TOSHIBA TEC Barcode Printer Drivers for Linux

This documentation is for users of TOSHIBA TEC barcode printers with Linux-based systems. The supplied software is intended to be used in conjunction with a CUPS-compatible operating system. Raspberry Pi® is a registered trademark of the Raspberry Pi Foundation.

Installation

System Requirements

This software is compatible with:

- Computers with either i386 or x86-64 architecture
- Raspberry Pi® devices

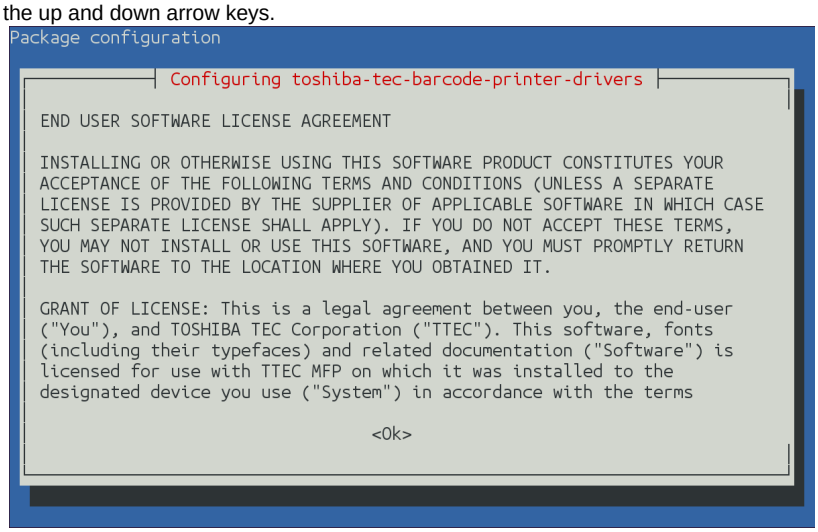
Software Requirements

- A Linux-based operating system
- CUPS v1.4 or higher

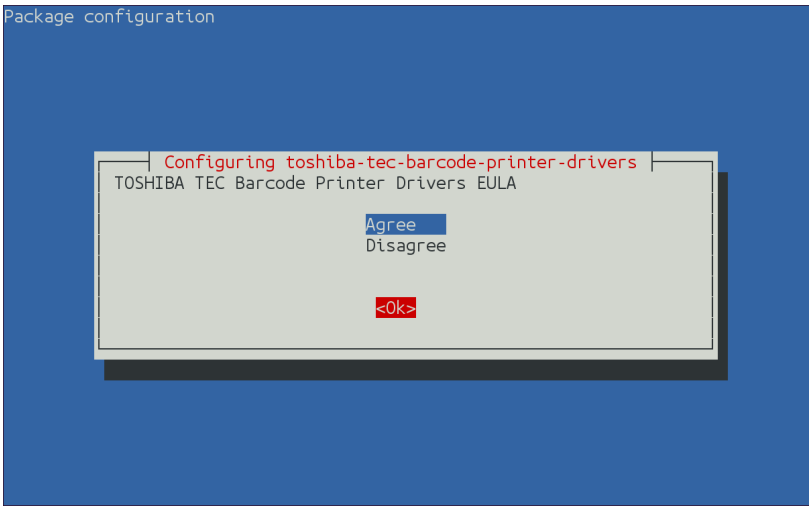
Installation for Debian-based systems

To install the TOSHIBA TEC barcode printer drivers on Debian-based systems (Debian, Raspbian, Ubuntu, Xandros, etc), the .deb package is used. Unless otherwise specified, all commands are to be run as root.

1. Copy the `toshiba-tec-barcode-printer-drivers_2.xx_debian_yy.deb` package to the target system, where **xx** is the version number of the package, and **yy** is the architecture. When installing the barcode printer driver package on a 32-bit OS, use the **i386** package, and when installing on a 64-bit OS, use the **x86_64** (or **x86-64**) package. If installing onto a Raspberry Pi® device running Raspbian, use the **armhf** package.
2. Run the following command in a terminal (change to the directory where the package was copied):
   `dpkg --install toshiba-tec-barcode-printer-drivers_2.xx_debian_i686.deb`
3. You will be prompted to read the EULA, which must be accepted before the installation can continue. Scroll through the EULA using the up and down arrow keys.



4. To progress to the next screen, highlight the "Ok" button by pressing the tab key, and dismiss the EULA by pressing the enter key.
5. To accept the EULA, highlight "Accept" using the up and down arrow keys, and then press the enter key. If "Accept" is not highlighted when
6. Installation of the TOSHIBA TEC barcode printer drivers will commence after the EULA is accepted.



7. CUPS should restart automatically, however, in case it doesn't, it should be restarted manually. On **systemd** based systems, restart CUPS by running the following command:
   `systemctl restart cups.service`
   On **init.d** based systems, restart CUPS by running the following command:
   `/sbin/service cups restart`

Installation for Red Hat based systems

To install the TOSHIBA TEC barcode printer drivers on Red Hat-based systems (Red Hat, RHEL, Fedora, CentOS, etc), the `.rpm` package is used. Unless otherwise specified, all commands are to be run as root.

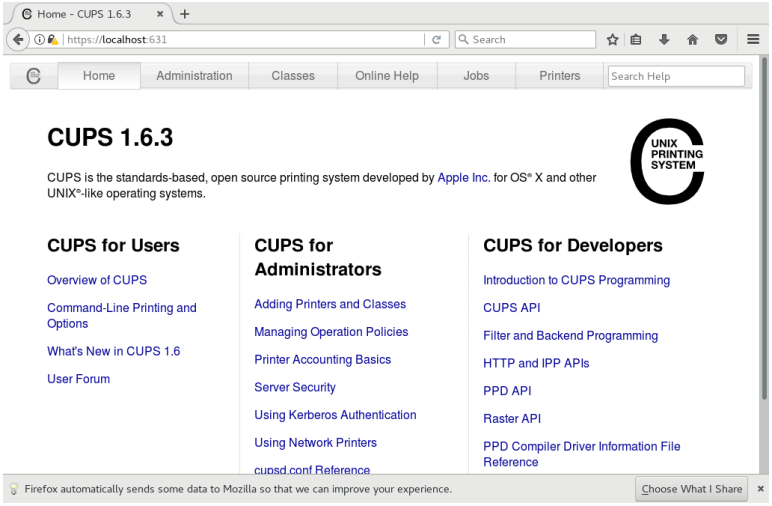
1. Copy the `toshiba-tec-barcode-printer-drivers-1.xx-1.yy.rpm` file to the target system, where **xx** is the version number of the package, and **yy** is the architecture. When installing the barcode printer driver package on a 32-bit OS, use the **i686** p ackage, and when installing on a 64-bit OS, use the **x86-64** package. The **i686** package can also be installed on a 64-bit Red Hat based system as long as the following dependencies are also installed:
   a. `glibc.i686`
   b. `libxml2.i686`
   c. `zlib.i686`
2. If the target system uses the **yum** package manager, run the following command as root:
   `yum install toshiba-tec-barcode-printer-drivers-2.xx-1.yy.rpm`
   On newer Red Had-based systems that use the **DNF** package management system, use the following command (as root) instead:
   `dnf install toshiba-tec-barcode-printer-drivers-2.xx-1.yy.rpm`
3. CUPS should restart automatically, however, in case it doesn't, it should be restarted manually. On **systemd** based systems, restart CUPS using the following command:
   `systemctl restart cups.service`
   On **init.d** based systems, restart CUPS using the following command:
   `/sbin/service cups restart`

Setting up the TOSHIBA TEC Barcode Printer

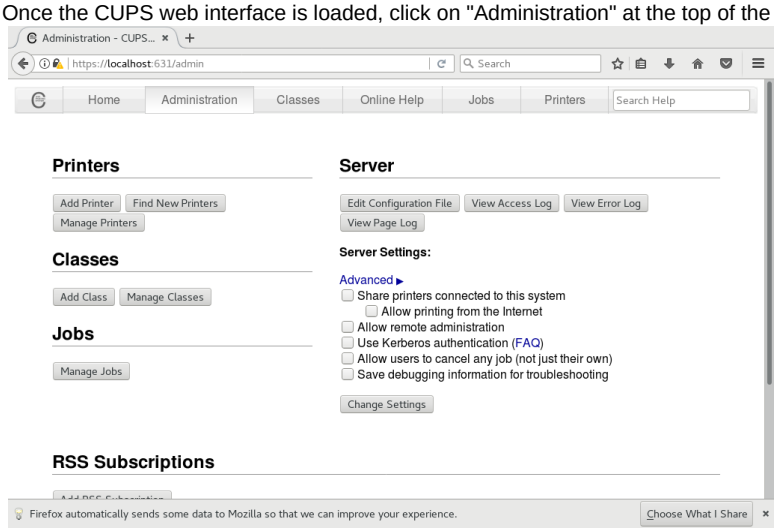
Consult the documentation of the target operating system for specific instructions on how to set up a new printer. Different desktop environments provide different interfaces for adding and maintaining printers. Alternatively, most CUPS-compatible operating systems can be configured through a web interface.

Using the CUPS web interface

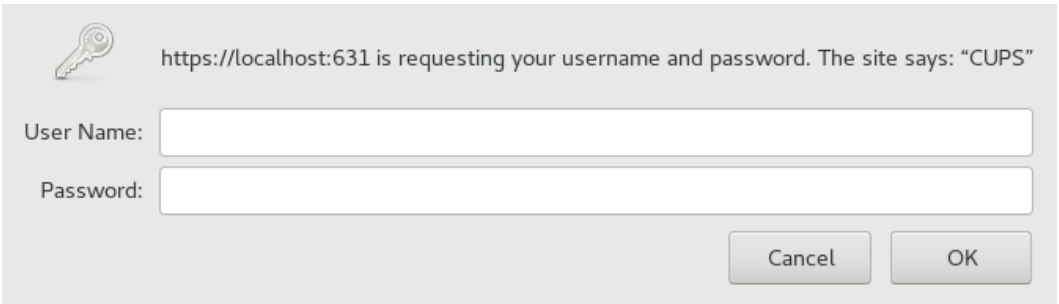
1. Using a web browser on the target system, browse to `https://localhost:631/` (be sure use **https** and not **http**).
   - Typically CUPS is installed and set up using a self-signed certificate, as such, most browsers will warn that the connection is not private. If such a warning is shown when navigating to the above URI, an exception must be made to allow the CUPS web interface to be used. How this exception is made depends on the browser. Consult the browser's documentation for more information on adding SSL certificate exceptions.



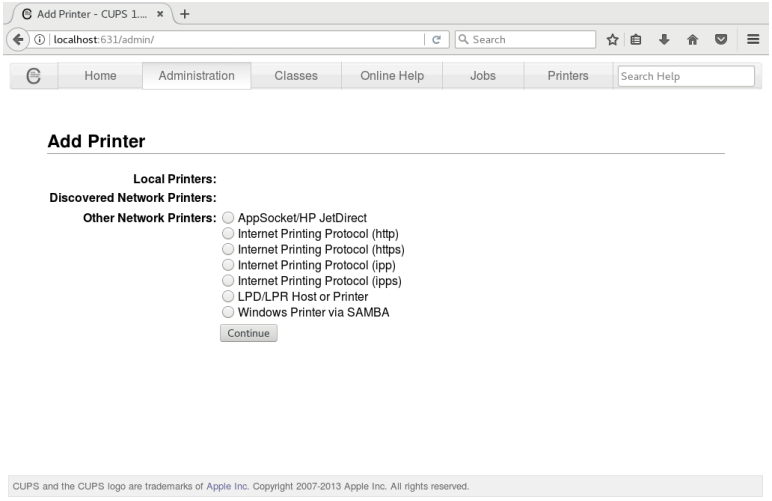
2. Once the CUPS web interface is loaded, click on "Administration" at the top of the page.



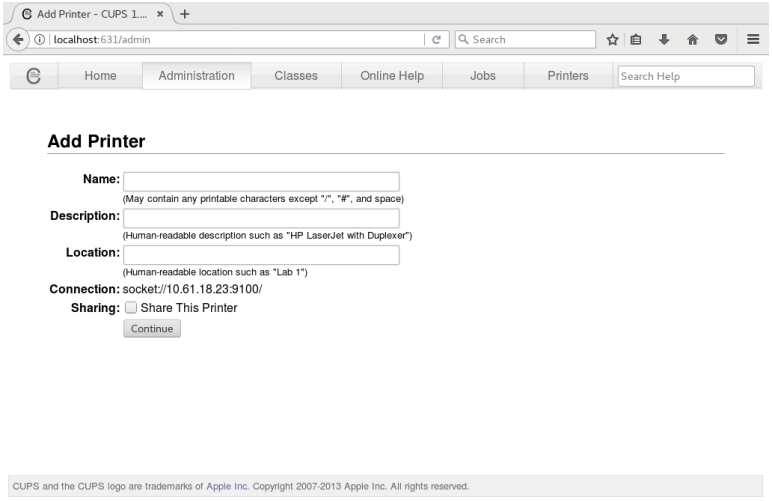
3. Under the "**Printers**" heading, click "Add Printer"
   - A prompt should appear requesting a username and password. If such a prompt appears, enter the root username and password.



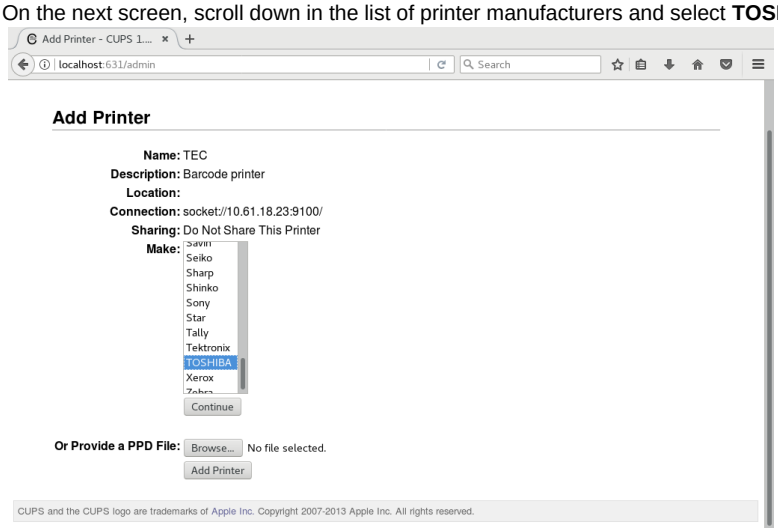
4. Choose the TOSHIBA TEC Barcode Printer amongst the local or discovered printers and click **Continue**. If the printer was not discovered but it is connected to the network, select **AppSocket/HP JetDirect** as the protocol. If the printer is connected by USB and does not show in the list of local printers, check the USB connection and try again from step 1.
   - If **AppSocket/HP JetDirect** was selected, enter the URI of the printer in the following format (where **ip-or-hostname** is the IPv4 address or hostname of the printer, and **port** is the port configured on the printer):
     `socket://ip-or-hostname:port/`



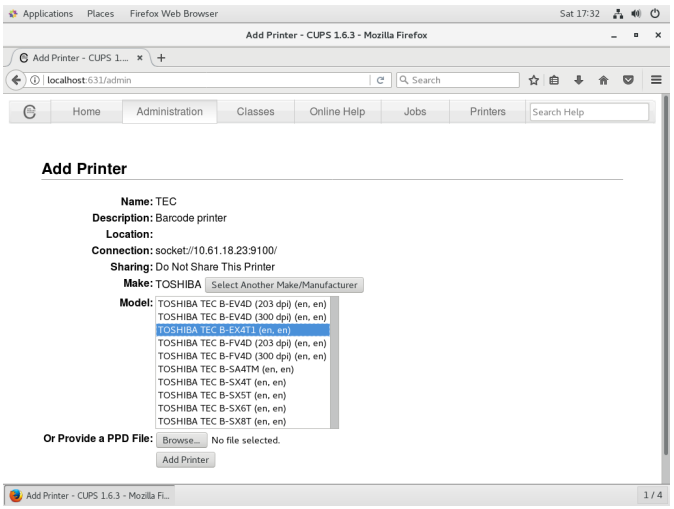
5. On the next screen, select a name, description, and location for the printer, and click **Continue**.



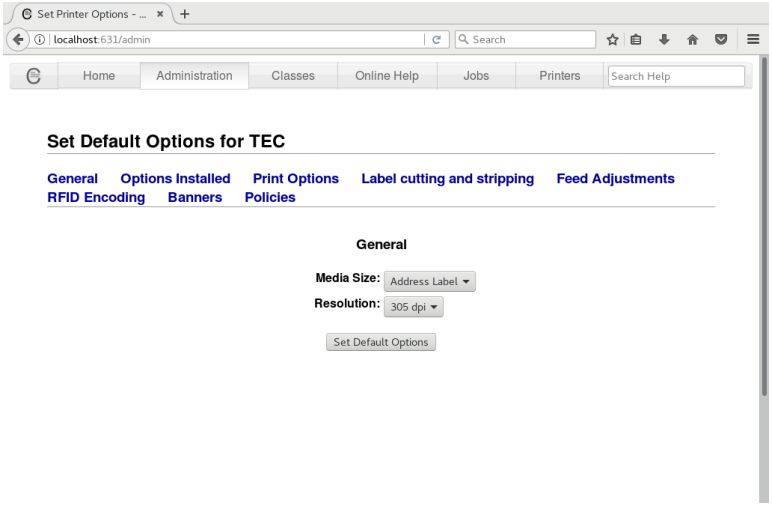
6. On the next screen, scroll down in the list of printer manufacturers and select **TOSHIBA**, and then click **Continue**.



7. Select the TOSHIBA TEC Barcode Printer model from list and click **Continue**.



8. On the next screen, set up the default options for the printer. For models that support more than one resolution, select the correct resolution from the drop down list and click **Set Default Options**.
    - Under "Options Installed", be sure to check that the label orientation is set correctly. If the shortest side of the label is ejected first (or the labels are square), choose "Labels are portrait oriented", otherwise choose "Labels are landscape oriented".
    - Also, ensure that the Media Size is set correctly, choosing a custom size if necessary (if the label sizes are not listed).



Printing Documents

Printing from desktop applications

The TOSHIBA TEC barcode printer drivers can be used to print from most CUPS-compatible software, including LibreOffice, GNOME and KDE software. Various print options are available, but they are set using different methods, depending on the application that is used to print. Consult the documentation of the application or target operating system. Each individual application may provide a different method to set printing options.

Printing from the command line

PDF files can be printed directly from the command line using the `lp` command line utility supplied by CUPS. This is convenient especially for scripting. The command line utility is invoked using the following format:

```
lp -d <printer> -o <options> file.pdf
```

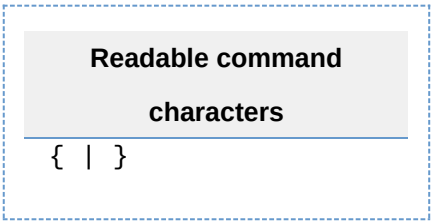
Options are specified using a space-separated list of settings in the form `key=value`. Since the options are separated by space, the entire argument must be quoted. Option names and values are case-sensitive and do not contain spaces. For example:

```
lp -d TEC_B_EX4T1 -o "PrintSpeed=6 PrintMethod=DirectThermal StripLabel=True" file.pdf
```

The options available for printing from the command line vary between TPCL models and the DB-EA4D model.

TPCL Models

The following options are defined for all TPCL models (default values are underlined):

Option name	Values	Description
BackfeedAdjustment	-9.5 .. -0.5, None, 0.5 .. 9.5	Adjusts the amount of backfeed, specified in millimetres (in intervals of 0.5mm only). Positive numbers indicate forward adjustments. To specify a custom adjustment, use the value "Custom.x" where x is a measurement in millimeters.
CommandCharacters	Readable	The TPCL data sent to the printer will use the readable characters, curly brackets and pipe (ASCII values 7Bh, 7Ch, and 7Dh):  This is useful if print data is captured, it can be read more easily within a text editor.
	Unreadable	The TPCL data sent to the printer will use the unreadable characters, NUL, ESC and LF (ASCII values 00h, 1Bh, 0Ah). These characters have no visual representation and are unlikely to occur normally within the print data. This is useful if the print data does not need to be captured for any reason or the readable command characters are used in text.
Compression	None	Bitmap data is sent to the printer uncompressed.
	Auto	Bitmap data will be compressed only if the compressed size is smaller than the uncompressed size. In certain circumstances, compression methods may result in an increase in size rather than a decrease.
	TOPIX	TOPIX compression is used to send bitmap data to the printer. This compression method is best suited to bitmaps where each row is similar to the previous one.
CutInterval	None, 1	**All models supporting cutter modules** If this value is set to "1" then the printer will cut every label. In order to specify a custom cut interval, use the value "Custom.x" where x is the number of labels to issue before cutting. **BV400 models only** If a Partial or Linerless cutter is installed, ensure that the relevant option is chosen in the "Installable Options", or specify "CutModule=Partial" or "CutModule=Linerless" in addition to this setting to ensure that the correct command is produced.
CutStripAdjustment	-9.5 .. -0.5, None, 0.5 .. 9.5	Adjusts the value for the cut or strip position, specified in millimetres (in intervals of 0.5mm only). Positive numbers indicate forward adjustments. To specify a custom adjustment, use the value "Custom.x" where x is a measurement in millimetres.

DocumentType	TextBarcode, Graphics	This determines the best way to convert the document to monochrome. If the document contains only text and barcodes, use "TextBarcode". This will ensure crisp, clean lines when the document contains bitmaps of text or barcodes. Documents that contain graphic representations of text and barcodes should also print nicely with this setting. If the document contains graphics (such as a logo), choose "Graphics". This will attempt to emulate shades of grey when printing the document. This can sometimes produce "fuzzy edges" when printing images of barcodes because the edges of the barcode bars may not fall exactly on a pixel boundary, causing the edges to be considered "grey", so in that case, use "TextBarcode" instead.
FeedAdjustment	-9.5 .. -0.5, None, 0.5 .. 9.5	Adjusts the starting print position, specified in millimetres (in intervals of 0.5mm only). Positive numbers indicate forward adjustments. To specify a custom adjustment, use the value "Custom.x" where x is a measurement in millimetres.
ImageDarkness	Lightest, Lighter, Light, Normal, Dark, Darker, Darkest	For "TextBarcode" documents (see DocumentType), this determines what shades of grey should be converted to white, and what shades should be converted to black. If 0% grey is black, and 100% grey is white, then the thresholds for "TextBarcode" mode are: Lightest - 12.5% Lighter - 25.0% Light - 37.5% Normal - 50.0% Dark - 62.5% Darker - 75.0% Darkest - 87.5% When DocumentType is set to "Graphics", this setting adjusts the curve of brightness (similar to a gamma curve). When printing logos, first try printing at "Normal". If some light colours are missing, try "Dark", "Darker" or "Darkest". If some colours are printed as black or very dark, try "Light", "Lighter" or "Lightest".
LabelGap	2.0 .. 10.0	Specifies the the size of the gap between labels in millimetres (in intervals of 1.0mm only). To specify a custom adjustment, use the value "Custom.x" where x is a measurement in millimetres.
PageSize	1x1.FullBleed .. 4x4.FullBleed, 4x6.FullBleed	Specifies the size of the label. If the source document is of a different size to the size specified by this option, it is automatically scaled to fit (up or down).

	Custom.WxHin
	Custom.WxHcm
	Custom.WxHmm
		If the label size is not specified directly by the PPD, the page size can be specified using the format shown. For example, a label that is 5.2in wide by 2.3in in height can be selected using:
		`-o PageSize=Custom.5.2x2.3in`
		Other supported units of measurements are centimetres (cm) and millimetres (mm). If no units are provided, the numbers provided are assumed to be represented as 72dpi.
		In some situations, custom page size information may not be honoured by the `lp` command. In such circumstances, supplying the following additional option may fix the issue, but will result in the document being automatically scaled to fit the destination page size:
		`-o fit-to-page`

PrintMethod	DirectThermal	Labels are printed using direct thermal. This is the default value for models that do not support thermal transfer.
	DirectThermalHeadUp	Labels are printed using direct thermal (head-up) where supported. If the head-up mechanism is not provided, this behaves the same as DirectThermal.
	ThermalTransfer	Uses thermal transfer to print the label. This is the default value for models that support thermal transfer.
	ThermalTransferRibbonSaving	Uses thermal transfer with ribbon saving enabled.
PrintSpeed	3, 5, 6, 8, 10, 12, 14	Sets the speed to print the document (in inches per second). Not all print speeds are available for all models, and some print speeds may not be used with certain resolutions or in conjunction with other options.
Sensor	None	Do not use a sensor to determine label boundaries.
	Reflective	Use the reflective sensor to detect black marks on the label substrate.
	Transmissive	Use the transmissive sensor to detect the gaps between the labels.
StripLabel	False	Labels are not stripped
	True	Labels are stripped (requires a model with a stripper module).
ToneAdjustmentDirectThermal	None	Do not make any adjustments to the print density for direct thermal print jobs.
	B-EX4 series -20, -19, ..., -1, -0, 0, 1, ..., 9, 10 **B-EX6 series** -20, -19, ..., -1, -0, 0, 1, ..., 19, 20 **All other models** -10, -9, ..., -1, -0, 0, 1, ..., 9, 10	Adjust the print density for thermal transfer print jobs. Negative values will decrease the print density, resulting in a lighter image, whereas positive values will increase the print density, darkening the overall printed image. Please be aware that this value is added against any preconfigured print density in the printer's firmware. If the result falls outside of the allowable range (which depends on both print speed and print resolution), it is automatically adjusted to the nearest suitable value.
ToneAdjustmentThermalTransfer	None	Do not make any adjustments to the print density for thermal transfer print jobs.

	B-EX4 series -20, -19, ..., -1, -0, 0, 1, ..., 9, 10 **B-EX6 series** -20, -19, ..., -1, -0, 0, 1, ..., 19, 20 **All other models** -10, -9, ..., -1, -0, 0, 1, ..., 9, 10	These values have the same meaning as the **ToneAdjustmentDirectThermal** setting but instead apply only to thermal transfer print jobs rather that direct thermal print jobs.

DB-EA4D Series

The DB-EA4D series supports a different set of options to TPCL models (default values are underlined):

Option name	Values	Description
CuttingMode	None	Cutting is disabled
	EveryPage	Cut after every page
	EndOfDocument	Cut after all pages
Duplex	None	Use only one print head. All pages will be printed on the front side of the media only (unless the `PrintOnBackOnly` option is set to true).
	DuplexNoTumble	Print using both print heads. The front print head will print the first page, and the back print head will print the second page. The pages will not be tumbled, meaning that both the front and back will be upright when the label is flipped over on its longest side.
	DuplexTumble	Print on both sides, putting page 1 on the front, and page 2 on the back (and page 3 on the front of the next label, etc.)
PrintOnBackOnly	True, False	When this option is enabled for single-sided print jobs (i.e. `Duplex` is set to `None`), this causes the print job to print only on the back.
PrintSpeed	3, 4, 5, 6	Sets the print speed for the print job. Higher print speeds typically reduce print quality.