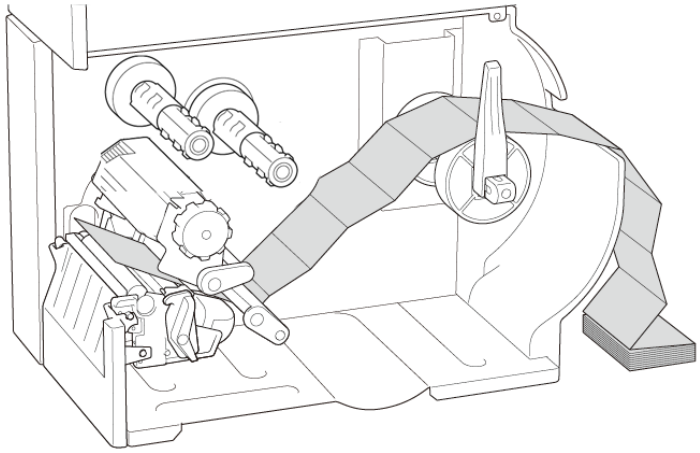
Note

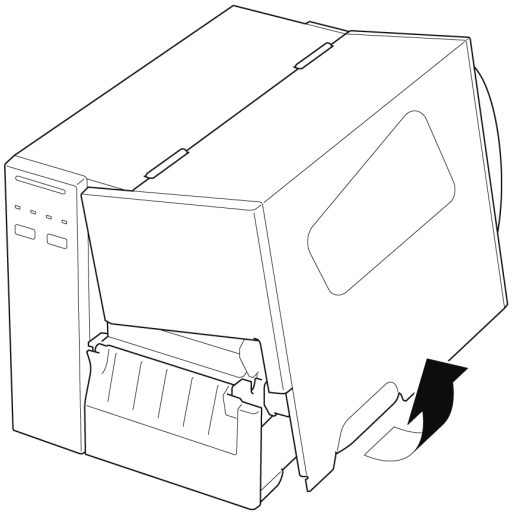
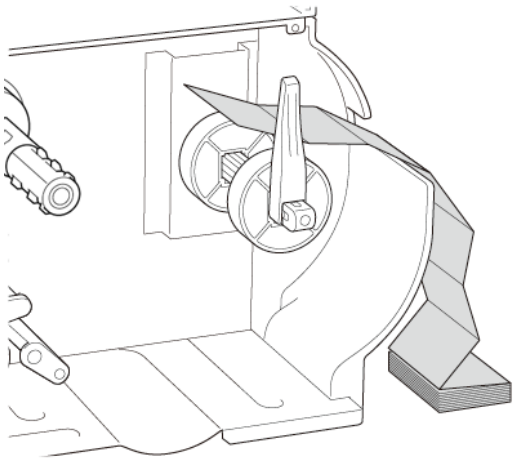
For RFID models (TJ-4021TNR, TJ-4121TNR), feed the media through the Tear Cover Slot.



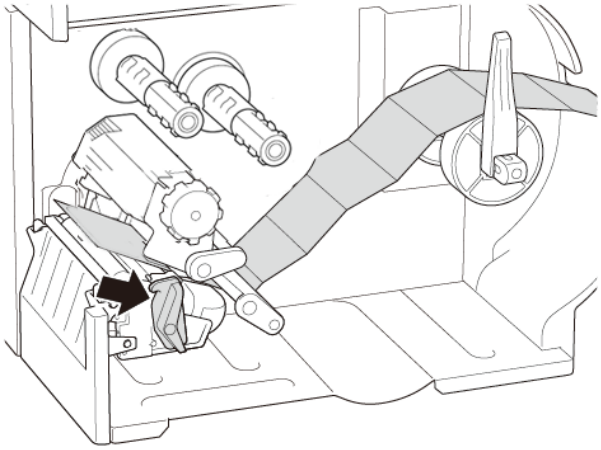
3.4.2 Load External Media

Fan-fold label loading path

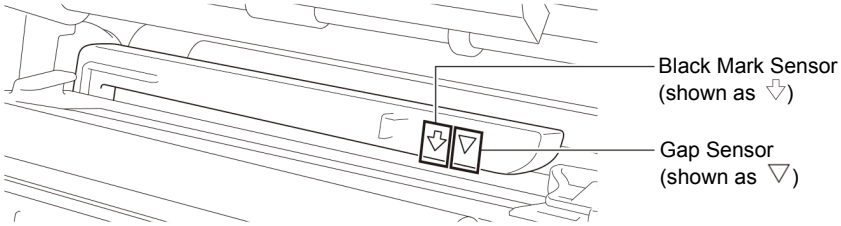


1. Open the Media Cover.	
2. Insert the media through the External Label Entry Slot.	

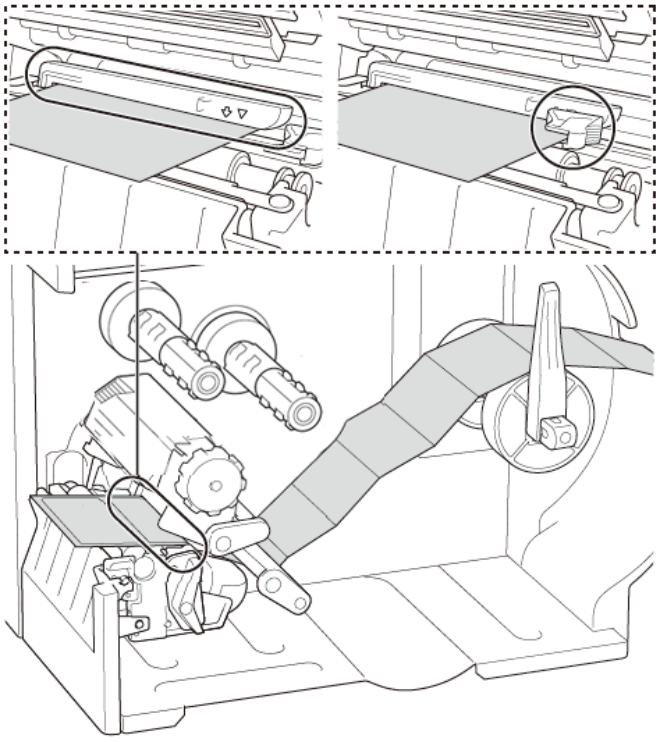
3. Push the Print Head Release Lever and thread the label through the Damper, Media Sensor, and Front Label Guide to install the media.
   Align the Label Roll Guard with the label width.



4. Move the Media Sensor by adjusting the Media Sensor Position Adjustment Knob. Make sure the position of the Gap or Black Mark Sensor matches the position of the Gap/Black Mark on the label.



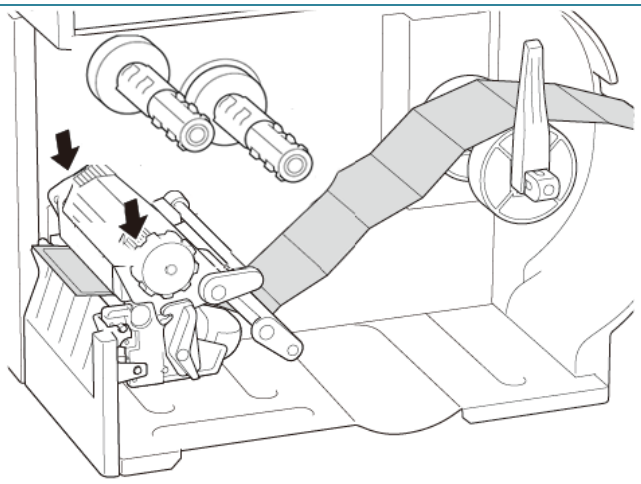
5. Adjust the Front Label Guide to fix the media position.



Note

- Make sure you thread the media through the Media Sensor.
- The sensor locations are marked by the triangle mark ▽ (Gap Sensor) and the arrow mark ⇩ (Black Mark Sensor) at the sensor housing.
- The Media Sensor position is adjustable. Make sure the position of the Gap or Black Mark Sensor matches the position of the Gap/Black Mark on the label.

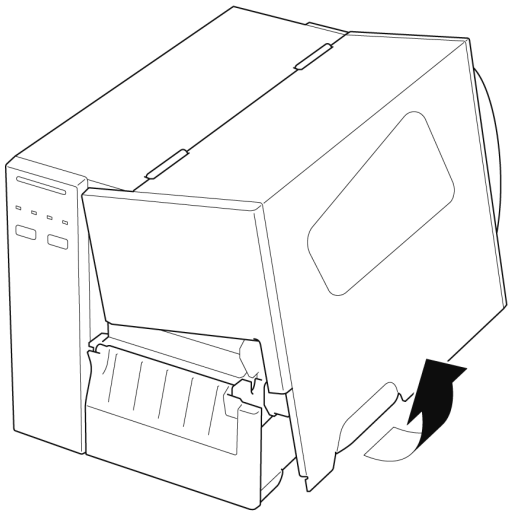
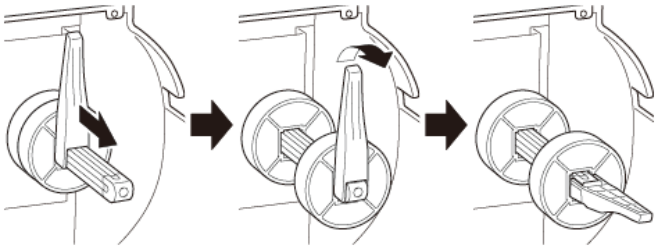
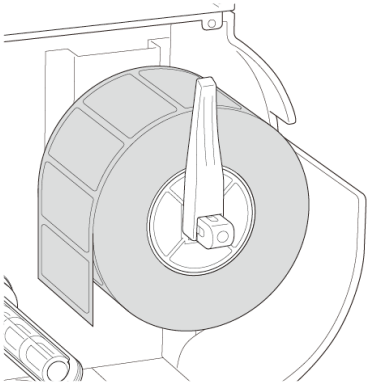
6. Close the Print Head on both sides and make sure it locks into place.
7. Set the media sensor type and calibrate the selected sensor.



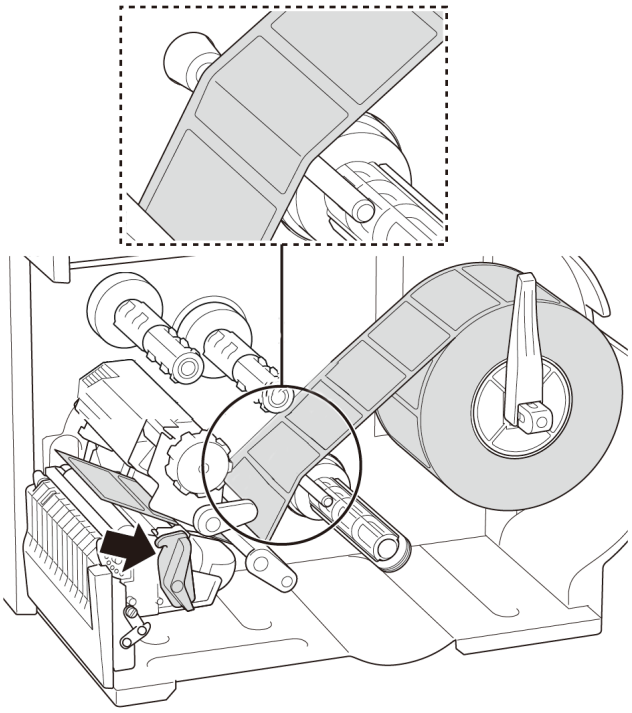
Note

- Calibrate the Gap/Black Mark Sensor every time you change the media.
- For more information about sensor calibration, see section *8.2 Auto-Calibrating the Media Sensor using the BPM*.

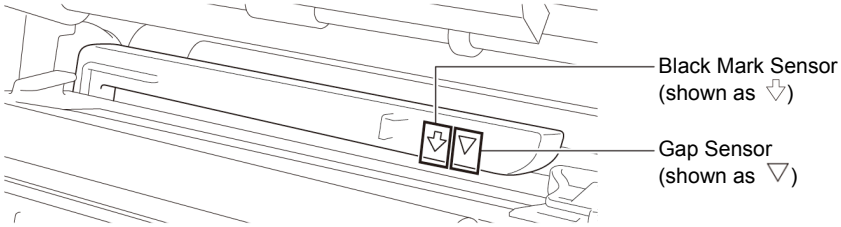
3.4.3 Load the Media in Peeler Mode (Optional)

1. Open the Media Cover.	
2. Slide the Label Roll Guard horizontally to the end of the Label Supply Spindle, and then flip down the Label Roll Guard.	
3. Place the label roll on the Label Supply Spindle and then flip the Label Roll Guard upwards to hold it in place. **Note** Make sure the label print side is facing up.	

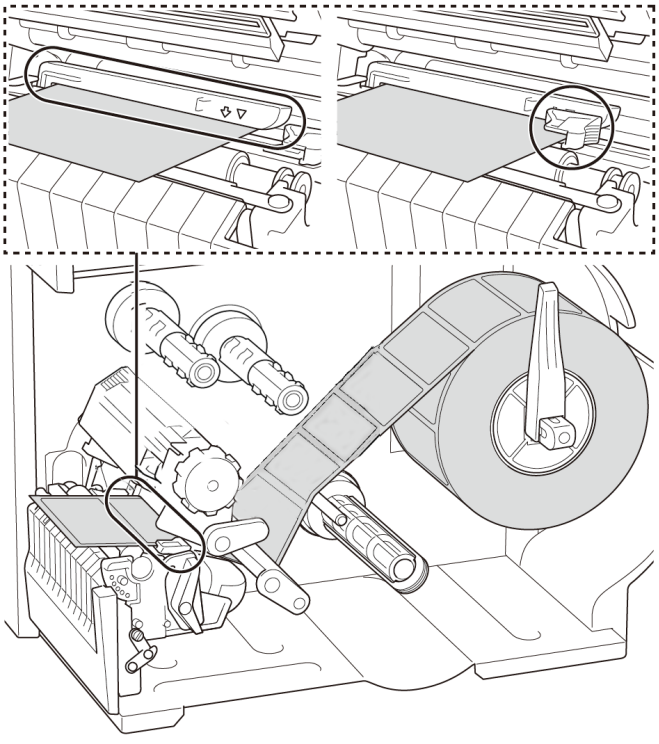
4. Push the Print Head Release Lever and thread the label through the Damper, Media Sensor, and Front Label Guide to install the media.



5. Move the Media Sensor by adjusting the Media Sensor Position Adjustment Knob. Make sure the position of the Gap or Black Mark Sensor matches the position of the Gap/Black Mark on the label roll.



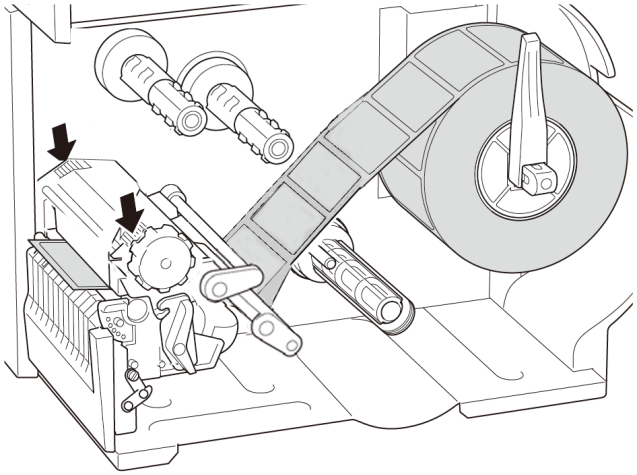
6. Adjust the Front Label Guide to fix the media position.



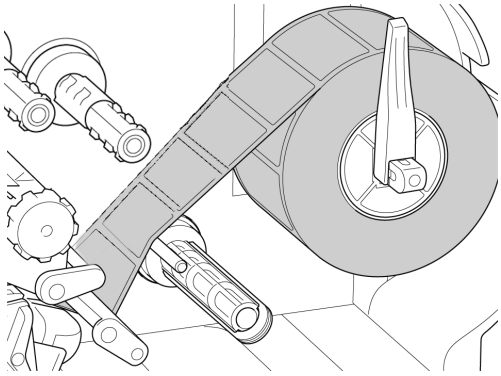
Note

- Make sure you thread the media through the Media Sensor.
- The sensor locations are marked by the triangle mark ▽ (Gap Sensor) and the arrow mark ⇩ (Black Mark Sensor) at the sensor housing.
- The Media Sensor position is adjustable. Make sure the position of the Gap or Black Mark Sensor matches the position of the Gap/Black Mark on the label roll.

7. Close the Print Head on both sides and make sure it locks into place.
8. Set the media sensor type and calibrate the selected sensor.



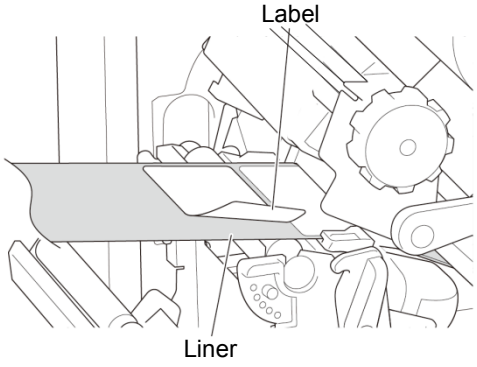
9. Use the Touchscreen to perform the calibration first, and set the printer mode to Peeler Mode.
   For models without a Touchscreen, perform the calibration using the BPM.
   For more information about sensor calibration, see section *8.2 Auto-Calibrating the Media Sensor using the BPM*.



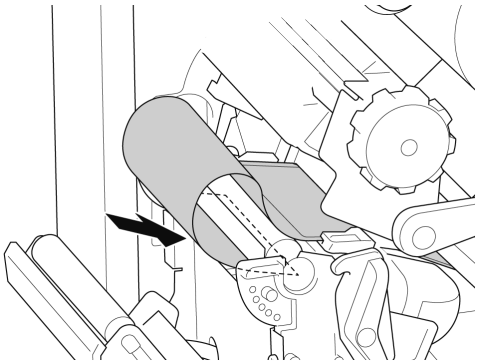
Note

1. Calibrate the Gap/Black Mark Sensor before loading media in Peeler Mode to avoid paper jams.
2. Make sure you thread the label over the Media Guide Bar and under the Damper as shown.

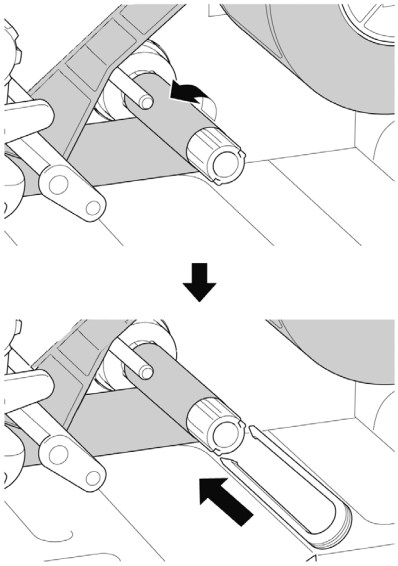
10. Turn the Print Head Release Lever, and pull approximately 650 mm of the label roll through the Media Output Slot.
11. Remove some labels leaving only the liner.



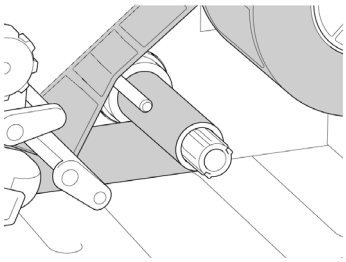
12. Thread the liner through the Label Peeler Cover Slot.



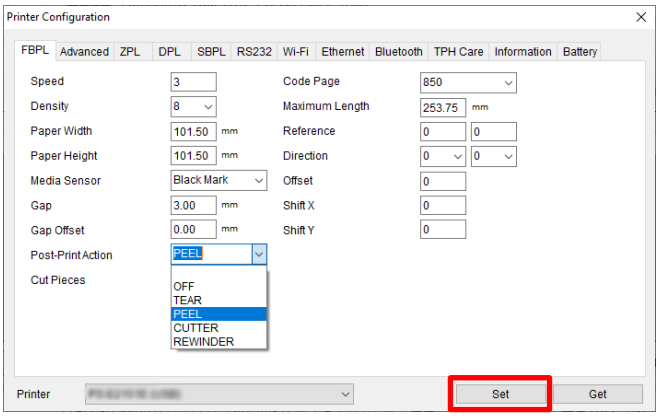
13. Pull the Liner Securing Clip out from the Liner Rewind Spindle, and wind the liner on the Liner Rewind Spindle until the liner is fully stretched.
14. Insert the Liner Securing Clip into the Liner Rewind Spindle.



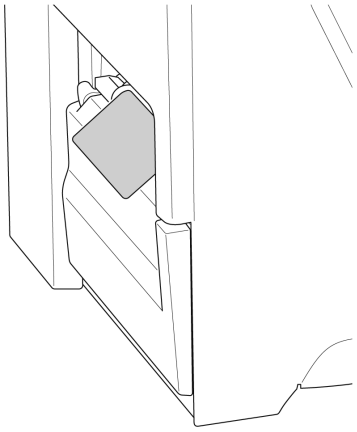
> **Note**
>
> You can also install a paper roll on the Liner Rewind Spindle to wind the liner around the paper roll.



15. Set the printer mode to “Peel Off” using the Main Menu **(Main Menu > Setting > Print Mode > Peel Off)** or using the Brother Printer Management Tool (BPM) as follows.
    a. Start the BPM.
    b. Click the **Printer Configration** button.
    c. Click the **FBPL** tab.
    d. Click the **PEEL** option from the Post-Print Action drop-down list.
    e. Click **Set**.

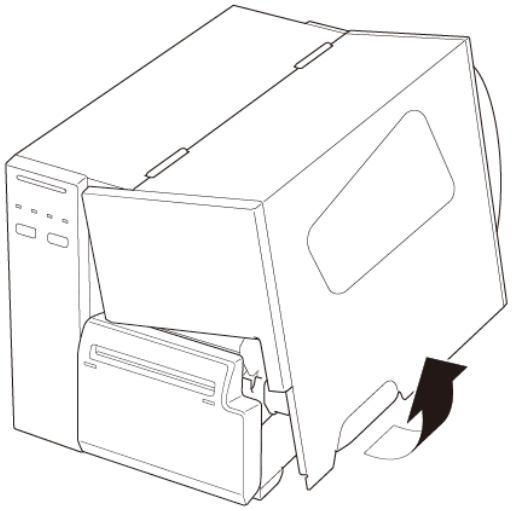


16. Lock the Print Head Release Lever and feed one label to test:
    - For touchscreen models: Tap the Feed icon in the Main Menu.
    - For non-touchscreen models: Press the **Feed** button.

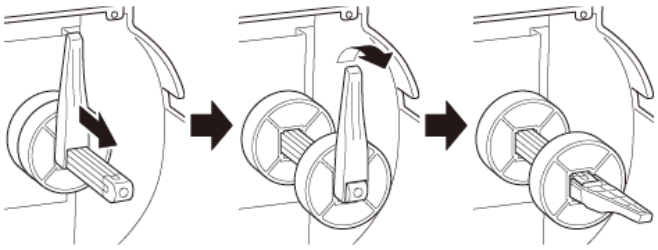


3.4.4 Load Media in Cutter Mode (Optional)

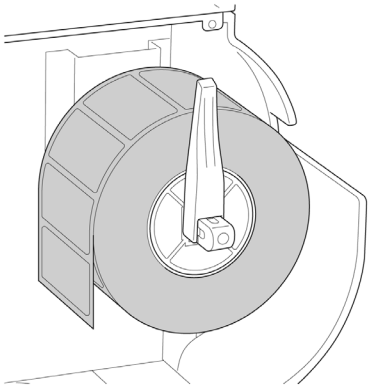
1. Open the Media Cover.



2. Slide the Label Roll Guard horizontally to the end of the Label Supply Spindle, and then flip down the Label Roll Guard.

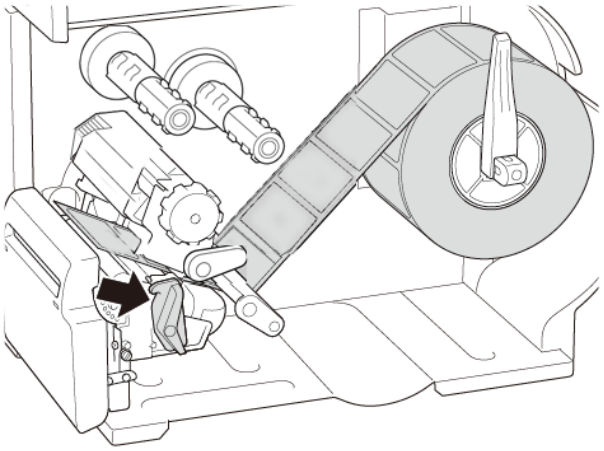


3. Place the label roll on the Label Supply Spindle and then flip the Label Roll Guard upwards to hold it in place.

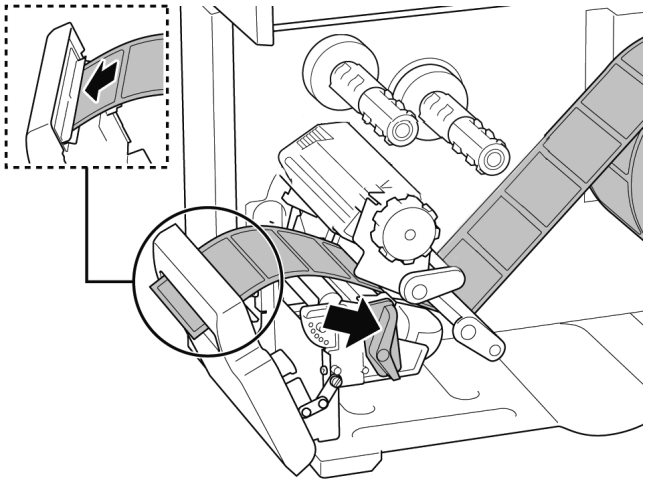


> **Note**
> Make sure the label print side is facing up.

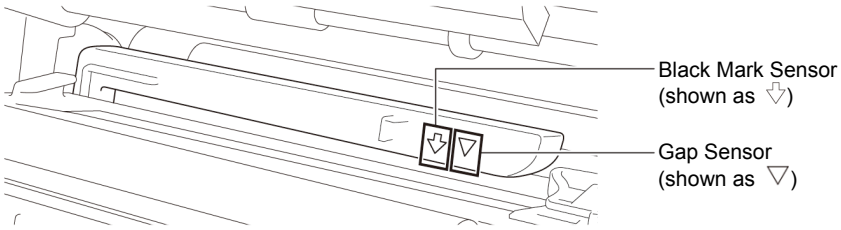
4. Push the Print Head Release Lever and thread the label through the Damper, Media Sensor, and Front Label Guide to install the media.



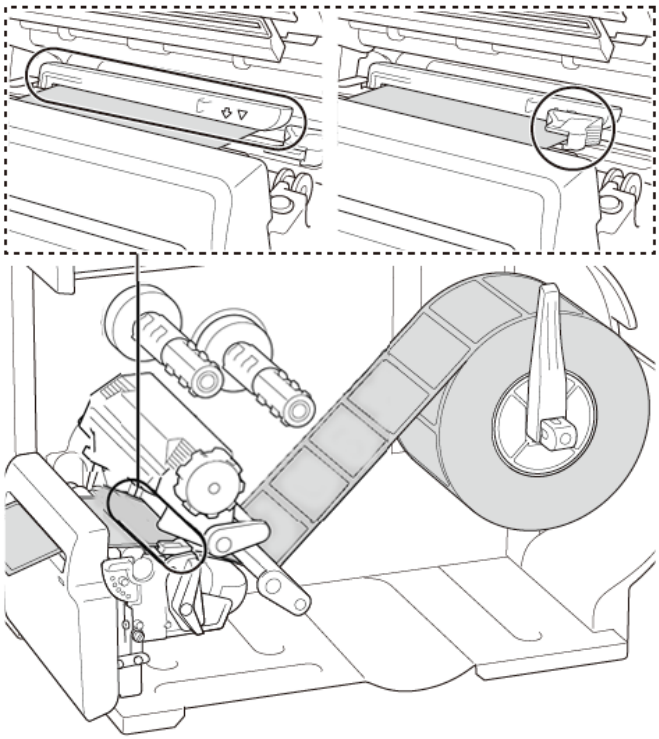
5. Feed the media through the Label Cutter Cover Slot.



6. Move the Media Sensor by adjusting the Media Sensor Position Adjustment Knob. Make sure the position of the Gap or Black Mark Sensor matches the position of the Gap/Black Mark on the label roll.



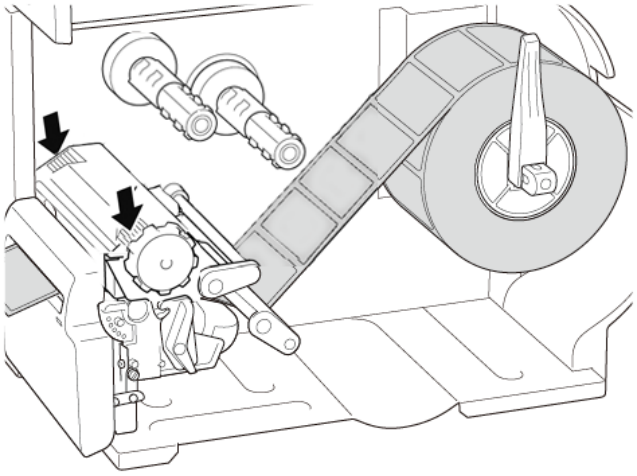
7. Adjust the Front Label Guide to fix the media position.



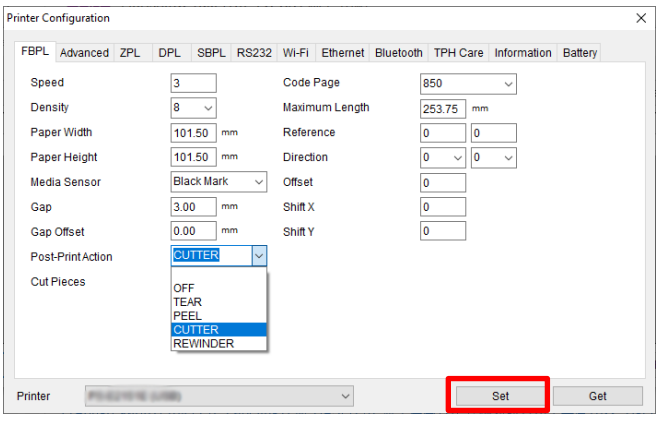
Note

- Make sure you thread the media through the Media Sensor.
- The sensor locations are marked by the triangle mark ▽ (Gap Sensor) and the arrow mark ⇩ (Black Mark Sensor) at the sensor housing.
- The Media Sensor position is adjustable. Make sure the position of the Gap or Black Mark Sensor matches the position of the Gap/Black Mark on the label roll.

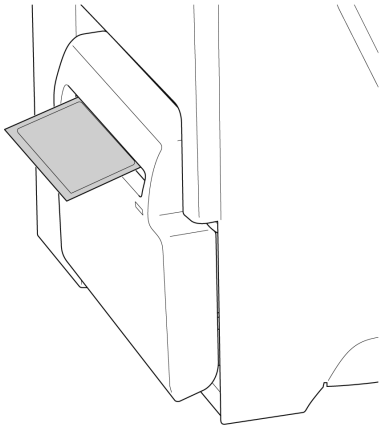
8. Close the Print Head on both sides and make sure it locks into place.
9. Set the media sensor type and calibrate the selected sensor.
10. Use the Touchscreen to perform the calibration first, and set the printer mode to Cutter Mode.
    For models without a Touchscreen, perform the calibration using the BPM.
    For more information about sensor calibration, see section *8.2 Auto-Calibrating the Media Sensor using the BPM*.



11. Set the printer mode to “Cutter” using the Main Menu **(Main Menu > Setting > Print Mode > Cutter mode)** or using the Brother Printer Management Tool (BPM) as follows.
    a. Start the BPM.
    b. Click the **Printer Configration** button.
    c. Click the **FBPL** tab.
    d. Click the **CUTTER** option from the **Post-Print Action** drop-down list.
    e. Click **Set**.



12. Close the Print Head and feed one label to test:
    - For touchscreen models: Tap the Feed icon in the Main Menu.
    - For non-touchscreen models: Press the **Feed** button.

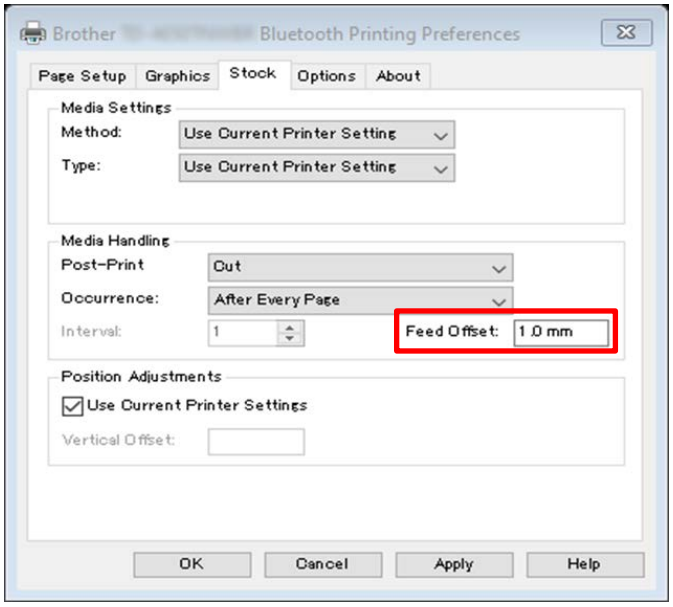


Note

How to adjust the cut position (For Windows)

Using the Printer Driver

1. Open the printers folder.
   For more information, see “How to open the Devices and Printers window” on your model's Manuals page at support.brother.com.
2. Right-click the printer you want to change the settings for, and then select **Printing Preferences**.
3. Select the **Stock** tab.
4. Enter a positive or negative value (such as “1.0 mm” or “-1.0 mm”) in the **Feed Offset** field to fine-tune the cut position.



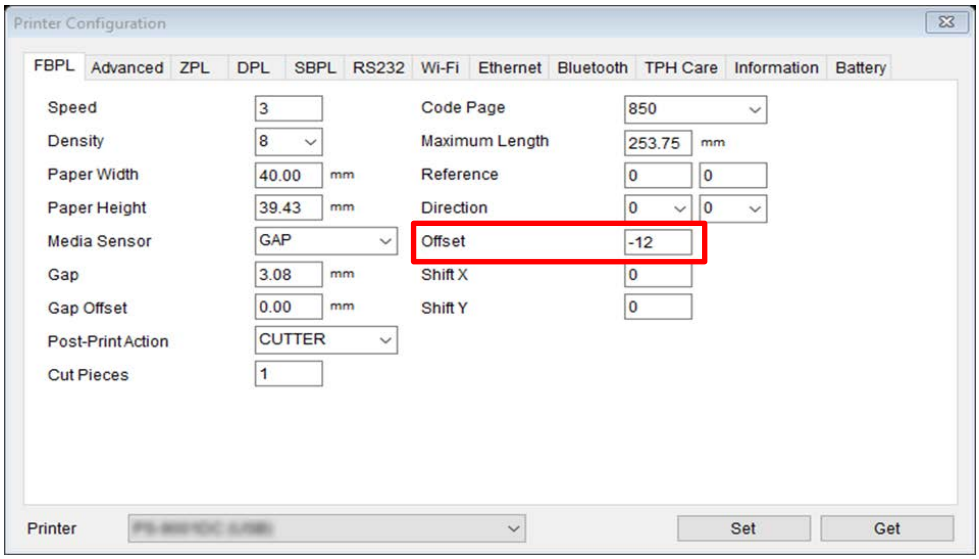
5. Click **Apply**, and then click **OK** to apply the settings.
6. Try to print to confirm the cut position.

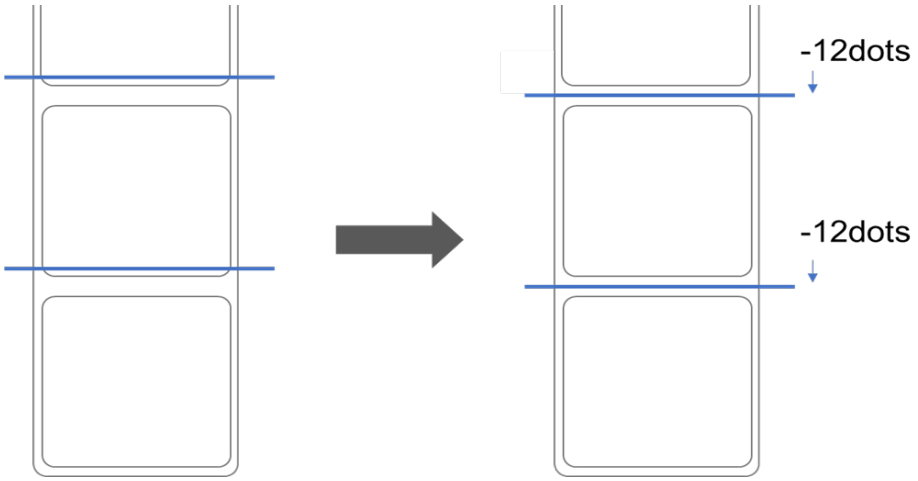
Using BPM (Brother Printer Management Tool)

1. Connect your printer to the computer using a USB cable.
2. Start **BPM**.
3. Click **Printer Configuration**, and then select the **FBPL** tab.
4. Enter a positive or negative value (such as “12” dots or “-12” dots) in the **Offset** field to fine-tune the cut position.

   You can set values between -999 dots to 999 dots.

For 200 dpi printers: 1 mm = 8 dots
For 300 dpi printers: 1 mm = 12 dots
For 600 dpi printers: 1 mm = 24 dots

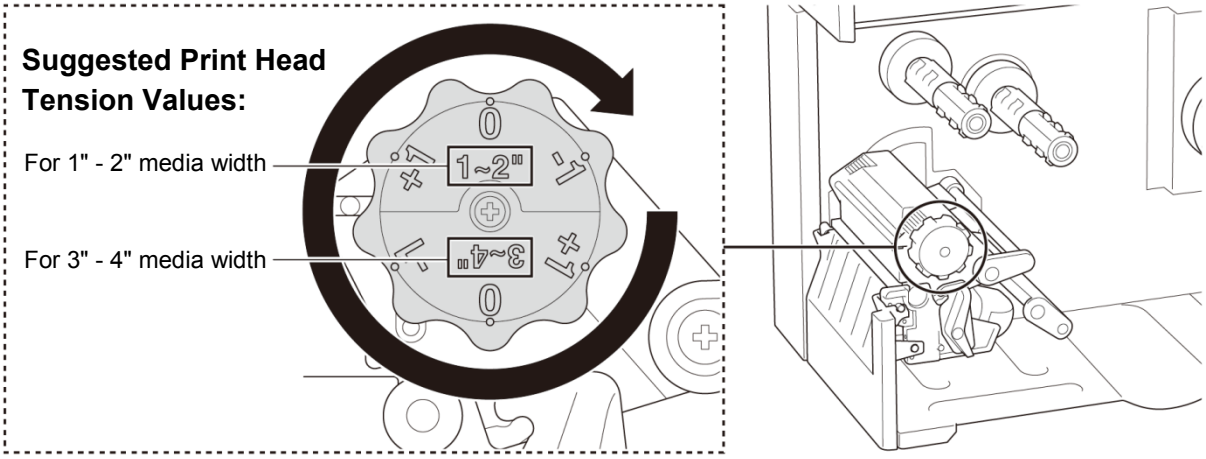




   (The cut position can be adjusted variously depending on the printer and media you use.)
5. Click **Set** to apply the settings.
6. Try to print to confirm the cut position.

4. Improve Print Quality

4.1 Adjust Print Head Tension to Improve Print Quality



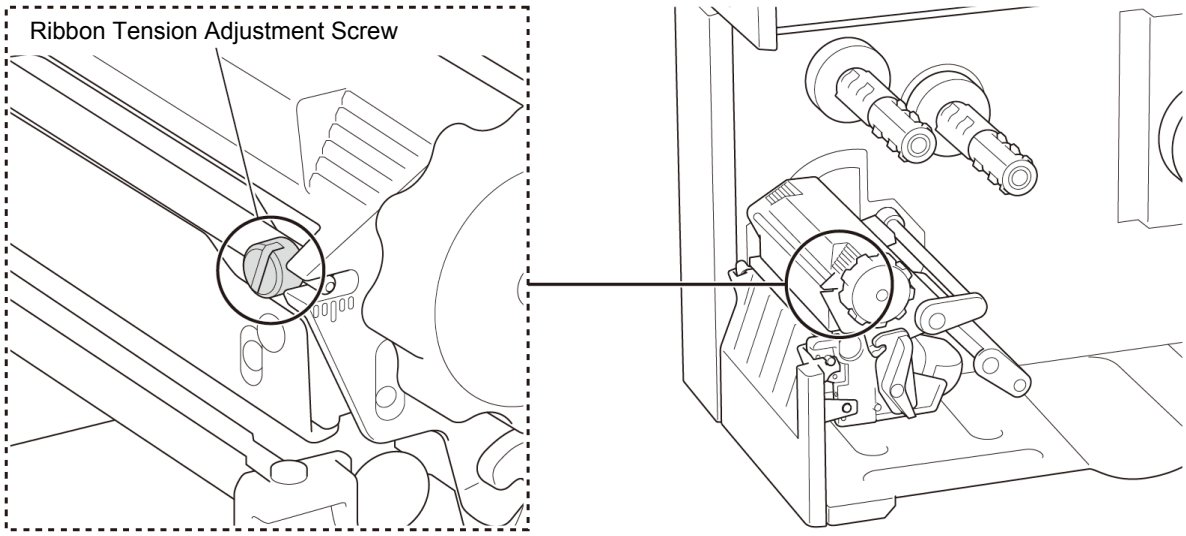
For the best print quality, adjust the Print Head using the Print Head Tension Adjustment Knob. Choose one of six levels of tension adjustment depending on the media width you use (1” - 2” or 3” - 4”).

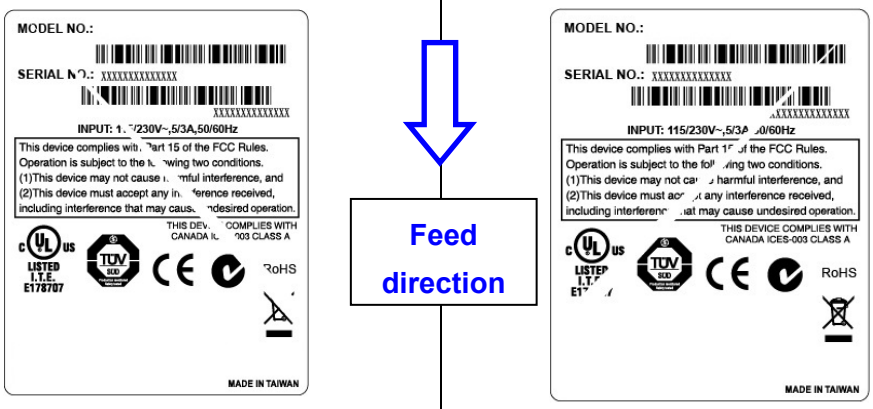
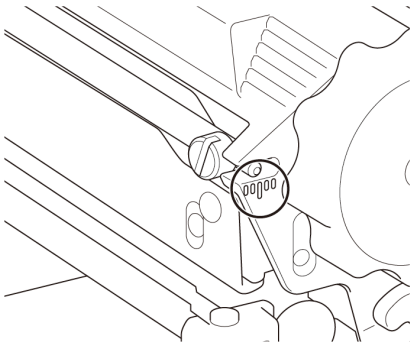
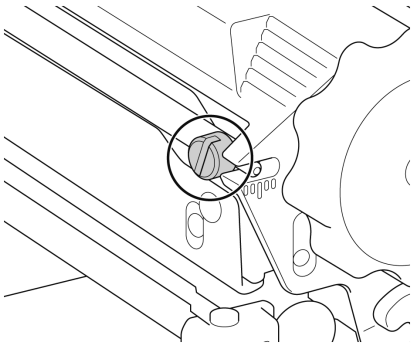
4.2 Avoid Wrinkled Labels

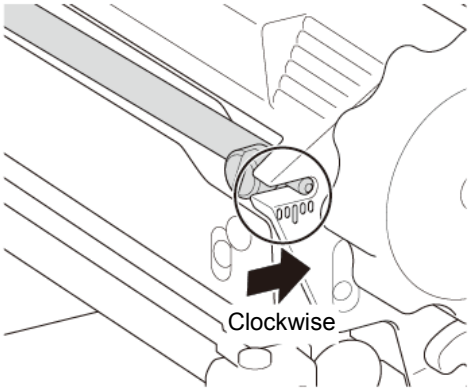
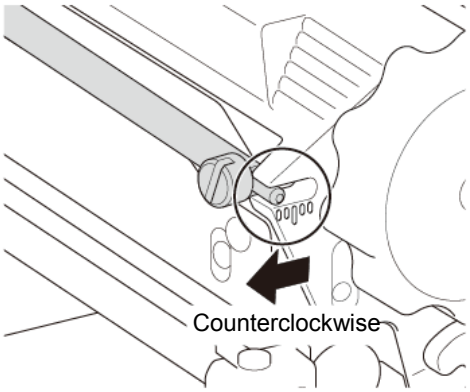
Wrinkles can occur due to many factors, including media width and thickness, Print Head pressure balance, ribbon film characteristics, and print density/darkness settings.

4.2.1 Adjust Ribbon Tension (Not available for TJ-4005DN)

To avoid wrinkled labels, adjust the ribbon tension using the Ribbon Tension Adjustment Screw. Choose one of five levels of tension adjustment.



<table>
<tr><td>Description</td><td>The ribbon wrinkle occurs from the lower right to the upper left of the label.</td><td>The ribbon wrinkle occurs from the lower left to the upper right of the label.</td></tr>
<tr><td>Wrinkle Example</td><td colspan="2"> 
</td></tr>
<tr><td>Adjustable Printer Parts</td><td colspan="2">The Ribbon Tension Adjustment Screw has five levels for adjustment. Use a flat blade screwdriver to change the ribbon tension level.
 
Ribbon Tension Adjustment Scale
 
Ribbon Tension Adjustment Screw</td></tr>
</table>

	1. Turn the Ribbon Tension Adjustment Screw clockwise once per level on the Ribbon Tension Adjustment Scale and print the label again to check if the wrinkle is gone.  2. If the Ribbon Tension Adjustment Screw is positioned on the innermost side but the ribbon wrinkle has not improved, turn the Print Head Tension Adjustment Knob once per level at a time, print the label again, and check if the wrinkle is gone.	1. Turn the Ribbon Tension Adjustment Screw counterclockwise once per level on the Ribbon Tension Adjustment Scale and print the label again to check if the wrinkle is gone.  2. If the Ribbon Tension Adjustment Screw is positioned on the outermost side but the ribbon wrinkle has not improved, turn the Print Head Tension Adjustment Knob once per level at a time, print the label again, and check if the wrinkle is gone.

4.2.2 Change the Print Density/Darkness Settings

Note

For information about the print density/darkness, see sections *7.1.1 FBPL Settings* and *7.1.2 ZPL2 Settings*.

4.2.3 Try Different Media

Make sure you load the correct paper.

Note

For more information about the supported paper width and thickness, see section *10 Product Specifications*.

Note

If the wrinkles continue to occur, contact the product manufacturer's customer service or your local dealer for service.

5. Printing

5.1 Printer Driver Installation

Note

The model name and serial number are located on the back of the printer.

Make sure you download the correct driver for your model:

- TJ-4005DN: Brother TJ-4005DN
- TJ-4010TN: Brother TJ-4010TN
- TJ-4020TN/TJ-4021TN/TJ-4021TNR: Brother TJ-40
- TJ-4120TN/TJ-4121TN/TJ-4121TNR: Brother TJ-41

The driver installation method depends on the connection type:

- USB Connection (Windows/Mac/Linux)
- Wi-Fi Network Connection (Windows)
- Wired Network Connection (Windows)

5.1.1 USB Connection (Windows/Mac/Linux)

Note

Mac/Linux Users

For more information about driver installation, see the driver installation guide provided with the driver.

1. Connect your printer to the computer using a USB cable.
2. Visit support.brother.com, go to your model's **Downloads** page, and download the latest printer driver and software.
3. Run the Seagull Driver Wizard application and select **Install printer drivers** and **USB**.
4. Follow the on-screen instructions.

Note

If you cannot install the printer driver:

- Install the printer driver manually:
  In the Seagull Driver Wizard application, select **Install printer drivers** > **Others**.
- Remove the printer drivers:
  In the Seagull Driver Wizard application, select **Remove printer drivers** > **Automatically remove all Drivers by Seagull** or **Use advanced printer driver removal options**.
- Reset the printer settings:
  Start the BPM, and then click **Printer Function** > **Factory Default**.

5.1.2 Wi-Fi Network Connection (Windows)

> **Note**
> To use Wi-Fi, an optional WLAN Interface (PA-WI-002) is required.

Make sure both your wireless router/access point's and your printer's network settings are correctly set up. For more information, see the documentation provided with your wireless router/access point, or contact the router manufacturer, your system administrator, or Internet service provider.

1. Configure the network settings:

- Using the BPM
  a. Connect your printer to the computer using a USB cable.
  b. Click **Printer Configuration** > **Wi-Fi**.
  c. Specify **SSID**, **Encryption**, and **Key** (Network Password), and then click **Set**.
  d. Click **Get**.
  e. Click **Printer Function** > **Configuration Page**.
  The network settings are printed. Confirm that the printer's IP address is correct.

- Using the Touchscreen
  a. Select **Interface** > **Wi-Fi**.
  b. Specify **SSID**, **Security**, and **Password**.
  c. When finished, the Wi-Fi icon and printer's IP address appear on the Touchscreen.

2. Visit support.brother.com, go to your model's **Downloads** page, and download the latest printer driver and software.
3. Run the Seagull Driver Wizard application and select **Install printer drivers** and **Network**.
4. Select your printer, and then click **Next**.
5. If your TCP/IP port does not appear in the list, click **Create port** and select **Standard TCP/IP port** > **New Port**.
6. Type your printer's IP address and port name, and then click **Next**.
7. Click **Finish**.
8. Return to the **Specify Port** window and select the port you created.
9. Follow the on-screen instructions.

> **Note**
> If you cannot install the printer driver:
> - Remove the printer drivers:
> In the Seagull Driver Wizard application, select **Remove printer drivers** > **Automatically remove all Drivers by Seagull** or **Use advanced printer driver removal options**.
> - Reset the printer settings:
> Start the BPM, and then click **Printer Function** > **Factory Default**.

5.1.3 Wired Network Connection (Windows)

1. Connect both the printer and the computer to your router/access point using LAN cables. The printer automatically receives a default IP address and displays it on the Touchscreen. For models without a Touchscreen, this can be confirmed using the BPM.
2. Visit support.brother.com, go to your model's **Downloads** page, and download the latest printer driver and software.
3. Run the Seagull Driver Wizard application and select **Install printer drivers** and **Network**.
4. Select your printer, and then click **Next**.
5. If your TCP/IP port does not appear in the list, click **Create port** and select **Standard TCP/IP port** > **New Port**.
6. Type your printer's IP address and port name, and then click **Next**.
7. Click **Finish**.
8. Return to the **Specify Port** window and select the port you created.
9. Follow the on-screen instructions.

Note

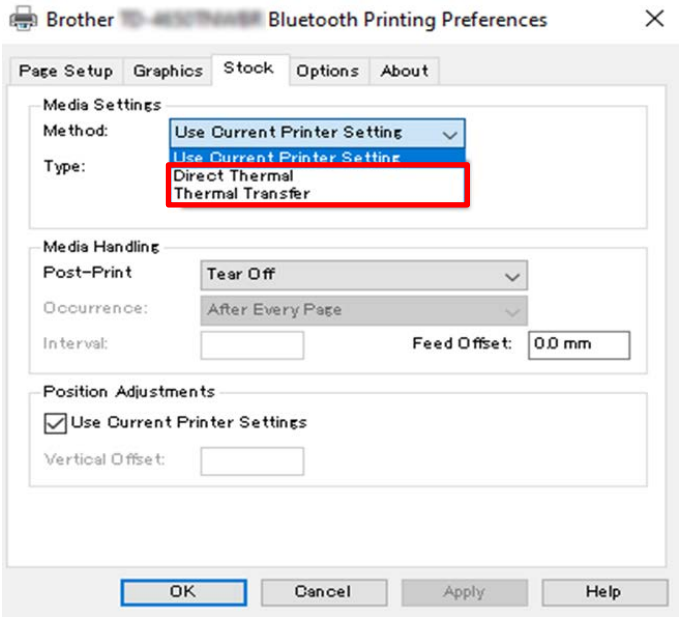
If you cannot install the printer driver:

- Remove the printer drivers:
  In the Seagull Driver Wizard application, select **Remove printer drivers** > **Automatically remove all Drivers by Seagull** or **Use advanced printer driver removal options**.
- Reset the printer settings:
  Start the BPM, and then click **Printer Function** > **Factory Default**.

5.2 Set the Direct Thermal / Thermal Transfer Print Methods (Not available for TJ-4005DN)

Using the Printer Driver

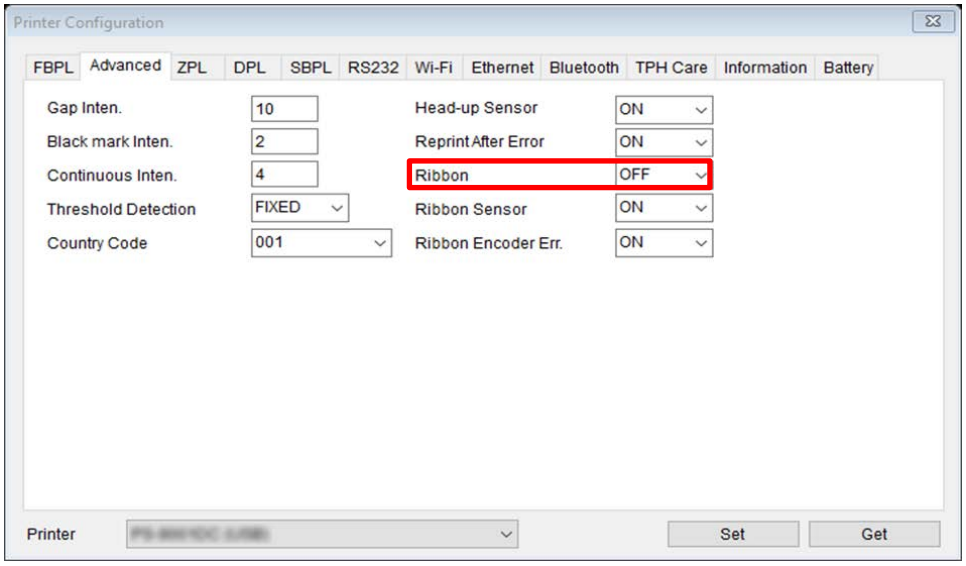
1. **To set the Direct Thermal method:**
   Load direct thermal paper (an ink ribbon is not required).
   To set the Thermal Transfer method:
   Load thermal transfer paper and install an ink ribbon.
2. Open the printers folder.
   For more information, see “How to open the Devices and Printers window” on your model's Manuals page at support.brother.com.
3. Right-click the printer you want to change the settings for, and then select **Printing Preferences**.
4. Select the **Stock** tab.
5. Select **Direct Thermal** or **Thermal Transfer** from the **Method** drop-down list.



6. Click **Apply**, and then click **OK** to apply the settings.

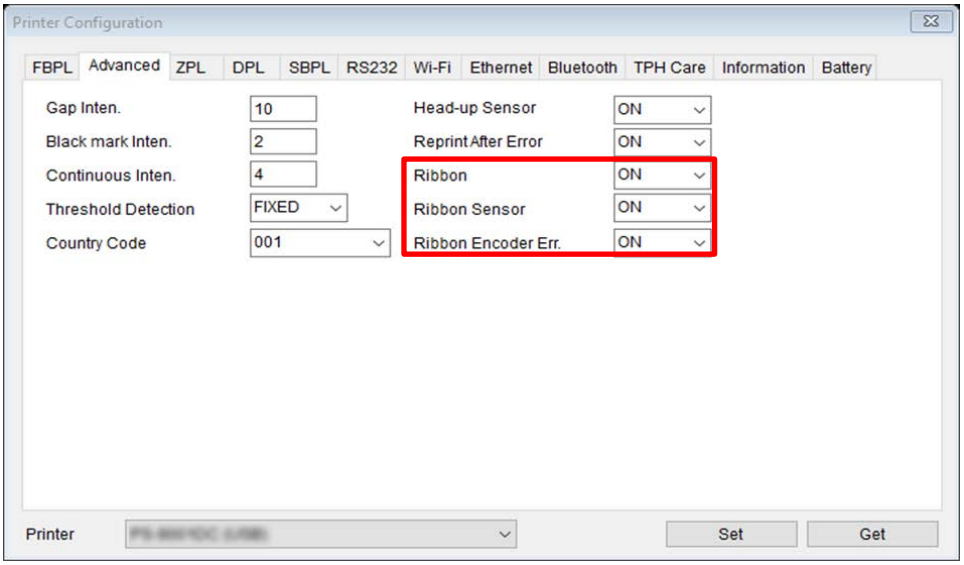
You can set the Direct Thermal or Thermal Transfer Print Methods by using **BPM (Brother Printer Management Tool)** as follows.

1. **To set the Direct Thermal method:**
   Load direct thermal paper (an ink ribbon is not required).
   To set the Thermal Transfer method:
   Load thermal transfer paper and install an ink ribbon.
2. Connect your printer to the computer using a USB cable.
3. Start BPM.
4. Click **Printer Configuration**, and then select the **Advanced** tab.
5. **When setting the Direct Thermal method:**
   Select **OFF** from the **Ribbon** drop-down list.



When setting the Thermal Transfer method:

Select **ON** from the **Ribbon** drop-down list, and then select the **Ribbon Sensor** (for TJ-series only) and **Ribbon Encoder Err.** setting you want.



Note

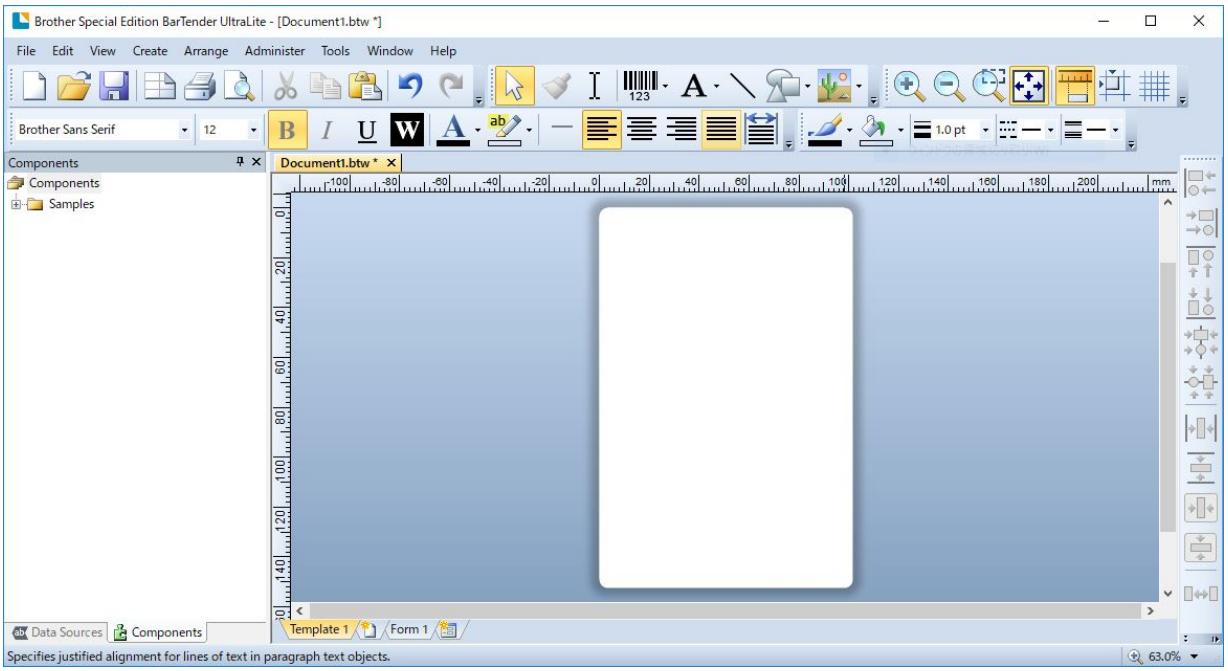
If you select “**OFF**” from the **Ribbon** drop-down list, it will deactivate both the ribbon sensor and the ribbon encoder sensor (even if you have selected “**ON**” in the **Ribbon Sensor** and **Ribbon Encoder Err.** drop-down list and “**ON**” is displayed). Select “**ON**” in the **Ribbon** drop-down list to activate the **Ribbon Sensor** and **Ribbon Encode Err.** settings.

6 Click **Set** to apply the settings.

5.3 Create and Print Labels Using BarTender

BarTender is a label creation tool, which can be downloaded for free from the product's page at support.brother.com.

1. Launch BarTender.
2. Follow the on-screen steps to create a label.



Note

For more information on using BarTender, click **Help**.

3. Click **File** > **Print** to print the label.

6. Operation

6.1 Power-on Utilities

There are various power-on utilities to set up and test the printer's functions.

TJ-4005DN/TJ-4010TN/TJ-4020TN/TJ-4120TN

Use the power-on utilities to calibrate sensors and initialize the hardware.

Function	Instructions
Gap/Black Mark Sensor Calibration	1. Turn off the printer. 2. Press and hold the **Pause** Button, and then turn on the Power Switch. 3. Release the button when the Power LED lights, and the printer feed the labels.
Self-test	1. Turn off the printer. 2. Press and hold the **Feed** Button, and then turn on the Power Switch. 3. Release the button when the Power LED lights, and the printer feeds the labels.
Printer initialization	1. Turn off the printer. 2. Press and hold both the **Pause** and **Feed** Buttons, and then turn on the Power Switch. 3. Release the buttons when the Power LED lights. **Note** When printer initialization is complete, calibrate the Gap Sensor again.

TJ-4021TN/TJ-4021TNR/TJ-4121TN/TJ-4121TNR

Use power-on utilities to set sensor calibration, self-test, and factory default functions.

1. Turn off the label printer.
2. Press and hold the right **Selection** button, and then turn on the Power Switch.
3. Release the button when the function you want to set or test appears on the Touchscreen.

Power-On Utility	Power LED Patterns						
LED color / Function	Amber (Lit)	Red (Blinks five times)	Amber (Blinks five times)	Green (Blinks five times)	Green/ Amber (Blinks five times)	Red/Amber (Blinks five times)	Green (Lit)
1. Sensor Calibration (Gap / black mark sensor)		✔					
2. Self-test (And enter Dump Mode)			✔				
3. Factory Default				✔			
4. Bline Calibration					✔		
5. Gap Calibration						✔	
6. READY (Skip AUTO.BAS)							✔

6.1.1 Gap/Black Mark Sensor Calibration

Calibrate the Gap/Black Mark Sensor sensitivity when:

- You purchase a new printer.
- You change label stock.
- The label printer initializes.

To calibrate the Gap/Black Mark Sensors:

1. Turn off the printer.
2. Select the function you want:

- For TJ-4005DN/TJ-4010TN/TJ-4020TN/TJ-4120TN:
  a. Press and hold the **Pause** button, and then turn on the Power Switch.
  b. Release the button when the Power LED lights, and the printer feeds the labels.

- For TJ-4021TN/TJ-4021TNR/TJ-4121TN/TJ-4121TNR:
  a. Press and hold the right **Selection** button, and then turn on the Power Switch.
  b. Release the button when **Sensor Calibration** appears on the Touchscreen.

Note

- The LED color will change as follows:
  Amber (lit) → **red (5 times)** → amber (5 times) → green (5 times) → green/amber (5 times) → red/amber (5 times) → green (lit)
- To select the sensor for calibration, send the correct command to the printer:
  · For the Gap Sensor: send the GAP command
  · For the Black Mark Sensor: send the BLINE command
  For more information about the available commands, see the *FBPL Command Reference* on your model's **Manuals** page at support.brother.com.

6.1.2 Gap/Black Mark Sensor Calibration, Self-Test, and Entering Dump Mode

Calibrate the Gap or Black Mark Sensor if the sensor's settings used in the last print job are not suitable for the current print job. During the calibration of the Gap/Black Mark Sensor, the printer detects the label length, prints the internal configuration (self-test), and then enters Dump Mode.

To calibrate the Gap/Black Mark Sensor:

1. Turn off the printer.
2. Select the function you want:

- For TJ-4005DN/TJ-4010TN/TJ-4020TN/TJ-4120TN:
  a. Press and hold the **Feed** button, and then turn on the printer.
  b. Release the button when the Power LED lights, and the printer feeds the labels.

- For TJ-4021TN/TJ-4021TNR/TJ-4121TN/TJ-4121TNR:
  a. Press and hold the right **Selection** button, and then turn on the Power Switch.
  b. Release the button when **Self-test** appears on the Touchscreen.

Note

The LED color will change as follows:
Amber (lit) → red (5 times) → **amber (5 times)** → green (5 times) → green/amber (5 times) → red/amber (5 times) → green (lit)

3. The printer calibrates the sensor and detects the label length, prints the internal settings, and then enters Dump Mode.

Note

To select the sensor for calibration, send the correct command to the printer:

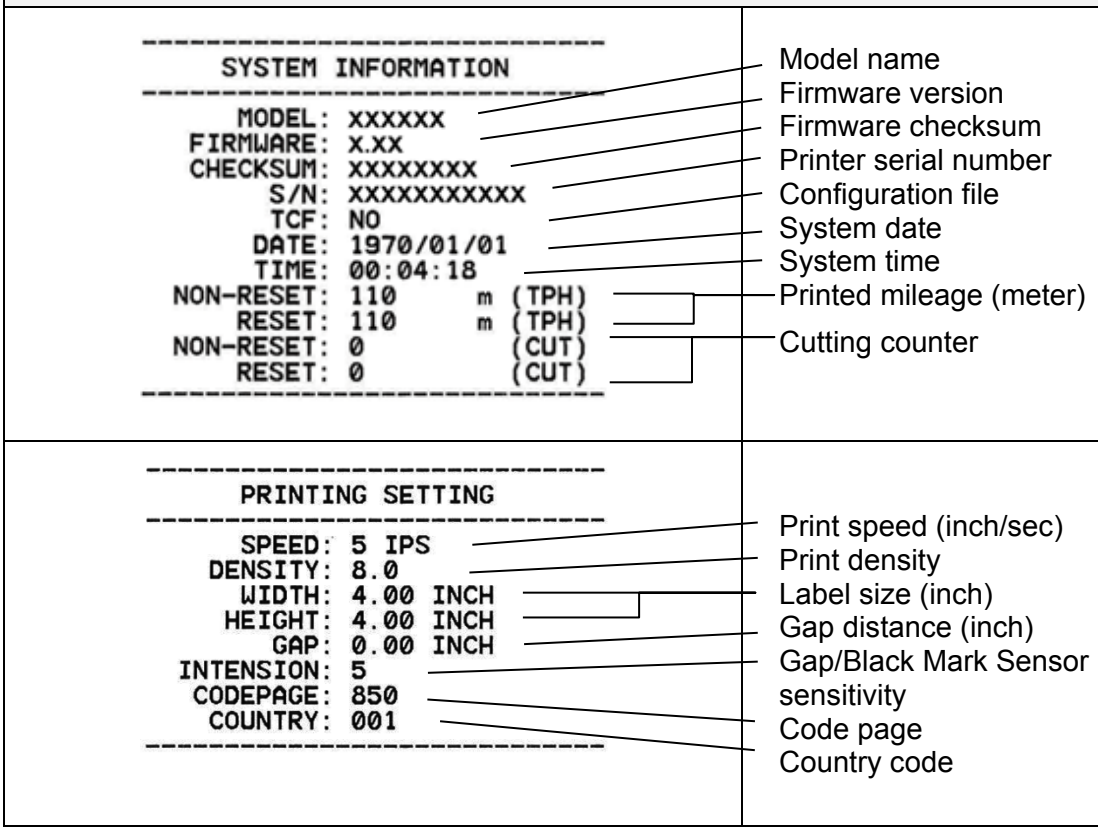
- For the Gap Sensor: send the GAP command
- For the Black Mark Sensor: send the BLINE command

For more information about the available commands, see the *FBPL Command Reference* on your model's **Manuals** page at support.brother.com.

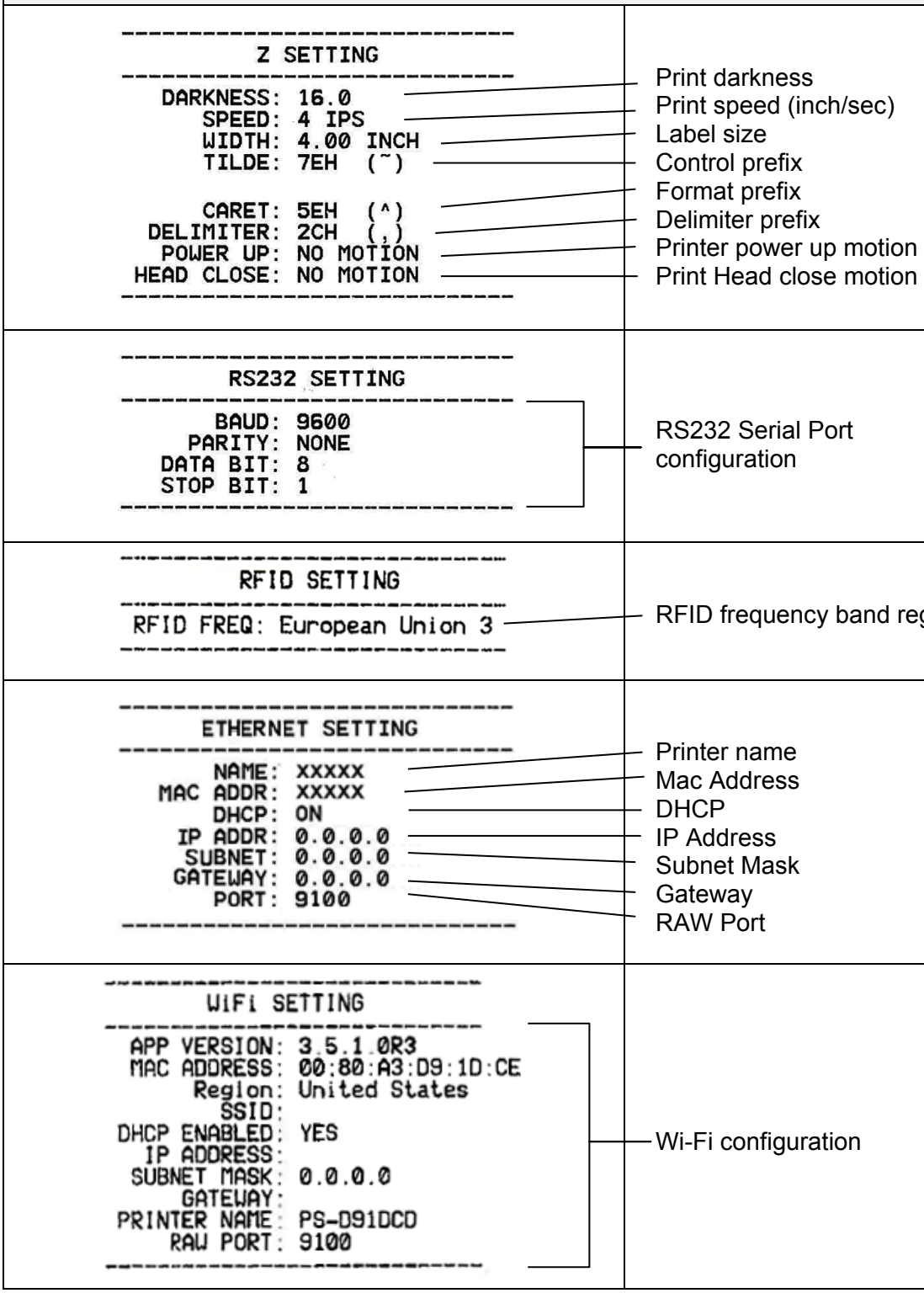
■ Self-test

Print the printer configuration after you run Gap/Black Mark Sensor calibration. The self-test printout lists the printer's configuration and available memory, and can indicate if there is any dot damage on the heater component.

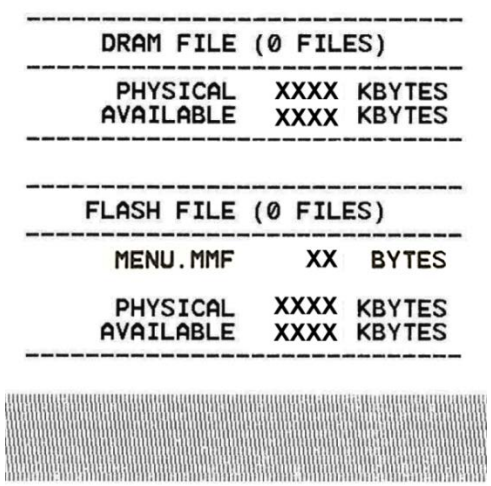
Self-test printout



Self-test printout



Self-test printout

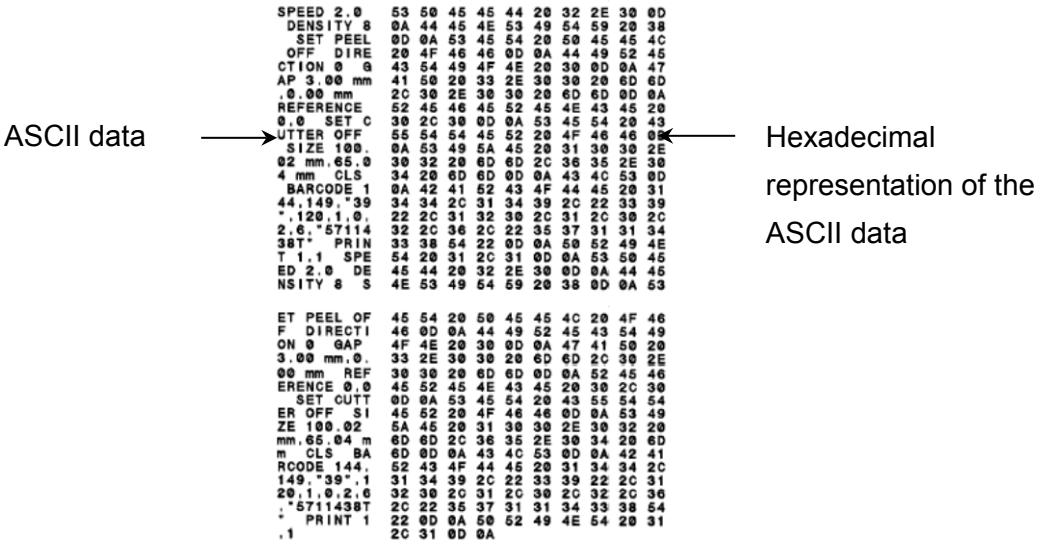


■ Dump Mode

Note

- Dump Mode requires 101.5 mm wide paper.
- To resume normal printing, turn the printer off and then on again.

The printer enters Dump Mode after printing the printer configuration. Dump Mode allows users to verify and debug the printer's programs. The characters in the left column are received from the printer's system and those in the right column are their hexadecimal representation.



6.1.3 Printer Initialization

Printer initialization clears the printer's DRAM and restores its factory settings.

1. Turn off the printer.
2. Select the function you want:

- For TJ-4005DN/TJ-4010TN/TJ-4020TN/TJ-4120TN:
  a. Press and hold the **Pause** and **Feed** button, and then turn on the printer.
  b. Release the button when the Power LED lights on.

- For TJ-4021TN/TJ-4021TNR/TJ-4121TN/TJ-4121TNR:
  a. Press and hold the right **Selection** button, and then turn on the Power Switch.
  b. Release the button when **Factory Default** appears on the Touchscreen.

Note

The LED color will change as follows:

Amber (lit) → red (5 times) → amber (5 times) → **green (5 times)** → green/amber (5 times) → red/amber (5 times) → green (lit)

After the initialization, the following factory settings will be restored:

Parameter	Default setting
Speed	127 mm/sec (5 ips) (203 DPI) 76 mm/sec (3 ips) (300 DPI)
Density	8
Label Width	101.5 mm
Label Height	101.5 mm
Sensor Type	Gap sensor: TJ-4005DN, TJ-4010TN, TJ-4020TN, TJ-4021TN, TJ-4120TN, TJ-4121TN Black sensor: TJ-4021TNR, TJ-4121TNR
Gap Setting	3 mm
Print Direction	0
Reference Point	0,0 (upper left corner)
Offset	0
Tear Mode	On
Peeler Mode	Off
Cutter Mode	Off
Rewinder Mode	Off
Code Page	850
Country Code	001
Clear Flash Memory	No

6.1.4 Media Sensor Calibration (for the Black Mark Sensor)

1. Turn off the printer.
2. Select the function you want:

- For TJ-4005DN/TJ-4010TN/TJ-4020TN/TJ-4120TN:
  The printer calibrates the Gap Sensor and the Black Mark Sensor simultaneously.
  a. Press and hold the **Pause** button, and then turn on the printer.
  b. Release the button when the Power LED lights, and the printer feeds the labels.

- For TJ-4021TN/TJ-4021TNR/TJ-4121TN/TJ-4121TNR:
  a. Press and hold the right **Selection** button, and then turn on the Power Switch.
  b. Release the button when **Bline Calibration** appears on the Touchscreen.

Note

The LED color will change as follows:

Amber (lit) → red (5 times) → amber (5 times) → green (5 times) → **green/amber (5 times)** → red/amber (5 times) → green (lit)

6.1.5 Media Sensor Calibration (for the Gap Sensor)

1. Turn off the printer.
2. Select the function you want:

- For TJ-4005DN/TJ-4010TN/TJ-4020TN/TJ-4120TN:
  The printer calibrates the Gap Sensor and the Black Mark Sensor simultaneously.
  a. Press and hold the **Pause** button, and then turn on the printer.
  b. Release the button when the Power LED lights, and the printer feeds the labels.

- For TJ-4021TN/TJ-4021TNR/TJ-4121TN/TJ-4121TNR:
  a. Press and hold the right **Selection** button, and then turn on the Power Switch.
  b. Release the button when **Gap Calibration** appears on the Touchscreen.

Note

The LED color will change as follows:

Amber (lit) → red (5 times) → amber (5 times) → green (5 times) → green/amber (5 times) → **red/amber (5 times)** → green (lit)

6.1.6 Skip the AUTO.BAS Program

You can upload the AUTO.BAS program to the printer's flash memory so that it runs automatically at startup, but if you do not want it to run automatically, follow these steps:

1. Turn off the printer.
2. Select the function you want:

- For TJ-4005DN/TJ-4010TN/TJ-4020TN/TJ-4120TN:
  Press and hold the **Pause** and **Feed** buttons, and then turn on the printer.

- For TJ-4021TN/TJ-4021TNR/TJ-4121TN/TJ-4121TNR:
  a. Press and hold the right **Selection** button, and then turn on the Power Switch.
  b. Release the button when **READY** (Skip AUTO.BAS) appears on the Touchscreen.

Note

The LED color will change in the following order:
Amber (lit) → red (5 times) → amber (5 times) → green (5 times) → green/amber (5 times) → red/amber (5 times) → **green (lit)**

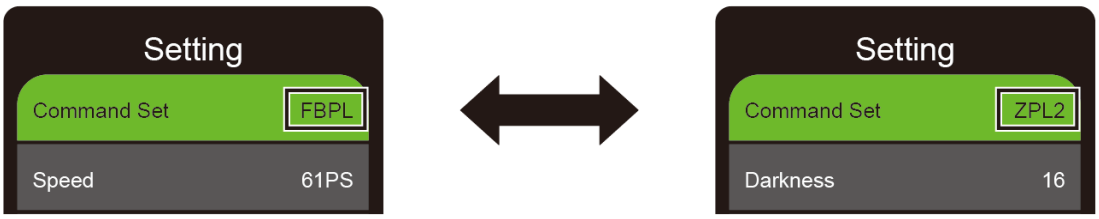
3. The printer will start without running the AUTO.BAS program.

7. Change Printer Settings using the Touchscreen

(Available for TJ-4021TN/4021TNR/4121TN/4121TNR only.)

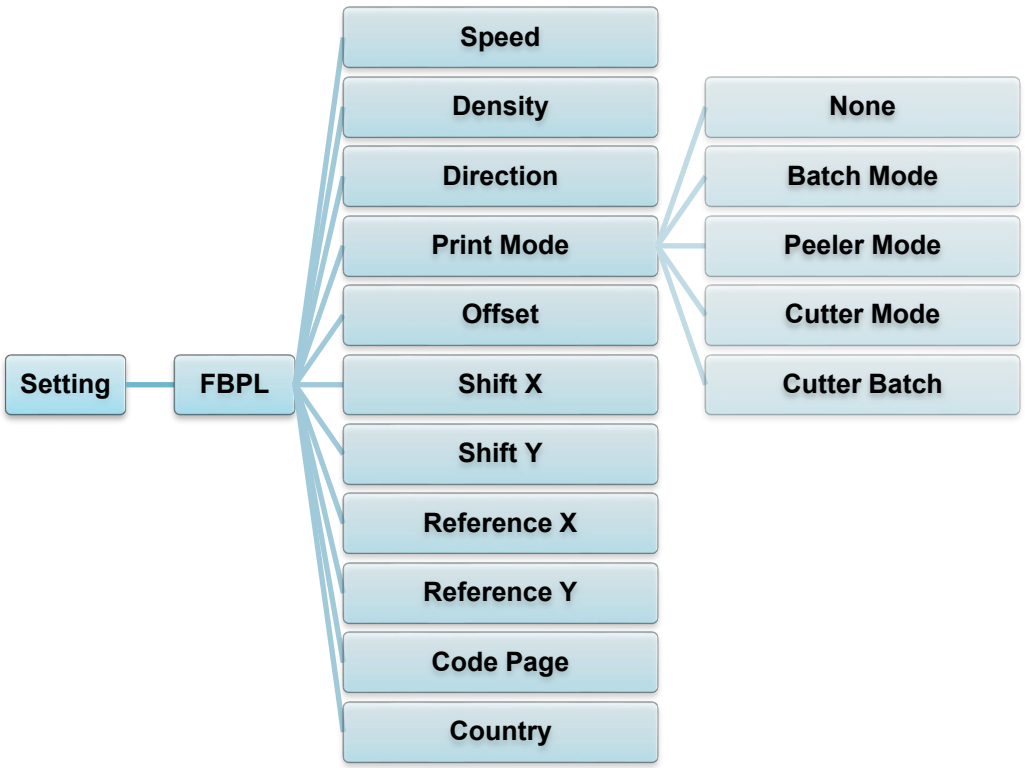
7.1 Setting Menu

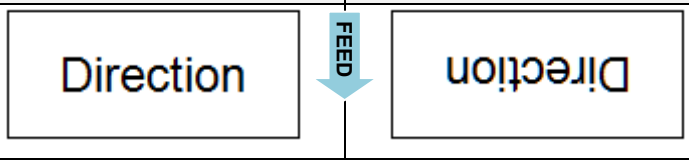
1. In the Main Menu, tap **Setting**.
2. Tap **Command Set**, and then select the programming language you want.
3. Tap the icon.



7.1.1 FBPL Settings

Available FBPL settings:



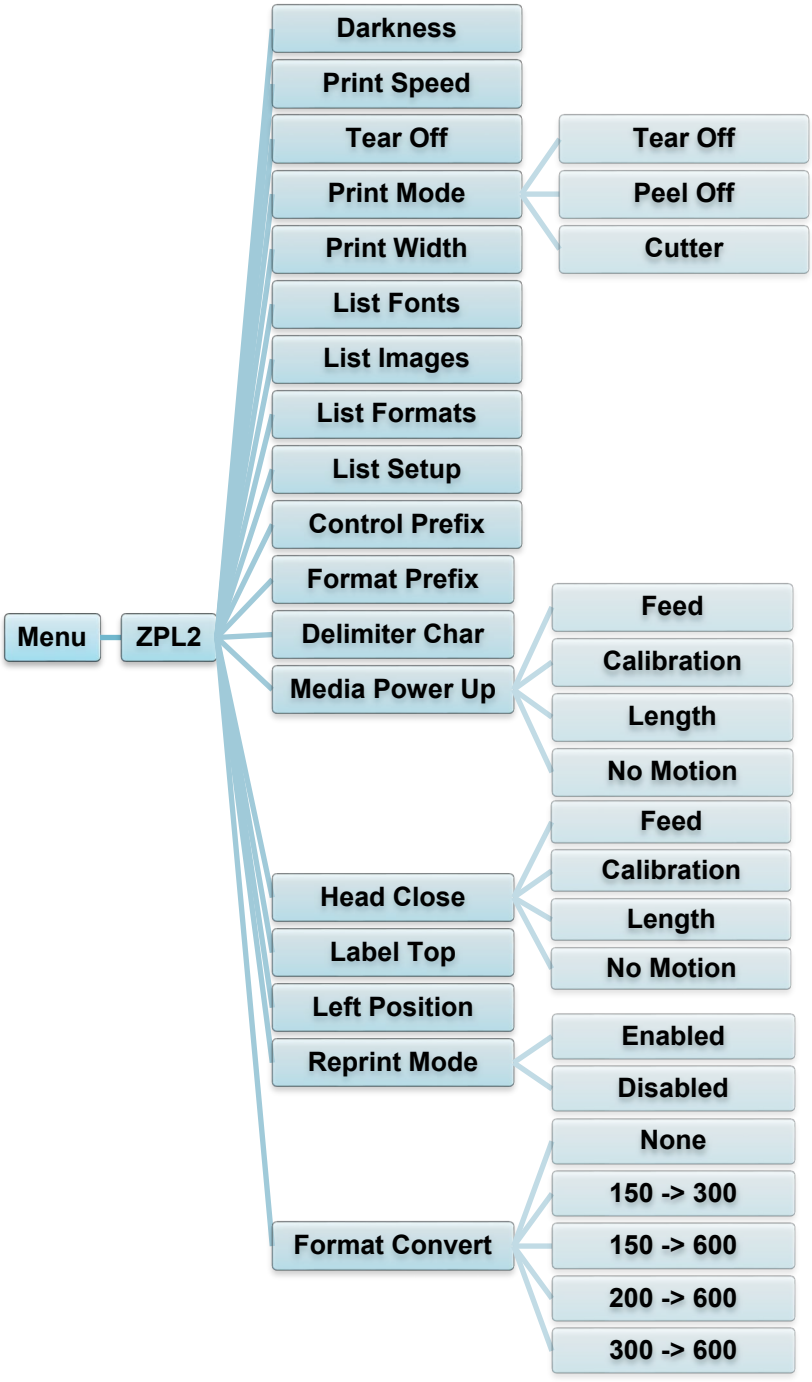
<table>
<tr><th>Setting</th><th>Description</th></tr>
<tr><td>Speed</td><td>Set up the print speed. Settings range from:
• 1 - 10 for 203 dpi (Default: 5)
• 1 - 7 for 300 dpi (Default: 3)</td></tr>
<tr><td>Density</td><td>Adjust the print darkness/lightness. Settings range from 0 to 15. You may need to adjust the print density based on the media.</td></tr>
<tr><td>Direction</td><td>Specify print direction.
<table>
<tr><th>DIRECTION 0</th><th>DIRECTION 1</th></tr>
<tr><td> 
</td></tr>
</table></td></tr>
<tr><td>Print Mode</td><td>Set the Print Mode.
<table>
<tr><th>Print Mode</th><th>Description</th></tr>
<tr><td>None</td><td>The top of the next label is aligned with the Print Head burn line (Tear Off Mode).</td></tr>
<tr><td>Batch Mode</td><td>When the image is printed, the Gap/Black Mark is fed through the tear plate for tear away.</td></tr>
<tr><td>Peeler Mode</td><td>Enables label Peeler Mode.</td></tr>
<tr><td>Cutter Mode</td><td>Enables label Cutter Mode.</td></tr>
<tr><td>Cutter Batch</td><td>Cuts the label once at the end of the printing job.</td></tr>
</table></td></tr>
<tr><td>Offset</td><td>Fine-tune the media stop location. Settings range from -999 dots to 999 dots.</td></tr>
<tr><td>Shift X</td><td rowspan="2">Fine-tune the print position. Settings range from -999 dots to 999 dots.</td></tr>
<tr><td>Shift Y</td></tr>
<tr><td>Reference X</td><td rowspan="2">Set the origin of the printer coordinate system horizontally and vertically. Settings range from 0 dots to 999 dots.</td></tr>
<tr><td>Reference Y</td></tr>
<tr><td>Code Page</td><td>Set the international character set code page.</td></tr>
<tr><td>Country</td><td>Set the country code. Settings range from 1 to 358.</td></tr>
</table>

Note

If printing from the downloaded software/driver, the software/driver commands will overwrite the settings set from the Touchscreen.

7.1.2 ZPL2 Settings

Available ZPL2 settings:



<table>
<tr><th>Setting</th><th>Description</th></tr>
<tr><td>Darkness</td><td>Set up the print darkness. Settings range from 0 to 30. You may need to adjust the print density based on the selected media.</td></tr>
<tr><td>Print Speed</td><td>Set up the print speed. Settings range from:
2 - 10 for 203 dpi (Default: 4)
2 - 7 for 300 dpi (Default: 3)</td></tr>
<tr><td>Tear Off</td><td>Fine-tune the media stop location. Settings range from -120 dots to 120 dots.</td></tr>
<tr><td>Print Mode</td><td>Set the print mode.<table><tr><th>Print Mode</th><th>Description</th></tr><tr><td>Tear Off</td><td>The top of the next label is aligned with the Print Head burn line.</td></tr><tr><td>Peel Off</td><td>Enable the label Peeler Mode.</td></tr><tr><td>Cutter</td><td>Enable the label Cutter Mode.</td></tr></table></td></tr>
<tr><td>Print Width</td><td>Set the print width. Settings range from 2 dots to 999 dots.</td></tr>
<tr><td>List Fonts</td><td>Print the current printer fonts list to the label. The fonts can be stored in the printer’s DRAM, Flash, or optional memory card.</td></tr>
<tr><td>List Images</td><td>Print the current printer images list to the label. The images can be stored in the printer’s DRAM, Flash, or optional memory card.</td></tr>
<tr><td>List Formats</td><td>Print the current printer formats list to the label. The formats can be stored in the printer’s DRAM, Flash, or optional memory card.</td></tr>
<tr><td>List Setup</td><td>Print the current printer configuration.</td></tr>
<tr><td>Control Prefix</td><td>Set the control prefix character.</td></tr>
<tr><td>Format Prefix</td><td>Set the format prefix character.</td></tr>
<tr><td>Delimiter Char</td><td>Set the delimiter character.</td></tr>
<tr><td>Media Power Up</td><td>Set the media action you want when you turn the printer on.<table><tr><th>Action</th><th>Description</th></tr><tr><td>Feed</td><td>The printer ejects one label.</td></tr><tr><td>Calibration</td><td>The printer calibrates the sensor levels, determines the label length, and feeds one label.</td></tr><tr><td>Length</td><td>The printer determines the label length and feeds the label.</td></tr><tr><td>No Motion</td><td>No action.</td></tr></table></td></tr>
<tr><td>Head Close</td><td>Set the media action when you close the Print Head.<table><tr><th>Action</th><th>Description</th></tr><tr><td>Feed</td><td>The printer ejects one label.</td></tr><tr><td>Calibration</td><td>The printer calibrates the sensor levels, determines the label length, and feeds one label.</td></tr><tr><td>Length</td><td>The printer determines the label length and feeds the label.</td></tr><tr><td>No Motion</td><td>No action.</td></tr></table></td></tr>
</table>

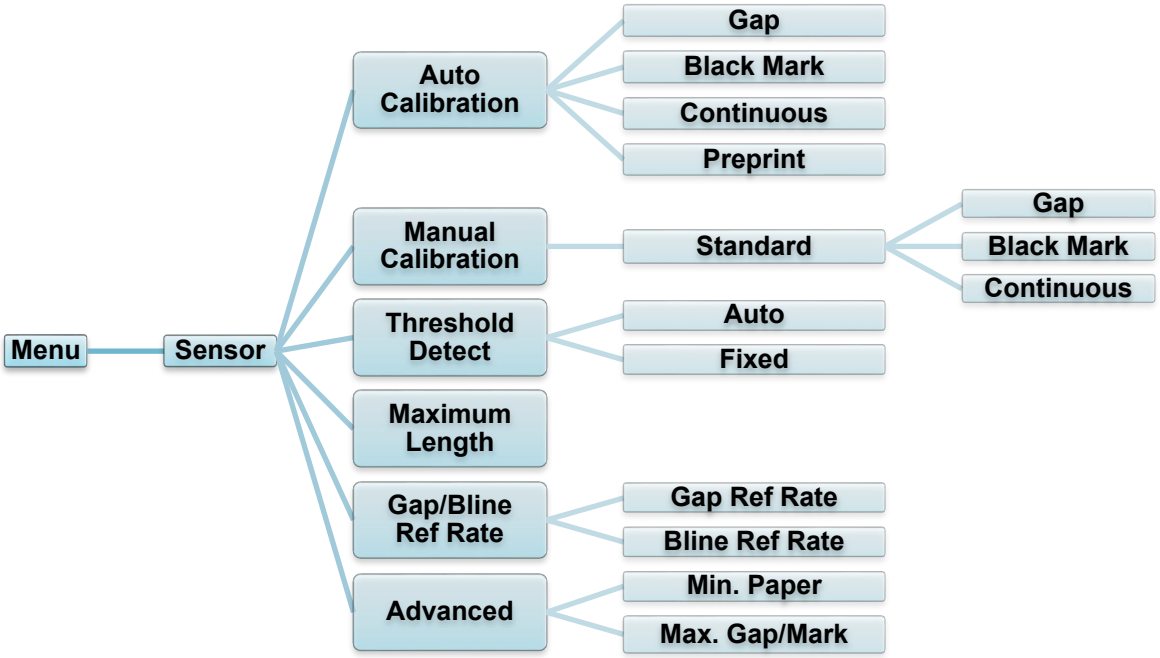
Setting	Description
Label Top	Adjust the print position vertically on the label. Settings range from -120 dots to +120 dots.
Left Position	Adjust the print position horizontally on the label. Settings range from -9999 dots to +9999 dots.
Reprint Mode	Reprint the last label by tapping the Up arrow ( ) button on the Touchscreen.
Format Convert	Selects the bitmap scaling factor. The first number is the original DPI value; the second number is the DPI setting you want.

Note

If printing from the downloaded software/driver, the software/driver commands will overwrite the settings set from the Touchscreen.

7.2 Sensor Settings

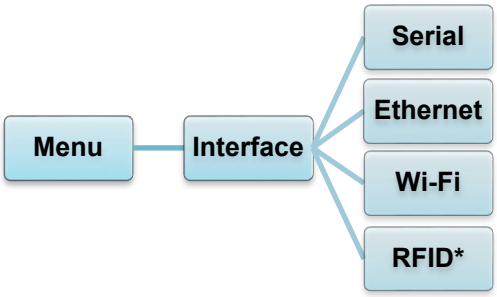
We recommend calibrating the sensors every time you change the media.



Setting	Description
Auto Calibration	Set the media sensor type and calibrate the selected sensor automatically. The printer feeds up to three gap labels to calibrate the sensor sensitivity automatically.
Manual Calibration	If “Automatic” cannot apply to the media, use the “Manual” function to set the paper length and gap/BLINE size, and then scan the backing/mark to calibrate the sensor sensitivity.
Threshold Detect	Set the sensor sensitivity to Fixed or Auto.
Maximum Length	Set the maximum length for label calibration.
Gap/Bline Ref Rate	Adjusts sensitivity for gap (spacing) detection on die-cut labels or for black mark detection.
Advanced	Set the minimum paper length and maximum gap/BLINE length to calibrate the sensor sensitivity automatically.

7.3 Interface Settings

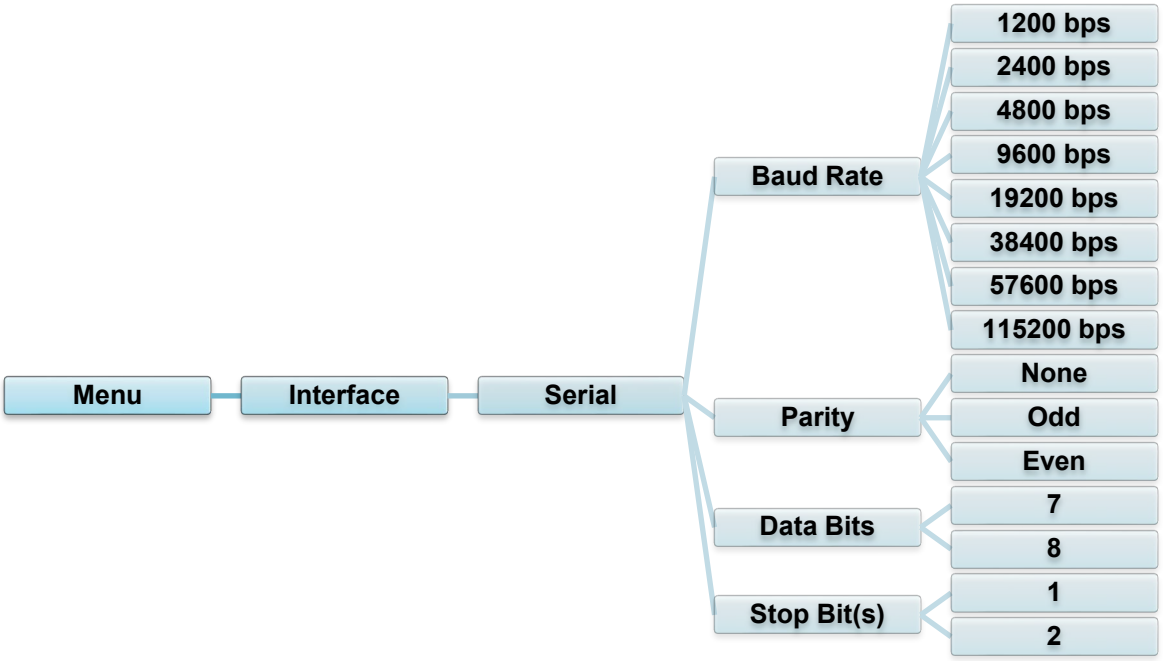
Set the printer interface settings.



* Available for TJ-4021TNR and TJ-4121TNR only.

7.3.1 Serial Communication Settings

Set the printer RS-232 settings.

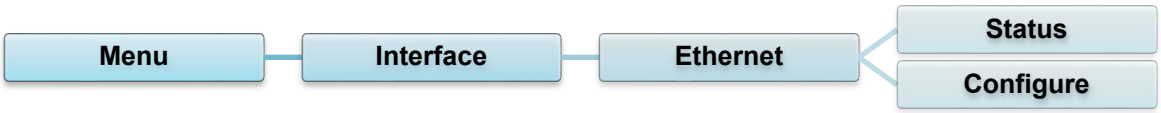


Setting	Description
Baud Rate	Set the RS-232 Baud rate.
Parity	Set the RS-232 Parity.
Data Bits	Set the RS-232 Data bits.
Stop Bit(s)	Set the RS-232 Stop bits.

7.3.2 Ethernet Settings

Configure your printer's Ethernet (wired) connection and check its status.

When the Ethernet is connected, the Ethernet icon and IP address appear on the Touchscreen as shown below.



Item	Description
Status	Check the Ethernet IP address and Mac address setting status.
Configure	**DHCP:** Enable (On) or disable (Off) the Dynamic Host Configuration Protocol (DHCP) network protocol. **Static IP:** Set the printer's IP address, subnet mask, and gateway.

Note

For information about installing a printer driver, see section *5.1.3 Wired Network Connection (Windows)*.

7.3.3 Wi-Fi Settings

Note

To use Wi-Fi, the optional Wi-Fi Interface (PA-WI-002) is required.

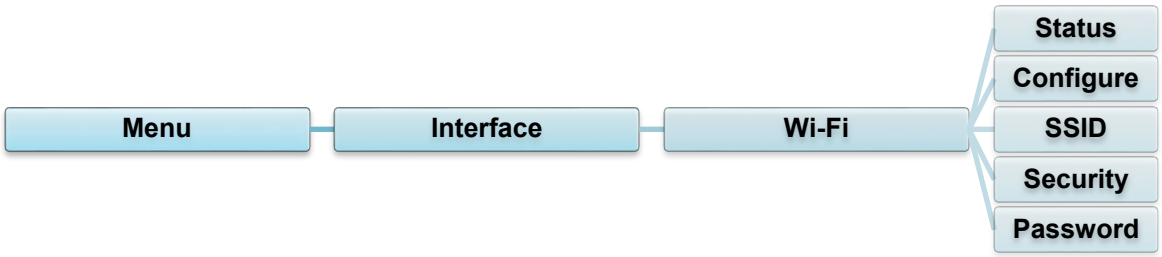
Configure your printer's Wi-Fi connection and check its status.

To use this feature, set up the Enterprise configuration using the Brother Printer Management Tool (BPM). For more information on setting Wi-Fi using the BPM, see the *Brother Printer Management Tool Quick Start Guide* on your model's **Manuals** page at support.brother.com.

When the Wi-Fi Interface is connected, the Wi-Fi icon and IP address appear on the Touchscreen as shown below.

Note

Make sure both your wireless router/access point's and your printer's network settings are correctly set up. For more information, see the documentation provided with your wireless router/access point, or contact the router manufacturer, your system administrator, or Internet service provider.



Item	Description
Status	Check the Wi-Fi IP address and Mac address setting status.
Configure	**DHCP:** Enable (On) or disable (Off) the Dynamic Host Configuration Protocol (DHCP) network protocol. **Static IP:** Set the printer's IP address, subnet mask, and gateway.
SSID	Set the SSID (Network Name).
Security	Select the Wi-Fi encryption.
Password	Set the password (Network Key).

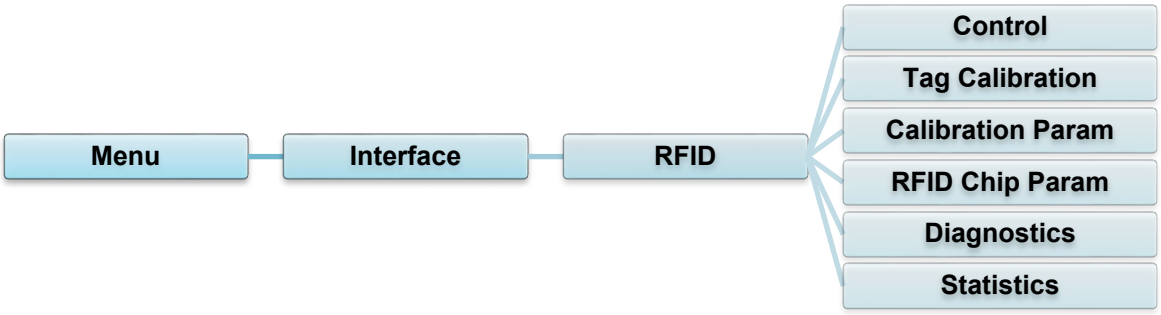
Note

For information about installing a printer driver, see section *5.1.2 Wi-Fi Network Connection (Windows)*.

7.3.4 RFID (Radio Frequency Identification) Settings

(Available for TJ-4021TNR and TJ-4121TNR only)

Set the printer RFID settings.



<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Control</td><td>
<table>
<tr><td>RFID Active</td><td>Select “Enable” to enable the RFID encoder module.</td></tr>
<tr><td>Error Handling</td><td>Select the error handling mode for RFID errors.
<table>
<tr><td>Overstrike (Default)</td><td>Each incorrectly processed label prints with the Overstrike pattern, and the form retries on a new label until the Label Retry count is exhausted. Whether an error message appears or the label gets reprinted depends on the Max Retry Error setting.</td></tr>
<tr><td>None</td><td>No specific action is taken when a tag fails to be programmed.</td></tr>
<tr><td>Stop</td><td>The printer will halt and display the error message “RFID Error: Check Media”. The label is discarded and reprinting of the label must be initiated from the host. When the error is cleared, the label with the incorrect tag moves forward until the next label is in position to be printed.</td></tr>
</table></td></tr>
<tr><td>Label Retry</td><td>Specifies the number of label retries that the RFID encoder will attempt before declaring a fault. This may indicate a problem with the RFID encoder, the printer setup, or the label stock.
<table>
<tr><td>Minimum</td><td>1</td></tr>
<tr><td>Maximum</td><td>10 (Default)</td></tr>
</table></td></tr>
<tr><td>Max Retry Error</td><td>Determines if errors occur when the Label Retry count is exceeded.</td></tr>
<tr><td>EPC Write Ctrl</td><td>Controls how the printer encodes the RFID tag EPC field.</td></tr>
<tr><td>Non-RFID Warning</td><td>Displays a warning if the printer receives a print job that does not contain any RFID commands when RFID media is installed in the printer.</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Tag Calibration</td><td>This submenu is used to perform an RFID calibration. You must perform a tag calibration when installing a new tag in the printer. RFID calibration determines the RFID chip type, the write/read power, program position, and the length of the EPC/User field.
<table>
<tr><td>Do RFID Calibrate</td><td>Performs the RFID calibration.
Execute it every time you change the RFID tag type.</td></tr>
<tr><td>Num Label for Calibration</td><td>Determines the number of tags to use for calibration. However, this value does not include tags moved when seeking gaps during the calibration process. Depending on the difficulty in calibrating the installed tags, the printer may use more or fewer labels, but generally, the greater the number selected in this menu, the more tags will be used to determine the calibration result.
<table>
<tr><td>Minimum</td><td>3 (Default)</td></tr>
<tr><td>Maximum</td><td>7</td></tr>
</table></td></tr>
<tr><td>Test EPC Length</td><td>Determines the size of the EPC data that will be used to perform the RFID calibration. This length can be increased to improve the accuracy of the RFID calibration, but it should not be increased to a value greater than the maximum EPC length that the current Tag Type can support.
<table>
<tr><td>Minimum</td><td>16</td></tr>
<tr><td>Maximum</td><td>256</td></tr>
<tr><td>Default</td><td>96</td></tr>
</table></td></tr>
</table></td></tr>
<tr><td>Calibration Param</td><td>Contains the settings used for optimal tag encoding. These parameters can be obtained automatically through RFID calibration.
<table>
<tr><td>Tag Position</td><td>Determines how far the RFID tag encoding position of the currently installed tag should be offset from Top of Form.</td></tr>
<tr><td>Write Power</td><td>Specifies the write power level to be used in the RFID encoder. Normally, this value is set automatically by the RFID calibration process and should not be changed.
<table>
<tr><td>Minimum</td><td>1</td></tr>
<tr><td>Maximum</td><td>30</td></tr>
</table></td></tr>
<tr><td>Read Power</td><td>Specifies the read power level to be used in the RFID encoder. Normally, this value is set automatically by the RFID calibration process and should not be changed.
<table>
<tr><td>Minimum</td><td>1</td></tr>
<tr><td>Maximum</td><td>30</td></tr>
</table></td></tr>
</table></td></tr>
</table>

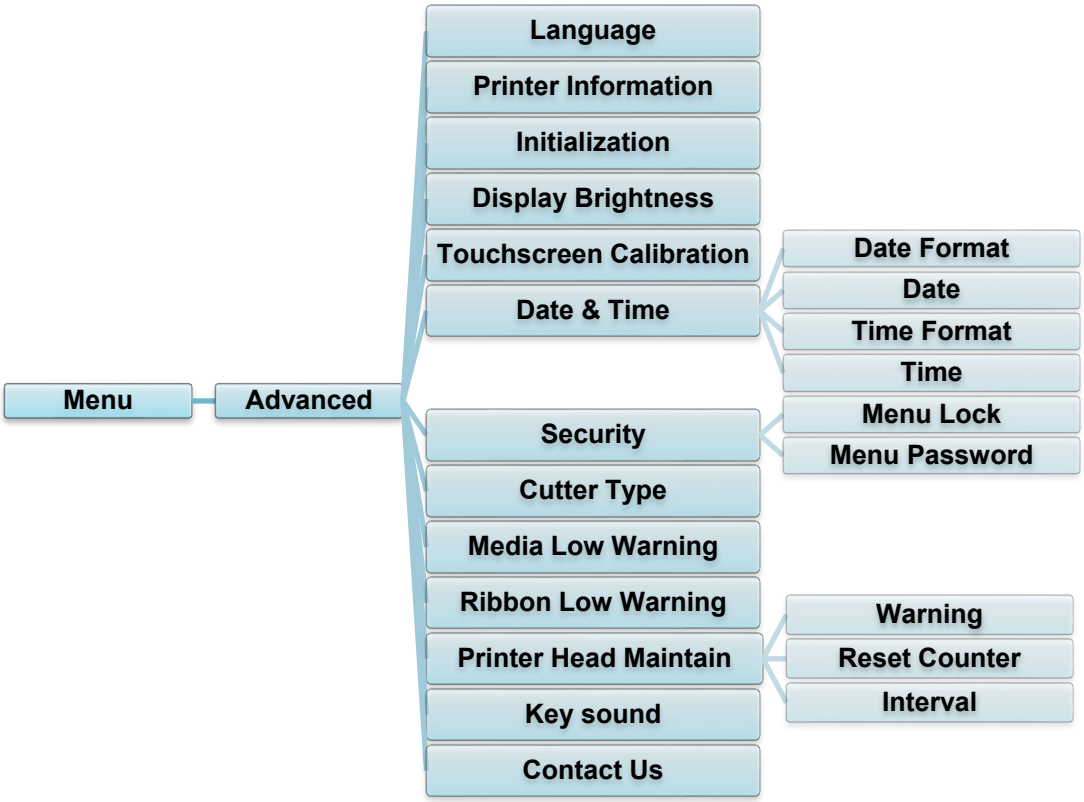
<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>RFID Chip Param</td><td>These settings are used to configure the system when custom RFID tags are required.
<table>
<tr><td>USR Size</td><td>Specifies the USR block bytes size within the RFID tag memory. Normally, this value is set automatically by the RFID calibration process and should not be changed.
<table>
<tr><td>Minimum</td><td>0 (Default)</td></tr>
<tr><td>Maximum</td><td>256</td></tr>
</table>
Note
This value is hidden if Higgs 3 tags are detected, and the Higgs 3 USR Len menu is shown instead.</td></tr>
<tr><td>USR Address</td><td>Specifies the starting location of the USR block within the RFID tag memory. Normally, this value is set automatically by the RFID calibration process and should not be changed.
<table>
<tr><td>Minimum</td><td>0 (Default)</td></tr>
<tr><td>Maximum</td><td>32</td></tr>
</table></td></tr>
<tr><td>TID Size</td><td>Indicates the size of the memory block within the RFID tag memory that contains the Tag ID. Normally, this value is set automatically by the RFID calibration process and should not be changed.
<table>
<tr><td>Minimum</td><td>0</td></tr>
<tr><td>Maximum</td><td>12</td></tr>
<tr><td>Default</td><td>8</td></tr>
</table></td></tr>
<tr><td>Higgs 3 USR Len</td><td>Higgs 3 tags differ from other RFID tags in that their memory bank size is not fixed. To accommodate EPC lengths longer than 96 bits, Higgs 3 borrows memory from the USR bank. This read-only menu indicates the size in bits of the USR block within the RFID tag memory.
<table>
<tr><td>Minimum</td><td>128</td></tr>
<tr><td>Maximum</td><td>512 (Default)</td></tr>
</table>
Note
This menu will only be shown if a Higgs 3 tag is detected.</td></tr>
<tr><td>Higgs 3 EPC Len</td><td>Higgs 3 tags differ from other RFID tags in that their memory bank size is not fixed. To accommodate EPC lengths longer than 96 bits, Higgs 3 borrows memory from the USR bank. This menu item allows you to select the number of bits dedicated to the EPC block within the RFID tag memory.
<table>
<tr><td>Minimum</td><td>96</td></tr>
<tr><td>Maximum</td><td>480</td></tr>
<tr><td>Default</td><td>96</td></tr>
</table>
Note
This menu will only be shown if a Higgs 3 tag is detected.</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>RFID Chip Param</td><td>
<table>
<tr><td>Tag Length</td><td>Specifies the EPC block bytes size within the RFID tag memory. This value is set automatically by the RFID calibration process and should not be changed.
<table>
<tr><td>Minimum</td><td>8</td></tr>
<tr><td>Maximum</td><td>62</td></tr>
<tr><td>Default</td><td>12</td></tr>
</table>
Note
This value is hidden if Higgs 3 tags are detected, and the Higgs 3 EPC Len menu is shown instead.</td></tr>
<tr><td>EPC Address</td><td>Specifies the starting location of the EPC block within the RFID tag memory. Normally, this value is set automatically by the RFID calibration process and should not be changed.
<table>
<tr><td>Minimum</td><td>0 (Default)</td></tr>
<tr><td>Maximum</td><td>32</td></tr>
</table></td></tr>
<tr><td>Block Size</td><td>Specifies the maximum number of bytes written to the USR block within the RFID tag memory at one time. Normally, this value is set automatically by the RFID calibration process and should not be changed.
<table>
<tr><td>Minimum</td><td>0</td></tr>
<tr><td>Maximum</td><td>32</td></tr>
<tr><td>Default</td><td>8</td></tr>
</table></td></tr>
</table>
</td></tr>
<tr><td>Diagnostics</td><td>These settings are used to run test procedures to help determine the accuracy of the RFID system and troubleshoot it.
<table>
<tr><td>Read Tag</td><td>Reads the tag in range of the internal RFID coupler and reports the tag data to the debug port and displays it on the Touchscreen. It is primarily intended for development verification by checking that the system is working.
Note
This setting does not position the RFID tag over the coupler. Make sure to position the tag over the coupler to receive an accurate reading.</td></tr>
<tr><td>Read Tag & Eject</td><td>This setting works exactly the same as Read Tag, except that after the printer reads the tag, it feeds the label to the next top-of-form.
Note
This setting does not position the RFID tag over the coupler. Make sure to position the tag over the coupler to receive an accurate reading.</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Diagnostics</td><td>
<table>
<tr><td>Read USR</td><td>Reads the User Memory bank of the tag in range of the internal RFID coupler and reports the data to the debug port and displays it on the Touchscreen. It is primarily intended for development verification by checking that the system is working.
Note
This setting does not position the RFID tag over the coupler. Make sure to position the tag over the coupler to receive an accurate reading.</td></tr>
<tr><td>Read TID</td><td>Reads the Tag ID (TID) from the tag in range of the internal RFID coupler and displays the value read in the Tag ID menu.
Note
This setting does not position the RFID tag over the coupler. Make sure to position the tag over the coupler to receive an accurate reading.</td></tr>
<tr><td>Tag ID</td><td>Displays the first Tag ID (TID) read since power-up, or if using the Read TID menu, the most recently read TID. If no tag is in range of the internal RFID coupler, “Unknown” appears on the Touchscreen.</td></tr>
<tr><td>Read PC</td><td>Reads the PC (Protocol Control) field from an RFID tag in range of the internal RFID coupler and displays the value read in the Tag PC menu.
Note
This setting does not position the RFID tag over the coupler. Make sure to position the tag over the coupler to receive an accurate reading.</td></tr>
<tr><td>Tag PC</td><td>Displays the last PC (Protocol Control) field read from an RFID tag. If no tag is in range of the internal RFID coupler, “Unknown” appears on the Touchscreen.</td></tr>
<tr><td>Write EPC with 1s</td><td>Writes all ones to the tag in range of the internal RFID coupler. It is primarily intended for development verification by checking that the system is working.
Note
This setting does not position the RFID tag over the coupler. Make sure to position the tag over the coupler to receive an accurate writing.</td></tr>
<tr><td>Write EPC with 2s</td><td>Writes all twos to the tag in range of the internal RFID coupler. It is primarily intended for development verification by checking that the system is working.
Note
This setting does not position the RFID tag over the coupler. Make sure to position the tag over the coupler to receive an accurate writing.</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Statistics</td><td>These settings are generally read-only and used to collect and report statistics on how the RFID system is reporting on print jobs sent to the printer.
<table>
<tr><td>Tag Write Count</td><td>Displays the number of tags attempted to be written since the last Clear Tag Stat operation has been initiated.</td></tr>
<tr><td>Tag Failed Count</td><td>Displays the number of failed RFID tags since the last Clear Tag Stat operation has been initiated.</td></tr>
<tr><td>Tag Read Count</td><td>Displays the number of tags read since the last Clear Tag Stat operation.</td></tr>
<tr><td>Clear Tag Stat</td><td>Clears the Count menu items in this submenu.</td></tr>
<tr><td>RFID Reader F/W</td><td>(Available for TJ-4021TNR and TJ-4121TNR only)
Displays the RFID firmware version installed in the encoder.</td></tr>
<tr><td>RFID Reader Hd/W</td><td>(Available for TJ-4021TNR and TJ-4121TNR only)
Displays the RFID hardware version installed in the encoder.</td></tr>
</table></td></tr>
</table>

7.4 Advanced Settings



Item	Description
Language	Specify the Touchscreen language.
Printer Information	Check the printer serial number, printed mileage (in./m), number of printed labels (pcs), and cutting counter.
Initialization	Restore the printer settings to the default settings.
Display Brightness	Adjust the Touchscreen brightness (settings range from 0 to 100).
Touchscreen Calibration	Calibrate the Touchscreen.
Date & Time	Adjust the date and time displayed on the Touchscreen.
Security	Set the password for locking the menu or favorites. The default password is 8888.
Cutter Type	Set the Cutter Type.
Media Low Warning	Set the Media Low Warning message.

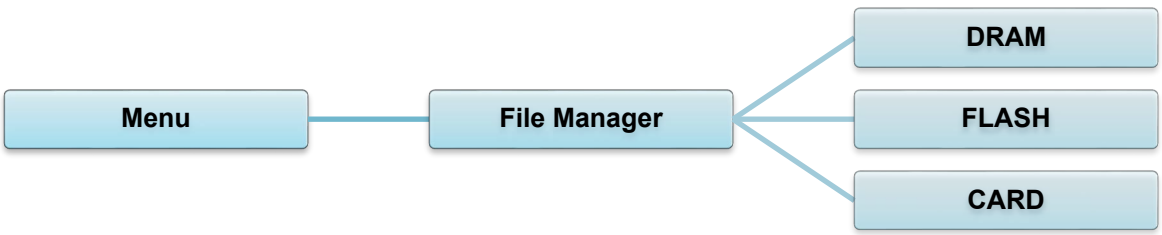
<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Ribbon Low Warning</td><td>Set the Ribbon Low Warning message. For example, if you set the value at 30 m, when the ribbon capacity is less than 30 m, the icon appears in red.

TJ-4020TN/TJ-4120TN: 30 m (Fixed)
TJ-4021TN/TJ-4021TNR/TJ-4121TN/TJ-4121TNR: 10 m - 100 m (Customisable)</td></tr>
<tr><td>Printer Head Maintain</td><td>Check the Print Head status and maintenance notifications.

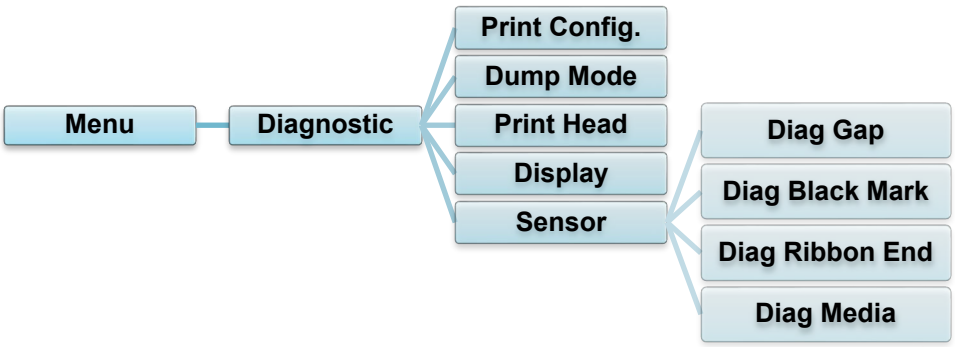
<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Warning</td><td>Enable or disable the Print Head cleaning warning. If this setting is enabled and the Print Head has reached the setting mileage limit, a warning appears on the Touchscreen to remind you to clean the Print Head. The default setting is “Disable”.</td></tr>
<tr><td>Reset Counter</td><td>Reset the Print Head mileage warning after the Print Head has been cleaned.</td></tr>
<tr><td>Interval</td><td>Set the mileage for when to display the Print Head cleaning warning. You must enable the “TPH warning lock” to use it. The default setting is 1 km.</td></tr>
</table>
</td></tr>
<tr><td>Key sound</td><td>Enable or disable the button press sound.</td></tr>
<tr><td>Contact us</td><td>Displays a QR code to access the Brother Support website at support.brother.com using a mobile device.</td></tr>
</table>

7.5 File Manager

Check the printer's available memory, show the files list, delete the files, or run the files that are saved in the printer's DRAM/Flash/Card memory.



7.6 Diagnostic Functions



Item	Description
Print Config.	Print the current printer configuration. On the configuration printout, there is a Print Head test pattern, which is useful for checking if there is dot damage to the Print Head Heating Element. For more information, see section *6.1.2 Gap/Black Mark Sensor Calibration, Self-Test, and Entering Dump Mode*.
Dump Mode	Captures the data from the communications port and prints out the data received by the printer. In the Dump Mode, all characters will be printed in two columns. The characters in the left column are received from the printer's system and those in the right column are their hexadecimal representation. It allows you to verify and debug the program. For more information, see section *6.1.2 Gap/Black Mark Sensor Calibration, Self-Test, and Entering Dump Mode*. **Note** Dump Mode requires 101.6 mm paper width.
Print Head	Check for any visible dots and the Print Head's temperature.
Display	Check the Touchscreen color state.
Sensor	Check the sensors' intensity and reading state.

8. Brother Printer Management Tool (BPM)

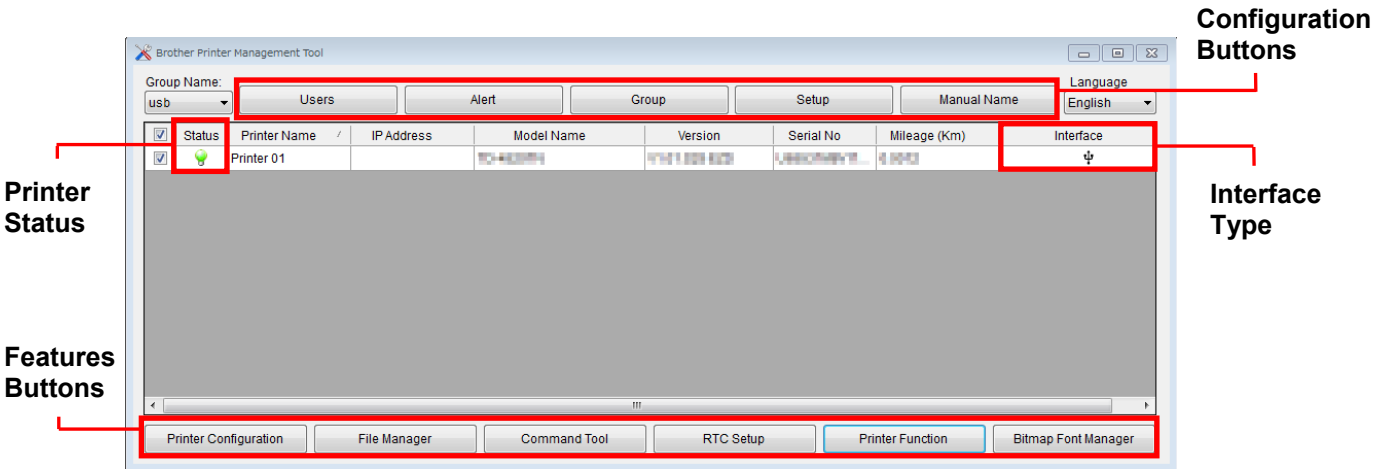
The Brother Printer Management Tool (BPM) is an integrated tool that lets you:

- Check a printer's status and settings
- Change printer settings
- Send additional commands to a printer
- Download graphics and fonts
- Create a printer bitmap font
- Download and update firmware
- Configure Wireless LAN (Wi-Fi)

Using this tool, you can also review your printer's status and settings to troubleshoot any problems.

8.1 Start the BPM

Double-click the BPM icon to start the software.



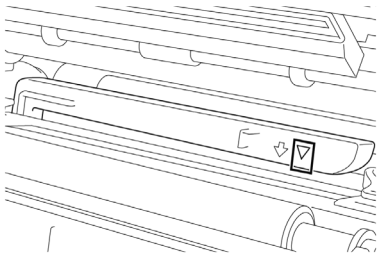
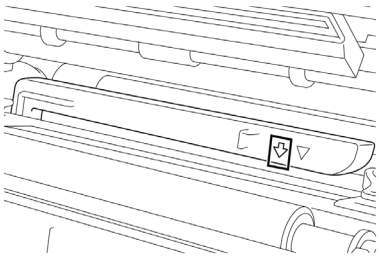
The BPM's main screen allows you to access the following options:

- Printer Configuration
- File Manager
- Command Tool
- RTC Setup
- Printer Function
- Bitmap Font Manager

For more information, see the *Brother Printer Management Tool Quick Start Guide* on your model's **Manuals** page at support.brother.com.

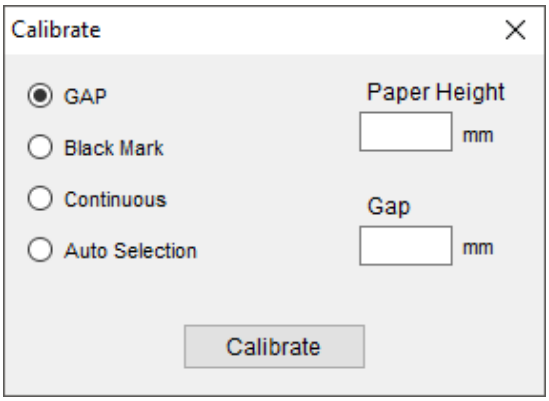
8.2 Auto-Calibrating the Media Sensor using the BPM

Use the BPM to set the media sensor type (Gap Sensor or Black Mark Sensor) and calibrate the selected sensor.

Gap Sensor	Black Mark Sensor
	

The Gap Sensor (transmissive sensor) detects the beginning of the label and the printer feeds the label to the correct position.
The Black Mark Sensor (reflective sensor) detects the mark and the printer feeds the media to the correct position.

1. Make sure the media is already installed and the Print Head is closed. (See section *3.4 Load the Media*.)
2. Turn on the printer.
3. Start the BPM.
4. Click the **Printer Function** button.
5. Click the **Calibrate** button.
6. Select the sensor media type and click **Calibrate**.



9. Setting Up the RFID

(Available for TJ-4021TNR and TJ-4121TNR only)

9.1 Introduction

When printing smart labels that use an EEPROM technology, the printer may need to write and verify some RFID tags more than once before accepting them. This additional processing may result in a short pause between each printed label, but is necessary to ensure consistent quality and reliability.

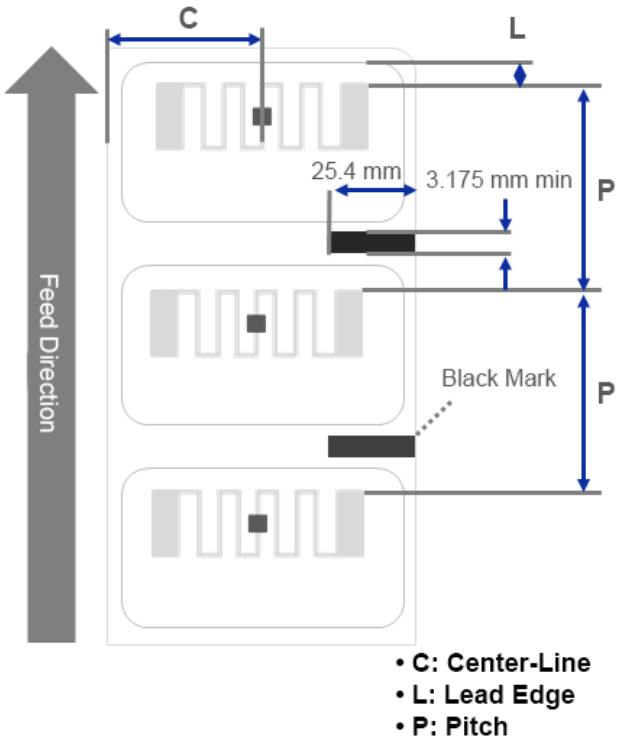
Note

Static electricity can damage smart labels. Before you handle smart labels, open the printer's Media Cover and touch an unpainted metal part to discharge any static electricity that may have built up on your hands.

This printer is equipped with an Auto-Calibration feature, which eliminates the need to specify exact inlay placement or RFID power settings. The calibration routine is compatible with most major inlays embedded in typical label sizes and will work with many other inlays as well.

For optimum performance:

- Center inlays horizontally across the media (dimension “C”). Consistent, tag-to-tag placement of the inlays is more important than their proximity to the center.
- The pitch is the overall distance from inlay to inlay (dimension “P”). On-pitch tags and tags with a pitch less than 25.4 mm may require the printer to back-feed during the encoding and printing process, thus slowing the throughput of the printer. To avoid this, this pitch should be greater than 25.4 mm.
- Set the inlay back from the lead edge of the media (dimension “L”) at the same tag-to-tag distance. To avoid back-feeding, for labels longer than 25.4 mm, this distance should be greater than 12.7 mm.



IMPORTANT

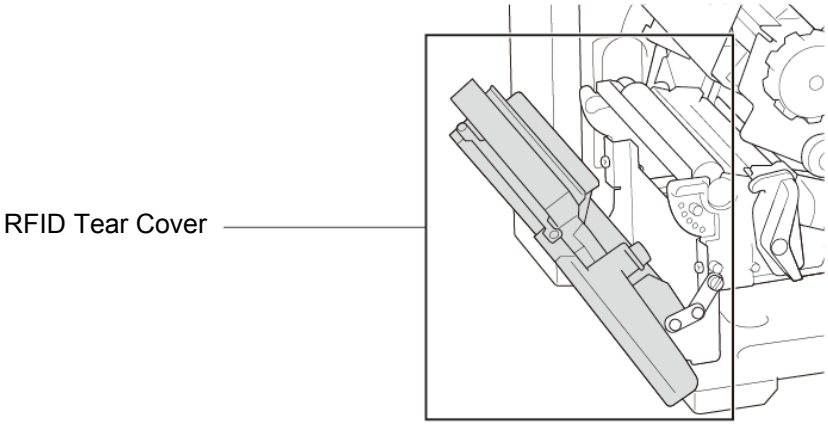
Always test RFID media on your printer before purchasing large quantities of media.

9.2 RFID Calibration

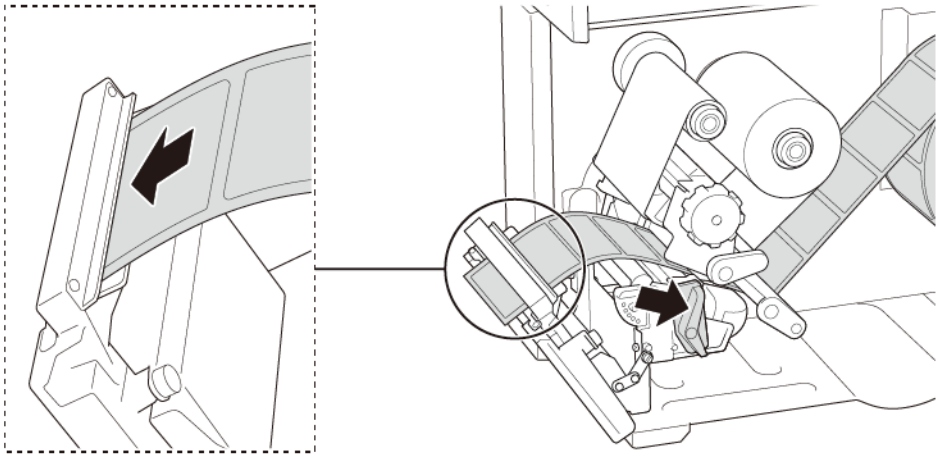
The TJ-4021TNR and TJ-4121TNR have a fixed-position RFID antenna mounted at the Media Output Slot, which supports a wide variety of tag types.

9.2.1 Load the RFID Media

1. Load the RFID media onto the Label Supply Spindle.
2. Open the Print Head and RFID Tear Cover. Thread the media through the Damper, Media Sensor, and Front Label Guide to install the media.



3. Feed the RFID media through the Tear Cover Slot.



4. Move the media sensor by adjusting the Media Sensor Position Adjustment Knob. Make sure the position of the Gap or Black Mark Sensor matches the position of the Gap/Black Mark on the label roll.
5. Adjust the Front Label Guide to fix the media position.
6. Close the Print Head and RFID Tear Cover.

9.2.2 RFID Calibration Procedure

Note

For optimal calibration results, perform Media Calibration before RFID Calibration. Make sure you correctly install both the ribbon and the label roll.

1. Perform Media Auto Calibration:

- **Using the Touchscreen:**

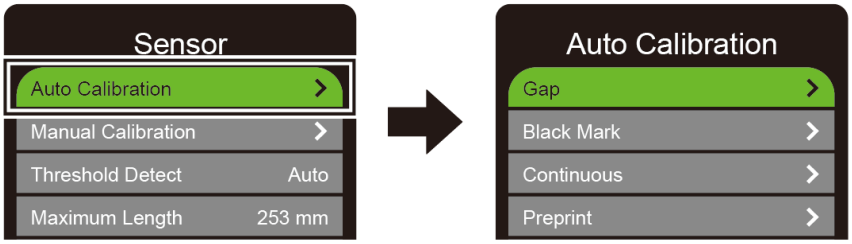
  a. Load the RFID media into the printer.

  b. (Thermal transfer only) Load the ribbon into the printer.

  c. Tap the **Menu** icon .

  d. Tap the **Sensor** icon .

  e. Tap **Auto Calibration**, select the media type, and then tap the icon to start the media calibration.



Note

For more information, see section *7.2 Sensor Settings*.

- **Using the BPM:**

  a. Load the RFID media into the printer.

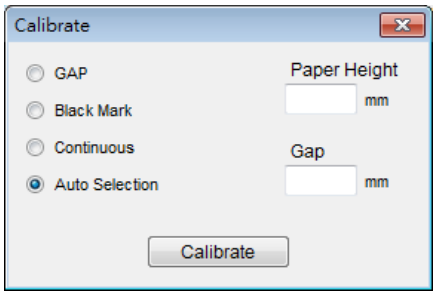
  b. (Thermal transfer only) Load the ribbon into the printer.

  c. Connect the USB cable between the computer and the printer.

  d. Start the BPM.

  e. Select the printer in the list, and then click the **Printer Function** button.

f. Click **Calibrate**.



g. Click **Printer Configuration** and make sure the paper width and height in the FBPL tab are set correctly.

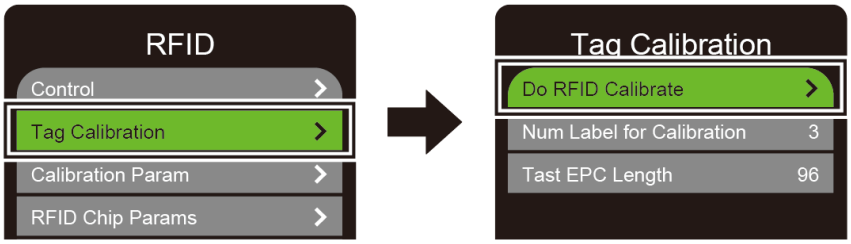
- **Using the AUTODETECT command:**

> **Note**
> For more information, see the *FBPL Command Reference* on your model's **Manuals** page at support.brother.com.

2. Start RFID Calibration.

- **Using the Touchscreen:**

  Tap **Menu** → **Interface** → **RFID** → **Tag Calibration** → **Do RFID Calibrate**, and then tap the icon.



> **Note**
> For more information, see section *7.3.4 RFID (Radio Frequency Identification) Settings*.

- **Using the RFIDDETECT command:**

> **Note**
> For more information, see the *FBPL Command Reference* on your model's **Manuals** page at support.brother.com.

3. Depending on the tag type and tag length, the calibration can take several minutes. At the end of calibration either a green or red screen appears. The green screen appears when the calibration is successful and the red one when it is not.

4. If calibration fails, tap the or icon to clear the error. In some cases, it may be due to an incompatibility between the tag and the reader. After the calibration is complete, tap the or icon to continue and save the RFID calibration values.

Note

For information, see section *11.3 RFID Error Messages*.

10. Product Specifications

Display	
Touchscreen	(TJ-4021TN, TJ-4021TNR, TJ-4121TN, TJ-4121TNR) 3.5" Color Touchscreen
LED	(TJ-4005DN, TJ-4010TN, TJ-4020TN, TJ-4120TN) 5 (4 icon indicators, 1 power indicator) (TJ-4021TN, TJ-4021TNR, TJ-4121TN, TJ-4121TNR) 1 power indicator (3 colors - Green, Red, Amber)
Printing	
Print Method	TJ-4005DN: Direct Thermal Other models: Thermal Transfer and Direct Thermal
Maximum Print Width	(TJ-4005DN, TJ-4010TN, TJ-4020TN, TJ-4021TN, TJ-4021TNR) 107 mm (TJ-4120TN, TJ-4121TN, TJ-4121TNR) 105.7 mm
Maximum Print Length	(TJ-4005DN, TJ-4010TN, TJ-4020TN, TJ-4021TN, TJ-4021TNR) 25,400 mm (TJ-4120TN, TJ-4121TN, TJ-4121TNR) 11,430 mm
Maximum Print Speed	(TJ-4005DN, TJ-4010TN) 152.4 mm / second (TJ-4020TN, TJ-4021TN, TJ-4021TNR) 254 mm / second (TJ-4120TN, TJ-4121TN, TJ-4121TNR) 177.8 mm / second
Print Speed for Label Peeler Mode	Up to 3 ips (Except TJ-4021TNR and TJ-4121TNR)
Print Resolution	(TJ-4005DN, TJ-4010TN, TJ-4020TN, TJ-4021TN, TJ-4021TNR) 203 dpi (TJ-4120TN, TJ-4121TN, TJ-4121TNR) 300 dpi

Size	
Dimensions	(TJ-4005DN, TJ-4010TN, TJ-4020TN, TJ-4021TN, TJ-4120TN, TJ-4121TN) Approximately 248 mm (W) × 436 mm (D) × 274 mm (H) (TJ-4021TNR, TJ-4121TNR) Approximately 248 mm (W) × 443 mm (D) × 274 mm (H)
Weight	(TJ-4005DN, TJ-4010TN, TJ-4020TN, TJ-4120TN) Approximately 9.2 kg (TJ-4021TN, TJ-4121TN) Approximately 9.4 kg (TJ-4021TNR, TJ-4121TNR) Approximately 9.9 kg
Interface	
USB	USB Ver. 2.0 (High Speed) (Type B)
Serial	RS-232
Wired LAN	10/100 Mbps
USB Host Port	Stand-alone: USB keyboard, USB scanner Storage: USB flash drive
Wi-Fi (Optional)	IEEE 802.11a/b/g/n
Wi-Fi Security	Open, WEP-Open, WPA-PSK/WPA2 (AES and TKIP) - 802.11i - WPA2-Enterprise: EAP-FAST, EAP-TTLS, EAP-TLS, PEAPv0
Environment	
Temperature	Operation: 0°C - 40°C Storage: -40°C - 60°C
Humidity	Operation: 25% - 85% (without condensation) Storage: 10% - 90% (without condensation)
Power Supply	
Power Supply	Internal Universal Switching Power Supply • Input: AC 100 V - 240 V, 2.0 A, 50 Hz / 60 Hz • Output: DC 24 V, 3.75 A, 90 W

Paper Specification	
Media Type	Continuous, die-cut, black mark, fan-fold, notch, RFID tag (TJ-4021TNR, TJ-4121TNR)
Wound Type	Outside wound
Media Width	20 mm - 120 mm (cutter mode: 114 mm max), 25.4 mm - 116 mm (RFID)
Media Thickness	0.06 mm - 0.28 mm Up to 1.0 mm for on-metal RFID label (TJ-4021TNR, TJ-4121TNR)
Roll Outside Diameter (maximum)	203.2 mm
Core Size	25.4 mm - 76.2 mm
Media Sensor	Gap (Transmissive), Black mark (Reflective)
Ribbon Specification (Except TJ-4005DN)	
Width	450 m long, max. Outer Diameter 81.3 mm
Core Size	25.4 mm (ink coated outside or inside) (TJ-4021TNR/TJ-4121TNR: ink coated outside)
Ribbon Width	40 mm - 110 mm
RFID Specification (TJ-4021TNR and TJ-4121TNR only)	
RF Protocol	UHF EPC global Class 1 Gen2 / ISO 18000-6C
Operating Frequency	Global (902 MHz - 928 MHz) and EU (866 MHz - 868 MHz)
Minimum Pitch	15.875 mm
Other	
Cutter	Regular guillotine cutter option (Not User Replaceable)[1] [2]
Label Peeler	Label Peeler option (Not User Replaceable)[1] [2]
Supported Barcodes	• 1D barcodes: Code 11 (USD-8), Code 39, Code 93, Code 128 with subsets A/B/C, UPC-A, UPC-E, EAN-8, EAN-13, UPC and EAN 2- or 5-digit extensions, GS1-128 (UCC/EAN-128), MSI, Plessey, POSTNET, Standard 2-of-5 (IATA), Industrial 2-of-5, Interleaved 2-of-5, ITF-14, EAN-14, LOGMARS, Codabar (NW-7), Planet, Telepen, Deutsche Post Identcode, Deutsche Post Leitcode, Datalogic 2-of-5 (China Post) • 2D barcodes: CODABLOCK F, PDF417, Code 49, GS1 DataMatrix, MaxiCode, QR Code, TLC39, MicroPDF417, GS1 DataBar (RSS), Aztec Code
Printer Control Command	FBPL-EZD (Compatible to FBPL II, EPL II, ZPL II, DPL) FBPL-EZS (Compatible to FBPL II, EPL II, ZPL II, SBPL)
Built-in Fonts	• 8 alphanumeric bitmap fonts • Monotype Imaging® TrueType font engine with one CG Triumvirate Bold Condensed scalable font

[1] Not compatible with RFID tags.

[2] Only authorized Brother Dealers should perform accessory replacements.

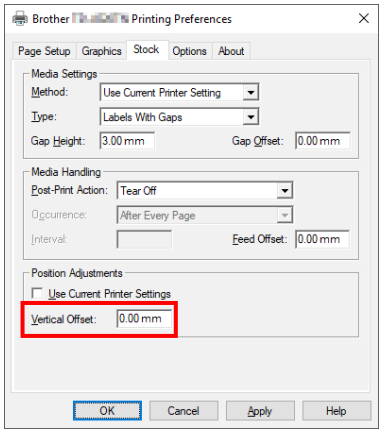
11. Troubleshooting

11.1 Common Problems

This chapter explains how to resolve typical problems you may encounter when using the printer. If you have any problems with the printer, first make sure you have performed the following tasks correctly.

If you still have problems, contact the product manufacturer's customer service or your local dealer.

Problem	Possible Cause	Solution
The LED Indicator is not lit.	The Power Cord is not correctly connected.	Make sure the printer is correctly connected to the power outlet (electrical socket) using the Power Cord.
	The Power Switch is off.	Turn the printer on.
Memory full (DRAM/Flash/Card).	The printer's DRAM/Flash/ Card memory is full.	Delete unused files from the DRAM/Flash/ Card memory.
Poor Print Quality.	The ribbon/media is loaded incorrectly.	Reload the media/ribbon. (Except TJ-4005DN)
	Dust or adhesive has accumulated on the Print Head.	Clean the Print Head.
		Clean the Platen Roller.
	The print density is set incorrectly.	Adjust the print density and print speed.
	The Print Head is damaged.	Run the printer self-test and check the Print Head test pattern for missing dots.
	The ribbon/media is incompatible.	Install the correct ribbon/media. (Except TJ-4005DN)
	The print head tension is not set correctly.	Use the Print Head Tension Adjustment Knob to adjust the print head tension. (See section *4. Improve Print Quality*)
		The Release Lever does not lock the Print Head in place.
Incomplete printing on the left or right side of label.	The label size is not specified correctly.	Check if the label size is set up correctly.
Blank labels with gray lines.	The Print Head is dirty.	Clean the Print Head.
	The Platen Roller is dirty.	Clean the Platen Roller. (See section *12. Maintenance*.)
Irregular printing.	The printer is in Hex Dump Mode.	Turn the printer on and off to skip the Dump Mode. (See section *6.1.2 Gap/Black Mark Sensor Calibration, Self-Test, and Entering Dump Mode*.)
	The printer's RS-232 communication is not set correctly.	Make sure the printer's RS-232 settings are set up correctly. For more information, see section *7.3.1 Serial Communication Settings*.

Problem	Possible Cause	Solution
Labels are fed incorrectly (skewed) when printing.	The media guide does not touch the edge of the media.	If the label is moving to the right side, move the Front Label Guide to the left.
		If the label is moving to the left side, move the Front Label Guide to the right.
Labels are skipped when printing.	The label size is not specified correctly.	Check if the label size is set up correctly.
	The sensor sensitivity is not set correctly.	Calibrate the Gap Sensor either manually or automatically (See section *7.2 Sensor Settings*).
	The media sensor is dirty.	Clean the Gap/Black Mark Sensor using a compressed air or vacuum.
Ribbon Wrinkles. (Except TJ-4005DN)	The print head tension is not set correctly.	Use the Print Head Tension Adjustment Knob to adjust the print head tension. (See section *4. Improve Print Quality*)
	The ribbon is installed incorrectly.	Reinstall the ribbon. To install the ribbon roll, see section *3.2 Load the Ribbon*.
	The media is installed incorrectly.	Reinstall the label roll. To install the label roll, see section *3.4 Load the Media*.
	The print density is not set correctly.	Adjust the print density to improve the print quality.
	The media is not fed correctly.	Make sure the Front Label Guide touches the edge of the Media Guide Tips.
RTC time is incorrect when rebooting the printer.	The coin battery has dislodged. The coin battery has finished.	Contact the product manufacturer's customer service or your local dealer.
The left side printout position is incorrect.	The label size is set up incorrectly.	Set the correct label size.
	The Shift X setting is incorrect.	Fine-tune the Shift X setting. For more information, see *7.1.1 FBPL Settings*.
The printing position of small labels is incorrect.	The media sensor sensitivity is not set correctly.	Calibrate the sensor sensitivity again.
	The label size is incorrect.	Set the correct label size and gap size.
	The Shift Y setting is incorrect.	Fine-tune the Shift Y setting. For more information, see *7.1.1 FBPL Settings*.
	The vertical offset setting in the driver is incorrect.	If using the BarTender software, set the Vertical Offset in the driver. 
The media wraps around the platen roller.	The label adhesive is on the Platen Roller.	Clean the Platen Roller regularly.

11.2 Touchscreen Error Messages

TJ-4021TN/TJ-4021TNR/TJ-4121TN/TJ-4121TNR

When an error occurs, the Touchscreen displays the appropriate error message.

Error Message	Possible Cause	Solution
Carriage Open	The printer carriage is open.	Close the print carriage.
Not Printing	The serial or USB cable is not connected correctly.	Reconnect the serial or USB cable.
	The wireless device may be connected incorrectly to the printer.	Reset the device's wireless settings and set up the device again.
	The serial or USB cable may be damaged.	Try a new cable.
	The port specified in the Windows driver is not correct.	Specify the correct port.
	The Print Head may need cleaning.	Clean the Print Head.
	The Print Head's harness connector may not be connected correctly with the Print Head.	Turn off the printer and plug the Print Head's harness connector to the Print Head again.
	Your custom program may not contain the necessary commands.	Make sure that your program contains the PRINT command at the end of the file and a CRLF at the end of each command line.
No print on the label	The ribbon/media is loaded incorrectly.	Reload the media/ribbon.
		Make sure the ink coated ribbon is set in the correct position.
	The ribbon/media is incompatible.	Install the correct ribbon/media.
	The print density is set incorrectly.	Adjust the print density.
No Ribbon	The ribbon has finished.	Install a new ribbon roll. To install a new ribbon roll, see section *3.2 Load the Ribbon*.
	The ribbon is installed incorrectly.	Reinstall the ribbon. To install the ribbon roll, see section *3.2 Load the Ribbon*.
No Paper	The label roll has finished.	Install a new label roll. To install a new label roll, see section *3.4 Load the Media*.
	The label is installed incorrectly.	Reinstall the label roll. To install the label roll, see section *3.4 Load the Media*.
	The Gap/Black Mark Sensor is not calibrated.	Calibrate the Gap/Black Mark Sensor.
Paper Jam	The Gap/Black Mark Sensor is not calibrated.	Calibrate the Gap/Black Mark Sensor.
	The label size is not set correctly.	Set the label size correctly.
	A paper jam occurred inside the printer.	Remove the jammed paper.
Take Label	**Peeler Mode** is enabled.	Remove the label.

11.3 RFID Error Messages

TJ-4021TNR, TJ-4121TNR

The RFID encoder can detect several errors. When these errors occur, the RFID encoder alerts the printer and the Touchscreen displays the appropriate error message.

Error Message	Possible Cause	Solution
`RFID Is Disabled`	The RFID function is not activated.	Select **RFID** > **Control** > **RFID Active** to enable the RFID function.
`Failure EPC Write Failed`	The EPC tag cannot be written via **Diagnostics** > **Write EPC with 1s** or **Write EPC with 2s**.	· The label could be misaligned. Perform the **Sensor** > **Auto Calibration** procedure to ensure the label is at top-of-form. · Select **RFID** > **Tag Calibration** > **Do RFID Calibrate**. · Use smart labels with RFID tags located in the correct position. · The RFID tag could be defective. Try another tag. · Make sure the application does not send too few or too many digits to the RFID tag.
`RFID Calibrate Write Tag Failed`	Tag calibration cannot be performed.	· The label could be misaligned. Perform the **Sensor** > **Auto Calibration** procedure to ensure the label is at top-of-form. · Use smart labels with RFID tags located in the correct position. · The RFID tag could be defective. Try another tag.
`RFID Disabled`	The RFID command is sent to the printer when the RFID function is disabled.	1. Select **RFID** > **Control** > **RFID Active** to enable the RFID function. 2. Send RFID commands.
`NON-RFID DATA On RFID Tag`	When the “Non-RFID warning” option is “ON” (**RFID** > **Control** > **Non-RFID Warning**), the printer has obtained the non-RFID data.	Make sure you send RFID commands to the printer.
`INVALID RFID DATA`	The RFID tag data sent does not match the settings.	Check the tag data of the RFID commands.
`INVALID RFID DATA LEN`	The tag length size (the size parameter of RFID command) sent does not match the setting.	Check the data length size of the RFID commands.
`RFID TAG FAILED`	The tag cannot be written.	· The label could be misaligned. Perform the **Sensor** > **Auto Calibration** procedure to ensure the label is at top-of-form. · Select **RFID** > **Tag Calibration** > **Do RFID Calibrate**. · Use smart labels with RFID tags located in the correct position. · The RFID tag could be defective. Try another tag. · Make sure the application does not send too few or too many digits to the RFID tag. · Check that the RFID commands are correct.

Error Message	Possible Cause	Solution
RFID ERROR No Tag Found	The tag cannot be read.	· Make sure the media are smart labels with RFID tags located in the correct position. · The RFID tag could be defective. Try another tag.
Remove Label or No Paper	The label is jammed inside the machine or the paper size is not correct.	· Remove the label carefully so as not to damage the printer. · Make sure the media are smart labels that have RFID tags located in the correct position. · To reduce vibration to the printer, position the printer so printed labels can fall freely to a lower surface. · Calibrate the Gap/Black Mark Sensor. · Set the label size correctly.

Note

If you cannot write RFID tags:

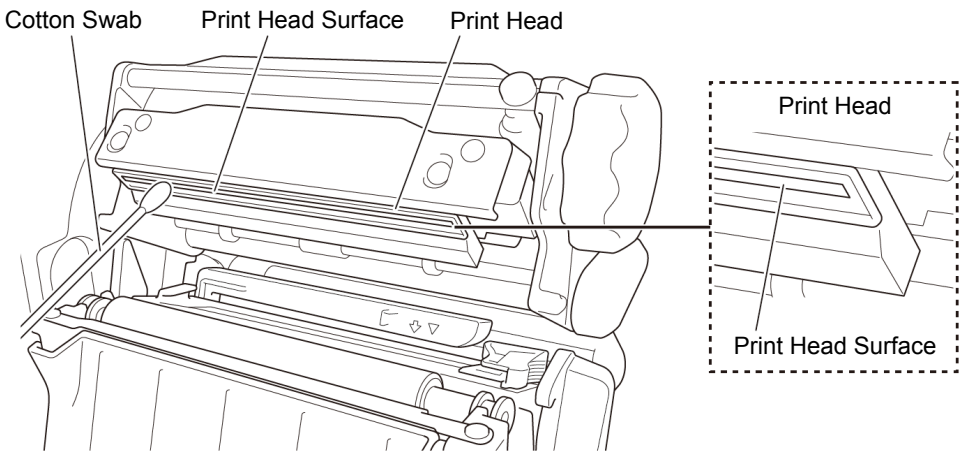
- Make sure you are using smart labels with RFID tags located in the correct position.
- The RFID tag could be defective. Try another tag.
- Set the label size correctly, and then calibrate the RFID tag.
- Set the sensor sensitivity correctly (using the Touchscreen: **Sensor** > **Gap/Bline Ref Rate**).
- Check the data length size of the RFID commands.

12. Maintenance

We recommend cleaning your printer on a regular basis to maintain its correct performance.

Recommended cleaning materials:

- Cotton swab
- Lint-free cloth
- Vacuum / Blower brush
- Compressed air
- Isopropyl alcohol or ethanol

<table>
<tr><th>Printer Part</th><th>Cleaning Method</th><th>Interval</th></tr>
<tr><td rowspan="2">Print Head</td><td>1. Turn the printer off.
2. Allow the Print Head to cool down for at least one minute.
3. Wipe the Print Head with a cotton swab dipped in isopropyl alcohol or ethanol.</td><td>Clean the Print Head when changing a label roll.</td></tr>
<tr><td colspan="2"> 
</td></tr>
<tr><td>Platen Roller</td><td>1. Turn the printer off.
2. Rotate the Platen Roller and wipe it thoroughly with a lint-free cloth or cotton swab dipped in isopropyl alcohol or ethanol.</td><td>Clean the Platen Roller when changing a new label roll.</td></tr>
<tr><td>Peel Bar</td><td>Wipe with a lint-free cloth dipped in isopropyl alcohol or ethanol.</td><td>As needed.</td></tr>
<tr><td>Sensor</td><td>Use compressed air or vacuum.</td><td>Monthly.</td></tr>
<tr><td>Exterior</td><td>Wipe the printer exterior with a lint-free cloth dipped in water.</td><td>As needed.</td></tr>
<tr><td>Interior</td><td>Use a brush or vacuum.</td><td>As needed.</td></tr>
</table>

Note

- Do not touch the Print Head. If you have touched it, clean it as described above.
- Do not use medical alcohol as it may damage the Print Head. Use isopropyl alcohol or ethanol according to the manufacturer's safety guidelines, as applicable.
- To maintain correct performance, we recommend cleaning the Print Head and sensors every time you install a new ribbon.

IMPORTANT

Securely dispose of any printers, components, and supplies if they are no longer going to be used. Ensure there is no jammed paper in the printer and destroy the thermal transfer ribbon if it has retained any visible prints.