

Smart-Jet **BLUE**

THERMAL INKJET CODER



USER MANUAL

Revise logs			
Version	Update information	Staff	Date update
V2.0	User manual	Tinh Vo	February 20, 2019

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SAFETY INFORMATION

- Have to STOP machine before plug / unplug cartridge.
- Avoid using with the high voltage, strong impact to the coder.
- Limit store the coder in the high dusty working environment.
- The working temperature of the coder is 5°C – 50°C.
- Turn off printer before plugged / un-plugged any cable (ENCODER / SENSOR / IO).
- Be careful of using other external devices such as: ENCODER / SENSOR / ALARM BEACON / POWER SUPPLY.
- Do not try to use other cartridges that is not supplied from your supplier.
- Be careful of updating firmware and software.
- Use glove to avoid the sharp from mounting bracket.
- Recommend use mask and glasses to avoid the ink fly in air.
- Do not cover the ventilation.
- Do not expose to excessive heat sources, sunshine, fire or the like.
- For indoor use only. the apparatus shall not be exposed to dripping or splashing.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.
- No user replaceable parts inside, refer servicing to manufacturer specified agency or qualified service personnel.
- Only use an accessories/battery specified by the manufacturer.
- Disposal: all electrical and electronic products including batteries should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.
- Use only the power supply listed in the user instructions: power supply adaptor:
manufacturer: MEAN WELL ENTERPRISES CO., LTD., MODEL NO.: GS60A12-P1J or
EDACPOWER ELECTRONICS CO., LTD., MODEL NO.: EA10681N-120

EMERGENCY CASE



**IN SOME SPECIAL CASE LIKE: APPEAR SMOKE ON
PRINTER, PRINT OUT CONTINUOUSLY WITHOUT CONTROL,
FIRE, EXPLOSIVE SOUND, ETC.**

PLEASE REMOVE THE POWER SUPPLY IMMEDIATELY!

ENVIRONMENT PROTECTION



**DON'T THROW PRINTER /
INK CARTRIDGE TO
RECYCLE BIN**

PRODUCT WARRANTY

Limited warranty. The housing and circuit board for each printer is warranted to be free from defects in materials and workmanship for a period of twelve (12) months from the bill of lading date. This limited warranty does not apply to spare parts, authorized inks, or cartridges, or to housings and circuit boards that experience problems resulting from misuse, tampering or improper storage.

The warranty is VOID if:

- Any non-original parts and unapproved OEM inks are used.
- The product has been altered or modified without approval from us.
- Print head damage is a result of improper installation.
- Damage occurs from an accident, such as but not limited to, being dropped, being sprayed with water or other liquids, caused by a natural disaster, caused by stocking or shipping conditions.
- Unapproved, wrong or unstable power supply is used.

ABOUT MACHINE

Thank you for purchasing the **Smart – Jet Blue Thermal Inkjet Coder**, a product of **MSSC LLC, US**. This printer is designed for packaging printing applications powered by HP Thermal Inkjet Technology.

Machine boasts to be able to control via PC connection to print variable data and barcodes, Bluetooth connection via mobile devices running on Android operating systems and wireless keyboard. Each option provides a full set of applications.

Machine produces crisp text, logos, variable data and barcodes on porous and non-porous media by automatically recognizes aqueous and solvent inks and applies the appropriate printing parameters.

The complete system includes one machine, power supply with On/Off switch, wireless keyboard, mounting brackets and necessary software for PC and Bluetooth operations.

TECHNICAL SPECIFICATIONS

Machine details

NO	DESCRIPTION	SPECIFICATIONS
1	Model	Smart – Jet Blue
2	Display	LCD 2.8" automatic rotation
3	Dimensions (LxWxH)	107.5 x 74.5 x 83 mm / 4.23 x 2.93 x 3.27 inches
4	Weight	450g
5	Power supply	AC 100V – 240V, 50/60Hz, 2.0A - EDACPOWER AC 100V – 240V, 50/60Hz, 1.4A - MEAN WELL
6	Maximum power consumption	48W
7	Maximum printing resolution	600x600dpi
8	Print speed	76m/min @ 300x300dpi
9	Optical density	5 levels
10	Operation selection	Wireless keyboard, PC and Bluetooth
11	Message memory	100 messages
12	Ink solution	Aqueous and Solvent
13	Menu language	Multiple / selectable
14	Printable characters	Windows true fonts with PC connection
15	No. of lines	Maximum 6 lines
16	Character height	Maximum 12.7mm / 0.5 inches
17	Printability	Alphanumeric, logos, date, time, expiry date, Julian date, shift code, database and barcodes
18	Operating temperature	5°C – 50°C
19	External connections	External sensor, encoder, alarm kit, etc...

Keyboard

The Machine is currently compatible with all wireless 2.0 keyboards available in the market.

Android devices

Control machine via Wi-Fi connection by using Android devices from 4.0 up to.

Personal computer

- CPU: Core 2 Duo 2x2.0 GHz.
- Ram: 2GB.
- Hard disk space: 50 MB.
- Operating system: Windows 7, Windows 8 and Windows 10 (32, 64 bits).
- Microsoft .NET Framework 4.

MACHINE OVERVIEW

Indicator LED



ITEMS	DETAIL
(1) SENSORS	Default setting is don't recognize black conveyor Internal sensor: Red light External sensor: Green light Sensor is activated when receives signals
(2) ALARM	Remains ON to indicate error
(3) BLUETOOTH/PC	Remains ON when being connected
(4) PRINT	Remains ON when it's on printing mode

Connecting Port



ITEMS	DETAIL
(1) USB FLASH	USB 2.0 flash for updating firmware, fonts and logo
(2) USB KEYBOARD	For USB 2.0 wireless keyboard receiver
(3) USB PC	For PC connection with USB 2.0 cable A-B
(4) DB15 EXTENDED	Extend port for external sensor, encoder, alarm, etc...
(5) 12VDC	Power supply

Keyboard

NO	KEY	USE
1	Enter	Confirm, save or apply
2	ESC	Go to previous session
3	←/→	Move your cursor to left/right
4	↑/↓	Move your cursor up/down
5	Shift	Press and hold "Shift" to input capitalized characters
6	Insert	Press "Insert" to insert Symbol, Logo, Counter, Date, Expired, Time, String, Barcode and Shiftcode into the message
7	Backspace	Delete your message from the left
8	Tab	Move your cursor faster
9	Home/End	Move your cursor to Home/End
10	Caps lock	Uppercase font
11	F4	Insert suomi symbol

Operation menu on machine

Main Menu									
Message				Operation			Setting		
Free Design	Open	Create new	Information	Purge	Start/Stop	Connect PC	Encoder	Resolution	Density
Start	Use	Select font	Select size				Delay	Cartridge	Update Logo
Load	Edit	Insert Menu <i>(Popup menu when press Insert)</i>					String	Auto Jet	Channel
Preview	Delete	Symbol	Logo				Sensor	Direction	Print Mode
		Counter	Date				Unit	Bluetooth	Update Font
		Expired	Time				Rollover	System time	Rotate
		String	Barcode				Password	Default	Language
		Shiftcode					IO Signals	Coder name	RS485
							LCD BackLight	Reset	Bi-directional
							Set up backup	About	

From the main screen of machine, use ← → ↑ ↓ arrow keys to move the cursor to the desired object. Press Enter to save and apply settings. Otherwise, press ESC.

Message

MENU	SUB MENU	DESCRIPTION
Create new	Select font	Select kind of font you need to use on messages. Support two kind of font: Uppercase font and Normal font.
	Select size	Select size of messages: support up to 6 sizes.
	Insert menu (Symbol, Logo, Counter, Date, Expired, Time, String, Barcode and Shiftcode)	Insert some needed component to your messages.
Free design	Start	Start printing template just load from usb flash.
	Load	Load template just create on software Free design into printer.
	Preview	View template just load from usb flash.
Open	Use	Use the existing messages on the machine memory for printing.
	Edit	Edit the existing message.
	Delete	Delete existing messages.
Information		Show all information needed to monitor your printing process.

Operation

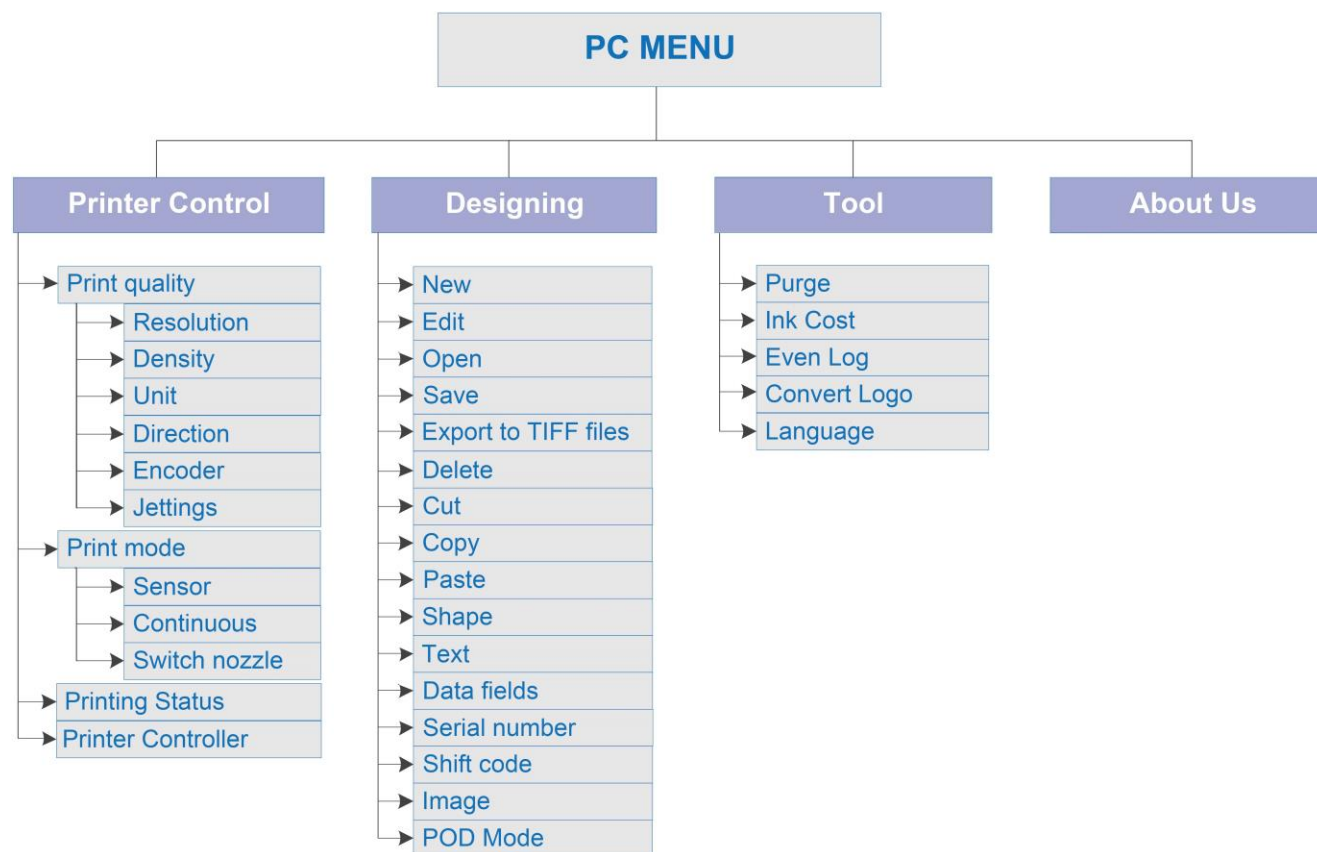
MENU	DESCRIPTION
Start / Stop	Start or Stop printing job. Combine and press CTRL + SHIFT + ENTER on keyboard to fast Start / Stop print.
Purge	All of nozzle on cartridge will push out ink. After purged you will see 2 lines of ink on substrate.
Connect PC / Disconnect PC	Connect or Disconnect machine from PC. Please stop print first, before go to Connect PC menu.

Settings

MENU	DESCRIPTION
Encoder	Set print speed for the machine or select to enable external encoder
Resolution	Set your desired resolution
Density	Set optical density of the print
Delay	Set the distance since the sensor receives signal to the start of printing. Or the delay distance after printer take a print command
Cartridge	Display the current level of ink in the cartridge. Or kind of current cartridge is plugged to machine

Update Logo	Update logo from USB to the machine memory
String	Set the chain of data to insert into the print
Auto Jet	Prevents the print head from clogging due to the extended down time between prints. This will be useful when you print on Solvent base ink with decap time is low
Channel	Select nozzle side on the cartridge: Odd, Even or Auto switch
Sensor	Select External or Internal sensor
Direction	Set print direction: ABC : left to right, CBA : right to left, VBC : reverse left to right and CBA : reverse right to left
Print Mode	Select printing mode: Sensor mode and Continuous mode
Unit	Select desired measurement inches/mm
Bluetooth	Turn on Bluetooth connection to help you can search the printer via app on Android devices
Update Font	Update different font sizes for machine via USB flash contain of full firmware
Rollover	Set different date depending on specific production hour
System time	Set time and date for your system clock
Rotate	Select your screen modes: Auto-rotate or Lock rotate
Password	Set to authorize different level of users or to protect the machine from unauthorized users. Default is 1234567890
Default	Reset machine to factory default
Language	Select your interface language. Or add more interface language from USB flash
IO signals	The extend button to re-start machine. This will help in some special case
Coder name	This name will be showed once you use the Android app to search or connect
RS485	Enable the RS485 protocol on machine. To help you able to control multiple printer by one Controller (PLC, PC, Laptop...) on RS485 network
LCD Backlight	Adjust the time that turn on the light of screen. Your screen will become black but all activity still working. Turn on screen by press any key on keyboard
Reset	Reset the memory of Counter variable on message. The memory of Counter will help you save the current value of Counter event you stop print or machine is turned off
Bi-directional	When you enable this function, printer will automatic change direction with the number of changing you setting
Set up backup	Backup and restore: Font, logo, languages and settings from usb flash Noted: only use backup file and restore it on the same firmware version
About	Display current firmware version on printer and allow your update new firmware to machine

Operation menu on computer



PRINTER CONTROL

Setting all printing parameters for the message before start printing.

Be sure to stop the printing mode before setting the parameters.

Printer quality

Resolution

Select your desired resolution. There are **7 levels** to select **with PC mode**.

Density

Select your desired optical density. There are **5 levels** to select.

Unit

Select your measurement **Inches** or **Millimeters**.

Direction

Select your print direction **Left to right**, **Right to left**, **Left to right reverse** and **Right to left reverse**.

Encoder

Encoder is recommended to optimize maximum print quality.

Turn ON **Encoder** to operate Machine with encoder. Print speed of Machine will be automatically synchronized with conveyor speed. You have 3 mode: **Real**, **Fast** and **Slow**.

Turn OFF **Encoder** to disable encoder. Input your desired speed at **Speed** to synchronize with the speed of the conveyor.


Max Speed: shows the maximum speed you can achieve with the current resolution and density.

NOTES:

- *Ensure your encoder is working if it is ON and can detect the objects.*
- *To make a test print without conveyor, turn OFF encoder.*

Jettings

Periodically purge to clean the print head.

Turn ON Status and set the time for purging in the Time by click up or down at  or input the desired value. This value is adjustable from 10s to 9,000s.

Switch Nozzle

Select nozzle sides, ODD or EVEN.

Turn on **ODD** to print on the odd side (with 300x300dpi).

Turn on **EVEN** to print on the even side (with 300x300dpi).

Auto Switch Nozzle


Select ON for automatically changing nozzles between ODD and EVEN. And then select the number of changing. Otherwise, select OFF.

Print mode

Select your printing mode: **Continuous Mode** or **Sensor Mode**.

Sensor Mode

Machine prints when sensor is triggered.

- Select **Internal** to print with a built-in sensor on Machine.
- Set **Delay before** and **Delay after** print to have your message printed at the desired position.
- Select **External** to print with external sensor.
- Input distance from external sensor to the print head, set **Delay before** and **Delay after** print to have your message printed at the desired position.
- Go to **Repeat Sensor times** to input how many prints to be repeated.
- Go to **Sensor Fixed Length** to input the value or select the value by click up or down at .


Continuous Mode

You have 2 mode: **Level and Immediate**.

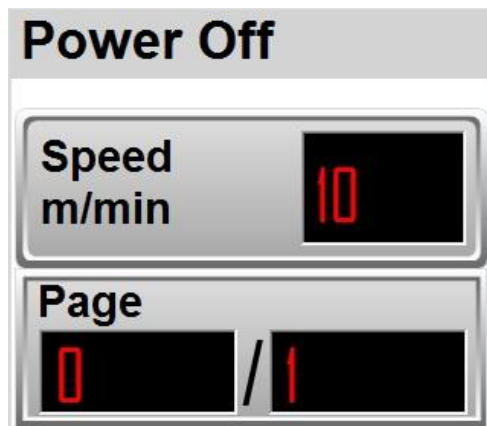
Level: Machine will print continuously when sensor ON and stop when sensor OFF.

Immediate : Machine will print continuously when a sensor is triggered for the first time.

When **Continue** mode is applied, distance between the messages on the same object should to be set.

Go to **Continue Fixed Length** to input the value or select the value by click up or down at .

Printing Status





Power On Machine is connected to PC.

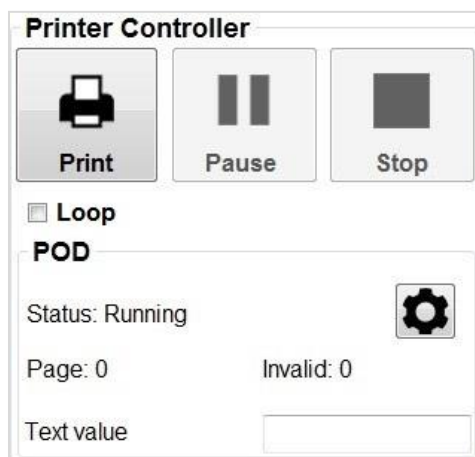
Power Off Machine is disconnected from PC.

Speed m/min  Displays the current speed of conveyor synchronized by encoder.

Page  /  Displays the number of pages printed (left) per the total pages to print (right).

Start page  Select page to Start/End printing, apply for counter, barcode, data field. The data will continue to be printed from the start page.
End page 
Ink level -- Ink level will show ink-volume when we insert cartridge into printer.

Printer Controller



 **Print:** Select to print



Pause: Select to temporary stop printing



Stop: stop printing. This must be applied before adjusting parameters or editing the message.

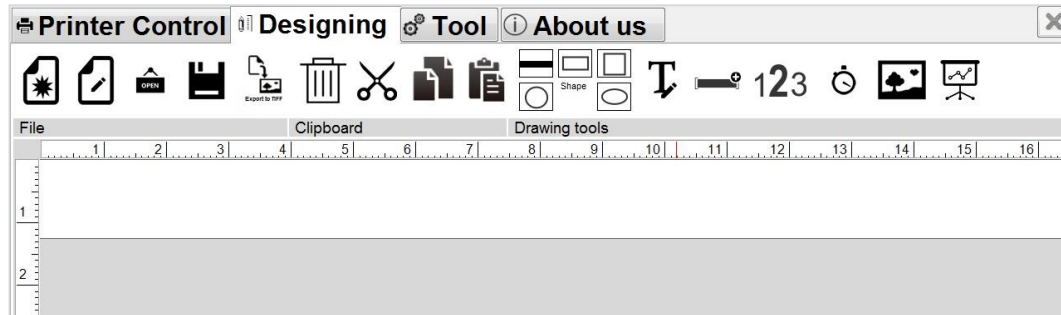


Please tick check here if you don't want to repeat data.

POD
 Status: Stop
 Page: 0 Invalid: 0
 Text value:

Settings POD.

DESIGNING MESSAGES



New template: Create new message with free template design.



Edit: Edit width or rename of template.



Open: Open message from PC.



Save template: Save message to PC.



Export to .tiff files: Export message in Tiff format.



Delete: Delete object.



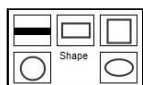
Cut: Cut object.



Copy: Copy object.



Paste: Paste object.



Shapes: Select image to insert into message: Line, Rectangle, Square, Circle and Oval.



Text: Insert characters and barcodes.



Data Fields: Insert data.



Serial Number: Insert counter.



Shift Code: insert shift code.

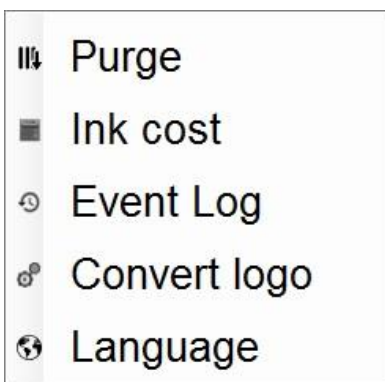


Image: Insert image or logo.



POD: Insert POD fields.

TOOLS



Purge: all of nozzle on cartridge will push out some ink. This will help clean all cartridge.

Ink Cost: calculate number of printing job, ink price, price for each print.

Event Log: view all of action that user did on application.

Convert logo: using export image to **.hex** file and update into printer.

Languages: Change interface languages on PC app.

INSTALLATION PROCEDURES

See at **QUICK GUIDE**.

GETTING STARTED

Install the machine on your conveyor according to the installation instructions. See the **Quick Guide** for more information.

- Set print direction and appropriate throw distance to obtain best print quality (1-3 mm).
- Insert ink cartridge.
- Plug the power cord into an appropriate power source to start up the machine.
- Insert keyboard receiver to keyboard port, turn on wireless keyboard.

EXTERNAL DEVICES CONNECTIONS

NOTES:

- Machine is able to operate with External Sensor, Encoder, Alarm at a time. Consult your supplier for further supports on the settings and connections.
- To connect machine with External Sensor, Encoder, Alarm, etc..., additional connector DB15 (male) will be required.

EXTERNAL SENSOR

Machine supports NPN, PNP and Push-pull sensor types.

- Connect sensor using power supply on machine.

NPN type Sensor

Active: 0V
Deactive: Free
Vcc: 12-24V



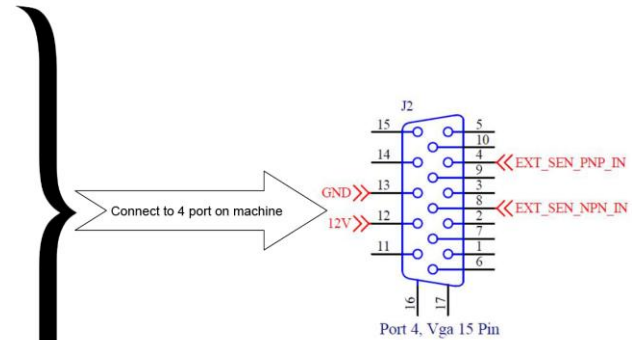
PNP type Sensor

Active: Vcc
Deactive: Free
Vcc: 12-24V



Push-pull type Sensor

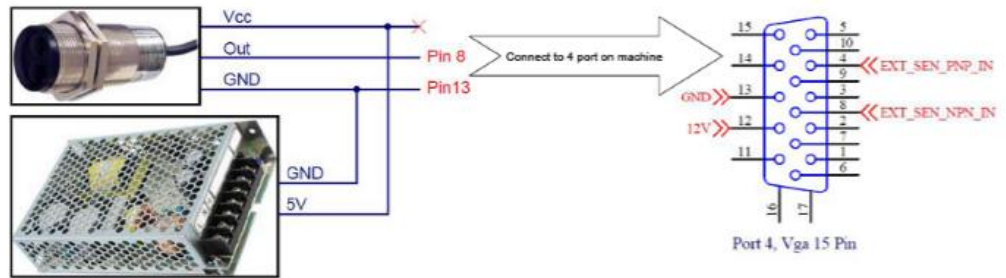
Active: Vcc
Deactive: 0V
Vcc: 12-24V



- Connect sensor to machine using external power supply. Below demonstration is for external power supply of 5V.

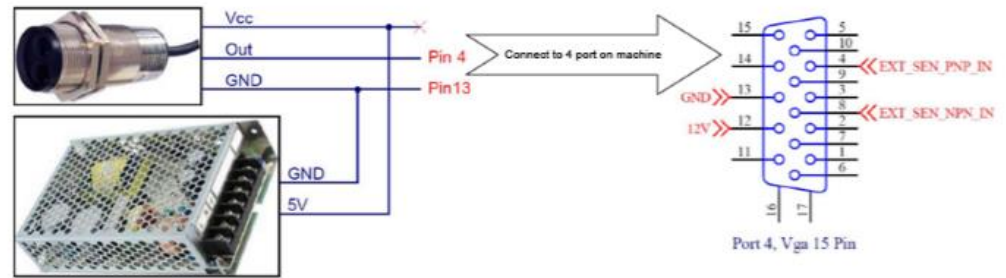
NPN type Sensor

Active: 0V
Deactive: Free
Vcc: 5V



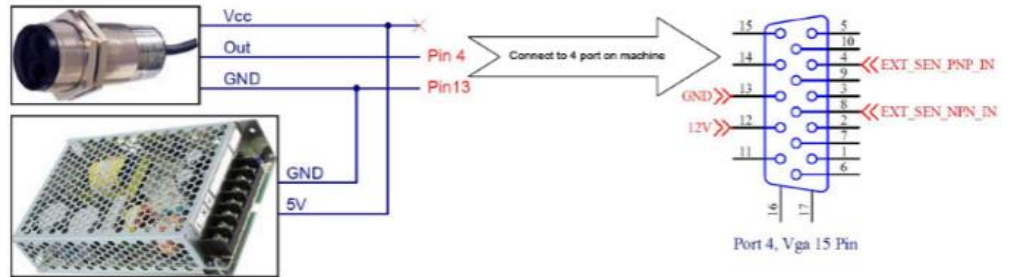
PNP type Sensor

Active: Vcc
Deactive: Free
Vcc: 5V



Push-pull type Sensor

Active: Vcc
Deactive: 0V
Vcc: 5V

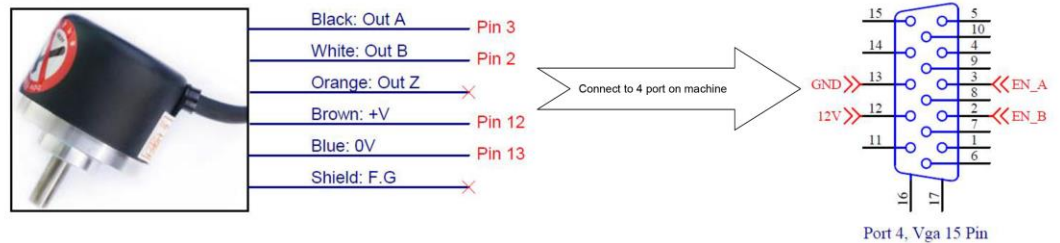


ENCODER

An encoder is recommended to ensure the best print quality regardless the inconsistent speed of conveyor.

Encoder Technical Specifications

PPR: 3600
Output: ABZ
Power: 12-24V



To calculate wheel diameter (**D**) depend on resolution (**R**) is:

$$D = R / (\pi \times 600) \text{ (inches).}$$

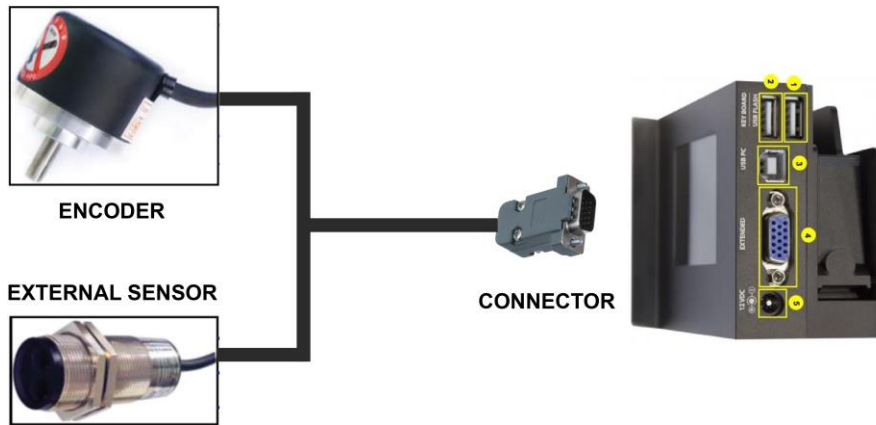
Example: Encoder has R = 3600 (PPR),

$$\Rightarrow D = 1.90985 \text{ inches} \sim 48.5 \text{ mm.}$$

COMBINE EXTERNAL SENSOR AND ENCODER

In some case you need to use external sensor and encoder to get perfect printing quality. But the machine have one extended port only. Please do as following instruction to take external sensor and encoder work together with machine.

See picture for this situation.

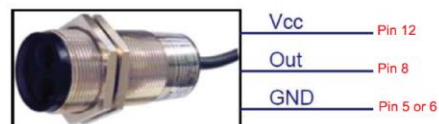


See this picture for connection pins.

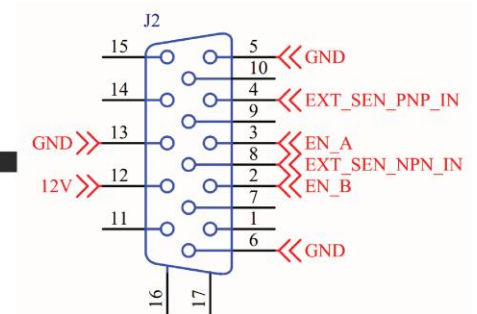
ENCODER PINS



EXTERNAL SENSOR PINS



COMBINE CONNECTOR

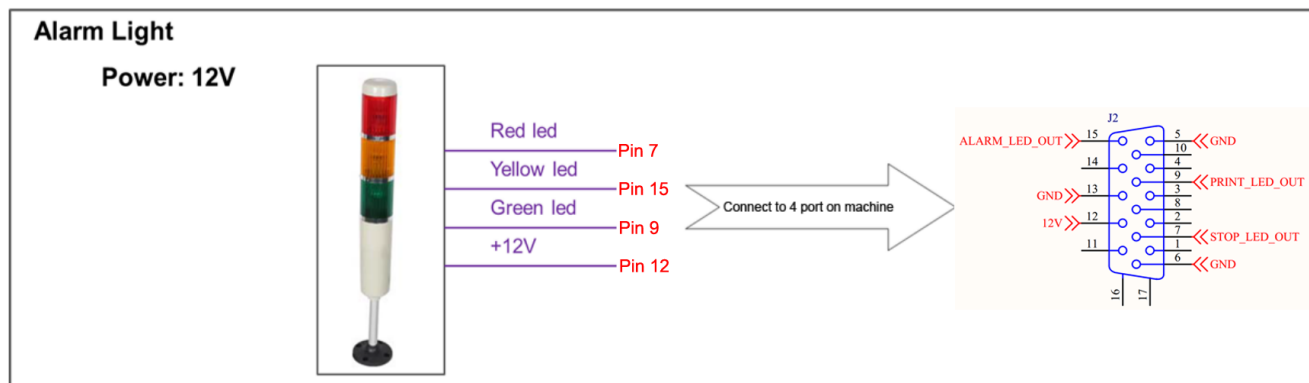


NOTES:

PIN12 (12V) use for both of Encoder and External sensor.

ALARM

Allow users to monitor operation of Machine from distance via the light signals from the Alarm.



This table below will show detail of each pin on DB15 port that alarm beacon will be used for:

PIN ON DB15 PORT	VALUE	DESCRIPTION
5	GND	
6	GND	
7	STOP_LED_OUT (0V) STOP STATUS (RED LED)	The printer will Stop print because some of reasons below: <ol style="list-style-type: none"> 1. Printer on but don't enable printing. 2. No cartridge error. 3. Invalid cartridge error. 4. Out of ink.
9	PRINT_LED_OUT (0V) PRINT STATUS (GREEN LED)	User select on Start print menu. The printer in printing status without any issue.
12	12V	
13	GND	
15	ALARM_LED_OUTPUT (0V) ALARM STATUS (YELLOW LED)	The printer get some issue and need to warning to operator but it still able to print. <ol style="list-style-type: none"> 1. Ink low

Error Description

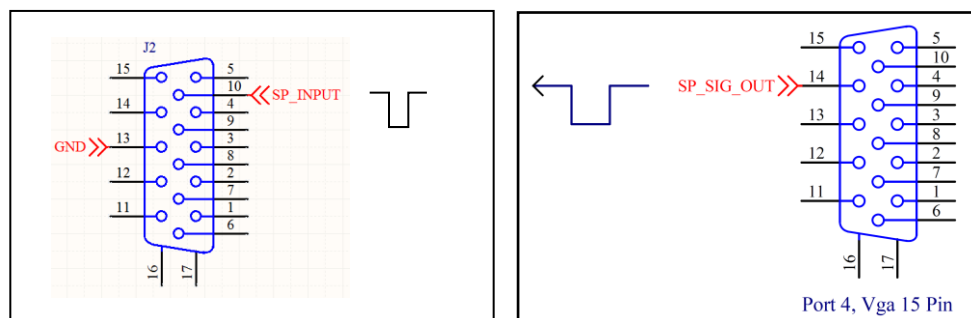
ERROR	DESCRIPTION
Stop print (Normal event)	User select Stop print from menu. Printing will be stopped. Red light will turn on.
Invalid Cartridge	Cartridges are plugged to printers not provide from your supplier whose selling this printer.

No Cartridge	Have no cartridges are plugged to printer.
Ink Low	The value of Ink Level (Setting → Cartridge → Ink Level) on machine are lower 5.0 ml. We had implementing the HP Smart Card to each cartridge that allow the printer and software automatic recognize the Real volume of ink inside each cartridge.
Ink Out	The value of Ink Level on machine are lower 0.4 ml.

INPUT AND OUTPUT

Input: To trigger some functions (reset counter ...). Accept NPN or dry contact.

Output: NPN signal. Active when some even occur (each print ...).



QUICK STARTUP

REQUIRED COMPONENTS

No	Basic Components	With keyboard	With smartphone	With PC	Optional
1	Machine	✓	✓	✓	
2	Wireless keyboard	✓	✓	✓	
3	Power supply	✓	✓	✓	
4	Mounting brackets	✓	✓	✓	
5	USB flash	✓	✓	✓	
6	Ink cartridge	✓	✓	✓	
7	Bluetooth connection		✓		
8	Smartphone Android		✓		
9	Android application		✓		
10	PC desktop/laptop			✓	
11	PC connection Cable			✓	
12	PC software controller			✓	
13	PC driver for machine			✓	
14	Encoder				✓
15.	Alarm				✓
16.	External Sensor				✓

Setup machine

See **Getting Started**.

NOTES:

The machine will function with Water and Solvent base ink series from us only. Trying to use unapproved cartridges may damage the machine and void the warranty.

Keyboard setup

- Insert the receiver of wireless keyboard to USB port (port 2) on machine, remove the protected stamp in the battery slot and turn on the button at the back of the keyboard to begin operating machine with wireless keyboard.
- From the main screen of machine, use ← → ↑ ↓ arrow keys to move the cursor to Settings and begin implementing initial setups for the machine. Press Enter to save and apply settings. Otherwise, press ESC.

Bluetooth setup

See at **QUICK GUIDE**.

PC connection setup

- Be sure you have a PC plugged in connected with machine via a USB A-B cable.
- Install **Controller Application** and **Driver of machine** to your PC.
- From the main screen of machine, go to **Operation** and select **Connect to PC** to connect machine with PC.
- Open Controller Application on your PC to begin design your desired message with free template designing tool.

Setup external devices (Optional)

See again at **External device connection**.

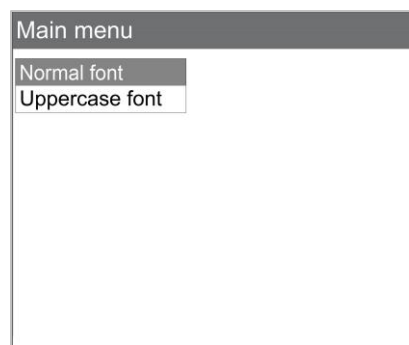
- Install **external sensor**.
- Install **encoder**.
- Install **alarm kit**.

Create first messages

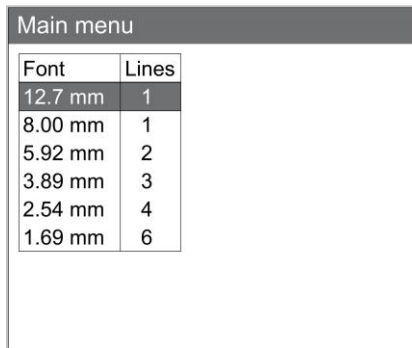
Create Latin message - On machine with keyboard



Select **Create New**



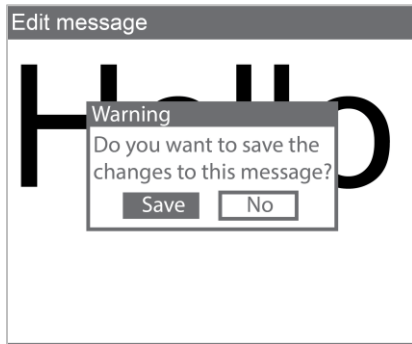
Select **Normal/Uppercase** font



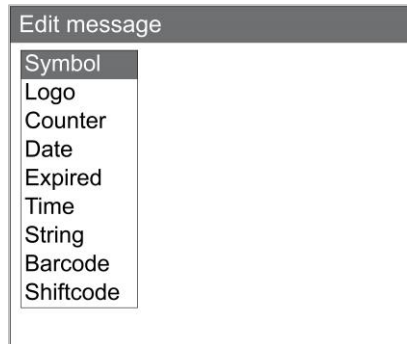
Select font size



Input "Hello"



Press "ESC" to exit. Select "Save" and **input name** to save your messages



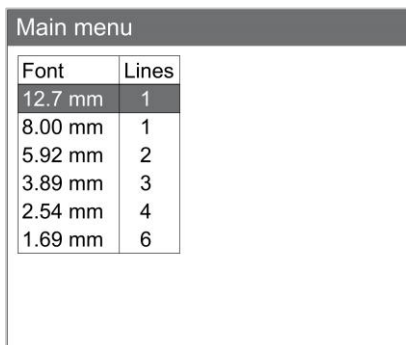
Press "Insert" to insert more data, variable, barcode, logo, ...

2. Create Russian message

At main menu press **Ctrl + Shift + R** to change input languages. After printer re-start **Russian** is selected.



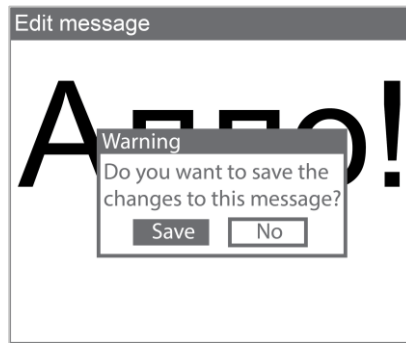
Select **Create New**



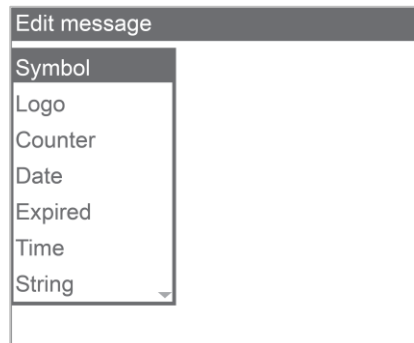
Select font size



Input "Hello!"



Press "**ESC**" to exit. Select "Save" and **input name** to save your messages

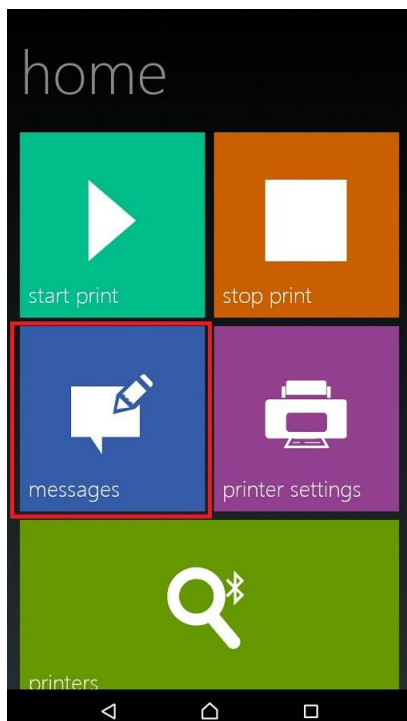


Press "**Insert**" to insert more data, variable, barcode, logo, ...

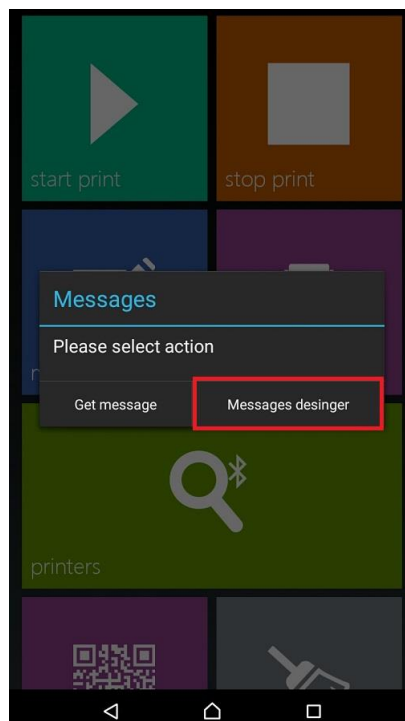
NOTES:

Only Russian message not support insert symbols.

3. On smartphone (Standalone mode)



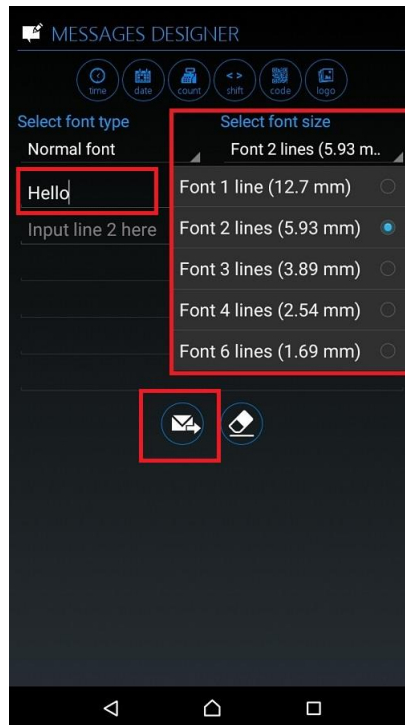
Taps on "messages"



Select Message designer



Select font type



Select font size input text to messages line then tap **Send** button

On PC with application (PC mode)

See **PC application introduction**.

FIRMWARE INTRODUCTION

From the main screen, use **↑** and **↓** arrow keys to select the desired menu: **Message**, **Operation** or **Settings**. Press Enter to select. Press **ESC** to go back to the main screen.

Message

Create new or open existing messages on the machine memory.

NOTES:

While doing this, please be sure you already stop printing.

Create new messages

Go to **Create new** to select your desired fonts **Normal** or **Uppercase**.

Select **Normal font** to create your message with lower and uppercase fonts. Then select your desired font size, number of line and insert fields into message. Otherwise, go to **Uppercase font** to create your message with uppercase fonts only.

Available fonts and sizes include:

Lines	Arial
1	12.7 mm
1	8.00 mm

2	5.92 mm
3	3.89 mm
4	2.54 mm
6	1.69 mm

Input message by using the following keys:

- Arrow keys **← → ↑ ↓** : move the cursor.
- Enter : go to the next line.
- Backspace : delete characters.
- ESC : escape and save / unsaved messages.

While creating message, press **Insert** on the keyboard to insert your desired fields.

Symbol

Insert the following symbols into the message (extended ASCII).

€	,	f	„	...	†	‡	^	%00	<	'	'	“	”	•	-	—	~	™	>
ı	¢	£	¤	¥	¦	§	¨	©	ª	«	¬	®	¯	°	±	²	³	´	
µ	¶	·	,	¹	º	»	¼	½	¾	¿	×	Ø	Þ	÷	ø	þ			
á	é	í	ó	ú	ü	ñ													
à	À	Á	ã	Ã	ç	Ç	ê	Ó	Ú	Ü									
ä	å	æ	ë	ö	ß	ÿ	Ä	Å	Æ	Ö									
â	è	î	ï	ô	œ	ù	û	Â	Ô	Œ	Ù	Û	Ÿ						

In the input section on machine, press **Insert** and use **↑** or **↓** arrow keys to move the cursor to **Symbol** and press Enter. Use the arrow keys to move your cursor to the desired object and press Enter to insert the symbols into message.

Below symbols are required be inserted from your wireless keyboard:

!	“	#	\$	%	`	()	*	+	,	-	.	/	:	;	<	=	>	?
@	(\)	^	_	`	{		}	~									

Logo

Insert logo or image from Machine into message.

Your logo should be updated or setup in the **Settings** menu.

In the input section, press Insert and use **↑** or **↓** arrow keys to move your cursor to Logo and press Enter. Move your cursor to the desired Logo and press Enter.

NOTES:

- *Insert logo first, then input message if you need to print a logo at the beginning of the message.*
- *Input message, then insert logo if you need to print a logo at the end of the message.*
- *Logo should be inserted in the last line of your message if you are printing multiple lines to ensure it is fully printed.*

Counter

Insert product counter into the message. There are **Single** and **Box/Lot**.

In the input section, press Insert and use **↑** or **↓** arrow keys to move the cursor to **Counter** and press Enter. Select your desired object and press Enter.

Single

Is an independent counter. This is used to count the products printed, can be a product or a box.

Move the cursor to the each object and input the value. After all values are set, move the cursor to **Add counter here** and press Enter to insert the counter into the message.

- **Start:** start number of counter.
- **Current:** current number that you would like to print immediately.
- **Reset:** end number of counter.
- **Step:** count step of counter.
- **Up/Down:** direction of counter. Up for increase number, down for decrease number.
- **Fill zero:** add 0 before each number like 09, 009, 0009...
- **Add counter here:** insert counter into the message.

Example

To print the following counter on each object:

001, 003, 005....101, 001, 003, 005 ...

- **Start:** 1
- **Current:** 1
- **Reset:** 101
- **Step:** 2
- **Up/Down:** Up
- **Fill zero:** Enable

NOTES:

User can insert up to 6 independent counters in one message.

Box/Lot

Is a dual counter. This is used to count the box and the products in the box.

Move the cursor to the each object and input value. After complete setting for all objects, move to **Add counter here** and press Enter to insert the counter into the message.

COUNTER 1	COUNTER 2
<ul style="list-style-type: none">• Start: start number• Current: current number• Reset: end number• Step: count step• Up/Down: increase or decrease• Fill zero: add 0 before each number• Add counter here: insert counter	<ul style="list-style-type: none">• Start: start number• Current: current number• Reset: end number• Step: count step• Up/Down: increase or decrease• Fill zero: add 0 before each number• Add counter here: insert counter

Example

Printing on certain package a chain of digits, the first 3 digits are the number of the box containing the package; the last 3 digits are the order of the package within the box, let's say there are 20 packages in the box.

Follow below steps to set counter:

Step 1 Setup Counter 1 first and insert into the message
Counter 1
<ul style="list-style-type: none">• Start: 0• Current: 0• Reset: 200• Step: 1• Up/Down: Up• Fill zero: Enable
Step 2 Then setup Counter 2 and insert into the same message
Counter 2
<ul style="list-style-type: none">• Start: 0• Current: 0• Reset: 100• Step: 1• Up/Down: Up• Fill zero: Enable

The two counters will be printed as below:



NOTES:

- Press Enter to apply each setting.
- Setup Counter 1, then Counter 2.
- Maximum value of Reset is up to 2,000,000,000.
- Maximum value of Step is 250.
- Counter will be backup and continue in case of power failure.

Date

Insert current date into message.

In the input section of Edit Messages, press **Insert**, then use **↑** or **↓** arrow keys to move the cursor to **Date** and press Enter.

- Input date format at **Format**.
- Press Enter to insert into message.

Format

Select your desired format below to input into the **Format** section. Otherwise, date will not be displayed in the message.

- **Day:** d or dd.
- **Month:** M, MM or MMM.
- **Year:** yy or yyyy.
- **Julian date:** JJJ.
- **Date Arabic:** d:a, M:b, y:c.
- **Name date:** NN, NO, NC.

Example: 01/07/2018

- 01/07/2018 : **dd/MM/yyyy**
- 1/7/18 : **d/M/yy**
- 1/JUL/18 : **d/MMM/yy**
- ٢٠١٨ : **aa/bb/cccc**
- JL : **MMC** (Canada date format)
- JUL : **MMP** (Portuguese date format)
- 01 : **NN** (01: Sunday, 02: Monday,..., 07: Saturday)
- A : **NO** (A: Sunday, B: Monday,..., G: Saturday)
- Su : **ND** (Su: Sunday, Mo: Monday,..., Sa: Saturday)

To insert the current date within a year (365 days), input Format JJJ. In this case, if your current date is 01/07/2018, date displayed on your message will be 182 for perpetual year and will be 183 for leap year (leap year the February have 29 days).

NOTES:

- *Support up to 2 date format in 1 message.*
- *Lower case or Upper case is acceptable.*
- *Available separators include **Slash (/)**, **Dash (-)**, **Dot (.)**, **Space ()** and No separator.*

Expired

Insert expired date into the message.

In the input section of Edit Messages, press Insert and use **↑** or **↓** arrow keys to move the cursor to **Expired** and press Enter.

- Input format of expired date at **Format** (similar format with the current date).
- Move the cursor to **Expired** and input the date that your product will be expired.
- Press Enter to confirm settings and insert into the message.

Example

If your manufacture date is 01/07/2018 and your product will be expired in 1 year, you are required to input 365 at **Expired**. Machine will automatically calculate the expired date and insert into the message.

NOTES:

Support up to 2 expired date format in 1 message.

Time

Insert current time into the messages.

Current time must be setup in **System clock** while doing **Settings**.

In the input section, press Insert, then use **↑** or **↓** arrow keys to move the cursor to **Time** and press Enter. Select and input your desired format and press Enter to insert into message.

- **Second:** s, ss.
- **Minute:** m, mm.
- **Hour:** h, hh (format 12h). H, HH (format 24h).
- **AM or PM:** tt.

NOTES:

Support up to 2 time format in 1 message.

String

Insert a string of data as setup in the **Settings**.

From the input section of new message, move the cursor to the position where a string will be inserted and press **Insert**.

Then use **↑** or **↓** arrow keys to move the cursor to **String** and press Enter. Select your desired string and press Enter to insert into the message.

Define these Strings at **Settings → String**. This is the shortcut will help you don't repeat input for one string like: company name, company address, email, phone number...

Barcode 1D

Insert barcodes into message.

From the input section, use the arrow keys to move the cursor to the **end of the final line** of your message. Press Insert, then use **↑** or **↓** arrow keys to move the cursor to **Barcode** and press Enter. Select **Static** or **dynamic** and press Enter.

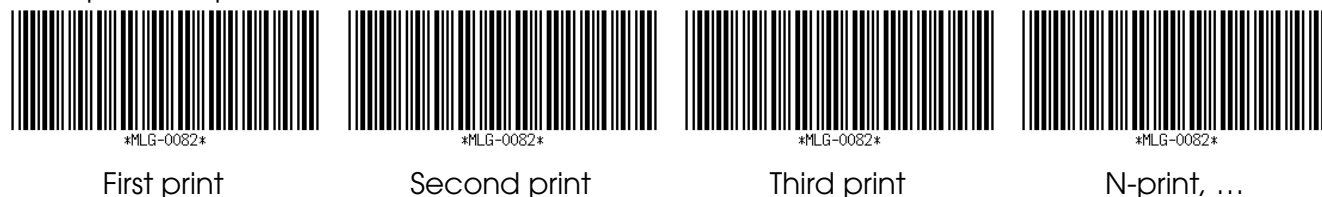
Static barcode

Insert static 1D barcodes into your messages. We support 8 types of barcode

- **Type:** select your desired barcode type (**Code 39, Code 2/5, Code 128, Code 93, UPC-A, EAN13, Codabar and Code 11**).
- **Width:** Input width for barcode (value varies from 1 to 4).
- **Height:** Input height for barcode (value varies from 1 to 3).
- **Text:** Select **Enable** to display barcode value, otherwise select **Disable**.
- **Value:** Input value for your barcode.

Use **↑** or **↓** arrow keys to move to the cursor to your desired object and change the value. Press Enter after each value change to save and apply settings.

Example after printed will be like this:



NOTES:

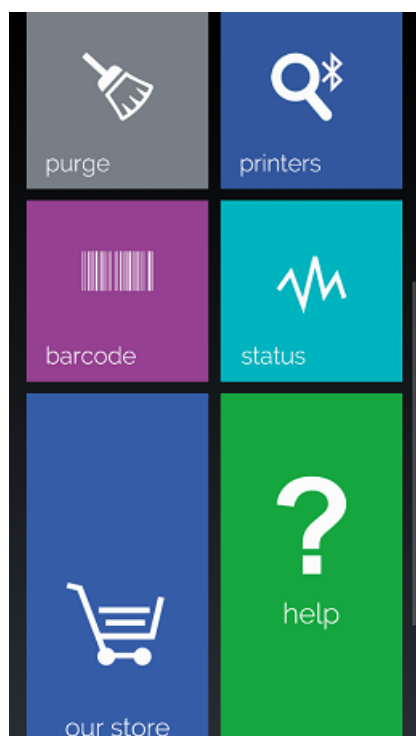
If you would like to print static 2D barcode. Please use with update logo support. Create 2D barcode as image, use smartphone or application on PC to load it to machine.

- Use smartphone: see **Update Logo**.
- Use PC: see **Use Convert Logo**.

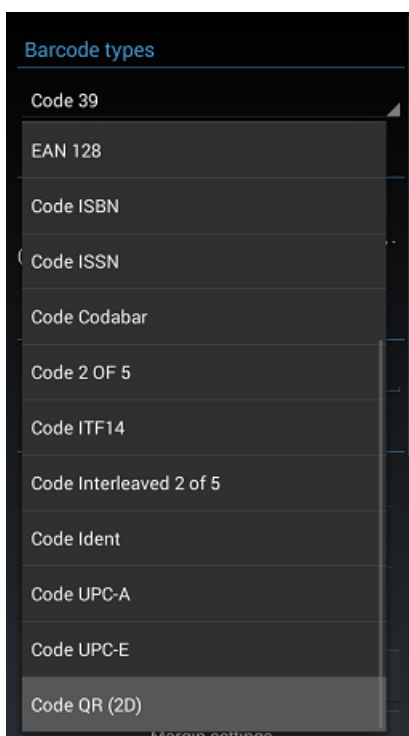
Create 2D static barcode with smartphone

The application on smartphone will support you create new 2D barcode then you can send it directly to machine, don't need to use USB flash or PC application.

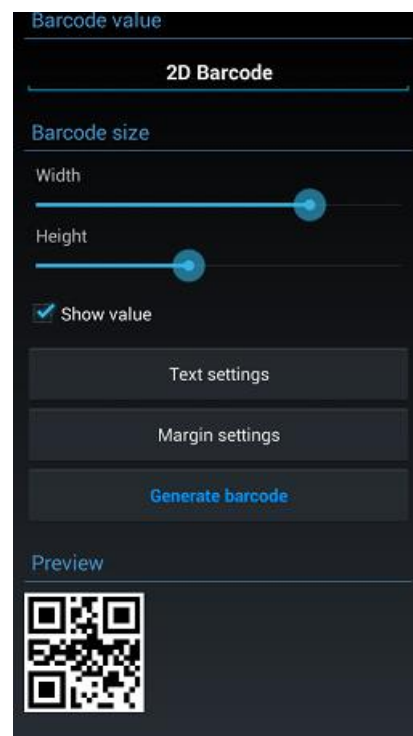
These step below will show you how to created 2D barcode:



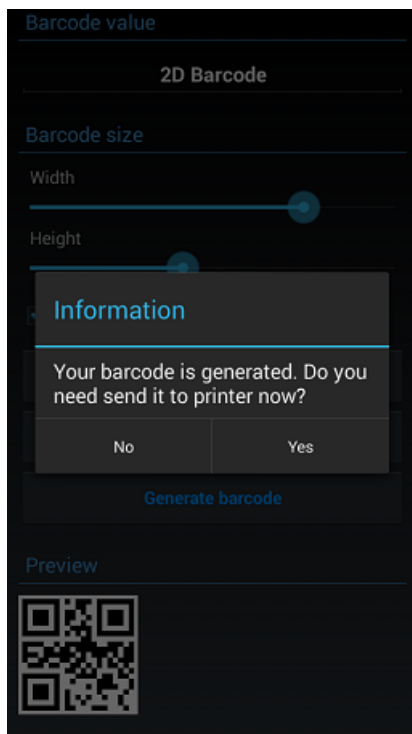
Taps on **"barcode"** button



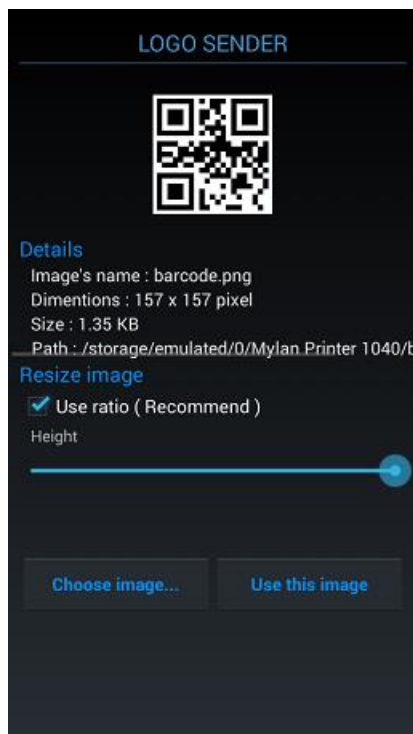
Select **"Code QR (2D)"**



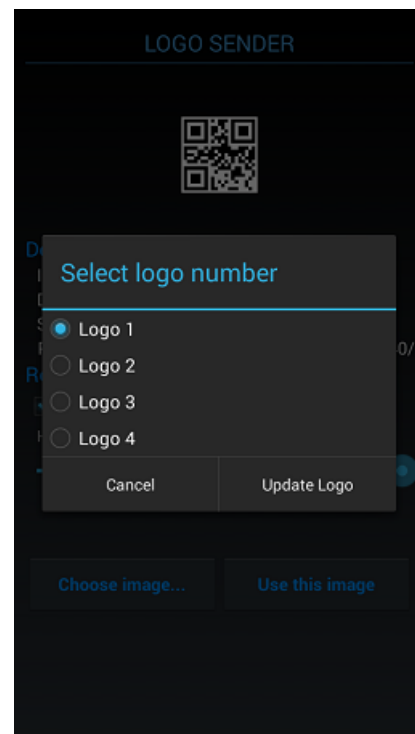
Input barcode value. Adjust Width, Height...



Taps on “**Generate barcode**” button. Select “**Yes**” to open Logo Sender



Taps on “**Use this image**”



Select logo number on machine

Dynamic barcode

Insert dynamic barcode into your messages.

- **Type:** select your desired barcode (**Code 39, Code 2/5, Code 128, Code 93, UPC-A, EAN13, Codabar and Code 11**).
- **Width:** Input width for Barcode (value varies from 1 to 4).
- **Height:** Input height for Barcode (value varies from 1 to 3).
- **Text:** Select **Enable** to display barcode value, otherwise select **Disable**.
- **Prefix:** Input repeat value before barcode.
- **Counter:** setup values for your counter or dynamic data (like the **Single** counter).
- **Suffix:** Input repeat data after barcode.

Use ↑ or ↓ arrow keys to move to the cursor to your desired object and change the value. Press Enter after each value change to save and apply settings.

NOTES:

Counter can be placed at the following positions of the barcode

- *At the beginning : Prefix = 0 (not enter here).*
- *In the middle : Input both Prefix and Suffix.*
- *At the end : Suffix = 0 (not enter here).*

Example after printed will be like this:



First print



Second print



Third print



Four print

Shiftcode

Insert Shiftcode into the message.

From the designing section, use the arrow keys to move the cursor to your desired position in the message and press **Insert**. Then use **↑** or **↓** arrow keys to move to **Shiftcode** and press Enter.

- **Code:** input name of Shiftcode. Maximum 2 characters (letter or number or both).
- **Time:** input start time of each shift in **hour: minute**.

Code of each specific shift will be displayed according to each period of time of the shift. Press Enter to save settings and press ESC to go back to the main menu.

Open storage messages

Open existing messages to **Use / Edit / Delete**.

From the main screen of machine, select Message, go to **Open** and press Enter to go to message storage. Select your desired message and press Enter. Use **↑** or **↓** arrow keys to Use / Edit / Delete.

- **Use:** select existing message to print.
- **Edit:** select existing message to edit (see **Create New**).
- **Delete:** select message to delete.

Press ESC to go back to the main screen. Confirm “**Yes**” and input name for message, after complete press Enter.

Status machine

Display settings and status of the machine. From the main screen of machine, select **Message** and use down arrow keys to go to **Information** and press Enter.

ITEMS	DETAIL
Ink level	Current ink in the cartridge (ml)
Speed	Current print speed (m/min or ft. /min)
Density	Current density
Resolution	Current resolution
Delay	Current delay time
Print mode	Current print mode
Repeat	Number of prints repeated on the same object
Delay	Distance between 2 prints
Maximum	Number of prints left based on the current ink level, density and resolution

Operation

Start

Change status of machine from stopped to start print.

Select **Operation** → **Start** to begin to print. Your message content along with other setting parameters will be displayed while printing.

ITEMS	DETAIL
Prints	Number of prints have been printed
Ink levels	Current amount of ink in the cartridge (ml)
Speed	Current speed (m/min)
Resolution	Current resolution (dpi)

Stop

Change status of machine from start printing to stop.

To stop print, press ESC to go back to the main screen. Use **↑** or **↓** arrow keys to go to **Operation**, select Stop to stop printing.

NOTES:

- Machine should be stopped before doing other settings.
- Shortcut key to Start / Stop: **CTRL + SHIFT + ENTER**.

Purge

Select **Operation** → **Purge** to jet the ink out from all of nozzle this will help clean the print head.

Connect / Disconnect PC

Select to connect or disconnect Machine with PC.

Settings

From main menu select **Settings** to access settings menu.

From the Settings menu, use the arrow keys to move the cursor to your desired setting, press Enter to select and begin setting.

NOTES:

Press Enter to save. Press ESC to go to main menu and apply new settings.

Encoder

Set print speed with 2 print modes: **Internal** and **External**.

Internal (No encoder)

Operating Machine without encoder. Under this mode, print speed must be set to synchronize with conveyor speed to print good quality message (input value at **Value**).

External (With encoder)

Encoder is recommended where speed of the conveyor is varied. Under this mode, print speed of Machine will be synchronized with conveyor speed to ensure the best print quality. Ensure you have an encoder installed with machine via the DB15 connector.

NOTES:

- *Minimum speed: 1m/min*
- *Maximum speed: 228m/min*

From the **Settings** menu, use **↑** or **↓** arrow keys to move the cursor to **Encoder**, press Enter. Press Enter again at **Select** to choose **Internal** or **External** mode. Press Enter to apply settings.

Resolution

Set the amount of ink drops on an inch. From the **Settings** menu, use **↑** or **↓** arrow keys to go to **Resolution**, press Enter. Select your desired resolution and press Enter.

Optional resolutions with standalone mode:

- 300x300 dpi.
- 300x150 dpi.
- 300x100 dpi.

Optional resolutions with PC mode:

- 600x600 dpi.
- 600x300 dpi.
- 600x150 dpi.
- 600x100 dpi.
- 300x300 dpi.
- 300x150 dpi.
- 300x100 dpi.

Density

Set the optical density of the print.

There are 5 levels of **Density** to apply.

From the **Settings** menu, use **↑** or **↓** arrow keys to move the cursor to **Density**, press Enter. Move the cursor to your desired density and press Enter to apply.

NOTES:

Print speed will be varied according to the resolution and the optical density.

Table below is used to explain about relationship between: Speed, Resolution and Density.

Density	1	2	3	4	5
Resolution					
600x600 (With PC)	38	19	12	9	7
600x300 (With PC)	76	38	25	19	15
600x150 (With PC)	152	76	50	38	30
600x100 (With PC)	228	114	76	57	45
300x300	76	38	25	19	15
300x150	152	76	50	38	30
300x100	228	114	76	57	45

Delay

Delay **before** print and Delay **after** print (mm).

- **Delay before print:** set the distance since the sensor receives signal to the start of printing. Input value at **Value**, press Enter to apply settings.
- **Delay after print:** set the distance that the print head will delay after it finished the previous print and the next print. Input value at **Value**, press Enter to apply settings.

NOTES:

- Delay before print varies from 1 to 10.000 mm.
- Delay after print varies from 1 to 10.000 mm.

Cartridge

Display the current level of ink in the cartridge (had using smartcard).

From the **Settings** menu, use the arrow keys to go to **Cartridge** and press Enter.

NOTES:

- Alarm is triggered when there is 5ml left in the cartridge.
- Printer will stop print when show warning out of ink.

Update Logo

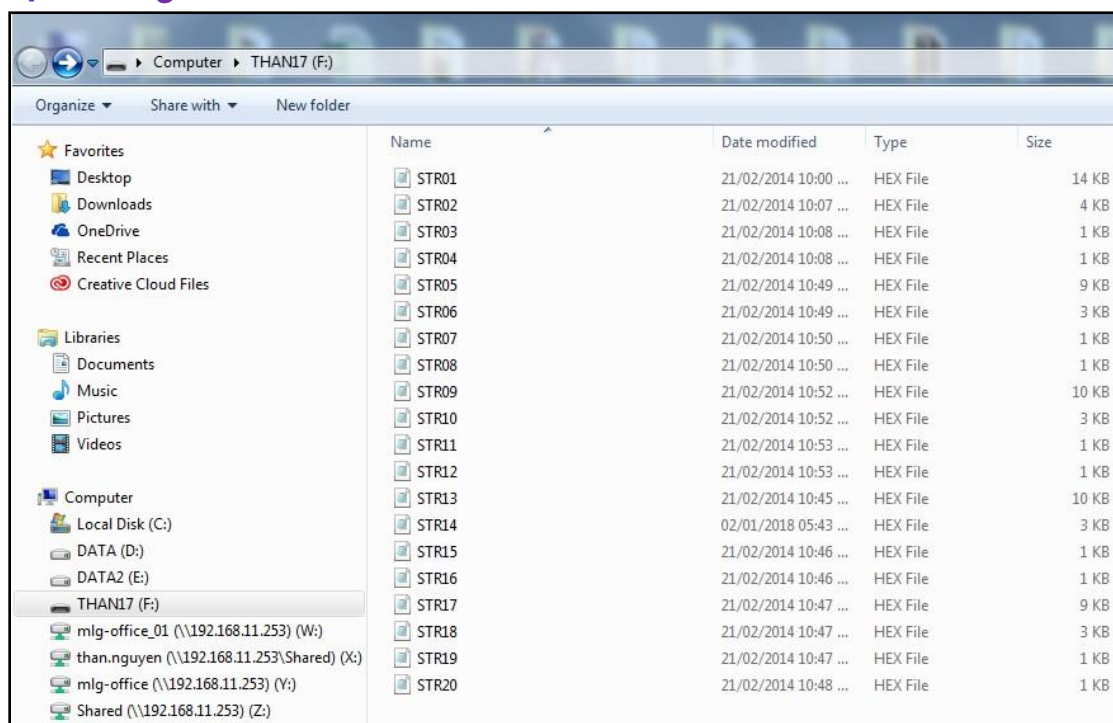
Update logos or images from USB flash to the machine memory. Be sure your new logos are available on your USB flash.

Logos stored on your USB flash must be processed by our application See *Convert logo*.

Machine accepts logo with **.hex** format only. All logos must be named in order as **STR01**,

STR02, STR03,..., STR20 as showed below.

Update logo via USB flash



Name	Date modified	Type	Size
STR01	21/02/2014 10:00 ...	HEX File	14 KB
STR02	21/02/2014 10:07 ...	HEX File	4 KB
STR03	21/02/2014 10:08 ...	HEX File	1 KB
STR04	21/02/2014 10:08 ...	HEX File	1 KB
STR05	21/02/2014 10:49 ...	HEX File	9 KB
STR06	21/02/2014 10:49 ...	HEX File	3 KB
STR07	21/02/2014 10:50 ...	HEX File	1 KB
STR08	21/02/2014 10:50 ...	HEX File	1 KB
STR09	21/02/2014 10:52 ...	HEX File	10 KB
STR10	21/02/2014 10:52 ...	HEX File	3 KB
STR11	21/02/2014 10:53 ...	HEX File	1 KB
STR12	21/02/2014 10:53 ...	HEX File	1 KB
STR13	21/02/2014 10:45 ...	HEX File	10 KB
STR14	02/01/2018 05:43 ...	HEX File	3 KB
STR15	21/02/2014 10:46 ...	HEX File	1 KB
STR16	21/02/2014 10:46 ...	HEX File	1 KB
STR17	21/02/2014 10:47 ...	HEX File	9 KB
STR18	21/02/2014 10:47 ...	HEX File	3 KB
STR19	21/02/2014 10:47 ...	HEX File	1 KB
STR20	21/02/2014 10:48 ...	HEX File	1 KB

To update or change new logos on your machine memory, do the following steps:

- Insert USB flash into Machine (**USB port 1**)

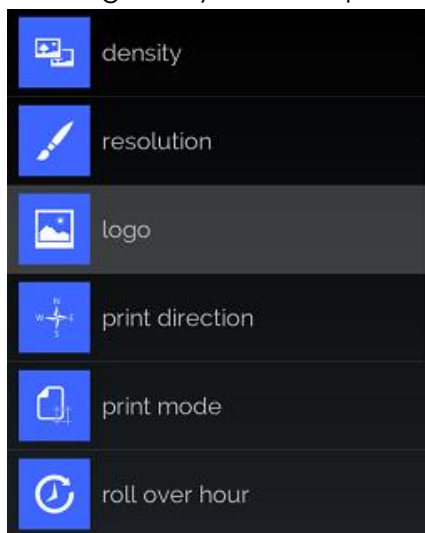
- From the **Settings** menu, go to **Update Logo** and press Enter.
- Select your desired logo (1, 2, 3,..., 20) and press Enter to begin updating. Be sure you name them correctly. LOGO1 on your USB will replace LOGO1 on the machine memory and the same for other logos.

Update logo via smart phone

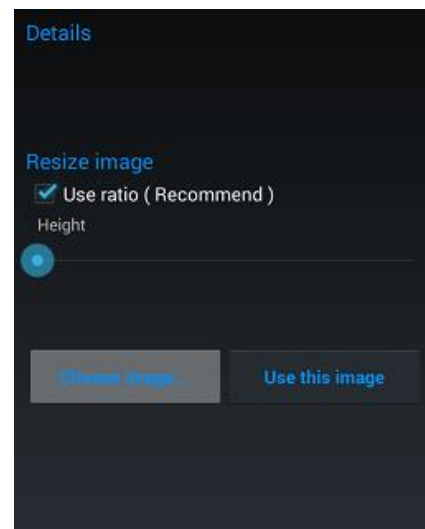
Do as following steps to update the logo via your smartphone.



Taps on "settings"



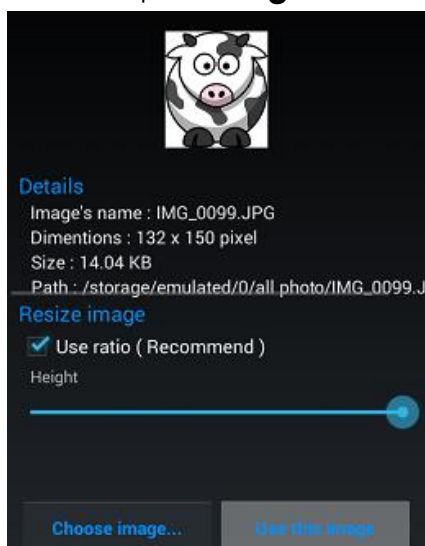
Taps on "logo"



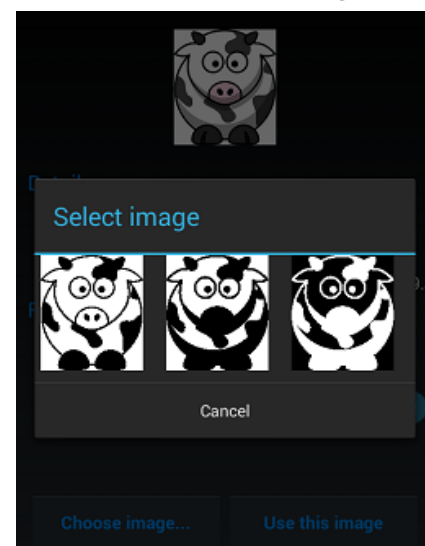
Taps "Choose image"



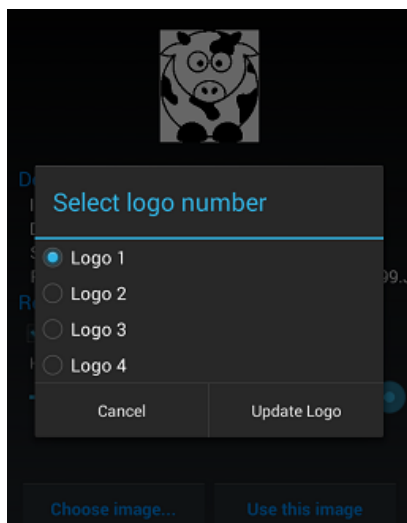
Select image on your phone



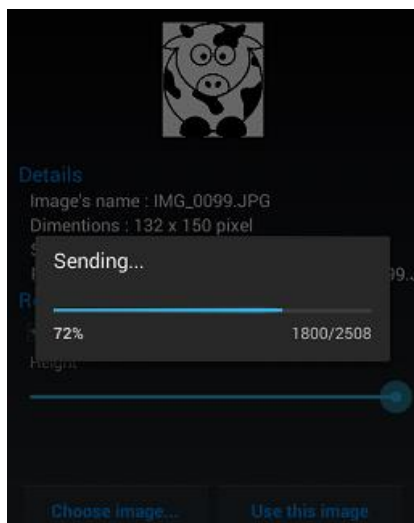
Taps "Use this image"



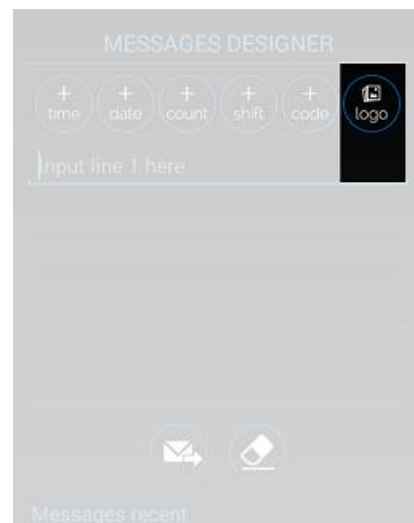
Select convert mode



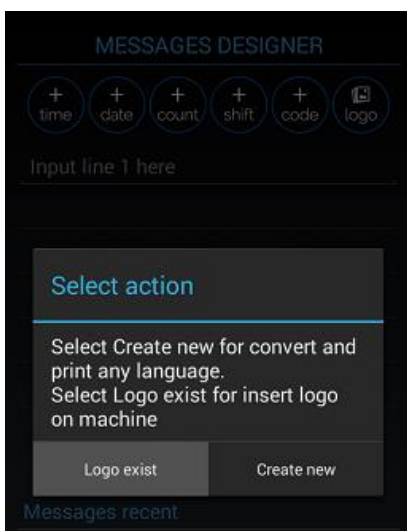
Select logo number on machine



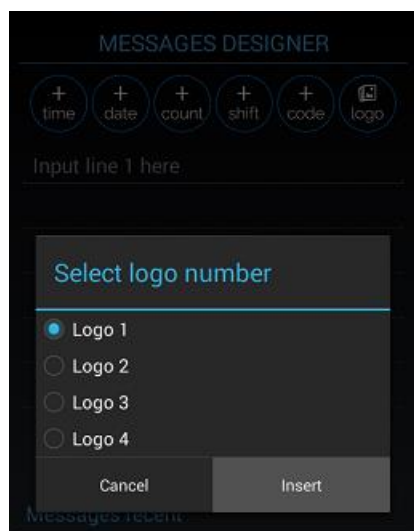
Waiting for sending process



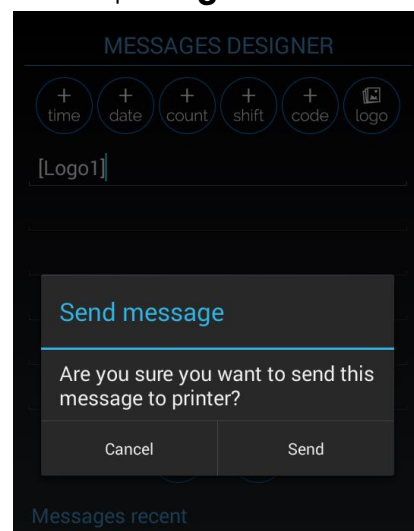
Open Messages Designer.
Taps "logo" button



Select "Logo exist"



Select number logo on machine



Taps send button. Select "Send"

String

Insert a string of data into messages.

From the **Settings** menu, use the arrow keys to go to **String** and press Enter. Input your strings into the input section. Press ESC to apply and go back to the main menu.

NOTES:

- Maximum length of each string is 50 characters.
- Machine allows maximum 5 strings on the machine memory.

Auto Jet

Schedule automatic jetting to clean the print head.

From the **Settings** menu, use arrow keys to select **Auto Jet** and press Enter. Select **Status** and press Enter.

- Select **Enable** and input time for jetting (second (s)) at **Time**.
- Select **Disable** to disable auto jetting.

NOTES:

- Time for jetting varies from 10 to 60.000 seconds.
- This function is useful for Solvent base ink. So we recommend that, any user need enable this function with time around 15-30 seconds to help printing quality always perfect.

Channel

Set nozzles on 2 modes **Manual** and **Auto**.

From the **Settings** menu, use the arrow keys to go to **Channel** and press Enter. Select **Manual** or **Auto** by pressing Enter at **Select**.

- **Manual**: Press Enter at Value to select Odd or Even. This is applied in case one of your nozzle side is not working. Press Enter to apply.
- **Auto**: Input the number that the nozzles will switch after certain prints. To automatically switch nozzles after every print, input 1. To switch nozzles after every 25 prints, input 25.

NOTES:

- Value input varies from 1 to 50.000 times.
- Operation with PC: Odd and Even to achieve max 600x600dpi.
- Operation with wireless keyboard: Odd or Even (max 300x300dpi).
- Operation with smart devices: Odd or Even (max 300x300dpi).

Sensor

Select **External** or **Internal** sensor.

From the **Settings** menu, use the arrow keys to go to **Sensor** and press Enter. Move to your desired mode and press Enter to confirm.

Direction

Set print direction correlating the direction of the conveyor. Machine supports 4 directions: ABC: left right, CBA: right left, VBC: reverse left right, CBA: reverse right left.

From the **Settings** menu, use the arrow keys to go to **Direction** and press Enter. Move to your desired direction and press Enter to confirm.

Print Mode

Sensor mode and **Continuous** mode.

From the **Settings** menu, use the arrow keys to go to **Print Mode** and press Enter. Select **Mode** and press Enter to select **Sensor** or **Continuous** mode.

Sensor mode

Machine is triggered by sensor and print.

Go to Mode and press Enter to select **Sensor** mode and use arrow keys to move to other settings.

Input value at **Repeat** to set the number of prints to be repeated on the same object. Press Enter to confirm and go to the next setting. Valid values vary from 0 to 99.999.

Input value at **Delay** to set distance between the prints. Valid values vary from 10 to 10,000. Invalid values results in error.

Continuous mode

Go to Mode and press Enter to select **Continuous** mode and use arrow keys to move to other settings.

Input value at **Fix length** to set distance between the prints. Valid values vary from 5 to 10,000mm. Invalid values results in error.

Immediate: print continue without sensor signal.

Level: print continue with sensor signal.

Unit

Select your desired measurement units **inches** or **mm**.

From the **Settings** menu, use the arrow keys to go to **Unit** and press Enter. Move to your desired measurement, press Enter to select.

Bluetooth

Connect machine to Bluetooth network.

From the **Settings** menu, use the arrow keys to go to **Bluetooth**, press Enter. Use **↑** and **↓** arrow keys to turn ON or turn OFF Bluetooth (see at **Quick Guide**).

Update Font

Update different fonts and character sizes for Machine. There is one font at a time on Machine.

Machine supports the following fonts while working with wireless keyboard.

Lines	Size
1	12.7 mm
1	8.0 mm
2	5.92 mm
3	3.89 mm
4	2.54 mm
6	1.69 mm

Steps to update different font/size:

- Insert USB flash into USB port 1 on Machine.
- From the **Settings** menu, go to **Update Font** and press Enter.
- Select your desired font/sizes (1 to 6) and press Enter to begin updating. FONT1 on your USB will replace FONT1 on the machine memory and the same with other fonts.

Machine accepts font/sizes with **.hex** format only. All font/sizes must be named as showed below.

Organize ▾ Share with ▾ New folder				
Name		Date modified	Type	Size
★ Favorites				
Desktop				
Downloads				
OneDrive				
Recent Places				
Creative Cloud Files				
Libraries				
Documents				
Music				
Pictures				
Videos				
FONT1		17/08/2016 01:41 ...	HEX File	306 KB
FONT2		17/08/2016 01:49 ...	HEX File	69 KB
FONT3		17/08/2016 01:51 ...	HEX File	31 KB
FONT4		17/08/2016 01:52 ...	HEX File	14 KB
FONT5		17/08/2016 01:52 ...	HEX File	9 KB
FONT6		17/08/2016 01:43 ...	HEX File	455 KB
FONT7		17/08/2016 01:50 ...	HEX File	101 KB
FONT8		17/08/2016 01:51 ...	HEX File	44 KB
FONT9		17/08/2016 01:52 ...	HEX File	20 KB
FONT10		17/08/2016 01:52 ...	HEX File	12 KB
FONT11		19/12/2017 10:31 ...	HEX File	200 KB
FONT16		19/12/2017 10:32 ...	HEX File	297 KB

NOTES:

- *Fonts being updated will replace the existing ones on the machine memory.*
- *Machine prints true fonts while working with PC.*
- *Font 1 to 5 and 11 is Normal font.*
- *Font 6 to 10 and 16 is Uppercase font.*

Rollover

Set different date depending on the shift schedules of your production.

From the **Settings** menu, use the arrow keys to move to **Rollover** and press Enter.

Go to **Set** and press Enter. **Enable** this function and input value at **Time**. Press Enter to apply (default value is 00h:00). Otherwise select **Disable** and press Enter to apply.

NOTES:

Value input varies from 0 to 23.

System time

Set time and date for your system clock.

From the **Settings** menu, use arrow keys to go to **System clock** and press Enter.

Go to **Date**, use ◀ and ▶ arrow keys to change date value and press Enter to apply.

Go to **Time**, use ◀ and ▶ arrow keys to change time value and press Enter to apply.

Rotate

This function will allow you control the direction of menu interface, it help user can easier look to the screen and operate. With a rotate sensor inside so it can automatic adjust the interface to match with current direction of machine.

From the **Settings** menu, use the arrow keys to go to **Rotate** and press Enter.

Select Auto or Lock rotate or others, press Enter to apply.

Screen will rotate according to the direction of the machine when **Auto** is selected.

Screen will be locked at the direction when **Lock rotate** is selected.

Otherwise select others.

Password

Set to authorize of users, or to protect the machine from unauthorized users. Machine is defaulted as no password.

To activate password protection, from the **Settings** menu use arrow keys to go to **Password** and press Enter. Then go to Active and select Enable to set password.

Enter **old password (1234567890)**, then enter your new password and retype to confirm. Maximum characters allowed for password is 10 including letters and numbers.

Default - Important setting

Reset your machine settings to the factory defaults. This can be used after updating firmware or reset machine in case errors occur during operation.

From the **Settings** menu, select **Default** and press Enter. A confirmation box will appear.

Select **Yes** to continue. Otherwise, select **No**.

Language

Select your interface language. Right now we support these language:

English (Default), **Finnish, Spanish, German, French, Russian, Vietnamese, Chinese, Korean, Portuguese, Polish, Dutch, Italian, Turkish, Czech and Indonesian.**

From the **Settings** menu, select **Language** and press Enter. Use the arrow keys to move to your desired language and press Enter to apply. Otherwise, select ESC.

NOTES:

*At default setting, machine just show 6 languages at **Setting → Language**. If you don't see your desired language at menu. But it inside our support languages. Please do as following.*

Add optional language interface

For example user need change machine interface to **Korean**. They will need as below.

Step 1

Copy all file of machine's firmware to **ROOT FOLDER of USB flash**. See table below for more information.

Languages	File name
Index Update	00SC.txt
Finnish	01SC.txt
Spanish	02SC.txt
German	03SC.txt
French	04SC.txt
Russian	05SC.txt
Vietnamese	06SC.txt
Chinese	07SC.txt
Korean	08SC.txt
Portuguese	09SC.txt
Polish	10SC.txt
Dutch	11SC.txt
Italian	12SC.txt
Turkish	13SC.txt

Czech	14SC.txt
Indonesian	15SC.txt

Step 2

After copy all file to USB, looking at file **00SC.txt (Index update)**. Open and edit of this file content to **"08"** (this mean Index update will become to **Korean – 08SC.txt**). Save and closed this file.

Step 3

Insert USB flash to machine. Go to **Settings** menu. **Press F12**. Please wait a moment for machine update new Index of language.

Step 4

- Go to **Settings → Language → Enter**. You will see **"Korean"** will appear at the bottom of menu language.
- Select **"Korean"**, press Enter.
- **Press F12** to complete operation. Please wait a moment, the machine will read file **08SC.txt** and update to memory.

The machine will exit Settings menu and return Main menu with new Korean language interface.

NOTES:

You need do exactly 4 steps above and also press F12 with 2 times.

IO signals

Select start/ stop the coder from the button.

From the **Settings** menu, select **IO signals** and press Enter. Then select input to active **Start/ Stop**.

Coder name

Change machine name. This name will be show when you use smartphone and application to search machine. It will help you recognize machine when you have so many Bluetooth devices around or is case you have more than 1 machine.

From the **Settings** menu, select **Coder name**. Input new name for machine. Default we will set it **"Coder 1"**.

RS485

Enable the RS485 protocol on machine. To help you able to control multiple printer by one Controller (PLC, PC, Laptop...) on RS485 network.

From the **Settings** menu, select **RS485** and input desired setting.

LCD BackLight

Adjust the time that turn on the light of screen. Your screen will become black but all activity still working. Turn on screen by press any key on keyboard.

From the **Settings** menu, select **LCD Backlight**. Then select the desired time to turn off screen and then press Enter.

Reset

Reset the memory of Counter variable on message. The memory of Counter will help you save the current value of Counter event you stop print or machine is turned off.

From the **Settings** menu, select **Reset**. Press Enter to erase memory of counter (printer will print from started number).

Bi-directional

When we enable this function, printer will automatic change direction after some times print. The 1st in direction: left to right, 2nd will be printed right to left.

From the **Settings** menu, select **Bi-directional**. Then press Enter and select Enable to used this function.

Adjust: Setup Delay for 2nd print (auto change direction) same setup *Delay before*.

Trigger: the times that the printer auto change direction.

Set up backup

Backup is save some information as: message, logo, language and settings to usb flash and **Restore** it on another printer. It will help you save a lot of time.

From the **Settings** menu, select **Set up backup**. Please insert usb flash before choose Backup and restore.

NOTES:

*Backup file only restore on another printer with same **Model** and **firmware version**.*

About

- See information of the current firmware.
- Update to a different firmware (see [UPDATE FIRMWARE INSTRUCTIONS](#)).

PC APPLICATION INTRODUCTION

Hardware setup

Do as below on machine.

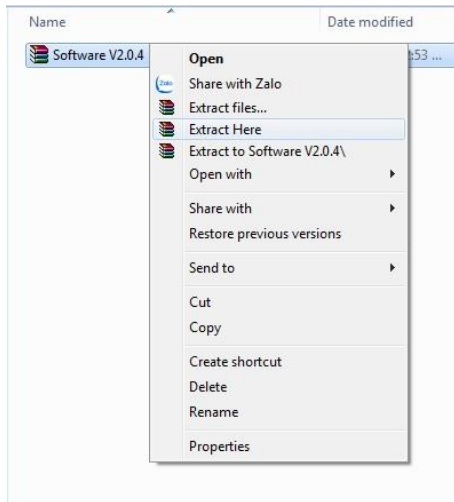
- **Step 1:** connect USB cable from machine to PC.
- **Step 2:** open Operation menu, select "**Connect PC**". If cannot select, please stop print first, then select again.

Software setup

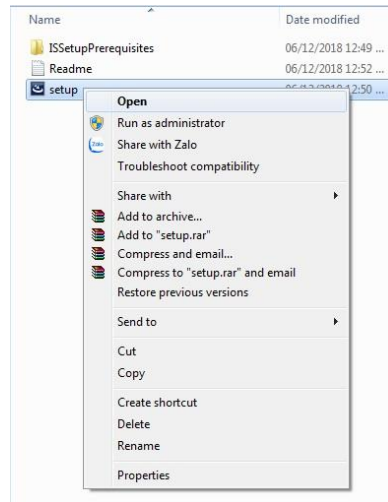
Install application

NOTES:

- *Please install the Microsoft .NET Framework 4.0 or newer. Use this link <http://www.microsoft.com/en-us/download/details.aspx?id=17851>*
- *If you are using Window 8, the Microsoft .NET Framework has been integrated to system.*



Extract setup RAR file



Right click select Open on Setup file



Click Next

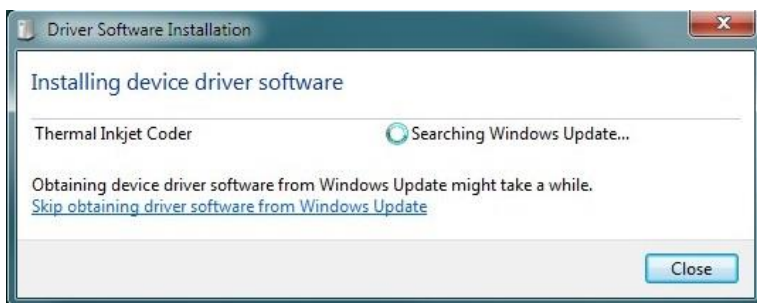


Click Install or select other path.

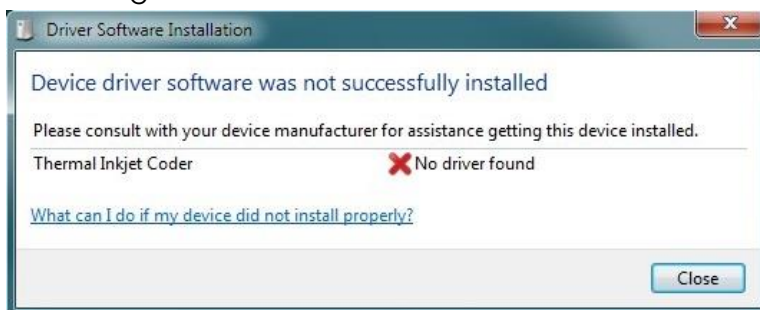
Waiting for complete and Click **Finish**.

Install driver

When plug your machine to computer. Your Window will search the driver for machine, but it will not able to success install driver. You need install by manual.

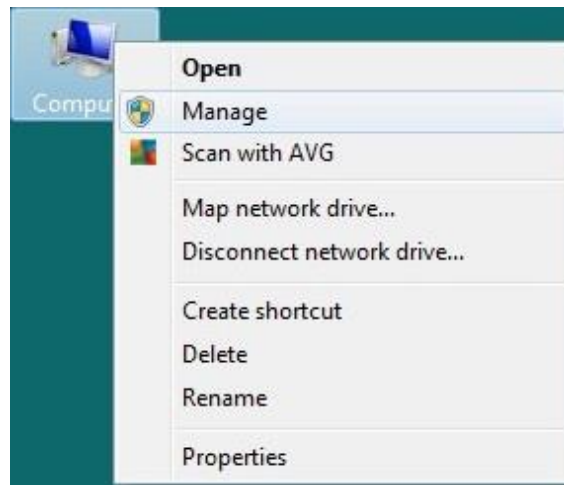
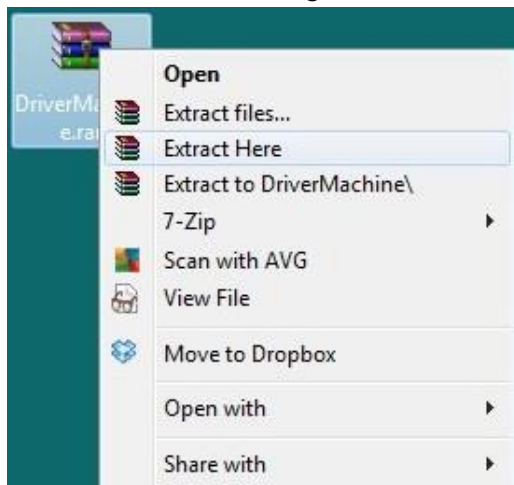


Searching driver software...



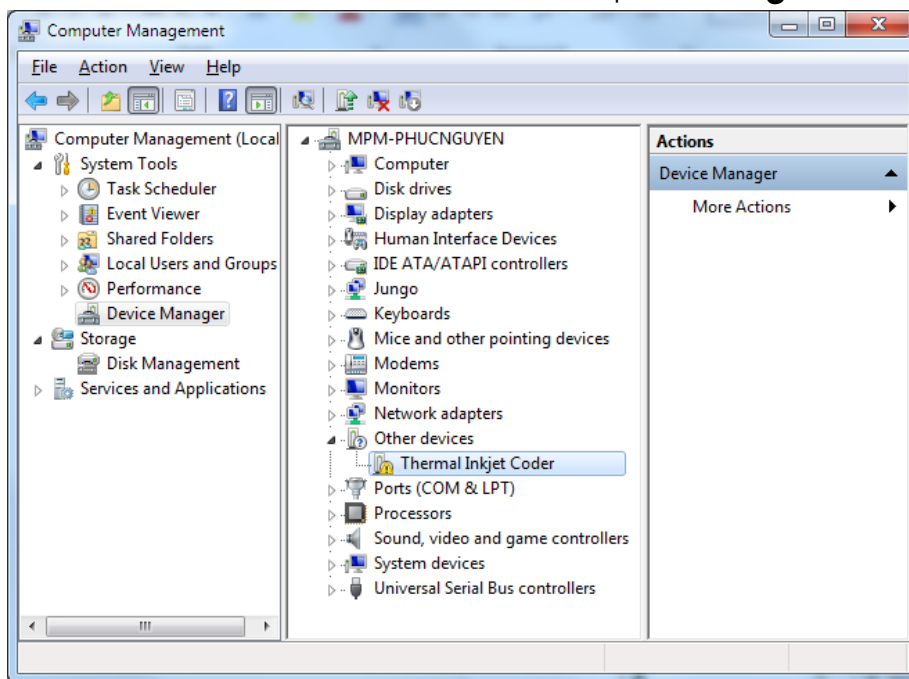
Cannot successfully installed driver.

Please do as following:

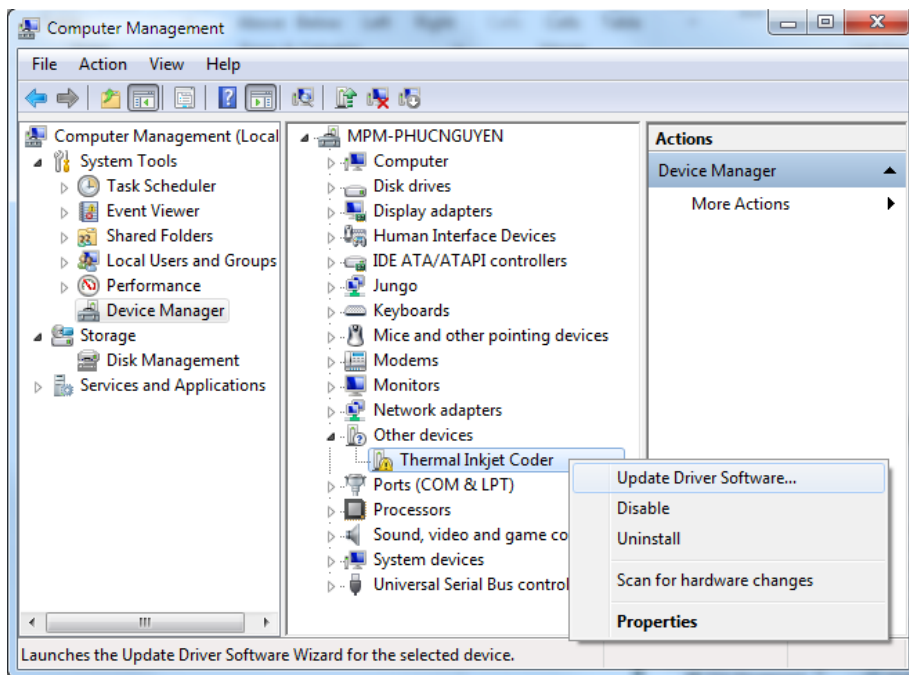


Extract driver. Get it from us.

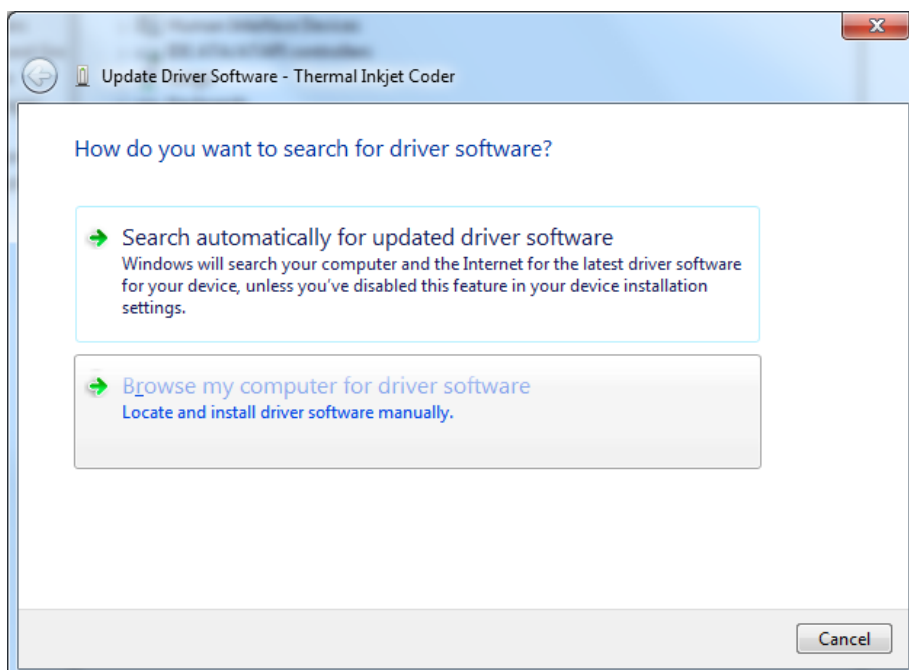
Open **Manage** function.



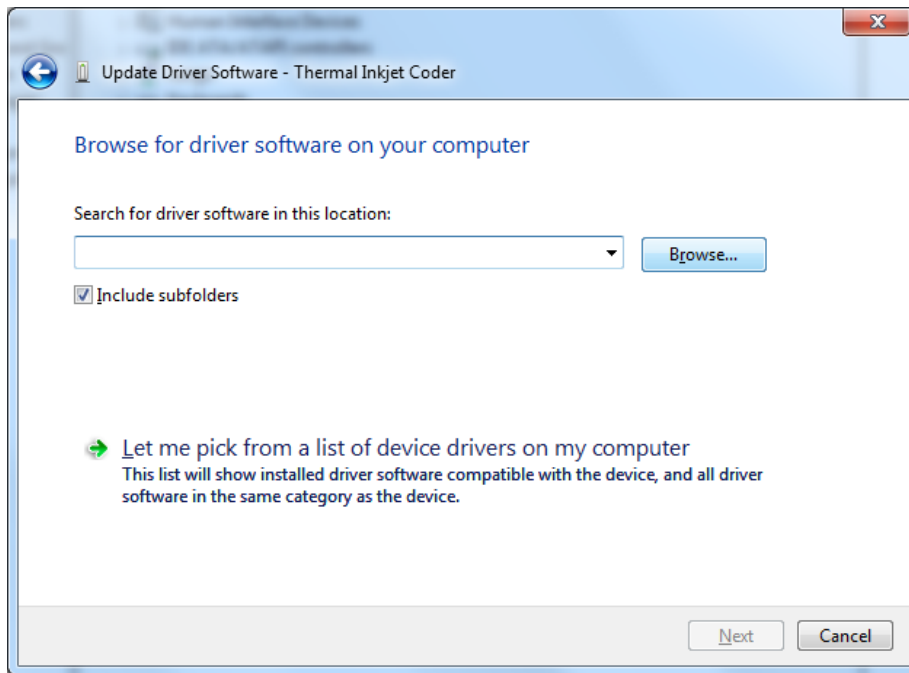
Look at **Other devices**. "**Thermal Inkjet Coder**" is our machine.



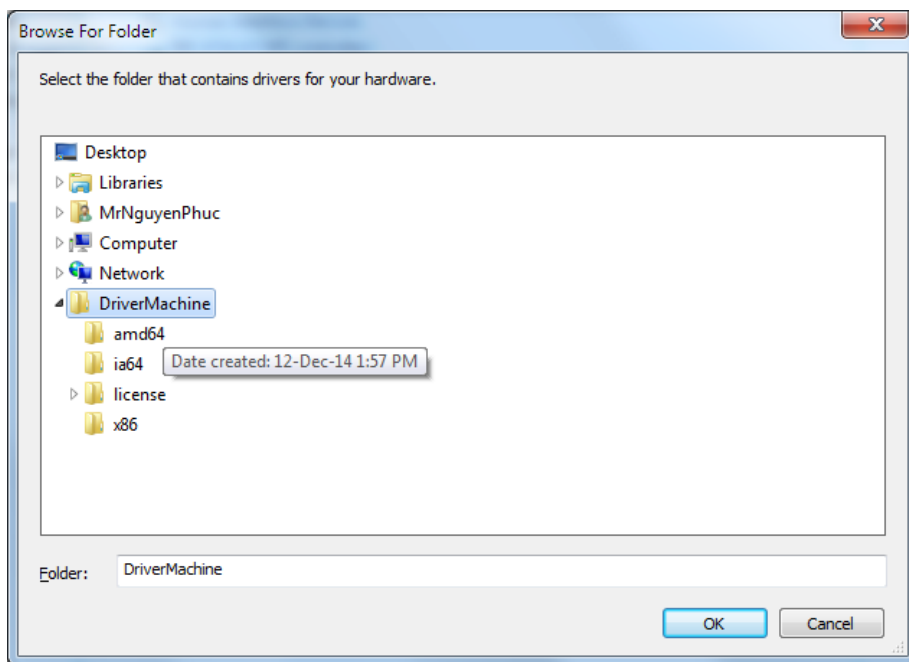
Right click. Select **Update Driver Software**.



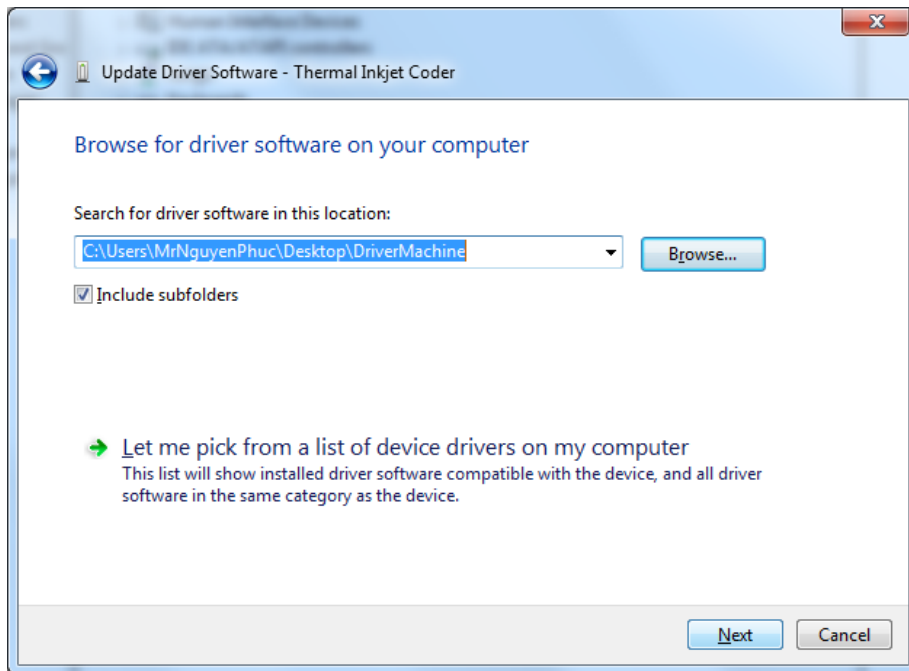
Select **Browse my computer for driver software**.



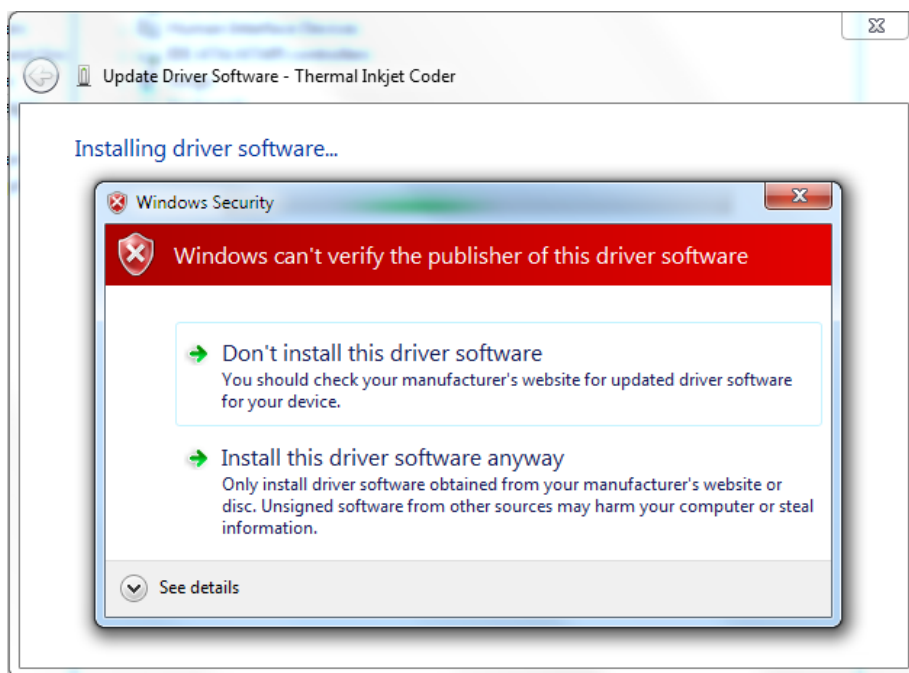
Select **Browse** to locate to driver folder.



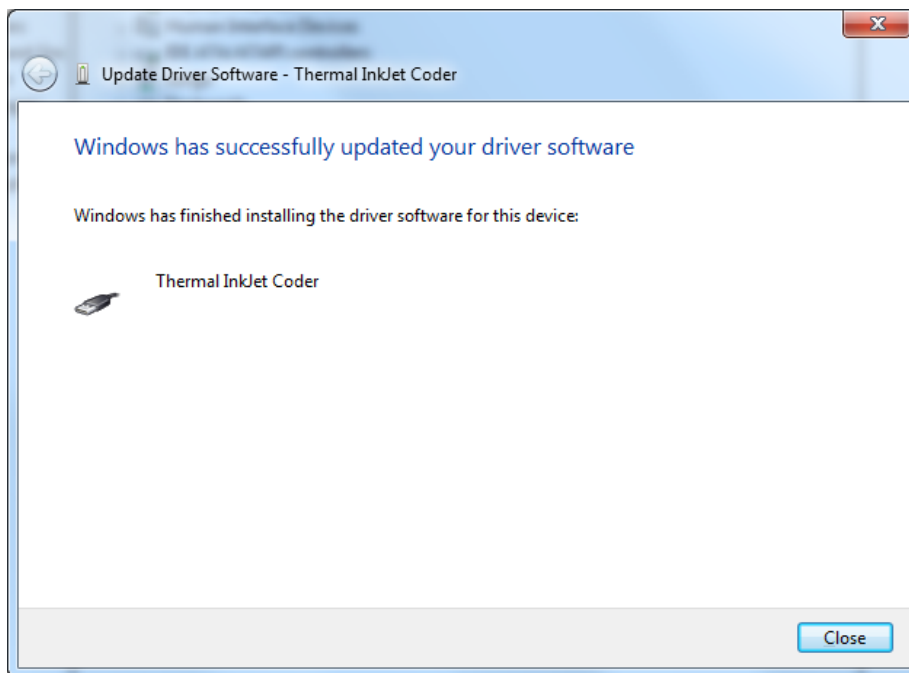
Locate to folder driver.



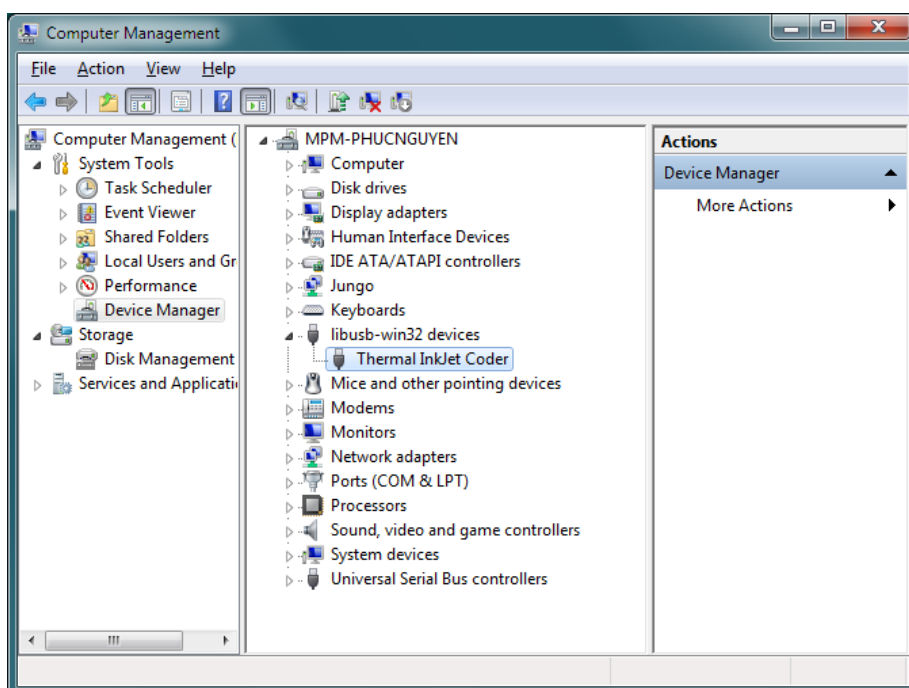
Click Next to continue.



Got security issue with Window. No problem, **“Install this driver software anyway”!**



Wait a moment, and here your driver installed success.



Look at Device Manager, you will see **Thermal InkJet Coder** device appear here.

Install driver on Windows 8, 10

If your PC uses Windows 8 and Windows 10, please do one next step **Disable signature enforcement** before you install the driver. Please see the instructions at the link: [How to Disable Driver Signing Check in Windows 10](#)

Software Using

Make sure Hardware Setup has been did.
After installed, open Controller application.

Printer Controller Interface

The interface is divided into several sections:

- Printer Control**: Includes tabs for Designing, Tool, and About us. The Designing tab is active.
- Image Printing**: Displays a QR code and product information: GTIN: 123456789, EXP: 10122017, BATCH: 147852, SO: 123-1475D.
- Settings**:
 - Parameter**: Resolution DPI (300x300), Density (1), Unit (Millimeters), Direction (Left to Right), and a Rotate view checkbox.
 - Encoder**: Encoder (selected) or No Encoder. Speed (10 m/min), Max speed (76 m/min), and buttons for Real, Fast, and Slow.
 - Random Jet**: Auto Jet (selected) or No. Time (15 s).
 - Printing Mode**: Continue or Sensor. Continue Fixed Length (10), Sensor Fixed Length (254), Repeat Sensor times (0), Sensor Type (External/Internal), Delay Before (10), and Delay After (10).
 - Switch nozzle**: Channel (Odd/Even), Auto (Yes/No), and Times (1).
- Power Off**: Speed m/min (10), Page (0 / 1), Start page (1), End page (1), Ink level (0 ml), and Printer Controller buttons (Print, Pause, Stop).
- Printer Controller**: No repeat data checkbox, POD status (Stop), Page (0), Invalid (0), and a Text value field.

Setting all printing parameters for the message before start printing. Be sure to stop the printing mode before setting the parameters.

Create new message

Click **DESIGNING** to open design template. From the designing section, select **New Template**. A new window pops up.

- Name your message at **Name**.

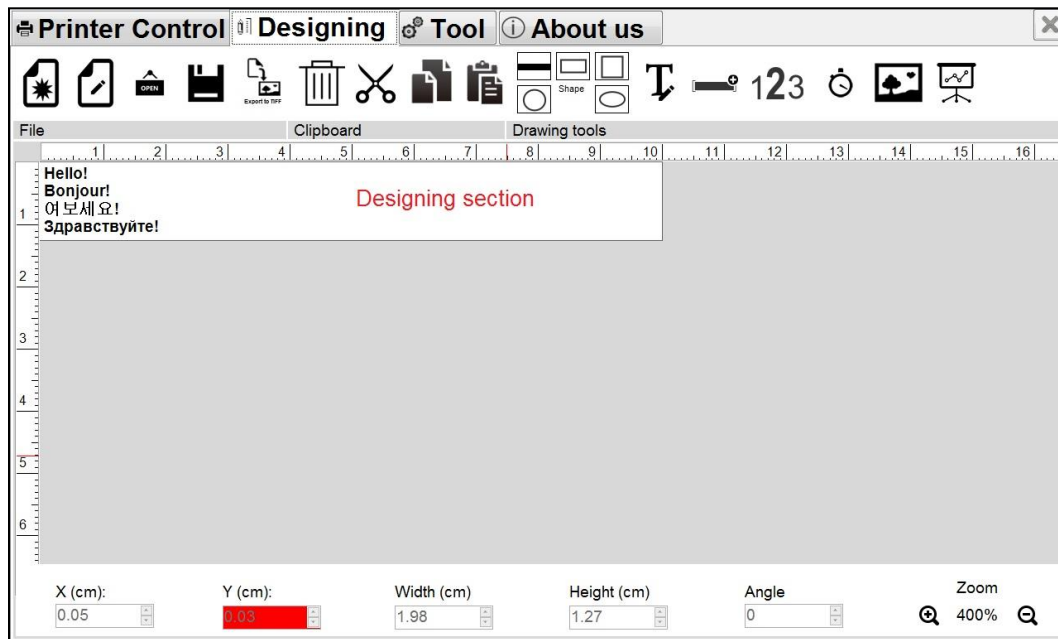
The 'New' dialog box contains the following fields and controls:

- Name**: A text input field with 'template1' entered.
- Width**: A numeric input field with '10' and a unit dropdown menu set to 'Centimeters'.
- Height**: A numeric input field with '1.27' and a unit dropdown menu set to 'Centimeters'.
- Buttons**: 'OK' and 'Cancel' buttons.
- Show gridlines**: A checkbox at the bottom right.

- Input **Width** and **Height** of your message. Height of the message is default at 12.7mm.
- Select measurement: **Centimeters, Millimeters, Inches, Pixel**.

This is a duplicate of the 'New' dialog box shown above, with the same fields and controls.

- Select OK to save settings and begin designing message.

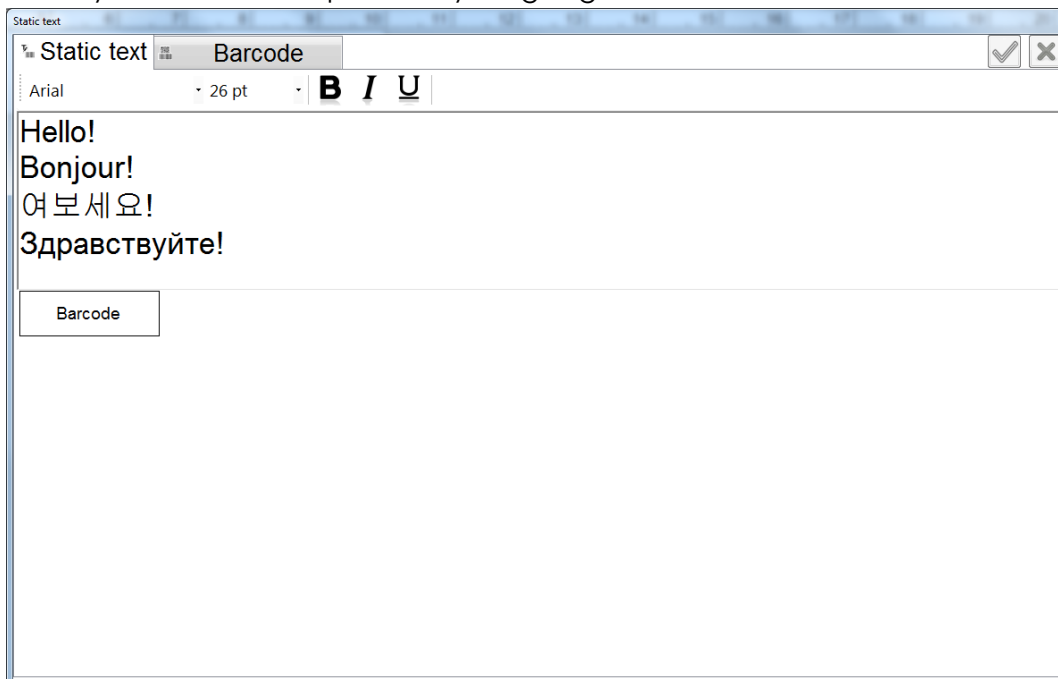


NOTES:

Be sure the objects are completely located in the template. Any parts projected out of this section will be missed print.

Static text object

- From the Designing section, select **Static Text**  and click on the designing section. Static Text window will pop up.
- Input content from your keyboard. You can select any font type (**Window True Font**), any font size and input in any language.

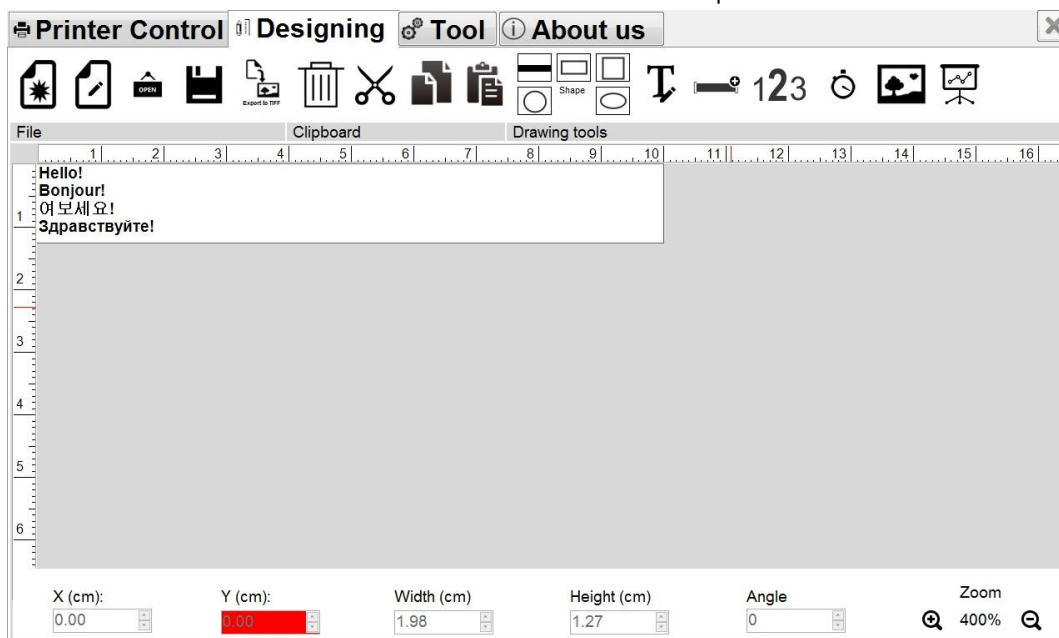


- Format your content just like functioning on Microsoft Word, including font, size, bold, italic, underline, left, center and right align.

- Position of the text can be aligned in 2 directions: **Vertical Alignment** and **Horizontal Alignment**.
- **Vertical Alignment:** Top, Center, and Bottom.
- **Horizontal Alignment:** Left, Center, Right.
- Select **Barcode** to create if barcode is needed.
- Tab **Barcode** will pop up.
- Press ✓ button to finish your input.

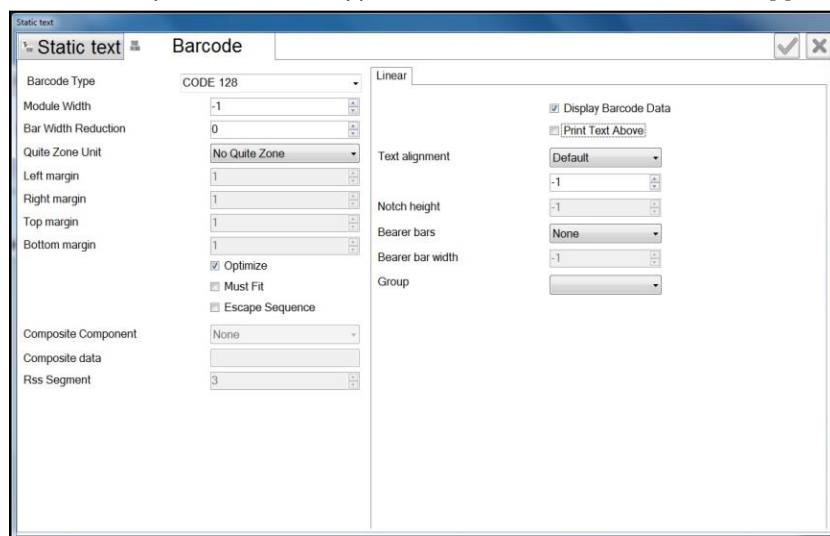
Your static text will appear on the template. Right now you can adjust position, size of this text also.

Use the roll button to zoom in or zoom out the template.



If you would like to convert above string to barcode format. Please check at “**Barcode**” check box. The window input will open new barcode tabs.

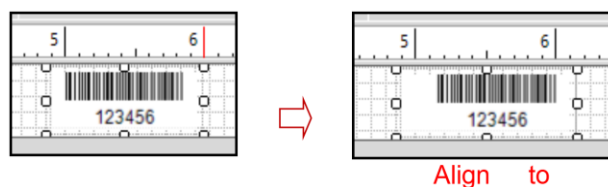
- Click on tab **Barcode**. A new window will pop up to set the parameters for the barcode.
- Select your desired type of barcode at **Barcode Type**.



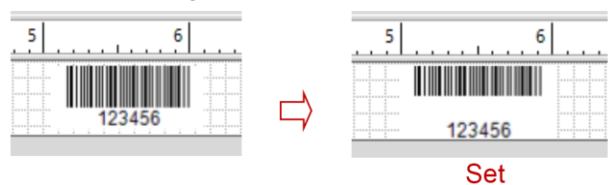
- Look at below **Barcode type and Linear** to set parameters according to your specific requirements for each barcode.

- Place your barcode within the **Margin**.

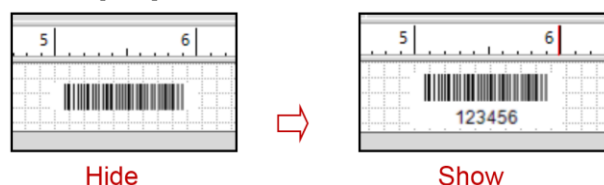
- Left Margin:** align barcode from the left.



- Right Margin:** align barcode from the right.
- Top Margin:** align barcode from top.
- Bottom Margin:** align barcode from bottom.
- Unit of Measure:** choose unit of for margin: Centimeter, Inch and Pixel.
- Text Margin:** set distance from the text (barcode data) to the bottom edge of barcode.

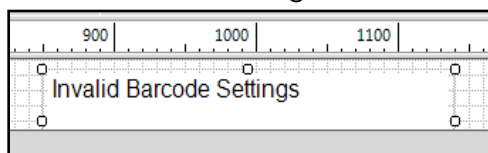


- **Barcode module width:** adjust width of barcode.
- **Barcode module height:** adjust height of barcode.
- **Display Barcode data:** show/hide barcode data.



When all parameters are set, go back to Static Barcode, select ☒ to confirm and apply settings.

No barcode will be generated if the data input is incorrect.



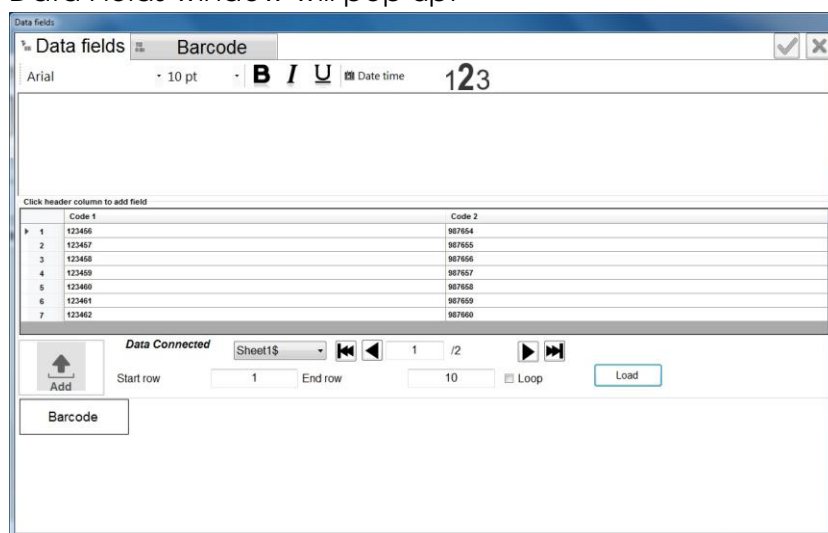
Set the position of the object.

- **X:** Align object from the left.
- **Y:** Align object from the top.
- **Angle:** rotate the object.

X (cm): 0.00	Y (cm): 0.00	Width (cm) 1.98	Height (cm) 1.27	Angle 0
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Data field object


From the Designing section, select **Data Fields**  and click on the designing section. Data Fields window will pop up.



Click **Load Data**, Connect database window will pop up. There are two options for loading data: **Database Information** and **File Information**.

- **Database Information:** load database from your server.
Input server's name, Database's name, Username and Password of your server.
- **File Information:** load database from your local file.
Click **Select** to choose the desired file (Text, Excel, CSV or Access file).

Click **Connect** to connect the file to the message after loading successfully.

Choose the column of data which is need to be printed (by click on name of column), then click add  button to add column to data field compose box. You can add more column, add some static text, format font, size, type...

	Code 1	Code 2
1	123456	987654
2	123457	987655
3	123458	987656
4	123459	987657
5	123460	987658
6	123461	987659
7	123462	987660

- Select **Barcode** to create if barcode is needed. See setting barcode from **Static text object**.

Data fields: Barcode

Arial 10 pt B I U Date time 123

<<Code 1>>

Click header column to add field

	Code 1	Code 2
1	123456	987654
2	123457	987655
3	123458	987656
4	123459	987657
5	123460	987658
6	123461	987659
7	123462	987660

Data Connected Sheet1\$ 1 /2

Start row 1 End row 10 Loop Load

Add Barcode

NOTES:

For type of **Data Matrix** barcode, select **GS1 Compatible**, and input the Application identity number for the data before each data field.

Data fields: Barcode

Barcode Type DataMatrix

Module Width -1

Bar Width Reduction 0

Quiet Zone Unit No Quiet Zone

Left margin 1

Right margin 1

Top margin 1

Bottom margin 1

Optimize ☒

Must Fit ☐

Escape Sequence ☐

Composite Component None

Composite data

Rss Segment 3

Data Matrix

Show As Rectangle ☐

Enforce Binary Coding ☐

Encode Mode Code Page

Code format GS1/UCC/EAN

Symbol Size Auto

Total Number [A..Z] -1

Symbol Index [A..Z] 1

File ID -1

Data fields: Barcode

Arial 10 pt B I U Date time 123

01<<Code 1>>

Click header column to add field


	Code 1	Code 2
1	123456	987654
2	123457	987655
3	123458	987656
4	123459	987657
5	123460	987658
6	123461	987659
7	123462	987660

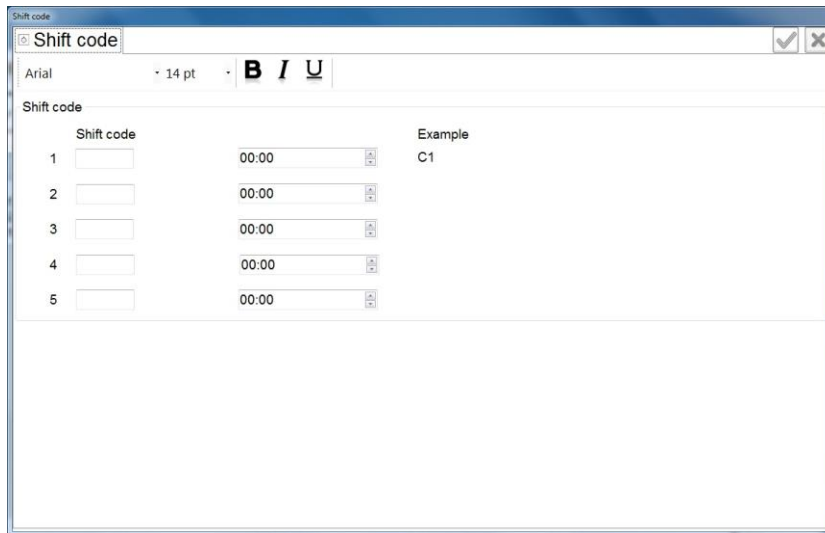
Data Connected Sheet1\$ 1 /2

Start row 1 End row 10 Loop Load

Add Barcode

Shift code object

From the Designing section, select **Shift Code**  and click on the designing section. Shift Code window will pop up.



- The firmware supports to create up to 5 shift codes.
- To create each shift code with any two digits: number, letter or symbol. Select font, size and then select time to display shift code.

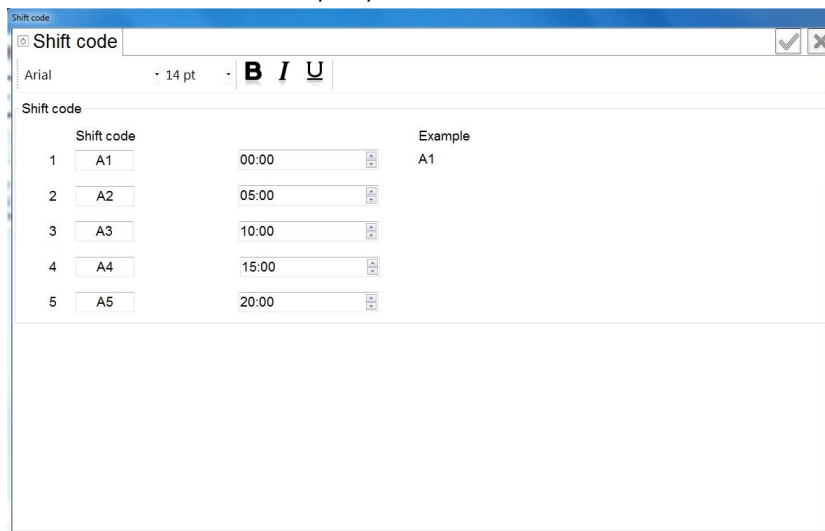
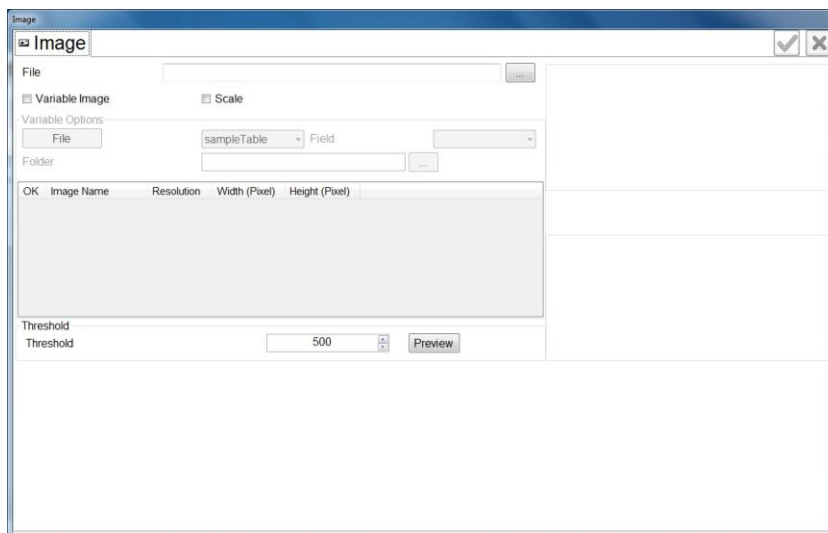
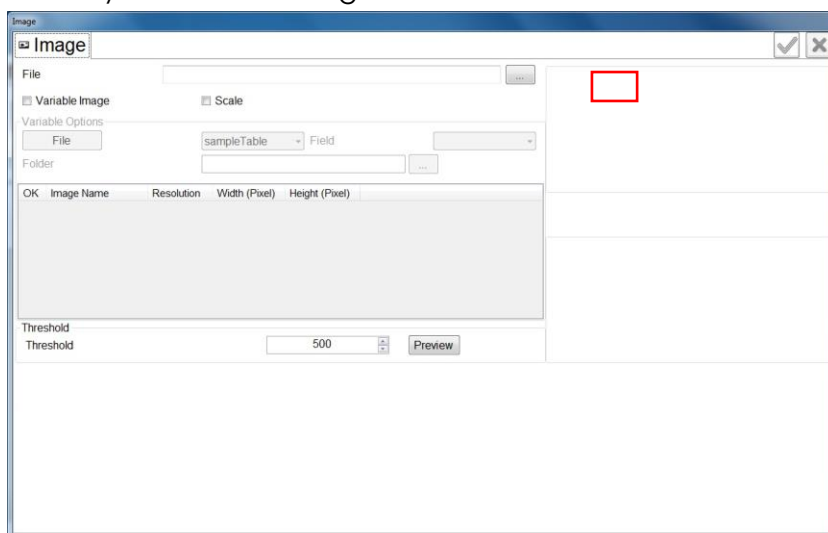


Image object

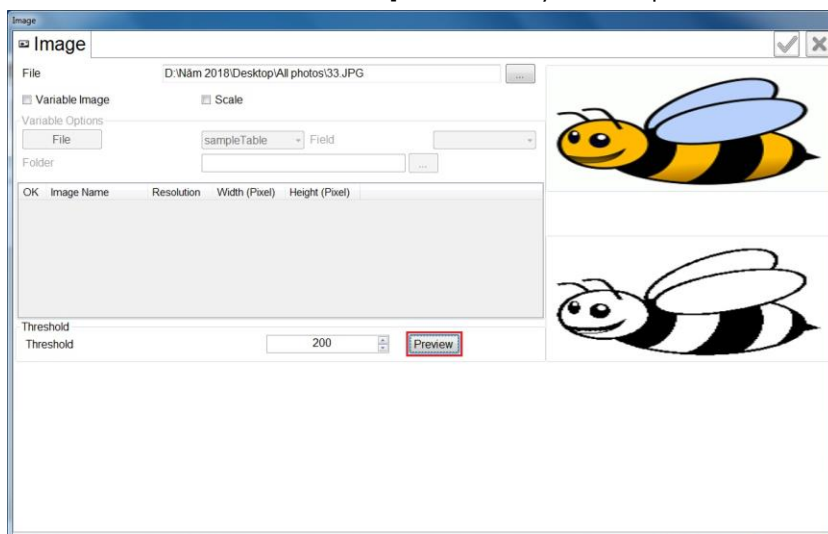
From the Designing section, select Image  and click on the designing section. Image window will pop up.



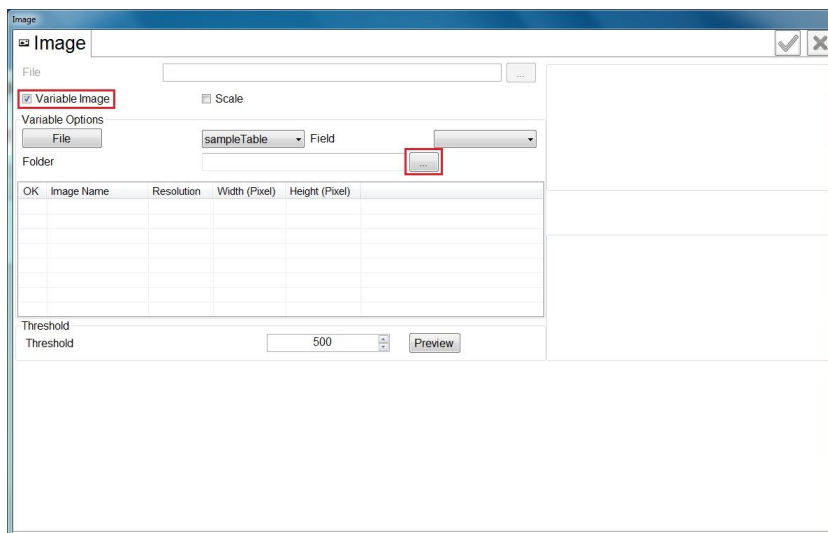
Select your desired image at **File**.



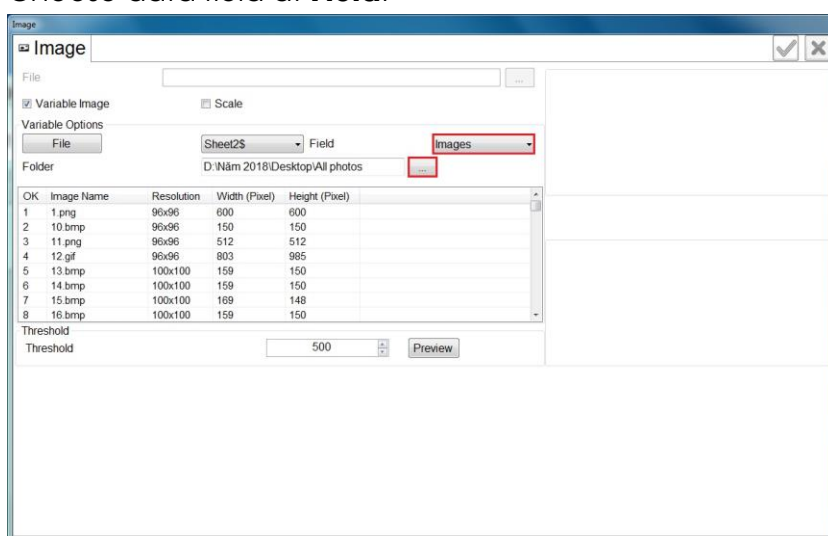
Set **Threshold Convert Properties** as your requirement.



Select **Variable Image** if need to print many images. Select images at **Image Folder**.



Choose data field at **Field**.



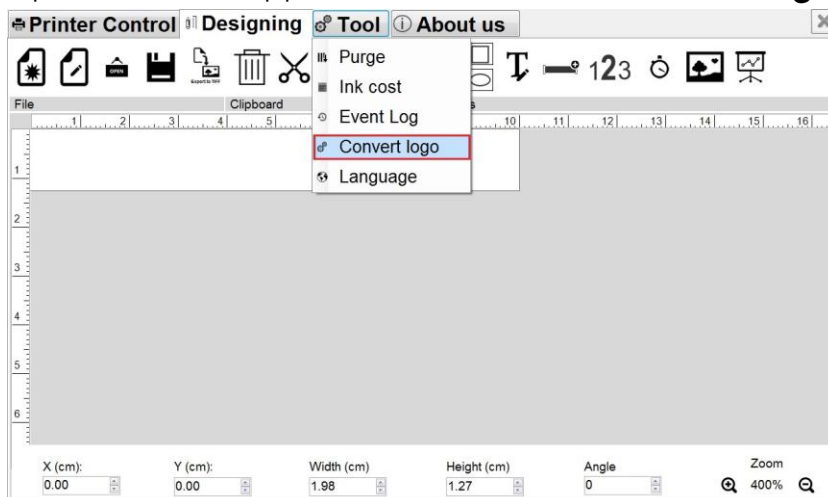
Select Ok to finish.

Convert logo

This function is help you create logo under **.hex** format use for update logo to machine via USB flash.

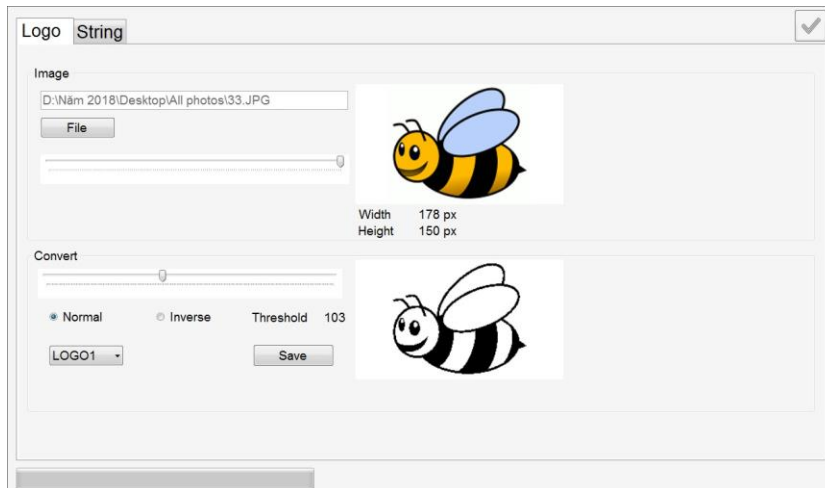
Step 1

Open Controller application. Go to **Tool** → **Convert Logo**.



Step 2

Go to **Browse** to select your desired logo.

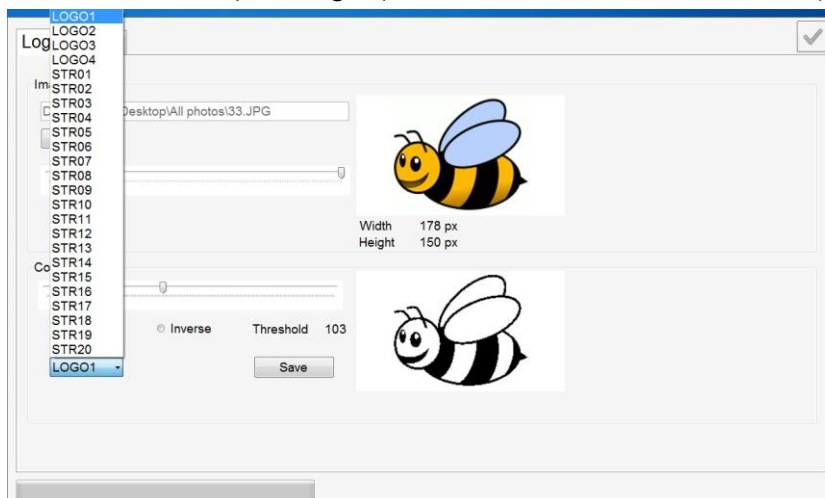


Step 3

Adjust the Threshold, background color (Normal, Inverse).

Step 4

Select to name your logo (**STR01**, **STR02**, **STR03**,..., **STR20**) and save it to USB flash.



On machine. Insert the USB flash to machine. Go to **Settings** → **Logo** → **Select the name of logo** that you just created. Wait a moment, the machine will update logo from USB flash to itself memory.

UPDATE FIRMWARE INSTRUCTIONS

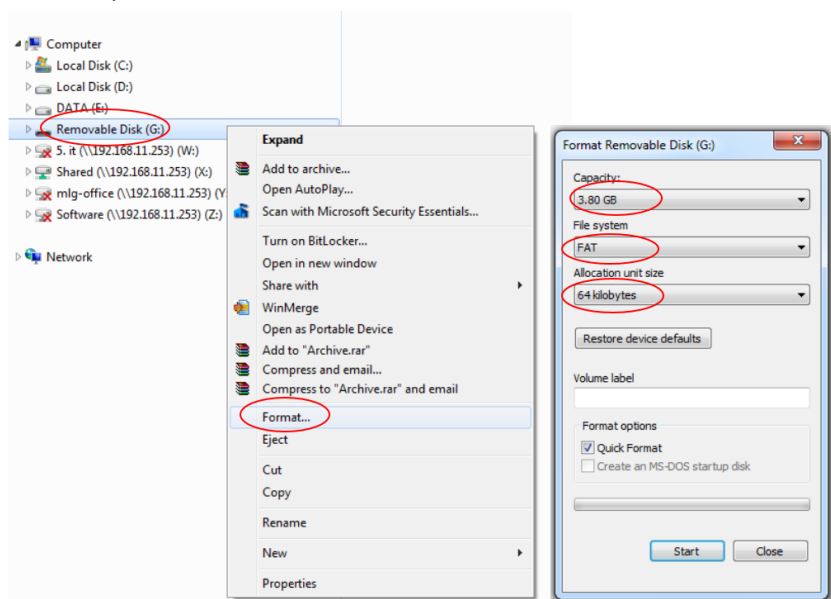
NOTES:

- *Be sure there is no power failure while firmware is being updated.*
- *All data and settings will be lost while updating new firmware.*
- *Cartridge should be removed from the machine to avoid failure.*
- *Everything connected with the machine (exclude keyboard) should be removed from the machine.*

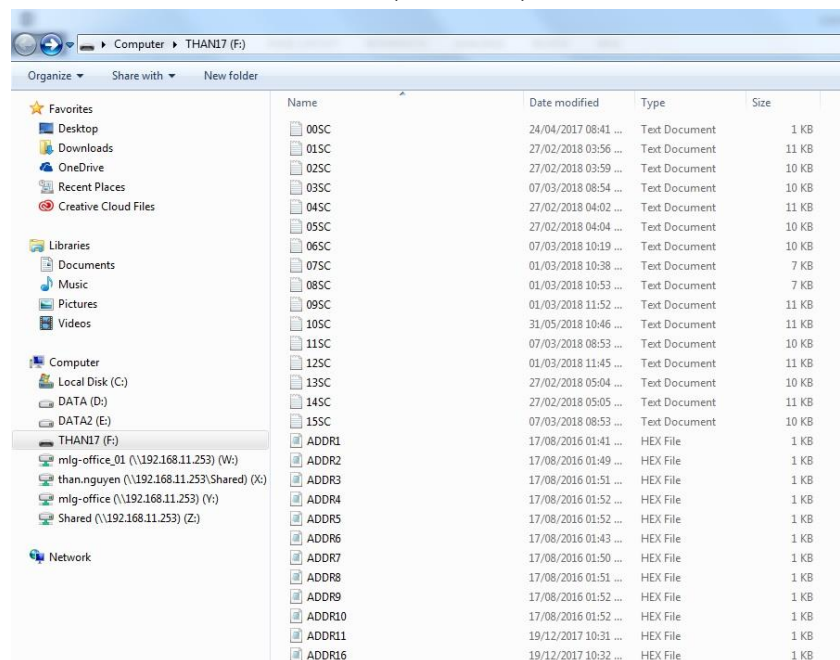
Prepare USB flash

- Prepare USB flash disk less than 32GB.
- Format USB flash disk with file system **FAT** / **FAT32** and allocation unit size **64 kilobytes**.

See photo below:



- Extract firmware folder (**.RAR file**) to **ROOT folder** of USB flash disk.



- Insert USB flash disk into **USB port 1** on machine.

Update firmware

- From the main menu, use the arrow keys to go to **Settings** → **About** → **Update Firmware** → **Yes**.
- This process will take **3 minutes**.
- When update is complete, use the arrow keys to go to **Settings** → **Default** → **Yes**.
- After default complete, at **Main Menu** and press **F12**.

- Press combine **Ctrl + Shift + Alt + K** to update booting logo.

Update logo

When update is complete, go to **Settings → Update logo** and do the following updates:

- Update Logo → Logo 1.
- Update Logo → Logo 2.
- Update Logo → Logo 3.
- ...
- Update Logo → Logo 20.
- Select **All** to update all logo.

You can skip this step if it not need to you.

Update font

This process will take **10 - 15 minutes**.

- Update Font → Font 12.7 mm.
- Update Font → Font 8.00 mm.
- Update Font → Font 5.92 mm.
- Update Font → Font 3.89 mm.
- Update Font → Font 2.54 mm.
- Update Font → Font 1.69 mm.

NOTES:

*This step must be updated to make sure your **Edit Messages** on machine work well.*

Update Russian font

This Process will take **3 – 5 minutes**.

- **Settings → Defaults → Yes.**
 - Back Main Menu → Press combine **Ctrl + Shift + C** → Update font interface show on.
- Wait until update font show finish.

Machine default

Set your machine to factory defaults. Go to **Settings → Default → Yes.**

NOTES:

This step must be execute to make sure all new function on machine work well and no more error happened.

THANKS FOR YOUR READING!