User Manual

WARNING AND NOTE：

1. Do not remove ink cartridge or set up parameters while printing; Must stop printing（click Printing truns to Print）if need change parameters or power off. When machine is in printing, any operation will damage program.

2. Remove and cap the ink cartridge with clip at once after finishing printing work, otherwise the cartridge nozzle will block and lead to bad printing quality if exposed to air for long time. (Except water based ink cartridge)

3. Please turn off machine with correct steps: click Power→Shut down→Press power button on right side after screen turn off.

4. Please don't put machine in wet conditions.

5. When cleaning machine, keep away from water, and do not use chemical solvent to clean cartridge nozzle.

6. Do not use hard objects to crash machine in case of damage.

Common problems and ways of handling

1. Please set up correct pulse width and voltage value；

2. Reload the printing file or insert cartridge again；

3. If printing is not clear as new after using for sometime, change nozzle line in Settings- Print Settings, and use clean and soft cloth to wipe cartridge nozzle in one direction；

4. Please check cartridge ink remaining in Settings- About Device；

5. Please check the surface of cartridge nozzle. Clean the surface

Content

Dear customers:

Thank for your trust for our TIJ 2.5 Technology inkjet printer. For better to use this machine, please read this instruction carefully, as it will help you learn convenient and correct operation about this machine. Otherwise the mistaken or incorrect operation may bring unnecessary trouble for you.

1.Diagram

1.Synchronous encoder	2.Power adapter interface
3.Machine power button	4.Sensor interface
5.Lithium battery	6.USB interface
7.Ink cartridge installation(M7)	

1. Power adapter interface	2. Machine switch button
3.Sensor interface	4. Interface for connecting external encoder
5.Interface for connecting printhead	6.RS232 interface
7.USB interface	

2.Parameters

Print Head	Thermal Inkjet 2.5
Operating system	Linux
CPU	Quad core 1.4GHz
Language	English, Chinese, Turkish, Arabic, Korean, Italian, Portuguese(Brazil), Russian, Spanish
Material	M6/M7: ABS+PC, M3S: Metal, MX1: Aluminum alloy
Printing height	2-12.7mm
Printing distance	2-5mm
Print content	Text, time, batch number, serial number, logo, QR code, bar code, Variable data(for M7& MX1)
Print Resolution	M3S/M6: 300 dpi, M7/MX1: 600dpi
Storage	System can store more than 1000 message (external USB make the information transfer in a free way)
Printing length	2000 characters for each message, no limitation on length
Printing speed	70m/min
Ink colour	Black, white, red, yellow, blue, green, invisible
External interface	USB, Photocell interface, RS232(MX1)
Voltage	DC16.8 lithium battery(2600mAh) , work more than 4 hours and 8 hours standby(for hand-held printer)
Power consumption	Average power consumption is lower than 5W
Power	AC input 100~240V; DC output 16.8V/2A
Working environment	Temperature:10 - 38 degree; Humidity: 10% - 60%
Printing material	board, carton, stone, pipe, cable, metal, plastic product, electronic, the fiber board, light steel keel, aluminum foil, etc.

3.Main Menu

| Message | default.spr | Counter | 0 |

m printer and place in protective clip within 10 minutes a

2019/03/23
15:14:38 Passe

| Power | Edit | Settings | Print |

Intelligent Inkjet Printer   2019-03-23 15:20:05
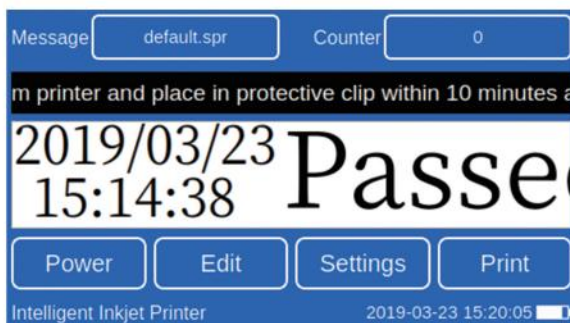
Power: close screen or shut down machine.

Edit (File): edit single file, group file and image.

Settings: system setting and print setting.

Print: click Print then it will become to Printing.(Please stop printing before changing ink cartridges or revising parameters)

Message: Click Message to choose file need printing. Could choose file from local storage or USB disk.

**Counter:** could set up printing repeat times details.

4. Files Manage
4.1 Edit Single File:

4.1.1 Input text

Input text

| Input text | | Edit |

X	−	2	+	Font	Simsun	▼
Y	−	0	+	Size	−	150	+
Rotate	−	0	+	Interval	−	0	+

Text
Time
Counter
Image
Barcode
QRCode
DMCode
Delete
File

3

Click Text to input Chinese (CN), English (EN), number or symbol→ press Edit → click Empty → input the information you need → Finish → adjust the font, size as needed→ move the information in the center of the white blank →File→ Save or Save As → input the file name →OK →File → Exit. The editing is complete.
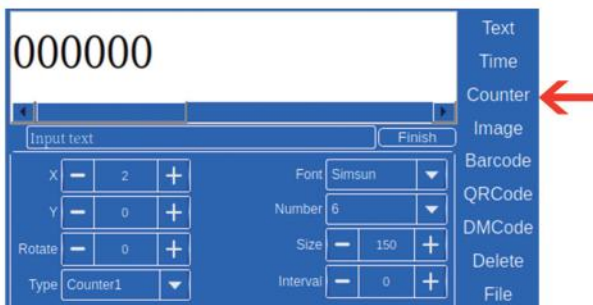
4.1.2 Input time
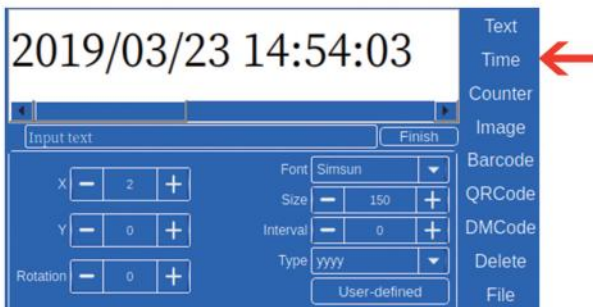
Click Time (windows will pop up system time)→ click User-defined to set time format as need →OK →File → Save or Save As.
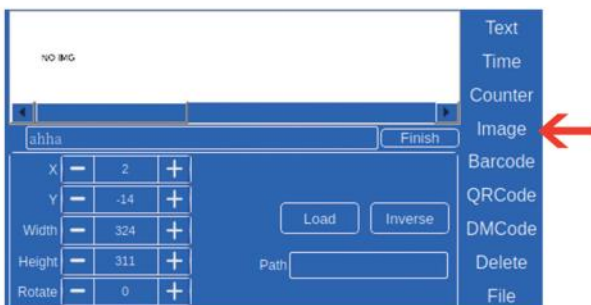**Note: click Type to choose quick set time format**

4.1.3 Input serial number

Click Counter to input serial number, set up type and size as need. One file could contain two different counters. Could set counter parameters in settings.

4.1.4 Input logo

Insert USB disk with picture →Edit → Edit Single File →edit window pops up → Image → Load → U Disk → choose the picture → To Load (copy the picture to local) → Local →choose the picture →OK →adjust size and position →File →Save or Sav As → input file name →Exit. The editing is complete.

Note:

1. when choose picture from USB disk, please copy it to local first, and then repeat loading picture from local pictures.

2. Any pictures should be saved as monochrome BMP in computer before putting in USD disk, and named as number or English letter.

3. Edit file contain picture (machine can't print picture directly. Please add picture in .spr file)

4.1.5 Input bar code

Click barcode →Edit (choose barcode type and input code number) → Finish → File → Save or Save As
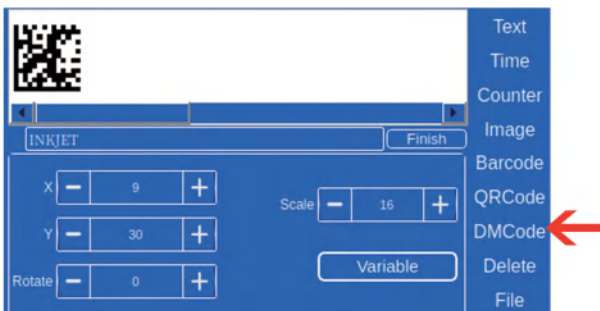
4.1.6 Input QR code
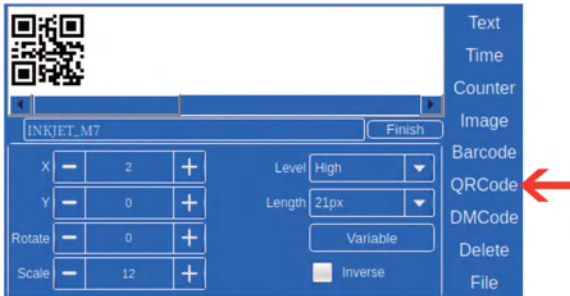
Click QR code →Edit (input code content) → Finish → File → Save or Save As
* The size could be adjusted through Scale, resolution could be adjusted through Level. M7 and MX1 could print QR code from data base by USB disk.
* If use white ink cartridge to print QR code, need tick Inverse.

Step of editing QR code including variable date: save date base in txt file(UTF-8), QR Code - variable - browse file -copy the txt file to local and save choose file from local storage - click Print All - return to edit window and save file.
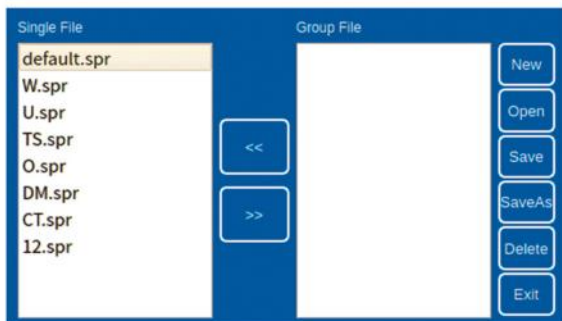
4.1.7 Input DM code

Click DM code →Edit (input code content) → Finish → File → Save or Save As
Note: the size of DM code could be adjusted through Scale.
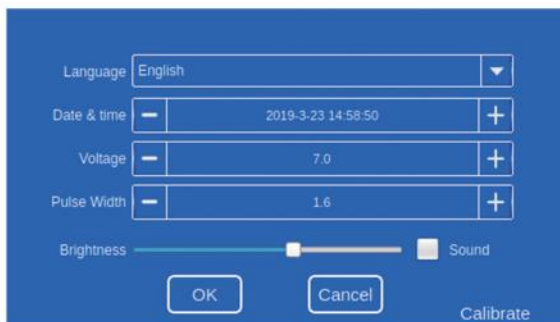
4.2 Edit Group File

Edit → Edit group file → move single files to group files → Save or Save As → input file name (put number, letter) → OK →Exit

* Group file consists of some single files. When printing group file, it is printing the single files one by one.

5.Parameter Manager
5.1 System Settings

Language: choose language and system will reboot automatically.

Date & time : set up system date and time

Voltage: set up working voltage according to ink type.

Pulse Width: set up print pulse according to ink type

Brightness: adjust screen brightness

Auto selected: Only M7 and MX1 has this function. When tick this, cartridge will match correct parameters automatically.

Sound: tick it, there will be prompt tone when printing finish.

Calibrate: When machine screen touching is not correct.(If screen is no problem then don't click this). If machine screen has touch problem, inset a mouse to click Screen Calibration. When screen is into screen calibration, click cross as system indication.

* Correct Pulse Width and Voltage settings:

Set up these two value as low as machine could do. Long-term high value will damage nozzle parts and decrease the life time of cartridge, had better to set up lower than standard value if cartridge work normally. Do not use high voltage to print, could only add voltage value step by step. (Adding 0.2 every time until get a better printing)

Ink type	Pulse Width (µs)	Voltage (V)
JW11	2.4	10.5
JS10	1.8	8.7
JS12	1.6	8.6
JS21	1.8	9.0
JS41	1.6	9.0
JS31/51/61	1.8	8.8

5.2 Print Settings

5.2.1 Style
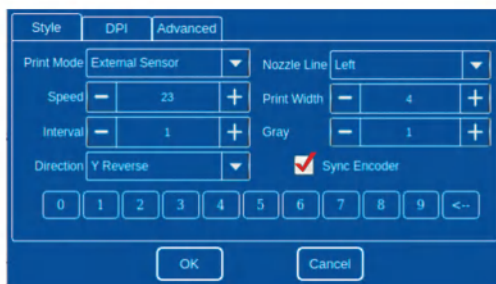
1.Print Mode (Trig Mode)：

①key trigger：trig via pressing print button. This print mode is used for hand-held use only.

②Internal sensor: inside sensor beside nozzle, it could use for online printing.(M3S dose not have internal sensor)

③External sensor: connect external sensor to trigger printing. This print mode is used for online continuous printing use.

④Automatic: no need any trigger condition, it will print automatically.

2.Speed: When using online printing, adjust speed to fit conveyor speed. (It could be adjusted only when choosing online printing)

Note: '0' means fastest. When machine speed is too fast, character will be too narrow. Then need to make speed value bigger. When machine speed is too low, character will be too wide. Then need to make speed value smaller.

3.Interval (Delay): means the time from system receive print signal to start print. '0' is the minimum

4.Direction: direction of printing.

5.Nozzle Line(Spray Mode): Left nozzle or right nozzle means two lines of pinhole on the cartridge nozzle. Left line is left nozzle, right line is right nozzle. When printing is not clear, could choose the other nozzle(from left to right or right to left)

6.Print Width (Sync Freq): when using machine by hand, it means the width of character. Printing will be wider when this value getting larger.

7.Gray: Printing color will be darker when this value getting larger. Usually set up gray value as 1 or 2 is enough.
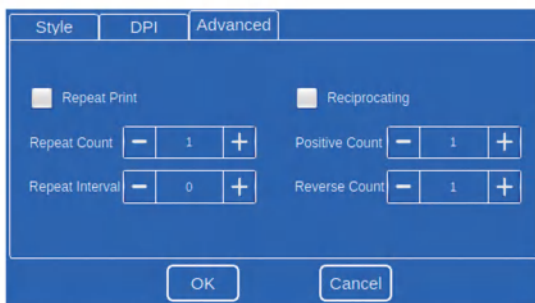
8.Sync encoder(Sync wheel) : Only tick it when using key trigger print mode or using an external encoder while it's in continous printing mode.

5.2.2 DPI

For M3S and M6, DPI of X direction could up to 300 maximum.
For M7 and MX1, DPI of X direction could up to 600 maximum.

5.2.3 Advanced

Repeat print: could set up repeat times of printing as need.
Reciprocating: it is the printing times of different printing direction.

5.3 Remote Upgrade(only for M7&MX1)

Could check machine software version here. Printer could connect Wi-Fi to upgrade system or back to the last version while there is software bug. It is not necessary use this function if machine works well.

5.4 About Device

Could check about detailed information in About Device. No need to adjust any parameters here.

6.Printing Data Base (Text/ QR Code) via USB Disk

* Only for M7&MX1

Load txt data file into USB disk: Insert USB disk into machine interface, click Edit→Edit Single File →Text/ QR Code→Variable→Browse Files→ UDisk→Choose txt file that need printing→To Local→Local→Choose txt file that need printing→OK→Tick Print All→Adjust size and position→ File→Save(named the file as number or English letter)→OK→File→Exit → Message→Choose file that need printing→OK.

*While finish printing all data in txt file, the machine will have tips of beeping.

*TXT file should be save as code of UTF-8.

7.Operating Procedures
7.1 For Hand-held Printer M3S/M6/M7

① Turn on machine;
② Edit file (Edit - Edit Single File) and save it ;
③ Click Message to file need printing, it will show on main menu;
④ Choose correct ink cartridge and insert it in machine, check voltage and pulse width;
⑤ Click Print (Print will be red Printing) means to start printing;
⑥ Aim the printer at the object surface, press printing button on the handle and release it, then roll machine slightly from left to right on object surface;
⑦ Click Print again in the menu (it becomes white again), printing work is complete;
⑧ Turn off: Power - Shut down - OK - Press right side button after screen is off;
⑨ Remove ink cartridge and cap it well.

7.2 For Automatic Printer MX1

① Install all parts on conveyor, connect power cable, connect cable of controller and nozzle, insert ink cartridge, and turn on machine at last.
(*Do not rotate cable connecting cable interface controller and print head)
② Edit message and save it
③ Click Message to file need printing, it will show on main menu.
④ Click Print (Print will be red Printing) means to start printing
⑤ Test speed and sensor position first. Should fix two factors, conveyor speed and sensor position. If printing is too narrow, please add machine speed value. If printing words is too wide, please reduce machine speed value. (If connect external encoder, then no need to adjust speed, only adjust print width to change printing length.)
⑥ Click Print again in the menu (it becomes white again), printing work is complete.
⑦ Turn off: Power - Shut down - OK - Press right side button.
⑧ Remove ink cartridge and cap it well

Note: If want change any parameter, please stop printing first. When machine is in printing status, any operation will damage program.

8.Packing List
8.1 For Hand-held Printer M3S/M6/M7

NO.	Items	Quantity
1	handheld inkjet printer	1
2	Charger	1
3	Spare parts bag	1
4	Case of printer	1
5	Ink cartridge	According to order

8.2 For Automatic Printer MX1

NO.	Items	Quantity
1	Control Panel(controller)	1
2	Spray nozzle(print head)	1
3	Adapter + AC power cord	1
4	Connect cable	1
5	Sensor	1
6	Spare parts bag	1
7	Diameter 16 mm aluminum pipe	3
8	Bearing support	2
9	Sensor stand	1
10	Tool bag	1
11	Conveyor connector	1
12	connector for controller and print head	2
13	Case of printer	1
14	Ink cartridge	According to order