

User's Manual XD3-40t Series

THERMAL TRANSFER LABEL PRINTER Ver. 1.00



http://www.bixolon.com

Introduction

XD3-40t series printers have been designed to be connected to various types of electronic devices such as computer peripheral devices.

<u>* The main features of the printer are as follows</u>

- 1. Maximum 127mm/s printing speed.
- 2. 4inch THERMAL TRANSFER LABEL PRINTER
- 3. 210 x 284 x 186 (W x D x H)
- 4. Support for multiple interfaces (Standard: USB, Option: USB & Serial & Ethernet)
- 5. Easy media loading
- 6. Can print a range of barcodes
- 7. Supporting peeler option

It is advisable to read the contents of this manual carefully before using the printer for the first time.

<u>* Use only authorized supplies that can be trusted!</u>

- We are not responsible for quality and service for damage caused by the use of unauthorized products (or recycled ones).

Safety Information

Marning: Warnings must be heeded carefully in order to prevent serious physical harm.

Caution: Cautions must be heeded in order to prevent minor injuries, equipment damage, or data loss.

Symbol Information

	DC (Direct current)	
Ŵ	Warning, Caution	
	USB	
율	Ethernet	

Table of Contents

1. Content Confirmation	8
2. Product Part Names	9
3. Installation & Usage	11
3-1 Printer Installation Placings	11
3-2 Power Connection	12
3-3 Interface	14
3-3-1 Standard Interface(USB only)	15
3-3-2 Option Interface(USB & Serial & Ethernet)	16
3-4 Media Installation	17
3-5 Ribbon Installation	19
3-5-1 Type of Ribbon	19
3-5-2 Inserting a One-Inch Core Ribbon	20
3-5-3 Inserting a Half-Inch Core Ribbon	20
3-5-4 Knob Adjust Method According to Ribbon Length	21
3-5-5 Narrow Ribbon Installation	
3-5-6 Ribbon Removal	22
3-5-7 Ribbon Sensor Activation	22
3-6 Control Panel	23
3-7 Feed/Pause Button Operations	24
4. Self-test	
5. Detailed features	
5-1 Stand-alone Configuration Mode	
5-1-1 Start Stand-alone Configuration Mode and execute each function	
5-1-2 Function List of Stand-alone Configuration Mode	
5-2 Media Length Measurement	
5-3 Pause/Resume	
5-4 Gap Sensor Auto Calibration Mode	
5-5 Black Mark Sensor Auto Calibration Mode	
5-6 Media Sensor Manual Calibration	
5-7 Data Dump Mode	
5-8 Media Installation Method of Peeler(Option) Model	
5-9 Using Fan-Fold or External Media	
5-9-1 Printer Preparation	
5-9-2 When using Fan-Fold Media	
5-9-3 When using Large-Capacity Media Roll(Option)	35
6 Drintor maintonanco	36
6. Printer maintenance	
6-1 Cleaning Head	
6-2 Cleaning Sensors, Roller or/and Media Path	
6-3 Replacing Roller	38
7. Appendix	
7-1 Specifications	
7-2 Label Types	

Manual Information

This user's guide contains basic information for product usage as well as for emergency measures that may be required.

* The following separate manuals provide more detailed content on various technological issues and areas.

1. Windows Driver Manual

This manual provides information on the installation instructions and main functions of the windows driver.

2. Unified Label Utility-II Manual

This manual provides information on the usage of software for function selection of this product, operating condition modification, etc.

3. Programming (SLCS) Manual

This manual provides information on label printer commands.

4. True Font Downloader Manual

This manual provides information on the usage of the font downloader that can download true type fonts and facilitate their usage as device fonts.

5. Network Connection Manual

This manual provides information on the configuration and usage of ethernet interface.

6. Label design program Manual

This manual provides information on the usage of the Windows PC program that can make labels by adding text, graphics, or barcodes at desired positions.

Safety Precautions

In using the present appliance, please keep the following safety regulations in order to prevent any hazard or material damage.







CAUTION

Cautions must be heeded in order to prevent minor injuries, equipment damage, or data loss.



1. Content Confirmation

The following items should all be contained in the printer package. Contact the dealer from which the purchase was made if any item is damaged and/or missing.



2. Product Part Names





3. Installation & Usage

3-1 Printer Installation Placings

• Install the printer in a location that meets the following conditions.

- Allow sufficient space around the printer for proper ventilation.
- Install the printer on a flat and level surface.
- Avoid humid environment.

3-2 Power Connection

• Connect power to the printer as shown below.



- 1) Turn off the printer power switch.
- 2) Check to see that the AC/DC adapter voltage matches that of the power source.
- 3) Connect the AC/DC adapter to the printer power port.
- 4) Connect the power cord to the AC/DC adapter.
- 5) Connect the power cord to a power source/outlet.
- 6) Turn on the printer power switch.



3-3 Interface

Note	Shielded cables must be used to prevent radiation and reception of electrical noise. Use the shortest possible communication cable to minimize the detection of electrical noise in the cable. - Serial(RS-232C) Cable (1.8m or less recommended) - USB B-Type Cable (1.8m or less recommended) - LAN(Ethernet) Cable (3m or less, CAT-5 or higher UTP Cable)
A Caution	 Connecting unshielded communication cables is in violation of EMC standards. Use the cable approved by us. Do not bundle the communication cable with objects that may cause electrical noise and interference. The printer may be damaged.
After turning off the power switch of printer, connect or disconnect the communication cable. This can cause serious electrical damage and bodily injury.	

3-3-1 Standard Interface(USB only)

Connect the interface cable as shown below.

This printer supports the following communications interface standards.

- USB B-Type Cable



- 1) Turn off the power switch.
- 2) Connect the communication cable to the printer communication port to be used. - Connect USB B-Type cable to the USB port.



3-3-2 Option Interface(USB & Serial & Ethernet)

Connect the interface cable as shown below.

This printer supports the following communications interface standards.

- Serial(RS-232C) Cable
- LAN(Ethernet) Cable
- USB B-Type Cable



- 1) Turn off the power switch.
- 2) Connect the communication cable to the printer communication port to be used.
 - Connect the serial(RS-232C) cable to the serial port and tighten the screw on both sides.
 - Connect the LAN(ethernet) cable to the Ethernet port.
 - Connect USB B-Type cable to the USB port.

Caution Be aware that the product's electronic components may be damaged due to discharging of electrostatic energy that accumulates on the surface of the body or other objects.

3-4 Media Installation

- 1) Open the media cover as push the cover button on both sides of the media cover.
 2) Spread the media holder and insert media as shown.
 2) Media Cover
 Cover Button
 Cover Button
- 3) Pull the ribbon assembly lever on both sides of the ribbon assembly and open the ribbon assembly.



- 4) Feed the media between the media guide on both side.
 - * Whether the media is rolled outside or inside, the printing side must faced up.



5) If you use black mark or notch media roll, please lift up the media and match the sensor position adjust the black mark or notch hole.



3-5 Ribbon Installation

3-5-1 Type of Ribbon

- 1) Type by Film Coating Location
 - Take note before ribbon purchase that only ribbons facing outward can be used.



- Ribbon test using adhesive material
 - Perform contact test in order to determine which side is coated if there are useable labels.
- Complete the following steps to carry out the contact test
 - Remove the liner from the label
 - Put a piece of adhesive surface of the label on the outer/inner surface of the ribbon, and apply pressure.
 - Remove the label from the ribbon
 - Check whether adhesive surface of the label is stained by black ink ribbon.

2) Type by Roll Core

- This printer can be used to one-inch or half-inch core ribbon.
- For a 1-inch core, a roll core must be used.
- The holder ribbon and roll core of the fully used ribbon must be reused. Do not discard.



3-5-2 Inserting a One-Inch Core Ribbon

1) Insert the Holder ribbon into the core and ribbon. (keep note of ribbon printing direction)



2) Open the ribbon assembly and insert the ribbon and core by pushing from left to right.



4) Press the Close area to shut the ribbon assembly.

3-5-3 Inserting a Half-Inch Core Ribbon

 Open the ribbon assembly and insert the ribbon and core by pushing from left to right. (keep attention of ribbon printing direction)



3) Apply tape to the core of the ribbon.



2) Apply tape to the core of the ribbon.





3-5-4 Knob Adjust Method According to Ribbon Length

Use printer after adjusting knob correctly, according to ribbon length and width.

PUSH-UP state of knob to which being inward is the factory default specification and you can push or pull the knob.

Please note that push or pull operation affects print quality and operation.





3-5-5 Narrow Ribbon Installation

When using ribbons of widths of 110mm or lower, install in a centered position on the holder ribbon.



3-5-6 Ribbon Removal

- 1) Cut the ribbon.
- 2) Open the ribbon assembly and remove the ribbon and core by pushing from left to right.
- 3) Detach the ribbon holder from the ribbon and core.



3-5-7 Ribbon Sensor Activation

Check the settings related to ribbon detection sensor if printing does not stop when the printer is out of ribbon or ribbon is broken.

* Ribbon detection sensor can be enabled by command control. And default setting can be changed by Unified Label Utility.

A Caution	- When replacing a ribbon, keep affixed the core of the fully used ribbon to the ribbon coiling portion on the other side and do not discard as its use is required.
	 As the ribbon holder is required for continuous use, make sure not to misplace it.

3-6 Control Panel



Feed/pause button(): Feed media or pause the print job.

LED: The current printer status can be viewed. (Refer to below)

The current printer status can be viewed via the printer's LED display.

1) Green LED on

- The printer waits for the data from host (PC) in normal mode.

- 2) Green LED blinking
 - The printer has stopped by pressing feed/pause button(

It restarts printing when pressed feed/pause button() again.

- 3) Orange LED on
 - It means media gap/black mark sensing error.

It becomes on when the printer fails to detect the media or media jam occurred. When it fails to detect the media correctly, use auto calibration function.

- 4) Orange LED blinking
 - No media or ribbon. Make sure the media and ribbon is loaded correctly.
- 5) Red LED on
 - The ribbon assembly is open.
- 6) Red LED blinking
 - TPH (Thermal Printing Head) overheated.

3-7 Feed/Pause Button Operations

• Feed/pause button() can be used for various purposes as follows.

1) Media Feed

In print standby state, pressed for shorter than 3 seconds, the printer feed one media.

- Stand-alone Configuration Mode
 In print standby state, pressed for longer than 3 seconds, the printer enters into stand-alone configuration mode. Please refer to 5-1 for details.
- 3) Pause and Resume Printing

If pressed while printing, printing toggled between pause and resume.

4. Self-test

The self-test checks whether the printer has any problems.

(Remove the printed label from peeler before using the self-test if using the printer's label peeler option.)

The self-test checks the following;

- 1) Make sure that the media roll has been installed properly.
- 2) Turn on the power while holding down the feed/pause button(. The self-test begins. (It takes about 10 seconds before starting self-test)
- 3) The self-test prints the current printer configuration information.
- 4) After the self-test results are printed out, a printer enters into print standby state.



If the printer does not function properly, contact an authorized dealer.

5. Detailed features

5-1 Stand-alone Configuration Mode

• Various modes can be executed by using button and LED status.

5-1-1 Start Stand-alone Configuration Mode and execute each function

- 1) Make sure that a printer is in print standby state.
- 2) Press the feed/pause button() for about 3 seconds, then the LED changes to orange color.
- 3) Release the feed/pause button(**C**), then the printer starts the stand-alone configuration mode and 6 numbers of LED status changes sequentially.
- 4) When the feed/pause button() is pressed at specific LED status, the corresponding operation will be executed.
- 5-1-2 Function List of Stand-alone Configuration Mode

Sequence	LED		Printer Operation
Number	Color	Status	
1	Green	Blink 4 times	Self-Test
2	Orange	Blink 4 times	Factory Reset and Gap Calibration
3	Red	Blink 4 times	Factory Reset and Black Mark Calibration
4	Green	Keep On 3 seconds	Reserved
5	Orange	Keep On 3 seconds	Data Dump Mode
6	Red	Keep On 3 seconds	Demo Mode

* This information can be printed out by printer self-test.



Contact an authorized dealer if the printer does not enter stand-alone configuration mode.

5-2 Media Length Measurement

• The printer needs to have the exact length of currently installed media to make a proper print.

For this, the printer automatically starts media length measurement mode in the following conditions.

- 1) When the printer has no measure length, for example first feeding after installation.
- 2) When the detected media length differs from the measured value.

In this mode, the printer feeds 2 or 3 media to measure the exact length of media and saves the measured value on printer's non-volatile memory.

5-3 Pause/Resume

- Press feed/pause button() to pause at the middle of media printing.
- 1) Press feed/pause button() once while printing.
- 2) Printer stops after on-going printing and green LED is blinking
- 3) Press feed/pause button(Ω) once again. It resumes printing in a queue.



Contact an authorized dealer if the printer does not execute pause/resume function.

5-4 Gap Sensor Auto Calibration Mode

• Gap sensor auto calibration mode is used when the printer does not detect a gap on the media correctly.

Generally a printer is set to detect most types of gap but sometimes it fails to detect and keep feeding the media without a stop when special media used. In such case, use gap sensor auto calibration mode function for a proper detection.

1) Make sure that media roll has been installed properly.

- 2) Use stand-alone configuration mode, sequence number 2 (refer to 5-1)
 - Sequence number 2: Gap media auto calibration mode



Contact an authorized dealer if the printer does not execute gap sensor auto calibration mode function.

5-5 Black Mark Sensor Auto Calibration Mode

• Black mark sensor auto calibration mode is used when the printer does not detect a black mark on the media correctly.

Generally a printer is set to detect most types of black mark but sometimes it fails to detect and keep feeding the media without a stop when special media used. In such case, use black mark sensor auto calibration mode function for a proper detection.

- 1) Make sure that media roll has been installed properly.
- 2) Use stand-alone configuration mode, sequence number 3 (refer to 5-1)
 - Sequence number 3: Black mark media auto calibration mode



Contact an authorized dealer if the printer does not execute black mark sensor auto calibration mode function.

5-6 Media Sensor Manual Calibration

• Manual calibration of media detection can be used when the printer cannot detect a media gap(or black mark) even after gap(or black mark) auto calibration mode has been executed.

Users can calibrate sensor parameters in detail by using the utility program provided by the manufacturer.

The utility can be obtained from the Internet via the BIXOLON website <u>www.bixolon.com</u>.

Please make sure the printer is connected and execute the utility program. Please press the calibration setting manager button after setting the interface type.

		Sensing Value Distribution	STEP 1 : Start
Interface Type	User Setting	0 32 : 0000	Sensing Type :
Serial Parallel @ USB	Configure Printer Setting	0 64 : 0000 96 : 0000	
Ethernet OBluetooth	Configure Print Quality	0 128 : 0000 0 160 : 0000	Label Length : (mm)
Communication Setting	Calibration Setting Manager	0 192 : 0000 0 224 : 0000 0 256 : 0000	150
LPT Port	File Transfer	0 256 1 0000 0 268 : 0000 0 326 1 0000	Check Sensing Value
COM Port COM3:	PCX File Downloader	0 352 : 0000 0 384 : 0000	
	File Transfer	0 416 : 0000 0 448 : 0000	STEP 2 : Save
Baud Rate 115200 V		0 480 : 0000 0 512 : 0000	Middle Gap Value :
Data Bits 8 -	Printer Tool	544 : 0000	0
Parity None -	Printer Tool	0 576 : 0000 608 : 0000	Gap Count :
Stop Bits	Communication Tool	0 640 : 0000 0 672 : 0000 0 704 : 0000	7 -
IP 192 . 168 . 192 . 123	SLCS Test Tool	0 736 : 0000 0 768 : 0000	Save Calbration
Port 9100	RFID	800 : 0000 832 : 0000	
	Set Configuration Write/Read	0 864 : 0000 896 : 0000	
Connect Disconnect		928 : 0000 960 : 0000	Cancel
	EXIT	© 992 : 0000 © 1024 : 0000	Cancel Calibration

- 1) Select the sensing type and input the label length(mm) and click on "Check Sensing Value" button then printer starts to calibrate.
- 2) After calibration, the scanned values will appear on the screen.
- 3) Optimal sensing values will appear in black bold letters on the left of the utility screen and select one of the values and click on "Save Calibration"
- 4) If chosen value does not work properly, please try the other values among the black bold letters.
- 5) To go back to the initial value, please click on "Cancel Calibration" button.

Contact an authorized dealer if the printer does not enter media sensor manual calibration mode.

5-7 Data Dump Mode

• This function can be used to diagnose the communication issues when the printer does not work correctly.

In this mode, the received data will be printed in hex format.

Use stand-alone configuration mode, sequence number 5(refer to 5-1) to start data dump mode.

Turn the printer off and on to recover to the print standby mode.



5-8 Media Installation Method of Peeler(Option) Model

- Use a peeler to automatically separate the printed media from the liner. For peeler model, install media in the following ways:
- 1) Open the media cover and ribbon assembly.
- 2) Open the peeler cover.



3) Set the peeler switch to the 'ON' position and check to see that the LED has turned on.



4) Remove a label of the media and insert the liner through the slot.



5) Close the peeler cover until a click sound is heard.



6) Close the ribbon assembly and media cover until a click sound is heard.

A Caution	 fingers. The peeler function is only available for gap media. When the peeler is switched on, the next label will not be printed unless the printed label is removed from the peeler. When the peeler is switched off, the peeler does not work.
⚠ Warning	While the printer is operating, the print head gets very hot, so turn off the power and let it cool down completely. The hot print head can cause serious burns.

5-9 Using Fan-Fold or External Media

• Supplying media to the printer externally is done as follows.

5-9-1 Printer Preparation

Remove the rear media supply cover on the back side of the printer.





Take care not to injure the hands and/or any other part of the body when performing this step

5-9-2 When using Fan-Fold Media

Supplying fan-fold media to the printer externally is done as follows.

1) Insert the media at the rear of the printer as shown below.



2) Adjust media holders to the media width by using the fix tool.



5-9-3 When using Large-Capacity Media Roll(Option)

Install the external media supplier(LES-400G) as shown below and adjust media holders to the media.



 Do not open the print cover while the printer is operating, otherwise the printer may be damaged. To prevent data loss, replace media only when the printer is not receiving any data.

6. Printer maintenance

Printing quality might be degraded by dust, foreign substance, adhesive substance, or other pollution materials stuck in the printer head or inside the printer.

In this case, clean the print head as follows.

6-1 Cleaning Head

- 1) Open the media cover and ribbon assembly then remove adhesive foreign substances or other pollution materials with the cloth or cotton swab soaked in alcohol for medical.
- 2) After cleaning the head, do not use the printer until the alcohol used for cleaning evaporates completely. (1~2 min)



	Note Perform the cleaning process each time the media roll is replaced to prevent print quality deterioration.	
		- Be careful not to leave scratches in the print head.
MarningDo not touch heated area of print-head when cleaning.This can cause serious damage and bodily injury.		

6-2 Cleaning Sensors, Roller or/and Media Path

- 1) Open the media cover and ribbon assembly, then remove the media.
- 2) Clean any dust or foreign substance using dry cloth or cotton swab.
- 3) Soak the cloth or cotton swab in alcohol for medical use and use it to remove adhesive foreign substances or other pollution materials.



6-3 Replacing Roller

- 1) Open the media cover and ribbon assembly, and remove the media.
- 2) Pull the roller holders and separate the roller assembly.



3) Assemble new roller assembly in reverse order.

A Caution Make sure to turn the printer power off prior to replacing.	
A Warning	Do not touch heated area of print–head when replacing roller. This can cause serious damage and bodily injury.

7. Appendix

7-1 Specifications

Item		Description
	Printing Method	Thermal Transfer / Direct Thermal Printing
Printing	Dot Density	203 dpi (8 dot/mm)
Finning	Printing Width	Max. 104 mm (Max. 4.09")
	Printing Speed	Max. 127 mm/sec (Max. 5ips)
	Roll Width	15 ~ 118 mm (0.59 ~ 4.64")
Media	Roll	Max 127 mm (Max. 5")
	Core	25.4 ~ 38 mm (1 ~ 1.5")
	Length / Width	Max 300m / 33 ~ 110mm(1.3~4.3")
Ribbon	Type(Outside)	Wax, Wax/Resin, Resin
	Core	0.5" / 1"
	SMPS Input Voltage	AC 100 - 240V
AC/DC	Frequency	50/60 Hz
Adapter	SMPS Output Voltage	DC 24V ±5%
	SMPS Output Current	2.5A
	Tanan anatana	0 ~ 40 ℃ (Operating)
Usage	Temperature	-20 ~ 60 ℃ (Storage)
Conditions	Humidity	10 ~ 80 % RH (Operating)
	(except for media)	10 ~ 90 % RH (Storage)

Note	Print speed may vary depending on the data transfer speed and the combination of command.	
A Caution	 In case of emergency, turn off the power to cut the connection. The power cord must be grounded to ensure safety and reduce electromagnetic interference. 	

7-2 Label Types

- The label types used with this printer are as follows.
 - Control Labels: PET
 - Other Labels: PET

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BIXOLON Co., Ltd. maintains ongoing efforts to enhance and upgrade the functions and quality of all our products.

In the following, product specifications and/or user manual content may be changed without prior notice.

Caution

Some semiconductor devices are easily damaged by static electricity. You should turn the printer "OFF", before you connect or remove the cables on the rear side, in order to guard the printer against the static electricity. If the printer is damaged by the static electricity, you should turn the printer "OFF".

Compliance information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

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

Caution: Exposure to Radio Frequency Radiation.

To comply with FCC RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons.

Caution: Any Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Class A Digital Device : Wired Device

This Apparatus complies with class "A" limits for radio interference as specified in the Canadian department of communications radio interference regulations.

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

Appareil numérique de classe A: appareil filaire

Get appareil est conforme aux normes class "A" d'interference radio tel que specifier par ministre canadien des communications dans les reglements d'interference radio.

Cet appareil numérique de la classe A est conform à la norme NMB-003 du Canada.

Waste Electrical and Electric Equipment (WEEE)



This marking shown on the product or its literature, indicates that is should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household

users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

Revision History

Ver.	Date	Page	Description
1.00	20.11.19	-	New