

# **Software Developer's Manual**

## **ZPL II Emulation Guide**

**TD-4420TN/4520TN**

**TD-4650TNWB/4650TNWBR/4750TNWB/4750TNWBR**

**RJ-2035B/2055WB/3035B/3055WB**

**TJ-4020TN/4021TN/4021TNR/4120TN/4121TN/4121TNR**

**Version 4.00**

The Brother logo is a registered trademark of Brother Industries, Ltd.

Brother is a registered trademark of Brother Industries, Ltd.

© 2020 Brother Industries, Ltd. All rights reserved.

Zebra, ZPL, and ZPL II are registered trademarks of ZIH Corp.

Other software and product names described in this document are trademarks or registered trademarks of the respective developers.

Any trade names and product names of companies appearing on Brother products, related documents and any other materials are all trademarks or registered trademarks of those respective companies.

## Important Notices

This document provides information for the label printer TD-4420TN/4520TN/4650TNWB/4650TNWBR /4750TNWB/4750TNWBR (hereinafter referred to as TD-4T Printer), RJ-2035B/2055WB/3035B/3055WB (hereinafter referred to as RJ Printer), TJ-4020TN/4021TN/4021TNR/4120TN/4121TN/4121TNR (hereinafter referred to as TJ Printer) and is available for use only if you agree to the following conditions:

### Use Conditions

This document may be used and duplicated only to the extent necessary for customers' own use of the TD-4T, RJ and TJ Printers.

The contents of this document may not be duplicated or reproduced, partially or in full, without permission.

### No Warranty

- a. The contents of this document are subject to change without notice.
- b. Regarding this document, Brother will not guarantee there are no defects or if the purpose matches the specific purpose, regardless of whether it is explicit or implied.
- c. Brother assumes no responsibility for damages, actions of third parties, the user's intentional or negligent operation, misuse or operation under other special conditions.

### Contact Information

For more information for mobile printer developers, visit [www.brother.co.jp/eng/dev/](http://www.brother.co.jp/eng/dev/).

Table of Contents

<b>1. Introduction.....</b>	<b>2</b>
<b>2. Printer Settings.....</b>	<b>3</b>
<b>3. ZPL II Emulation Support Commands.....</b>	<b>4</b>
<b>Appendix A: Supported Models.....</b>	<b>10</b>
<b>Appendix B: Font Specification.....</b>	<b>11</b>

## 1. Introduction

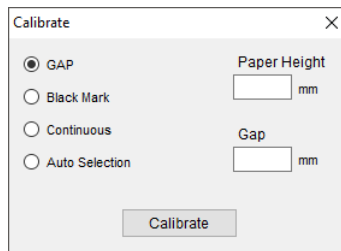
ZPL emulation allows TD-4T, RJ and TJ Printers to interpret ZPL commands.

To use this feature, change the printer settings as described in [Section 2](#).

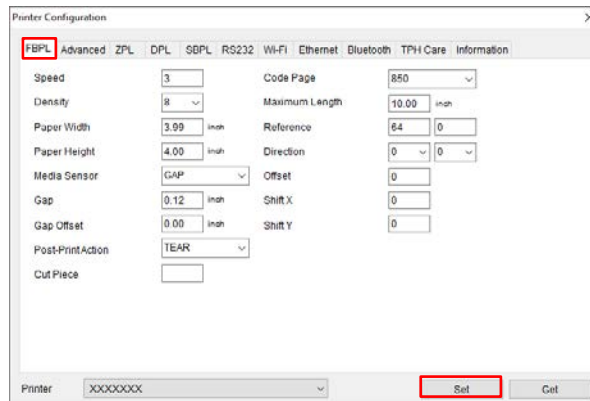
## 2. Printer Settings

The TD-4T, RJ and TJ Printers have built-in paper settings that are necessary to perform printing operations (position detection). The settings are saved in the device's flash memory so they are retained even if the power is turned off. Before using the ZPL emulation, printer settings (such as the paper size and type) must be set using the Brother Printer Management Tool (BPM):

- a. Start the BPM.
- b. Click **Printer Function**.
- c. Select the calibration sensor and click **Calibrate**.



- d. Click **Printer Configuration**.
- e. Select the **FBPL** tab.
- f. Set the print operations you want.
- g. Check if the paper size settings for each printer language is correct.
- h. Click **Set**.



The paper size and type can be set using the FBPL paper setting command (refer to *FBPL Command Reference*).

For more information, see the *User's Guide* on your model's Manuals page at [support.brother.com](http://support.brother.com).

### Note:

You can download the Brother Management Tool (BPM) from your model's **Downloads** page at [support.brother.com](http://support.brother.com).

### 3. ZPL II Emulation Support Commands

ZPL II	Description
^A	Scalable/Bitmapped Font
^A@	Use Font Name to Call Font
^B0	Aztec Bar Code
^B1	Code 11 Bar Code
^B2	Interleaved 2 of 5 Bar Code
^B3	Code 39 Bar Code
^B4	Code 49 Bar Code
^B5	Planet Code Bar Code
^B7	PDF417 Bar Code
^B8	EAN-8 Bar Code
^B9	UPC-E Bar Code
^BA	Code 93 Bar Code
^BC	Code 128 Bar Code (Subsets A, B, and C)
^BD	UPS MaxiCode Bar Code
^BE	EAN-13 Bar Code
^BF	Micro PDF417 Bar Code
^BI	Industrial 2 of 5 Bar Code
^BJ	Standard 2 of 5 Bar Code
^BK	ANSI Codabar Bar Code
^BL	LOGMARS Bar Code
^BM	MSI Bar Code
^BP	Plessey Bar Code
^BQ	QR Code Bar Code
^BR	RSS Bar Code
^BS	UPC/EAN Extensions

ZPL II	Description
^BT	TLC39 Bar Code
^BU	UPC-A Bar Code
^BX	Data Matrix Bar Code
^BY	Bar Code Field Default
^BZ	POSTNET Bar Code
^CC	Change Carets
^CD	Change Delimiter
^CF	Change Alphanumeric Default Font
^CI	Change International Font
^CM	Change Memory Letter Designation
^CO	Cache On
^CT	Change Tilde
^CV	Code Validation
^CW	Font Identifier
^DF	Download Format
^EF	Erase Stored Formats
^EG	Erase Download Graphics
^FA	Field Allocate
^FB	Field Block
^FC	Field Clock (for Real-Time Clock)
^FD	Field Data
^FH	Field Hexadecimal Indicator
^FM	Multiple Field Origin Locations
^FN	Field Number
^FO	Field Origin
^FP	Field Parameter
^FR	Field Reverse Print



<b>ZPL II</b>	<b>Description</b>
^FS	Field Separator
^FT	Field Typeset
^FV	Field Variable
^FW	Field Orientation
^FX	Comment
^GB	Graphic Box
^GC	Graphic Circle
^GD	Graphic Diagonal Line
^GE	Graphic Ellipse
^GF	Graphic Field
^GS	Graphic Symbol
^HF	Host Format
^HG	Host Graphic
^HH	Configuration Label Return
^HW	Host Directory List
^ID	Object Delete
^IL	Image Load
^IM	Image Move
^IS	Image Save
^JB	Initialize Flash Memory
^JM	Set Dot per Millimeter
^JU	Configuration Update
^LH	Label Home
^LL	Label Length
^LR	Label Reverse Print
^LS	Label Shift
^LT	Label Top
^MC	Map Clear

<b>ZPL II</b>	<b>Description</b>
^MD	Media Darkness
^MF	Media Feed
^ML	Maximum Label Length
^MM	Print Mode
^MN	Media Tracking
^MP	Mode Protection
^MT	Media Type
^MU	Set Units of Measurement
^MW	Modify Heading Warning
^PH	Slew to Home Position
^PM	Printing Mirror Image of Label
^PO	Print Orientation
^PP	Programmable Pause
^PQ	Print Quantity
^PR	Print Rate
^PW	Print Width
^SC	Set Serial Communications
^SE	Select Encoding
^SF	Serialization Field (with a standard ^FD String)
^SL	Set Mode and Language (for Real-Time Clock)
^SN	Serialization Data
^SO	Set Offset (for Real-Time Clock)
^ST	Set Date and Time (for Real-Time Clock)
^TO	Transfer Object
^WD	Print Directory Label
^XA	Start Format
^XB	Suppress Backfeed

<b>ZPL II</b>	<b>Description</b>
^XF	Recall Format
^XG	Recall Graphic
^XZ	End Format
~CC	Change Carets
~CD	Change Delimiter
~CT	Change Tilde
~DB	Download Bitmap Font
~DE	Download Encoding
~DG	Download Graphic
~DS	Download Intellifont (Scalable Font)
~DT	Download Bounded TrueType Font
~DU	Download Unbounded TrueType Font
~DY	Download Objects
~EF	Erase Stored Formats
~EG	Erase Download Graphics
~HI	Host Identification
~HM	Host RAM Status
~HS	Host Status Return
~JA	Cancel All
~JC	Set Media Sensor Calibration
~JG	Graphing Sensor Calibration
~JK	Delayed Cut
~JL	Set Label Length
~JR	Power On Reset
~JS	Change Backfeed Sequence
~PH	Slew to Home Position
~PP	Programmable Pause
~PS	Print Start
~RO	Reset Advanced Counter
~SD	Set Darkness
~TA	Tear-off Adjust Position

<b>ZPL II</b>	<b>Description</b>
~WC	Print Configuration Label

## Appendix A: Supported Models

TD-4T series	TD-4420TN TD-4520TN TD-4650TNWB TD-4650TNWBR TD-4750TNWB TD-4750TNWBR
RJ series	RJ-2035B RJ-2055WB RJ-3035B RJ-3055WB
TJ series	TJ-4020TN TJ-4021TN TJ-4021TNR TJ-4120TN TJ-4121TN TJ-4121TNR

## Appendix B: Font Specification

The font specifications compatible with TD-4T, RJ and TJ Printer ZPL II Emulation are as follows:

Built-in Font	Fixed Font	A.FNT B.FNT D.FNT E8.FNT F.FNT G.FNT H8.FNT GS.FNT
	Scalable Font	O.TTF P.TTF Q.TTF R.TTF S.TTF T.TTF U.TTF V.TTF
Downloadable Font	Compatible*	

\* UTF-8 compatible. Not compatible with UTF-16.

**brother**