Smart-Jet *plus*

USER MANUAL

Contents

Contents

ABOUT SMART-JET PLUS

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

The Smart-Jet Plus is capable of being controlled via PC connection to print variable data and barcodes, Wi-Fi connection via mobile devices running on iOS operating systems, and wireless keyboards. Each option provides a full set of applications.

Smart-Jet Plus produces crisp text, logos, variable data and barcodes on porous and non-porous media by automatically recognizing aqueous or solvent inks and applying the appropriate printing parameters.

The complete system includes one Smart-Jet Plus printer, power supply with On/Off switch, wireless keyboard, mounting brackets.

TECHNICAL SPECIFICATIONS

Item No.	Description	Specifications
1.	Model	Smart-Jet Plus
2.	Display	LCD 2.8" automatic rotation
3.	Dimensions (LxWxH)	106x53x83mm / 4.17x2.09x3.27in
4.	Weight	450g 1.00lb
5.	Power supply	AC 100V – 240V, 50/60Hz, 1.4A
6.	Maximum power consumption	48W
7.	Maximum printing resolution	300x300dpi
8.	Print speed	76m/min@300x300dpi
9.	Optical density	5 levels
10.	Operation selection	PC, Wireless keyboard, Wi-Fi
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"
17.	Printability	Alphanumeric, logos, date/time, expiry date, Julian date, shift code, data and barcodes
18.	Operating temperature	5°C – 50°C 41-122°F
19.	External connections	External sensor, encoder, etc…

FEATURE MENU

```
                          ┌─────────────┐
                          │  Main Menu  │
                          └─────────────┘
         ┌───────────────────────┼───────────────────┐
   ┌───────────┐          ┌───────────┐        ┌───────────┐
   │  Message  │          │ Operation │        │ Settings  │
   └───────────┘          └───────────┘        └───────────┘
```

Open	Create New	Information
Message List	Select Font	

Type Message

Use		Symbol
Edit		Logo
Delete		Counter
		Date
		Expired
		Time
		String
		Barcode
		Shiftcode

Purge
Start
Connect PC

Speed
Resolution
Density
Delay
Cartridge
Update Logo
String
Random Jet
Print Side
Sensor
Direction
Print Mode
Unit
Wi-Fi
Update Font
Rollover
System Clock
Rotate
Password
Default
Language
IO Signals
Custom String
Coder Name
RS485
LCD Backlight
Reset
About

> Press Insert to insert fields into messages.

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

Message: Insert Fields into your message:

- **Create:** Create new message
- **Open:** Open existing messages on the printer memory
- **Use:** Use existing message
- **Edit:** Edit existing message
- **Delete:** Delete message
- **Information**: Displays setting information
- **Symbol:** Insert symbols
- **Logo**: Insert logo or image from your printer memory
- **Counter**: Insert product counter
- **Date**: Insert current date
- **Expired**: Insert expired date
- **Time**: Insert current time
- **String**: Insert string
- **Barcode**: Insert barcodes
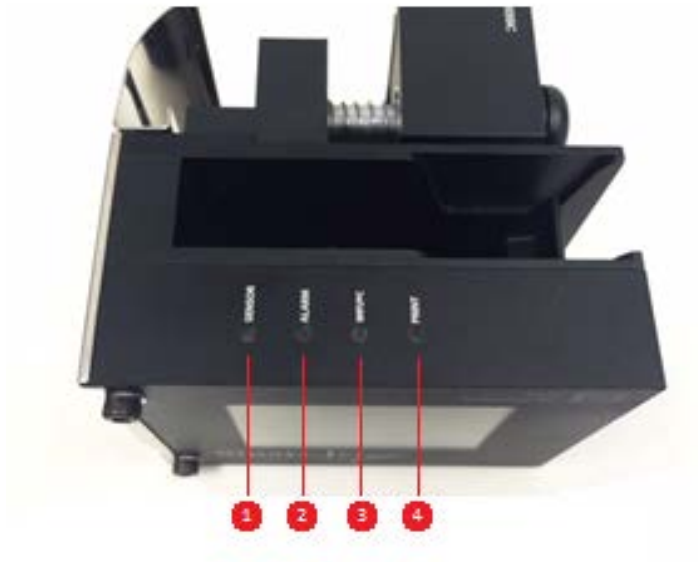- **Shiftcode**: Insert shift code

5

Operation

- **Start:** Start printing
- **Stop:** Stop printing
- **Purge:** Clean the print head
- **Connect PC / Disconnect PC:** Connect and disconnect Smart-Jet Plus with PC

Settings

- **Speed**: Set print speed for the Smart-Jet Plus
- **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
- **Cartridge**: Display the current level of ink in the cartridge
- **Update Logo**: Update logo or image from USB to the printer memory
- **String**: Set the chain of data to insert into the print
- **Random Jet**: Prevents the print head from clogging due to the extended down time between prints
- **Print Side**: Select nozzle side Odd, Even, or Auto Switch
- **Sensor**: Select External or Internal sensor
- **Directions**: Set print direction: ABC: left right, CBA: right left, ⱯBϽ: reverse left right, ϽBⱯ: reverse right left.
- **Print Mode**: Select your print mode: Sensor mode and Continuous mode
- **Unit**: Select your desired measurement **inch/mm**
- **Wi-Fi**: Connect Wi-Fi to control Smart-Jet Plus by mobile devices
- **Update Fonts**: Update different font sizes for Smart-Jet Plus
- **Rollover**: Set different date depending on specific production hour
- **System Clock**: 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 printer from unauthorized users.
- **Default**: Reset Smart-Jet Plus to factory defaults
- **Language**: Select your interface language
- **IO Signals**: The extend button to re-start machine
- **Custom String**: Where a commonly used string of data can be entered for inserting into a message
- **Coder Name**: The name given to the printer
- **RS485**: Port to connect with external devices such as PC or PLC for advanced function
- **LCD Backlight**: Edi t timer for backlight shut off
- **Reset**: This brings the printer back to distributor settings
- **About**: See current firmware on Smart-Jet Plus and update firmware

Light indicators

1. Sensor:
   - Set default with black conveyor.
   - Internal sensor: Red light; External sensor: Green light.
   - Sensor is activated when receives signals.
2. Alarm: Reports errors during operation
3. Wi-Fi/PC: Remains ON when being connected
4. Print: Remains ON when it's on printing mode

Main ports

1. USB flash port for updating firmware, fonts and logo
2. For Wireless Keyboard receiver
3. For PC Connection
4. For External sensor, Encoder, etc…
5. Power supply

7

WIRELESS KEYBOARD DEFINITION

No.	Key	Uses
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 Shift into the message
7	Backspace	Delete your message from right to left
8	Tab	Move your cursor faster
9	Home/End	Move your cursor to Home/End

INSTALLATION PROCEDURES

MOUNTING THE BRACKETS

Lists of Components

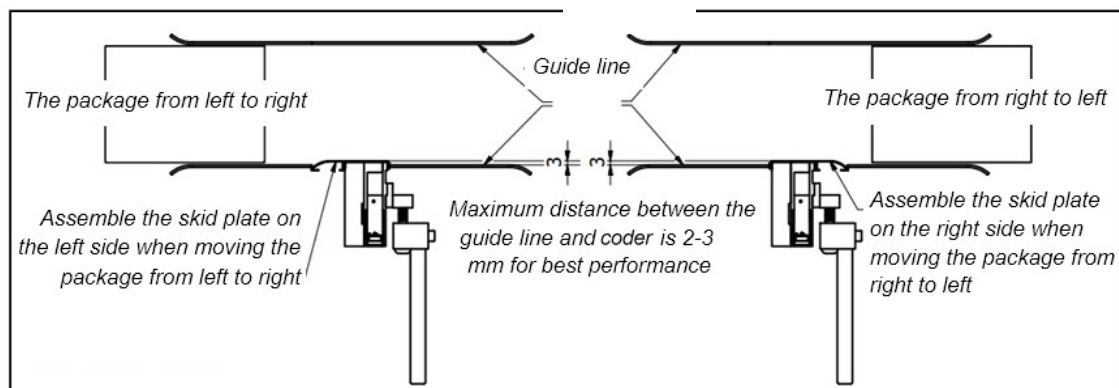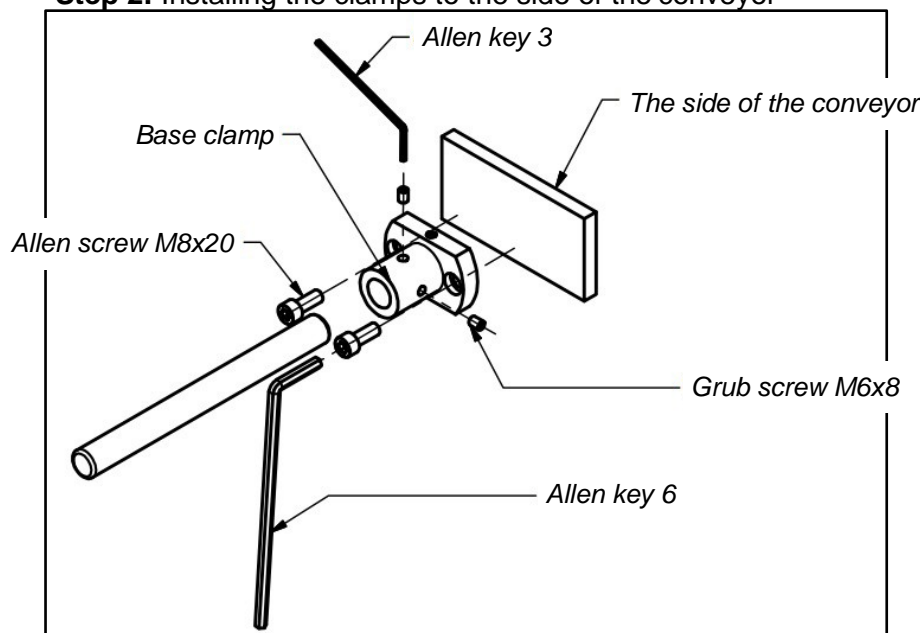| Number	Name	Quantities
1	Smart-Jet Plus Coder	1
2	Skid Plate	1
3	Clamp	3
4	Base Clamp	1
5	Round Bar 200mm	3
6	Round Bar 300mm	1
7	Allen Head screw M8x20	8
8	Grub Screw M6x8	2
9	Allen Key 3	1
10	Allen key 6	1

Step 1: Skid plate guide

Select direction to mount Smart-Jet Plus on the conveyor. Skid plate can be assembled as A or B position depending on the direction of the products on the conveyor.
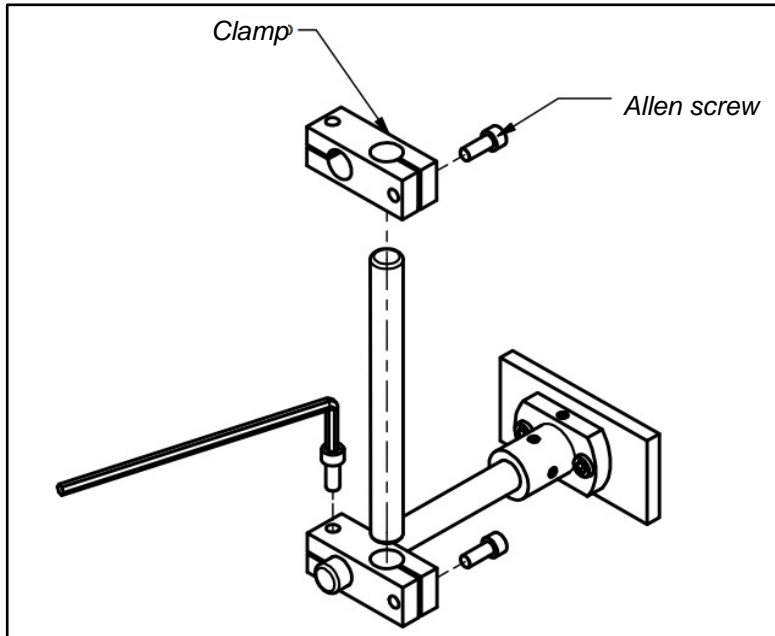

Assemble the skid plate as the guide

NOTE: Push the cover plate fit to the printer when assembling the skid plate

Guide line

The package from left to right

The package from right to left

Assemble the skid plate on the left side when moving the package from left to right

Maximum distance between the guide line and coder is 2-3 mm for best performance

Assemble the skid plate on the right side when moving the package from right to left

Step 2: Installing the clamps to the side of the conveyor

Allen key 3

The side of the conveyor

Base clamp

Allen screw M8x20

Grub screw M6x8

Allen key 6

Step 3: Installing the clamps to the round bar
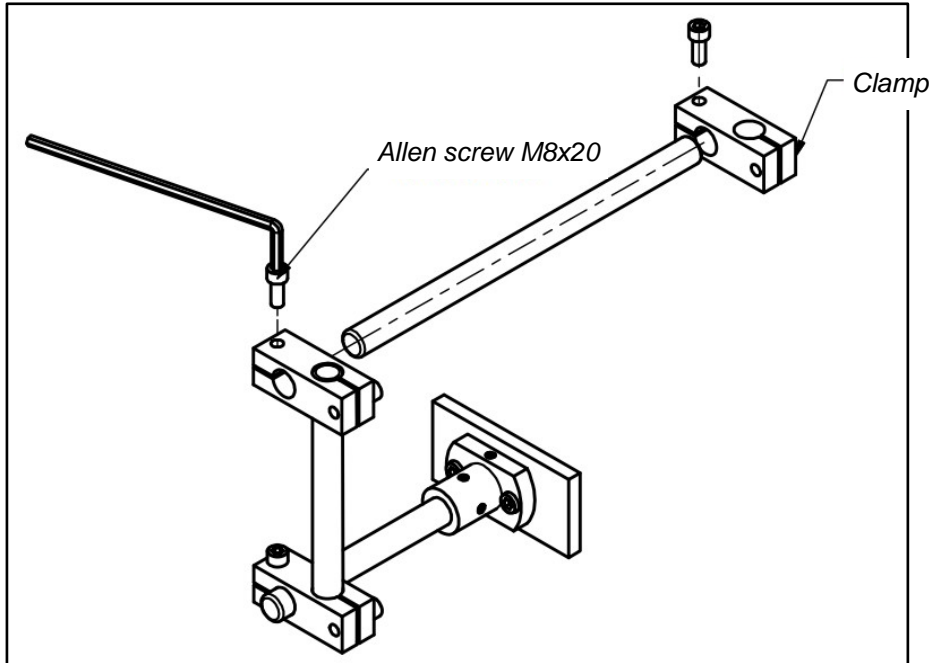

MOUNTING OPTIONS

Select the suitable bar length for each case
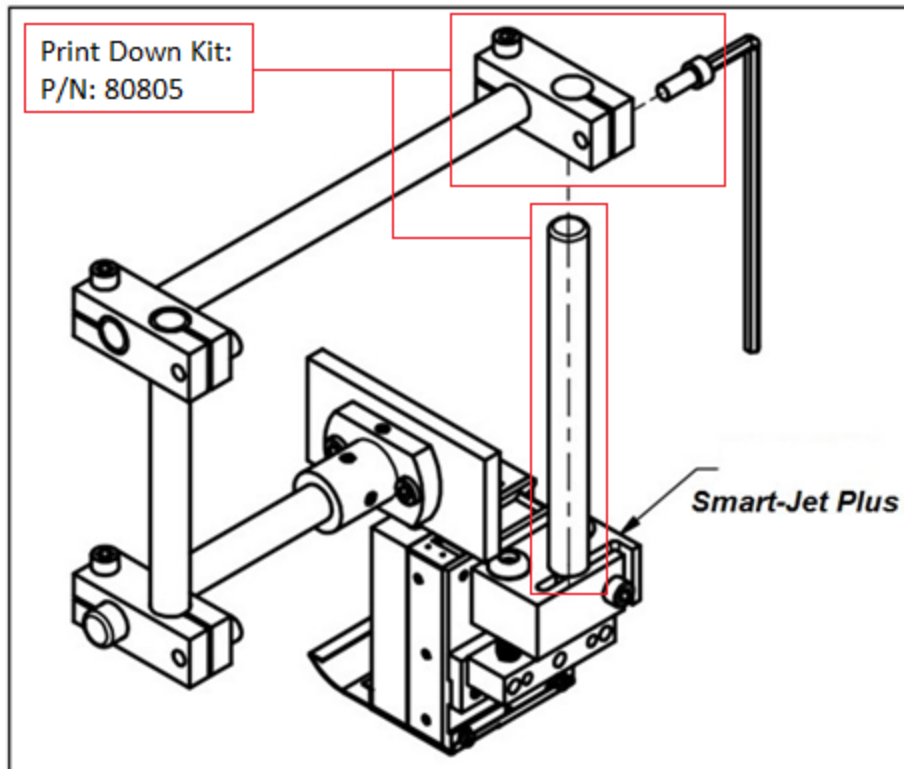
- **Horizontal setup**

- **Vertical setup**

  Step 1

  Step 2

  NOTES:

  Make sure the brackets are mounted firmly to avoid vibration and sway of the print head. This will affect the print quality.
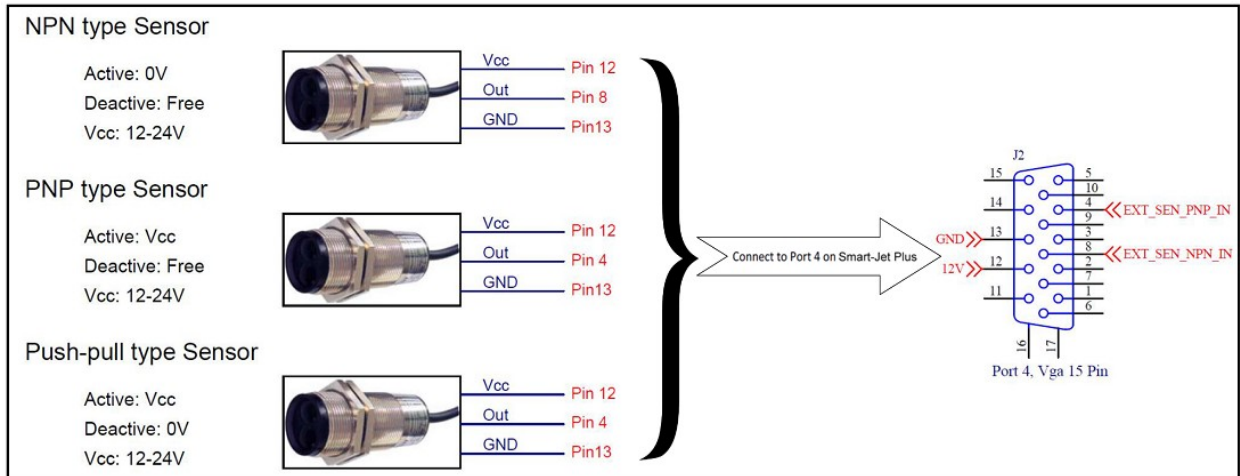
EXTERNAL DEVICE CONNECTION

NOTES:

- *Smart-Jet Plus is able to operate with External Sensor, and Encoder. Consult your supplier for further support on the settings and connections.*

- *To connect Smart-Jet Plus with External Sensor, Encoder, etc…, an additional connector DB15 (male) will be required.*
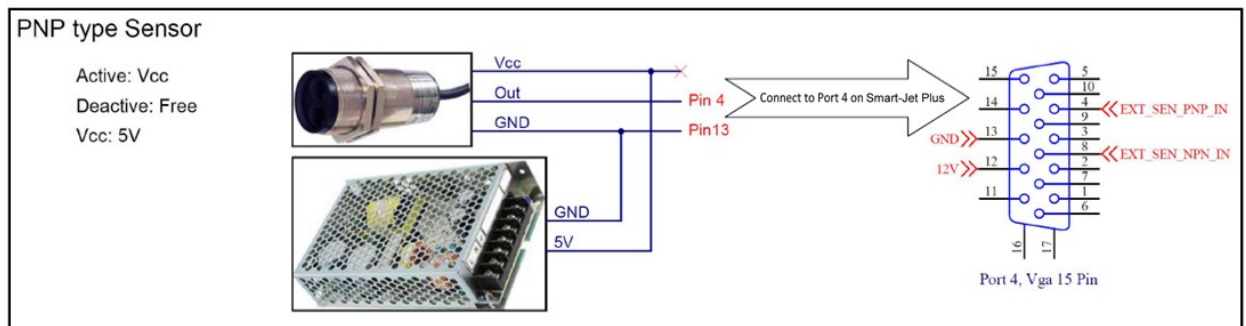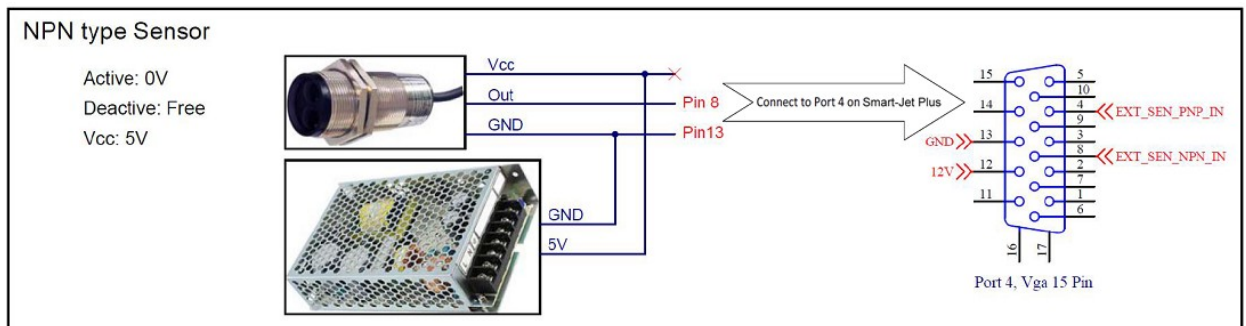
EXTERNAL SENSOR

Smart-Jet Plus supports NPN, PNP and Push-pull sensor types.

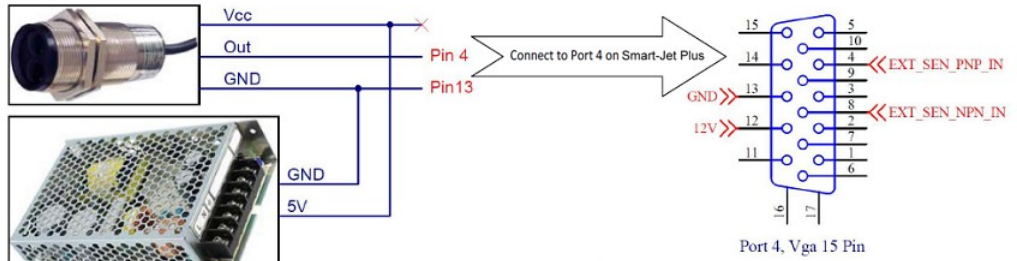- Connect sensor using power supply on Smart-Jet Plus

- Connect sensor to Smart-Jet Plus using external power supply. Below demonstration is for external power supply of 5V
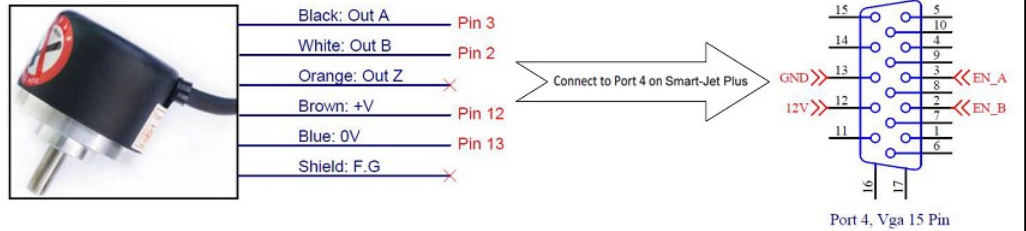
Push-pull type Sensor

Active: Vcc
Deactive: 0V
Vcc: 5V

ENCODER

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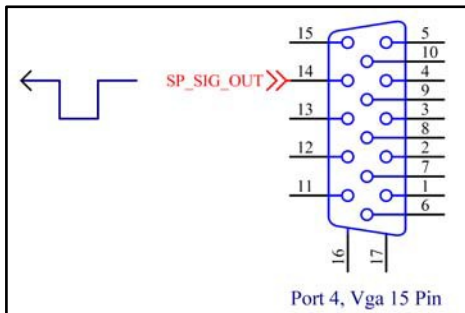

Encoder Technical Specifications
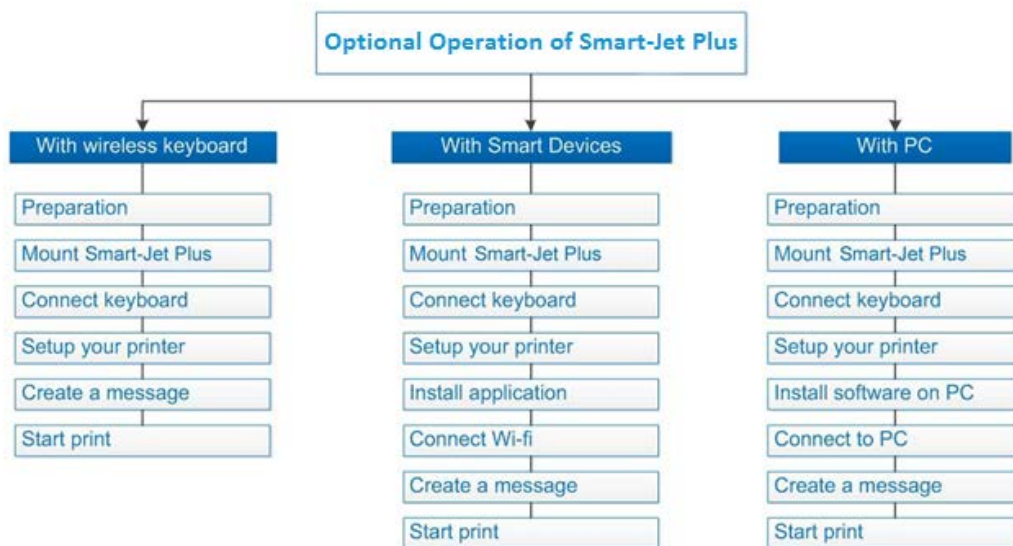
PPR: 3600
Output: ABZ
Power: 12-24V

OUTPUT

Output: active at 0V

Output 14 is available for additional device installation with Smart-Jet Plus.

QUICK STARTUP

OPERATIONAL CHART

REQUIRED COMPONENTS TO OPERATE THE SMART-JET PLUS

No.	Basic Components	With Wireless Keyboard	With Mobile	With PC	Optional
1.	Smart-Jet Plus Coder	✓	✓	✓	
2.	Wireless Keyboard	✓	✓	✓	
3.	Power Supply	✓	✓	✓	
4.	Mounting Brackets	✓	✓	✓	
5.	USB	✓	✓	✓	
6.	Ink Cartridge	✓	✓	✓	
7.	Wi-Fi router		✓		
8.	Smart Devices		✓		
9.	Smart-Jet Plus Application		✓		
10.	PC			✓	
11.	PC Connection Cable			✓	
12.	Smart-Jet Plus Software Email: strope@msscllc.com			✓	
13.	Driver			✓	
14.	Encoder (P/N: 80865)				✓
15.	External Sensor (P/N: 80870)				✓

Setup Smart-Jet Plus

Mount Smart-Jet Plus on your conveyor according to the installation instructions

- Set print direction and appropriate throw distance to obtain best print quality (2-3mm).

- Insert ink cartridge.

- Plug the power cord into an appropriate power source to start up the Smart-Jet Plus.

*NOTES: The Smart-Jet Plus will function with **WATER** and **SOLVENT** ink from **MSSC only**. Trying to use unapproved cartridges may damage the printer and void the warranty.*

Connect Smart-Jet Plus to wireless keyboard

- Connect wireless keyboard USB port (port 2) on Smart-Jet Plus

- Remove sticker in battery port on keyboard.

- Turn on the keyboard to begin operating Smart-Jet Plus

Connect Smart-Jet Plus to Wi-Fi network

- Install the wireless router that meets the parameters on the **COMPATIBLE WI-FI ROUTERS** chart located on page **(28)**. Check to make sure the router is putting out a usable signal, usually indicated by this symbol.

- On Smart-Jet Plus printer's main menu screen, go to **Settings > WI-FI > ON**. The printer will then begin searching for available wireless networks to connect to. Once the preferred network appears on the screen arrow down and press enter. Then follow the next steps that include security (password) which only support **WPA** or **WPA2 (NOT WEP)**, and confirming the connection between the printer and router. All of these menu screens can be navigated by using the **arrow** and the **Enter** key.
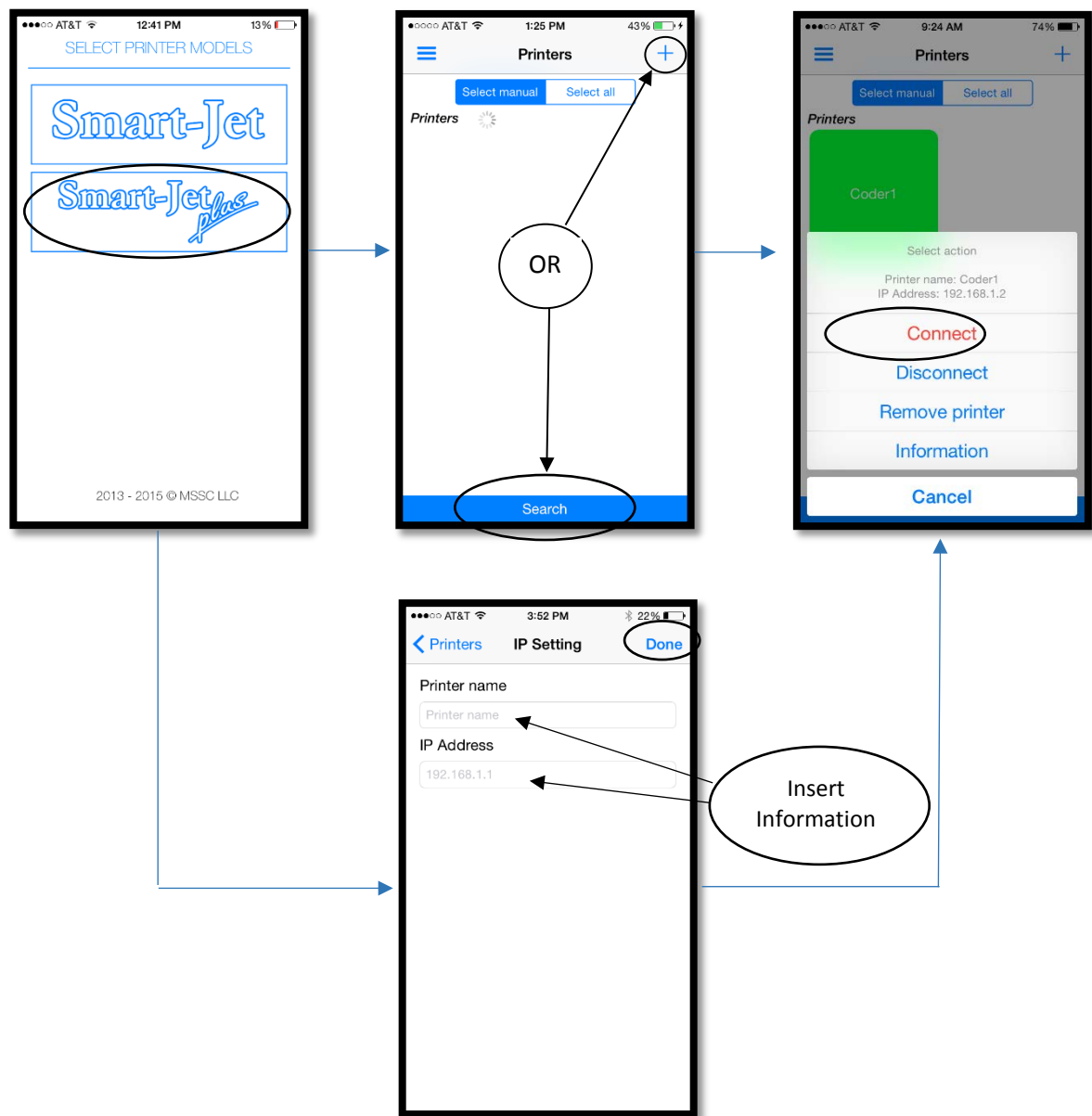
- On the wireless device, the user will first have to install the MSSC Printer app, available on the App Store. (Quick Access QR Codes)
  ANDROID: **APPLE:**

- The device will also have to be connected to the same network as the printer to make a connection. Once the application is downloaded, the user can open the application and begin the connection process. First type in the **username: Administrator, and password: mssc@smartjet**. The **Smart-Jet Plus** icon should be selected, then go to the **Printers tab** on the main menu and select the blue **Search** bar on the bottom of the screen. Once the printer appears, the icon can be selected and the user should select the red **Connect** tab on the top of the menu to end the connection process. In the case that the printer does not show up after the automatic search, a manual connection can be done by selecting the Plus sign (+) in the upper right-hand corner of the screen. After selecting the plus sign, the user can type in the Printer Name and IP address of the printer that was given when it was connected to the router. When the information has been entered, the user can press done in the upper right-hand corner to find the printer and continue to finish the connection process.

15

Connect Smart-Jet Plus to PC

- Be sure you have a PC plugged in connected with Smart-Jet Plus via a USB A-B cable.

- Install **Smart-Jet Plus Printer Controller** and **Driver Smart-Jet Plus** on your PC

- From the main screen of Smart-Jet Plus, go to **Operation** and select **Connect to PC** to connect Smart-Jet Plus with PC

- Turn on **Smart-Jet Plus Printer Controller** on your PC to begin creating a message

Setup External Devices (If required)

- Install external sensor
- Install encoder

Create Message and Print

- Create a message from your PC, Smart-Jet Plus screen, or mobile devices
- Setup necessary parameters to achieve your desired print on the products
- Press Start Print to print your message

SMART-JET PLUS OPERATION

OPERATION WITH WIRELESS KEYBOARD

Compatible Wireless Keyboards

The Smart-Jet Plus is currently compatible with all wireless 2.0 keyboards available on the market.

Connect to Keyboard

- Insert the receiver of wireless keyboard to USB port (port 2) on Smart-Jet Plus, remove the interleave paper in the battery slot and turn on the button at the back of the keyboard to begin operating Smart-Jet Plus with wireless keyboard.
- From the main screen of Smart-Jet Plus, 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.

Procedure in Details

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 printer

memory. *NOTES: While doing this, please be sure you stop*

printing **Create new:**

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 print in all capital letters.

Available fonts and sizes include:

Lines	Arial
1	12.7mm
2	5.93mm
3	3.89mm
4	2.54mm
6	1.69mm

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/unsave messages

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

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

€	,	ƒ	„	…	†	‡	ˆ	‰	‹	'	'	"	"	•	–	—	˜	TM	›
¡	¢	£	¤	¥	¦	§	¨	©	ª	«	¬	-	®	¯	°	±	²	³	´
µ	¶	·	¸	¹	º	»	¼	½	¾	¿	×	Ø	Þ						

In the input section on Smart-Jet Plus, 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 Smart-Jet Plus 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 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.

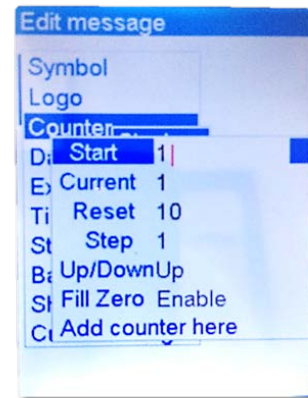Start: start value

Current: current

value Reset: end

value Step: count

step

Up/Down: count up/down

Fill zero: insert 0 before counter

Add counter here: insert counter into the message

Example: To print the following counter on each object:

001, 003, 005….101, 001, 003, 005 … set:

Start: 1

Current: 1

Reset: 101

Step: 2

Up/Down: Up

Fill zero: Enable

NOTES: Users 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 each object and input a value. Begin with **Counter 1** and **Add counter here** and press enter, then apply the same steps to **Counter 2**.

Counter 1:	**Counter 2**:
Start: start value	Start: start value
Current: current value	Current: current value
Reset: end value	Reset: end value
Step: count step	Step: count step
Up/Down: count up/down	Up/Down: count up/down
Fill zero: insert 0 before counter	Fill zero: insert 0 before counter
Add counter here: insert counter into the message	Add counter here: insert counter into the message

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:

19

Step 1: Setup Counter 1 first and insert into the message

        Counter 1:

        Start: 0

        Current: 0

        Reset: 20

        Step: 1

        Up/Down: Up

        Fill zero: Enable

Step 2: Then setup Counter 2 and insert into the same message

        Counter 2:

        Start: 0

        Current: 0

        Reset: 100

        Step: 1

        Up/Down: Up

        Fill zero: Enable

The two counters will be printed as below:

019 099

Packages in the box (Counter 1) ← → Box number (Counter 2)

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, 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

Example:

- 03/09/2013   : *dd/MM/yyyy*
- 3/9/13   : *d/M/yy*
- 3/Sep/13   : *d/MMM/yy*

To insert the current date within a year (365 days), input **Format** *JJJ.* In this case, if your current date is 03/09/2013, date displayed on your message will be 215.

NOTES:

- *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, 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 03/09/2013 and your product will be expired in 1 year, you are required to input 365 at **Expired.** Smart-Jet Plus will automatically calculate the expired date and insert into the message.

Time: Insert current time into the message

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

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

- AM or PM: tt

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.

Barcode: 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: Insert static barcodes into message

Type: select your desired barcode type

Code   39

Code 2/5

Code 128

Code 93

UPC-A

EAN

Codabar

Code 11

Width: Input width for barcode (value varies from 1 to 4)

Height: Input height for barcode (value varies from 1 to 4)

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.

Dynamic: Insert dynamic barcode into message

Type: select your desired Barcode

Code 39

Code 215

Code 128

Code 93

UPC-A

EAN

Codabar

Code 11

22

Width: Input width for Barcode (value varies from 1 to 4)

Height: Input height for Barcode (value varies from 1 to 4)

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*
- *In the middle   : Input both Prefix and Suffix*
- *At the end   : Suffix = 0*

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 shiftcode. Max 2 characters (letter or number, or both)
- **Time:** input start time of each shift

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

Open existing messages to Use/Edit/Delete. From the main screen of Smart-Jet Plus, 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 to save message.

Information

Display settings and status of the printer. From the main screen of Smart-Jet Plus, select Message and use arrow keys to go to Information and press Enter.

- Ink level   : Current ink in the cartridge (mL)
- Speed   : Current print speed (m/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
- Minimum   : Number of prints left based on the current ink level, density and
  resolution

Operation

Start: Start printing

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

- Prints   : Number of prints that have been printed
- Speed   : Current speed (m/min)

- Ink levels   : current amount of ink in the cartridge (mL)
- Resolution : current resolutions (dpi)

Stop: Stop printing

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

   NOTES: Smart-Jet Plus should be stopped before doing other settings.

Purge: Press Purge to jet the ink and clean the print head

Connect / Disconnect PC: Select to connect or disconnect Smart-Jet Plus with PC

Settings

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

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

Speed: Set print speed with 2 print modes: **None Enc.** and **Encoder**

None Enc.: Operating Smart-Jet Plus without encoder. Under this mode, print speed must be set to synchronize with conveyor speed to print good quality message (input value at **Value**).

Encoder: Encoder is recommended where speed of the conveyor is varied. Under this mode, print speed of Smart-Jet Plus will be synchronized with conveyor speed to ensure the best print quality.

Ensure you have an encoder installed with Smart-Jet Plus via the DB15 connector in port (#4).

There are 3 Speed options for the Smart-Jet Plus while utilizing the Encoder feature:

- Fast: This makes the characters print closer together.
- Real: This makes the characters print in correct spacing and size.
- Slow: This makes the characters print farther apart.

NOTES:

- *Minimum speed: 1m/min*
- *Maximum speed: 228m/min*
- *When max speed is exceeded while using an encoder, the printer will continue printing with an error message, but the quality of print decreases. At this point, resolution should be changed to compensate for speed increase.*

From the **Settings** menu, use ⬆ or ⬇ arrow keys to move the cursor to **Speed**, press Enter. Press Enter again at **Select** to choose **None Enc.** or **Encoder** mode**.** Encoder mode has 3 speed ratio options that include **Fast** (2:1), **Real** (1:1), and **Slow** (1:2). Press Enter to apply

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:

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.

Speed chart in m/min:

Density Resolution	1	2	3	4	5
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 500 mm*
- *Delay after print varies from 1 to 500 mm*

Cartridge: User required to input the current amount of ink in the cartridge after inserting new cartridge into the printer and display the current level of ink in the cartridge while printing.

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.*

- If the same cartridge is used on a different printer, record the ink level from the current printer and input it on the new printer.

Update Logo:

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

Logos stored on your USB flash must be processed by our **Smart-Jet Plus_ConvertLogo** application. Smart-Jet Plus accepts logo with **.hex** format only. All logos must be named in order as LOGO1, LOGO2, LOGO3, and LOGO4 as showed below.

> To receive this program:
> - **Input S/N to download**
> - Contact: strope@msscllc.com

Instructions to store logos on USB:

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

- Insert USB flash into Smart-Jet Plus (USB port 2)

- From the **Settings** menu, go to **Update Logo** and press Enter

- Select your desired logo (1 to 4) and press Enter to begin updating. Be sure you name them correctly. LOGO1 on your USB will replace LOGO1 on the printer memory and the same for other logos.

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:

- *Strings are used to insert words or phrases commonly used, to eliminate typing them every new message.*

- *Maximum length of each string is 50 characters.*

- *Smart-Jet Plus allows maximum 5 strings on the printer memory.*

Random Jet: Schedule automatic jetting to clean the print head

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

- Select **Enable** and input a time for jetting in (seconds (s)) at **Time**.

- Select **Disable** to disable random jetting.

Print Side: Set nozzles on 2 modes **Manual** and **Auto**

From the **Settings** menu, use the arrow keys to go to **Print Side** 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

27

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:

   - *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.

Directions:

Set print direction correlating the direction of the conveyor. Smart-Jet Plus supports 4 directions: ABC: left right, CBA: right left, ∀ꓭꓛ: reverse left right, ꓛꓭ∀: reverse right left.

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

Print Mode: **Sensor** mode and **Continue** 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 **Continue** mode.

- **Sensor** mode: Smart-Jet Plus is triggered by sensor to prints.

   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 100.

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

- **Continue** mode

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

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

Unit: Select your desired measurement units **inch** 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.

Wi-Fi: Connect Smart-Jet Plus to Wi-Fi network

From the **Settings** menu, use the arrow keys to go to **Wi-Fi**, press Enter. Use ⬅ and ➡ arrow keys to turn ON or turn OFF Wi-Fi (see Quick Startup pg.15).

Update Fonts: Update different fonts and character sizes for Smart-Jet Plus. There is one font at a time on Smart-Jet Plus.

Smart-Jet Plus supports the following fonts while working with wireless keyboard.

Lines	Arial
1	12.7mm
2	5.93mm
3	3.89mm
4	2.54mm
6	1.69mm

Steps to update different font/size:

- Insert USB flash into USB port 1 on Smart-Jet Plus

- From the **Settings** menu, go to **Update Font** and press Enter

- Select your desired font/sizes (1 to 5) and press Enter to begin updating. FONT1 on your USB will replace FONT1 on the printer memory and the same with other fonts.

Smart-Jet Plus accepts font/sizes with **.hex** format only. All font/sizes must be named as showed below.

NOTES:

- *Fonts being updated will replace the existing ones on the printer memory.*
- *Smart-Jet Plus prints true fonts while working with PC*

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.

System Clock: 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.

Note: Date must be set as DD/MM/YYYY, **NOT** MM/DD/YYYY

Rotate: Select your display modes: Auto or Lock rotate

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

Select Auto or Lock rotate, 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

Password: Set to protect the printer from unauthorized users

Smart-Jet Plus 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: Reset your printer settings to the factory defaults. This can be used after updating firmware or reset Smart-Jet Plus 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 (see pg. 58)

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.

-Must have USB with Firmware plugged in. (Contact: strope@msscllc.com)

About: including 2 items

- See information of the current firmware

- Update a different firmware

OPERATION WITH WI-FI VIA MOBILE DEVICES

CONNECT TO WI-FI

Control Smart-Jet Plus printer via Wi-Fi connection by using mobile devices such as iPhone and iPad.

From the **Settings** menu on Smart-Jet Plus, use arrow keys to go to **Wi-Fi** and press Enter. Use ← and → arrow keys to turn ON Wi-Fi.

Smart-Jet Plus will automatically search available networks and display. Use ⬆ and ⬇ arrow keys to move to your desired network. Press Enter to select.

- Go to **Security** and press Enter to select security type. Press Enter to apply. Otherwise select None and press Enter.

- Input password if required and press Enter to apply.

  In case your desired network is not found, select **Other** to begin searching other networks.

- Input network name and press Enter to confirm

Press ECS to return to the Settings menu. Your password will be remembered for next setup.

NOTES:

- *If your desired Wi-Fi network is not shown, please turn OFF Wi-Fi and turn ON again for new searching process.*

- *Contact your network administrator if supports is needed*

PROCEDURE IN DETAIL

After connecting Smart-Jet Plus to Wi-Fi network successfully, install the application on smart devices to control the Smart-Jet Plus.

With iOS devices (iPhone and iPad):

Go to **App Store** (Key words: smart-jet, MSSC), or scan QR code.

iTunes:

iPhone link: https://itunes.apple.com/vn/app/smart-jet/id582523668?mt=8

iPad link: https://itunes.apple.com/vn/app/smart-jet-for-ipad/id582548354?mt=8

OPERATION WITH PC

MINIMUM PC REQUIREMENTS

Cpu: Core 2 Duo 2x2.0 GHz

Ram: 2GB

Hard disk space : 50 MB

Operating System : Windows 7, Windows 8 (32,64 bit)

(Microsoft .NET Framework 4)

CONNECT SMART-JET PLUS TO PC

Install Smart-Jet Plus software on your PC- Contact: strope@msscllc.com

1: Extract **Smart-JetPlusSetup.rar**

2: Install **Smart-JetPlusController.msi**

3: Select **Next**

4: Browser to allocate your source store. Select **Next**

5: Select **Next**

6: Wait for installation to complete

Install Drive for Smart-Jet Plus Printer Controller on PC

NOTES: *If your PC uses Window 8 64bits, please do one more step:* **Disable signature enforcement** *before you install Driver.*

*****Disable driver signature enforcement**

1. Press Ctrl + Alt + Delete, then keep Shift key and click Restart to start setting mode.

2. Input Startup Setting by link: Troubleshoot / Advance options / Startup settings / Restart.

3. From Startup Setting screen, press 7 to Disable driver signature enforcement. Wait for the operating system to complete.

Install Driver

1. Plug printer into computer with USB cord that was provided with the unit.
2. Power on the printer, go to operate, and "**Connect PC**."
3. You should hear a beep and computer will search for driver.
4. Extract **Driver for Smart-Jet Plus.rar**

5. **Install Driver.**

   From your desktop, right click at the bottom left corner of the screen, select **Device Manager**.

6. Right click on **Thermal Inkjet Coder** devices**,** select **Update Driver**

7. From **Update Driver Software** window**,** select **Browse my computer for driver software**

8. Browse to driver for **Smart-Jet Plus**, select **Next**

9. Select **Install this driver software anyway** to install. Wait for installation to complete

OPERATE SMART-JET PLUS CONTROLLER

Plug in Smart-Jet Plus and connect it to your PC via a USB A-B cable.

From the main screen of Smart-Jet Plus, use the arrow keys to move to **Operation** and press Enter. Then go to **Connect to PC** and press Enter. If **Disconnect to PC** is displayed, your Smart-Jet Plus and PC are connected.

Click to open **Smart-Jet Plus Printer Controller**

Uses of Smart-Jet Plus Controller Interface

1. **PRINTER CONTROL:** Setting all printing parameters for the message before start printing.

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

   PRINT HEAD

   Click **View** to enable and begin setting the parameters.

   Switch Nozzle: Select nozzle sides, ODD or EVEN

Auto Switch Nozzle: select ON for automatically changing nozzles between ODD and EVEN. And then select the number of changing. Otherwise, select OFF.

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

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

To achieve maximum resolution, select 600x600dpi at Resolution DPI in the **Printer** section. To print on the **ODD** or **EVEN** side, select 300x300dpi.

Note: An encoder **MUST** be used to achieve **600x600.**

Random Jet: 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 5s to 1,000s

Encoder: Encoder is recommended to optimize maximum print quality.

Turn ON **Encoder** to operate Smart-Jet Plus with encoder. Print speed of Smart-Jet Plus will be automatically synchronized with conveyor speed. This can be controlled by selecting one of the 3 encoder options: Fast, Real, 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.*

PRINTER

Click **View** to enable and begin setting the parameters.
Unit: Select your measurement **Inches** or **Millimeters**

Direction: Select your print direction **Left to Right** or **Right to Left**.
Select **Rotate View** to print upside down
Rotate View: Upside down the current design of your message

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

Change the value of density by click up or down at ⏶⏷ or input your desired value.

Resolution DPI: Select your desired resolution

Printing Mode: Select your printing mode: **Continue** or **Sensor**

Sensor: Smart-Jet Plus prints when sensor is triggered.

- Select **Internal** to print with a built-in sensor on Smart-Jet Plus.

  Set **Delay Before** and **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, the set **Delay Before** and **After** print to have your message printed at the desired position.

Continue: Smart-Jet Plus 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 **Fixed Length** to input the value or select the value by click up or down at ⬍.
- Go to **Repeat All** and select **Times** to input how many prints to be repeated. Otherwise, select **Unlimited**.

PRINTING STATUS

Power On Smart-Jet Plus is connected to PC

Power Off Smart-Jet Plus is disconnected to PC

 Displays the current speed of conveyor synchronized by encoder

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

 Select page to start printing, apply for counter, barcode, data field. The data will continue to run according start page, this can help you troubleshooting the issue without any other assistance.

OPERATING

 Print: Select to print

 Pause: Select to temporary stop printing

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

 Purge: Select to purge

2. **DESIGNING:** Design your message

 New template: Create new message

 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

Select Tool: Select to function and edit each object on the message

Hand Pan: Move designing area to right/left to function on the hidden area in case your message is not fully displayed on the screen.

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

Static Text: Insert characters and barcodes

Barcode: Insert barcode

Data Fields: Insert data

Serial Number: Insert counter

Shift Code: Insert shift code

Image: Insert image or logo

Undo: Recover previous actions

Redo: Recover last actions

3. **TOOLS**: See operation history of Smart-Jet Plus

Purge	**Purge:** Jet the ink and clean the print head
Ink Cost	**Ink Cost:** Calculate ink cost
Event Log	**Event Log:** View using firmware history

Create new message

From the designing section, select **New Template**. A new window pops up.

- Name your message at **Name**

- Select measurement.

- Input Width of your message.
- Height of the message is default at 12.7mm, this is the maximum height.
- 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 not be printed.*

Use of Static Text

- From the Designing Section, select Static Text
- Click on the designing section. A window will pop up.
- Input content from your keyboard.

- Format your content just like you are 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

- Press OK
- Place your object into the designing section. The followings functions can be used to move, rotate, or zoom in/out (see instructions at designing section)

Uses of tools in the designing section:

Click **Select Tool** to begin functioning

Measurement: From the designing section, right click on the ruler and select your desired measurement.

Moving Objects: Place the cursor on the object until this icon appears, then drag to move the object to the desired position.

Rotate Object: Click to select the object. Then move the cursor to the blue dot on top of the object. Hold and begin rotating. You might need to move the object a bit to see the blue dot.

Zoom In/Out Object: Click to select the object. Move the cursor to the dots until the arrow ⤡ appears, click and drag to zoom in / zoom out.

Move Designing Section: Select ☝ then click on the designing section to drag to the area covered by the desktop screen.

Show Gridlines: Right click on the designing section, then select to show gridlines. This will help to organize your design.

Gridlines: To make sure all objects in the designing section in line, click on the object and drag. A blue line will appear as you are dragging the objects.

Creating Barcode

Barcode can be created from **Static Text**, **Barcode**, and **Data Fields**

- **Static Text** [barcode icon] (for static barcodes)

  Select **Static Text** and click on the designing section. Static Text window will appear.

  Click to select Barcode. Then click on tab **Barcode**. A new window will appear, select to set the parameters on the barcode.

1. Select your desired barcode type at **Barcode Type.** See references at **Encode Data** to create your barcode.

2. Go to Options to set parameters according to your specific requirements for each barcode.

3. Place your barcode within the **Margin** and set **Resolution**

   Left Margin: Align barcode from the left

   Align to left

   Right Margin: Align barcode from the right

   Top Margin: Align barcode from top

   Bottom Margin: Align barcode from bottom

   Resolution: Set resolution for your barcode

   Unit of Measure: Unit of resolution

   Text Margin: Set distance from the text (barcode data) to the bottom edge of barcode.

   Set

   Barcode module width: Adjust width of barcode

   Barcode module height: Adjust height of barcode

   Display Barcode data: Show/hide barcode data

   Hide text   Show text

   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.

- **Barcode** : Creating a barcode by repeating the same steps from Static Text. Variable barcode can also be created from this section.

CREATING A VARIABLE BARCODE:

Select **Barcode** and click on the designing section, the window below will appear to set parameters for the barcode.

To create a variable barcode, select tab **Variable Barcode**. Otherwise, select **Data** to create a static barcode.

Input data for variable Barcode

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

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

CREATING SHIFT CODE

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.

Install Smart-Jet Plus Convert Logo (create logo under .hex format)

(Contact: strope@msscllc.com)

Step 1: Extract Smart-JetPlusConvertLogo.rar provided by your supplier. Double click to begin installing.

Step 2: Browse to save, click Next

Select Installation Folder

The installer will install Smart Jet Plus Convert Logo to the following folder.

To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".

Folder:

C:\Program Files (x86)\MSSC\Smart Jet Plus Convert Logo\

Browse...

Disk Cost...

Install Smart Jet Plus Convert Logo for yourself, or for anyone who uses this computer:

◉ Everyone

○ Just me

Cancel   < Back   Next >

Step 3: Click Next and wait for installation to complete

Step 4: Installation complete. Click to close

Using Smart-Jet Plus Convert Logo

Double click Smart Jet Plus Convert Logo shortcut to open the application.

Go to **Browse** to select your desired Logo Adjust logo

size and release

Normal   **Inverse**

Select to name your logo (LOGO1, LOGO2, LOGO3, and LOGO4) and update to your printer memory (see **Update Logo**)

Click to save your logo. Click OK to finish converting.

PRODUCT WARRANTY

The Product Warranty for the Smart-Jet Plus is effective for 12 months from delivery date. Brackets, keyboard, power supply, and anti-shock mechanism are excluded from the warranty.

The warranty is VOID if:

1. Any non-original parts and unapproved OEM inks are used.
2. The product has been altered or modified without approval of MSSC.

3. Print head damage is a result of improper installation.
4. 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.
5. Unapproved, wrong or unstable power supply is used.

APPENDIX

INK CARTRIDGE MAINTENANCE

Print head cleaning:

While the Smart-Jet Plus is working, (If the print quality is degraded), please check on the ink level in the cartridge:

- If the cartridge is out of ink, change the new cartridge.
- If the cartridge isn't out of ink, the degraded print quality may be caused by the ink-spray, dust, or paper fiber being collected and built up on the surface of the nozzles plate. To maintain the print quality of the cartridge follow these wiping and purging tips.

Wiping

1. Materials needed: a lint-free, soft cloth, and de-ionized water.
2. Moisten the cloth with de-ionized water. Tap water also works but de-ionized water is recommended since the tap water contains impurities that can damage the printhead.
3. Wipe slowly across the long-axis with the cartridge facing down as shown.
4. There are two lines of ink on the moistened cloth after wiping.

    Note: (Do **Not** use **MEK Solvent**)

Important notes:

- To avoid scratching the orifice plate, do not apply excessive force or use a dry or abrasive cloth
- To avoid clogging the nozzles, make certain that the lint free cloth and de-ionized water used do not have a high percentage of suspended particles.
- **Do not shake the cartridge as ink pressure will damage the nozzles.**

Purging

1. If the cartridge sits inactive and uncapped for a period of time, the ink may dry and form a viscous plug at the nozzles. The dried ink plug can cause misdirected drops and eventually block the nozzles. White streaks may be visible in the printed text or graphic. To fix this problem, purge the ink plug out of the nozzles. Printing alone may be insufficient in removing ink plugs from the nozzles. See the description above about how to run the Purge function in the printer.

2. Wipe the cartridge with a moist, lint-free cloth to remove the excess ink on the surface of nozzle plate.

3. Print a few lines of text or graphics at high resolution, (300x300) density 3 or higher, to utilize more nozzles and push more ink out.

4. Check the printed image. If the print quality can't be recovered, repeat this procedure several times. If it still doesn't work, change the print cartridge.

The cartridge before [1] and after [2] cleaning:

INK CARTRIDGE STORAGE PROCEDURE:

For short term storing (less than one day):

- Leave the cartridge in the printer, capped. Capping cartridge is always recommended to prevent the nozzles from drying out or becoming clogged due to ink's solvent evaporation or dusting.

- Wipe and/ or purge the cartridge next time it is used until good print quality is achieved.

For long term storing (more than one day):

- Remove the cartridge from the printer

- Remember that all inkjet print cartridges produce a small amount of ink residue that may build up on the cartridge nozzles during printing. We need to wipe the cartridge to remove these ink residues from the nozzles plate.

- Tightly cap the printer cartridge by sealing tape.

- Leave the cartridge uncapped and place it in an airtight container with moist, dust- free cloth or sponge to prevent cartridge's nozzles from drying out or becoming clogged. Close the container tightly.

- Wipe and/ or purge the printer cartridge next time it is used until getting the good print quality is achieved.

Smart-Jet Plus FAQ

Setting up the printer:

1. **My keyboard will not work**
   a. Make sure the keyboard is plugged into the correct usb port on the back of the printer
   b. Make sure you power on the keyboard, this is on the back of the keyboard near the top center
   c. If the keyboard worked before, and now it does not, unplug it and power off the machine, then plug it back in, power on the machine. If the keyboard still does not work, it may have been zapped by high voltage and needs to be replaced. **P/N: 80878**

2. **Can I use an encoder?**
   a. Yes, **P/N: 80865**

3. **Can I have an encoder and use an external photo sensor at the same time?**
   a. Yes, **P/N: 80875**

4. **How far away can it print?**
   a. 2-4mm

5. **How many font sizes can I get?**
   a. 5, You can print 1 line of 12.7mm (1/2"), up to 2 lines of 5.9mm (1/4"), up to 3 lines of 3.9mm (1/6"), up to 4 lines of 2.5mm (1/10"), and up to 6 lines of 1.7mm (1/14")

6. **Can I change font styles?**
   a. Yes, using the PC software

7. **Can I print logos?**
   a. Yes, you can print up to 4 logos

8. **The printer will not print anything, even after I made sure I went to operate → start, and the cartridge is in the printer securely**
   a. Does the **red LED light** on top of the printer **turn on** when you put the product 1" in front of the printer, making sure it passes the internal sensor under the print head of the cartridge?

      i. **Yes** – the red light turns on. If the internal photo sensor can see the product, and when you pass something in front of the printer nothing prints, make sure you are within 2-4mm of the product.
         1. Try to purge the printer, if **it can purge**, there may be a problem with the "print delay before" setting, turn to 10mm and try again. **See Page 26** of Owner's Manual
         2. **If it cannot purge**, then there may a software conflict. Go to msscllc.com and download the newest software version. Then update according to proper procedures as prescribed in the owner's manual.

ii. **No** – You need to adjust the internal sensor sensitivity. This is located inside the printer, near the base of the latch. Put the screwdriver that came with the printer in the slot and twist clockwise gently, it increases the sensitivity of the sensor, and you can now see black and clear. If this still does not work, you may need the external photo sensor, **P/N: 80870**

9. **Does the printer software have any foreign languages**?
   a. Yes, the Smart-Jet Plus comes default with English, Spanish, French, German, Chinese, Portuguese, and Swedish. See the settings in the printer for "Language"

10. **Will any HP Ink cartridge work in the Smart-Jet Plus printer?**
    a. No, you must use MSSC ink, or an "Invalid Cartridge" error will display, and the unit will not print. This ink is uniquely formulated to work in industrial applications in the Smart-Jet, and Smart-Jet Plus printers.

Wi-Fi connection

11. **How do I set up the Wi-Fi feature?**
    a. MSSC requires the E1200 Linksys Router to work properly. There are multiple steps:
       i. Turn on the router and plug it into the wall. Do NOT use the Ethernet cable and do NOT connect it to the internet. This is a Local Area Network (LAN)
       ii. Download the MSSC Printer Application in the Apple store or Google Play store
          1. If there is a username and password, they are: Administrator and mssc@smartjet
       iii. Using your phone/tablet, connect to the new Wi-Fi and note the SSID (name of the router signal)
          1. The router must use either no security, or WPA/WPA2
       iv. Go to the Smart-Jet Plus printer now and then Settings → Wi-Fi → Connect
          1. If there is a password, insert it
       v. Press enter and the printer will now try to connect to the Router
          1. The printer will assign an IP Address (192.168.1.2, etc.)
          2. Copy the IP Address down
       vi. Go back to the App on your phone/tablet and click the three blue bars stacked on each other in the top left.
          1. Click it, then select Printers
          2. Now at the bottom should be a blue bar with the word "search" on it
             a. Select it
          3. Your printer name should pop up
             a. Press and hold on it until a new menu pops up
                i. Press Connect
       vii. You should now be connected

12. **My printer did not get an IP address**
    a. Double check your security settings. If you require security, it MUST be WPA/WPA2. Try to turn off security and see if it works.
    b. Turn off the printer and turn it back on.
    c. If using a different type of router, it is possible the Smart-Jet Plus Printer will not be able to recognize it. For best results, you must use the Linksys E1200 router.

13. **My printer was given an IP address, I typed that information into the app, and the app is still not communicating with the printer, why?**
    a. Double check that your phone/tablet is on the same Wi-Fi network as the printer. Sometimes tablets and phones will switch back to the default Wi-Fi. For example, if you have a "work" router with internet, and you named your Smart-Jet Plus router "Sj," double check that your phone/tablet did not switch back to "work", when you had it on "Sj" earlier. This happens occasionally.

Operating the printer:

1. **Why is my print blurry?**
   a. Make sure the product being printed on is within 2-4mm from the printhead. If you get too far away from the product, the print may get blurry. The printer has a spring loaded head design so the product can kiss the printer skid plate. This position will get the best print quality.

2. **Can I print facing up towards the ceiling?**
   a. No, we do not recommend printing up!

3. **Can the printer print down towards the ground?**
   a. Yes, you can purchase the print down kit, **P/N: 80805**, which allows you to print down. The print down kit is an extra bar and crossover block

4. **Can I connect a computer to run the printer?**
   a. Yes, contact MSSC to obtain this software

5. **Can I remove the cartridge with the power on?**
   a. Yes, the Smart-Jet Plus is Hot Swap enabled

6. **Can I name a message?**
   a. You can name messages on your app, but not on the printer

7. **How many messages can the Smart-Jet Plus store?**
   a. 100 on the unit
   b. Unlimited on the phone/tablet

8. **How many characters per line of print can I get?**
   a. 150

9. **How do I create a message with an automatic variable (date, time, shift code, expire date, etc.)**
   a. When editing or creating a message, **press insert** to enter variable data such as date, time, shift code, barcodes, and expiration date. See **page 17-18** of the Owner's Manual
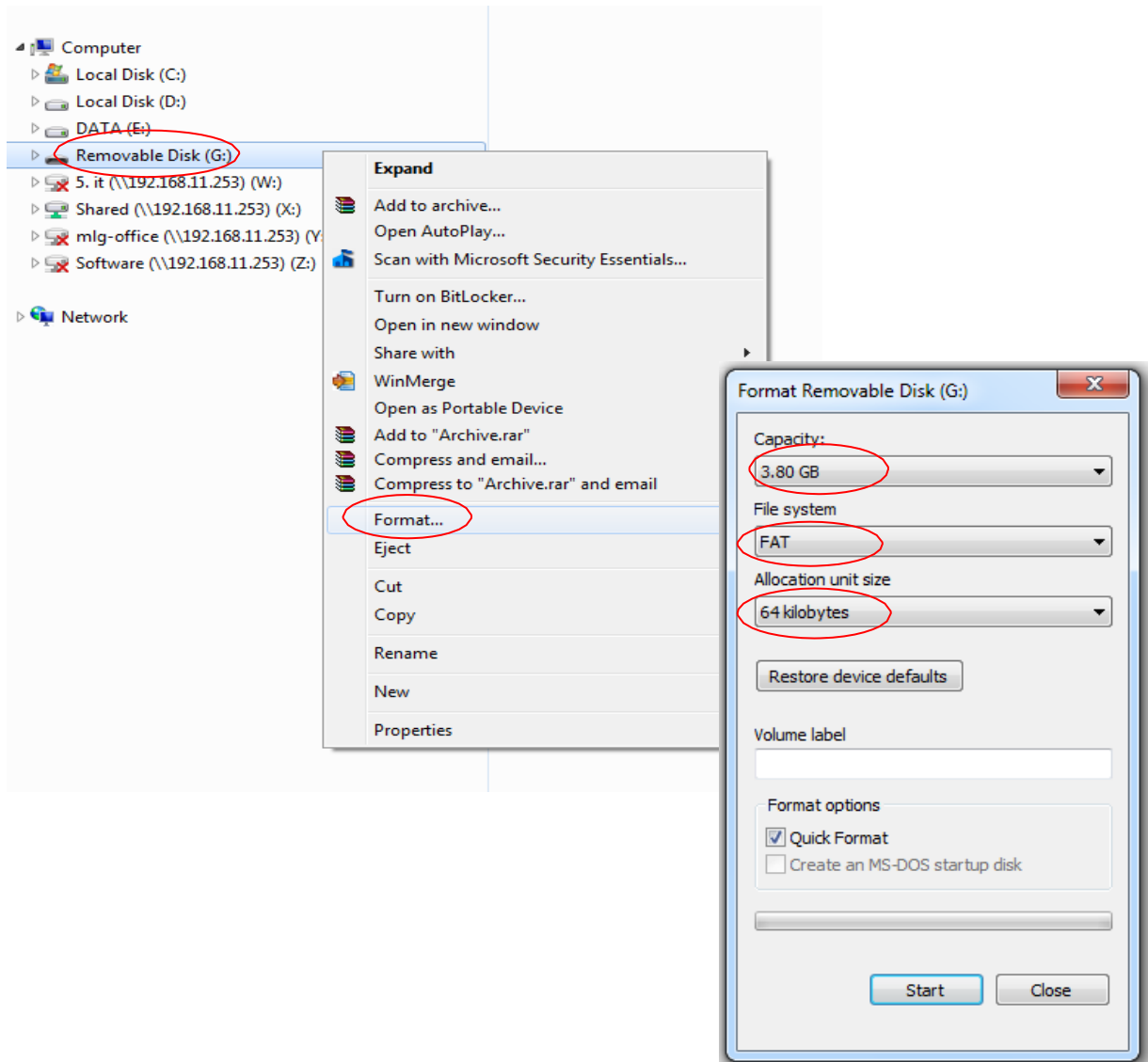
UPDATE FIRMWARE INSTRUCTIONS

NOTES:

- *Remove encoder/ external connections when updating*

- *Be sure there is no power failure while firmware is being updated*
- *All data and settings will be lost while updating new firmware*
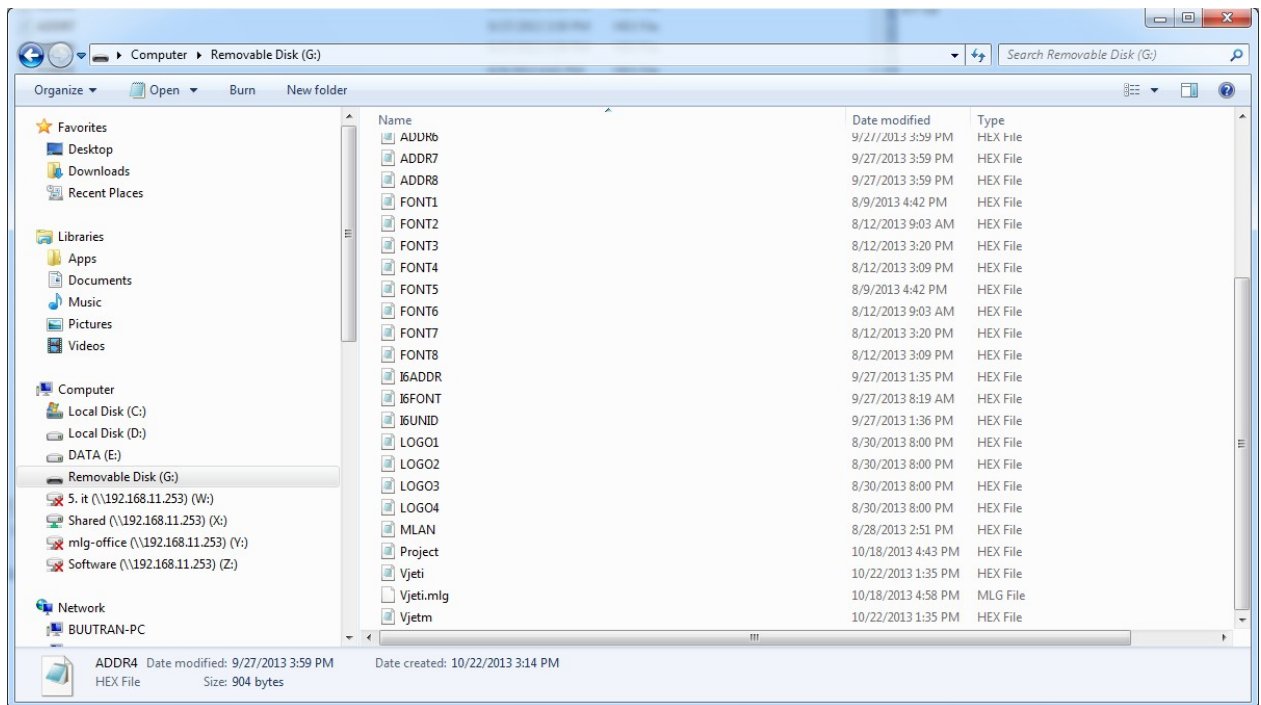- *Cartridge should be removed from the printer to avoid failure*

1. **USB flash disk:**

- Prepare USB flash disk less than 4GB.
- Format USB flash disk with file system FAT and allocation unit size 64 Kbytes. See photo below

- Extract "FirmwareSmart-Jet Plus.rar" to USB flash disk. (Contact: strope@msscllc.com)

- Insert USB flash disk into the Smart-Jet Plus printer.

2. **Update firmware:**

   - From the main menu, use the arrow keys to go to **Settings** → **About** → **Update firmware** → **Yes**
   - This process will take 10 minutes.
   - When update is complete, go back to the **Main Menu** and press **F12**

3. When update is complete, go to **Settings** and do the following updates:

   Update your own logo, if any:
   - Update Logo → Logo 1
   - Update Logo → Logo 2
   - Update Logo → Logo 3
   - Update Logo → Logo 4

   Update your font size. This process will take 2 - 3 minutes.
   - Update Font → Font 12.7 mm
   - Update Font → Font 5.93 mm
   - Update Font → Font 3.89 mm
   - Update Font → Font 2.54 mm
   - Update Font → Font 1.69 mm
   Set your printer to factory defaults

   - Default → Yes

   Repeat **3.** if you need to update your own logos.

4. Update Interface Language (*this step is required if you are updating interface language*)

   - Go to **Settings** → **Language** → **Select your desired language**
   - Go back to the **Main Menu** and press **F12** (waiting for the data transferring)
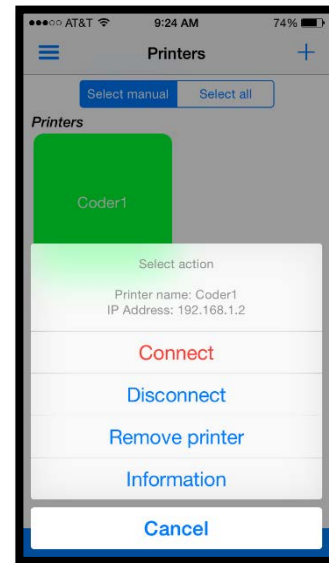
Update firmware is complete.

65

Wireless Device, Apple (iOS)
Connecting to WI-FI

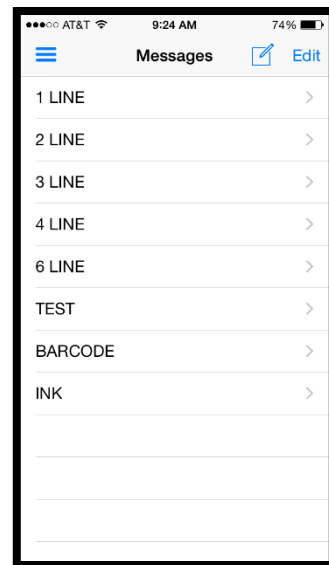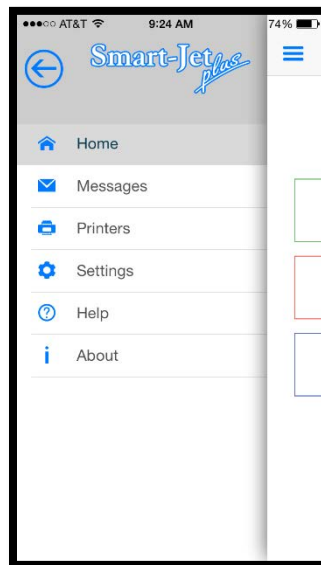- In settings on the wireless device, connect to the specified WI-FI router that is designated for the printer.

Connecting the Printer to the Device

- After opening the MSSC app, go to the *Printers* tab and select *Search* on the bottom blue bar on the screen.
- A printer should appear on the screen as a blue box with a name, select this box and a menu of options should appear.
- In this menu, select the red *Connect* and begin using the printer.
- This is also the location where the printer can be:
    - *Disconnect*: Disconnects printer from the remote settings, further editing - would be done by wireless keyboard.
    - *Remove Printer*: This removes the printer from this device.
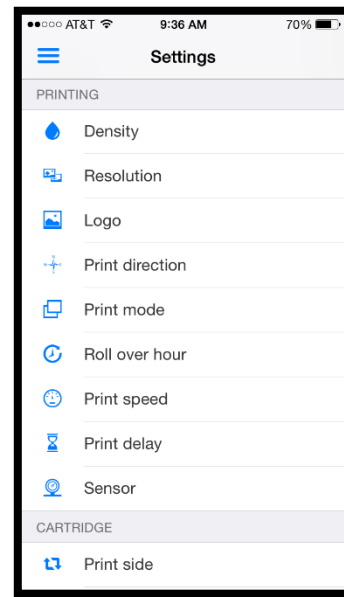   - *Information*: The printer's current update and system information.

Creating a Message

- In the main menu, select the *Message* tab.
- This should bring up the screen as shown. Click on the blue pencil and square icon in the upper right hand corner.
- Then select the message type that is most suitable for the application.
- This will bring up the message creation screen. This is where the user can enter text and insert *Logos, Barcodes, Counters, etc*.
- Finally after the message is finished the message can be named and saved to the *Message* screen as shown in the picture.
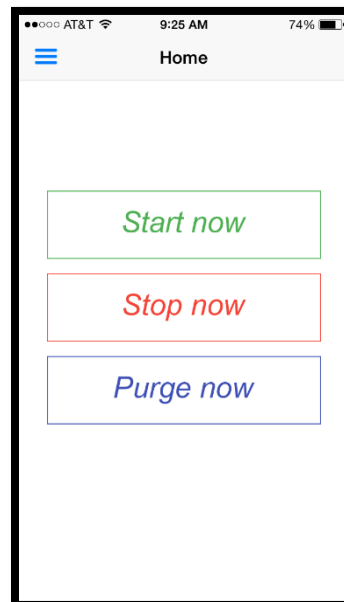
Settings

- Select the *Settings* tab in the main menu to open the screen as shown.
- This screen functions similarly as the one on the display of the actual printer.
- It is recommended to stop printing before making any adjustments within the printing menu.

Printing Controls

- This screen resembles the same display screen in the *Operation* tab on the actual printer display.
- Printing head of the Smart-Jet Plus can be controlled from this screen. The print head can be started and stopped by using the following tabs:
  - *Start now*
  - *Stop now*
- The print head can also be cleaned by manually clicking on the *Purge now* tab.

Printers

- The Smart-Jet Plus allows the user to have multiple printers saved within the *Printers* tab. This feature allows for easy connecting and editing of printer settings wirelessly.

About

- This screen can be used to see what updated version of firmware is installed into the printer.
- Customer service contact information is also on this page for questions on setup difficulty on the Smart-Jet Plus.
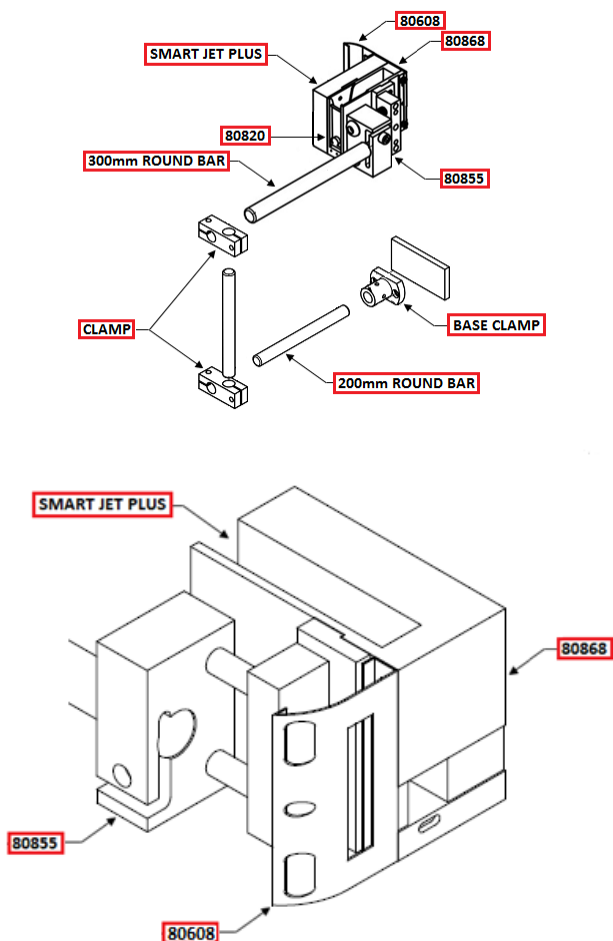
Further Difficulties with App Installation

- Refer to pages 27-28 for the connecting of compatible WI-FI routers and app installation information.

67

Smart-Jet Plus Replacement Parts

P/N:	Description	Included Items
	RP Parts List	
80608	*Smart-Jet, Skid Plate With Photo Cell Opening*	*Plate With External Sensor Mounting Holes*
80805	*Smart-Jet Print Down Bracket Kit and Fasteners*	*300mm Bar, Clamp, and Hardware*
80815	*Skid Plate and Hardware*	*Skid Plate and Hardware*
80820	*Smart-Jet Latch and Pin*	*Cartridge Latch and Pin Assembly*
80825	*Smart-Jet Conveyor Mount Bracketry Kit Complete*	*Complete Bracket Kit*
80830	*Smart-Jet Spring, Spring Loaded Mounting Assembly*	*Spring Loaded Mechanism*
80855	*Smart-Jet Spring, Slide Mechanism*	*Spring Loaded Printer Slider*
80868	*Smart-Jet Plus, Front Cover Plate*	*Cover Plate and Hardware*
80870	*Smart-Jet Plus, External Photo Cell*	*Externally Mounted Photo Cell*
80873	*Smart-Jet Plus, Power Supply*	*Cord with US End*
80878	*Smart-Jet Plus, Wireless Keyboard*	*Keyboard and USB*
80883	*Smart-Jet Plus, Main Board*	*Internal Main Circuit Board*
80888	*Smart-Jet Plus, Display Board*	*Internal Circuit Board With Display Screen*
80955	*Smart-Jet Plus, Bulk Ink Restraint*	*Ink Tray*
80893	*Smart-Jet Plus, Pen Driver Board*	*Internal Cartridge Board*

Smart Jet Plus: Current Housing

Smart Jet Plus: New Housing
(S/N: *SJP15261001* and **Newer**)