Dalemark DotMark®-II Single/Multiple Print Head High Resolution Inkjet Printer



User Manual

IMPORTANT

To ensure the best printing quality, we recommend using only our specified cartridges and corresponding accessories. Any malfunction or poor printing quality caused by improper use of other kinds of inks or accessories will void our warranty.

Safety Precautions

There is high voltage inside the machine when it is live. Maintenance or disassembly by an unqualified or unauthorized person is strictly prohibited. The Printer must be grounded by connecting the grounding wire for the printer during equipment setup. Unreliable grounding will possibly result in print failure. Do not expose ink to direct sunlight or high temperature (35Cabove). The heat of direct sun-light or high temperature will affect ink's storage life and print quality. If you get ink in your eyes or skin during use clean your eyes or skin with clean water. Ink leakage inside printer can result in damage to the printer. Switch off the machine and unplug it from the power outlet when there's ink leakage inside printer. Contact a qualified service technician repair.

Warning Signs

Caution: The sign " ____" indicates information for caution of possible damage to hardware of inkjet printer or data loss.

Attention: The sign " indicates important notes helpful for your trouble-free operation of the machine.

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Please read this Manual carefully before your use of this equipment.

Introduction

Thank you for your purchase of our DOTMARK Ink Jet Printer. Please review each of the following items before start-up:

- Important precautions for use of the machine
- Introduction of printer: Parts and components of the machine
- Setup and Installation Instructions: Instructions for Equipment Setup and Cartridge
- Installation. How to use the printer: Explanations of general operation and startup/shutdown.
 Operation instructions & explanations on how to enter new/edit data for printing and how to
- adjust printer settings.
 - Care and Maintenance:
- Troubleshooting: Common failures occurred and solutions
- Appendix 1 Terms and Definitions: Definitions for terms used in this document.

Please read this user manual carefully before your first use of the printer for a full understanding of the DOTMARK so that you will get maximum use from your new equipment. This will also help you have a quick reference to related sections when you have any problems during use.

Note 1: If you cannot solve the problem encountered during use, please contact us for assistance.

Note 2: The information contained herein is subject to change without notice. The amended information will be updated in user manual by new edition.

Note 3: Any machine failure or damage caused by user's negligence in following this manual will void our Machine Warranty.

Chapter One: Important Precautions for Using

In order to protect your personal safety and insure correct printer installation and operation it is important that you read the precautions carefully.



/!\ 1.1 Important Setup Precautions

- 1.1.1 Use exclusive power supply for the equipment. Do not share same power supply with other equipment. Installation of an additional UPS is recommended.
- 1.1.2 Mount the support in a solid place. Do not mount in a location that will be easily affected by shock or movement.
- 1.1.3 Minimize any conveyor vibration.
- 1.1.4 Install the Deflector to prevent any product from hitting the nozzle plate.
- 1.1.5 Make sure the printer is well grounded.
- 1.1.6 Maintain the distance between Deflector and printing object at 0.5-2.5mm as recommended.
- 1.1.7 Make sure to insert and remove the ink cartridge by an angle of 15 degree so as not to cause any damage to the cartridge.
- 1.1.8 Make sure the setup environment is clean. Clean off any dust on the printer from time to time.



$frac{ extstyle !}{ extstyle 1.2}$ 1.2 Important Operation Precautions

- 1.2.1 Do not poke or impact the touch screen sharply.
- 1.2.2 Do not cover up the built-in photocell.
- 1.2.3 Use a non-woven cloth to wipe the nozzle plate when the print is not clear or dots are missing.
- 1.2.4 Set print delay value for best print result when print position changes (see Section 5.2.3).
- 1.2.5 Do not insert or remove ink cartridge while the machine is in printing process so as not to cause damage to the cartridge.
- 1.2.6 Do not use compressed air for cleaning the touch screen. High pressure air may damage the touch screen.
- 1.2.7 Do not use compressed air for direct or indirect cleaning of the ink cartridge. High pressure air may damage the nozzle plate.
- 1.2.8 Read Chapter Seven for troubleshooting when failure occurs. If you cannot solve the problem encountered, contact your local dealer.

Note: Solvent ink cartridges may require to be removed from printer after use. Turn off the machine and remove the cartridge from printer. Wipe the printhead clean. Cap the printhead with the plastic cap to prevent he nozzle from clogging.

Chapter Two: Installation and Setup Instructions

2.1 Printheads Adjustment and Installation

2.1.1 Printheads Adjustment



Aviation connector default status Note: for easy operation, installation direction can be adjusted.

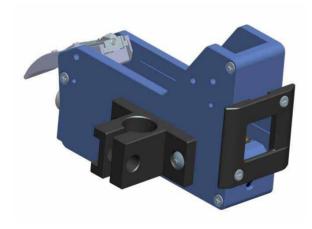


Remove the 3 screws on the connector, take off the plate, place it into another direction as shown on the picture, then fasten the screws back. Connector Adjustment Finish

2.1.2 Single Printhead Installation

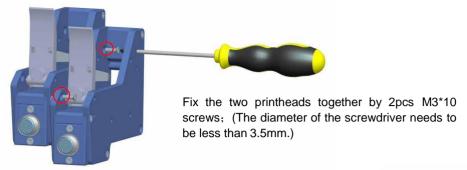


Single Printhead for Side Printing



Single Printhead for Down Printing.

2.1.3 Double Printheads Installation





Fasten the anti-shock plate on the printheads by 3pcs M3*10 screws.



Double printheads installation finish. Note: While install anti-shock plate, its direction can be adjusted according to production line direction.

2.1.4: Anti-Shock Mechanism & Plate (Optional)

Note: The anti-shock mechanism and plate is optional, according to demand.

Part List



Anti-Shock Mechanism

Anti-Shock Plate

Combined Printheads





M3*10 screws (fix anti-shock plate)

Anti-Shock Mechanism



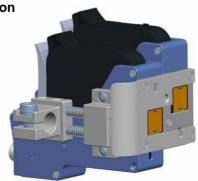
Anti-Shock Plate



M3*10 screws (fix anti-shock plate)

Single Printhead

Installation



Combined printheads side printing Note: The installation direction can be adjusted.



Combined printheads downward printing Note: The installation direction can be adjusted.

Note: Installation for single printhead is the same as combined printheads.

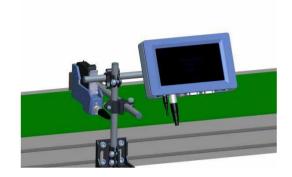
2.1.4 Bracket Installation

Installation details, please refer to the installation video in the USB disk.

Down Printing of Single Printhead



Side Printing of Single Printhead



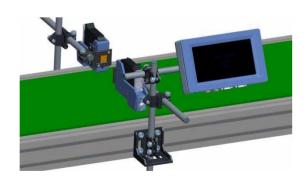
Side Printing of Double Printheads



Down Printing of Double Printheads

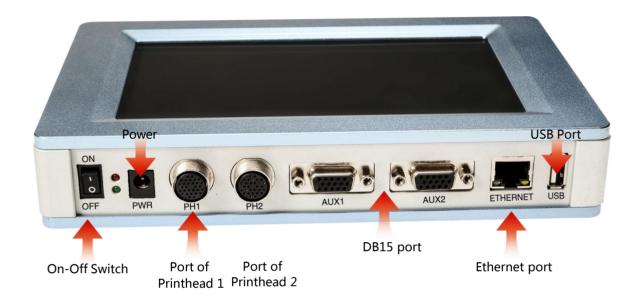


Separate Printheads Installation



Chapter Three: Introduction

3.1 Printer



- Note: 1) DB15 port: can connect with external photocell, encoder, alarm kit or external data source.
 - 2) Ethernet port: can connect with Ethernet cable or external data source.
 - 3) USB port: can connect with USB or external data source.

This user manual is a universal version and can be applied to single printhead mode, two printheads combined mode and two printheads separately mode. Settings are below:

1. While using single printhead, settings refer to Section 5.4.3, Printing Options→A Nozzle

Maintenance →4) Printheads Selection: Printhead 1 or Printhead 1 or Printhead 2.

Note: while using build-in photocell, user can choose which one to use, the one on Printhead 1 or on Printhead 2, settings refer to Section 5.4.3, Printing Options→D Build-in

Photocell Setting→ Select P.C Plot or Select P.C Plot ;

- 2. While using double printheads combined, settings refer to Section 5.4.3, Printing Options→A

 Nozzle Maintenance→Printhead Selection: Double Printheads Combined.

 Note: 1) While using build-in photocell, user can choose which one to use, the one on Printhead 1 or on Printhead 2, settings refer to Section 5.4.3, Printing Options→D Build-in

 Photocell Setting→ Select P.C Pl () or Select P.C Pl () ;
- 3. While using double printheads separately, settings refer to Section 5.4.3, Printing Options→A

 Nozzle Maintenance→Printheads Selection: Printheads Separately.

 Note: 1) While using build-in photocell, user can choose which one to use, the one on Printhead 1 or on Printhead 2, settings refer to Section 5.4.3, Printing Options→D Build-in

 Photocell Setting→ Select P.C (PI) or Select P.C (PI) ;
- 2) While using double printheads separately, Spit function and Purging function can be set separately, steps refer to Section 5.4.3 Printing Options→A Nozzle Maintenance→
- 3) While using double printheads separately, Printing Direction and Channel Switch can be set separately, steps refer to Section 5.4.3 Printing Options→A Printhead Setting



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3.2 Technical Specifications

A. Performance Values

| Item | Specifications | Note |
|--|--|------------------|
| Technical source | HP TIJ 2.5 Thermal Ink Jettechnology | |
| Dimension | controller(H*W*D): 210*135*37mm/8.3*5.3*1.46inch | Including the |
| | Print head(H*W*D): 142*133*55mm/5.6*5.2*2.15inch | spring mechanism |
| Power supply | AC 90V-240V/50-60HZ, 90W (Dedicated AC); | |
| Print heights | 1~12.7mm | |
| | 0~60m/min (300DPI) | |
| Print speed | 0~30m/min (600DPI) | |
| Resolution | 50~600DPI | |
| Print application | Barcode, alphabetic, numeric, image logos, date/time, expiration date, shift code, counter, lot-box code | |
| Connection Ports | Ethernet: 100Mb/s, Synchronized control of multiple devices via PC; USB2.0: Support U-Disk; DB15: For external devices like photocell, synchronizer or alarm kit connection; | |
| Interface | 7 inch 800 *480 color LCD touch screen; With touch screen interface operation, easy to use; Printer can work separately without PC software; | |
| 1.Automatically recognizes ink types, and identifies optimum printing parameters for each ink type; 2.Guarantees the using of genuine HP ink; 3.Automatic measuring system for the usage of ink. | | |
| Mounting | Standard side and downside printing assembly. | |
| Product Certification | CE, FCC. | |
| Environment | 1. Working environment: -10°C~ +55°C; 10%-85%RH; | |
| requirement | 2. Storage environment: -25°C~ +80°C; 10%-90%RH. | |

B. Features:

| Item | Specifications | Note |
|--------------------------|--|------|
| Languages | English, Japanese, French, German, Spanish, Chinese, Portuguese and Russian. | |
| Font | Default font is Arial; allow users to load fonts they need. | |
| Barcode | UPCA, UPCE, EAN13, EAN8, INT25, CODE39, CODE128, EAN128, PDF417, DATAMATRIX, QR. | |
| Date format | Variety of date formats available | |
| Device's Database suport | Provide standard port of RS-232, Ethernet, easy to integrate for customers | |
| PC Software's Database | MS Excel, MS Access, SQL2000, SQL 2005, SQL2008 | |

C. Ink Solutions:

- Supports 42ml, 370ml, 350ml cartridges of HP TIJ2.5 technology;
 Supports ink of various colors: black, red, green, yellow and blue;
- 3. Supports porous, semi-porous and non-porous substrates.

Chapter Four: How to Use the Printer and the Check Parameters

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Note: After printer starts, set the printhead(s) and built-in photocell. Please refer to Section 5.4.3

4.1 How to Use the Printer

| Sq# | Procedure | Instructions | | |
|-----|---|--|--|--|
| 1 | cartridge Installation | Insert cartridge into the printer stall by an angle of 15 degree, close cartridge clip to secure. (see 2.3 Cartridge Installation) | | |
| 2 | Turn on printer | Connect power adapter to printer power input, switch on power, printer enters initialization startup. | anasa an | |
| 3 | Main Interface - Printing Management | After initialization startup, "main interface" appears (see Section 5.1). Click to enter "Printing Management" (see Section 5.2). | | |
| 4 | Select data - Start printing | Select a file on data list, click Start to Start printing. | | |
| 5 | Printing report | When printing starts, the button change to the icon for stop printing, meanwhile a printing report appears. | Vescop form 650001 Prot cloped 0 Confer 10001 | |
| 6 | Stop printing | Click stop to stop printing, printing report exits, and the button returns to "Start printing" status. | | |
| 7 | Switch off | Exit printing, and switch off power. | | |

4.2 Check Work before Use

| Sq# | Item | Check Work | |
|-----|------------------|---|--|
| 1 | Printer support | Is the support securely mounted? | |
| 2 | Printer position | Is the printer orientation correct? Is the nozzle plate parallel to printing object? Is the throw distance controlled within 0.5-2.5mm? | |
| 3 | cartridge | Is the cartridge wiped clean? Has the cartridge been installed to printer? | |
| 4 | Power input | Is the printer input voltage normal? | |
| 5 | Printer status | Check status bar, is the equipment status normal? | |

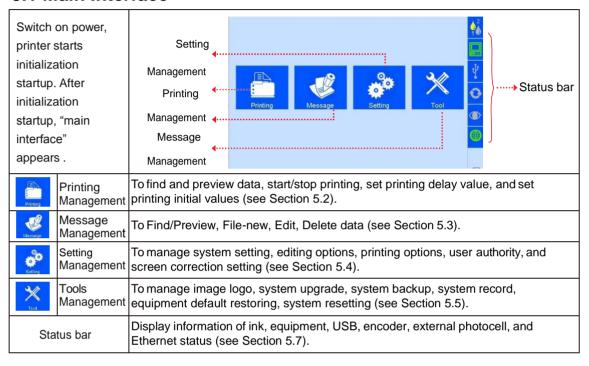
4.3 Check Work after Use

| Sq# | Item | Check Work | |
|-----|-------------------------|---|--|
| 1 | Printer Power Status | Is the printer power switched off? | |
| 2 | cartridge | Is the cartridge removed from printer and wiped clean and printhead capped? | |

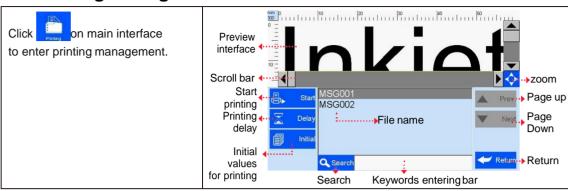
Chapter Five: Printer Operation Instructions

This chapter explains how to operate printer interface, including Printing Management, Data Management, System Management, Tools Management, and Status Bar.

5.1 Main Interface



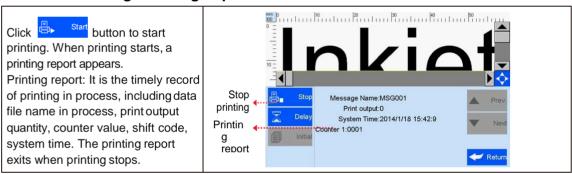
5.2 Printing Management



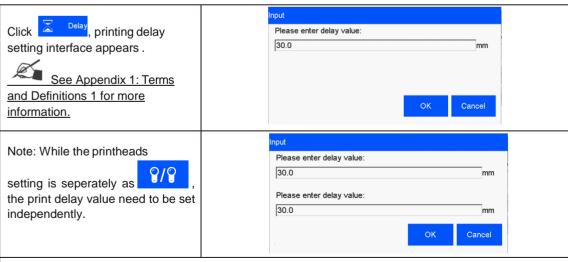
5.2.1 Find/Preview Data

| A. Find data | Find by Pageup/Pagedown/keywords. | |
|--|---|--|
| B. Preview data | Preview data by locating or selecting a file of data to display on preview interface; data located/selected will be displayed in sequence on preview interface. | |
| Note: Drag the scroll bar horizontally to view the data when it exceeds the screen horizontally. | | |

5.2.2 Start Printing / Printing Report

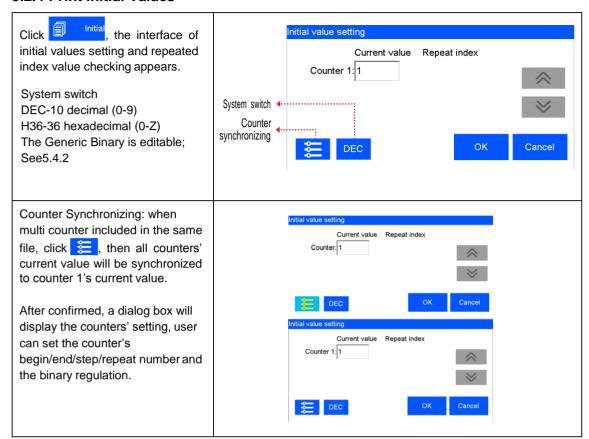


5.2.3 Printing Delay



- A. Printing delay default value: 30mm;
- B. Printing delay value range: 0.0-999.9mm;
- C. It is allowed to set printing delay value during printing process: the newly set value becomes valid for immediately next printing.
- D. Printing delay value for each message are independent from one another, the delay setting for current data file will not affect another data file.

5.2.4 Print Initial Values

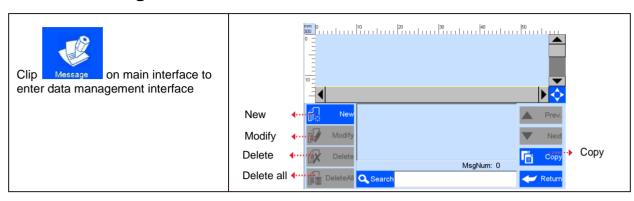


5.2.5 Stop Printing

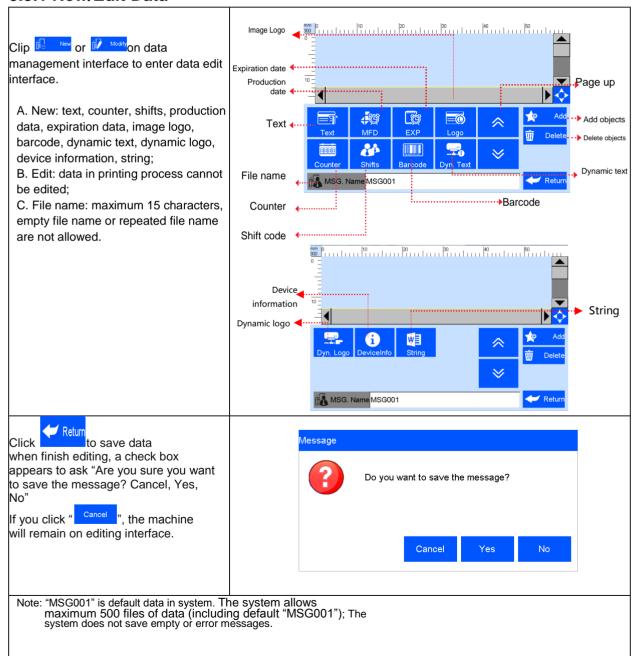
Click to stop printing and exit printing report, return to Start Printing status (see Figure 2).

Note: Printer automatically stops printing when there is a power-off, out of ink, alarming etc.

5.3 Data Management



5.3.1 New/Edit Data

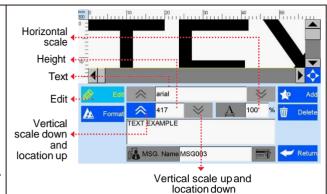


5.3.2 Add Text Object



Click to enter text editing interface:
A. Font: including the default one, totally support 2 fonts at same time, the default one and one alternative font.

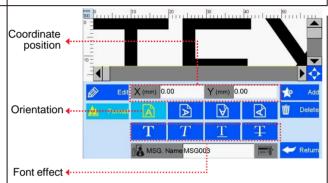
- B. 16-417(adjust freely within the scope of 1-25.4mm);
- C. Text horizontal scale: 1-300%;
- D. Text content cannot exceed 25 characters.



Click to enter text adjustment interface.

E. Coordinate location: adjustable range for X axis 0-3000mm; for Y axis, 0-25.4mm.

- F. Text orientation: 0°, 90°, 180°, 270° Four orientations adjustable.
- G. Font effects: bold, italy, underline, strikeout, four effects adjustable.



Note: Please refer to this Section (Section 5.3.2) regarding how to add objects as "production date", "expiration date", "counter", "shift code", "dynamical text""dynamical logo", but the content of "production date", "expiration date", "counter", "shift code", "dynamical text", "dynamical logo" cannot be revised or adjusted directly when you add, and the font, height, content and font effect of "image" "dynamical logo" cannot be revised directly. There is no option of horizontal scale "of the manage" "barcode", "dynamical logo".

5.3.3 Add Production Date



to add object "production

Click setting to enter date format setting, choose a format by arrow up and down, Gregorian and Hijri available.

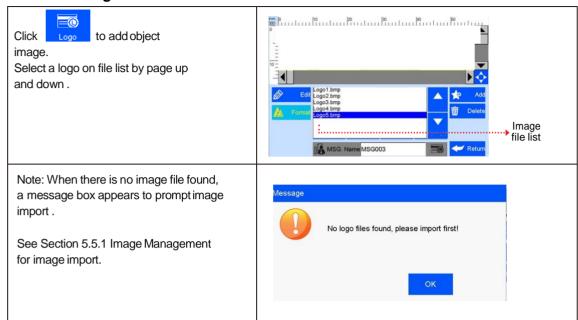


5.3.4 Add Expiration Date

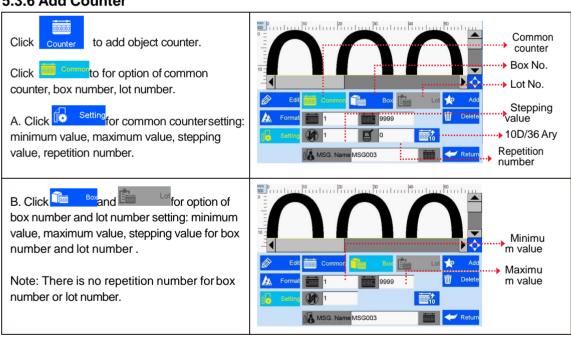




5.3.5 Add Image



5.3.6 Add Counter



5.3.7 Add Shift Code



Click setting enter the setting interface: can set shifts interval, start time and shifts

A. Shifts Interval: 9 options:

numbers.

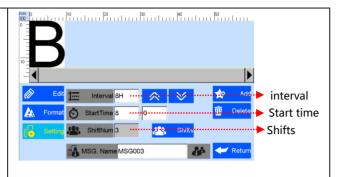
0、0.5H、1H、2H、3H、4H、6H、8H、12H, each option makes a day to the responding shifts number.
Such as: interval value 8H, means 3 shifts per day.

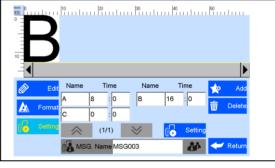
B. Start time: set the time for the first shift.

Note: in 24-hour time system.

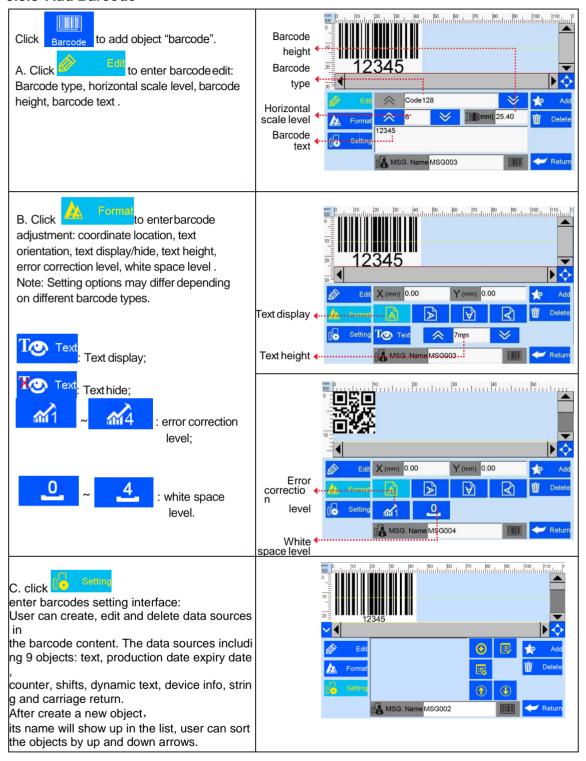
C. Shifts: set shifts numbers.
While interval value is 0, shifts can input freely from 2-48.

- E. Shift: can set the shit name, time.
- F. Shift name: maximum 5 characters.
- G. Shift time: can set different time, shifts will change according to time.

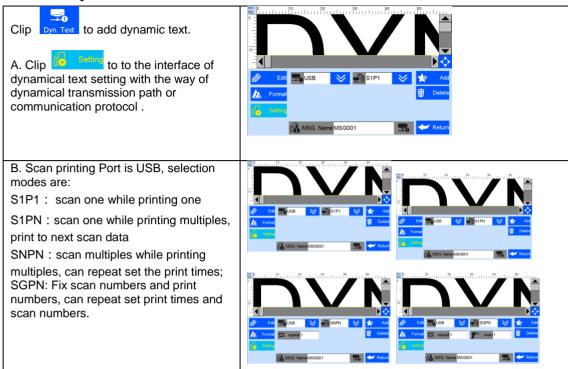




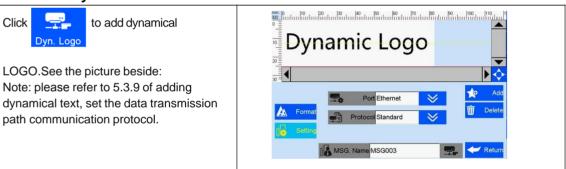
5.3.8 Add Barcode



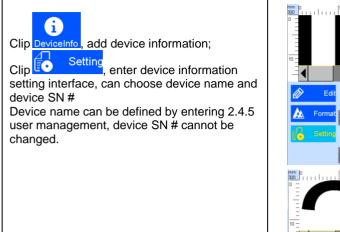
5.3.9 Add dynamical text

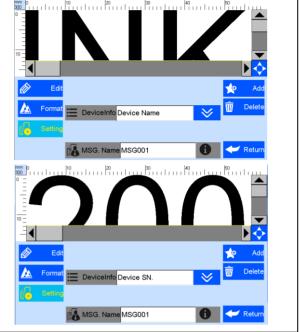


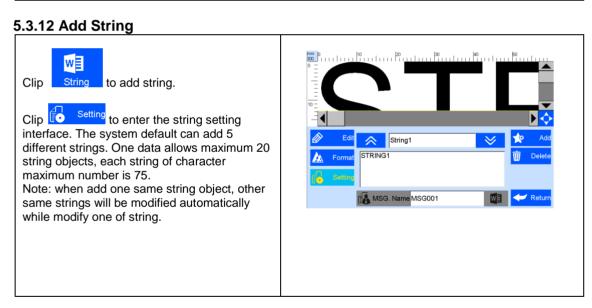
5.3.10 Add dynamical LOGO



5.3.11 Add Device Information





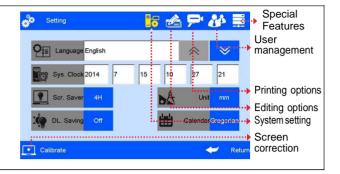


5.3.11 Delete Object or Delete/Import/copy Data

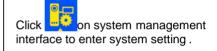


5.4 System Management





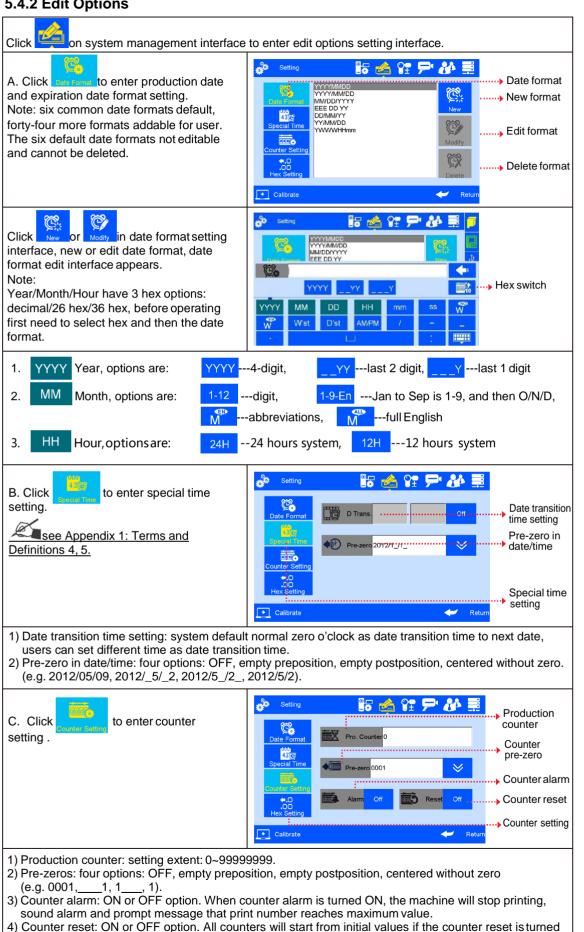
5.4.1 System Setting



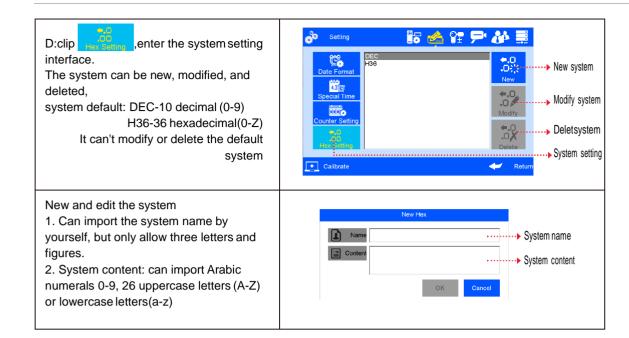


| | Cambride | | |
|-------------------------|---|--|--|
| A. System language | Standard language in delivery country as default language. | | |
| B. System time | Manufacture time as default time, can be set by user. | | |
| C. Screen saver time | see Appendix 1: Terms and Definition 3. 1) System default 4 hours, 4 options for changeover: 0.5 hour, 2 hours, 4 hours, off (8 hours); 2) If screen saver is optioned OFF, screen enters standby status if inactive for 8 hour. 3) Screen becomes active when there's alarm or error. | | |
| D. unit | Switch between mm and inch. Language in country as default language. | | |
| E. Daylight saving time | Three modes for setting: OFF, European summer time, US summer time. | | |
| F. Calendar Type | two modes available: Gregorian and Hijri.Default setting is Gregorian; System time will be changed according to the calendar setting. | | |

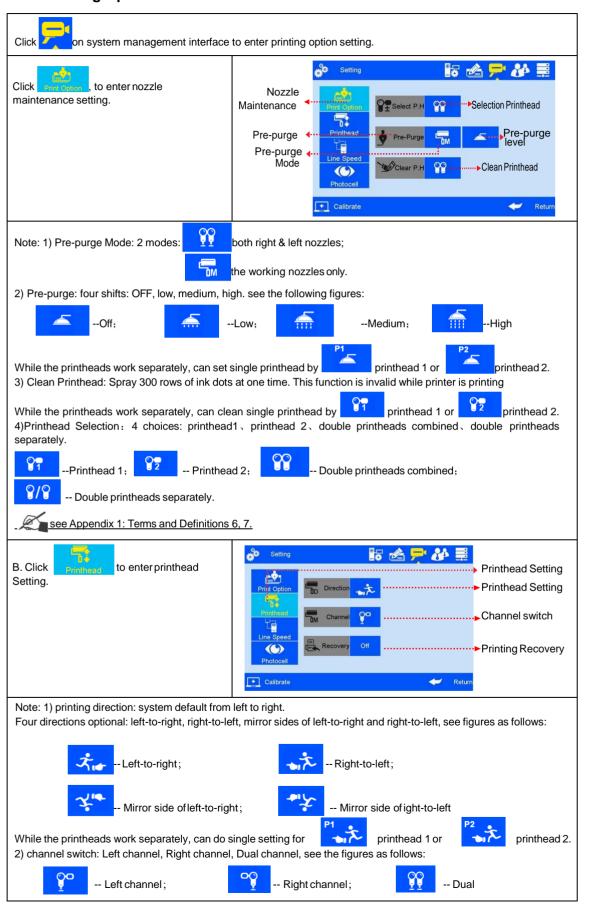
5.4.2 Edit Options

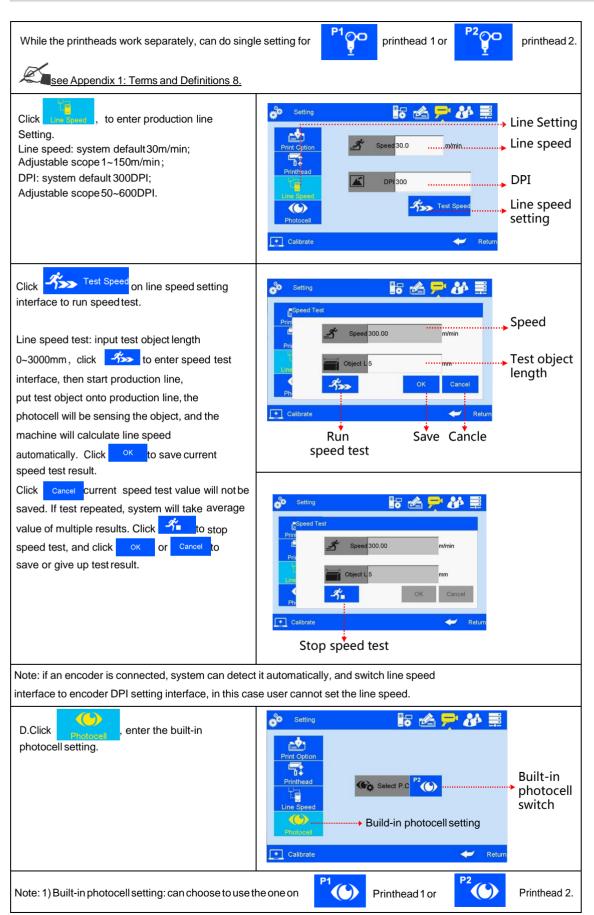


ON. The printing value will continue with the last one if the counter reset is turned OFF.



5.4.3 Printing Options





5.4.4 User Management



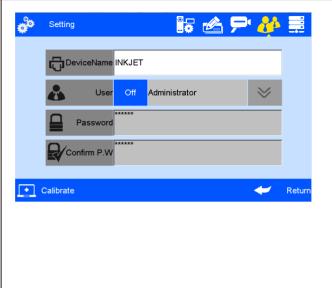
A.Device name: can be defined, the maximum is 15 characters.

B.User permission management switch: system default OFF. A login dialogue box requests user name and password for access to operation of the printer when machine power is switched on.

C.User name: different names for different access permission. Administrator is of best authority, with access to all settings including password modification. Engineer is with access to data management and printing management; and operator is with access to printing management

D.Password and password confirmation:
administrator creates user name and set
password. Maximum 15 characters for password.

only.



Note: Please contact local dealer for printer unlocking when you forget administrator password.

5.4.5 Special Features

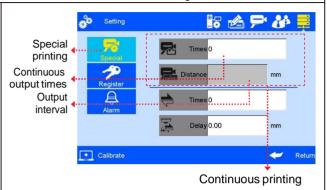


A. Click to enter "Special printing" setting.

Continuous printing:

See Appendix 1: Terms and Definitions 9 for more information.

- 1) Continuous output times: system default 0 (OFF). Adjustable scope 0~9999. Note: 0 is equal to OFF; 9999 equal to infinite.
- 2) Output interval: system default OFF, adjustable scope 0~999mm.



Bidirectional printing:

from left to right; from right to left

- 1) Reverse frequency: printing direction can be reversed automatically when the system senses the set printing times. For example, the set printing times is 3, when it is finished from right to left, printing direction will change into left to right automatically, vice versa. system default value: 0 (off)
- system default value: 0 (off) adjustable extent: 0 -9999
- 2) Reverse delay : printing delay according to the set direction

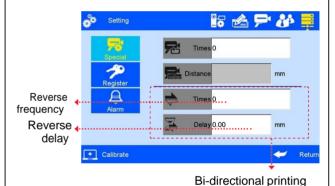
system default value: 0 (off) adjustable extent: 0 -999.9

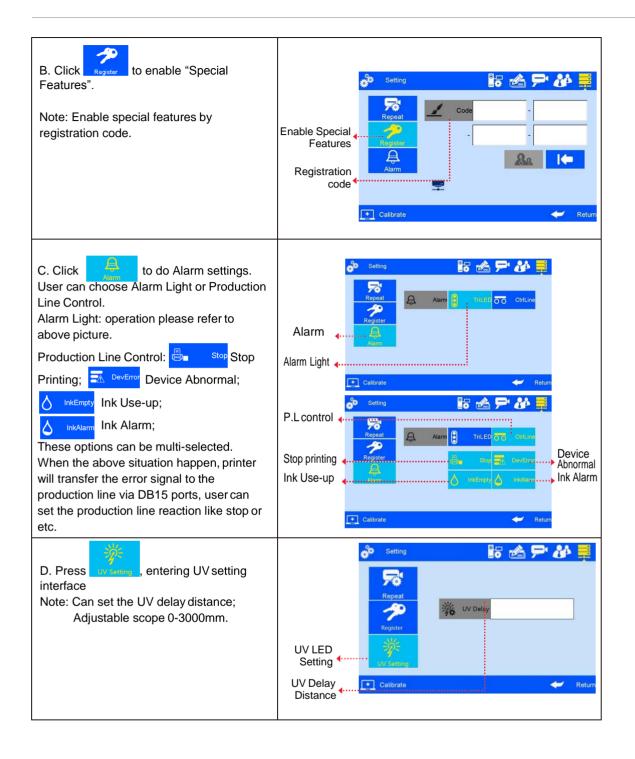
it should be set before printing not during printing process

Note: normal delay (from right to left) set in the

printing interface. see: 5.2.3;

This function is only sutable for the model of stitched printheads and single printhead.

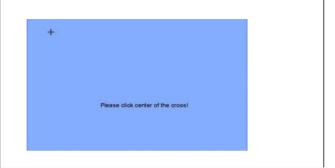




5.4.6 Screen Touch Correction

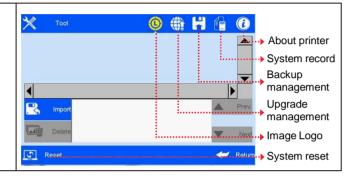
Click calibrate on system management interface to enter screen touch correction.

Note: Please correct screen touch when there's inaccurate touch phenomenon. Icon "+" appears on different location on screen guides you the screen correction. The interface exits after screen touch correction finished, and a message appears to prompt screen touch correction success or failure for your attention.



5.5 Tools Management

Click on main interface to enter tools management interface.



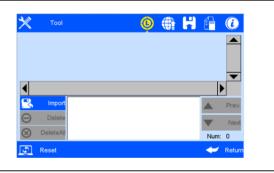
5.5.1 Image Management

Click to enter image Logo management interface.

Image import: import image from USB

or Ethernet.

Image format: Solid color BMP; Image height: 0-300 pixel point. Image length:0-10000 pixel point.

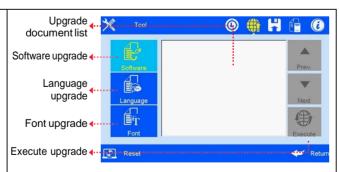


Note: 1) System prompts and cuts the excess part if the imported image exceeds borders.

- 2) Image import cannot be executed when pixel points exceed 100.
 - 3) Image Logo document route: USB Disk/InkJet/Logo.

5.5.2 System Upgrade

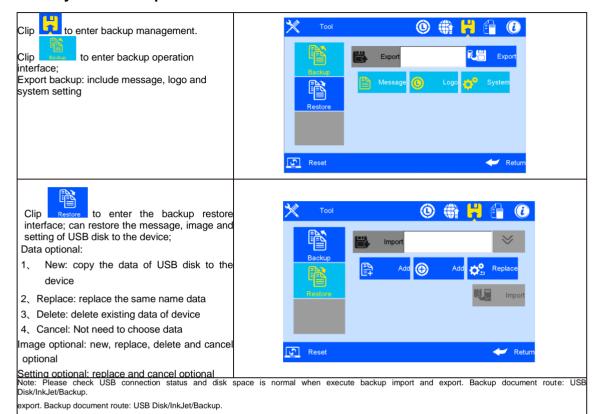
Click to enter upgrade management interface.
Users can upgrade the software, add or change languages and fonts by USB.



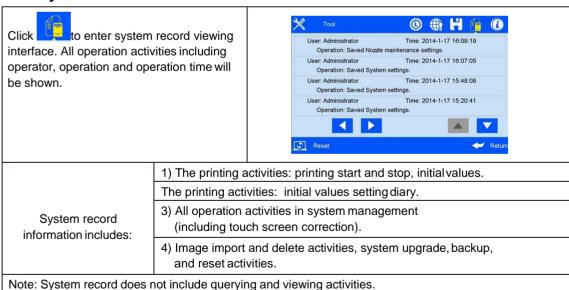
| A. Software upgrade | System automatically searches for software upgrade documents in designated folder and displays the upgrade documents by list. User can select anyone in the list for upgrade. Document route: USB Disk/InkJet/Upgrade/Application. |
|---------------------|---|
| B. Language upgrade | System is loaded with multiple languages upon delivery. User can add one more language if needed. Document route: USB Disk/InkJet/Upgrade/Language. |
| C. Font upgrade | System supports two fonts; user can add another font besides the default Arial. Document route: USB Disk/InkJet/Upgrade/Font. |

Note: Software upgrade documents, language documents, font documents can only be identified when they are packed by the conversion tools provided by our company. The language documents, font documents are not replaceable and cannot be deleted.

5.5.3 System Backup

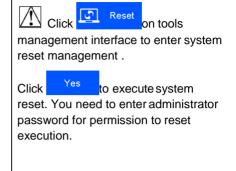


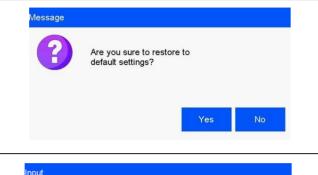
5.5.4 System Record

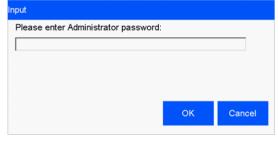




5.5.6 System Reset





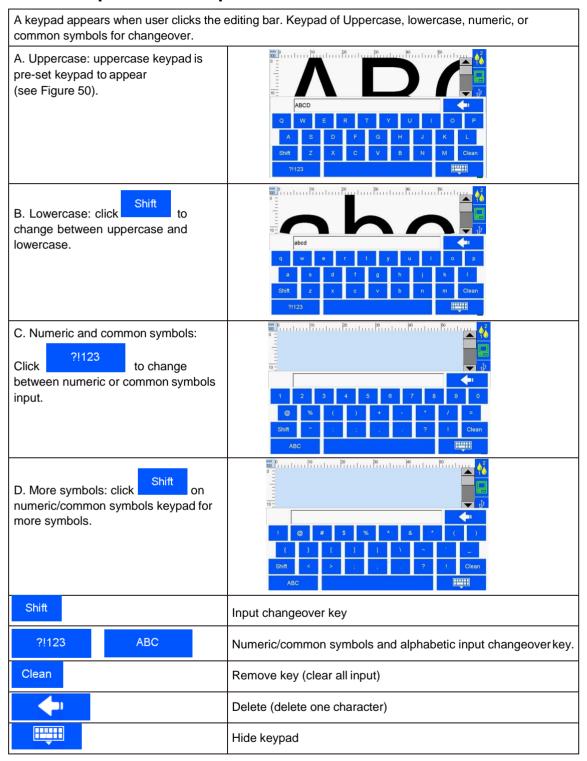


Note: System reset is to restore all defaults.

- 1) Restore all the settings to defaults, clear all data and images.
- 2) Maintain software version in current version; restore language and font to default.

| After system reset, system parameters are as follows: | | | |
|---|------------------------------|--|--|
| Item # | Item | Parameter | |
| 1 | Language | English | |
| 2 | System time | Manufacture time | |
| 3 | Screen saver time | 4 hours | |
| 4 | Unit | Metric/mm | |
| 5 | Daylight saving time | OFF | |
| 6 | Date transition time setting | OFF | |
| 7 | Pre-zero in date/time | OFF | |
| 8 | Pre-zero in counter | OFF | |
| 9 | Counter alarm | OFF | |
| 10 | Counter reset | OFF | |
| 11 | Pre-purge | OFF | |
| 12 | Clean printhead | Standby | |
| 13 | Printing direction | Left-to-right | |
| 14 | Channel switch | Left channel | |
| 15 | Print Recovery | OFF | |
| 16 | Buffers number | 5 | |
| 17 | Line speed | 30m/min | |
| 18 | DPI | 300DPI | |
| 19 | User permission management | OFF | |
| 20 | Continuous output times | 0 OFF | |
| 21 | Data management | Only system default data Msg001 | |
| 22 | Printing delay | 30mm | |
| 23 | Printing initial value | Counter initial value and data source current value. | |

5.6 Edit Input Method Options



5.7 Status Bar

| <mark>e</mark> š | Ink information | Static information in cartridge type. Dynamic informatio 1) Ink volume, pros 2) Ink used percent Ink status icons inc 1) Normal (2) warning (| pect print output for current dat age, remainning prospect print | a. output for current data. |
|------------------|-----------------------|--|---|---|
| | Equipment status | Hardware and software status in printer. (e.g. Printing not started) | | |
| Ŷ | USB information | Support three device Status: not connect | ays by icon for equipment normoses: USB disk, mouse, and key ted (gray), normal connection (dequipment will be displayed be keyboard. | board. green), warning (yellow). |
| 0 | Encoder information | Displays encoder or photocell connection status as unconnected | When encoder is connected, click encoder signal test interface appears. | atus: Encoder Current Status: 6180 Running test OK |
| (| Photocell information | (gray) and normally connected (green). | When photocell is connected, click , photocell signal test interface appears. | atus: Photocell Current Status: ON Test OKI OK |
| | Ethernet information | The printer connection to computer is realized by Ethernet port, therefore realizes equipment operation and upgrade transmission on PC end. Information includes display IP, mask code, gateway, MAC; can automatic gain or manual input IP, mask code and gateway. Status includes: Unconnected (gray); Normally connected (green, interaction with PC software normal); | | |
| ÿ. | UV status | Warning (yellow, interaction with PC software wrong, connection failure, software on PC not activated, computer not switched on etc.). When UV LED is connected with printer, UV status will displayed on the screen. UV status including: type, serier number, software version, hardware version, run time. | | |



Clean Printhead

Status: Invalid (grey), while printing going on, this function is invalid. Valid (green), can active this function.

Chapter Six: Care and Maintenance

Printer is a precision machine. To keep your machine working properly and bring facilitation to your production; to keep your machine in good condition and extend equipment life, it is important to carry out proper care and maintenance on machine from time to time.

6.1 Printer Care and Maintenance

- 6.1.1 Make sure power cord, power adapter cord, grounding wire is in good condition. Make sure the contact of each cord or wire is reliable.
- 6.1.2 Make sure the screw for grounding wire is secured and the grounding is reliable.
- 6.1.3Make sure the equipment is not displaced. Make sure the nozzle plate is parallel to printing object, and printing distance is controlled within 0.5-2.5mm. (Please use the designed tools provided by our company to secure the mounting support).
- 6.1.4 Clean ink cartridge: wipe nozzle plate with Non-woven to keep nozzles clean and unclogged. (Please refer to ink cartridge care and maintenance for instructions).
- 6.1.5 Keep touch screen clean. Do not hit touch screen sharply.
- 6.1.6 Keep machine surface and ports clean.
- 6.1.7 Check status bar, make sure equipment icon is normal and there's no alarming status on status bar. (In case of alarm status, check troubleshooting for solution)
- 6.1.8When machine is turned off, make sure to remove the cartridge from printer, clean the nozzle plate and cap the printhead, and place the cartridge in safe environment. (Please refer to cartridge care and maintenance for instructions).

6.2 Ink Cartridge Care and Maintenance

Maintain correct methods for use and storage of the cartridge will keep the cartridge working with the best print quality and extend cartridge life. Please always follow instructions in Ink Cartridge Care and Maintenance. The warranty will not cover damage or failure caused by negligence in following our care and maintenance instructions.

- 6.2.1 Ink volatilizes slowly if the cartridge is de-capped. Keep new and un-decapped cartridge in its original package. Decap new cartridge only when it is to be used.
- 6.2.2 Try to use up ink as soon as possible once the cartridge is decapped to prevent blockage because ink become dry on nozzle plate very soon.
- Note: Due to property difference, different inks have different dry time and care and maintenance methods. Contact our after-sale service for more information.
- 6.2.3If ink in cartridge is not used up at a time after decapped, remove the cartridge from printer and cap the printhead and store it in airtight container provided by our company. (Storage temperature is room temperature).
- Note: Do not use adhesive tape to seal the printhead, and do not store cartridge in soft plastic bag.
- 6.2.4 Nozzle plate is delicate. Do not touch or clean nozzle plate with anything sharp or rough so as not to scratch nozzle plate.
- 6.2.5 Use the Non-woven provided by our company to wipe and clean nozzle plate.
- Note: Wipe nozzle plate with the printhead facing down. Move the printhead in the direction of nozzle channel. Move the printhead in the direction across nozzle channel will damage the nozzles.
- 6.2.6 Do not shake ink cartridge or expose it to vibration. Shake or vibration will get air run into cartridge and affect print quality.

To ensure best print quality, contact our company's service for information instructions for different inks.

Chapter Seven: Troubleshooting

Note 1: The table below lists the most commonly seen problems and the solutions to each. If there's any other problem, contact your local dealer or our after-sale service for assistance.

Note 2: The table below is for reference only because causes for each problem may differ depending on individual situation such as setup environment, operation demand.

7.1 Troubleshooting for Ink Cartridge

| Sr.# | Problem | Problem | Solutions | Comments |
|------|---|--|---|---|
| 1 | The print has broken line or white line. | Nozzle blockage or damage. | A. See Section 6.2 Ink Cartridge Care and Maintenance, wipe and clean nozzle plate with Non-woven; B. See Section 5.4.3, purge the nozzles by the option "Clean Printhead". | If the problem is still unsolved: Check if there's any spring-loaded connectors depressed in Driver board; Check if there's contamination on cartridge contact plate. |
| | | Cartridge not in good contact with printer. | Remove the cartridge and re-insert. | |
| 2 | The print is complete at first, and then becomes incomplete | Ink starvation or air bubbles blocking nozzles. | A. Check status bar if there's alarm of low ink. B. Send back to our company for test. | |
| 3 | The print is totally blank. | Ink used up or total nozzle blockage. | See Section 5.7 to check ink status: is ink used up? | |
| 4 | Unable to identify ink cartridge. | Connectivity problem on printer (defect or damage) | Remove cartridge and re-insert. | If problem is unsolved: Check if there's any spring-loaded connectors depressed in driver board. Check if there's contamination on cartridge. Check if there's contamination on ISM card. Check if there's any connector depressed on ISM card board. |
| | | Cartridge dealer code mistake. | Remove cartridge and re-insert. | |

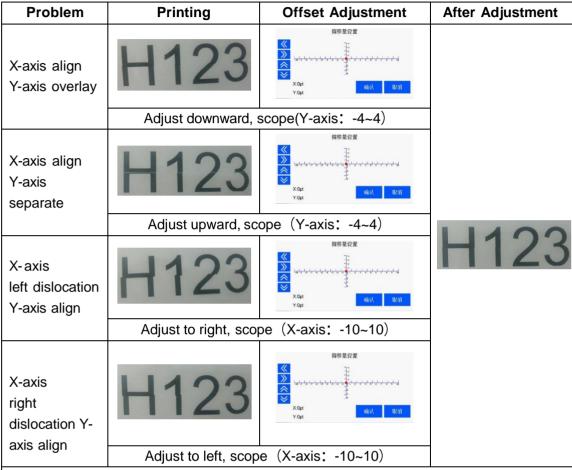
7.2 Troubleshooting for Printer

| Sr.# | Problem | Cause | Solutions | Comment |
|------|-------------------------------|--|--|--|
| 1 | Printer cannot be switched on | 1.No power input; | A. Make sure AC power input on adapter is correct, DC output on adapter is well connected with printer. B. Check if power adapter light is normal. Replace a new adapter if light is dead, dim or blinking. | |
| | | 2. Printer switch not turned on. | Make sure the printer power switch is turned ON. | |
| | | 3. Equipment damage. | Contact local dealer or after-sale service. | |
| 2 | Printer does not print | Printing not started. | Pls check firstly if the current status is in printing. | |
| | | 2. No data for printing. | Select a file and click "Start printing" button. | |
| | | 3. Printing delay value too big. | Check if the printing delay value is normal. | |
| | | 4. Cartridge not installed. | Install a cartridge. | |
| | | 5. Cartridge installed but used up or damaged. | Check cartridge status according to Section 5.7, is ink used up or cartridge dealer code wrong? | If ink used up, or cartridge dealer code wrong, replace with a new cartridge. |
| | | 6. Photocell not works. | Cover up the photocell to check according to 5.2.2 to see if there's variation in print output quantity in printing report. | When the external equipment is photocell, click for photocell signal test interface, test if photocell works. |
| | | 7. Encoder is connected but damaged. | Check if the encoder and its connection wire are in good condition; check if the production line is running well. | When the external equipment is encoder, click for encoder signal test interface, move encoder to check if the encoder works. |

Appendix 1: Terms and Definitions

| Sr.# | Term | Definition | Comment | |
|------|------------------------------------|--|--|--|
| 1 | Printing delay | It is the distance from the point when photocell senses the printing object to the point when printing starts. User can adjust the value to alter the print position on printing object. | E.g. Printing delay value is 30mm, printer starts printing at 30mm point after the photocell senses the printing object. | |
| 2 | Printing initial value | It is beginning value in printing process for print data. | E.g. Set the initial value as 9, the counter counting starts from 9 for first print. | |
| 3 | Screen saver time | It is a power saving function, the screen will automatically turn off and enter standby mode when the screen is inactive for a time period as set. | E.g. Set the screen saver time as one minute. The screen will automatically turn off and enter standby mode if the screen becomes inactive for one minute. | |
| 4 | Customer year | It is the special year on customer demand. Customer can change the year in date format by any round number within scope. | E.g. The system date is 2012/07/31. Supposed the date by customer is 2010/07/31, customer can set the year in date as 2010. Then the date shown on the print will be 2010/07/31. | |
| 5 | Date transition time setting | When system time reaches certain point, the printout date and time will be that of the next date. | For example: Current date is 07.10, set the date transition time to be 07:59, then the time of last printing out before that is recorded as 09/07 07:59, after that is 10/07,8:00. If the date transition time is 12:01, then the time of last printing out before that is recorded as 10/07 12:00, after that is 11/07. | |
| 6 | Pre-purge | Ink becomes dry on nozzle plate during use. The dried ink will make the print not clear for half of first character. To prevent this phenomenon, user can turn this function ON. | When Pre-purge function is turned ON, printer will spray a little ink at optioned level during idle period in printing process to keep nozzle plate warm and moist so as to eliminate dried ink phenomenon. | |
| 7 | Clean Printhead | Customer can use this function to purge nozzles. | Purge whole nozzle plate, make sure nozzles are unblocked. | |
| 8 | Channel switch | Customer can switch for different channel to achieve best print quality according to print need and nozzle channel condition. | E.g. At option of single-channel printing, when there are damage in left channel nozzle or there are missing dots in print by left channel, user can switch to right channel printing. At option of dual-channel printing, left channel and right channel will work at same time for printing to achieve darker print and best print quality. | |
| 9 | Continuous printing | Multiple outputs of same print during one session of period photocell sensing the print object. | | |
| 10 | Printing Recovery | When there is a power failure, and the setting is "ON", system will go back to the last printing status and resume printing when power gets back. The default setting for this function is "OFF" | When the printing contains counter, and the Printing Recovery setting is "ON", operator need to check on the counter value and do adjustment. | |

Appendix 2: Offset Adjustment Example



Note: 1、Adjust scope varies in different case, unit: dot;

2. If mismatch remain after adjustment, please check if the printheads is installed vertically with the production line.

