TJ560C

Continuous Ink Jet Printing System

TECHNOJET FZE

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Printing System

User Guide

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Contents

Introduction

Thank you for purchasing the TJ560C Continuous Ink Jet Printing System.

This printer will provide you with quality coding on a variety of substrates: porous, non-porous, smooth, textured, curved, concave and more. Printing up to 5 lines (5x5 dot matrix) of text, TJ560C printer offers a reliable, yet cost effective solution for virtually any small character primary packaging application.

Please take time to read this manual very carefully. It will answer any questions you may have regarding installation, startup and programming. By taking time now, you will eliminate frustration during the early stages of operating the printer and prevent any unnecessary damage to the system. We want your startup to be a pleasant experience. If you have any questions, please don’t hesitate to contact our technical support department.

Also, please take time to complete the “Installation and Warranty Form” and return it to us. This will ensure you of a complete warranty period on your printing system.

Printing System Specifications

Nozzle size	60μm (standard)
Dot matrix	5x5,7x5,9x7,12x12,16x16,24x24 and 32x32
Printing height	1.8mm~15mm
Printing speed	285m/min. (5x5 single line)
Throw distance	Up to 30mm
Display	10.1" 1280x800,TFT color touch screen
Product sensor	Photocell sensor (NPN type)
Controller dimensions	370mm x 307mm x 490mm
Controller weight	20Kg
Printhead dimensions	44mm x 41mmx232mm
Umbilical tube length	3M (standard)
Operating environment	Ambient Temperature： 5°C~45°C Ambient Humidity： 30-95%RH (non-condensing)
Electrical	220VAC±10%, 50/60Hz. (Properly wired and grounded) Current: 3A (Note: Should select the correct power supply according to the voltage rating marked on the printer nameplate.)
Message capability	Up to 4 lines (7x5 dot matrix); Up to 5 lines (5x5 dot matrix);
Message length	Up to 40 blocks, 640 columns in each block.
Message & Logo storage	8G card (standard)
Date format	YY/MM/DD, MM/DD/YY and DD/MM/YY.
Message editing	Counter, 24-hour clock, shift code, date, Julian date, 1-digit weekday, expiry date, logo, barcode, random code

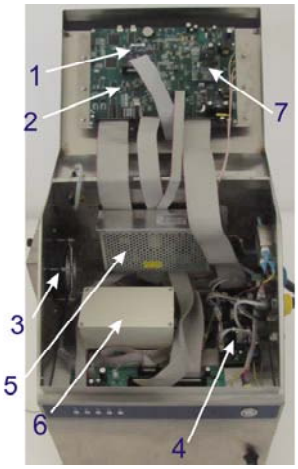
Components

Printing system consists of Controller, Printhead and Umbilical tube which is flexible and strong enough to protect the ink tubes and wires inside it.

Top View

1	Power supply indicator
2	Jetting on indicator
3	Ready indicator
4	Printing indicator
5	Warning indicator
6	Power switch
7	Touch screen

Unscrew two fixing screws M4x16, and open top cover, then could find Integrated main board and Core board.



1	Core board
2	Integrated main board
3	Fan
4	External device interface PCB
5	Switch power 24V
6	HV power supply
7	Charge board

Warning

Please do not touch integrated main board and core board directly, electrostatic would damage electronic components. Antistatic wrist strap is strongly recommended.

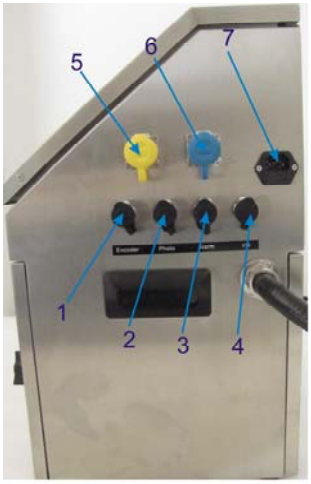
Front View

Rotate door lock counterclockwise to open the front door, then could find Ink tank, Solvent tank and Ink Mixer Tank.

1	Ink mixer tank
2	Ink tank
3	Solvent tank

Side View

From side could find following connectors interface: Encoder interface, photocell interface, Serial interface, Printing output interface, Network interface, USB interface.



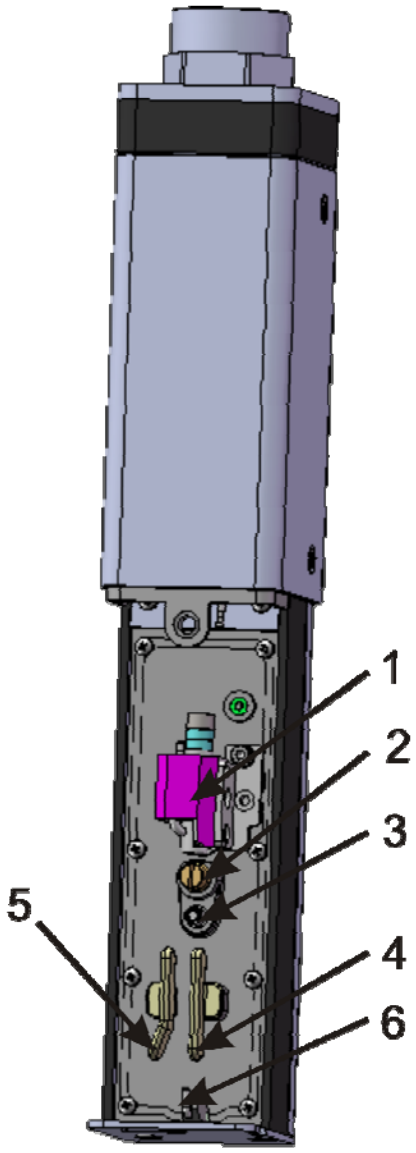
1	Encoder interface
2	Photocell interface
3	Serial & Alarm interface
4	I/O interface
5	Network interface
6	USB interface
7	Power socket

Note

Photocell sensor is standard, could find in package.
Encoder is optional.

Printhead View

Open printhead cover, could find gunbody, charge electrode, detector, negative plate, HV deflection plate, gutter.



1	Gun body
2	Charge electrode
3	Detector
4	Negative plate
5	HV deflection plate
6	Gutter

Note

Could find HV switch sensor on the interior surface of printhead cover.

If “Printhead Warning” function enabled, HV will be shut off as soon as open printhead cover.

Equipment Setup

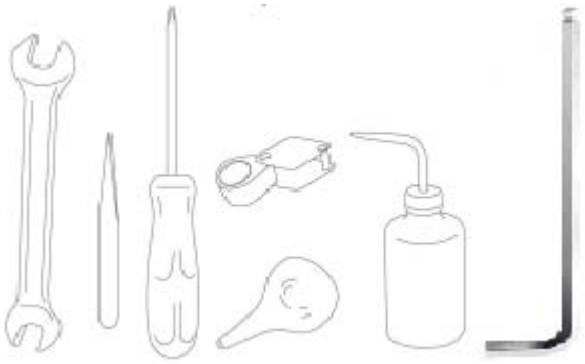
Printing System Component

YourTJ560C printing system has been pre-assembled and tested for your convenience. Before installing the TJ560Cprinting system, verify that you received all of the following items. If any items are missing or damaged, contact Hi-Pack International Sales Department.

- TJ560C printing system controller with umbilical cord
- All parts for printhead stand
- Photocell product sensor
- Power cord
- Installation tools
- User guide for TJ560C printing system

Installation and Setup Instructions

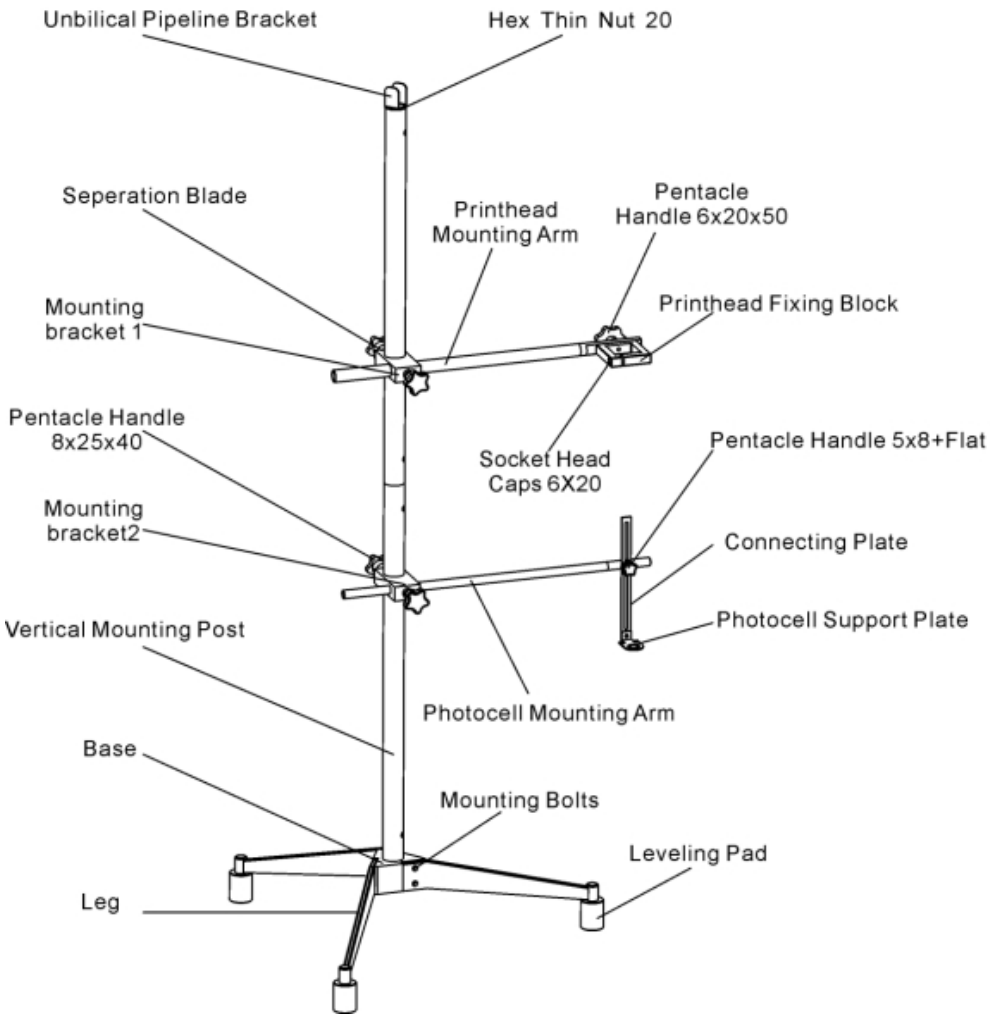
Remove the carton cover from the top, then find all parts for the printhead stand, and take them out. Also check the tools as following figure shows:



- Open end wrench, 12mm and 14mm
- Stylus pen
- Phillips head screw driver
- Magnifier
- Bulb pump
- Small solvent bottle with spout (Cleaning bottle)
- Allen Wrench

Caution --Equipment Damage! Only Hi-Pack trained personnel may carry out installation and maintenance work. Any such work undertaken by unauthorised personnel may damage the printer and will invalidate the warranty.

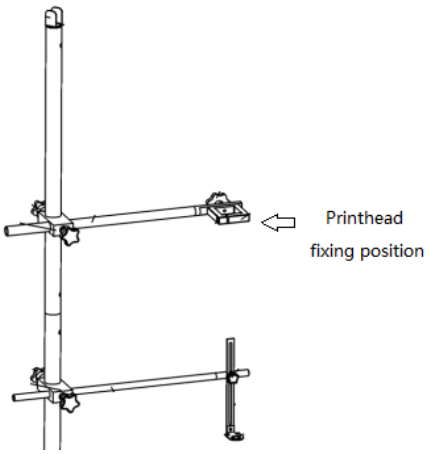
Set up the printhead stand for fixing the printhead according to the following figure shows:



Remove the top white protection materials, and take the printer controller out of package, then mount the printing cabinet on a flat and secure surface. Make sure there is easy access to the operation panel. Leave sufficient room around the printer cabinet to be able to open the access panels.

Caution -- Equipment Damage! Take care not to damage the printer base, internal components or wiring while installing printers.

Remove the protection materials of printhead, and fix printhead on the printhead stand.



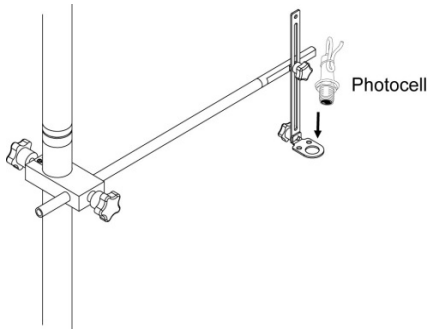
Open the front door of controller, and check the tube connections.

Plug the power cord into the power cord receptacle. Plug the printing system into a properly wired and grounded outlet.

> **Note:** There is a ground wire on the cabinet, should connect it to the earth for safety, and also avoid electrostatic damage.

Connect the photocell sensor to the socket on side-cabinet of printer before switching on it, otherwise the photocell sensor could not work normally.

> **Note:** photocell and encoder hot plug and play are not available in TJ560C printing system, please power off the printer before connecting the photocell sensor or encoder.



Operation

Status Indicator

On top cover, could find five special designed status indicators: Power, Jetting on, Ready, Printing and Warning.

Status Indicator	Descriptions
Power :	Should be on after power on :
Jetting on :	Should be on after jetting on :
Ready :	Should be on when ink drop charging and phasing is ok :
Printing :	Should be on when printing message :
Warning :	Would be on when there is warning message on LCD :

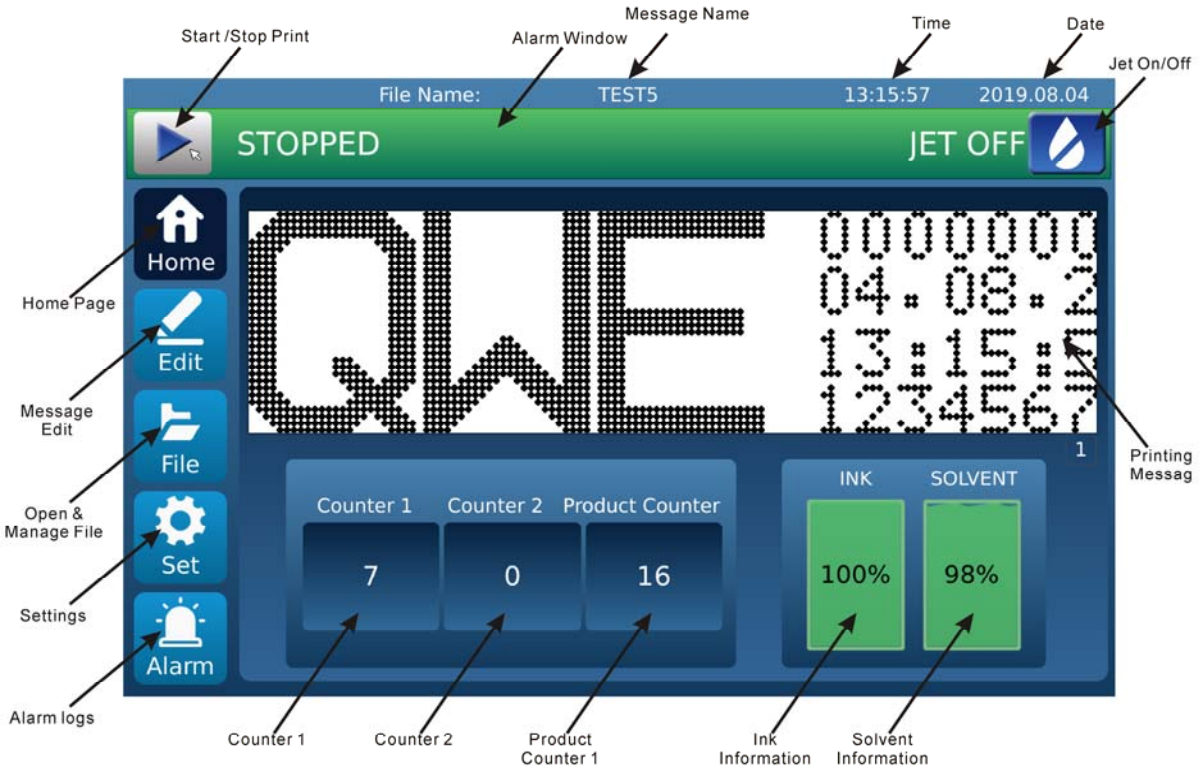
Menu Page

8 menu pages are available in TJ560C printing system:

- Main Menu
- Message Editing
- Printing Setting
- System Setting
- Ink System
- Maintenance
- Device Debug
- Open File & File management

Main Menu

When TJ560C printing system is turned on, main menu will be displayed as following figure shown:

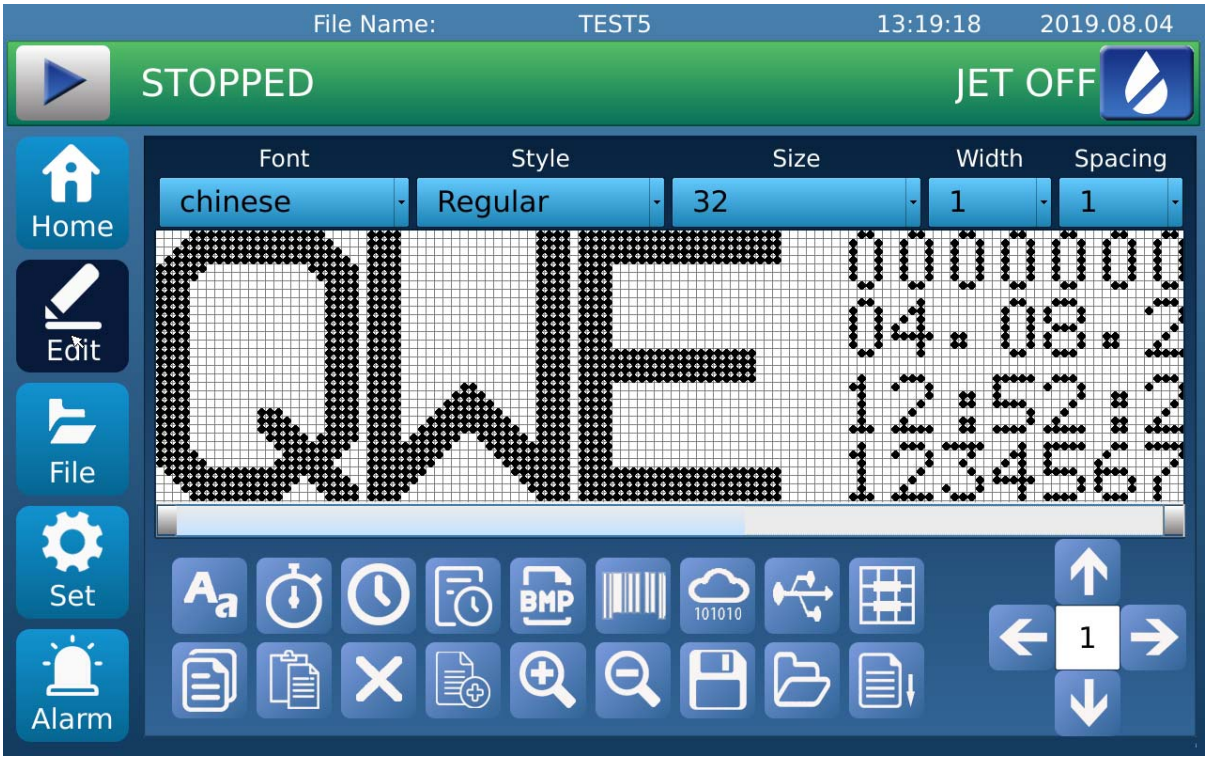


Message Editing

In main menu, click 

button, you will see “Message Editing” menu page as following figure

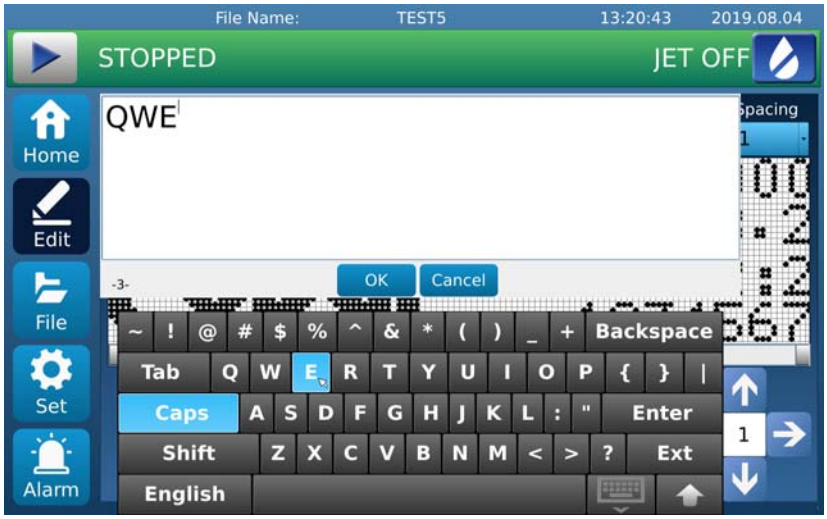
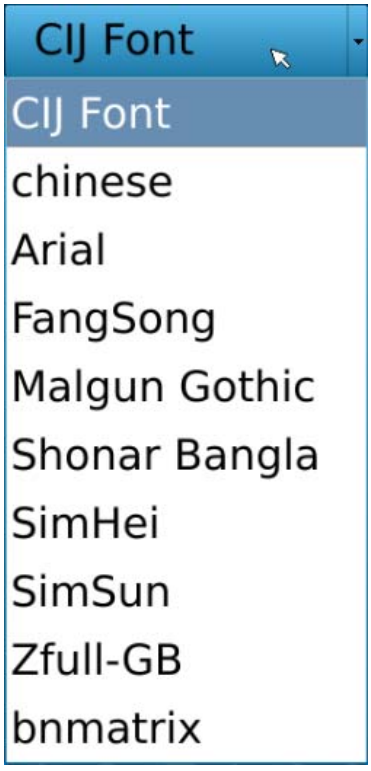
shows:

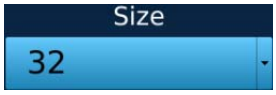


Note

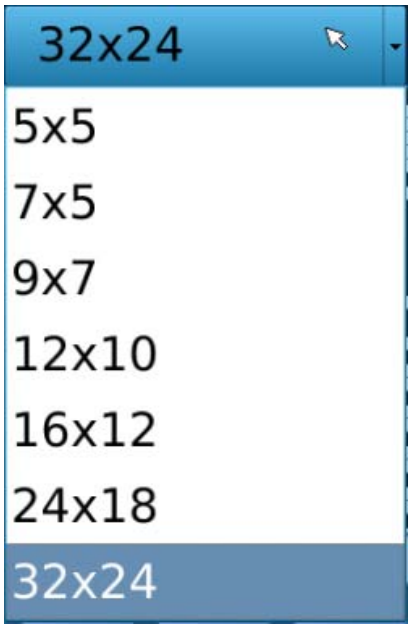
Block editing function are available in TJ560C printing system.

After creating a block, you could double click it, the character`s color become red, then you could re-edit it; Click the other area out of this block, the character`s color become black, then this block is out of control.

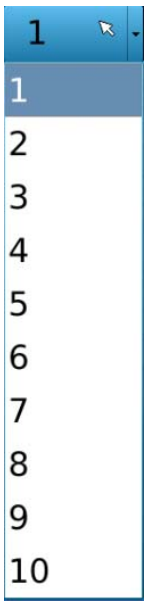
Message Editing	Descriptions
	Click to create a new static text. Up to 40 blocks are available in TJ560C printing system, and up to 640 dot length for each block. Click this button, you will see following dialog: 
	Font selection. Use the drop-down button to select font: 
	Font style. Use the drop-down button to select the font style:



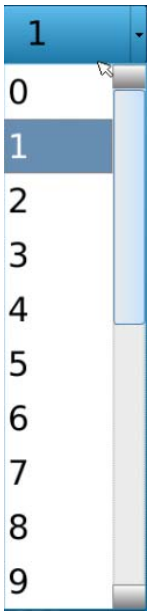
Font size. Use the drop-down button to select the font size:



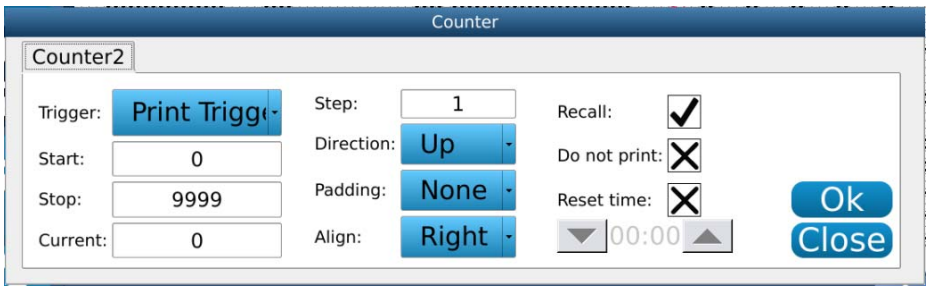
Width(Bold) factor. Use the drop-down button to set the width (Bold) factor of the character:



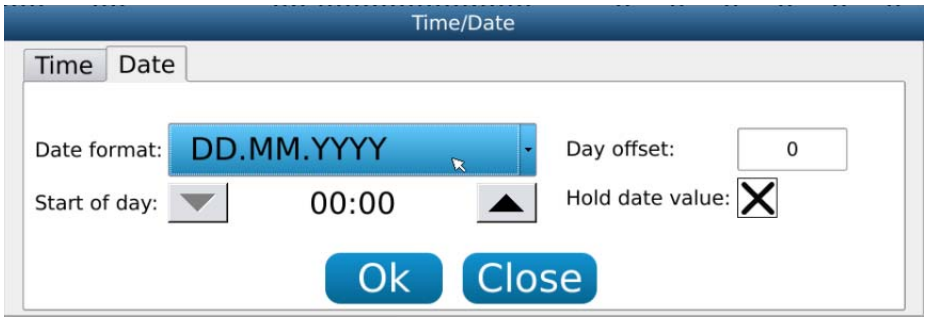
Character spacing. Use the drop-down button to set the character spacing:



Click this button to insert a counter and open the counter settings page:



Click this button to insert Time and Date:

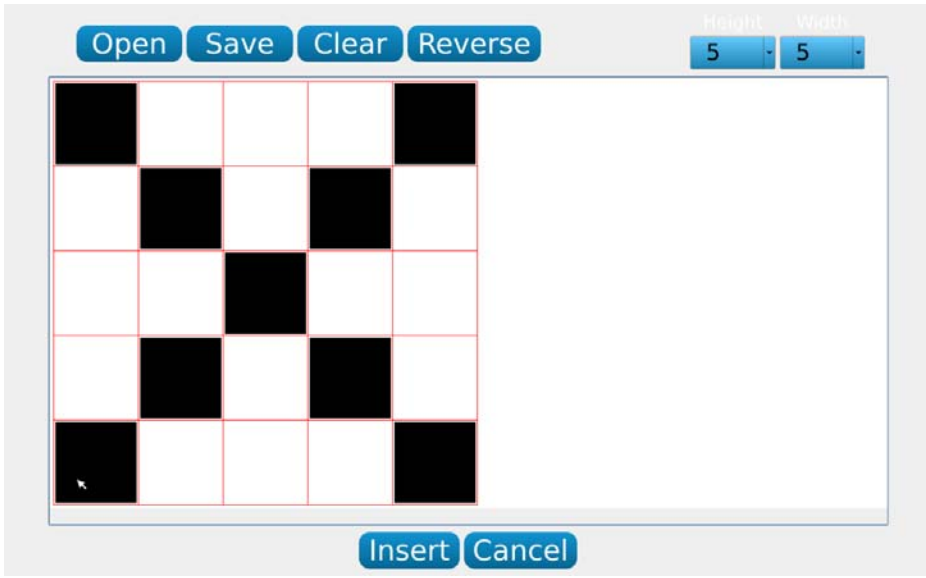


Multiple time formats can be set, and the time is the current time of the system.

Click “Shift Setting” button, then could set the shift code, start and stop time of each shift.

Four shifts can be set.

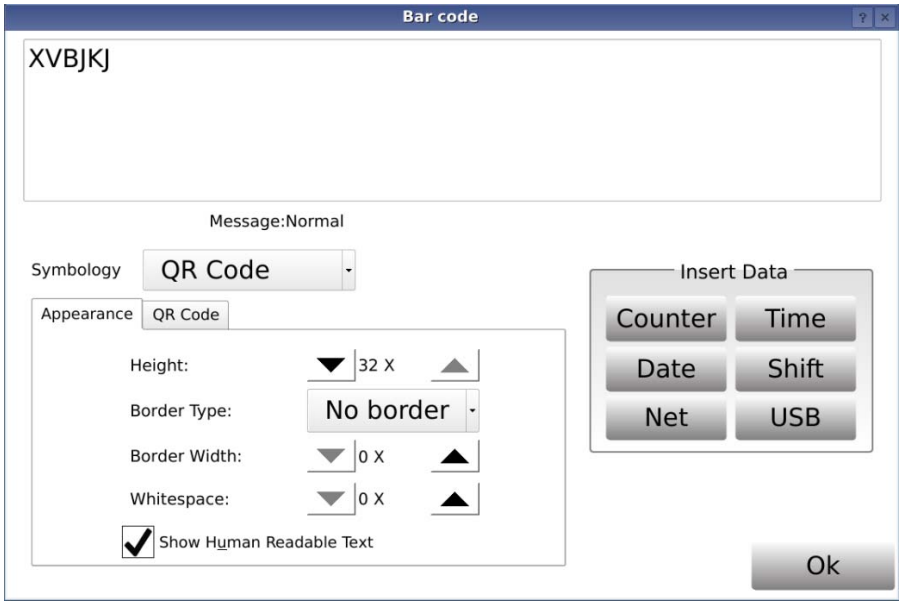
Click this button to edit or insert logos

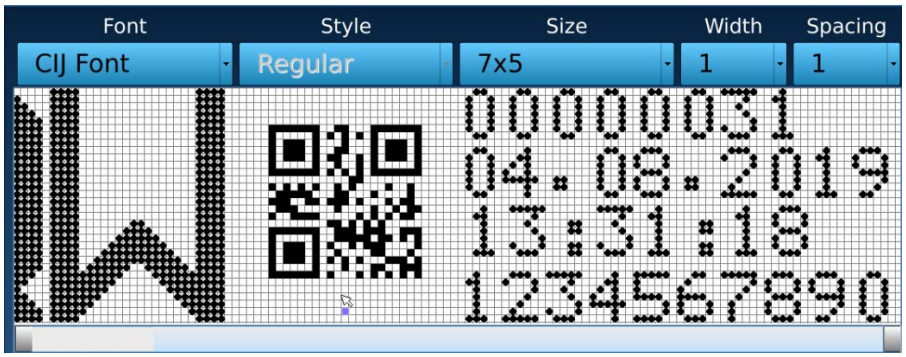


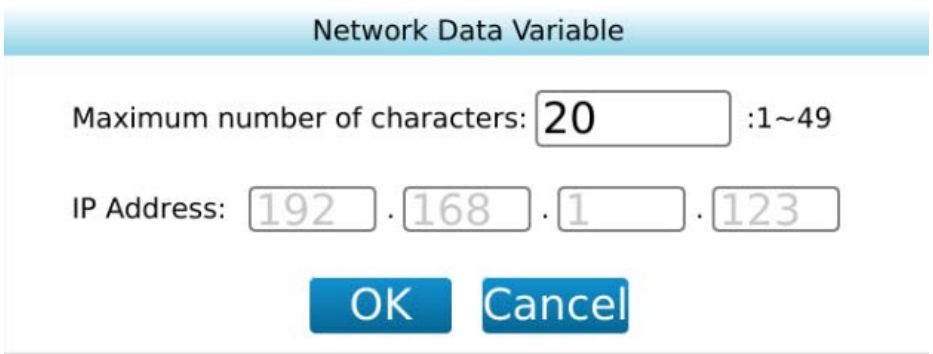
The maximum height of the edited graphics is 32 points, and the maximum width is 320 points. Click the "Save BMP" button to save the edited graphics to the local disk or U disk.

Click the “Open BMP” button to open the logo saved on the U disk or local disk.

Click this button to insert barcode.

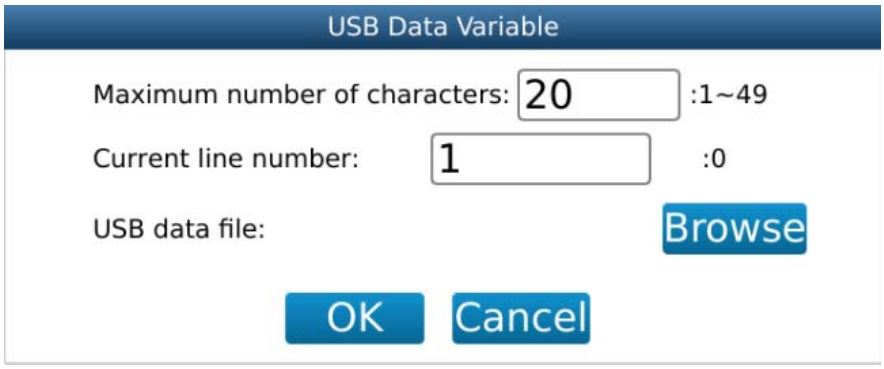




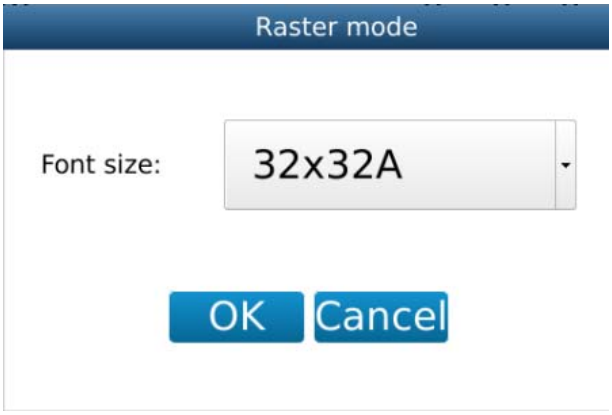


Set the IP address of the external device, establish the connection between the external device and TJ560C, and then import the data to TJ560C.

Click this button to insert an external variable, which is stored on the U disk.



Click this button to set print lines and font size.



Click the button to copy fields . First, click on the block that needs to be copied, then click on the button, and the content is copied to the jet code machine cache.

Click this button to paste the field to this file.

Click this button to delete the selected fields.

Click this button to delete all fields in the file.

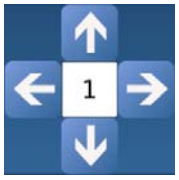
Click this button to zoom in the selected fields.

Click this button to zoom out on the selected fields.

Click this button to save the edited file, which can be saved to local disk or U disk.

Click this button to open the saved file, which was saved to local disk or U disk.

Click this button to download the file saved on the cache to the printhead.



Click this button to move the selected field. The number in the middle of the button is the distance that move one time, which can be modified when large-span adjustment is needed. The maximum value can be set to 140.

Printing Setting

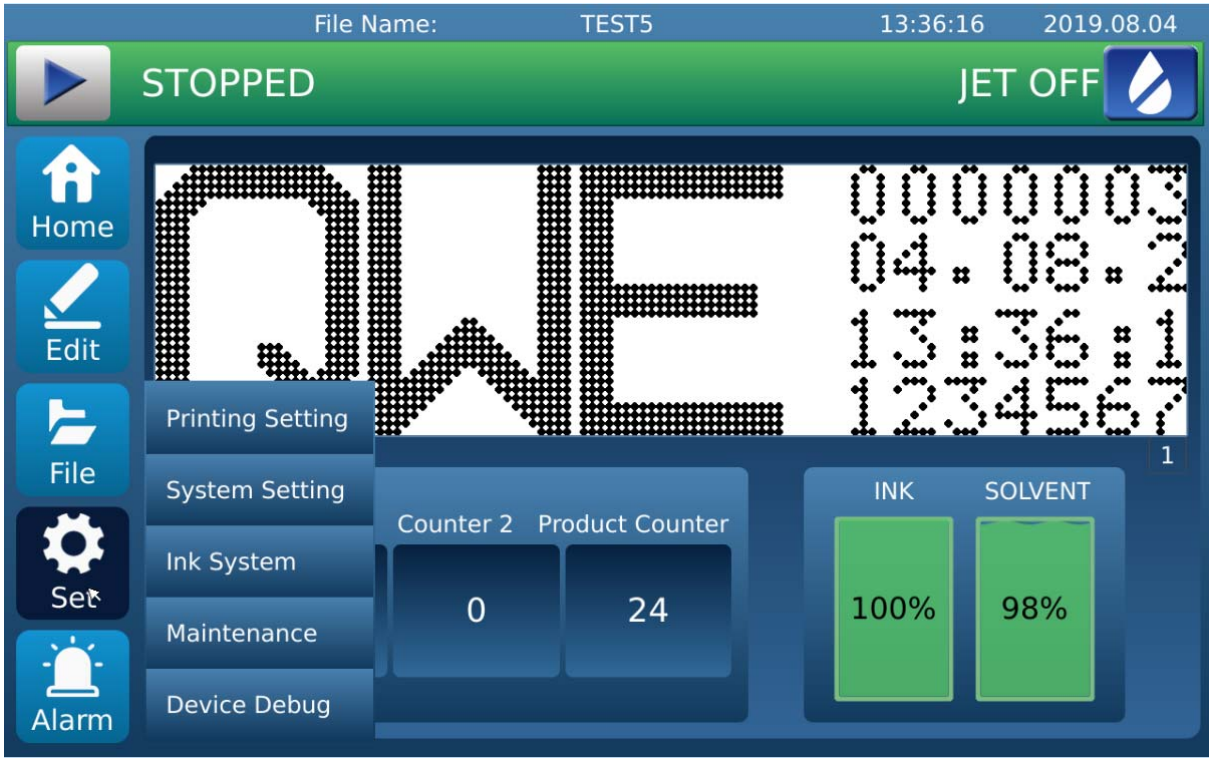
In main menu, click “Printing Setting” button in the Window of settings, you will see “Printing Setting” menu page as following figure shows:
In main menu, click “System Setting” button, you will see “System Setting” menu page C

In main menu, click 

on the bottom left corner of the screen to enter the sub-page interface.

Click 

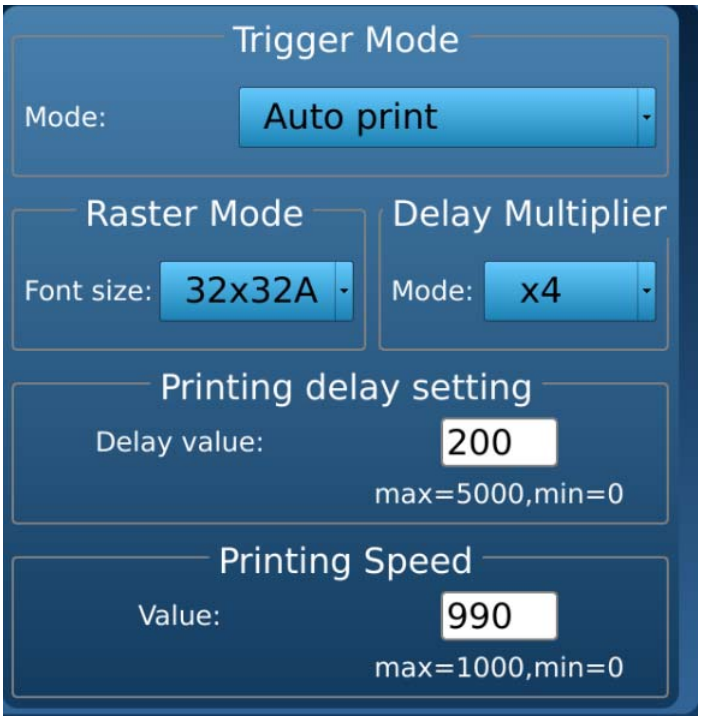
button to open the Print Settings menu as following figure shows:


File Name: TEST5 13:36:16 2019.08.04
STOPPED
JET OFF
Home
Edit
File
Set
Alarm
Printing Setting
System Setting
Ink System
Maintenance
Device Debug
Counter 2
Product Counter
0
24
INK
SOLVENT
100%
98%
1


File Name: TEST5 13:36:30 2019.08.04
STOPPED
JET OFF
Home
Edit
File
Set
Alarm
Printing Setting
Basic
Direction
Message Bold/Height
BCD
Photocell
Encoder
Charging mode
Save
Trigger Mode
Mode: Auto print
Raster Mode
Font size: 32x32A
Delay Multiplier
Mode: x4
Printing delay setting
Delay value: 200
max=5000,min=0
Printing Speed
Value: 990
max=1000,min=0

Printing Parameters	Descriptions

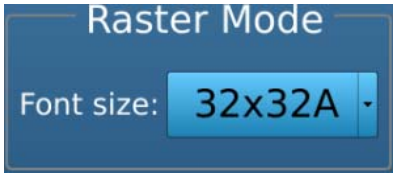
Click this button, the screen on the right shows as follows:



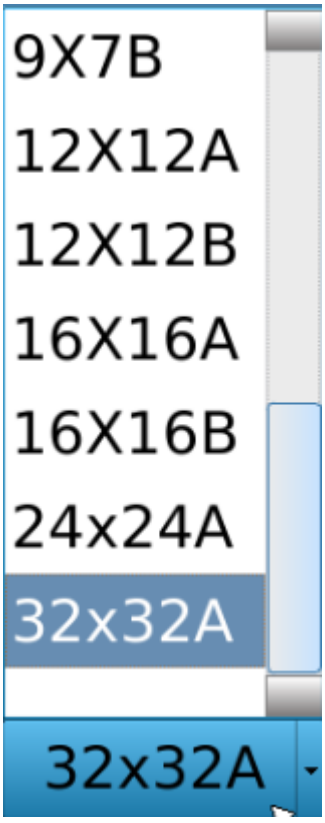
Use the drop-down button to select the right printing mode:

Printing Mode	Descriptions

Photocell	Triggers from Photocell.
Encoder	The Encoder mode is used when an encoder is plugged in to the printing system.
Photocell auto	Start or stop Auto Printing by photocell.
Photocell usb data	Print the data saved in the U disk, triggers by photocell.
Photocell net data	Print the data sent from the net, triggers by photocell.
Network Control	Send signal via net.
Auto Printing	Auto printing can be used with or without having an encoder plugged in.



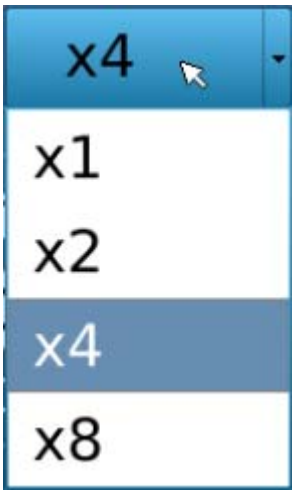
Use the drop-down button to select the right printing font size for message:



Printing Font	Descriptions
32x32A	For 32x32 dot, 1 row message; Also for 5x5 dot, 5 rows message;
24x24A	For 24x24 dot, 1 row message

16x16B	For 16x16 dot, 2 rows message
16x16A	For 16x16dot, 1 row message
12x12B	For 12x12 dot, 2 rows message
12x12A	For 12x12dot, 1 row message
9x7B	For 9x7 dot, 2 rows message
9x7A	For 9x7 dot, 1 row message
7x5D	For 7x5 dot, 4 rows message
7x5C	For 7x5 dot, 3 rows message
7x5B	For 7x5 dot, 2 rows message
7x5A	For 7x5 dot, 1 row message
5x5D	For 5x5 dot, 4 rows message
5x5C	For 5x5 dot, 3 rows message
5x5B	For 5x5 dot, 2 rows message
5x5A	For 5x5 dot, 1 row message

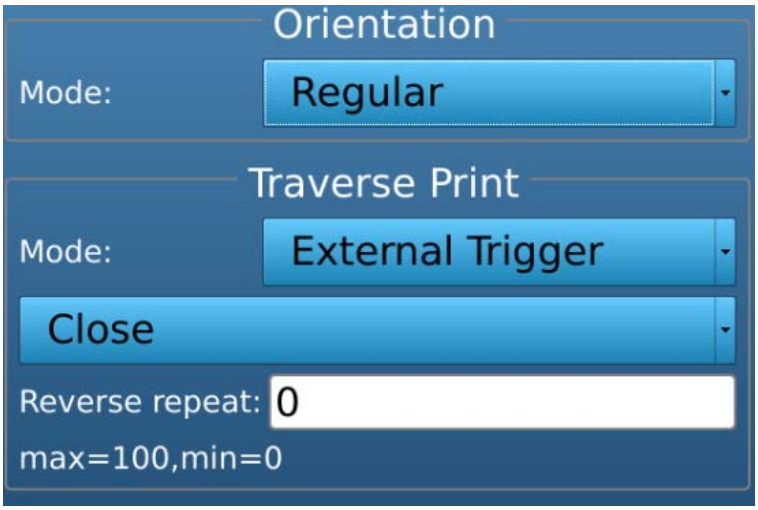
Use the drop-down button to select the Delay mode. Multiplies print delay between messages.



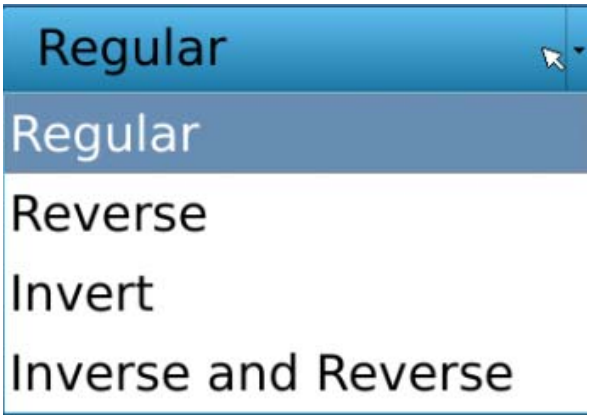
Sets the print delay between messages. Max=5000,Min=0

The higher the “Printing Speed” setting, the faster the print speed. Maximum printing speed is 1000.

Click this button, the screen on the right shows as follows:



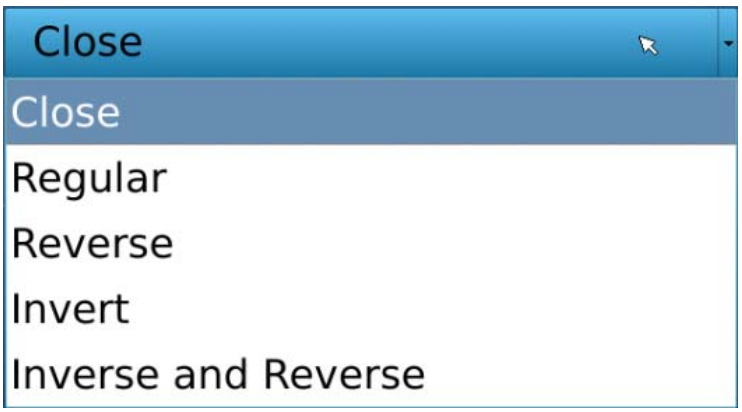
Use the drop-down button to select the desired print direction.



Use the drop-down button to select the trigger mode of reverse print.

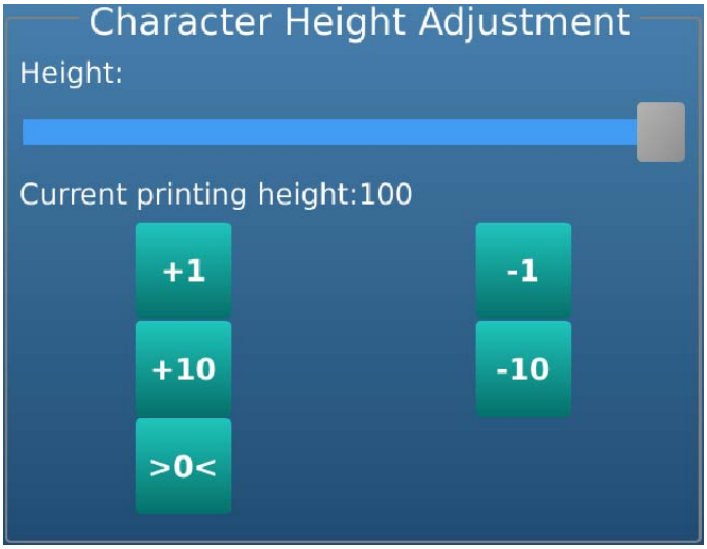
Software trigger mode: The print direction controlled by the software, used with “Reverse repeat”.
External Trigger mode: This is controlled by an external I/O signal. A low level signal indicates printing the message in regular direction. A high level signal tells printer to print in a reverse print direction.

Use the drop-down button to select the direction of reverse print. Revers print is used to print a message in both directions.

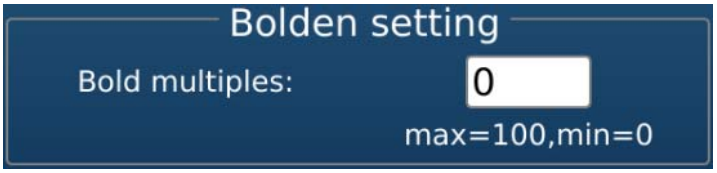


Reverse repeat is how many it prints before the print direction changes, when the printer works in software trigger mode.

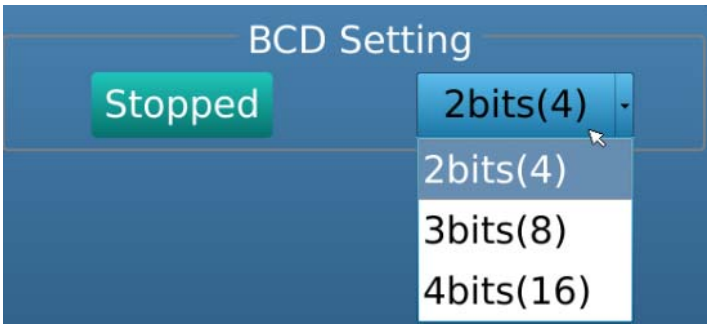
Increasing or decreasing the Height will raise or lower the text height.100 is the maximum height. Setting Height too low may cause ink build-up on the gutter rube and affect print quality.



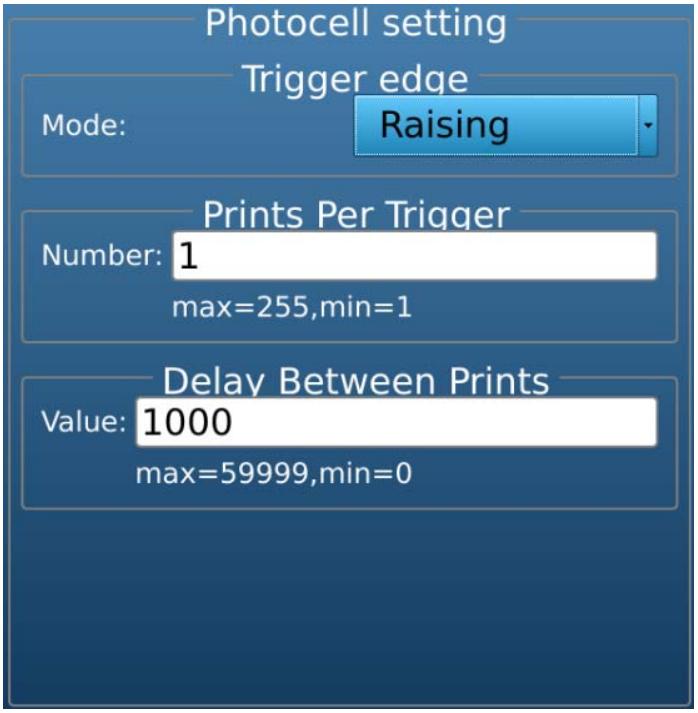
Increasing the bold multiples will add an extra vertical line of dots to the print matrix.



Switch printing messages through external I/O. Four DI signals can switch up to 16 messages



Click this button, the screen on the right shows as follows:



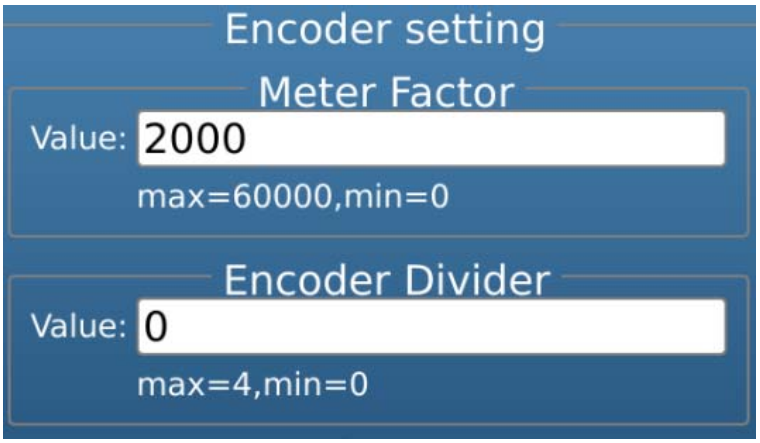
Triggers at the starting or falling edge of when the sensor “sees” the product.

Sets number of prints per trigger.

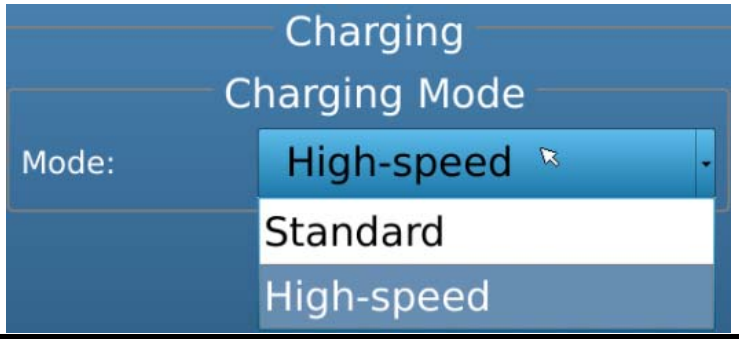
Sets delay time between prints

“Meter Counting Parameter” is used to define how many encoder pulses there are between prints when in the repeat mode.

Set the “ F.Div.Coefficient” to dictate message length. The higher the value, the longge the message will print. Default encoder value is “0”.



Click this button to select charging mode.

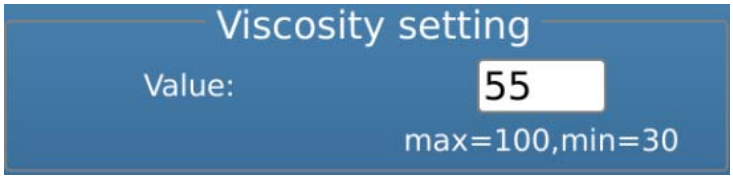


System Setting

Select the “System Settings” Icon to open the System Settings window.

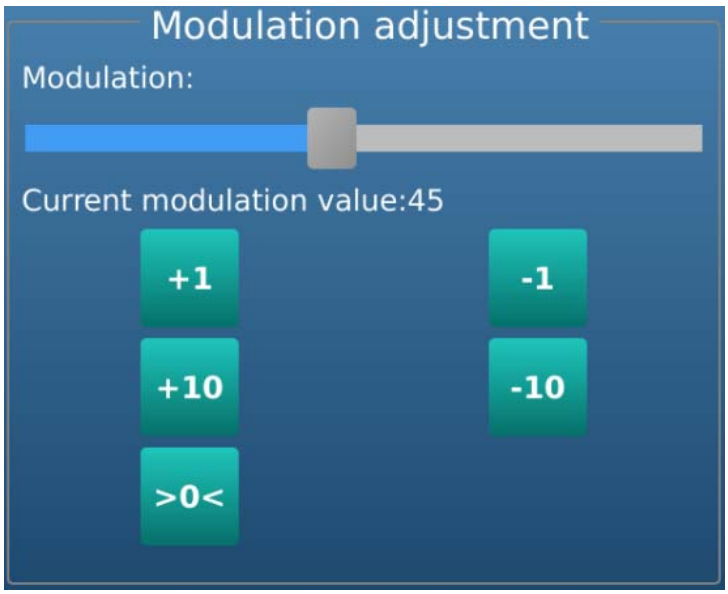
System Setting	Descriptions

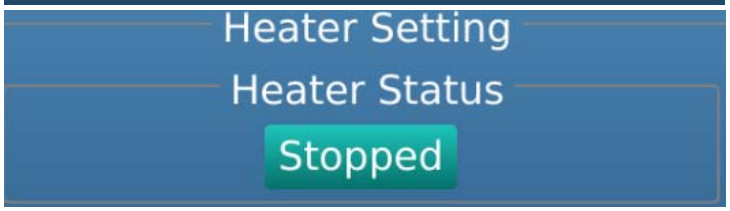
Increases and decreases the ink stream pressure.



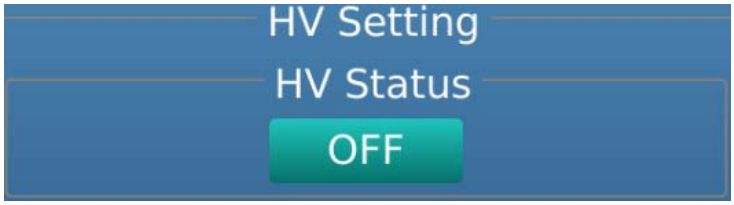
Add Make-up to the mixing tank to decrease viscosity.

Increase or decrease the ink drop break point. The highe the value, the faster the break will be.





Turn the heater ON or OFF.

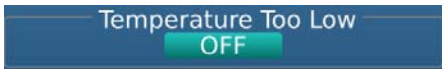


Turn the High Voltage On or Off.

The “Alarm settings” icon will open the alarm settings window. In the Alarm Settings window, place a button you would like to monitor. Stopped alarms will not be recorded in the alarm log.

If the “Gutter” is started the system will stop jetting after a few seconds pass without the gutter receiving ink.

If the “Printhead cover” is started, the High Voltage will be shut off when the printhead cover is removed.



If the “Ambient temp low” is started, the High Voltage will shut off when the temperature inside the electrical cabinet becomes too low.

If the “Ambient temp high” is started, the High Voltage will shut off when the temperature inside the electrical cabinet becomes too high.

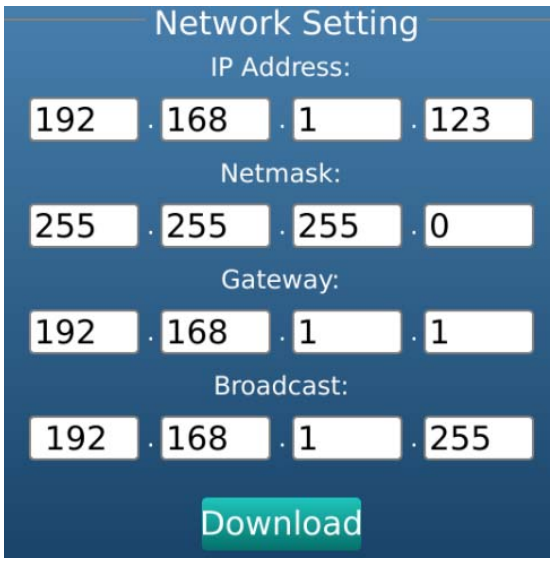
If “Ink mixer tank overflow” is started, the system will stop jetting if an overflow is detected.

If “HV fault” is checked, High Voltage will shut off if there is fluid buildup on the deflection plates or there are other High Voltage issues.

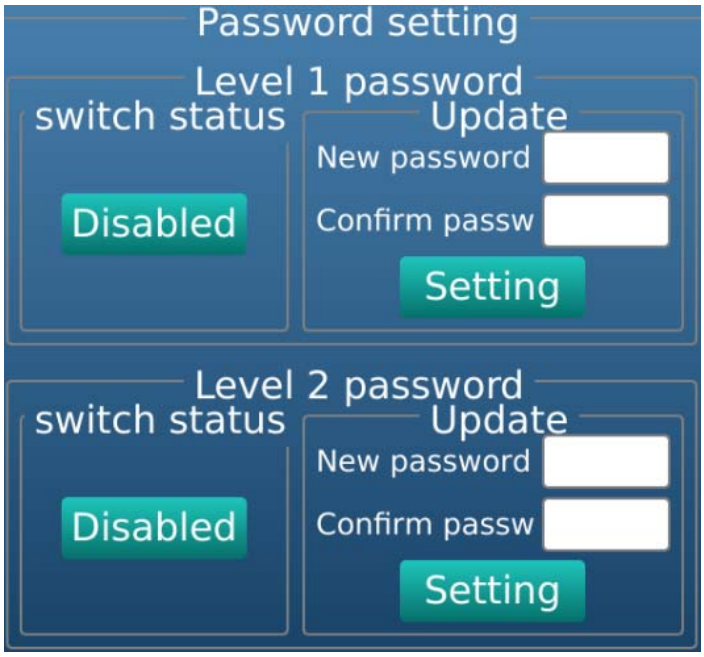
Switching languages through the follow window:

Occasionally, software and/or firmware updates will become avalible from KeSiHui. Software and Printer System Firmware can be updated from U disk.

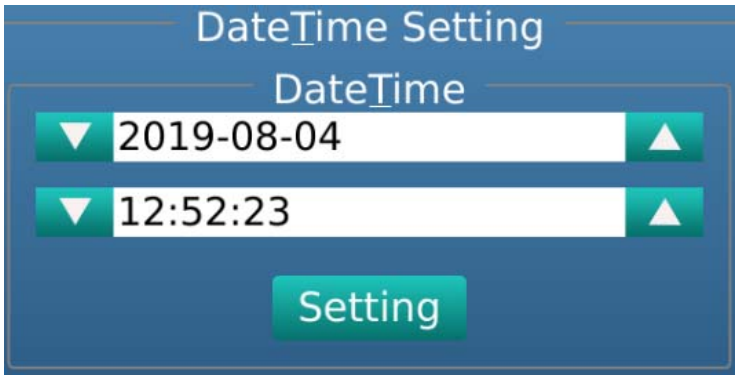
Set network parameters through the following window:



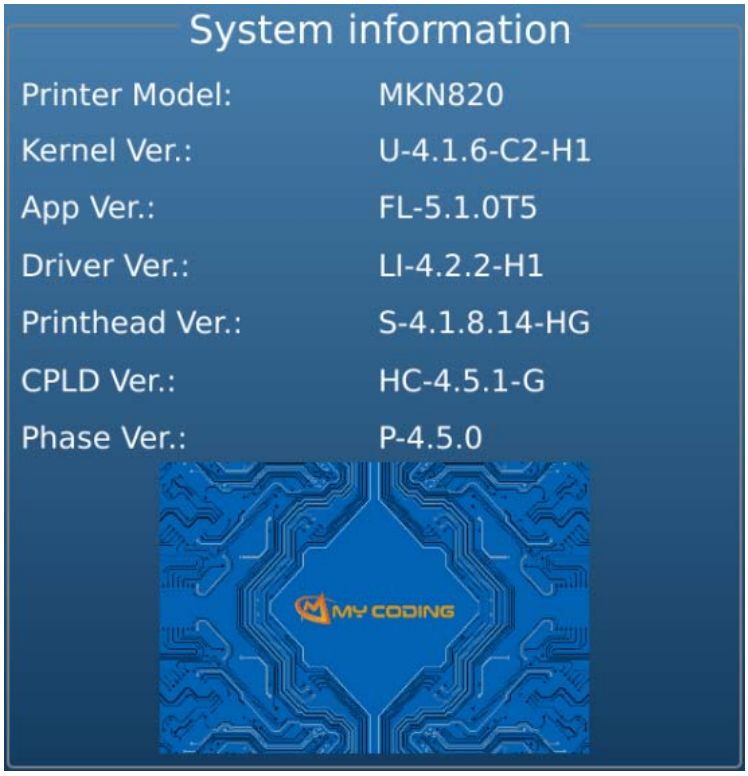
To set level 1 and level 2 password. Level 2 password has higher protection level.



Select the “Date & Time” icon to change the date and time in the printer

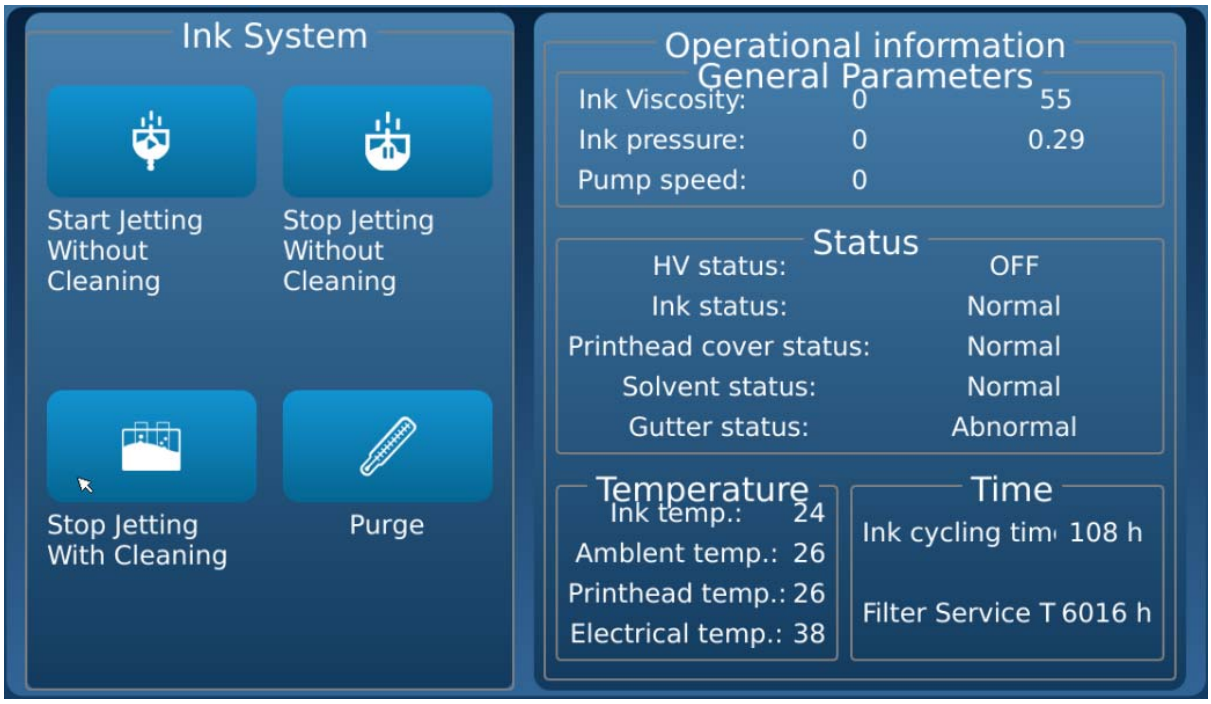


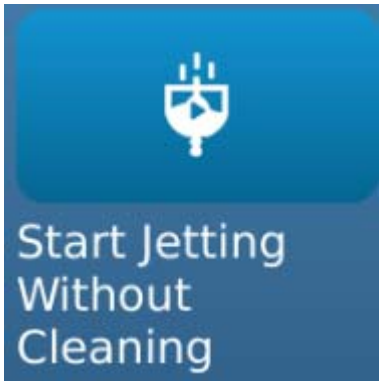
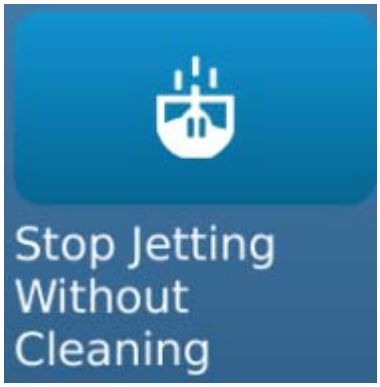
Selecting the “System Info” icon will display important information for the currently selected printer.



Ink System

The “Ink System” window contains keys for stopping/starting and cleaning the ink system. It also contains a “Status” section that monitors the condition of the ink system. Select the “Ink System” icon to open the Ink Operation window.

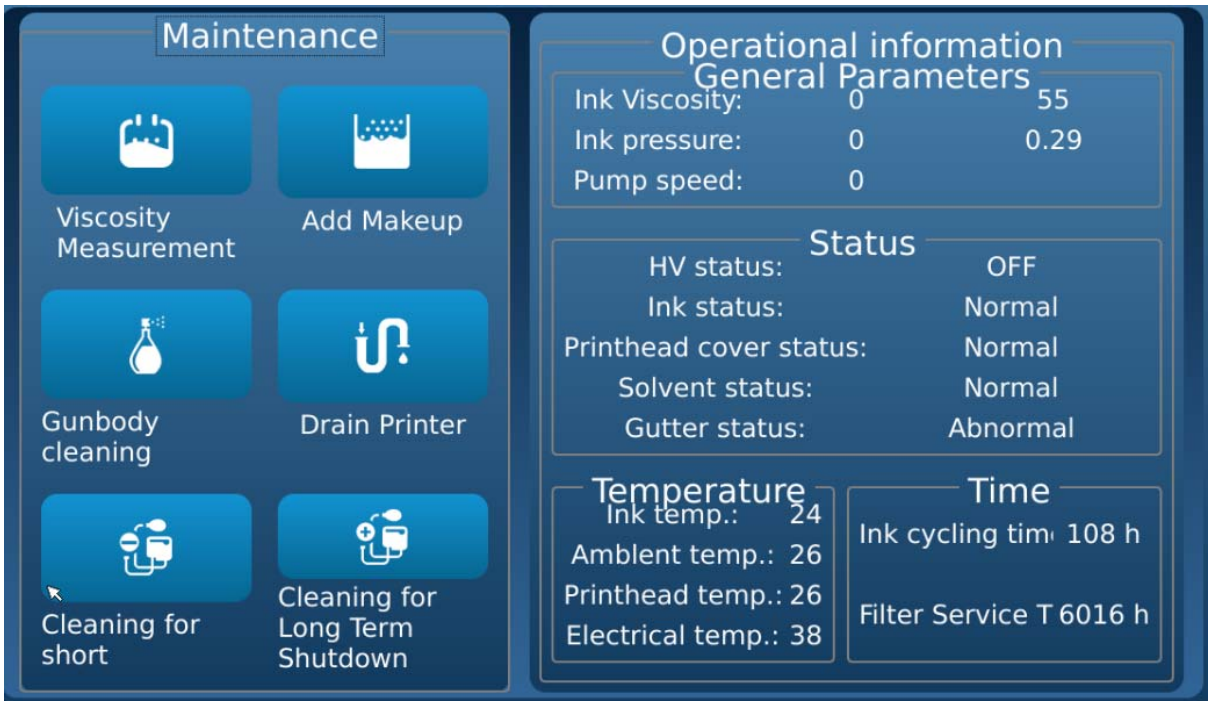


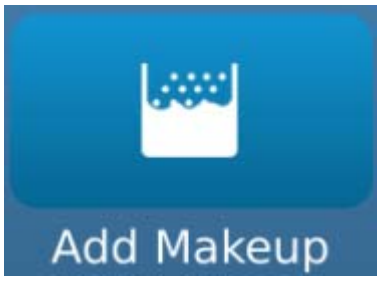
Ink System	Descriptions
	Start the ink system jetting.
	Stop the ink system jetting.
	Perform the Cleanjet cleaning cycle when jetting starts.
	Selecting “Purge” will cause a light suction for about 20 seconds at the nozzle face. This is used when spraying cleaner externally onto the nozzle so the cleaning fluid can be drawn back into the Gunbody.

Maintenance

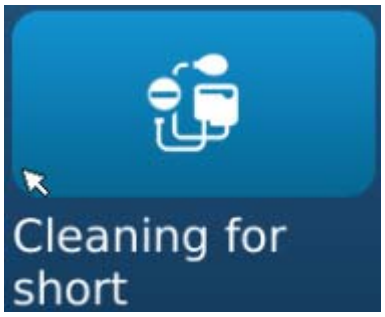
The “Maintenance” window contains keys for performing maintenance functions on the ink system

and the ink itself. It also contains a “Status” section that monitors the ink system.



Ink System	Descriptions
	Printer will detect and display the current viscosity.
	Will add a small amount of make-up to the reservoir. Performing this function will slightly lower viscosity.
	Runs a cleaning cycle through the Gunbody.

This will drain the mixing tank. Follow the on-screen prompts to perform drain the mixing tank.

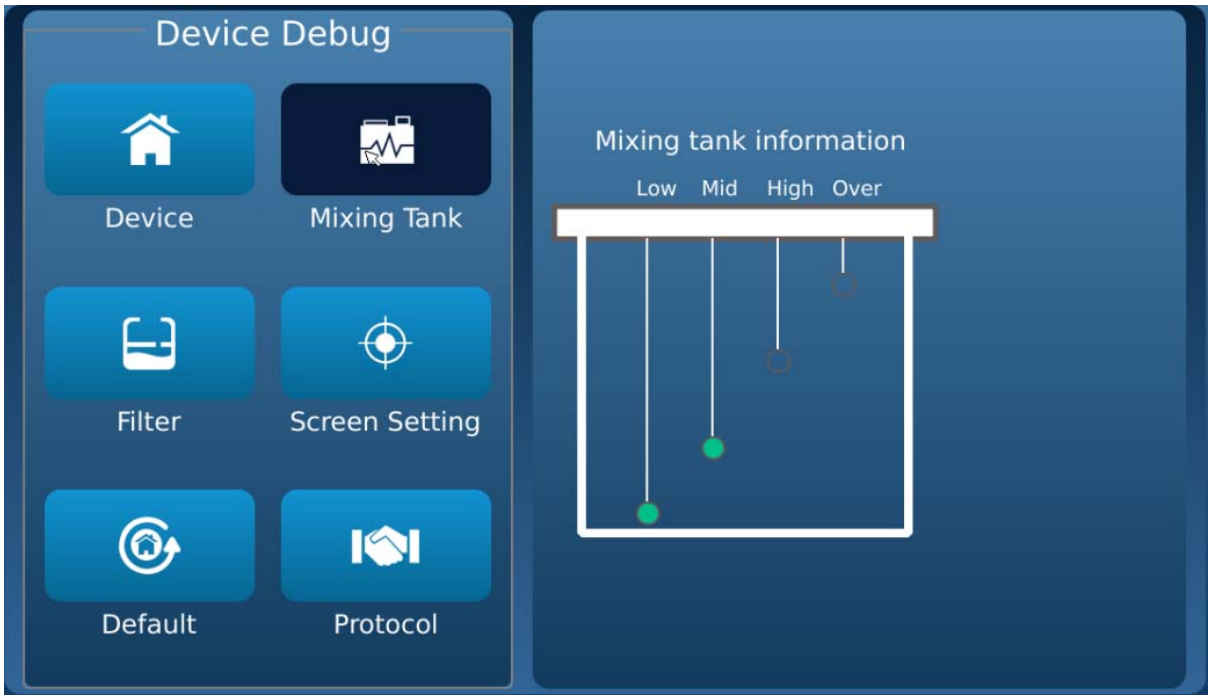


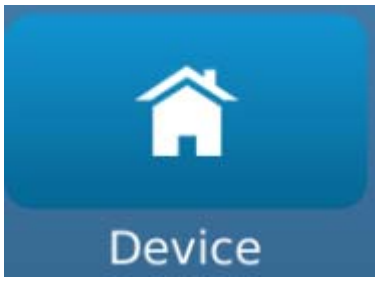
This will flush the system for a short-term shutdown. Follow the on-screen prompts to perform a short-term shutdown.

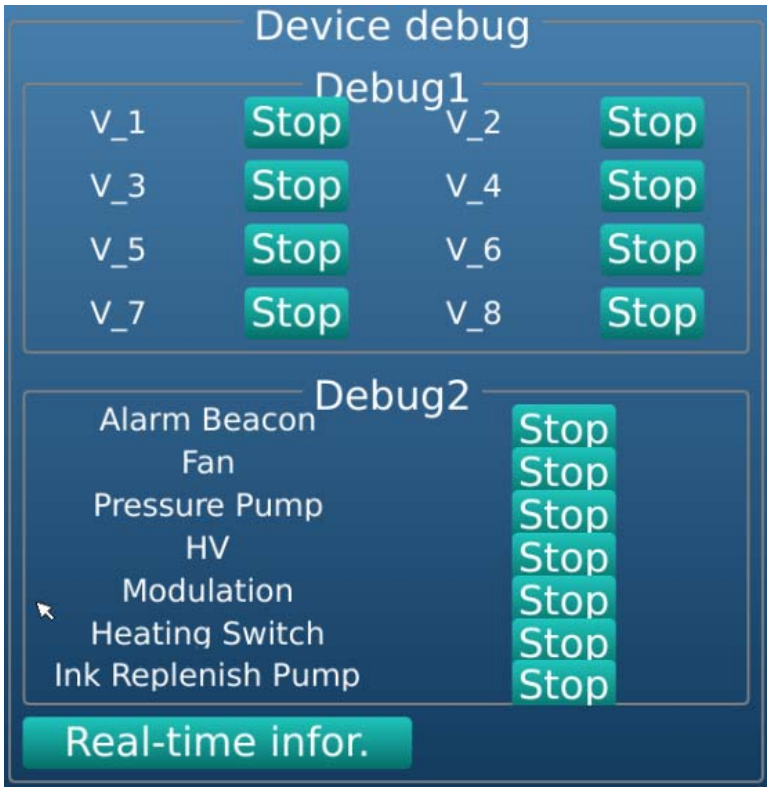
This will drain the mixing tank and flush the entire printer with make-up. Follow the on-screen prompts to perform a long-term shut down.

Device Debug

(setting may be password protected from operator)
Select the “Device Debug” icon to open the “Device Debug” window. There are keys for service and engineering personnel to test several internal system components.

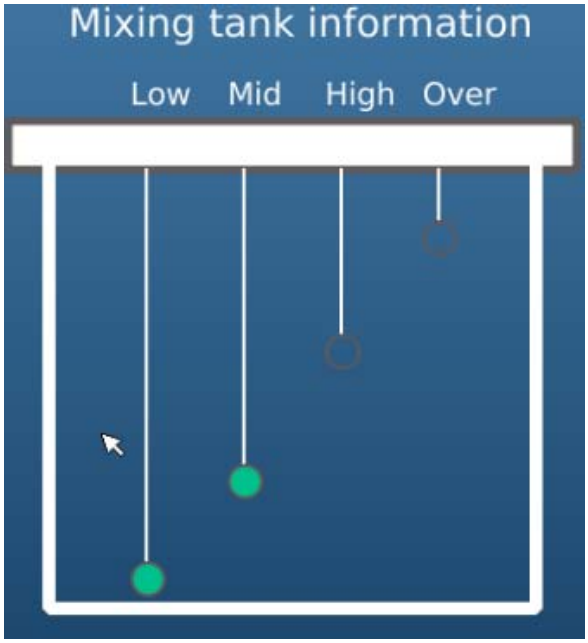


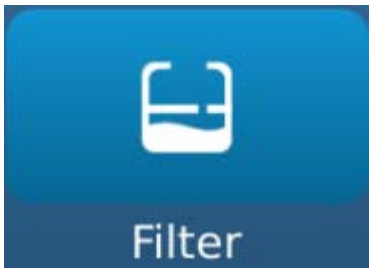
Device Debug	Descriptions
	Click this button， the right window will display the device test window. Device test window is generally used by service and engineering personnel.



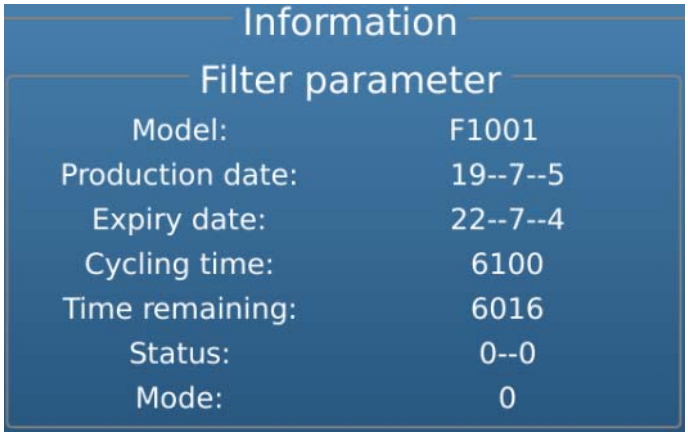
Device test window is only available if the hydraulics (jet) are shut down/off. A/C power must be on.

Click this button, the right window will display the ink level in the mixing tank.

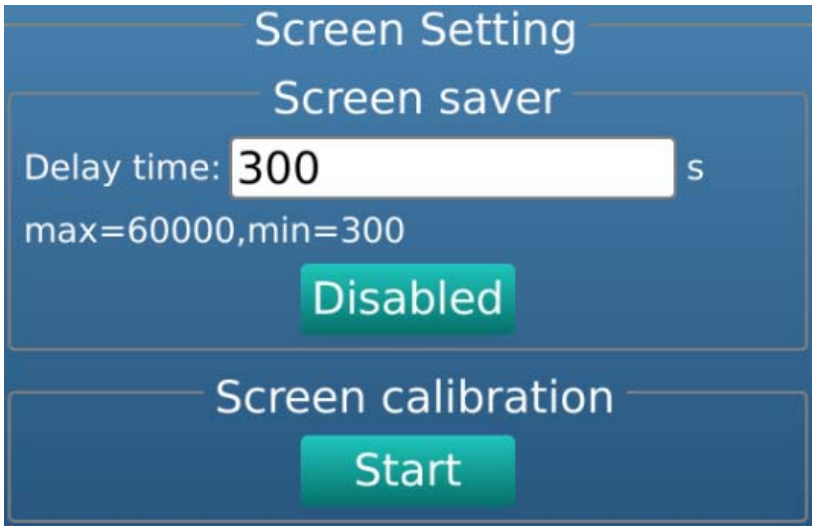


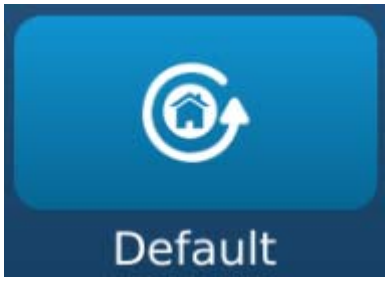


Click this button, the right window will display the details of the filter.



Click this button, the right window will display the Screen Setting window.

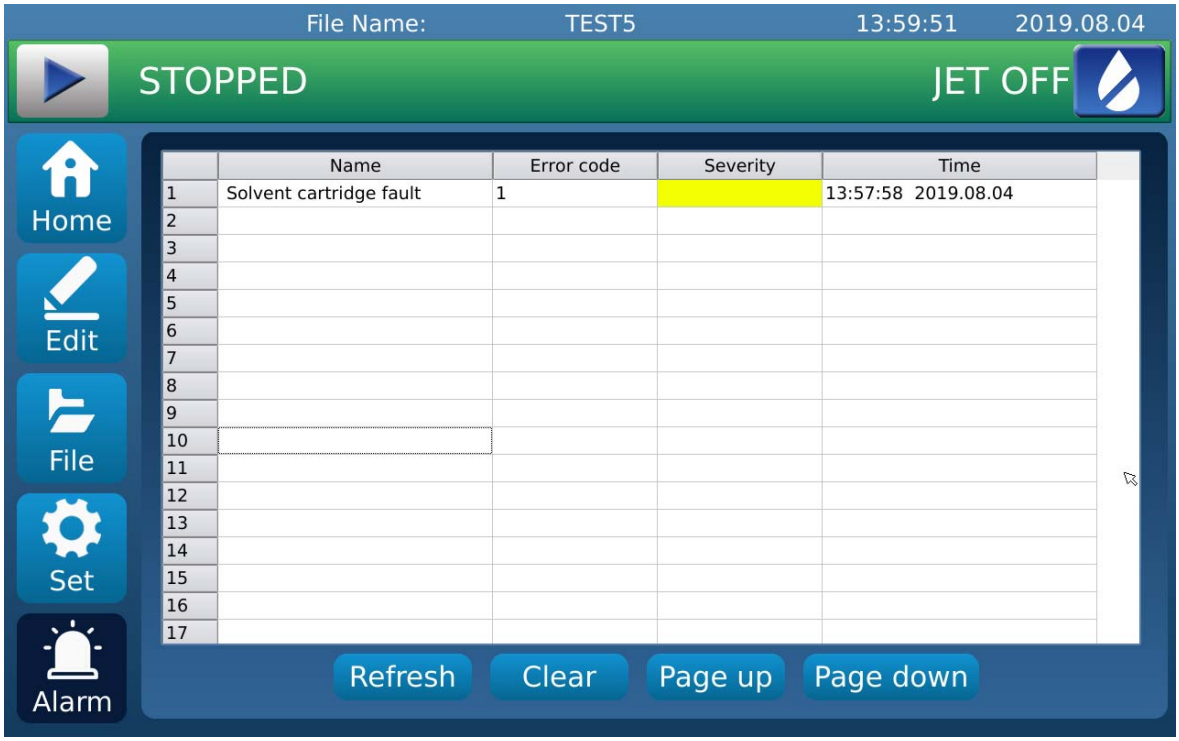




Click this button to restore factory settings (may be password protected from operator).

Warning log

Selecting the “Alarm event” icon will display a list of tripped system alarms.



File Management

In main menu, click 

button, you will see Load file menu as following figure shows:

Maintenance

Daily Maintenance

Turn Off Daily

At the end of working day, it's recommended that you select "Clean & Stop" in Ink System menu page to stop the printer. The printer will clean the gunbody and nozzle automatically while jetting off.
Switch off the power supply after jetting off.
Maybe some ink could spill out of the gutter, you could add 3ml cleaning solution into gutter to avoid it while jetting off almost finished.

Cleaning Printhead

Should the printhead need to be cleaned, perform the following steps:

1. Turn the printhead to a vertical position pointing down.
2. Place a suitable container to catch waste under the printhead and open the prinhead cover.
   Note: Before opening the printhead cover make sure the power is turned off and the printer is unplugged.
3. Clean the printhead components including the charge electrode, charge detector, high voltage plate, ground plate and gutter.
   Use only an approved and compatible cleaning solution. When cleaning the printhead, please be aware of the following:
   1) Do not pour cleaning solution directly into the gutter. It may lower ink viscosity.
   2) Do not wipe the printhead with a common cloth or towel. Let the printhead air dry or use the bulb pump.
   3) The cleaning solution may present a health hazard. Make sure the area around the printer is properly ventilated. Avoid contact with cleaning solutions.
   4) Always wear safety glasses and protective gloves when cleaning the printhead.
      Note: When cleaning any components in this printer, use only an approved wash that is compatible with the product being used. Failure to do so will result in serious damage to vital components.
4. Clean the printhead cover if necessary
5. Close and fasten the printhead cover.
6. To begin printing, plug the printing system into a properly wired and grounded outlet. Turn the power on and follow the normal start up procedure.

Checking the level of Ink tank and Solvent tank

If no remaining ink and solvent in bottles, and remaining percentage become 0%, it will cause printer shut down suddenly while working, so it recommended that customers change ink and solvent bottle timely when remaining percentage become 0%.

If ink remaining percentage becomes 0%, and printer still jetting on, then it could continue working for 18 hours. At this time, if you stop jetting, then can not start jetting again, need to change a new ink bottle.

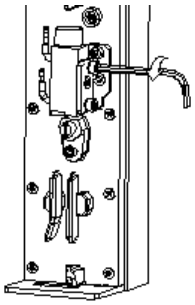
If solvent remaining percentage becomes 0%, and printer still jetting on, then it could continue working for 4 hours. At this time, if you stop jetting, then can not start jetting again, need to change a new solvent bottle.

Ink Stream Position Adjustment

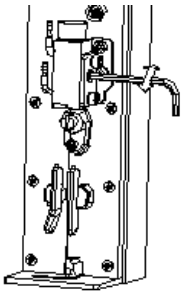
The ink stream position is pre-set at the factory and should not have to be changed. Should the Ink Stream Position need to be changed, be aware that it is a very fine adjustment. You will be working with very small parts and very small tolerances. You are going to try moving an ink stream that is thinner than a piece of thread around a hole about 3mm in width. Prior to making an adjustment to the ink stream position, let the system come up to pressure and allow the viscosity to get close to the set point that can be seen in the set up menu.

Ink streamline forward and back adjustment

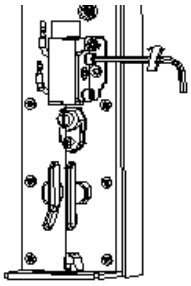
Use Allen wrench to loosen gunbody fixing screw a little, and rotate the forward and back adjustment screw slightly till it reach optimum position, then fasten gunbody.



1. Loosen fixing screw.



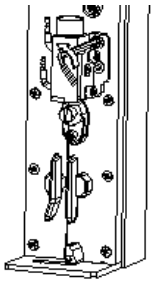
2. Adjust ink streamline position.



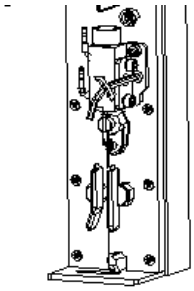
3. Fasten gunbody.

Ink streamline left and right adjustment

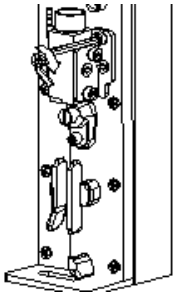
Use Allen wrench to loosen gunbody fixing screw a little, and rotate the left and right adjustment screw slightly till it reach optimum position, then fasten gunbody.



1. Loosen fixing screw.



2. Adjust ink streamline position.



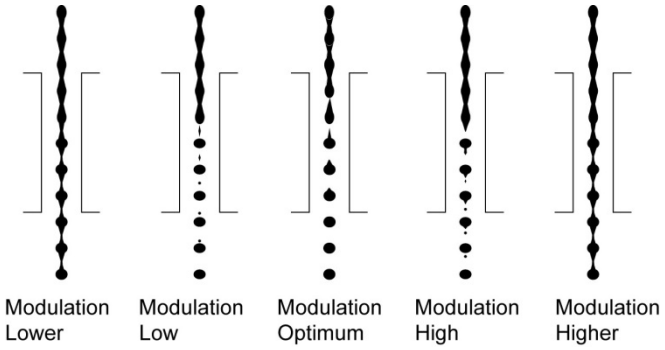
3. Fasten gunbody.

Ink Drop Break-off Adjustment

The Ink Drop Break-off must be adjusted properly to obtain good quality printing. The Ink Drop Break-off Point should be in the middle of the Charge Electrode Tunnel. Ink Drop Break-off is related to the following conditions:

- Correct ink viscosity
- Correct ink pressure
- Clean and unrestricted hydraulic system
- Uncontaminated ink
- Clean and unblocked nozzle

The following illustration shows the Ink Drop Break-off Point and the relation to the value of the Modulation.



Before adjust the ink break-off position, make sure that the current ink viscosity is suitable for printing. Then find the magnifier to observe the ink break-off position in the charge electrode, adjust the modulation (Nozzle drive) to adjust the ink break-off position.

Shut Down Less Than One Month

If the printer will be idle less than one month, it recommended that you run the printer, and jetting on for more than 2 hours every week.

Also you could flush the hydraulic system before storing the printer for a long time. Perform the following procedure to flush the system:

Note: Whenever working with fluids or inks, be sure to wear gloves, safety glasses and protective clothing.

1. Open the ink outlet at the back of ink mixer tank, put the by-pass tube into an empty bottle, and run[Maintenance] →[Tubes Emptying] till no more ink comes out from by-pass tube, discharge volume of ink is 600ml, taking about 5 minutes.
2. When no more ink discharged from tank, press “cancel” button.
3. Press [Maintenance] → [Cleaning for short-time idle], it will take 15 minutes for cleaning, then fasten the ink outlet and power off the printer.

Notice: This maintenance is just for short-term idle printers, and only clean mixture tank, ink adding pump, pressure pump and valve plate assembly, printhead and ink tubes connected to printhead are not included.

Shut Down Over One Month

If the printer will be idle over one month, it recommended that you run the printer, and jetting on for more than 2 hours every week.

Also you could flush the hydraulic system before storing the printer for a long time. Perform the following procedure to flush the system:

Notice: Whenever working with fluids or inks, be sure to wear gloves, safety glasses and protective clothing.

1. Open the ink outlet at the back of ink mixer tank, put the by-pass tube into an empty bottle, and run [Maintenance] → [Tubes Emptying] till no more ink comes out from by-pass tube, discharge volume of ink is 600ml, taking about 10 minutes.
2. When no more ink discharged from tank, press “cancel” button.
3. Press[Maintenance] → [Cleaning for long-time idle], it will take 25 minutes for cleaning, then fasten the ink outlet and power off the printer.

Notice: This maintenance is for long-term idle printers, it will clean mixture tank, ink adding pump, pressure pump and valve plate assembly, all ink tubes and gunbody.

Filters

Use the following schedule to change filters under normal operating conditions.

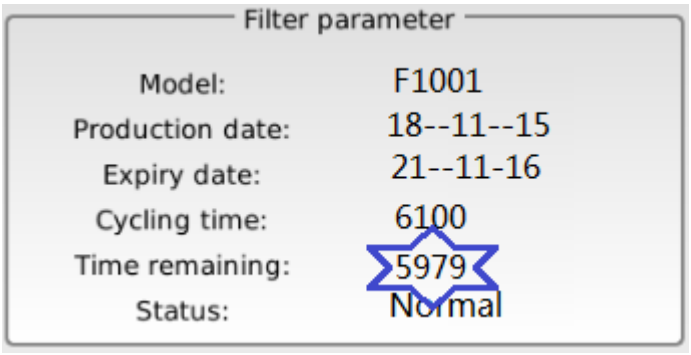
Filters Changing Cycle

	Filter	**Changing Cycle**
1	Main filter	6000 hours
2	Ink Feeding Filter	6000 hours
3	Ink Return Filter	6000 hours
4	Cleaning Filter	6000 hours

Note: Operating conditions can vary. Excessive heat, dust, and humidity could all affect filter life.

Changing Filters

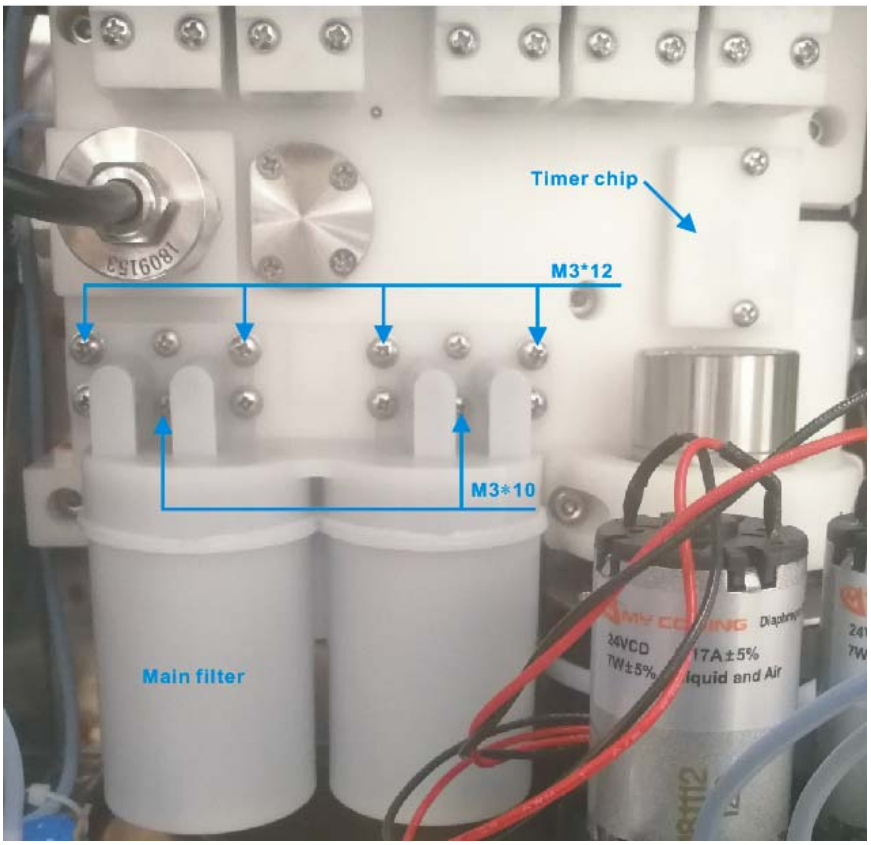
1. Main Filter Changing



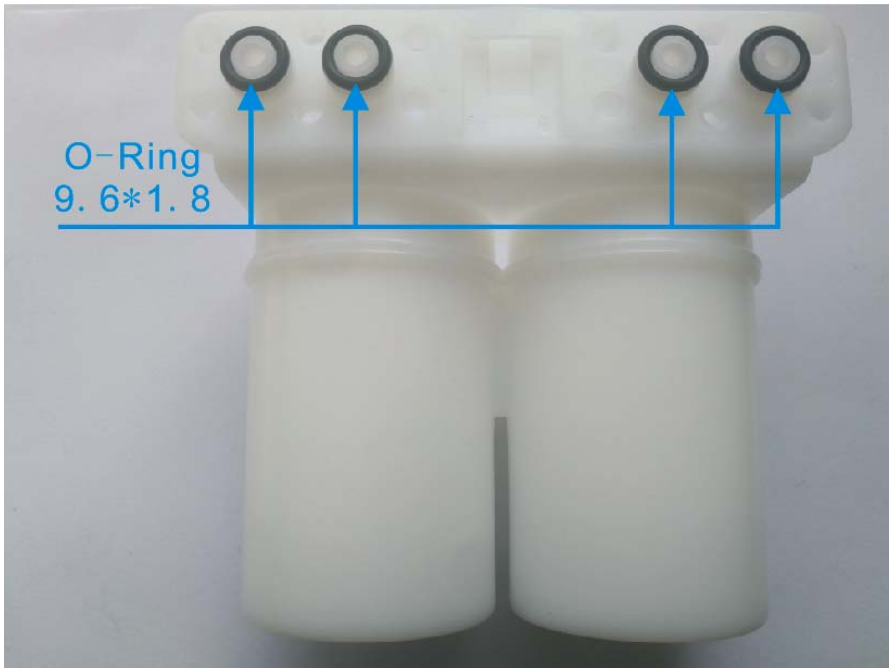
As shown on the above drawing, when filter time below 200 hours, “Filter assembly remaining cycling time less than 200 hours, please replace it timely!” warning will be shown on screen. Printer could continue working until filter time is 0, with final warning “Filter assembly overdue” displayed, printer will stop working if without replacing with new filter assembly.

Replace procedure:

1) Turn off the power and unplug the printer.
2) Open the back door of the printer.
3) To avoid ink spill, please prepare some paper under the filter, then unscrew the eight screws M3x12 and the four screwsM3x10 as shown on the photo below.



4) Remove the old main filter.
5) Place the new filter in the mounting position.
Notice: Please ensure to install the four O rings 9.6x1.8.

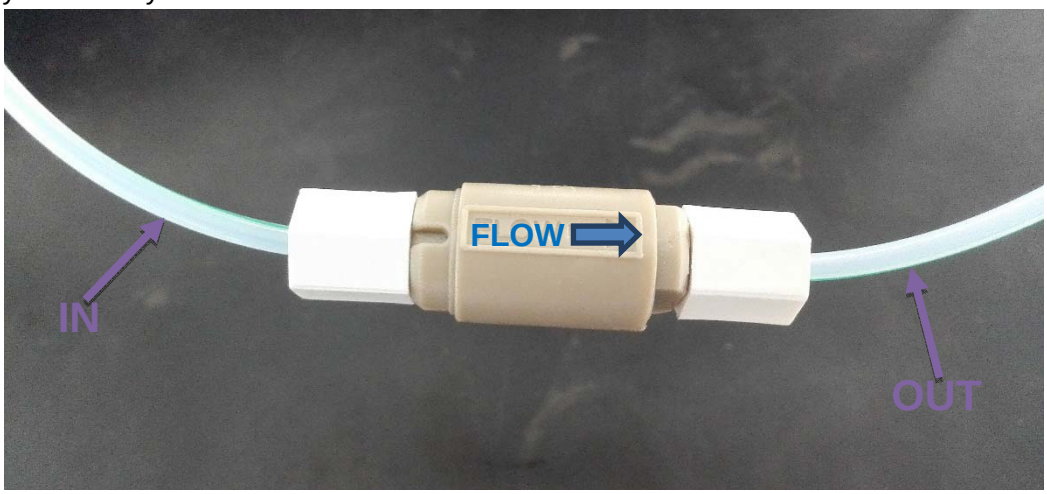


6) Close the back door. Plug the printer into a properly wired and grounded power source. Turn on the power and follow the normal start up procedure.

2. Ink Feeding Filter, Return Filter and Cleaning Filter

The procedure for changing these ink filters is similar.

1) Turn off the power and unplug the printer.
2) Open the back door of the printer.
3) Disconnect both the “Line In” and “Line Out” hoses from the filter. Have paper towels ready should any fluid leak from the lines. Be careful not to twist or kink the ink lines.



4) Loosen the mounting strap to remove the old filter from the printer.
5) Place the new filter in the mounting strap and retighten.

Note: Make sure the filter is in the proper orientation.

Tip! Take a few moments and carefully inspect the fluid lines. Make sure they are in good condition with no cracks or leaks. Make sure the ends have neat square cuts and will seat well in the fittings. If necessary, replace the line or carefully trim the end with a sharp tool.

6) Close the back door. Plug the printer into a properly wired and grounded power source. Turn on the power and follow the normal start up procedure.

Cleaning or Changing Fan Filters

The fan assemblies are used to cool the electrical circuit systems.
There are filters in fan assemblies with functions of dust proof.
In dusty sites, you should wash the fan filters and install it again frequently. Also you could change a new one if necessary.

Warnings

“Gutter warning”

If gutter fault warning function enabled, when the gutter sensor cannot detect ink passing through in 3 seconds, this warning will occur. It means that the gutter cannot return ink normally. If problem not solved in 10 seconds, then printer would stop jetting automatically.

Please check if ink streamline could enter gutter, or gutter tube blocked.

“Ambient temp. low warning”

If the ambient temperature below 0°C, this warning will occur, also warning indicator will light on. Printer could continue printing message, but maybe printing quality would be bad. It is recommended that customer stop printing and improve ambient temperature.

“Ink mixer tank overflow” warning

When this warning “Ink Mixer Tank Overflow” occurs, printer will stop printing and stop supplying ink. Also “Ink mixer tank overflow” will be displayed in [Warning Log].
Please select [Maintenance] → [Tubes Emptying] for 1 minute then cancel, “Ink Mixer Tank

Overflow” will not be displayed in [Warning Log] anymore. Then start jetting on for 15 minutes to check ink viscosity value (should be “setting viscosity value” ± 10).

“Printhead cover is open” warning

If printhead cover warning function enabled, when open printhead cover while printing, this warning will occur, also warning indicator will light on. “Printhead cover is open” will be displayed in [Warning Log]. Printer will shut off high voltage immediately.

“Ambient temp. high warning”

If the ambient temperature over 60°C, this warning will occur. Printer could continue printing message, but maybe printing quality would be bad. It’s recommended that customer stop printing and improve ambient temperature. Also “Ambient temp. high warning” will be displayed in [Warning Log]

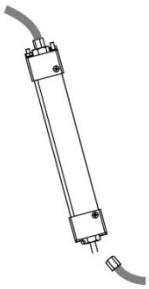
“Electrical temperature too high” warning

If the electrical system temperature is over 70°C, this warning will occur. Printer will stop printing and execute jetting off procedure automatically. Also “Electrical temperature too high” will be displayed in [Warning Log].

“Viscometer fault” warning

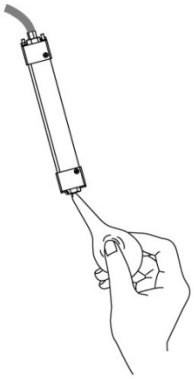
When this warning occurs, it indicates that the viscometer may be clogged or have air in it, so it can’t measure ink viscosity correctly. Please check the pipelines from the pressure pump to viscometer along the pipeline connection, to see if there is bad connections result in the air go into the ink pipelines. Also you should check if the current ink viscosity is too high. Or you could consult with Hi-Pack Technical Service concerning the disassembling and cleaning of the viscometer.

How to clean the viscometer?



Disconnect the bottom tube of Viscosimeter

Use a bulb pump to absorb some solvent or cleaning solution



Press the bulb pump to clean the viscosimeter.

“Ink bottle chip fault” warning

When following fault occurs, warnings will be displayed on screen. Also “Ink bottle chip fault” will be displayed in [Warning Log].

1. “Ink bottle not detected”

When ink bottle not fitted well in position or not fitted, warning “Ink bottle not detected” will be displayed on screen, also warning indicator will light on.

2. “Ink bottle type fault”

When solvent bottle or wrong ink bottle fitted, warning “Ink bottle type fault” will be displayed on screen, also warning indicator will light on.

3. “Ink bottle overdue”

When ink bottle exceed one year from production date, warning “Ink bottle overdue” will be displayed on screen, also warning indicator will light on.

4. “Ink bottle cycling time limit exceeded”

When ink bottle cycling time exceed 3000 hours, warning “Ink bottle cycling time limit exceeded” will be displayed on screen, also warning indicator will light on.

5. “Ink bottle empty”

When Ink bottle level 0%, ink 0% will be displayed on screen, after 3 seconds “Ink bottle empty” warning will be displayed on screen. Printer will continue to work 18 hours then execute jetting off procedure automatically. After jetting off, it could not be jetting on without replace with new ink bottle.

“Solvent bottle chip fault” warning

When following fault occurs, warnings will be displayed on screen. Also “Solvent Bottle Chip Fault” will be displayed in → [Warning Log].

1. “Solvent bottle not detected”

When Solvent Bottle not fitted well in position or not fitted, warning “Solvent Bottle Not Detected” will be displayed on screen, also warning indicator will light on.

2. “Solvent bottle type fault”

When Ink Bottle or wrong Solvent Bottle fitted, warning “Solvent bottle type fault” will be displayed on screen, also warning indicator will light on.

3. “Solvent bottle overdue”

When Solvent Bottle exceed one year from production date, warning “Solvent bottle overdue” will be displayed on screen, also warning indicator will light on.

4. “Solvent bottle cycling time limit exceeded”

When solvent bottle cycling time exceeds 400 hours, warning ““Solvent bottle cycling time limit exceeded” will be displayed on screen, also warning indicator will light on.

5. “Solvent bottle empty”

When solvent bottle level is 0%, solvent 0% will be displayed on screen, after 3 seconds “Solvent bottle empty” warning will be displayed on screen. Printer will continue to work 6 hours then execute jetting off procedure automatically. After jetting off, it could not be jetting on without replace to new solvent bottle.

“Filter assembly fault” warning

When filter assembly count down is 0 hour, filter assembly 0 hours will be displayed on screen, after 3 seconds “Filter assembly not detected” warning will be displayed on screen. Printer will continue working for18 hours then execute jetting off procedure automatically. After jetting off, it could not be jetting on without replace with new solvent bottle. Also “Filter assembly fault” will be displayed in → [Warning Log].

“Ink shortage” warning

When ink is insufficient and sensor of Ink Tank could not detect ink, “Ink shortage” will be displayed on screen and warning indicator will light on, printer will continue working for 18 hours then execute jetting off procedure automatically. After jetting off, it could not be jetting on without

clearing the fault. Also “Ink shortage” will be displayed in → [Warning Log].

“Solvent shortage” warning

When solvent is insufficient and sensor of Solvent Tank could not detect solvent, “Solvent shortage” will be displayed on screen and warning indicator will light on, printer will continue working for 3 hours then execute jetting off procedure automatically. After jetting off, it could not be jetting on without clearing the fault. Also “Solvent shortage” will be displayed in → [Warning Log].

“Ink pressure too high” warning

When the current ink pressure is over0.45MPa, this warning will occur, warning indicator will light on and execute jetting off procedure automatically. Please check if there is air in ink system tubes, especially in buffer and main filter. Also “Ink pressure too high” will be displayed in → [Warning Log].

“Ink pump rotate speed is too high” warning

When the ink pump rate is above 3500 R/min, this warning will occur. Should this message appear, please check the following:

1). Ink pump service life not exceeded
2). Leaking ink lines
3). Clogged main filter

“Ink mixer tank level low” warning

When ink in Ink Mixer Tank reaching the lowest ink level and no new ink to fill into the tank, “Ink mixer tank level low” will be displayed on screen, also “Ink mixer tank level low” will be displayed in→ [Warning Log]. Printer could not print well without checking and clearing the fault.

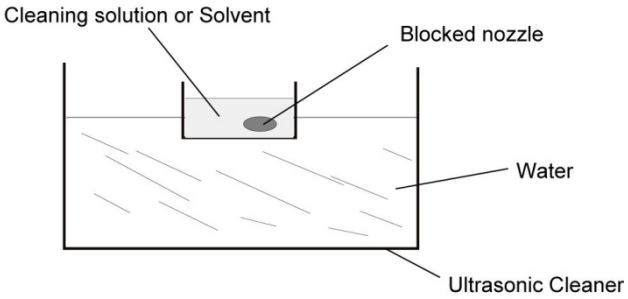
Troubleshooting

Problem:

No ink sprayed out from nozzle after jetting on.

Possible Solutions:

1. Check two ink tubes connected to the gunbody. If they are full of ink, then we could make sure that the ink reach gunbody, and the nozzle blocked. First, do “Purge” in the Ink System menu page. If this doesn’t help, continue on.
2. Take the badly blocked nozzle out, and use an ultrasonic cleaner to bath it.



3. If ink doesn’t reach the gunbody, then check the SV7 inside the printhead cover.
   Check and make sure that the SV7 could get power while jetting on. If this doesn’t help, continue on.
4. Check the three tubes on the ink tank cover, and make sure they are connected correctly.

Problem:

Printing quality poor.

Possible Solutions:

1. Check the current ink viscosity. If it’s too low or two high, let printer jetting on, and wait till the ink viscosity reach the viscosity setpoint. If this doesn’t help, continue on.
2. Find the magnifier in the toolkit, and observe the ink droplet condition in the charge electrode tunnel. Adjust the modulation to see the printing quality result. If this doesn’t help, continue on.
3. Call for Technical Service.

Problem:

Photocell can’t trigger printing after connected to the printer.

Possible Solutions:

1. Check the printing mode. If this doesn’t help, continue on.
2. Jetting off and power off, connect the photocell again.

Note: Photocell Hot-Plug is not available in TJ560C printing system.