



C1400

User Manual

Version 1.0



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SAFETY INSTRUCTIONS

1. Read these instructions carefully. Keep these instructions for future reference.
2. Please disconnect this equipment from AC outlet before cleaning. Don't use liquid or sprayed detergent for cleaning. Use moisture sheet or cloth for cleaning.
3. Please keep this equipment from humidity.
4. Lay this equipment on a reliable surface when installing. A drop or fall could cause injury.
5. Make sure power cord is connected in such a way that people cannot step on it. Do not place anything over the power cord.
6. All cautions and warnings on the equipment should be noted.
7. If the equipment is not used for a long time, disconnect the equipment from main to avoid being damaged by transient over voltage.
8. Never pour any liquid into opening; this could cause fire or electrical shock.
9. If one of the following situations arises, get the equipment checked by a service personnel:
 - a. The power cord or plug is damaged.
 - b. Liquid has penetrated into the equipment.
 - c. The equipment has been exposed to moisture.
 - d. The equipment does not work well or you cannot get it to work according to user manual.
 - e. The equipment has been dropped and/or damaged.
10. Do not leave this equipment in an unconditioned environment, storage temperature below -20 °C or above 60 °C, as this may damage the equipment.
11. Unplug the power cord when doing any service or adding optional kits.

Lithium Battery Caution:

1. Danger of explosion can happen if the battery is incorrectly replaced. Replace only the original or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.
2. Do not remove the cover, and ensure no user serviceable components are inside. Take the unit to the service centre for service and repair.

CE Notice

This device complies with the requirements of the CE directive.

FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interface cables must be used in order to comply with emission limits.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

WEEE Notice

This appliance is labeled in accordance with European Directive 2002/96/EC concerning waste electrical and electronic equipment (WEEE). The Directive determines the framework for the return and recycling of used appliances as applicable throughout the European Union. This label is applied to various products to indicate that the product is not to be thrown away, but rather reclaimed upon end of life per this Directive.



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1 - PACKING LIST

1-1 STANDARD ACCESSORIES

System



90W Power Adaptor



Power Cord



1-2 OPTIONAL ACCESSORIES

Magnetic Stripe
Reader

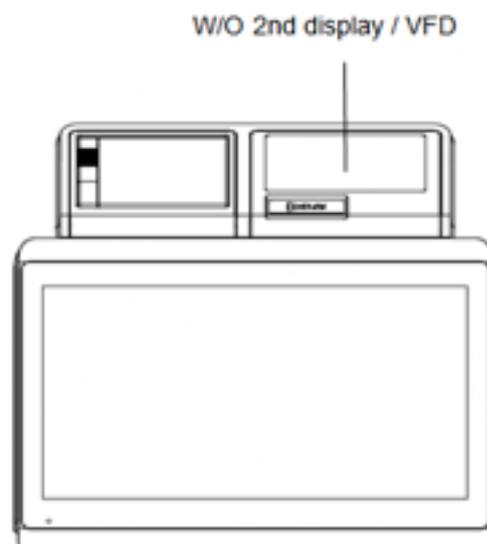
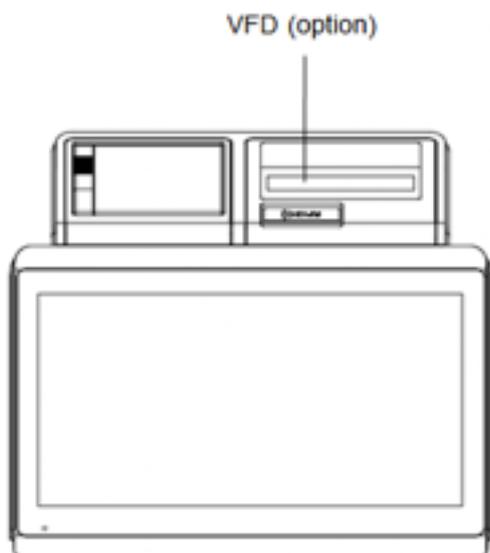
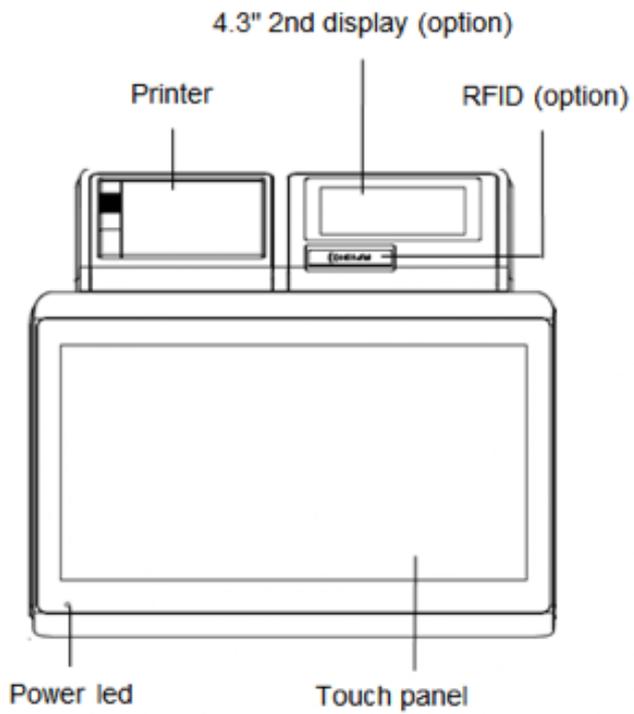


iButton



2 - SYSTEM VIEW

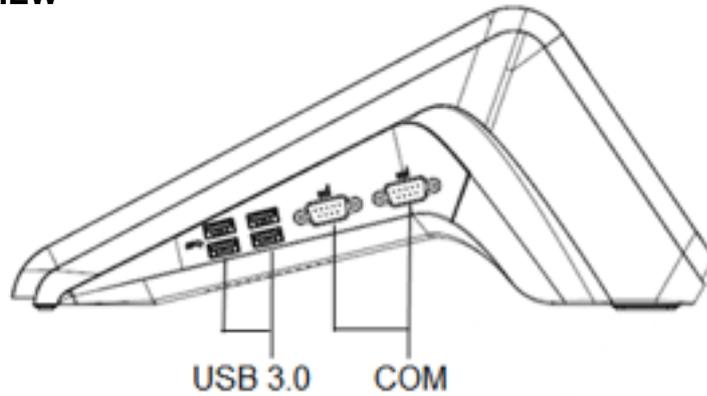
2-1 FRONT VIEW



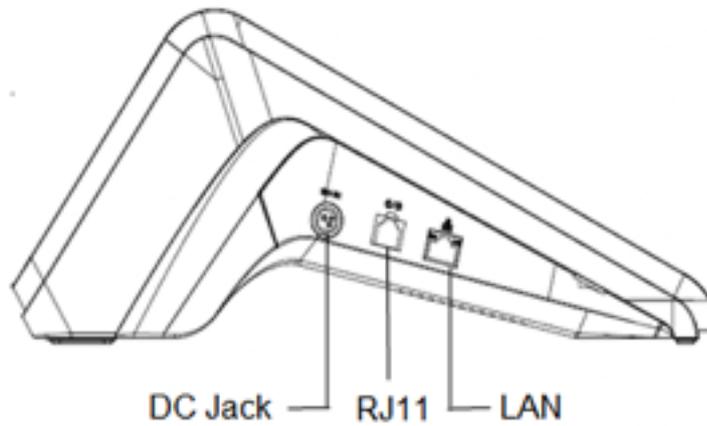
2 - SYSTEM VIEW

2-2 SIDE VIEW

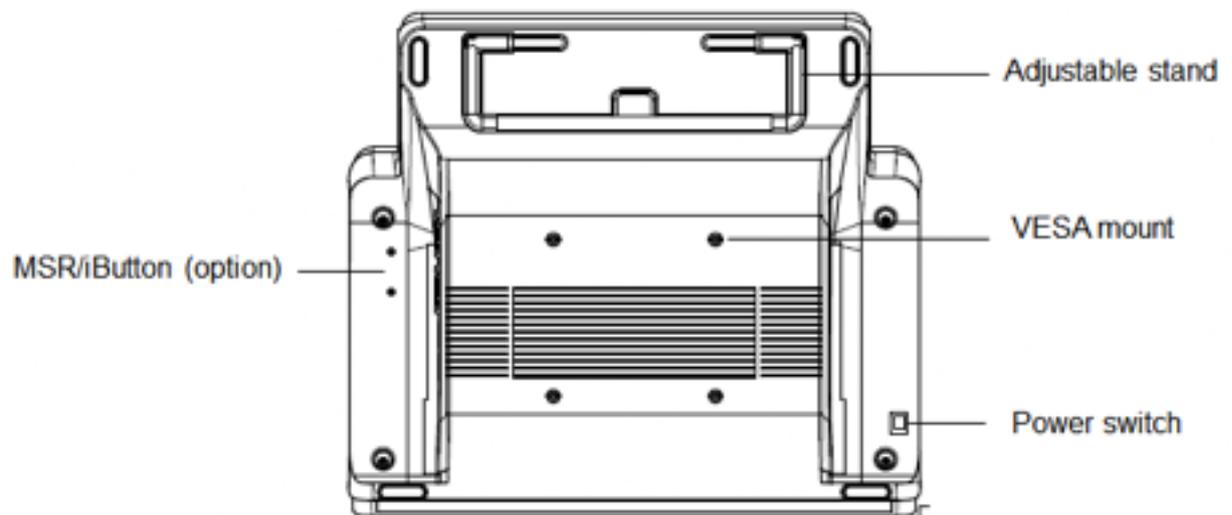
Right side



Left side

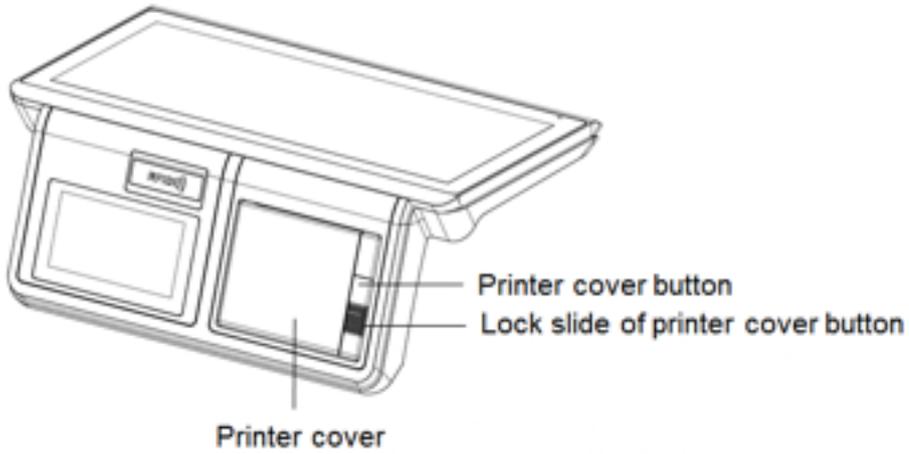


2-3 BOTTOM VIEW

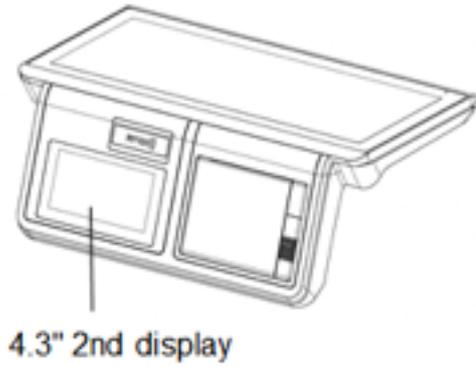


2 - SYSTEM VIEW

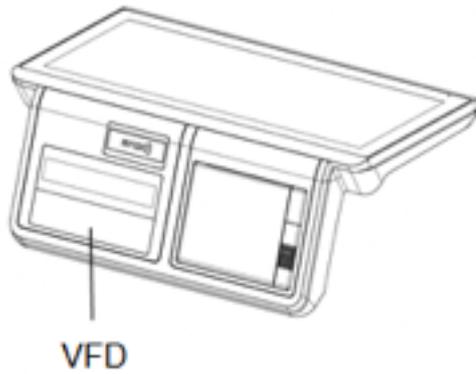
2-4 REAR VIEW



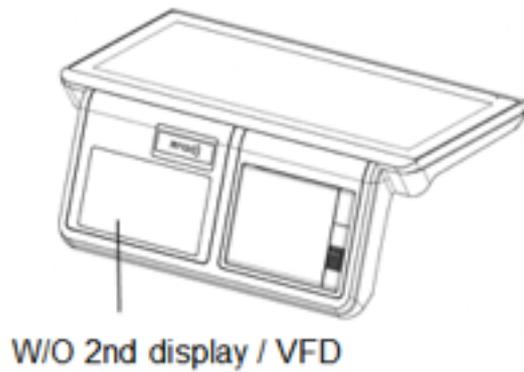
Type 1



Type 2



Type 3



2 - SYSTEM VIEW

2-5 SPECIFICATIONS

Display	Display Size		14" TFT LCD
	Resolution		1366 x 768
	Brightness / Color		220 cd/m ² , 16.7M colors
	Backlight		LED
Touch Panel	Type		Projected Capacitive Touch
Processor	CPU/ Chipset		Intel® Atom™ X5-E8000 1.04 GHZ Braswell
Memory			x 1 DDR3L SO-DIMM, up to 8GB
Storage			x 1 (M.2 SATAIII SSD)
I/O Connectors	USB 3.0		x 4
	Powered COM (RS232)		x 2 (DB9 powered COM 5V/ 12V selected by jumper)
	Cash Drawer Port		x 1 (24V RJ11 port)
	LAN		x 1 (RJ45 10/100/1000 Base-T)
	DC In		Lockable 3-pin DC 19V input
Built-in 58 / 80 mm Printer			x 1
Optional Peripherals			VFD / 4.3" 2 nd Display / MSR / iButton / RFID / WIFI / 4G LTE
Power Supply			90W 19V Power Adaptor
OS Support			Win 10 IOT Enterprise
Environment	Temperature	Operation	32° to 95° F (0 to 40 °C)
		Storage	-4° to 140° F (-20 to 60 °C)
	Relative Humidity		20% to 80% non-condensing
Dimension (W x H x D) mm			352.8 x 129.8 x 313.2 mm
Certifications			CE / FCC / LVD

Please make sure 19V DC plug in the right direction before plugging in DC jack.

Ensure to connect the power cord to a socket-outlet with earthing connection.

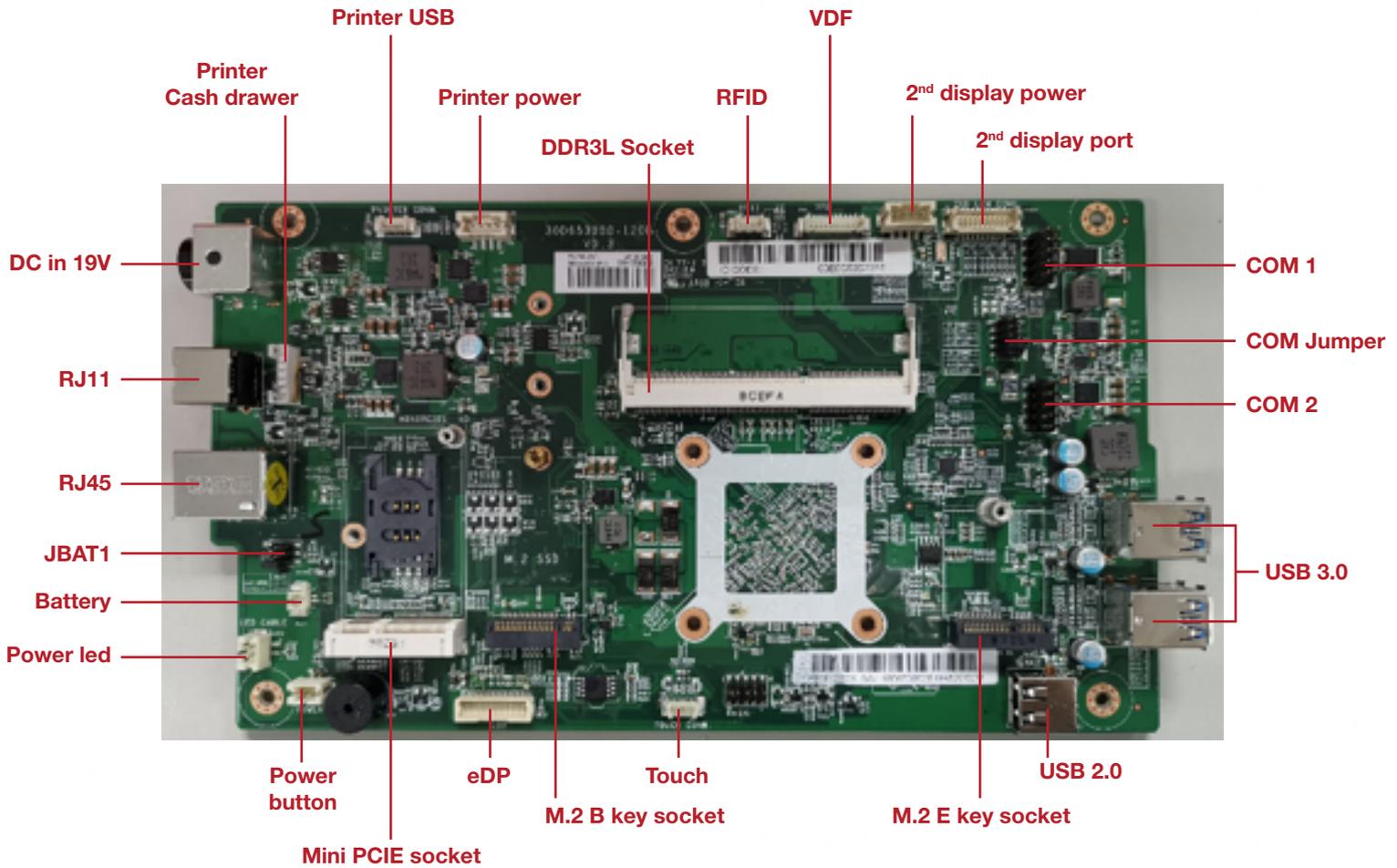
2-6 THERMAL PRINTER SPECIFICATIONS

Printing Parameter	Print Method	Direct thermal line printing
	Resolution	203 dpi (8 dots/mm) 180 dpi (7 dots/mm)
	Print Width	48 mm / 72 mm
	Print Speed max.*	200 mm/s
	Interface	RS-232/USB/Cash Drawer/Power Supply
	Print Density	Adjustable from level 1 to level 4
Processor CPU		32-bit RSIC processor
Memory	RAM	2MB
Font	Resident font	GB18030 Chinese character
Graphics		Resident graphic file types are BMP and PCX, other graphic formats are converted by the software download
Code Page	Character Set	ASCII, Multilingual
Barcode	1D	UPC-A, UPC-E, EAN(JAN)8, EAN(JAN)13, CODE39, ITF, CODEBAR, CODE128, CODE93
	2D	PDF417, QR code
Detection	Sensors	Thermistor, Paper out, Cover open, Cutter home position
Cash Drawer	Output	24V
Paper spec.	Paper Width	79.5 ± 0.5 mm
	Paper Thickness	0.055~0.085 mm
	Paper Roll Diameter	Max. outer diameter 60 mm Min. inner diameter 13 mm
Emulation		ESC/POS
Physical Spec.	Operation Condition	-5 °C ~ +50 °C, 30% ~ 85% RH
	Storage Condition	-20 °C ~ +60 °C, 10% ~ 90% RH
	Dimensions (L*W*H)	121 mm x 126 mm x 71 mm
	Weight	340 g
Software	Driver	Win 10 / OPOS Driver

2 - SYSTEM VIEW

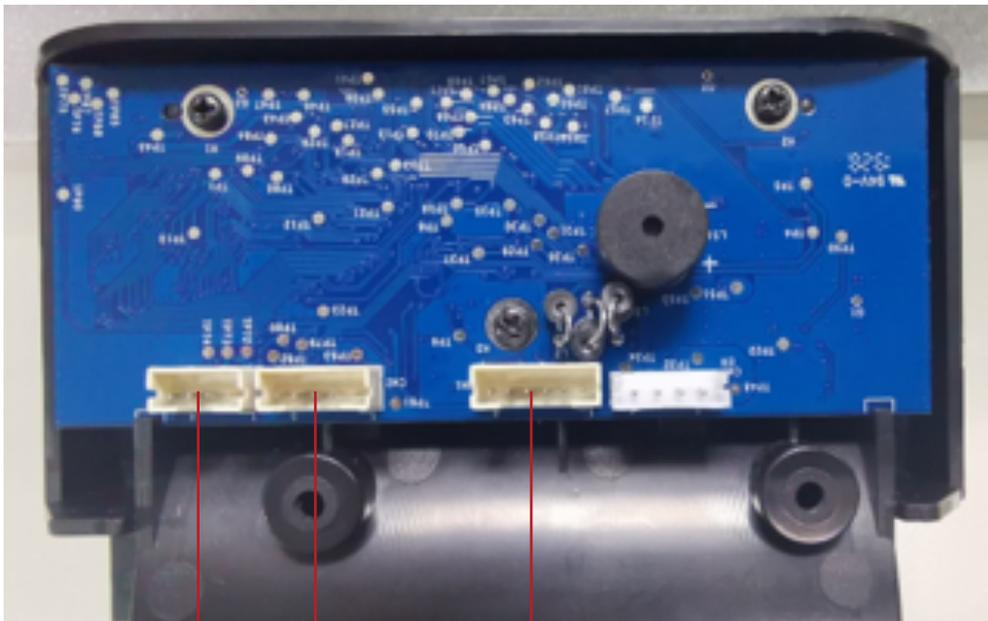
2-7 INTERNAL LAYOUT

2-7-1 Main PCBA



2 - SYSTEM VIEW

2-7-2 Printer control board



USB

Cash
Drawer

Power

3 - PIN DEFINITION

3-1. MAIN PCAB

3-1-1 CN12: eDP connector

No.	Definition	No.	Definition
1	GND	2	GND
3	eDP_TX1_DN_C	4	GND
5	eDP_TX1_DP_C	6	NC
7	GND	8	GND
9	eDP_TX0_DN_C	10	LCD_VDD3
11	eDP_TX0_DP_C	12	LCD_VDD3
13	GND	14	GND
15	eDP_AUXP_CC	16	GND
17	eDP_AUXN_CC	18	BL PWM DIM
19	GND	20	eDP_HPDET
21	BL_Enable	22	GND
23	GND	24	GND
25	GND	26	GND
27	+12V	28	+12V
29	+12V	30	+12V

3-1-2 M_1: M.2 B key socket (SSD)

No.	Definition	No.	Definition
1	M_2_PRESENCE	2	+VCC3
3	GND	4	+VCC3
5	GND	6	NC
7	NC	8	M_2_W_D
9	NC	10	M_2_W_LED
11	GND	20	NC
21	M_2_WWAN	22	NC
23	NC	24	NC
25	NC	26	NC
27	GND	28	NC
29	NC	30	NC
31	NC	32	NC
33	GND	34	NC
35	NC	36	NC
37	NC	38	M_2_DEVSLP
39	GND	40	NC
41	SATA_RX0_DP	42	NC
43	SATA_RX0_DN	44	NC
45	GND	46	NC
47	SATA_TX0_C_DN	48	NC
49	SATA_TX0_C_DP	50	NC
51	GND	52	NC
53	NC	54	NC
55	NC	56	NC
57	GND	58	NC
59	NC	60	NC
61	NC	62	NC
63	NC	64	NC
65	NC	66	NC
67	NC	68	NC
69	M_2_PEDET_OC	70	+VCC3
71	GND	72	+VCC3
73	GND	74	+VCC3
75	M_2_PEDET_GND-OTHER		

3 - PIN DEFINITION

3-1-3 SW1: Power On/Off connector

No.	Definition
1	Power-ON#
2	GND

3-1-4 LED1: Led connector

No.	Definition
1	+VCC5
2	GND

3 - PIN DEFINITION

3-1-5 CN11: Touch panel connector

No.	Definition
1	+5V
2	USB D-
3	USB D+
4	GND

3-1-6 CN4: Printer USB Power connector

No.	Definition
1	+24V
2	+24V
3	GND
4	GND

3-1-7 CN7: Printer Cash Drawer connector

No.	Definition
1	GND
2	RJ11_POWER_F
3	Cash draw1
4	Cash Sense_P
5	GND
6	Cash draw 2

3-1-8 CN2: RFID connector

No.	Definition
1	+5V
2	USB D-
3	USB D+
4	GND

3 - PIN DEFINITION

3-1-9 CN3: VFD connector

No.	Definition
1	GND
2	NTXD4
3	NRXD4
4	NDSR4#
5	NDTR4#
6	+VCC5
7	+VCC5
8	NC
9	NC
10	GND

3-1-10 CN1: 2nd display power connector

No.	Definition
1	+LCM_Power
2	+LCM_Power
3	GND
4	GND

3-1-11 HDMI1: 2nd display connector

No.	Definition	No.	Definition
1	HMRX0+	2	HMRX2+
3	HMRX0-	4	HMRX2-
5	GND	6	GND
7	HMRX1+	8	DDI2_DDC_CLK2
9	HMRX1-	10	DDI2_DDC_DATA2
11	GND	12	HPD_HMXX
13	HMRXC+	14	GND
15	HMRXC-	16	LCM_BKL_PWM_5V
17	GND	18	+VCC5
19	GND	20	+VCC5

3 - PIN DEFINITION

3-1-12 COM1, COM2: connector

No.	Definition
1	NDCD#
2	NRxD
3	NTxD
4	NDTR#
5	GND
6	NDSR#
7	NRTS#
8	NCTS#
9	5V/12V/Ring#

J1: Powered COM 5V / 12V selected by jumper

J1	COM1
1-3	+5V
5-7	Default
7-9	+12V

J1	COM2
2-4	+5V
4-6	Default
8-10	+12V

3-1-13 JBAT1 Clear CMOS

	JBAT1
CLR CMOS	(3 - 5)
Default	(5 - 6)

3 - PIN DEFINITION

3-1-14 MINI PCIE1

No.	Definition	No.	Definition
1	MINIPCI_WAKE	2	+VCC3
3	NC	4	GND
5	NC	6	+1_5VRUN
7	WIFI_CLKREQ#	8	SIM_VCC
9	GND	10	USIM_P_DATA
11	PCIE_REFCLK3_DN	12	USIM_P_CLK
13	PCIE_REFCLK3_DP	14	USIM_P_RESET
15	GND	16	USIM_P_VPP
17	NC	18	GND
19	NC	20	W_DISABLE#
21	GND	22	MINIPCI-E_RST
23	PCIE_RX3_DN	24	3VSTBY_MINIPCI
25	PCIE_RX3_DP	26	GND
27	GND	28	+1_5VRUN
29	GND	30	SMBCLK
31	PCIE_TX3_DN	32	SMBDATA
33	PCIE_TX3_DP	34	GND
35	GND	36	USB_PN9_1
37	GND	38	USB_PP9_1
39	+VCC3	40	GND
41	+VCC3	42	NC
43	GND	44	NC
45	NC	46	NC
47	NC	48	+1_5VRUN
49	NC	50	GND
51	NC	52	+VCC3
53	GND	54	GND

3 - PIN DEFINITION

3-2 PRINTER MODULE

3-2-1 CN3: Power connector

No.	Definition
1	+24V DC
2	+24V DC
3	GND
4	GND

3-2-2 CN1: Cash drawer connector

No.	Definition
1	GND
2	+24V DC
3	Drawer 1
4	Drawer sensor
5	GND
6	Drawer 2

3-2-3 USB1: USB connector

No.	Definition
1	NC
2	Data
3	Data
4	GND

4 - REAR I/O INTERFACE

4-1 SYSTEM

4-1-1 DC Jack Pin

No.	Definition
1	+19V
2	Ground
3	+19V

4-1-2 2-Layer USB 3.0 connector

No.	Definition	No.	Definition
1	+5V	10	+5V
2	D-	11	D-
3	D+	12	D+
4	GND	13	GND
5	RX-	14	RX-
6	RX+	15	RX+
7	GND	16	GND
8	TX-	17	TX-
9	TX+	18	TX+

4-1-3 LAN: RJ45

No.	Definition
1	MDI0A+
2	MDI0A-
3	MDI1A+
4	MDI1A-
5	MDI2A+
6	MDI2A-
7	MDI0A+
8	MDI0A-
9	MDI3A+
10	MDI3A-

4 - REAR I/O INTERFACE

4-1-4 RJ11 (Cash Drawer) connector

No.	Definition
1	GND
2	Cash draw1
3	Cash Sense
4	RJ11_POWER_FA
5	Cash draw 2
6	GND

5 - SYSTEM ASSEMBLY & DISASSEMBLY

5-1 M.2 SSD / MEMORY

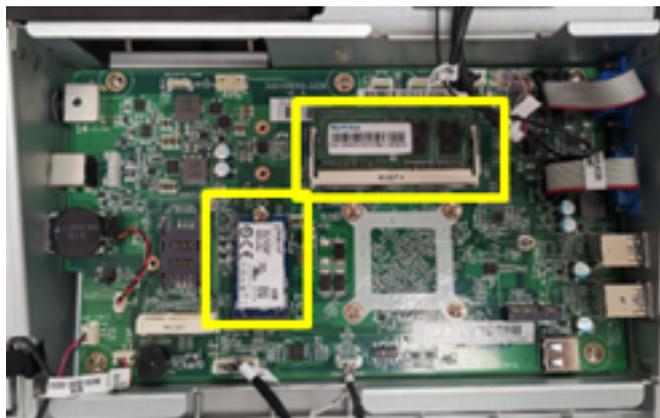
1. Loosen 4 screws.



2. Push down the front panel to remove it from the system.



3. Install M.2 SSD/ memory with a mounting screw



5 - SYSTEM ASSEMBLY & DISASSEMBLY

5-2 MSR / iBUTTON / RFID

1. Fix the MSR/ i-Button module to the system with two screws



2. Plug the USB cable of the MSR/i-Button into the side USB port



5 - SYSTEM ASSEMBLY & DISASSEMBLY

5-3 PRINTER MODULE

5-3-1 Thermal printer module replacement

1. Push the lock slider down to unlock the printer cover button



2. Press the printer cover button to open it



3. Loosen 2 screws.



4. Pull out the printer module



5. Disconnect the printer cable



5 - SYSTEM ASSEMBLY & DISASSEMBLY

5-3-2 Paper Installation

1. Push the lock slider down to unlock the printer cover button



2. Press the printer cover button to open it



3. Insert the paper in the correct direction of the roll paper



4. Remove excess paper in the direction of the printer.



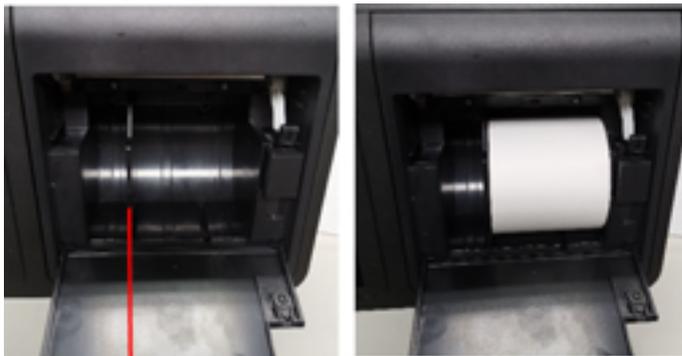
5 - SYSTEM ASSEMBLY & DISASSEMBLY



Notes:

→ Adjusting the paper guides to the paper size;

When using 58 mm (width) roll paper, insert the paper guide into the paper slot.



Paper guide

→ Please note that the hook of the paper guide should be installed in the groove

5 - SYSTEM ASSEMBLY & DISASSEMBLY

5-4 4.3" 2ND DISPLAY REPLACEMENT

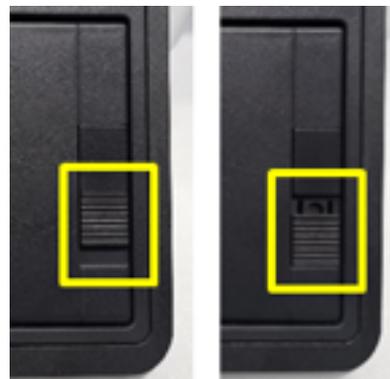
1. Loosen 4 screws.



2. Push down the front panel to remove it from the system.

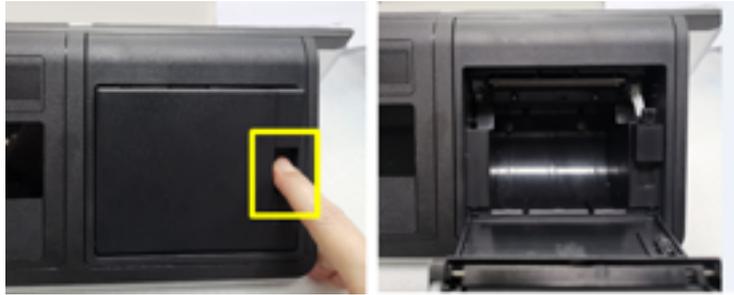


3. Push the lock slider down to unlock the printer cover button



5 - SYSTEM ASSEMBLY & DISASSEMBLY

4. Press the printer cover button to open it



5. Loosen 2 screws.



6. Pull out the printer module

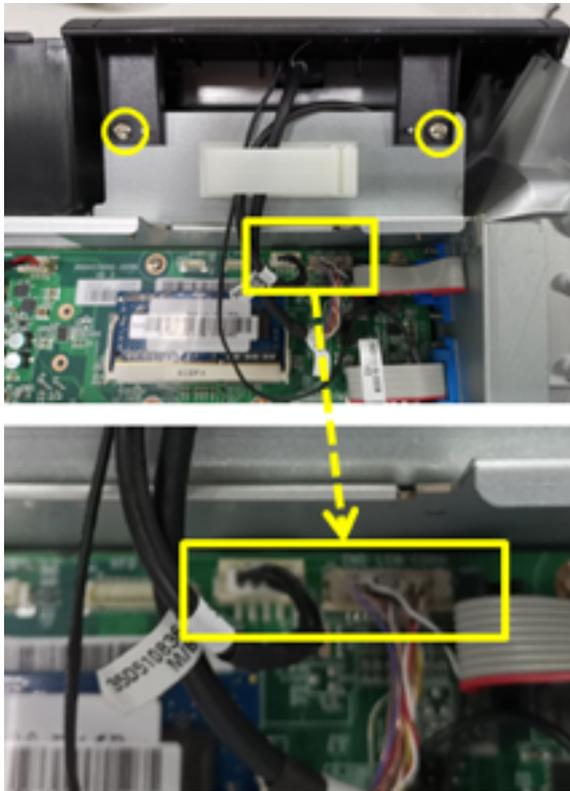


7. Disconnect the 3 cables from the printer

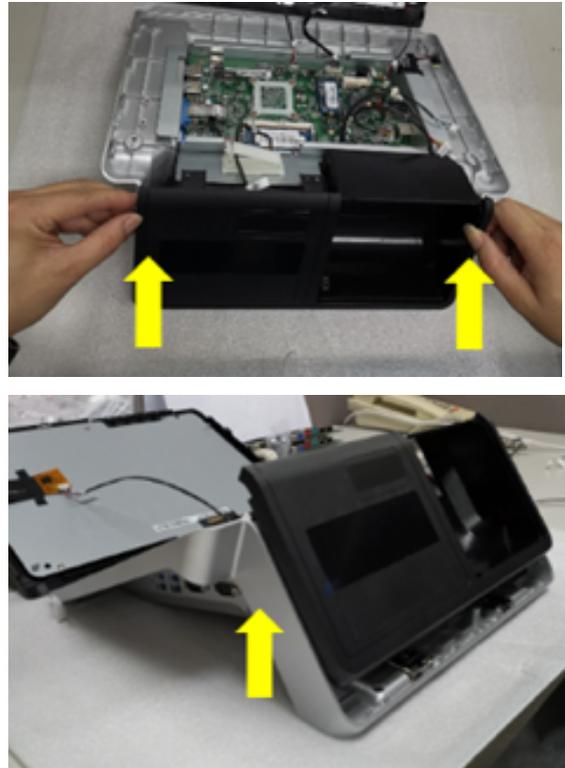


5 - SYSTEM ASSEMBLY & DISASSEMBLY

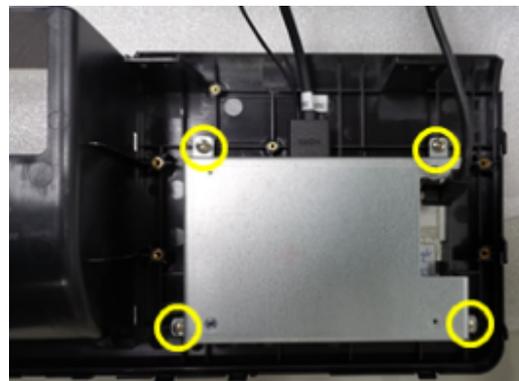
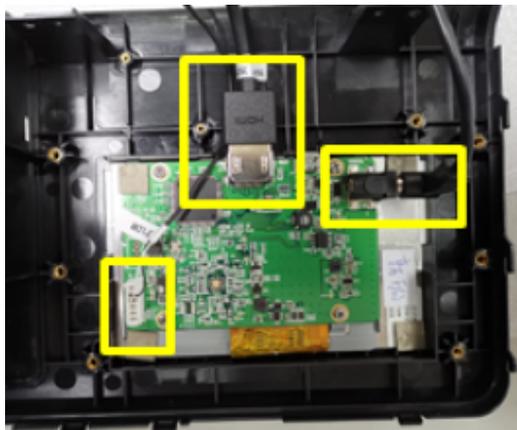
8. Loosen 2 screws and disconnect the 2 cables



9. Push the back cover down to remove it from the system



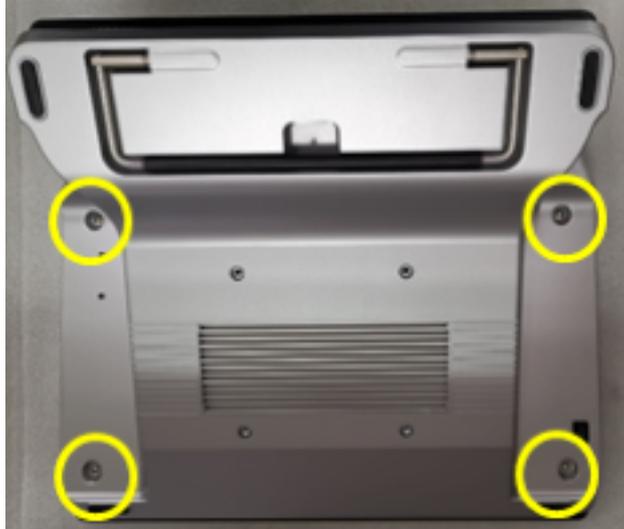
10. Loosen 2 screws, remove the bracket cover, disconnect the 3 cables and then take out the 2nd display.



5 - SYSTEM ASSEMBLY & DISASSEMBLY

5-5 VFD MODULE REPLACEMENT

1. Loosen 4 screws.



2. Push down the front panel to remove it from the system.

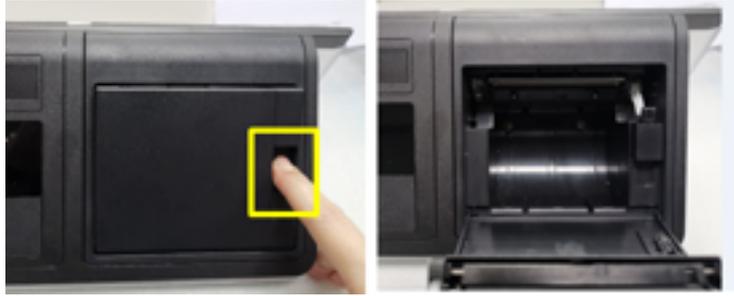


3. Push the lock slider down to unlock the printer cover button



5 - SYSTEM ASSEMBLY & DISASSEMBLY

4. Press the printer cover button to open it



5. Loosen 2 screws.



6. Pull out the printer module

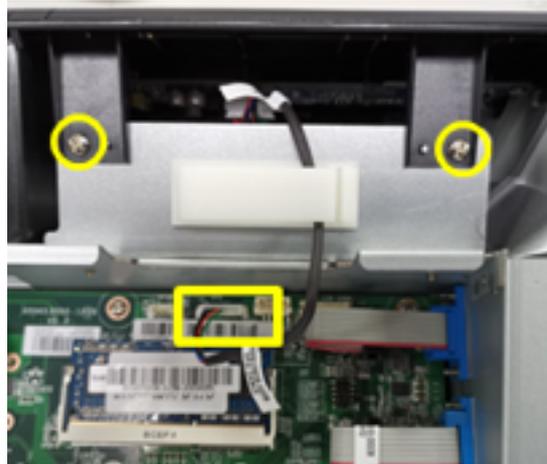


7. Disconnect the 3 cables from the printer

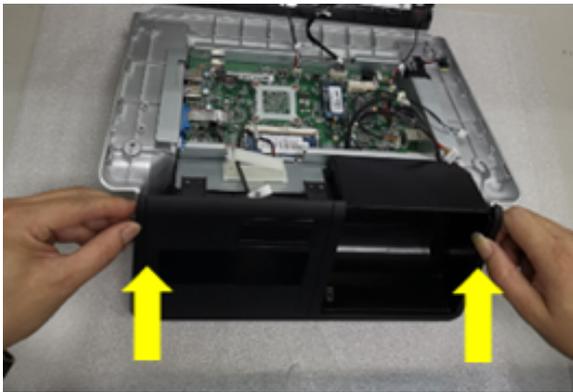


5 - SYSTEM ASSEMBLY & DISASSEMBLY

8. Loosen 2 screws and disconnect the cable



9. Push the back cover down to remove it from the system



10. Loosen 4 screws, disconnect the cable and then take out the VFD.



6 - DEVICE DRIVER INSTALLATION

6-1 MAGSWIPE CARD READER CONFIGURATION UTILITY

The MagSwipe Configuration Utility is used to set up the output format of MagSwipe

6-1-1 Installation

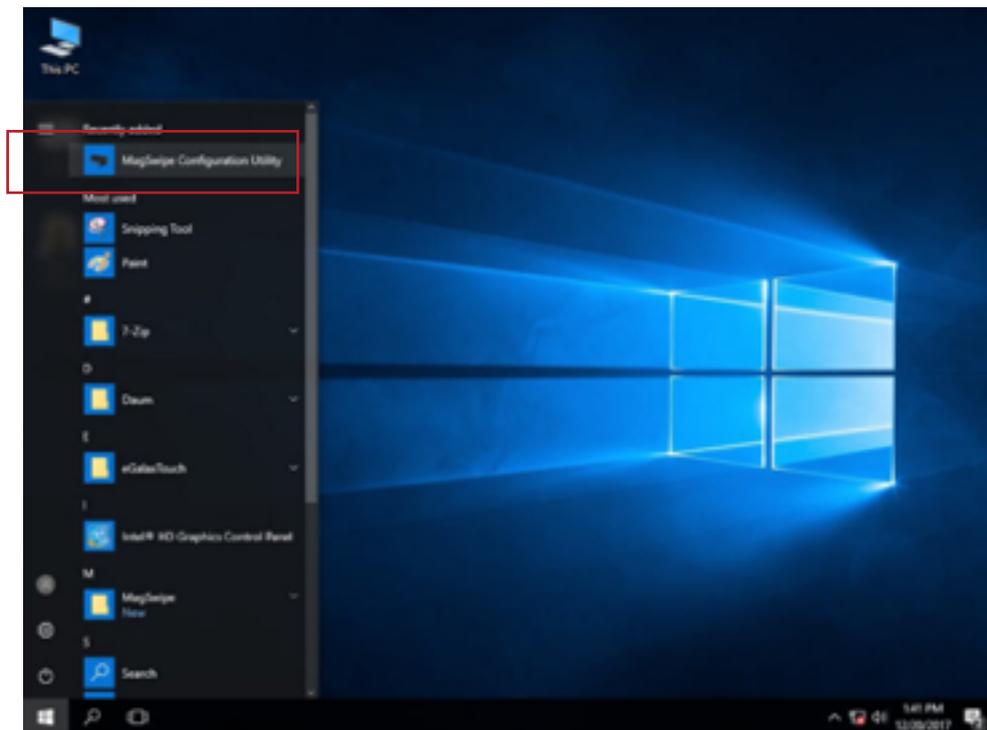
The steps below guide you how to install the Utility program

- Download the drivers from <https://www.colormetrics.info/colormetrics-c1400.php> -> Downloads -> Drivers & Software C1400 -> Drivers & Tools CD
- Unpack the .zip-file
- Run the setup.exe from the Peripherals -> MSR folder
- Follow the wizard to complete the installation.

Launching Program

The steps below guide you how to load the **Utility** program.

- From **Start/Programs**, click **MagSwipe** folder
- Click to launch the program.



6 - DEVICE DRIVER INSTALLATION

Configuration



6-1-2 Select Reader Interface

The reader to be configured should be connected. Select the corresponding connected reader interface and click the **Continue** button

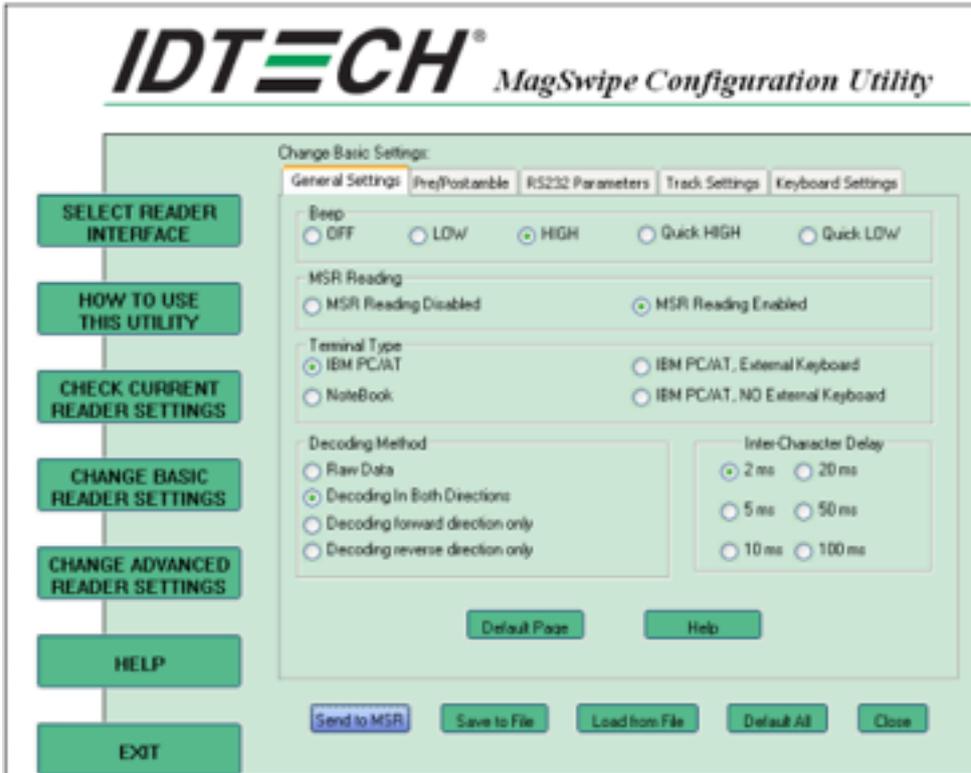


After the interface selection is made, click the **Continue** button. The utility attempts to communicate with the connected reader. If successful, the Home Menu Page is displayed, as shown above.

6 - DEVICE DRIVER INSTALLATION

6-1-3 Change Basic Reader Setting

After selecting the appropriate interface for the reader, select one of the Home Menu Page buttons to proceed with the Magnetic Stripe Reader (MSR) configuration process. The “Basic Reader Settings” group defines the basic operating parameters and data output format of the reader.



Button Definitions

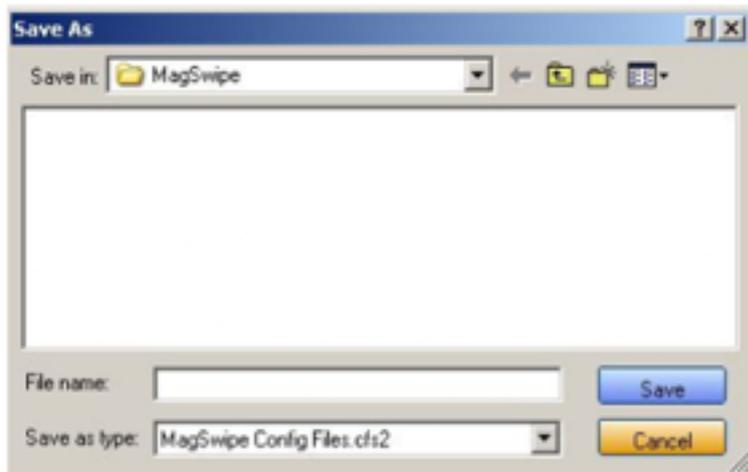
Send To MSR

When all the setting parameters are selected, use the “Send To MSR...” button to send configuration data to the reader device. When the reader has received the data correctly, the settings take effect immediately.

6 - DEVICE DRIVER INSTALLATION

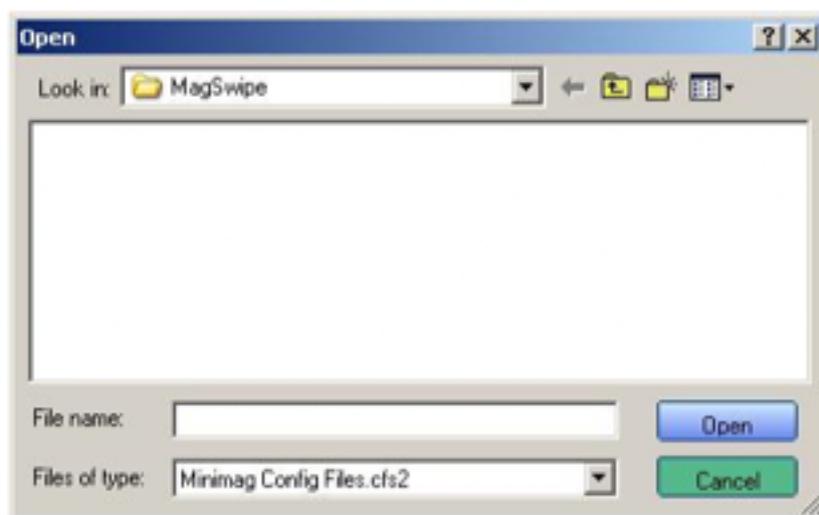
Save To File

The configuration data can be saved as a file and used later to configure other readers. When saving a configuration the “File Save” dialogue is opened as shown below. Input a file name and file location.



Load From File

The configuration data can be loaded into the configuration utility from a file that has been previously saved. Select this command, start a “File Open” dialog, which allows selection of the file.



Default All

This button sets the reader with the default configuration parameters (the default factory settings). The settings take effect immediately. The default parameters affect all reader configurations settings.

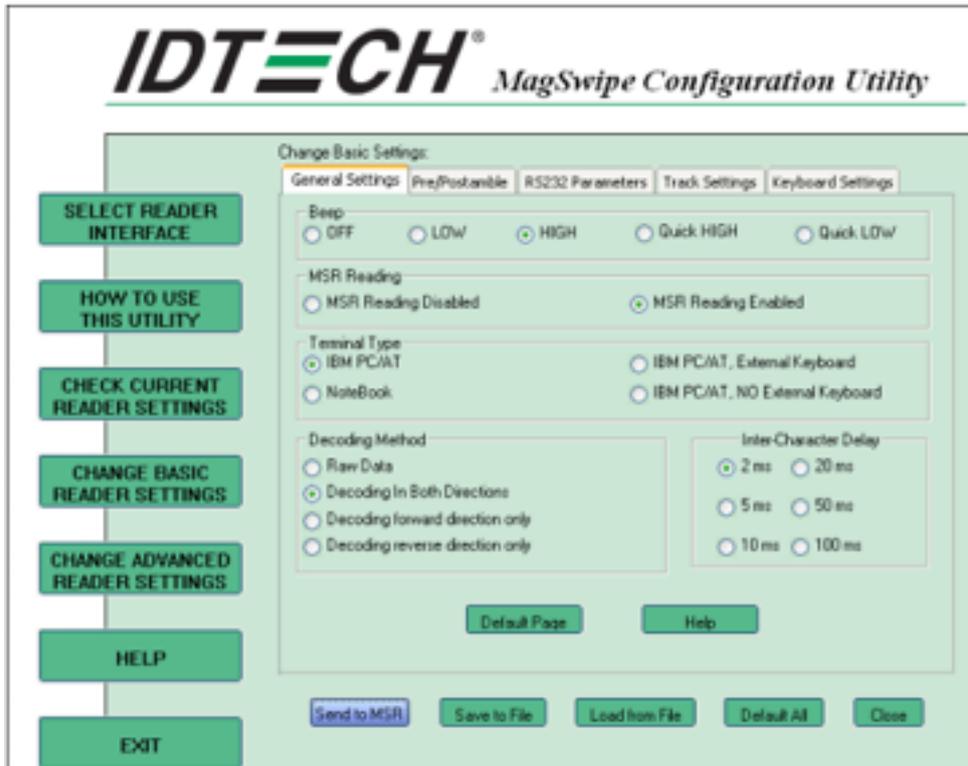
Close

Close this dialogue and return to the Home Menu Page.

6 - DEVICE DRIVER INSTALLATION

6-1-4 General Settings

This group of configuration settings defines the basic operating parameters of the reader.



Beep Volume

The Beep volume can be adjusted to four loudness levels or off. The loudness levels are:

- Quick High
- Quick Low
- High
- Low

The default is High beep.

MSR Reading

This option will turn on or off the MSR. If MSR is disabled no data is sent out to host in any case. The default is MSR Reading Enabled.

Terminal Type

- NoteBook
- IBM-PC/AT
- IBM-PC/AT, External keyboard
- IBM-PC/AT, No External keyboard

The firmware can be programmed to interface as a keyboard wedge to 4 different types of terminals. The default is IBM-PC/AT.

Decoding Method Settings

This option allows for four kinds of decoding methods.

- Raw Data (output in both forward and reverse directions)
- Decoding in Both Directions (forward and reverse reading)
- Decoding in Forward Direction only (card entering slot from LED end)
- Decoding in Reverse Direction only (card entering slot from end opposite LED)

With the bi-directional operation, the user can swipe the card in both swipe directions and the data encoded on the magnetic stripe will be output. In the single swipe direction selections, the card can only be swiped in one specified direction to read the card. The default setting will decoding card data with the card swiped in either the forward or the reverse direction.

“Raw Data” is an output of the decoded magnetic stripe data in hexadecimal format (no ASCII character conversion is performed). In the Raw Data setting, the reader outputs all track-decoded data. The MSR will represent the raw data with two ASCII characters: the first ASCII character is for high bits of the raw data byte and the second is for the low bits. For example, the two ASCII characters “4” and “1” represent raw data byte 41h (01000001).

Inter-Character Delay:

2 ms, 5 ms, 10 ms, 20 ms, 50 ms, 100 ms;

This is the time period the reader will delay between sending successive characters. Some terminals or computers (host) require an inter-character delay to simulate the effects of keystroke delays. Choosing a longer inter-character delay causes the characters to be sent at a slower rate. If the host system is not capable of receiving characters as fast as the reader can transmit, setting an appropriate inter-character delay will keep the reader from overrunning the host input buffer. The default is 2 ms.

Default Page Button

After you click the Default Button, the general settings page will change back to the default value. Settings are not sent to MSR until the “Send to MSR” button is clicked.

Help Button

Click the help button to open the help index for this section.

6-1-5 Pre/Postamble

Preamble

Characters can be added to the beginning of the reader's output string of data. These can be special characters for identifying a specific reading station, to format a message header expected by the receiving host, or any other character string. Up to nine ASCII characters can be defined for the Preamble.

Postamble

The Postamble serves the same purpose as the Preamble, except the extra characters are added to the end of a data string. The Postamble can be added only after a terminator character, if specified.

Track Prefix and Suffix

For some Host applications, it may be convenient to start or end a string of reader data with a Sentinel or terminator character. The maximum Prefix/Suffix string is six characters and its default is NULL(no prefix or suffix).

Track Start Sentinels

Characters can be added to the beginning of each track data string to simulate the start of the track data. These can be special characters for identifying a specific track.

End Sentinel

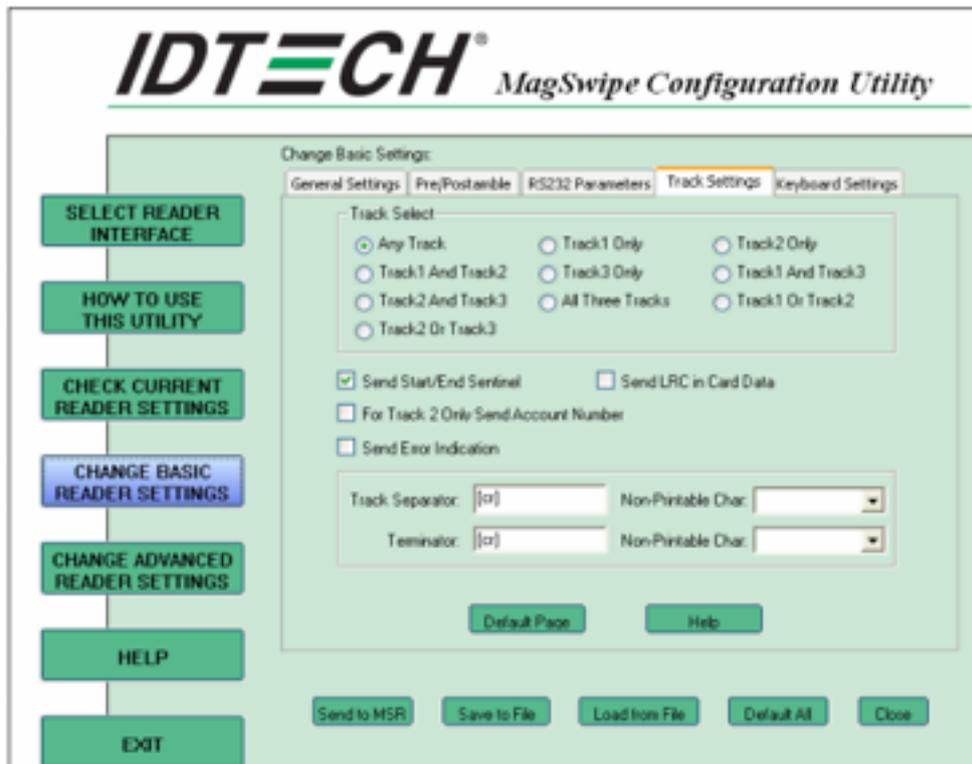
The magnetic stripe End Sentinel character can be added to the end of a magnetic stripe data string. This character simulates the end of character for track1, track2 or track3. This default is '?'

6 - DEVICE DRIVER INSTALLATION

6-1-6 Track Settings

Track Selection

There are three tracks of information possible on a magnetic stripe. This option selects the tracks that will be decoded (read). Note that the magnetic stripe reader must have the hardware configuration (read head and circuits) for reading the specified tracks. If a single or dual track reader is used, the heads must be positioned to read the tracks selected by this option. The default is Any Track. (All tracks written on the card will be read).



Track Separator Selection

This option allows the user to select the character to be used to separate data decoded by a multiple-track reader. The default value is CR.

Send Start/End Sentinel

The reader can send the Start/End sentinel for a track, decoded without error.

Send LRC in Card Data

The reader can send the track LRC for a properly decoded track.

For Track 2 only Send Account Number

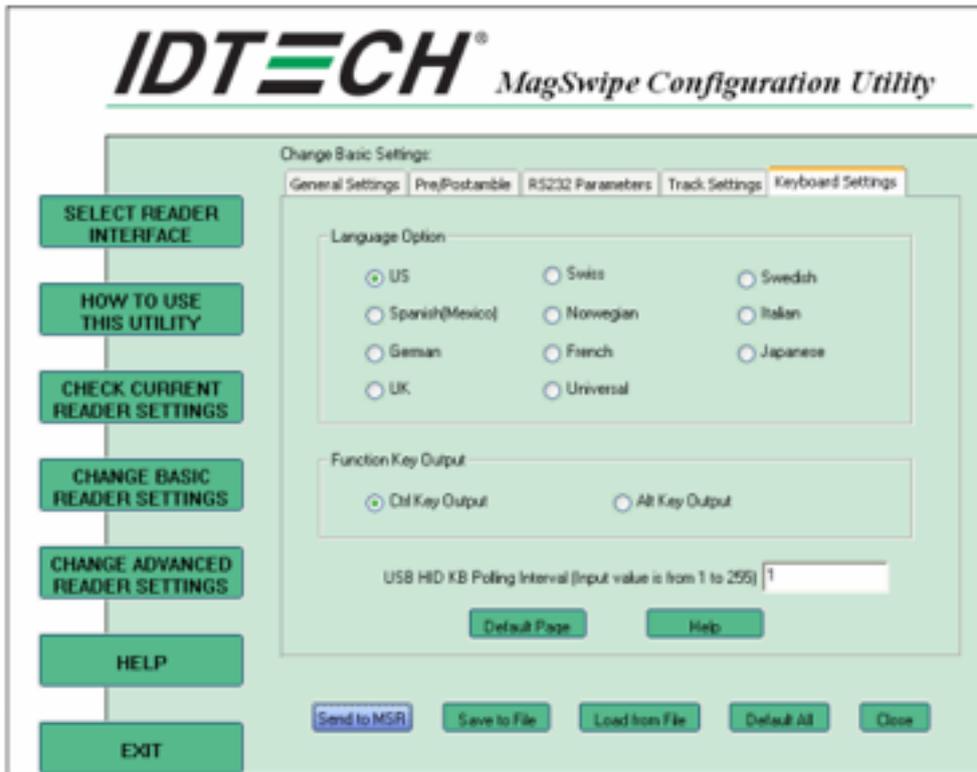
The reader can only send account Number if it is true. And if it is false, the reader sends all Track 2 data.

Send Error Indication

This option let reader to send out [SS]E[ES] if failed to read or missing data on a selected track. The default is off.

- The error output for track 1 is "%E?".
- The error output for track 2 is ";E?".
- The error output for track 3 is "+E?".

6-1-7 Keyboard Settings



Keyboard Settings

There are keyboard settings information on a magnetic stripe. MiniMag II will support following foreign language keyboard and function key output for PS/2 and USB HID Keyboard Interface

6 - DEVICE DRIVER INSTALLATION

Language Option

This option allows the user to select the keyboard language of US, Swiss, Swedish, Norwegian, Italian, Spanish (Mexico), German, French, Japanese, UK and Universal. Universal language sends out all the data as a series of ALT keypad sequence.

Function Key Output

The function key output can be used to support the special key to delay card data output.

USB HID KB Polling Interview

The user can input the number between 1 to 255 for the delay of output.

Check Current Reader Setting

After you connect the device, the current reader configuration can be displayed by selecting this button. The configuration data of the connected reader will be displayed like in the example:

```
=====Check Current MagSwipe Settings=====
Software version: MagSwipe Configuration Utility/Version 2.3.5.0
Beep Volume: HIGH
Track Select: Any Track
Track Separator: \cr
USB HID Format: USB HID KB Data Format
Terminator: \cr|
Send Out Format:
    Send Start/End Sentinel
    Send All Data For Track2
    Not Send Error Indication
    Not Send LRC
Enable/Disable MSR: Enabled
Format & Direction: Decoding In Two Swiping Direction
Track 1 7 bit encoding Start Sentinel: %
Track 1 6 bit encoding Start Sentinel: %
Track 1 5 bit encoding Start Sentinel: :
Track 1 End Sentinel: ?
Track 2 7 bit encoding Start Sentinel: %
Track 2 5 bit encoding Start Sentinel: :
Track 2 End Sentinel: ?
Track 3 7 bit encoding Start Sentinel: %
Track 3 6 bit encoding Start Sentinel: !
Track 3 5 bit encoding Start Sentinel: :
Track 3 End Sentinel: ?
Preamble:
Postamble:
PrePAN:4
PostPAN:4
Mask Char: ""
Encryption: Triple DES
Security Level:1
Serial number:002T439324
USB HID KB Polling Interval: 1

INTERFACE_TYPE: USB-HID-KB
Firmware Version: ID TECH TM3 SecureMag USB HID KB Reader V 5.40

OK
```

6 - DEVICE DRIVER INSTALLATION

6-2 iBUTTON READER CONFIGURATION UTILITY

The MagSwipe Configuration utility is used to set up the output format of MagSwipe CIDTestAp V07.01 Operation Manual

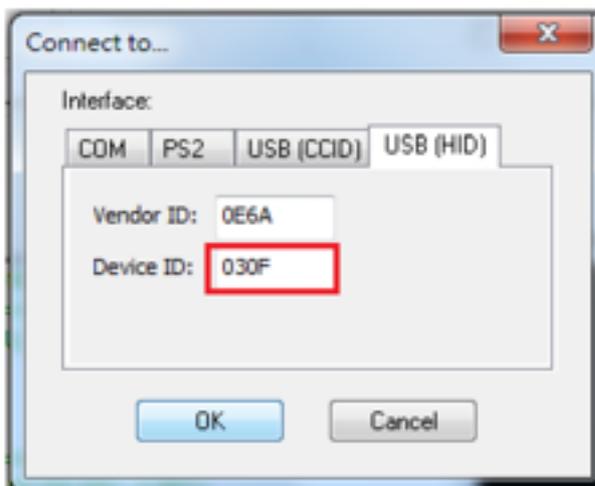
1. Device Connection
2. Utility Features
3. Configuration Setup

Version: V01.00

6-2-1 Device Connection

USB (HID) Interface

Select the USB HID device which has been plug into the PC USB port, enter the correct Vendor ID = 0E6A and Device ID then press 'OK', different device has its own Device ID., e.g. DID=0x030F for keyboard and HID USB, DID=0x5082 for keyboard, HID and VCP USB.



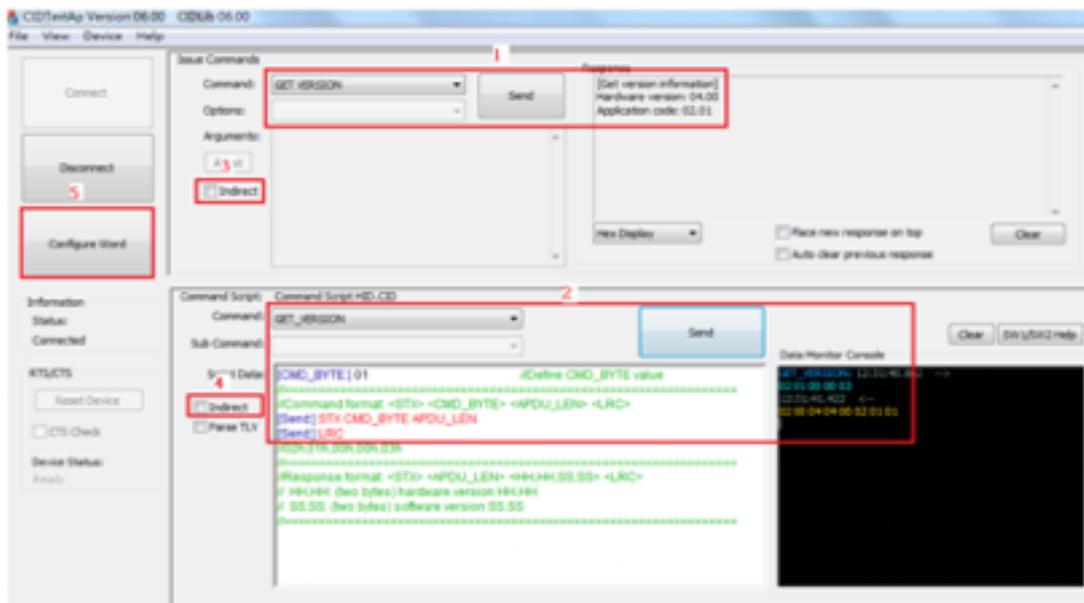
6 - DEVICE DRIVER INSTALLATION

6-2-2 Utility Features

After successful device connection, each supported command will get its response, e.g. *Get Version* command should response with the device HW/FW version, for all supported command sets please reference its programming guide.

Two command/response windows can be used (see block 1 & 2). For second level device, the Indirect command signal should be selected (see block 3 & 4). Press the button “Configure Word” to enter the parameter setting function (see block 5).

The two response windows show the data from the connected device.

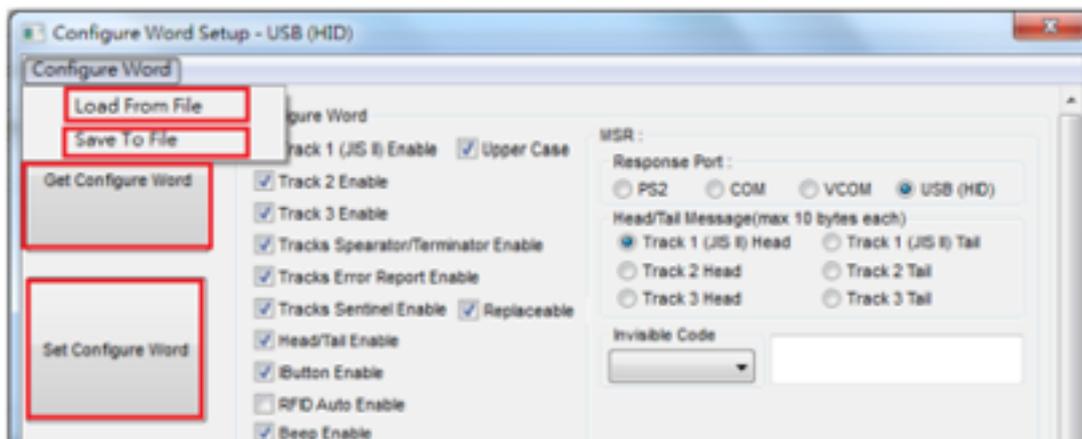


Configuration Setup

Device functions (e.g. MSR, iButton, RFID, Chip card) behaviour can be defined and stored by this tool.

Four operation buttons define as below:

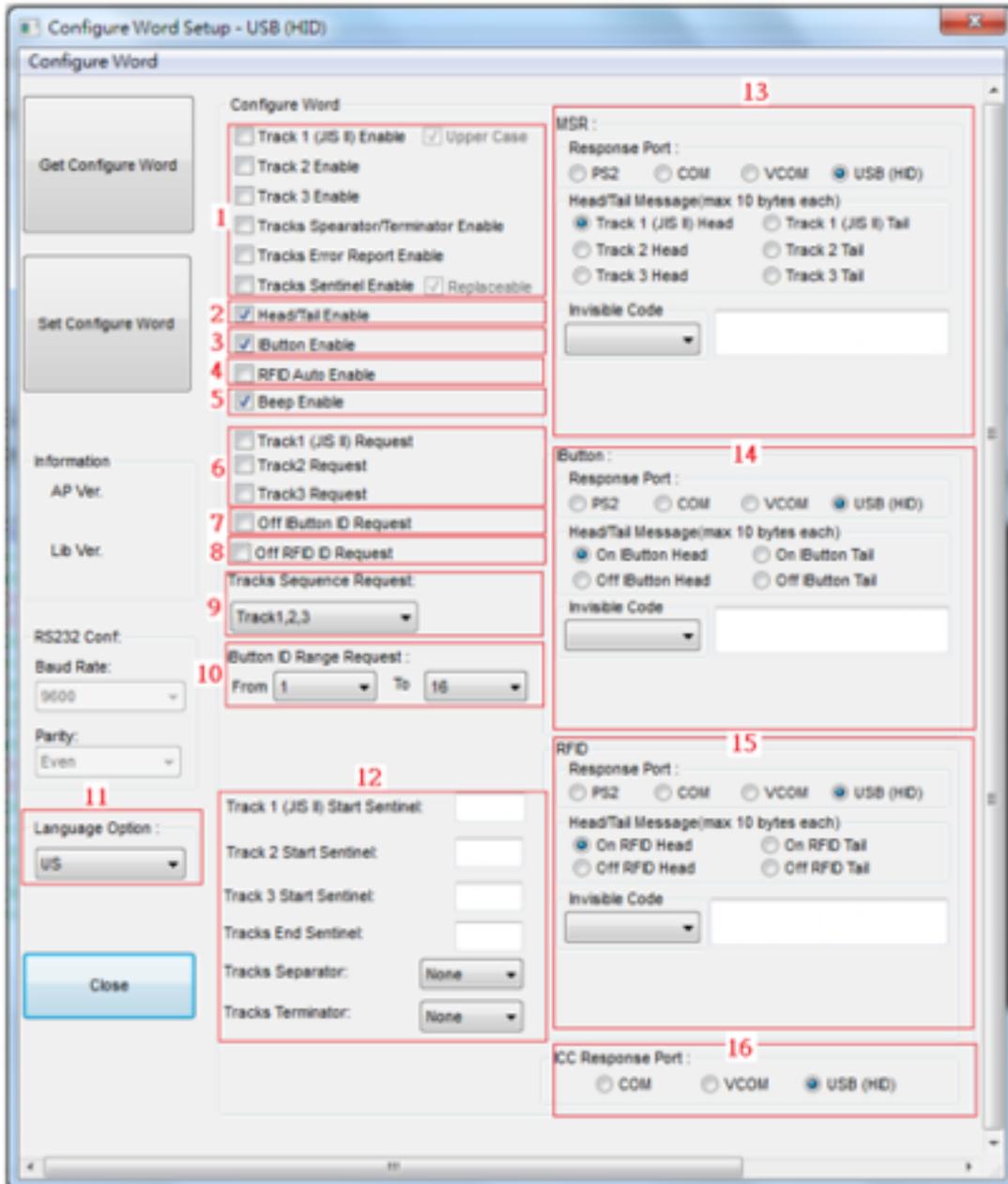
- “Load From File”: Load the previous setting configuration file from storage.
- “Save To File”: Save the current screen setting to file in storage.
- “Get Configuration Word”: Get current setting in the device connected.
- “Set Configuration Word”: Set current setting on the screen to the device connected.



6 - DEVICE DRIVER INSTALLATION

16 parameter areas (see below) are used for four functions, each function related area should be setup correctly and press Set Configure Word button before operation.

MSR function areas: 1, 2, 5, 6, 9, 11, 12, 13
 iButton function areas: 2, 3, 5, 7, 10, 11, 14
 RFID function areas: 2, 4, 5, 8, 11, 15
 Chip card function areas: 16



6 - DEVICE DRIVER INSTALLATION

Configure word detail

Area 1

Track 1 (JIS II) Enable:	If enabled, the track 1 data will respond.
Track 2 Enable:	If enabled, the track 2 data will respond.
Track 3 Enable:	If enabled, the track 3 data will respond.
Upper Case:	If selected, the track1 data read will transfer to upper case before responding.
Track Separator / Terminator Enable:	If enabled, the reader will send Track Separator and Track Terminator code defined in this configure word between tracks data or after the last track data.
Track Error Report Enable:	If enabled, the character "F" will respond when track data read fail.
Track Sentinel Enable & Replaceable:	If enabled, the reader will send start and end sentinel at begin and last position of each track data. If replaceable, these sentinels will be replaced by the sentinel defined in this configure word.

Area 2

Head/Tail Enable:	If enabled, all of the Head/Tail message defined in this configure word will prefix and suffix to each data returned.
-------------------	---

Area 3

iButton Enable:	If enabled, iButton key ID may respond when key attached or removed.
-----------------	--

Area 5

Beep Enable:	If enabled, the beeper will activate to indicate the operation result.
--------------	--

6 - DEVICE DRIVER INSTALLATION

Area 6

MSR Response Port:	Select MSR data response port right after swiped.
Head/Tail Message:	Message prefix and suffix to each track data returned.
Each Head/Tail accepts 10 bytes max. long. Invisible code:	Enter keyboard control code.

Area 7

Off iButton ID Request:	If selected, key ID will respond while key removed.
-------------------------	---

Area 8

Off RFID ID Request:	If selected, RFID ID will respond while RFID card removed.
----------------------	--

Area 9

Tracks Sequence Request:	Select the order of three tracks data returned.
--------------------------	---

Area 10

iButton ID Range Request:	Define the iButton data range returned.
---------------------------	---

Area 11

Language Option:	Select one of supported keyboard language for PS2 or keyboard USB interface.
------------------	--

Area 12

Track 1 (JIS II) Start Sentinel:	Define Track 1 Start sentinel byte, default is "%".
Track 2 Start Sentinel:	Define Track 2 Start sentinel byte, default is ";".
Track 3 Start Sentinel:	Define Track 3 Start sentinel byte, default is "+".
Tracks End Sentinel:	Define all Tracks End sentinel byte, default is "?".
Tracks Separator:	Define the insertion byte between each track data returned.
Tracks Terminator:	Define the appending byte after the last track data returned.

6 - DEVICE DRIVER INSTALLATION

Area 13

MSR Response Port:	Select MSR data response port right after swiped.
Head/Tail Message:	Message prefix and suffix to each track data returned.
Each Head/Tail accepts 10 bytes max. long. Invisible code:	Enter keyboard control code.

Area 14

iButton Response Port:	Select iButton key ID response port right after key attached or removed.
Head/Tail Message:	Message prefix and suffix to key data returned. Each Head/Tail accepts 10 bytes max. long.
Invisible code:	Enter keyboard control code.

Area 15

RFID Response Port:	Select RFID ID response port right after tag attached or removed.
Head/Tail Message:	Message prefix and suffix to tag data returned. Each Head/Tail accepts 10 bytes max. long.
Invisible code:	Enter keyboard control code.

Area 16

ICC Response Port:	Select chip card auto. ATR response port,
--------------------	---

6 - DEVICE DRIVER INSTALLATION

6-3 VFD

6-3-1 Utility Setup

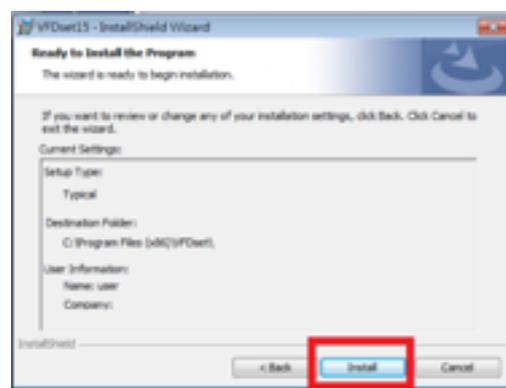
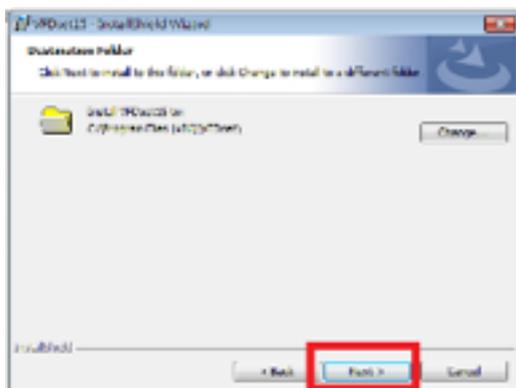
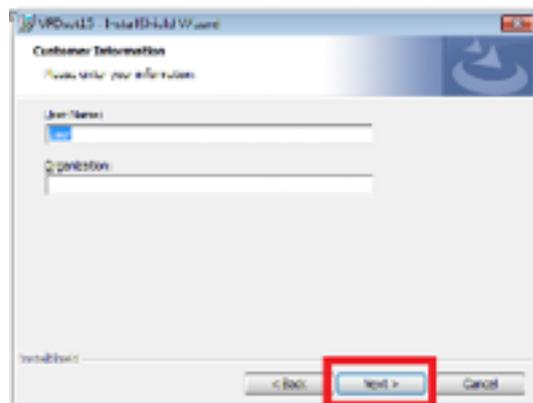
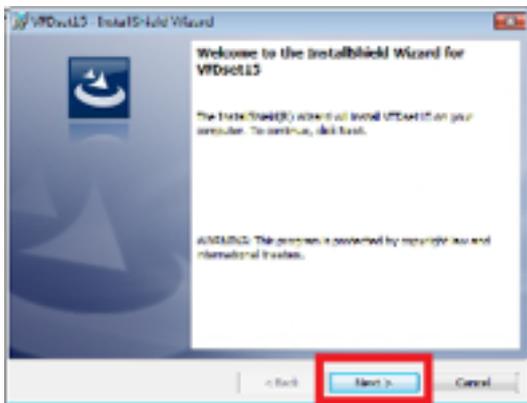
Power on VFD and waiting Baud rate and command page of EEPROM test.

Download VFDset.exe software:

Go to <https://www.colormetrics.info/colormetrics-c1400.php>

→ Downloads

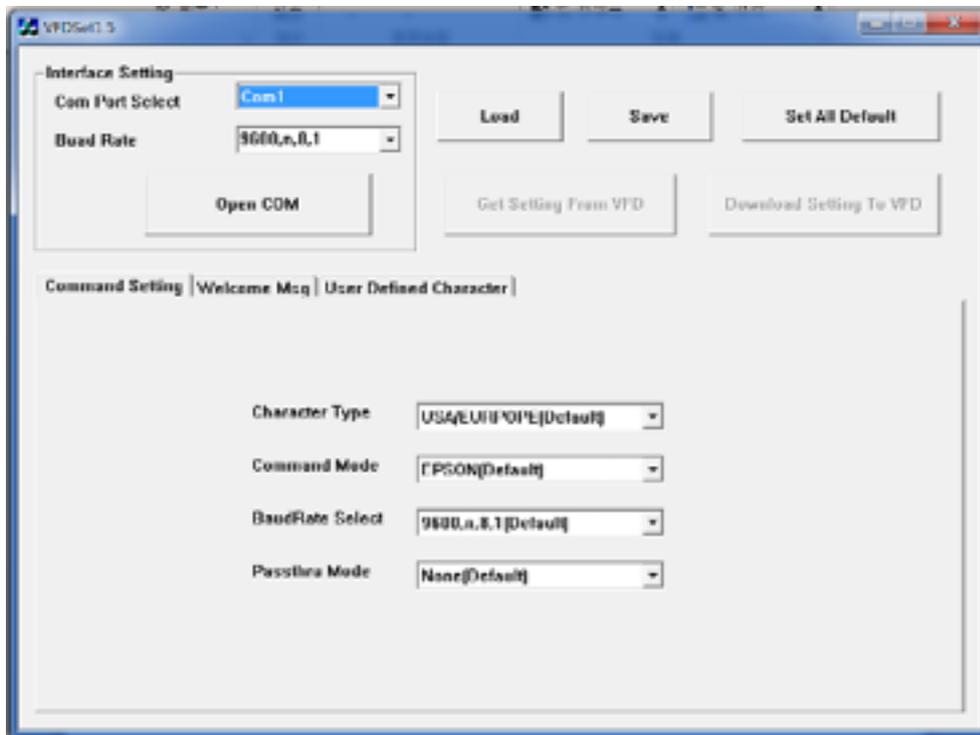
→ Choose “VFD OPOS Driver”



6 - DEVICE DRIVER INSTALLATION

6-3-2 VFD Connection

Execute “VFDset.exe” to connection VFD module.



Please then follow the steps as shown in the above figure, the baud rate will show on states page of VFD module (Note: You may check it when power on VFD module), then click “Open COM” button.

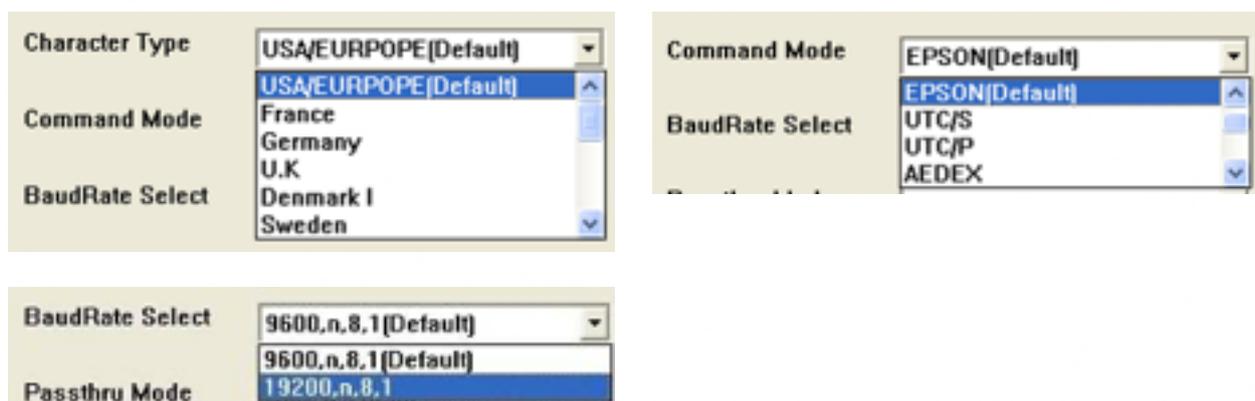
6-3-3 VFD Setup

Get Setting from VFD

“Get Setting from VFD” button to get all the settings from manufacturer and it is going to refresh the “VFDset.exe” software.

Character Type

Select “Character Type”/ “Command Mode”/ “Baud Rate Select”/ “pass thru Mode”.



6 - DEVICE DRIVER INSTALLATION

Setup Default

Click "Set All Default" button to show default setting, the Default table is

- Character Type: USA
- Command Type: EPSON/EUROPE
- Baud Rate Setting: 9600/n/8/1
- Pass-through Mode: None
- Welcome msg line1: *** VFD DISPLAY ***
- Welcome msg line2: ** HAVE A NICE DAY AND THANK YOU **

Welcome Message

Welcome Message line1 maximum 20 characters, line 2 maximum 20 characters, total of 40 characters.

a. ASCII mode

Command Setting: Welcome Msg | User Defined Character

Welcome Message1

ASCII

0	5	10	15	20															
2A	2A	2A	20	56	46	44	20	44	49	53	50	4C	41	59	20	20	2A	2A	2A

Hex

Welcome Message2

ASCII

0	5	10	15	20															
2A	2A	48	41	56	45	20	41	20	4E	49	43	45	20	44	41	59	20	41	4E
21	25	30	35	40															
44	20	54	48	41	4E	4E	20	59	4F	55	2A	2A	20	20	20	20	20	20	20

Hex

Clear

You can type the character by keyboard (0x20h ~ 0x7Fh), if you press clear icon, it will clear the all Message characters on AP.

b. Hex mode

Hex mode can define the character from 0x20h to 0xFFh → the range 0x80~0xFF which depends on the code page table.

Command Setting: Welcome Msg | User Defined Character

Welcome Message1

ASCII

0	5	10	15	20															
2A	2A	2A	20	56	46	44	20	44	49	53	50	4C	41	59	20	20	2A	2A	2A

Hex

Welcome Message2

ASCII

0	5	10	15	20															
2A	2A	48	41	56	45	20	41	20	4E	49	43	45	20	44	41	59	20	41	4E
21	25	30	35	40															
44	20	54	48	41	4E	4E	20	59	4F	55	2A	2A	20	20	20	20	20	20	20

Hex

Clear

Like the first character (0x80) → in default code page will show on VFD module.

6 - DEVICE DRIVER INSTALLATION

Download setting to VFD

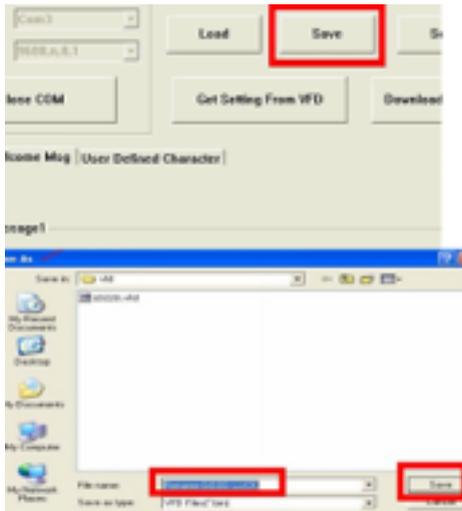
Click “Download setting to VFD” button

This button is to download the setting from VFDset.exe to VFD module. After success dialog “Download O.K! Please restart!” message popped up, please restart display to enable new setting



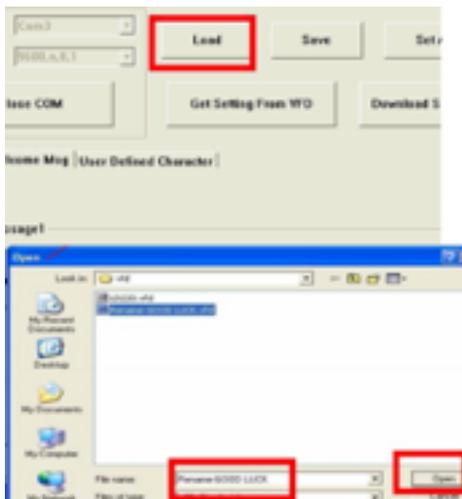
Save the setting

To save user's setting in file; for example, below picture to save file name as “GOODLUCK” file set for Welcome Message.



Load the setup file

After saving, you must restart the utility here. Then load your setting rename-GOODLUCK.vfd.

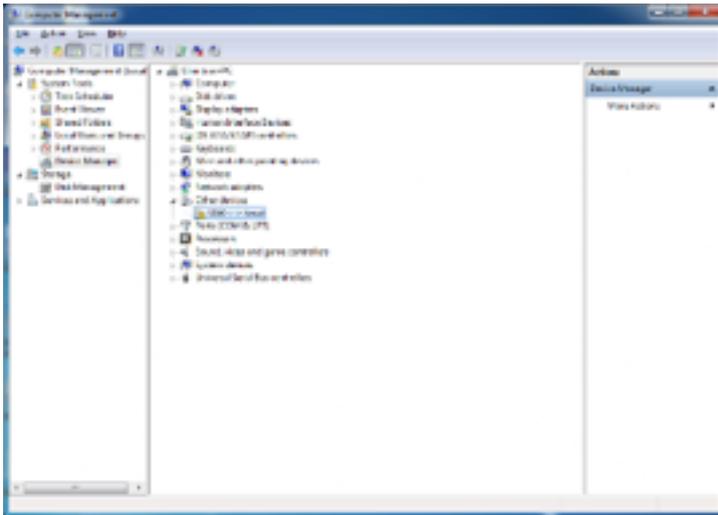


6 - DEVICE DRIVER INSTALLATION

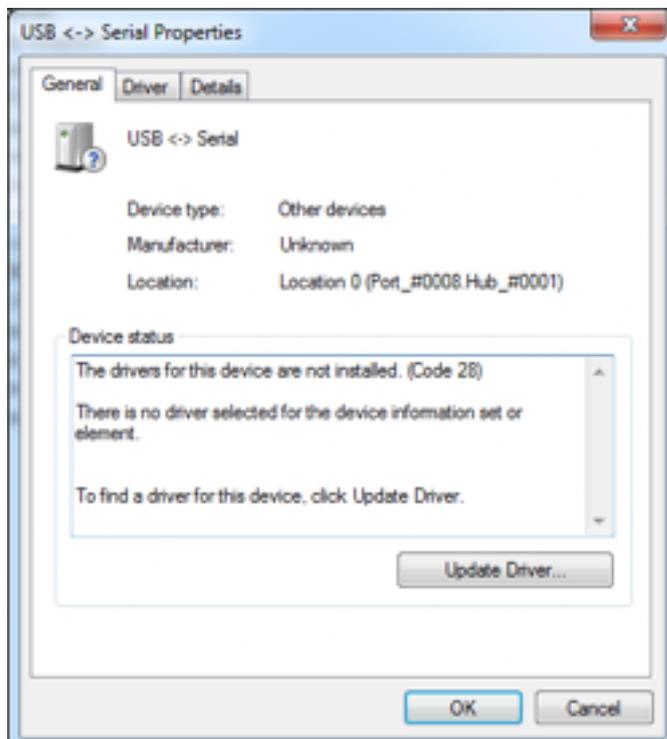
6-4. RFID

6-4-1 Install driver

Check the Windows Device Manager to verify the status of RFID reader.
Computer Management → Device Manager → Other devices
(The device will show a question mark if the installation is not done properly.)

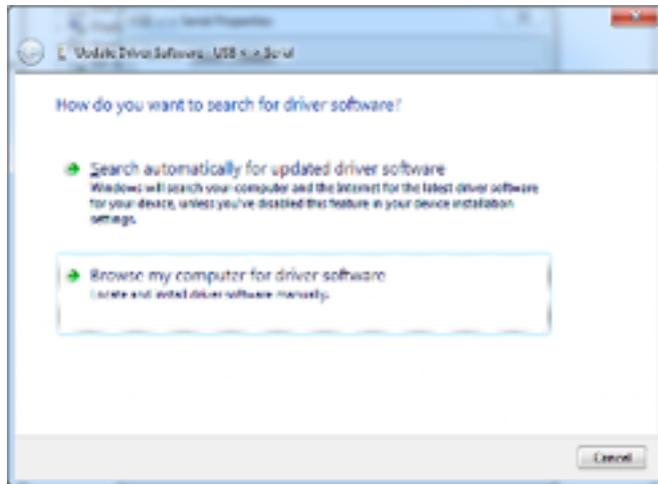


Click to update driver.

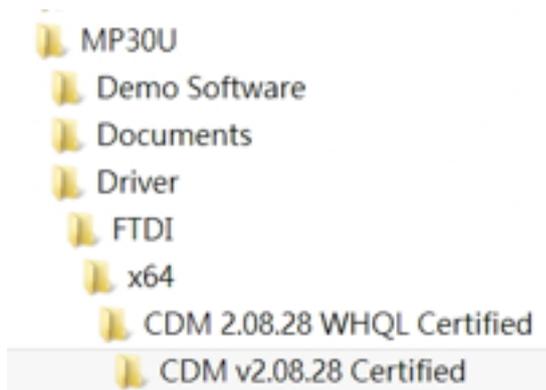


6 - DEVICE DRIVER INSTALLATION

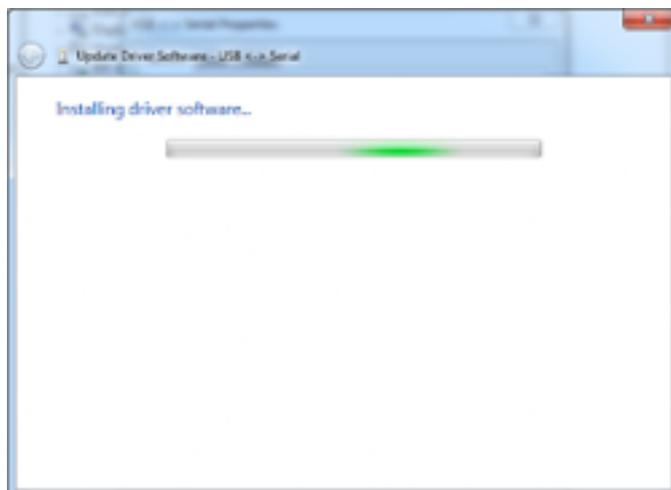
Select “Browse my computer for driver software.”



Click Browse to select file called MP30U \Driver\FTDI\x64
And click **Next**.

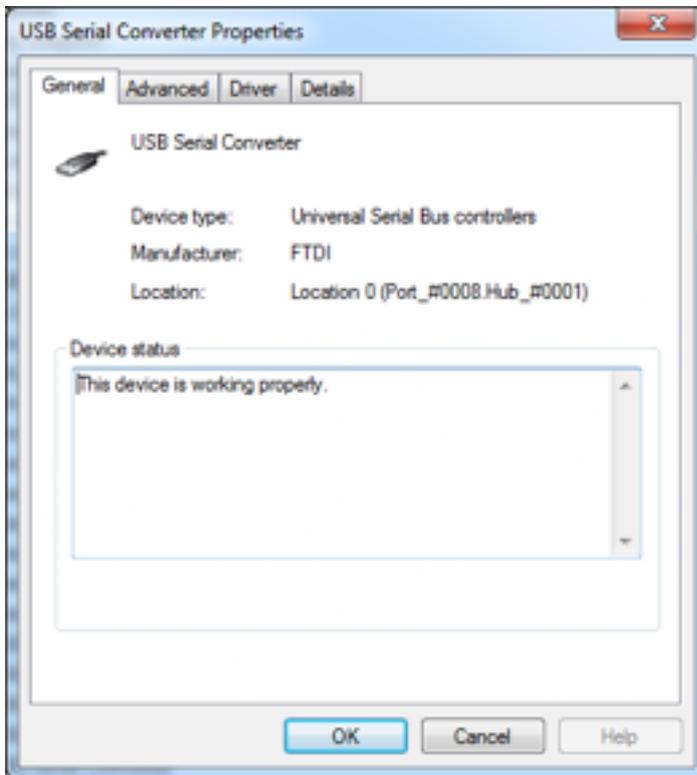


Install the driver



6 - DEVICE DRIVER INSTALLATION

Install complete and then click “close”.

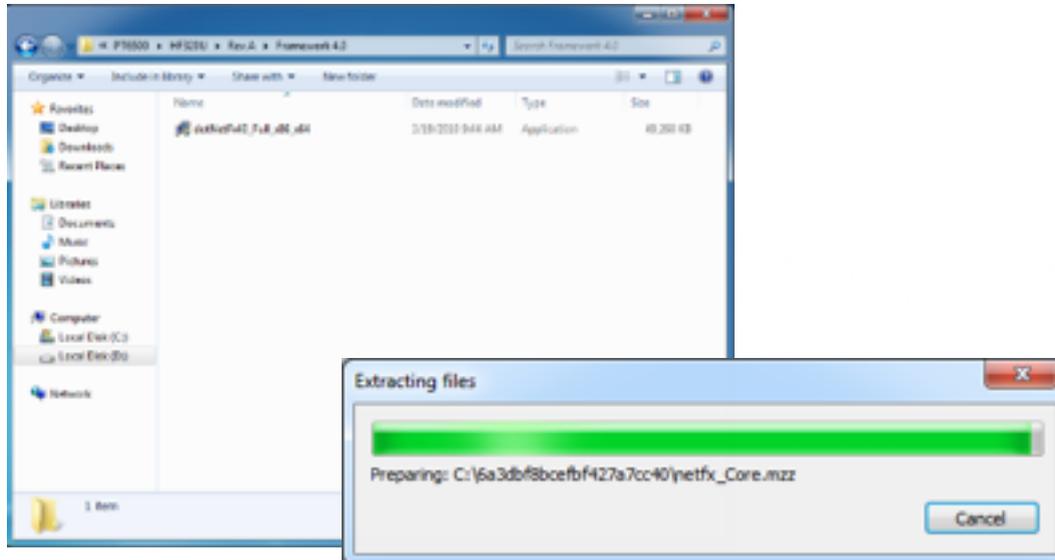


Restart the computer.

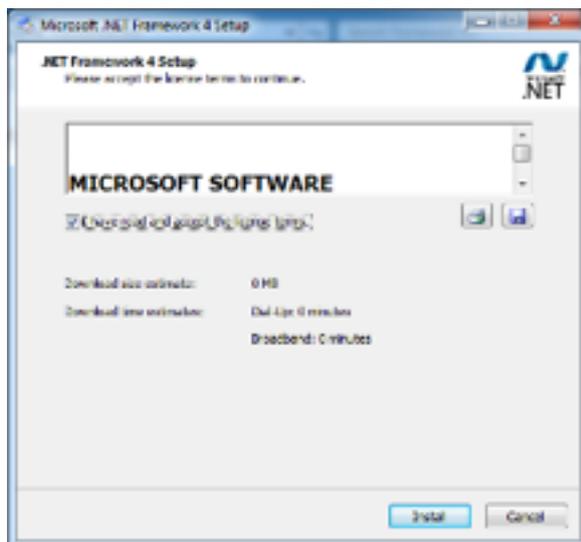
6 - DEVICE DRIVER INSTALLATION

6-4-2 Install framework 4.0

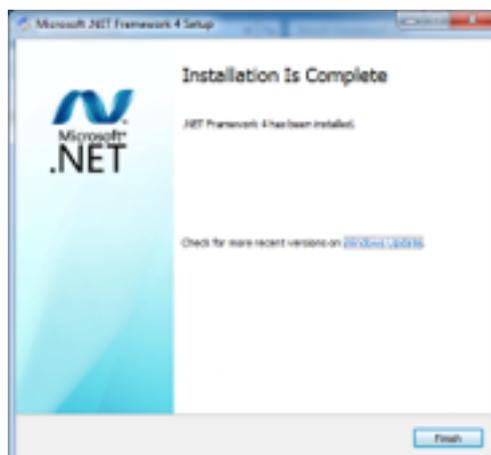
Double-click to install.



Select "I have read and accept the license terms." and click **Install**.



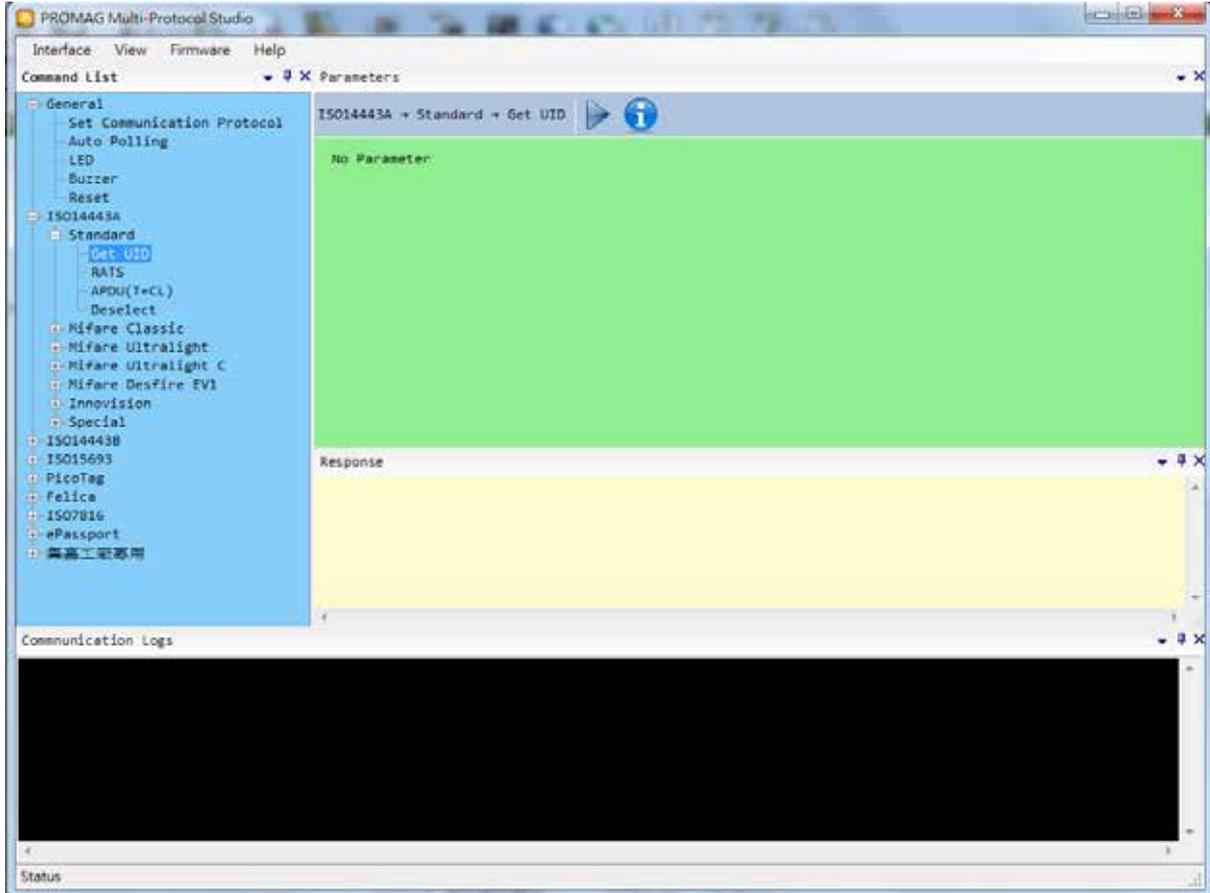
Click Finish.



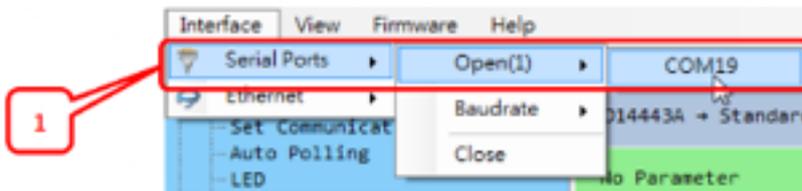
6 - DEVICE DRIVER INSTALLATION

6-4-3 Quick Start with Demonstration Software

The demonstration software “MP Studio.exe” is provided in the folder Peripherals -> RFID -> “Demo Software”. There is no software setup required; just double-click the “MP Studio.exe”. The demonstration software can run either from CD or a copy on hard drive. The interface of the software is shown in the picture below and ready to use.



The following steps, as shown in the following pictures, demonstrate a simple usage in reading UID of ISO14443A card for quick understanding.



6 - DEVICE DRIVER INSTALLATION

The image consists of two screenshots of a software interface, likely for a device driver installation tool. The interface is divided into several sections:

- Command List:** A tree view on the left side of the window. In the first screenshot, 'Set Communication Protocol' is selected under the 'General' category. In the second screenshot, 'Set UID' is selected under the 'Standard' category.
- Parameters:** A panel on the right side of the window. In the first screenshot, it shows 'General + Set Protocol' with a list of protocols: ISO14443A (selected), ISO14443B, ISO15693, PicoTag(Using ISO14443B), PicoTag(Using ISO15693), and Felica. A 'Send Command' button is visible.
- Response:** A window at the bottom of the second screenshot showing the result of the 'Set UID' command: 'Response Time:18:48:24.768', 'Response OK', and 'UID:04874821802580'.
- Communication Logs:** A window at the bottom of the second screenshot showing the raw communication data: 'RX_0001> AE 00 0A 01 00 01 04 87 48 21 8D 25 80 FB', 'TX_0001> AE 00 02 01 00 03', 'RX_0000> AE 00 03 00 00 01 02', and 'TX_0000> AE 00 03 00 00 00 03'.

Red callout boxes with numbers 2 through 7 point to specific elements in the screenshots:

- 2: Points to 'Set Communication Protocol' in the Command List.
- 3: Points to 'Set UID' in the Command List.
- 4: Points to the 'Send Command' button in the Parameters panel.
- 5: Points to the 'Send Command' button in the Parameters panel.
- 6: Points to the 'Response' window.
- 7: Points to the 'Communication Logs' window.

6 - DEVICE DRIVER INSTALLATION

6-5. P1400 PRINTER

6-5-1. Printer Utility

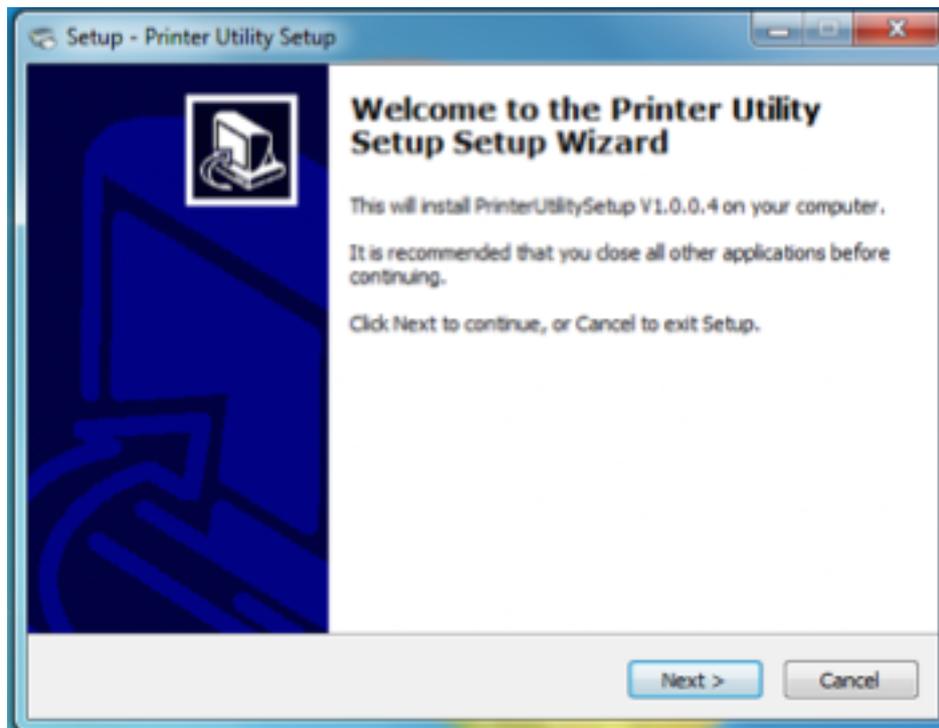
Utility installation

Click  PrinterUtilitySetup.exe to start the Printer Utility Setup.

(You will find the file in the folder Peripherals -> C1400_Printer_driver)



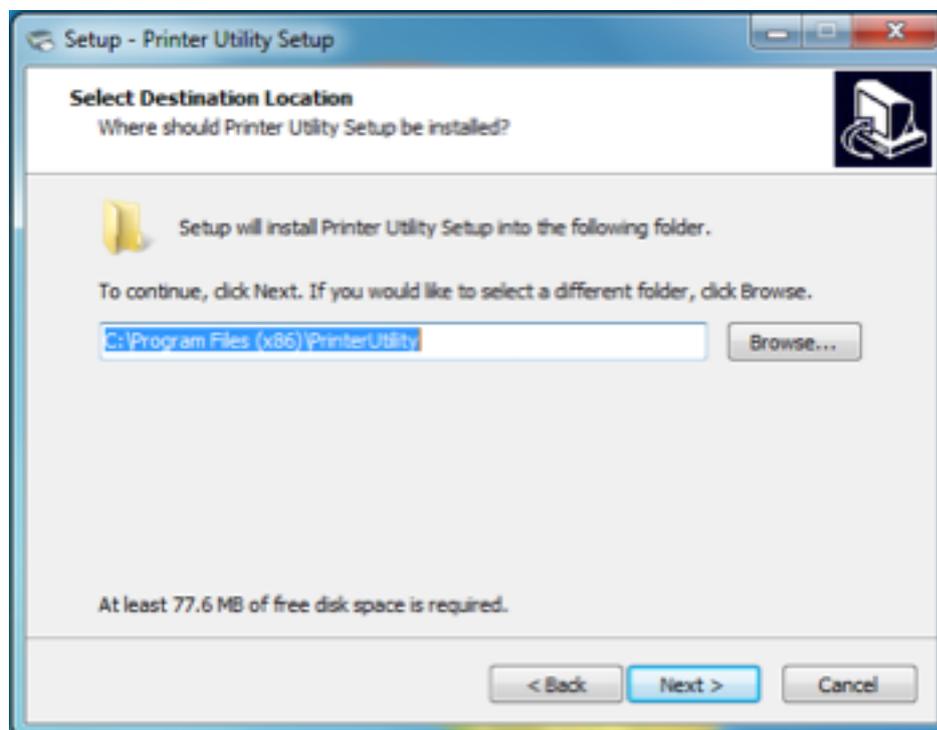
Choose the language and click "OK".



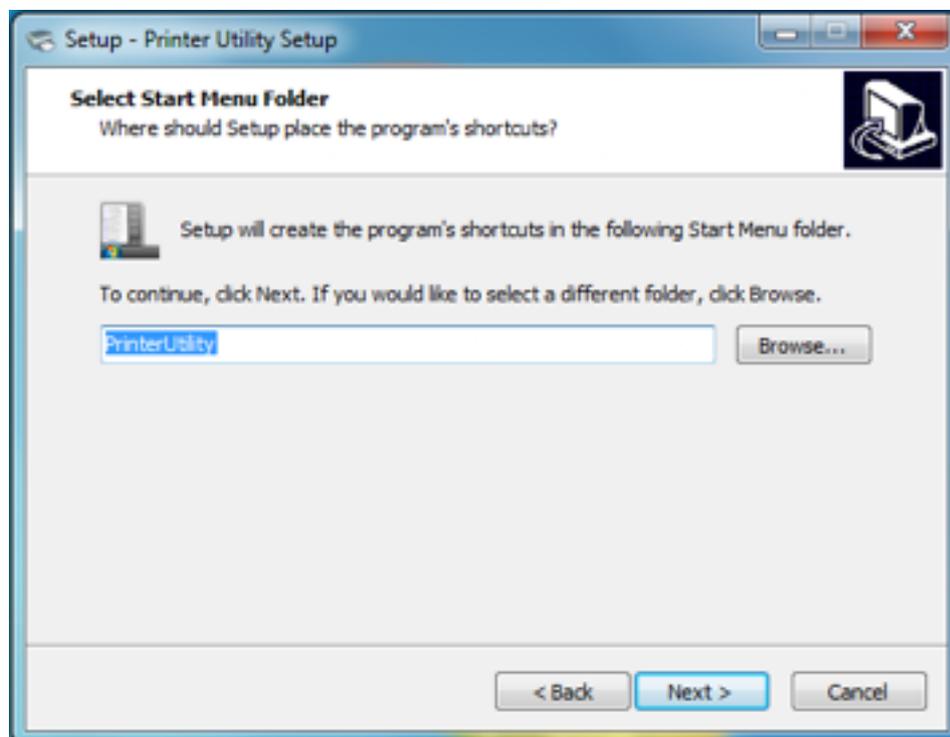
Click "Next".

6 - DEVICE DRIVER INSTALLATION

Select destination location and click “Next”.

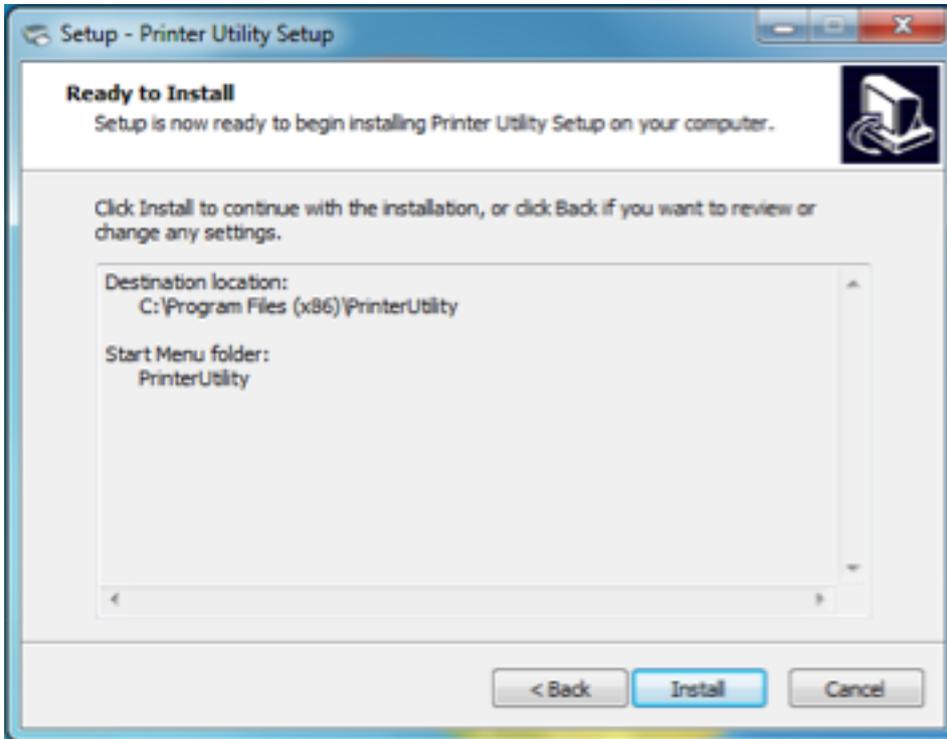


Select start menu folder and click “Next”.

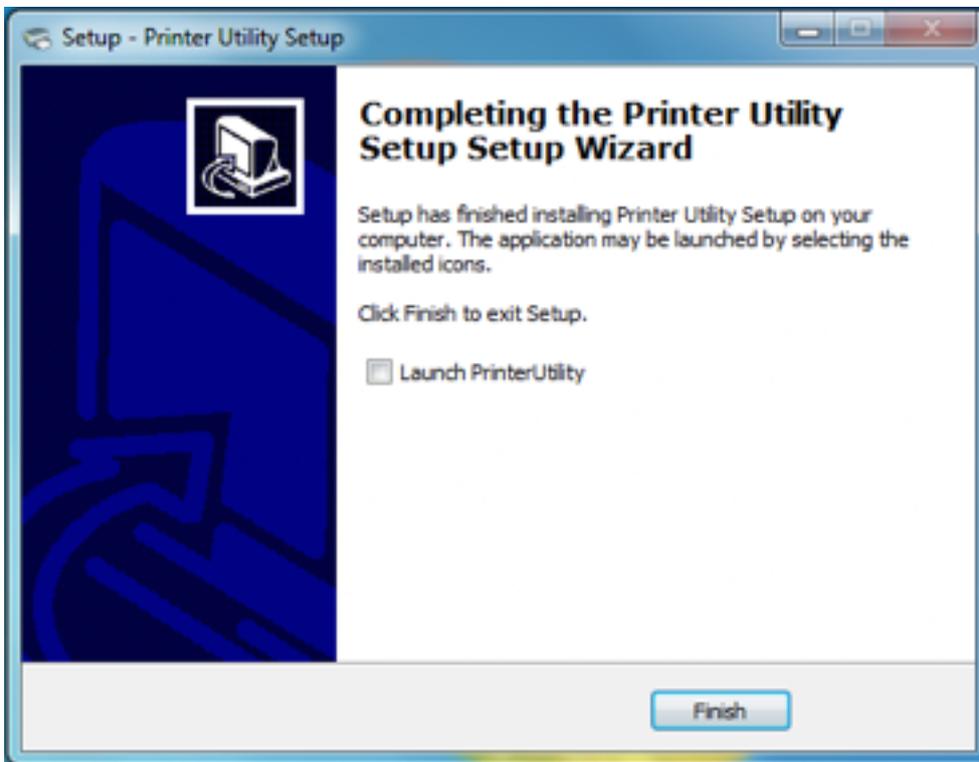


6 - DEVICE DRIVER INSTALLATION

Ready install and click “Install”.



Complete the installation and click “Finish”.

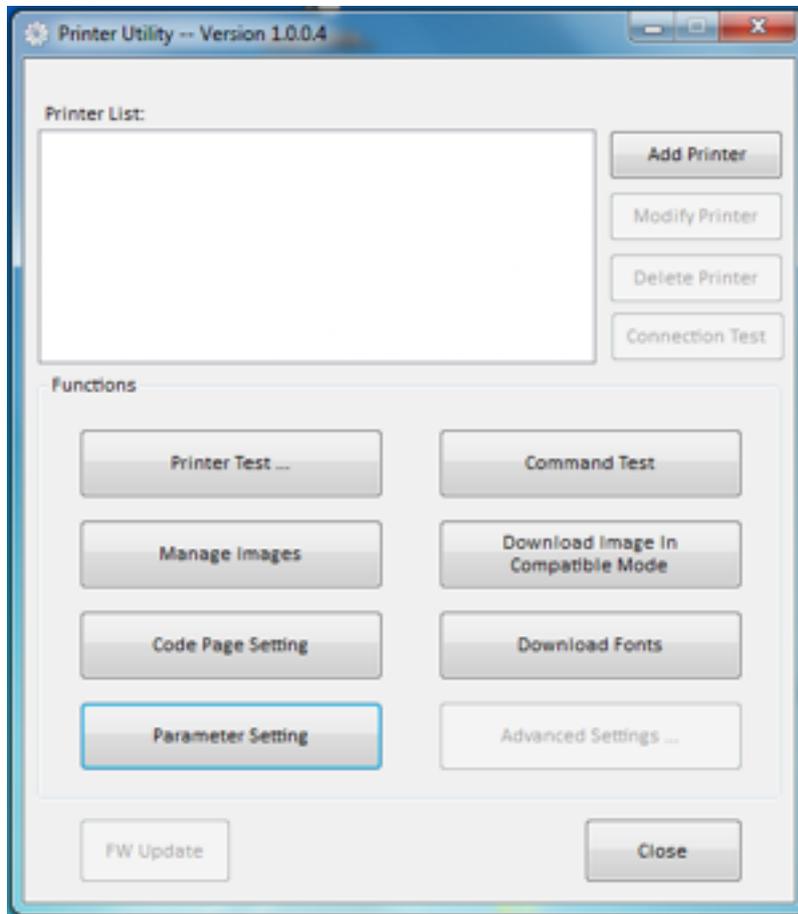


6 - DEVICE DRIVER INSTALLATION

Find the destination location: C:\Program Files (x86)\PrinterUtility, then open the folder, click



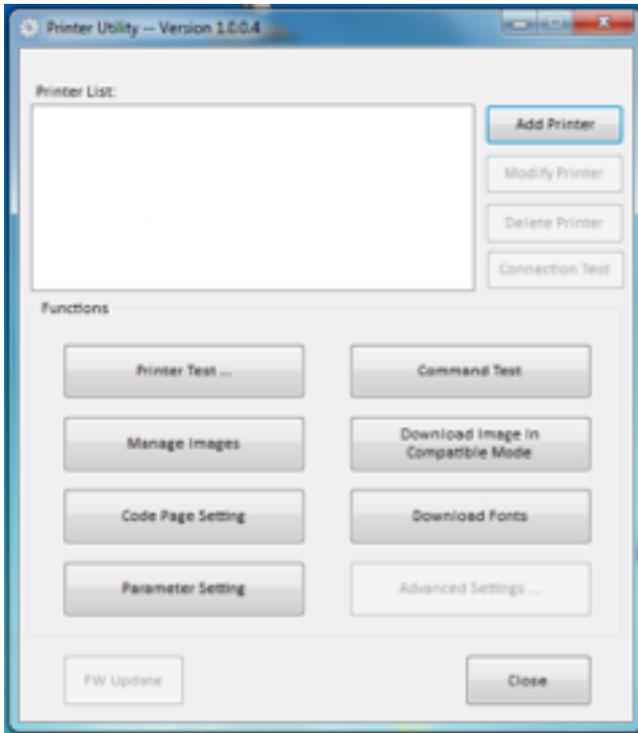
to open the Printer Utility.



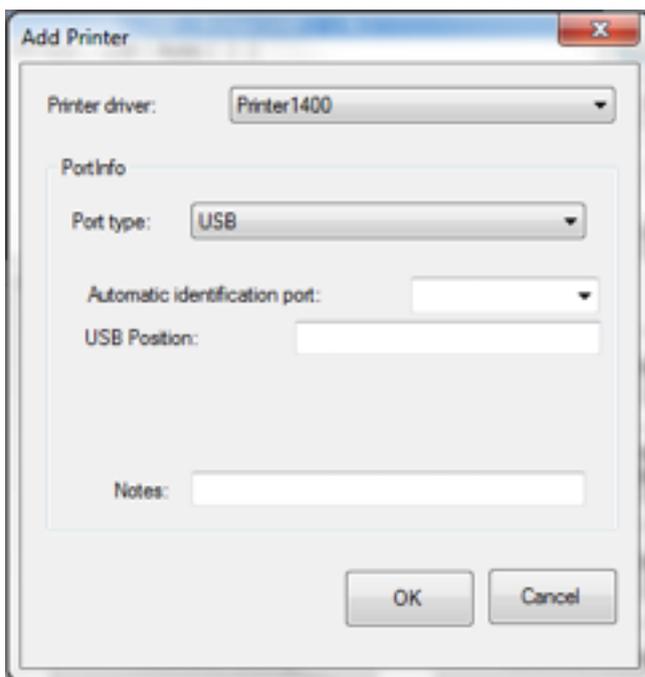
6 - DEVICE DRIVER INSTALLATION

Add Printer

Click “Add Printer”.



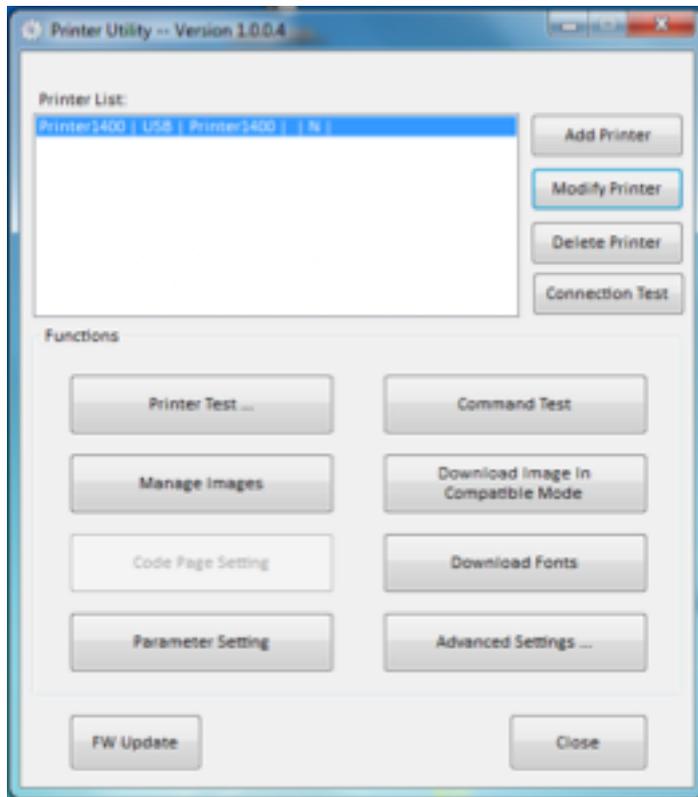
Choose the right printer driver and port type, then click “OK”. Addition of the printer is finished.



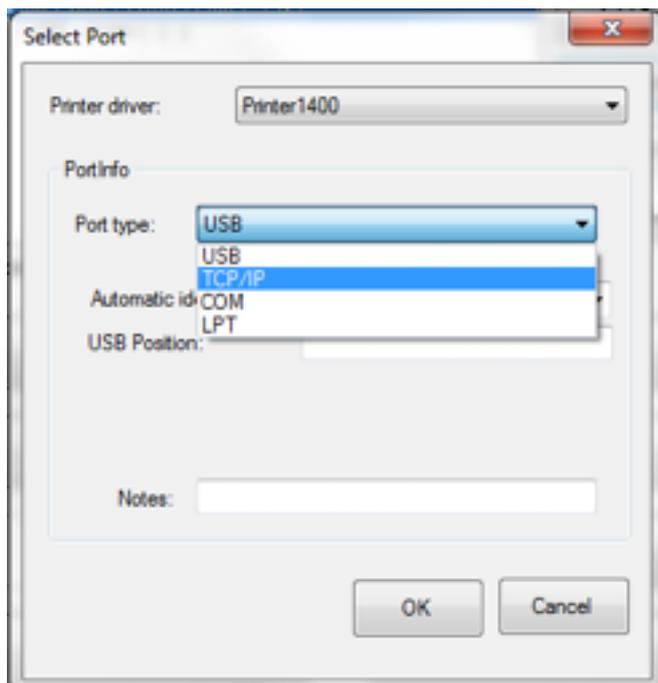
6 - DEVICE DRIVER INSTALLATION

Modify Printer

Choose the printer which you want to modify in the list. Click “Modify Printer”.



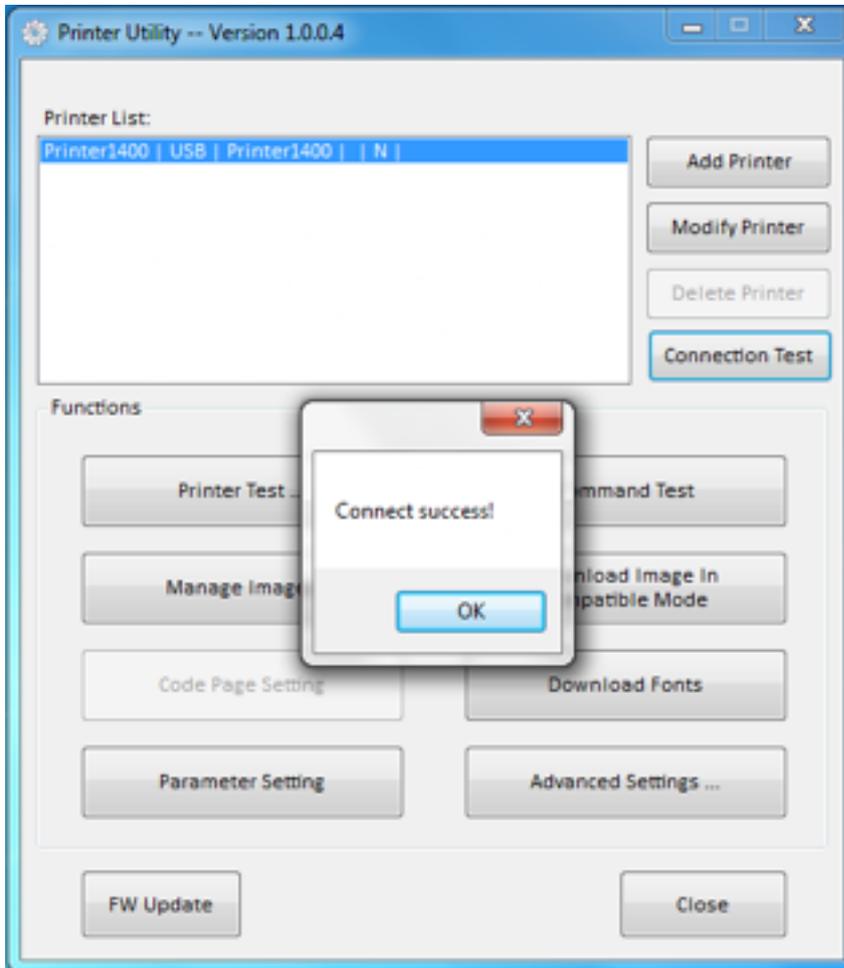
Choose the new driver and port, then click “OK”. Modify Printer is finished.



6 - DEVICE DRIVER INSTALLATION

Connection test

Click “Connection Test”. If the connection is successful, it will appear the following window. If the connection is unsuccessful, please connect the printer with computer.



Note:

1. **Make sure printer is connected with computer and power on.**
2. **Make sure printer is loaded paper.**
3. **Before using the following function → carry out the “Connection Test” first.**

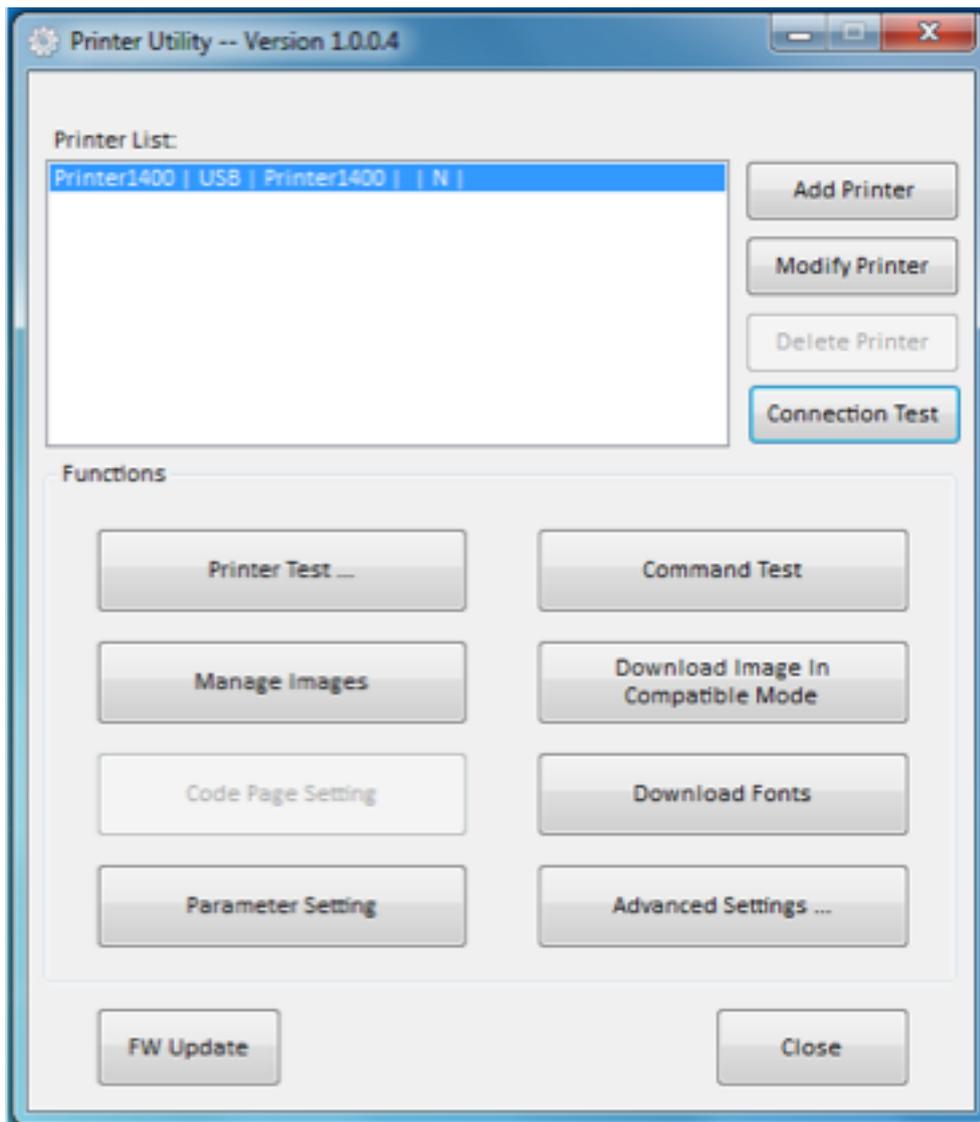
6 - DEVICE DRIVER INSTALLATION

Functions

The function of Printer Utility For Mobile contains eight items. Click the button and printer will execute the appropriate action.

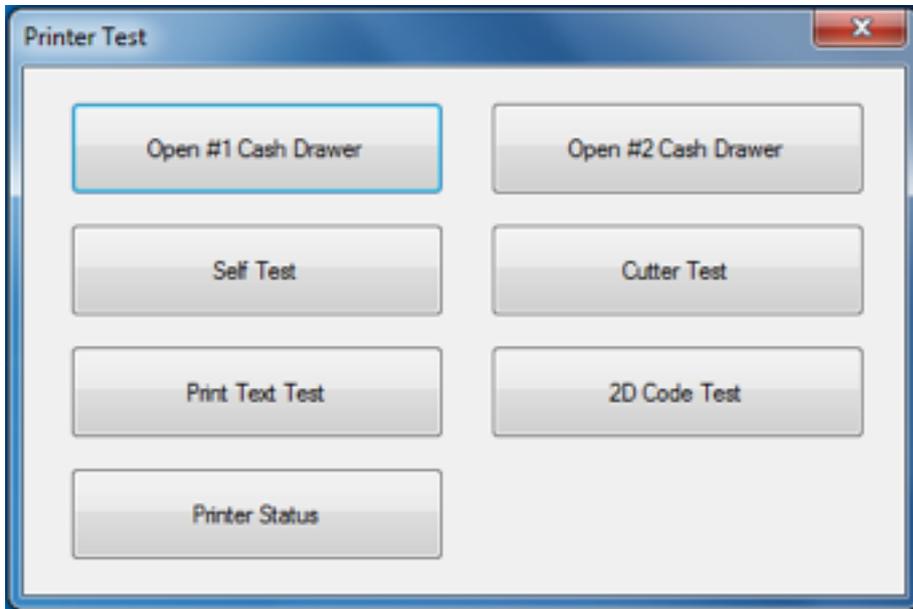
Note:

The following screen may differ depending on the device to which you connect. Please operate it according to the actual interface.



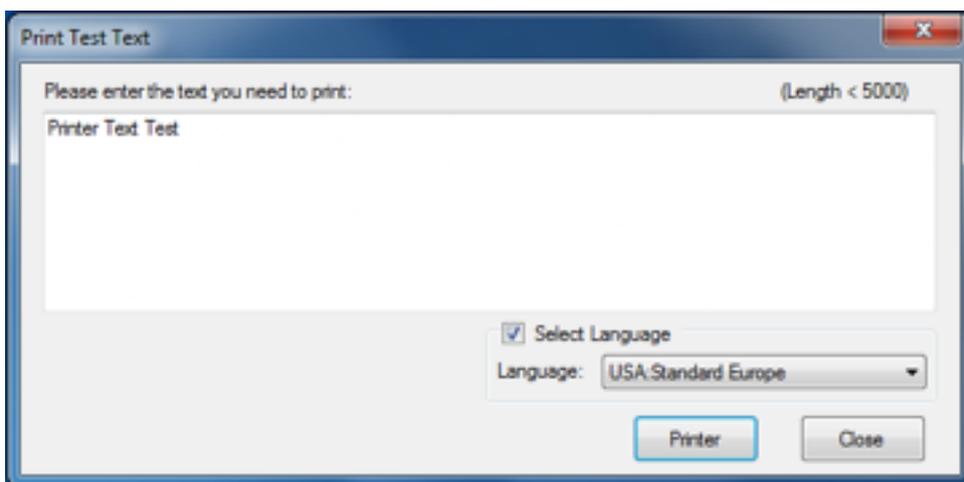
6 - DEVICE DRIVER INSTALLATION

Printer Test



It contains the following items:

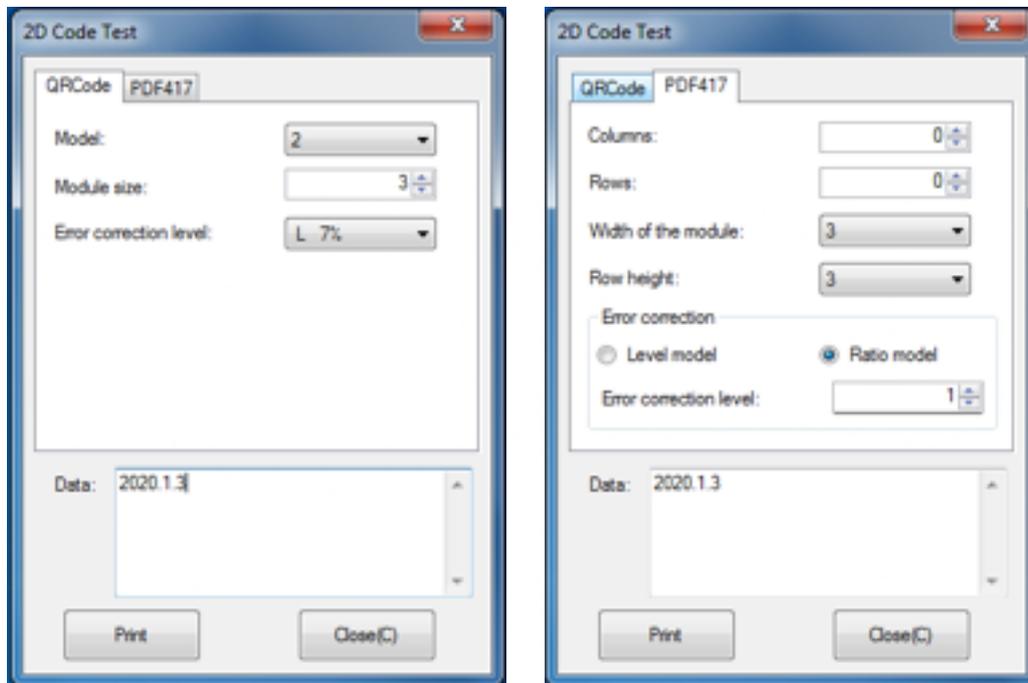
1. Open #1 Cash Drawer and Open #2 Cash Drawer
2. Self Test: click it to print out the setting information
3. Cutter Test: click it to test the cutter
4. Print Text Test: input the test text in the input box as needed and click print



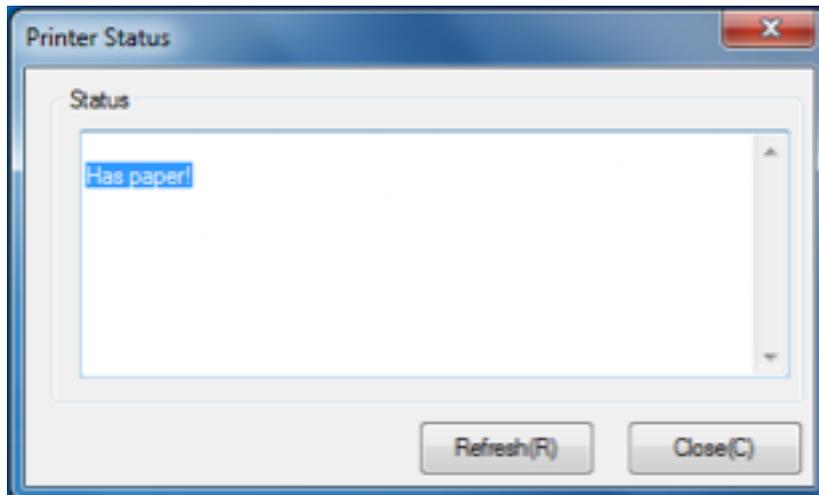
6 - DEVICE DRIVER INSTALLATION

2D Code Test

- QRCode: edit the data and click “Print”
- PDF417: edit the data and click “Print”



Printer Status

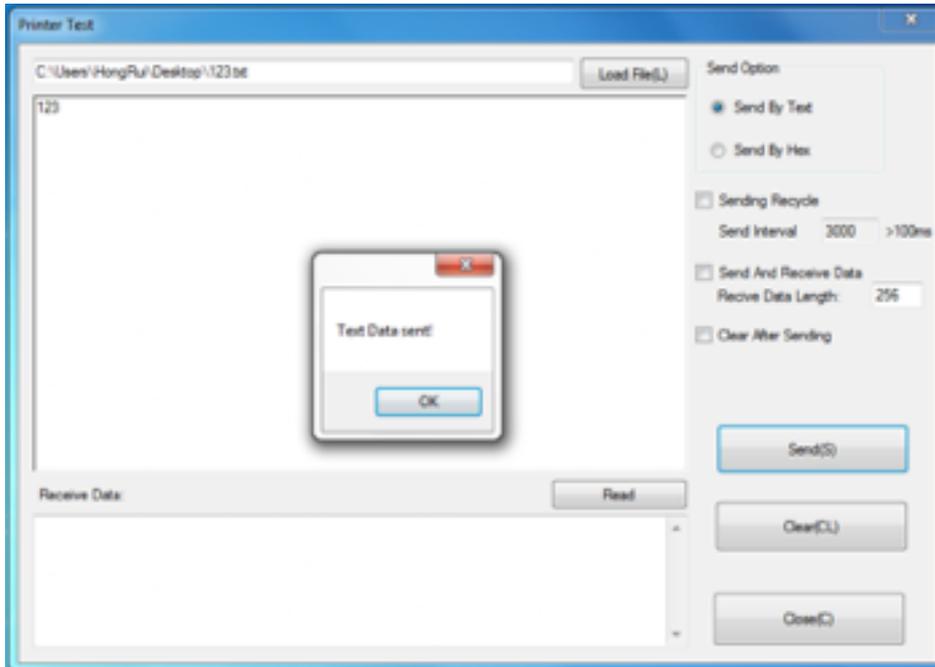


6 - DEVICE DRIVER INSTALLATION

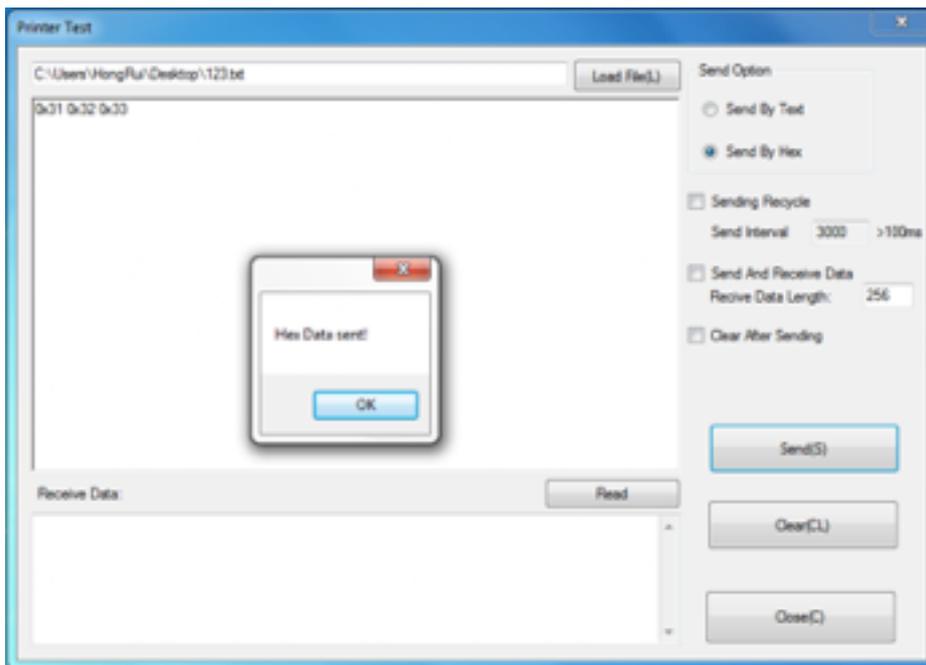
Command Test

You can load file or input the text in the input box on the left, then click “Send”, the printer will print the text out accordingly.

Click “Text”:

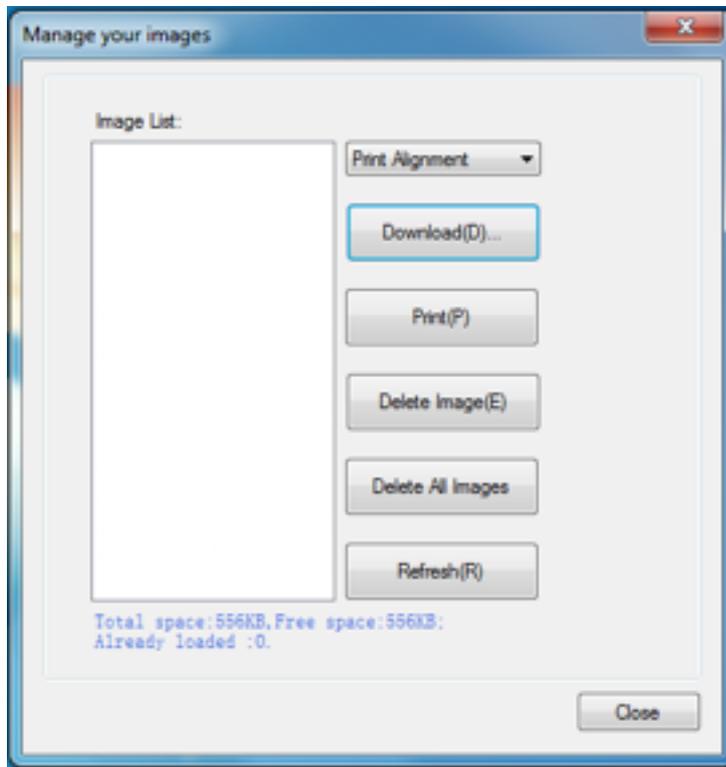


Click “Hex”:



6 - DEVICE DRIVER INSTALLATION

Manage Images



Print Alignment:

Left, Center, Right.

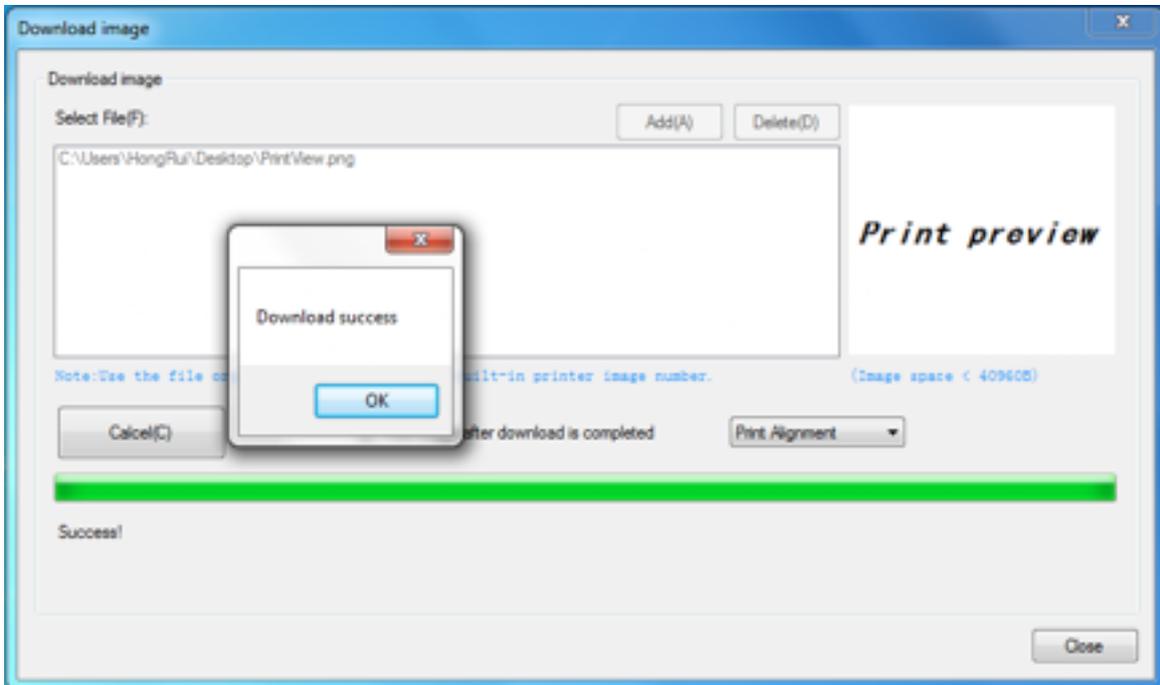
Download image:

Click "Add" to choose the picture you want to print, click "Download mode of G", the printer will print the picture.

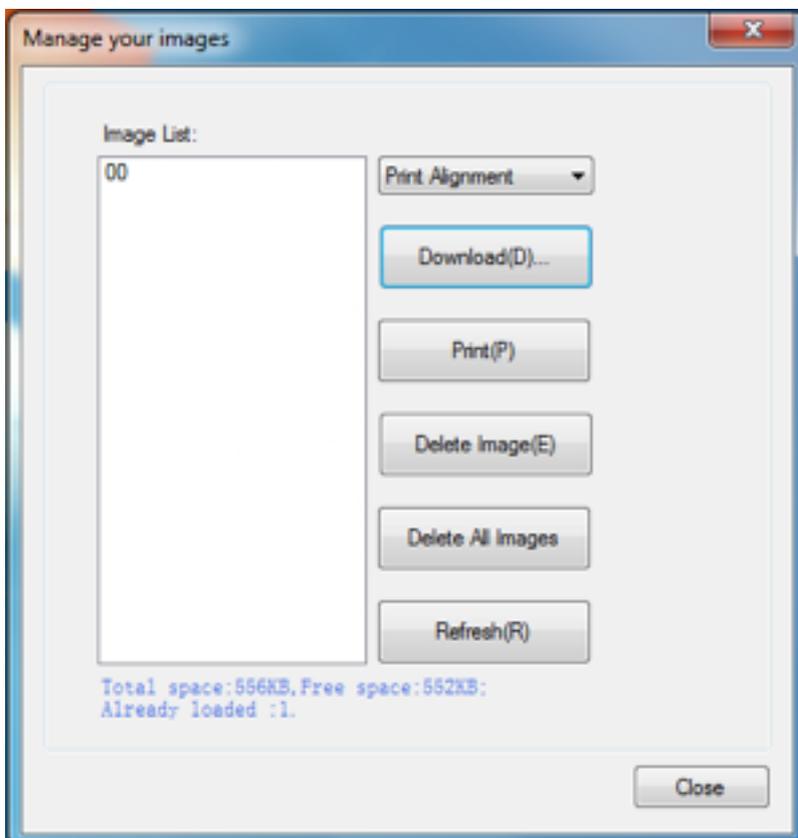
6 - DEVICE DRIVER INSTALLATION

Note:

When “Print image after download is completed” is selected, the image will be printed directly.

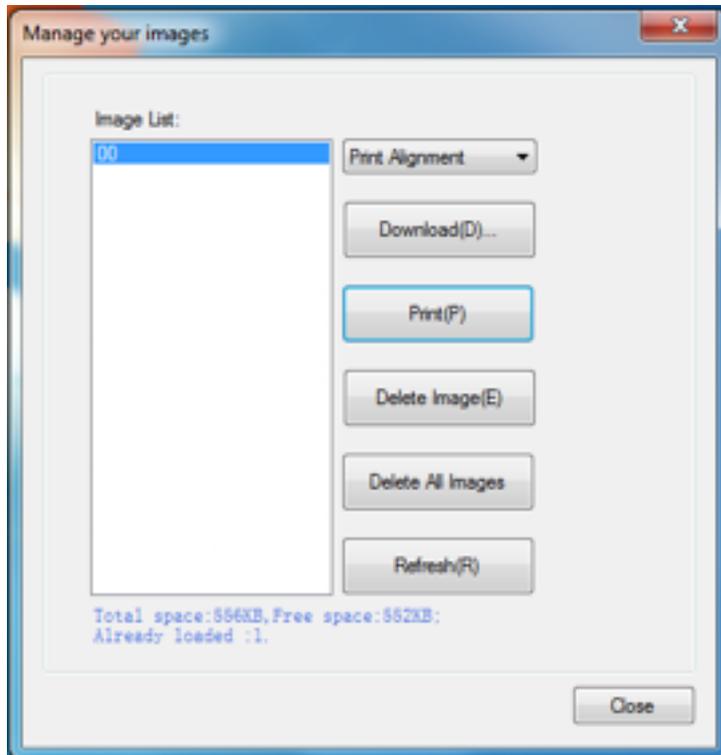


The downloaded images are in the images list.



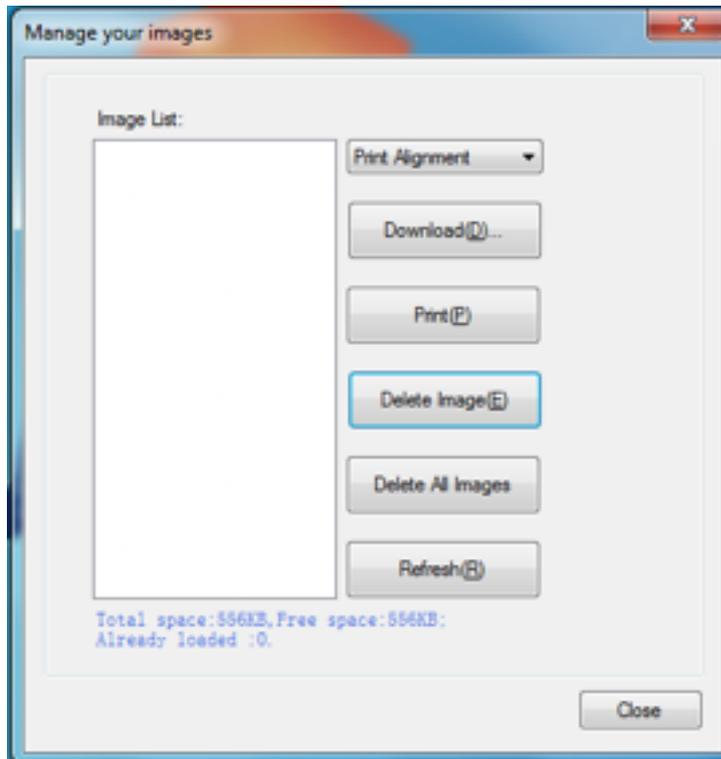
6 - DEVICE DRIVER INSTALLATION

Print: Choose the image “00” in the image list, then click “Print”.



Delete Image:

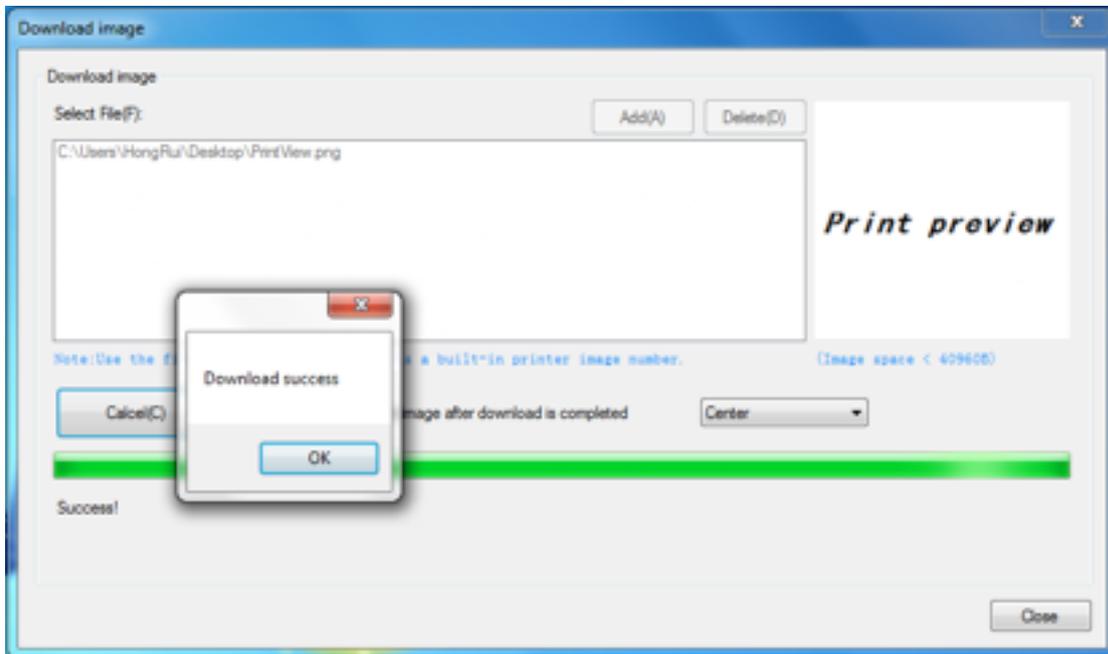
Choose the image you want to delete, click “Delete Image”, the printer will delete the image.



6 - DEVICE DRIVER INSTALLATION

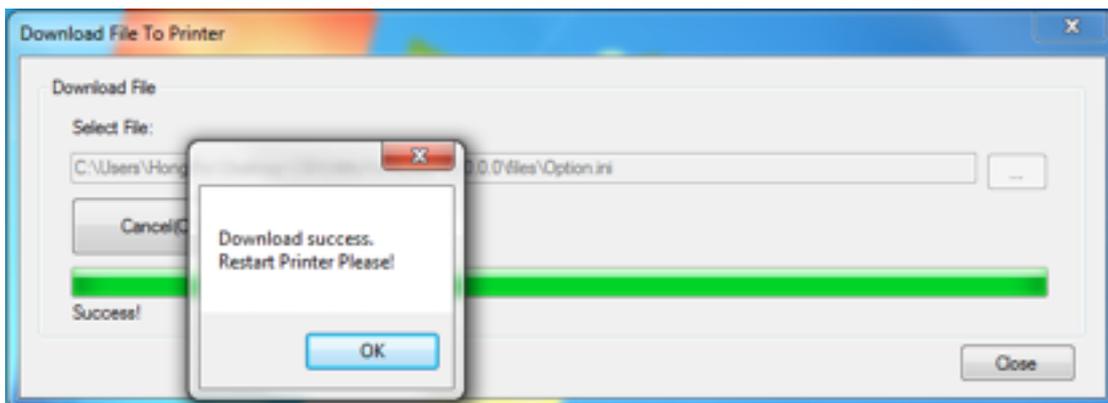
Download Image In Compatible Mode

Download image: Click “Add” to choose the picture you want to print, click “Download mode of G”, the printer will print the picture.



Download Fonts

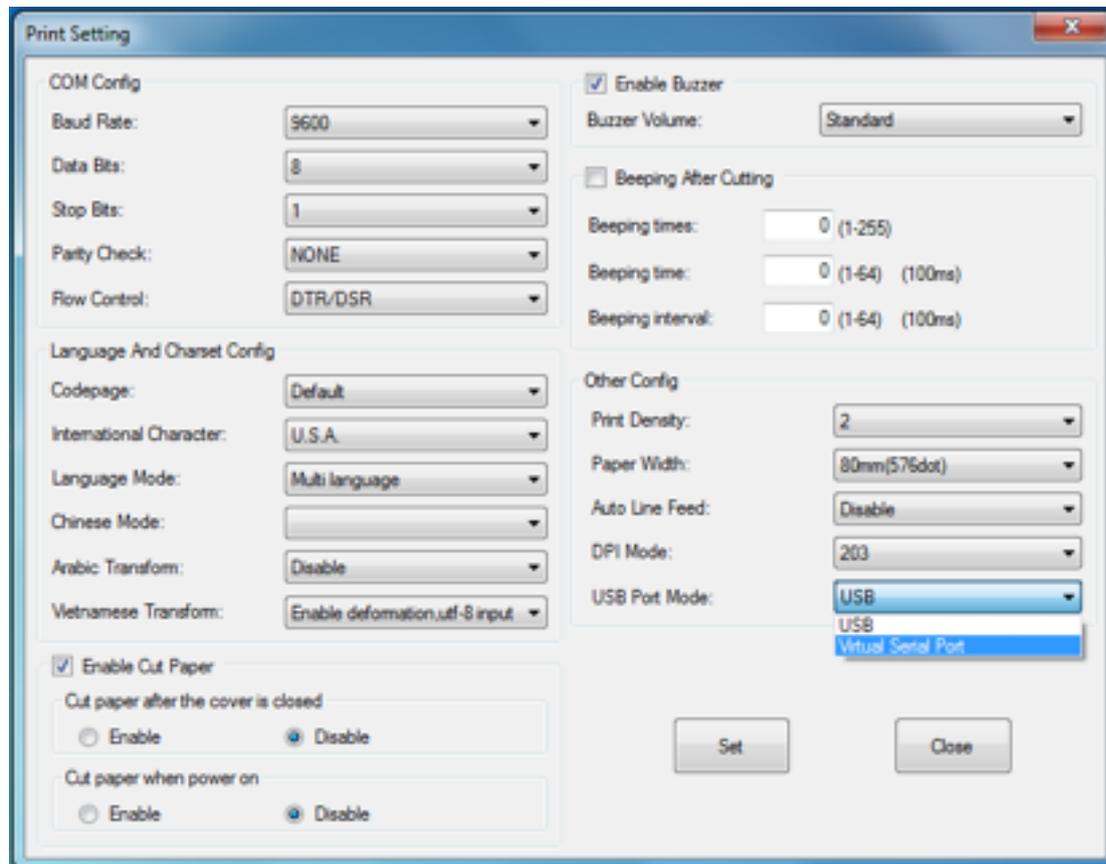
Download Fonts: Choose the font from existing files and click “Download”.



6 - DEVICE DRIVER INSTALLATION

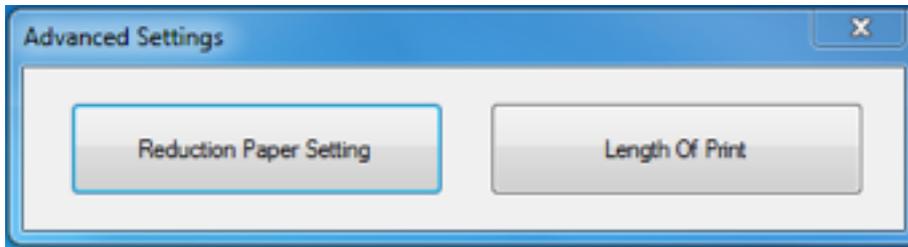
Parameter Setting

Click “Parameter Setting”, according to the different needs, choose “COM Config”, “Language And Charset Config”, “Enable Cut Paper”, “Cut paper when power on”, “Enable Buzzer”, “Beeping After Cutting”, “Other Config” in “Parameter Setting”. Click “Set” to save it.

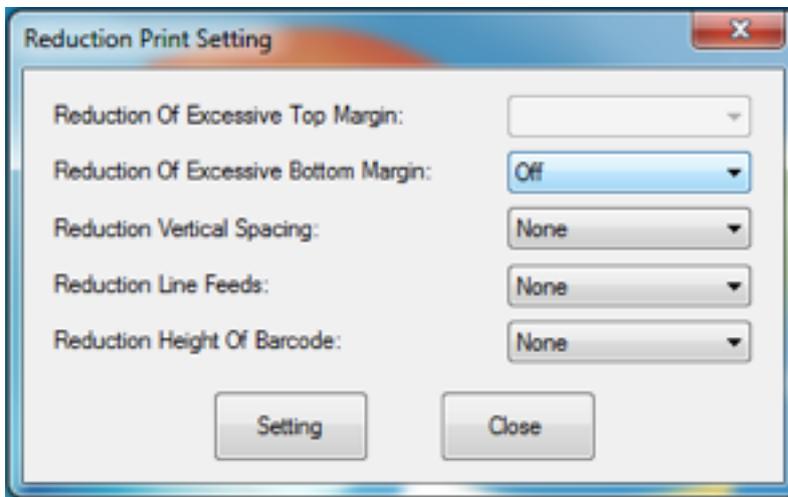


6 - DEVICE DRIVER INSTALLATION

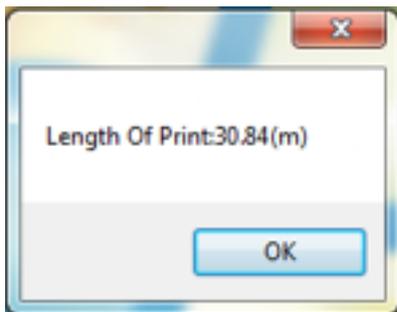
Advanced Settings



Reduction Print Setting:



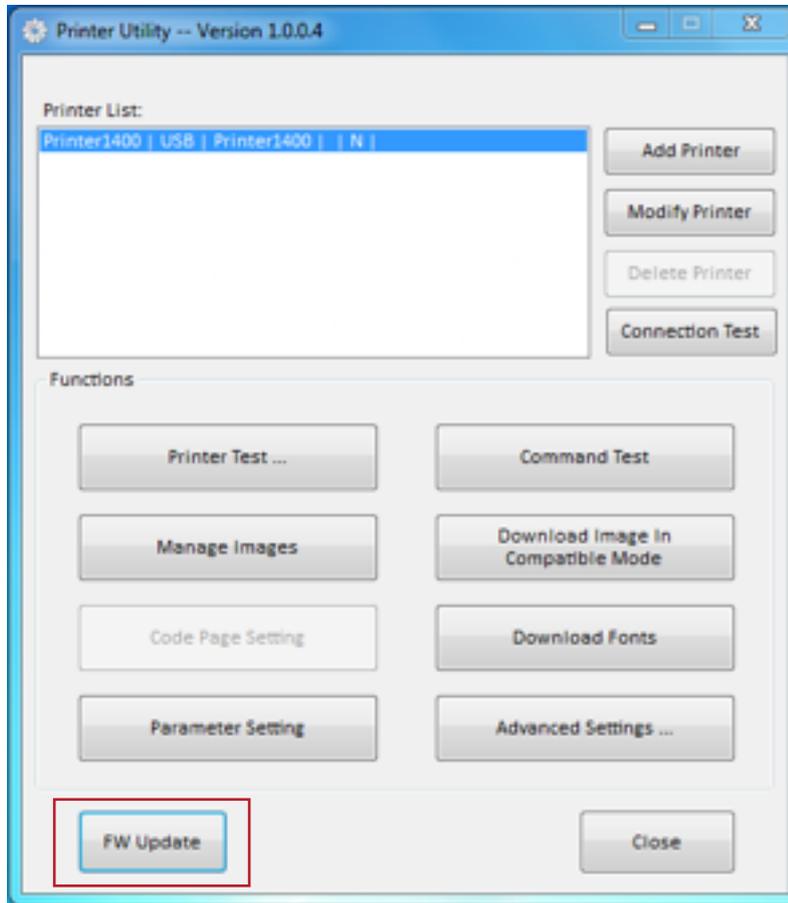
Length Of Print: the length of print can be viewed



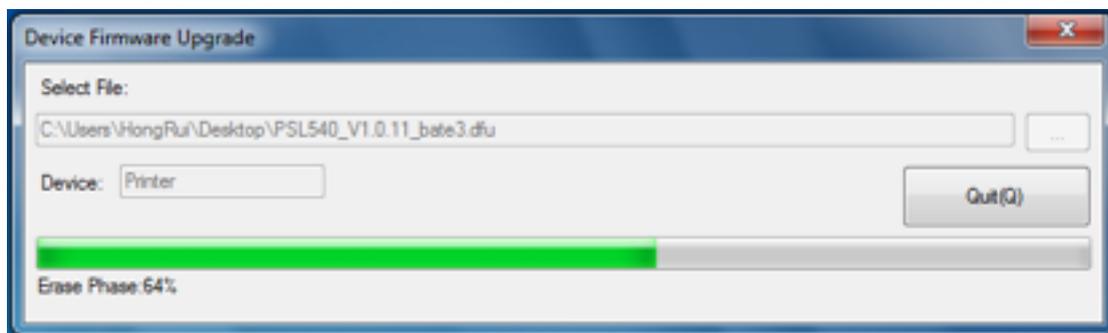
6 - DEVICE DRIVER INSTALLATION

FW Update

Click “FW Update”.



Select file and click “Update”.



6 - DEVICE DRIVER INSTALLATION

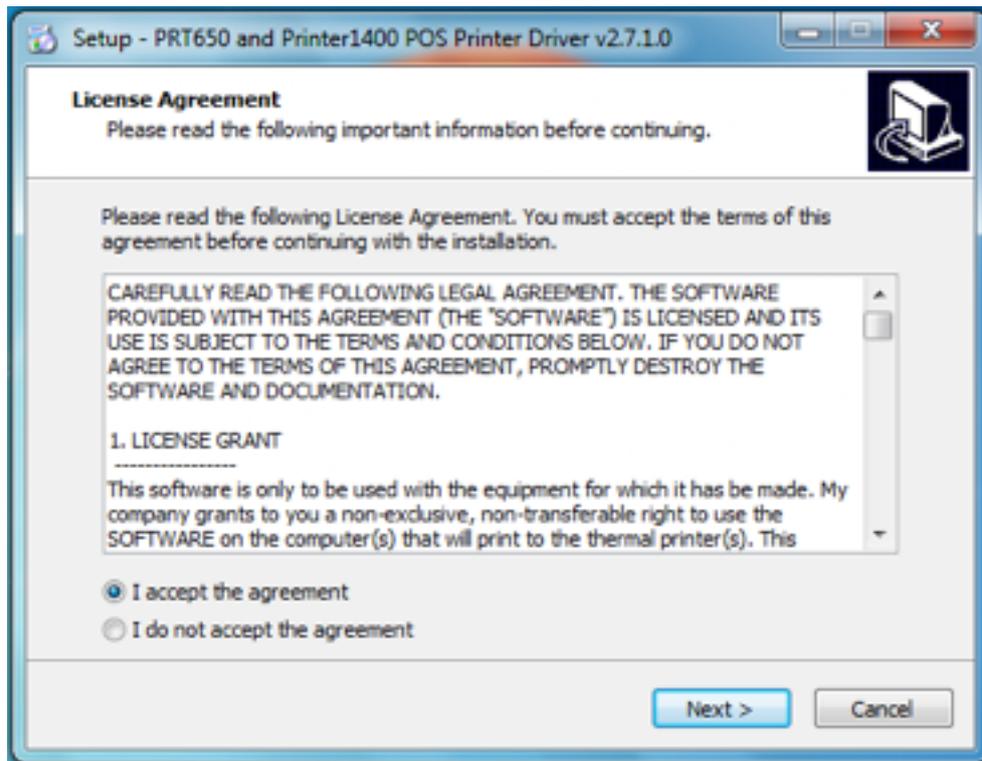
6-5-2 Windows Driver Installation



Warning:

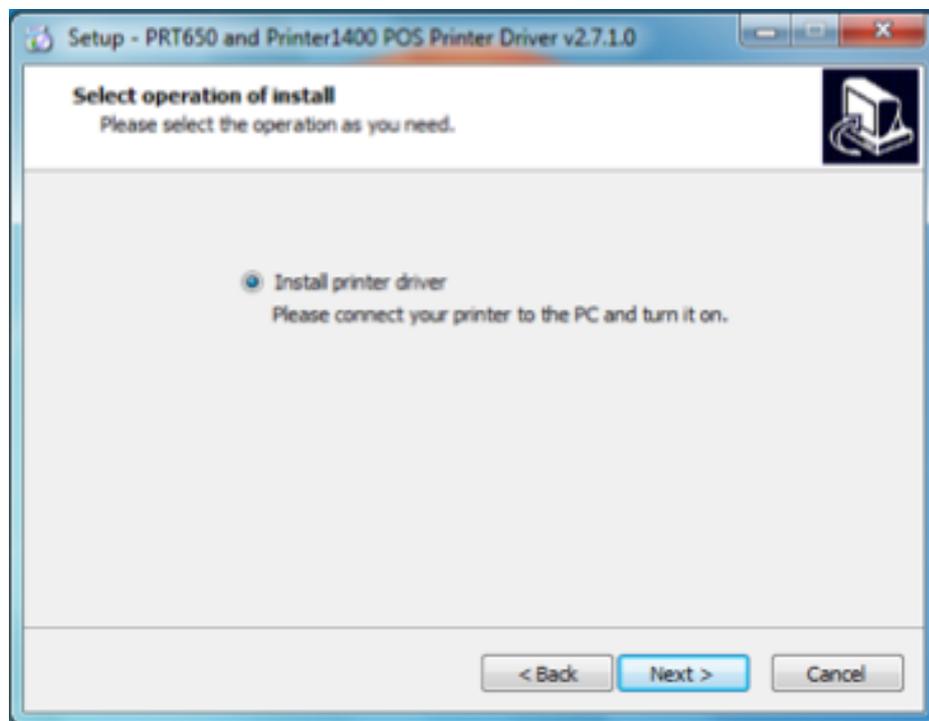
Under different operating systems, the screen may look slightly different. Please operate it according to the tips. Take Printer1400 (Windows 7) as example.

- Double click **Windows Driver**.
- Choose “I accept the agreement”.
- Click “Next”.

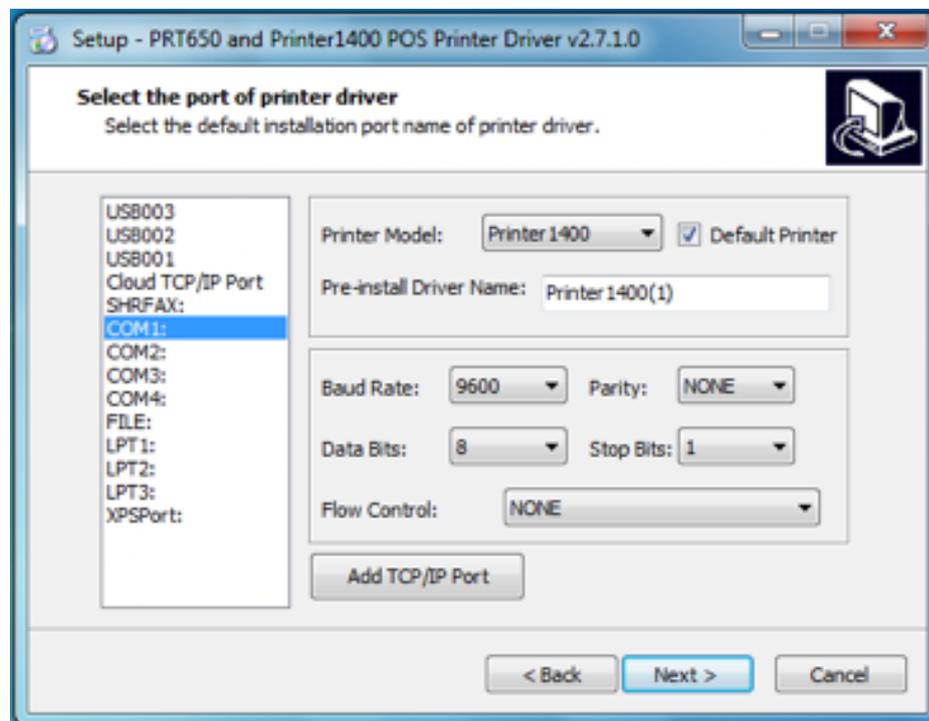


6 - DEVICE DRIVER INSTALLATION

Click “Next”.



Choose the matched type and port (USBxxx is for USB port, COMx is for serial port, LPTx is for parallel port). Choose the type and port of driver, such as “COM1” as port. Click “Next”.



NOTE: If printer is already connected with computer by USB port, you only need to click “Install”, then it will be installed automatically. Otherwise, proceed to the next step.

6 - DEVICE DRIVER INSTALLATION

Click “Finish”. The printer driver is installed successfully.



After installation, the icon will be found in “Start” → “Devices and Printers”.



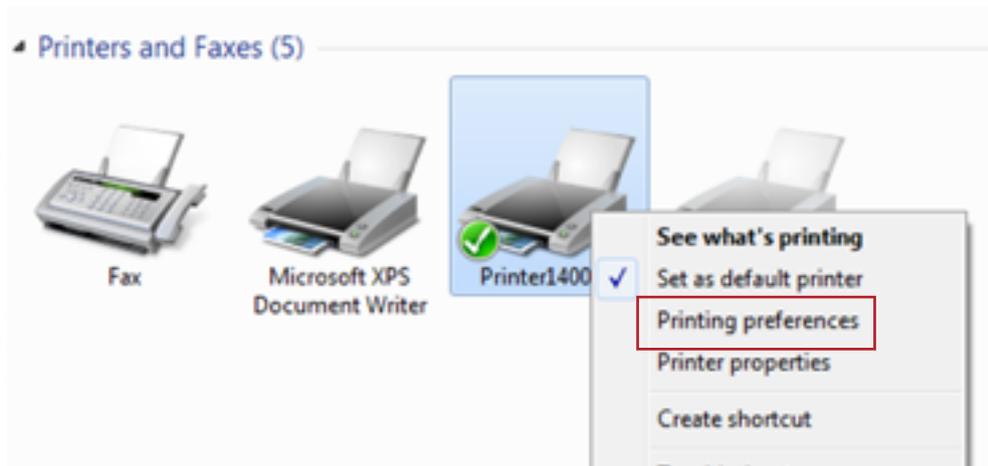
NOTE: If you already installed the driver (no matter what kind of port), when you connect the printer with the computer, it will create a USB port automatically.

6 - DEVICE DRIVER INSTALLATION

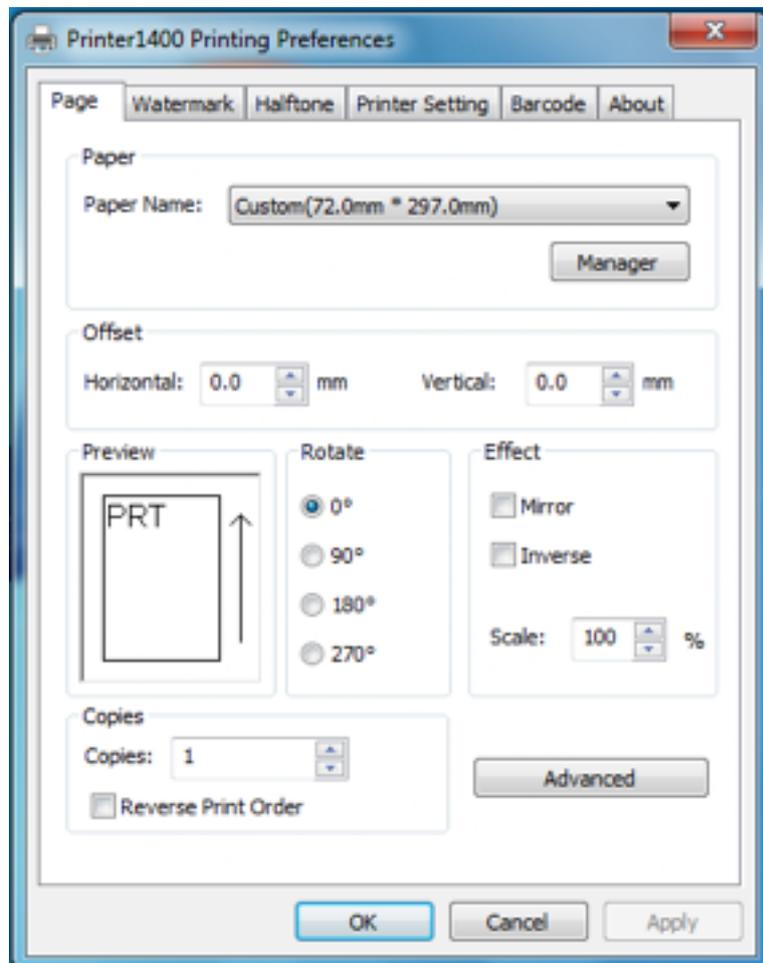
Detailed Windows Driver Setting

Printing Preferences

Click “Start” → “Devices and Printers”. Right click “Printer1400” and choose “Printing preferences”.

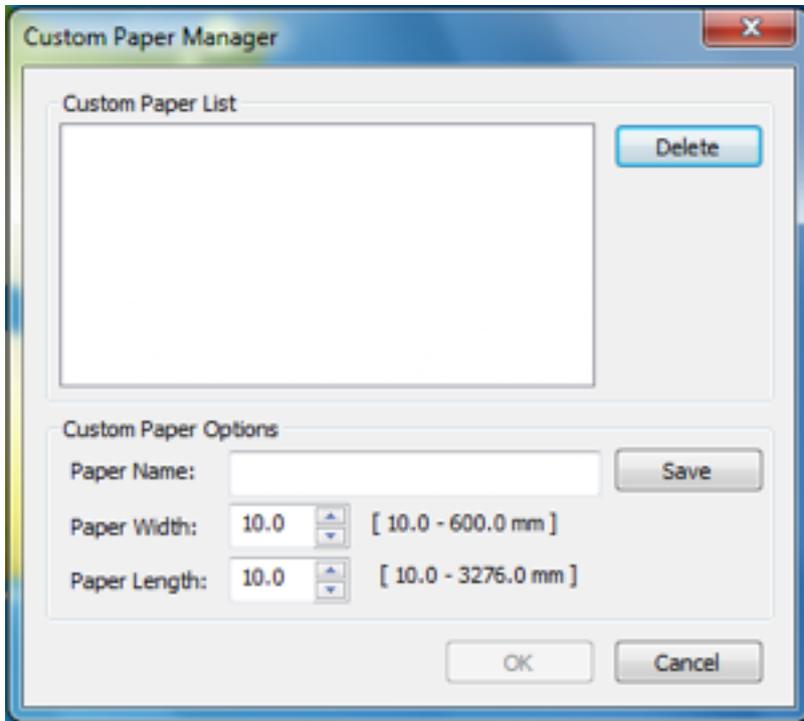


According to the different needs, adjust “Paper” / “Offset” / “Rotate” / “Effect” / “Copies” in “Page” tab.

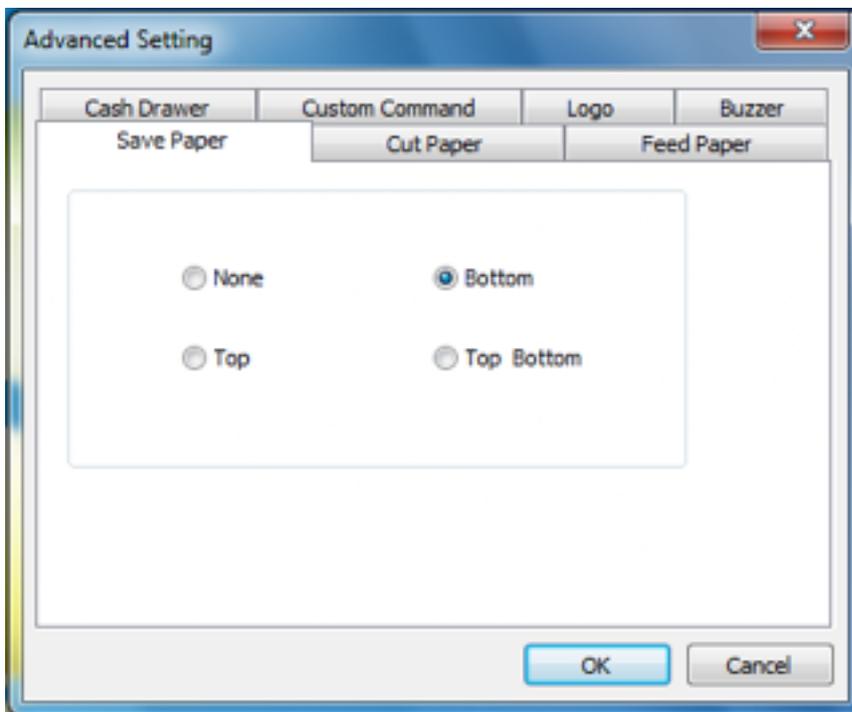


6 - DEVICE DRIVER INSTALLATION

Click “Manager” in the “Paper” options, add or delete paper.

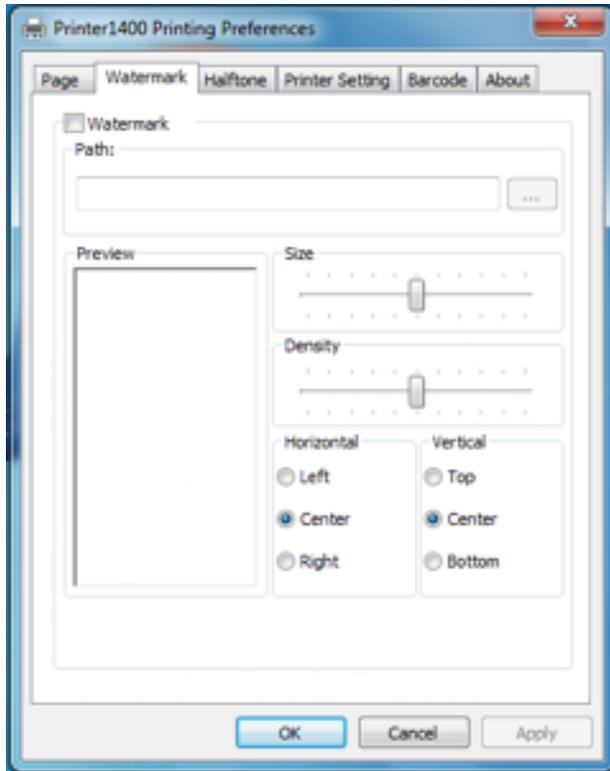


Click “Advanced” to set “Save Paper”, “Cut Paper”, “Feed Paper”, “Cash Drawer”, “Custom Command”, “Logo” and “Buzzer”.

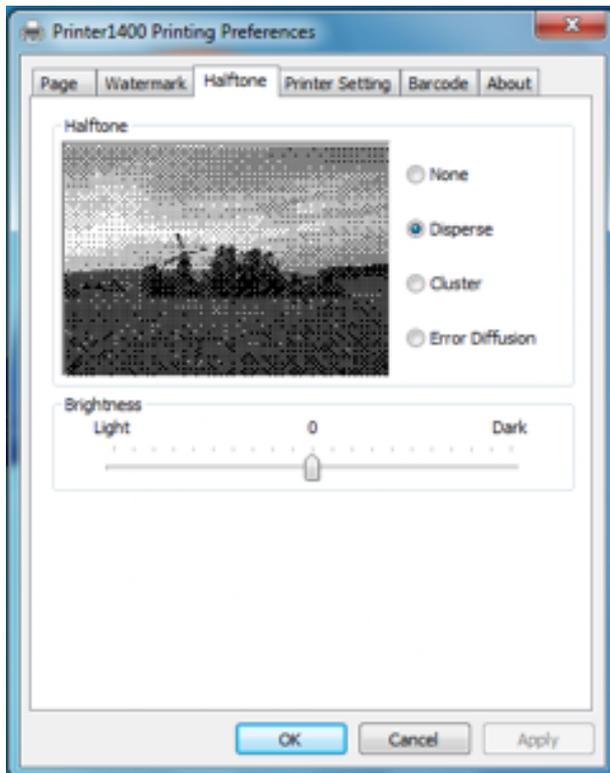


6 - DEVICE DRIVER INSTALLATION

Click “Watermark” tab. Check “Watermark” box to print.



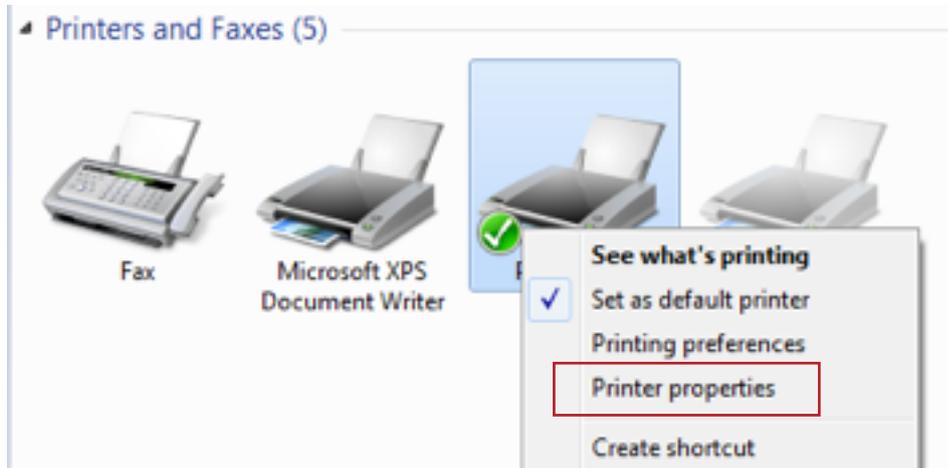
Click “Halftone” tab to set and adjust the halftone.



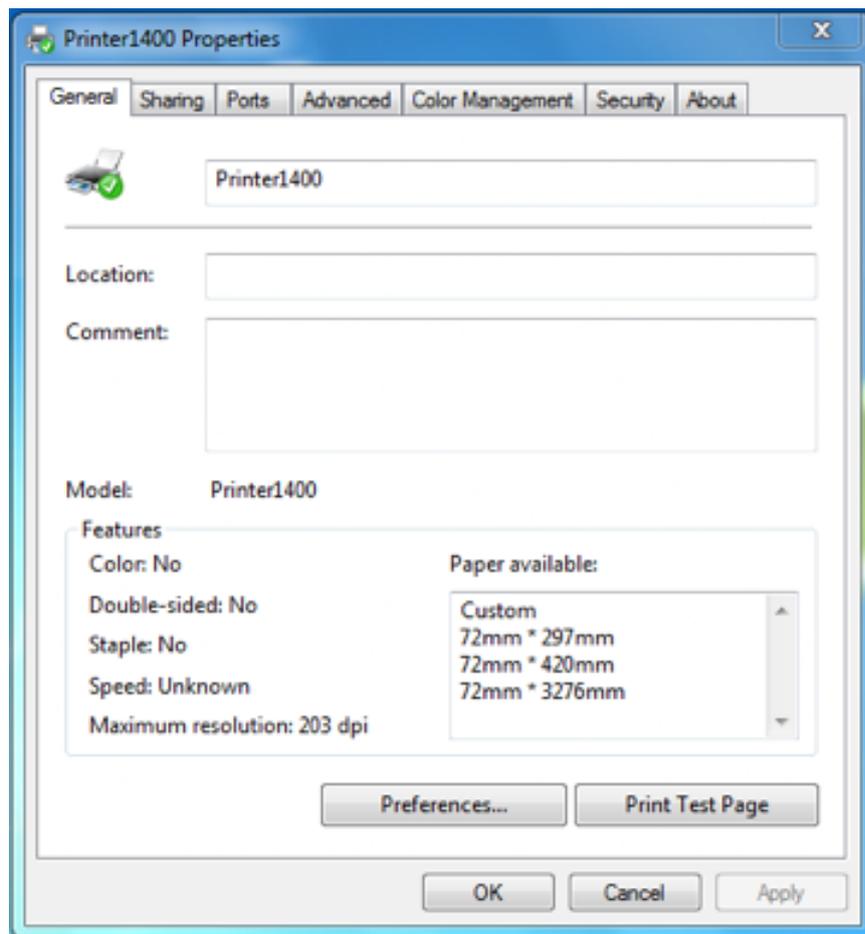
6 - DEVICE DRIVER INSTALLATION

Other Settings

Click “Start” → “Devices and Printers”. Right click “Printer1400(1)” and choose “Printer properties”.

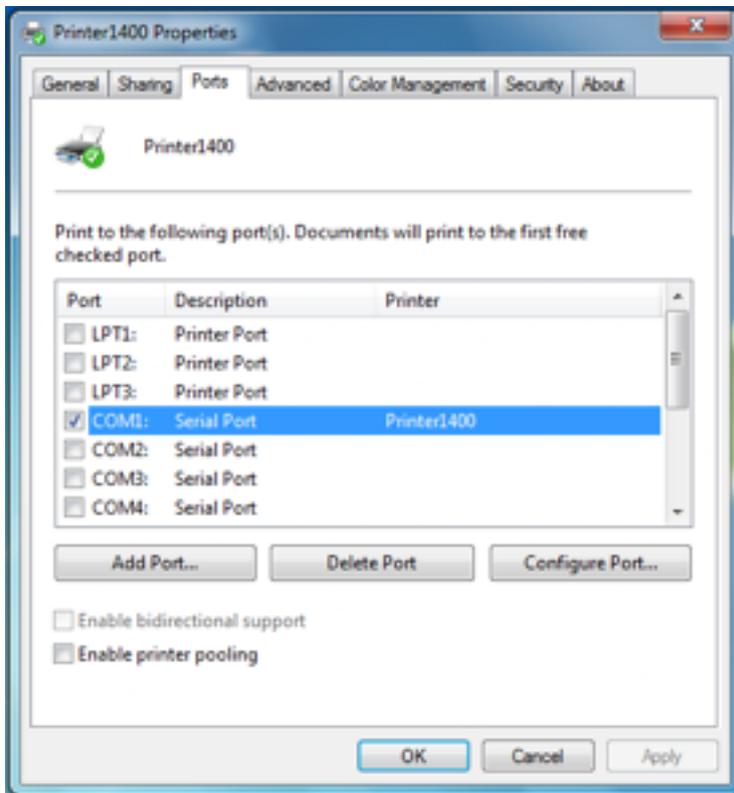


Choose “General” tab, click “Print Test Page”, the current settings will be printed out.

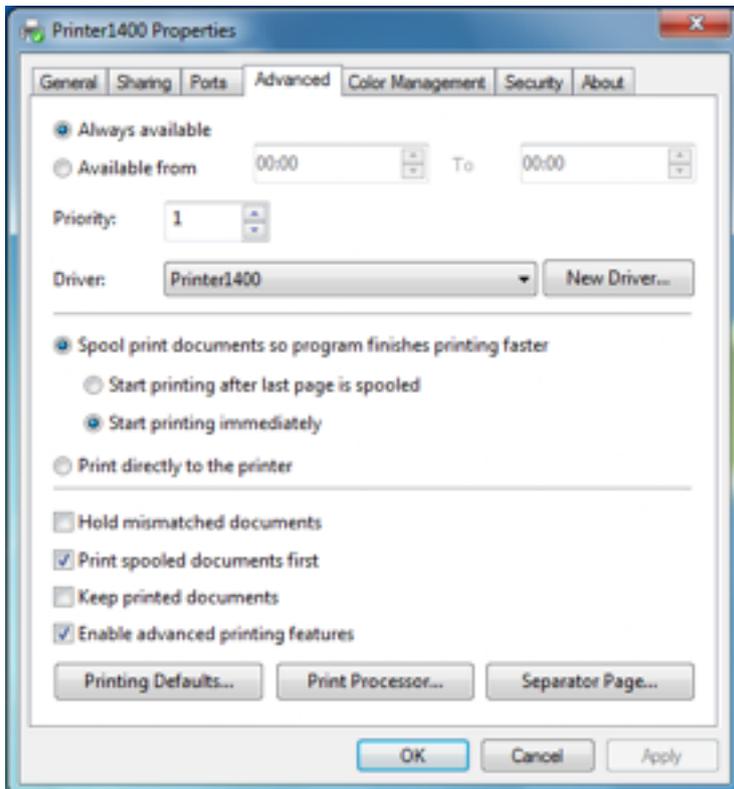


6 - DEVICE DRIVER INSTALLATION

Click “Ports” tab to set following items:



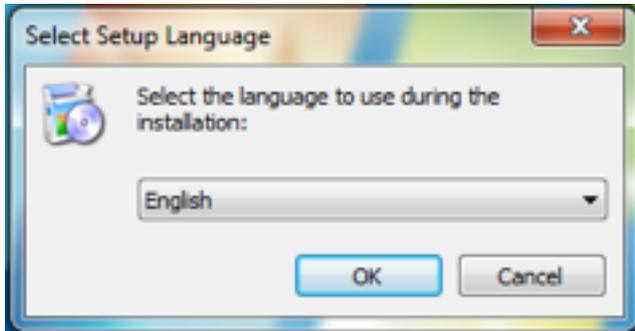
Click “Advanced” tab to set the printing time.



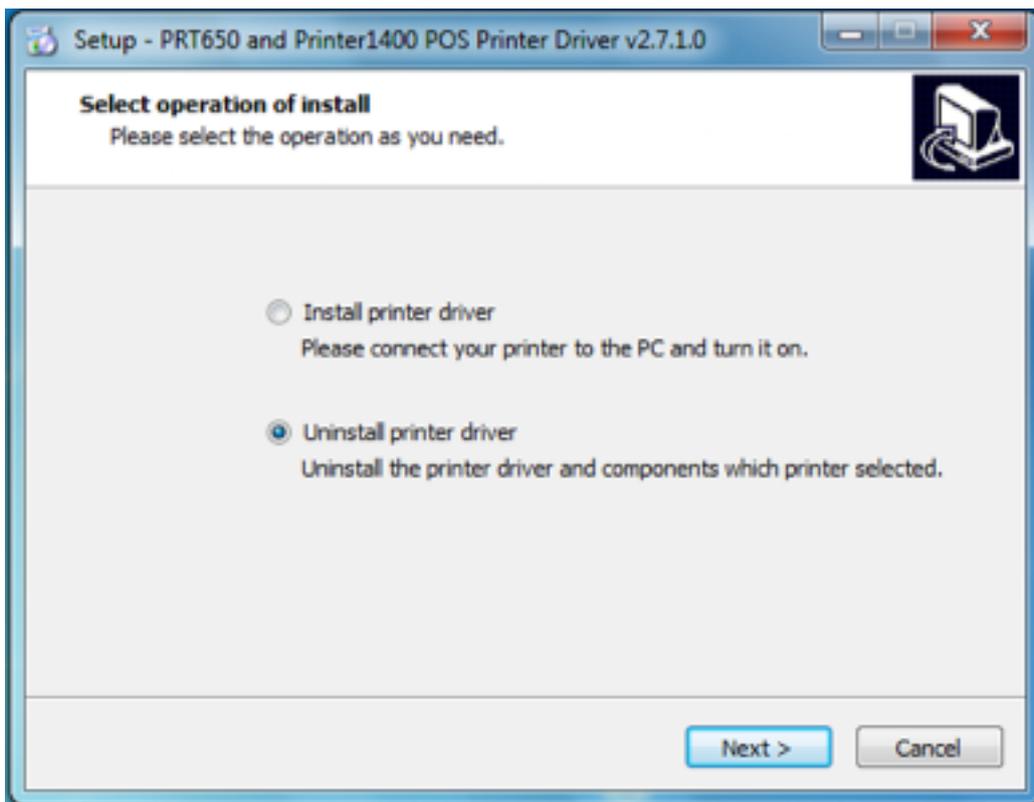
6 - DEVICE DRIVER INSTALLATION

Uninstall Windows Driver

- Double click Windows Driver.
- Choose your preferred language and click “OK”.

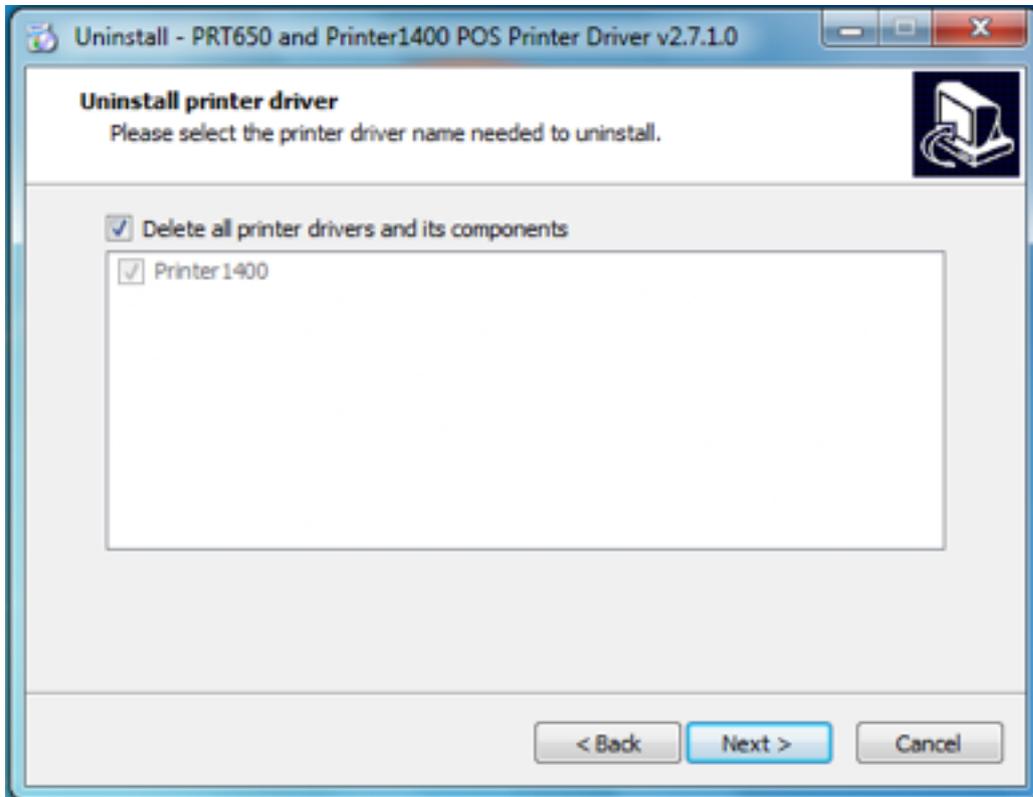


Choose “Uninstall printer driver” and click “Next”.

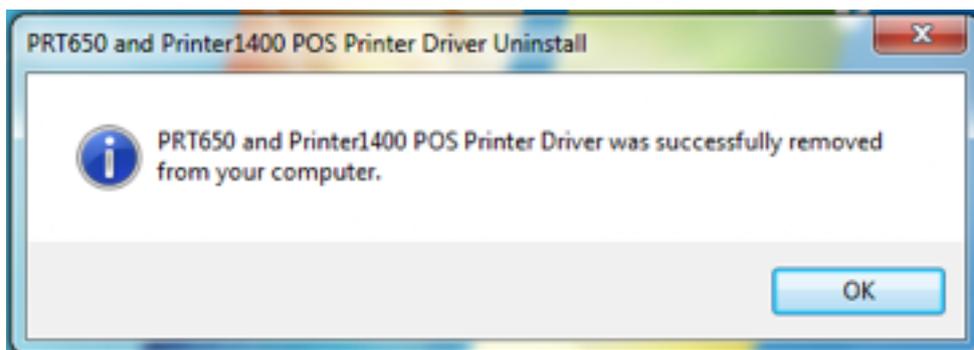
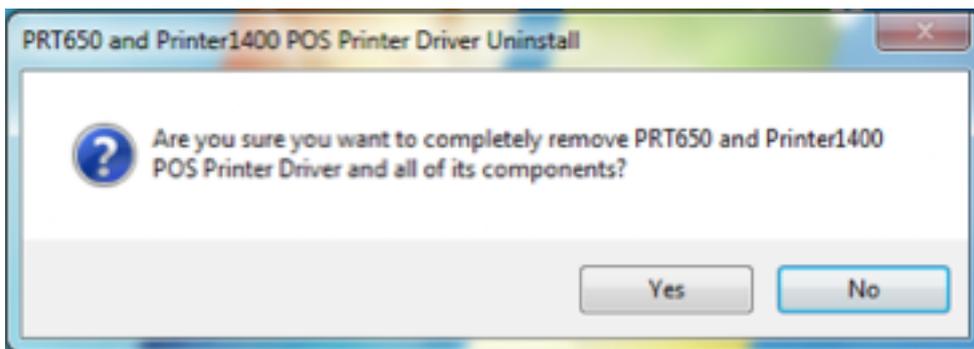


6 - DEVICE DRIVER INSTALLATION

Choose “Delete all printer drivers and its components”, then click “Next”.



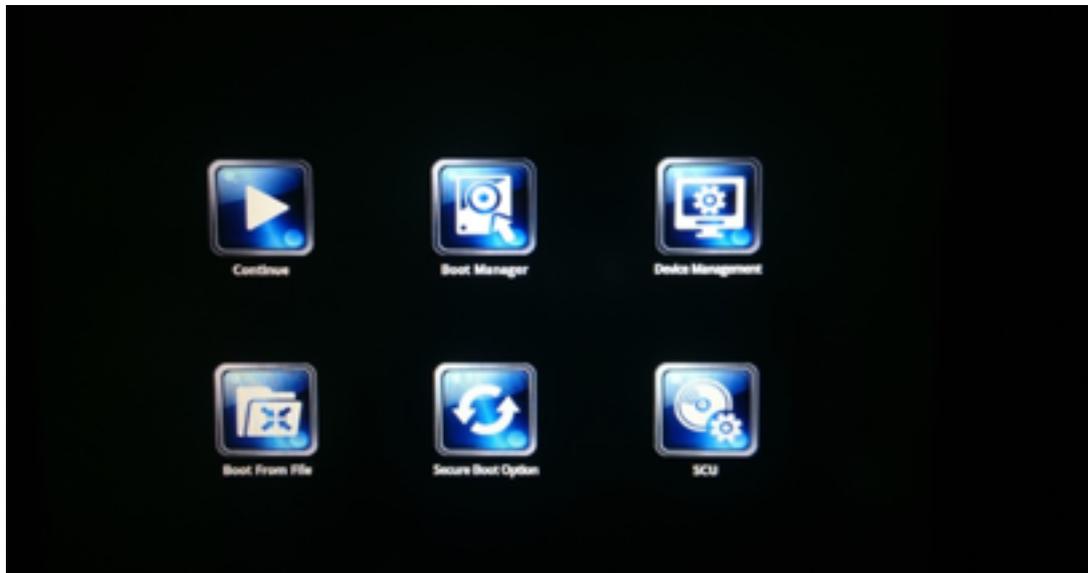
Choose “Yes”, all driver components will be removed from your device.



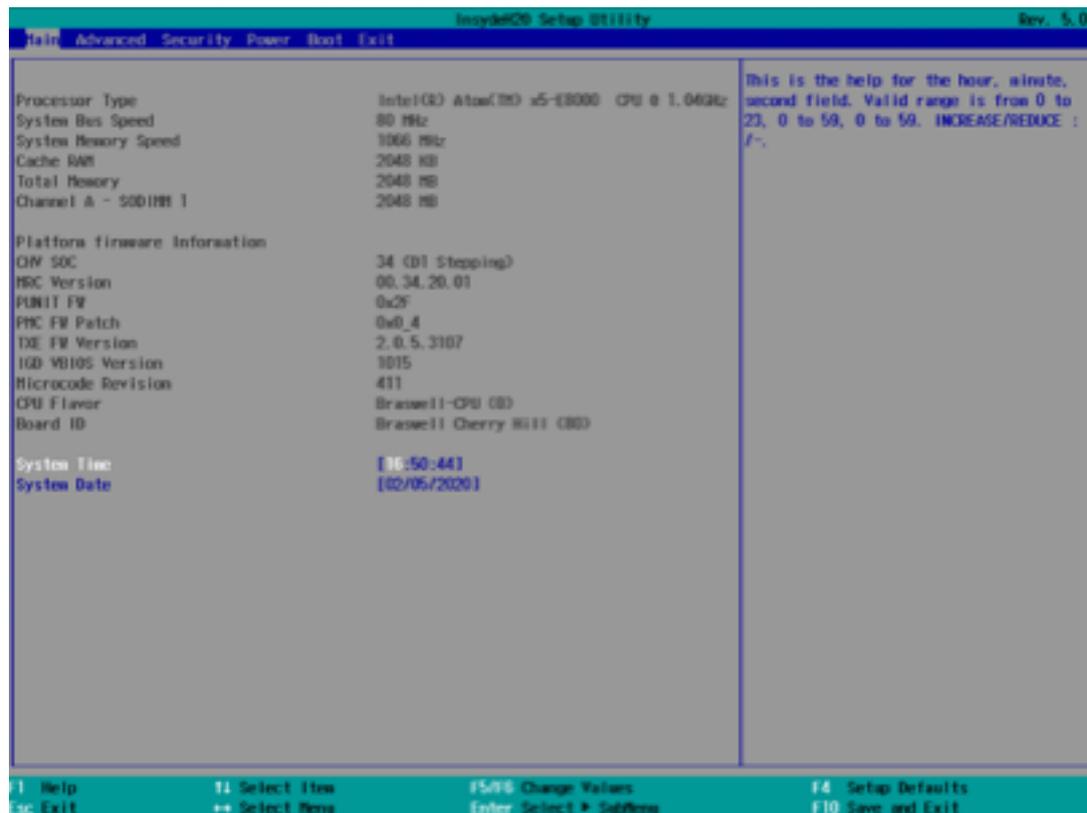
7 - BIOS/UTILITY SETUP

Press key to enter SETUP CMOS UTILITY when system is booting up.

(NOTE: This requires an attached and working external keyboard)

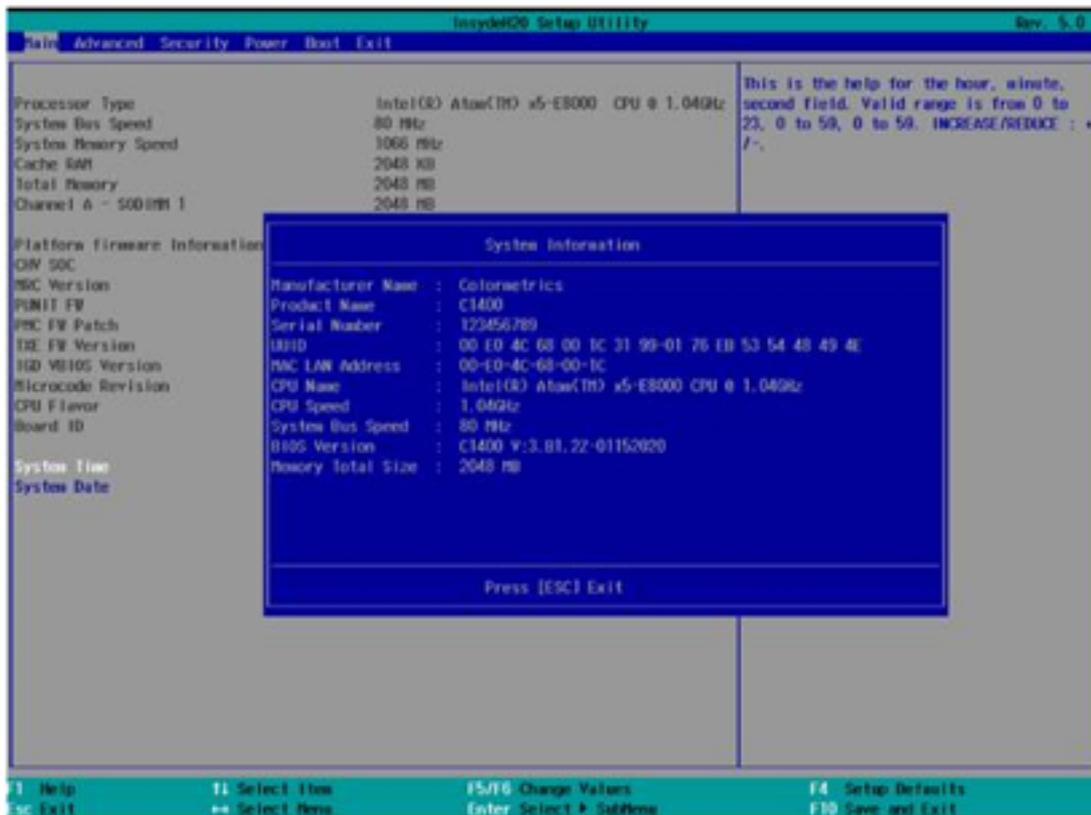


Press <ENTER> over SCU button to enter the utility.



7 - BIOS/UTILITY SETUP

Press <F9> to view the system information.



Date and Time

The Date and Time items show the current date and time on the device. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

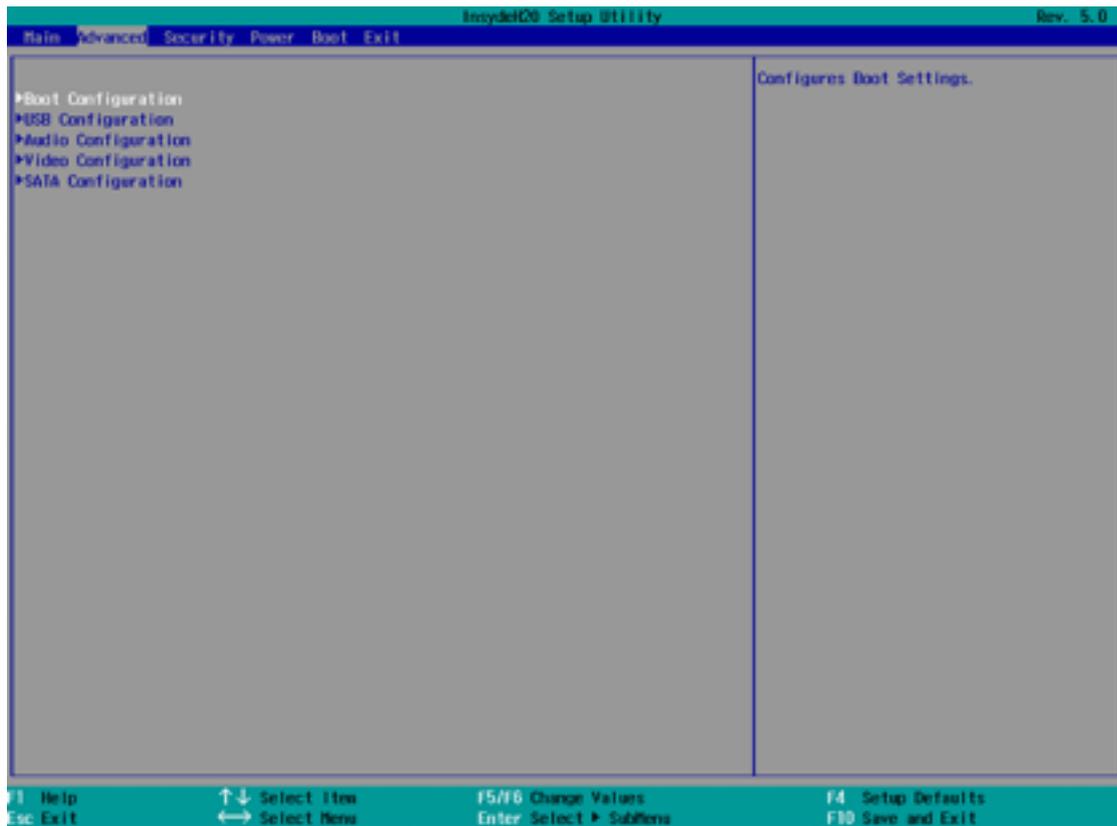
7 - BIOS/UTILITY SETUP

WARNING!

Setting the wrong values in the sections below may cause the system to malfunction. Make sure that the settings made are compatible with the hardware.

7-1 ADVANCED

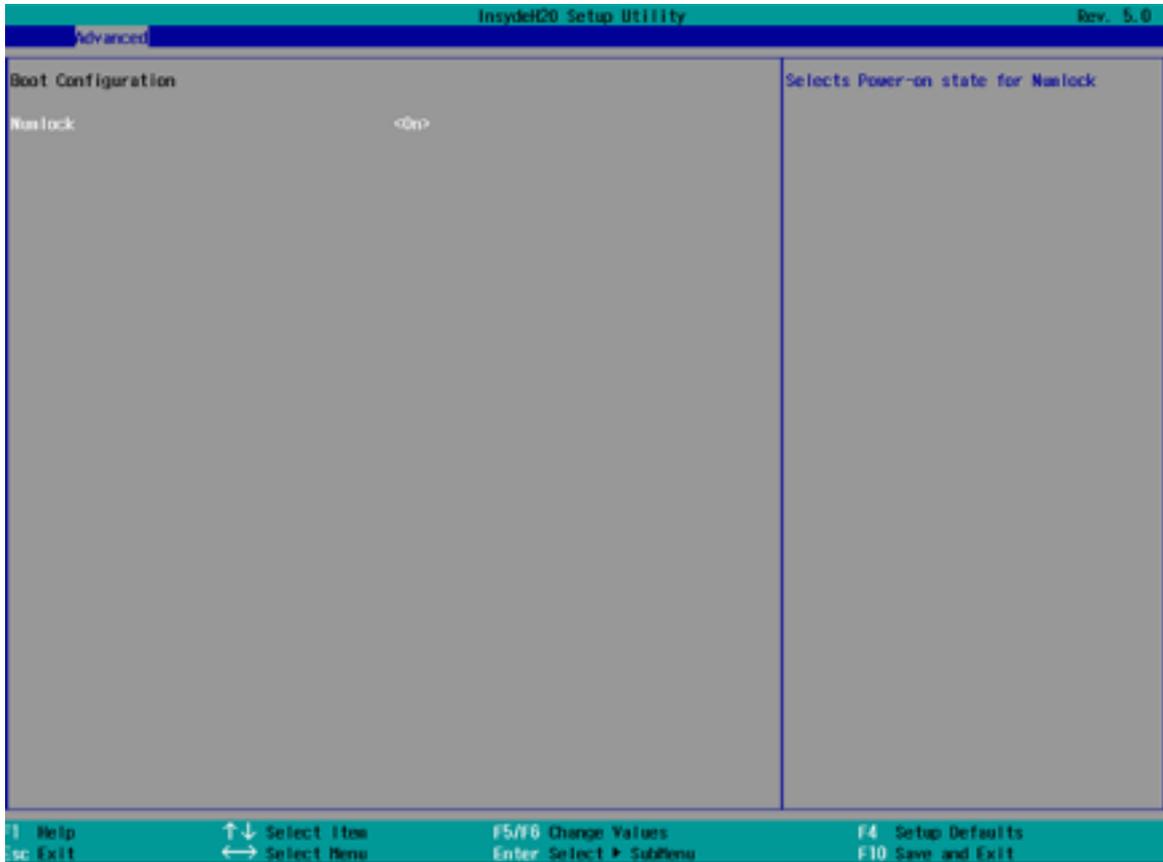
Use the Advanced menu to configure the system for basic operation through the following sub-menus:



7 - BIOS/UTILITY SETUP

7-1-1 Boot Configuration

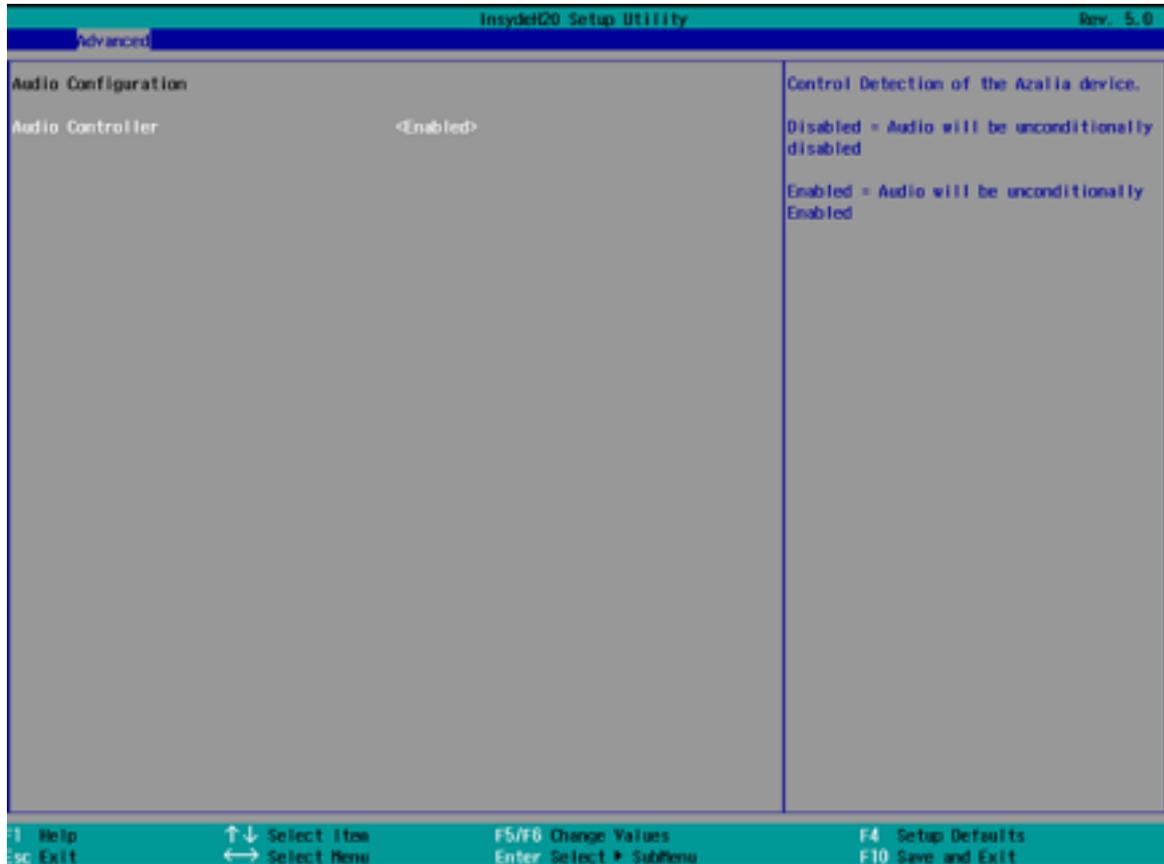
Use the Boot Configuration menu to select power-on state for Numlock.



7 - BIOS/UTILITY SETUP

7-1-2 Audio Configuration

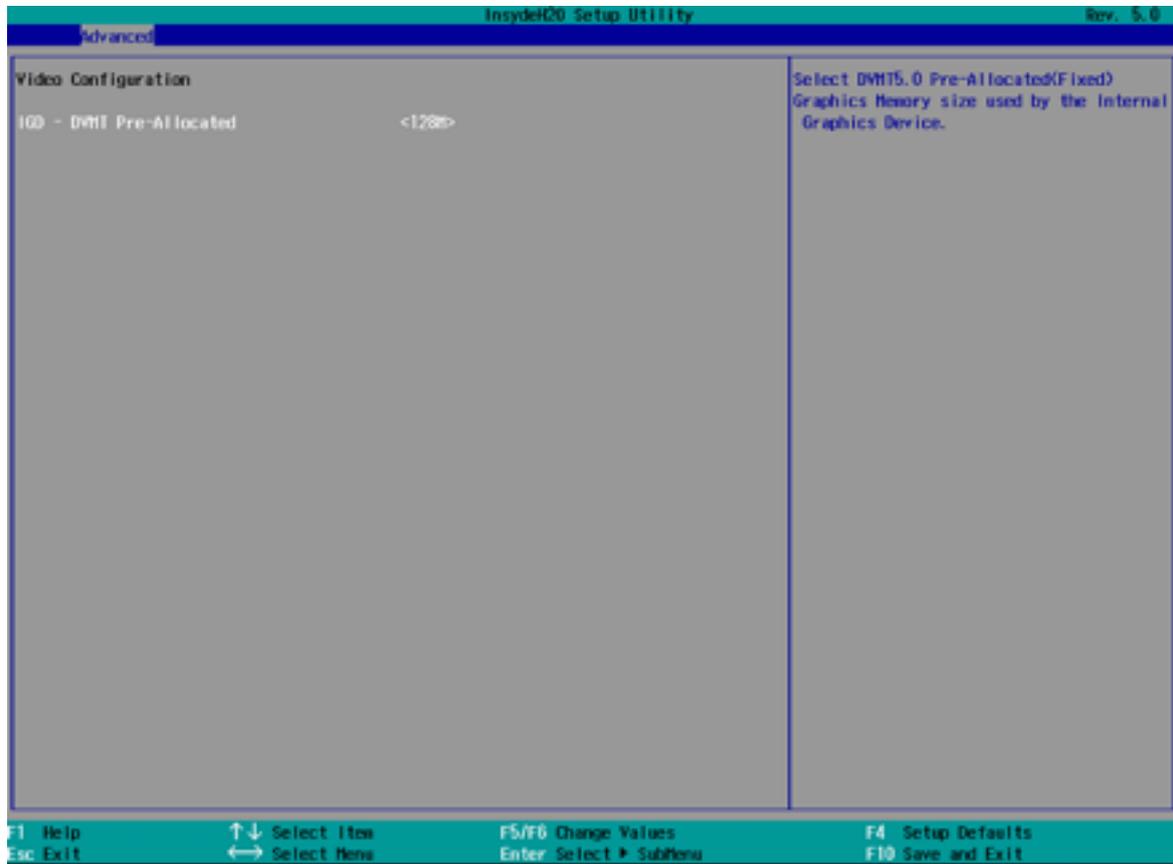
Use the Audio Configuration menu to read Audio configuration information and configure the Audio settings.



7 - BIOS/UTILITY SETUP

7-1-3 Video Configuration

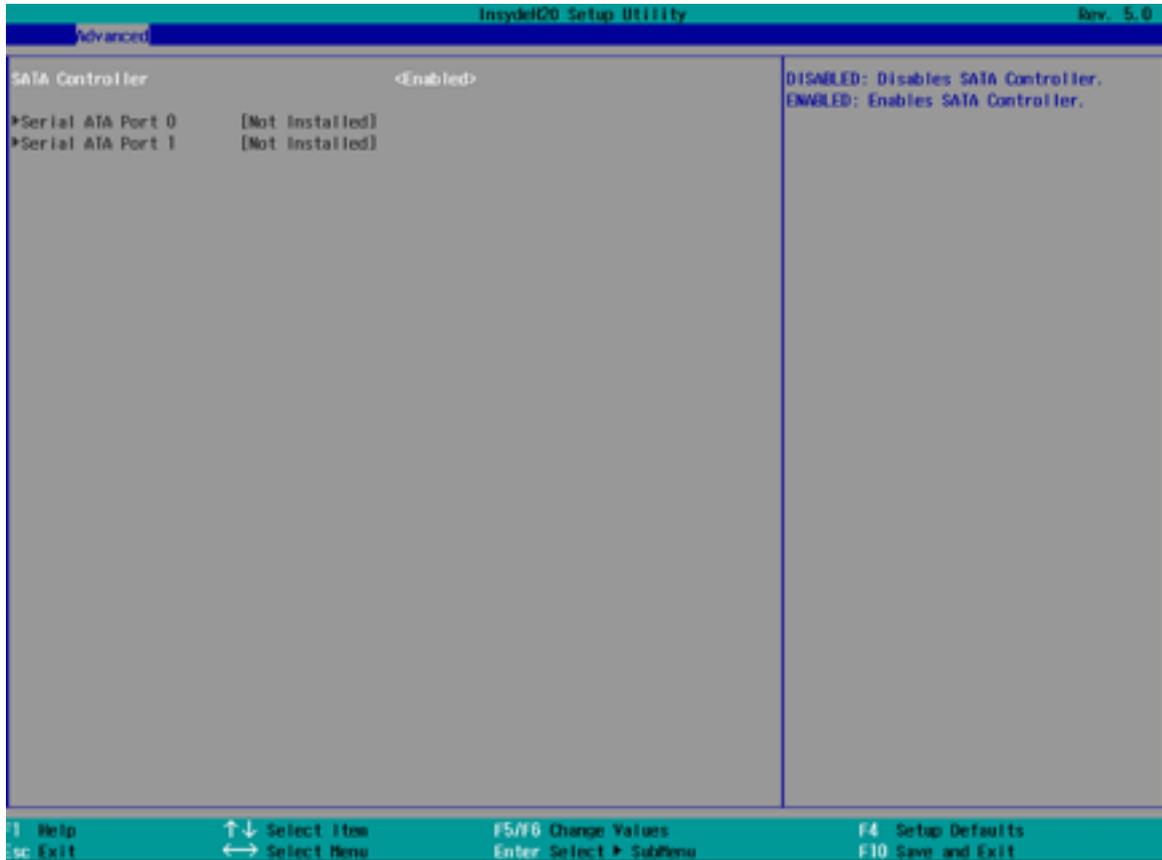
Use the Video Configuration menu to read Video configuration information and configure the Video settings.



7 - BIOS/UTILITY SETUP

7-1-4 SATA Configuration

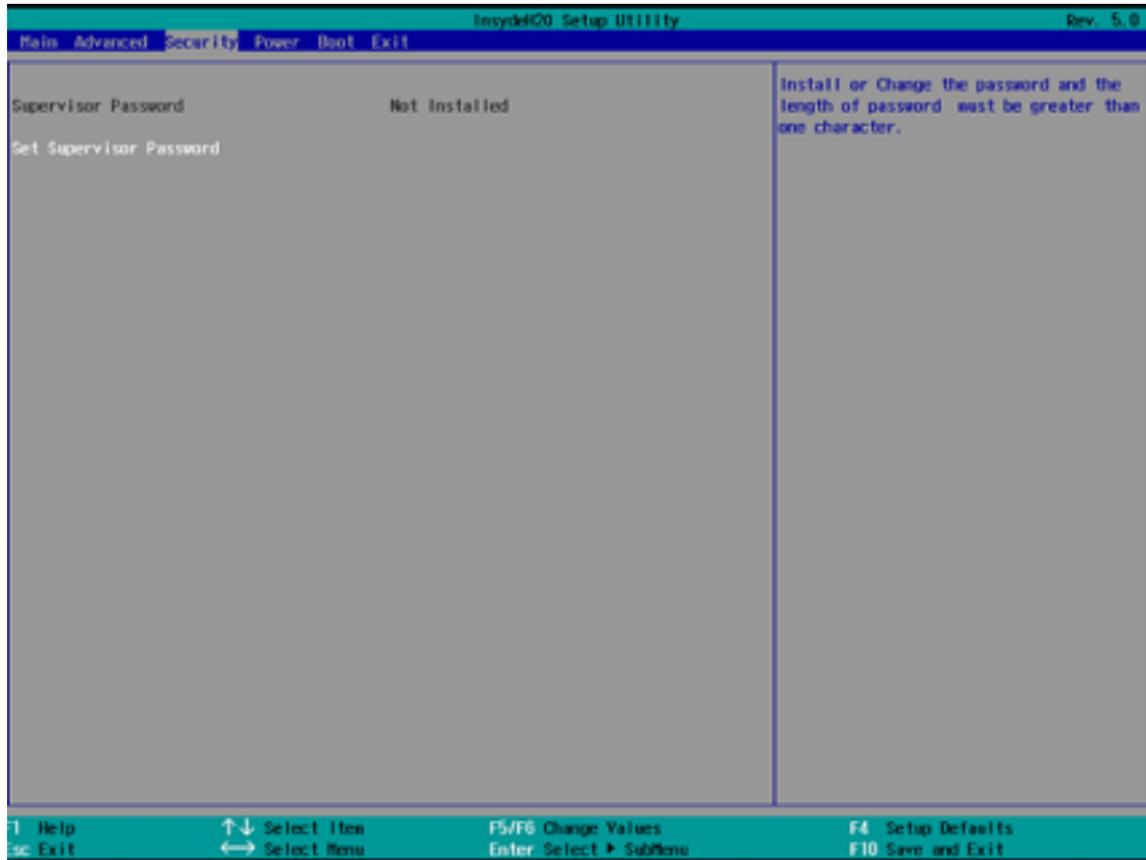
Use the SATA Configuration menu to read SATA configuration information and configure the SATA settings.



7 - BIOS/UTILITY SETUP

7-2 SECURITY

Use the Security menu to set or change the password



7 - BIOS/UTILITY SETUP

7-3 POWER

Use the power menu to install or change the power settings.



AC Loss Auto Restart

Enable or disable system power-on automatically after AC power restored

Wake on LAN

Enable or disable system wake-up by onboard LAN chip

7 - BIOS/UTILITY SETUP

7-4 BOOT

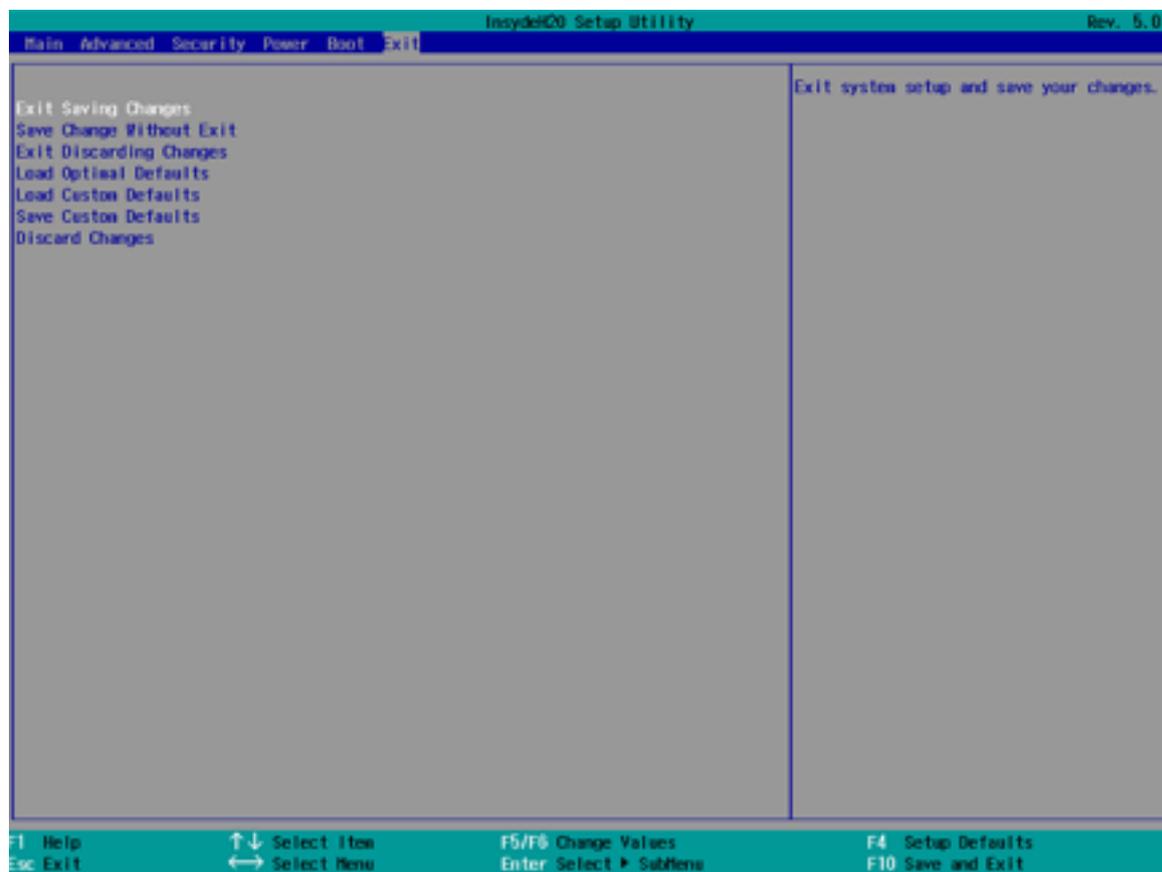
Use the Boot menu to set type to Dual type, Legacy type or UEFI type.



7 - BIOS/UTILITY SETUP

7-5 EXIT

Use the Save & Exit menu to load default BIOS values, optimal failsafe values or to save configuration changes.



8 - TROUBLESHOOTING OF PRINTER

Your printer is very reliable, but occasionally problems may occur. This chapter provides information on some common problems you may encounter and how to solve them. If you encounter problems that you can not resolve, contact your dealer for assistance.

8-1 Printer Not Working

Problem Description	Probable Reason	Solution
Printer not working	Printer hat no power	Connecting the power supply
	Printer not turned on	Turn on the printer
	Circuit board broken	Contact your dealer

8-2 Troubles Occurring During Printing

Problem Description	Probable Reason	Solution
Coloured stripe in the paper	Paper near end	Reinstall the roll paper
Blurred printing or spots	Incorrect roll paper installation	Check if the roll paper is installed
	Unsuitable roll paper	Use recommended thermal roll paper
	Dirty thermal head or print roller	Clean the thermal head or print roller
	Low print density	Increase the print density level
Paper jam	Paper strike	Open the printer cover, check the paper path and remove jammed paper
Vertical print words missing	Dirty thermal head or print roller	Clean the thermal head or print roller
	Thermal head damaged	Contact your dealer for assistance

NOTE: For print density settings, please refer to "Utility Tool Manual"

8 - TROUBLESHOOTING OF PRINTER

8-3 Problems Occurring During Paper Cutting

Problem Description	Probable Reason	Solution
Cutter jam, the movable cutter cannot back	Cutter abrasion, insufficient cutting	Replace the cutter
	Worm gear and worm wheel abrasion	Replace the worm gear and worm wheel
	Motor burnt	Replace the motor
	Paper scraps	Clean the paper scraps out of the transmission system
Insufficient cutting	Cutter edge abrasion, paper too thick	Replace the cutter
Paper jam	Thermal printer head overheat	Reduce the density of printing
	Driving too fast	Reduce the printer speed to the limit of thermal printer head
	Wrong paper feeding position	Put the paper parallel with the paper mount and insert into the space between platen roller and the thermal printer head.

NOTE: For print density settings, please refer to "Utility Tool Manual"

8-4 Removing Jammed Paper

Warning: Do not touch the thermal print head because it gets very hot during printing.

If the printer cover can be opened, operate it according to the next steps.

- 1) Turn off the printer and pull open cover button.
- 2) Remove jammed paper, reinstall the roll, and close the printer cover.

9 - PRINTER CLEANING AND MAINTENANCE

Print quality might be degraded by dust, foreign substance, adhesive substance, or other pollution materials stuck in the printer head or inside the printer.

When dirty, clean the print head as follows:

CAUTION

- Make sure to turn off the printer prior to cleaning.
- As the print head gets hot during printing, intending to clean the print head, turn the printer off and wait approximately 2~3 minutes before commencement.
- When cleaning the print head, take care not to touch the heated portion of the print head. Print Head is susceptible to damage from static electricity, etc.
- Take care not to allow the print head to become scratched and/or damaged in any way.

9-1 CLEANING HEAD

1. Open the Printer Cover and then use the cleaning pen to clean the head in the direction from the centre of the head to the edges.
2. After cleaning the head, do not use the printer until the alcohol used for cleaning evaporates completely (1~2 min) and the printer has completely dried.

9-2 CLEANING SENSORS, ROLLER AND/OR PAPER PATH

1. Open the printer cover and then remove the paper.
2. Remove any dust or foreign substances using dry cloth or cotton swab.
3. Soak the cloth or cotton swab in alcohol for medical use and use it to remove adhesive foreign substances or other pollution materials.
4. After cleaning the parts, do not use the printer until the alcohol evaporates completely (1~2 min) and the printer has completely dried.

→ Clean the parts whenever print quality or paper detection degraded.

10 - LCD SURFACE CLEANING

How to clean the LCD surface properly?

- Do not spray any liquids on the LCD screen directly, and do not use paper towels, this can cause the LCD screen to become scratched.
- Always apply the solution to your cloth first, not directly to the parts you are cleaning. You want to avoid dripping the solution directly into your device.
- Stroke the cloth across the display in one direction, moving from the top of the display to the bottom.

What are some of the basic supplies needed to clean an LCD screen?

- A soft cotton cloth. When cleaning the LCD screen it is important to use a soft cotton cloth, rather than an old rag. Some materials, such as paper towels, could cause scratches and damage the LCD screen.
- Solution of water and isopropyl alcohol. This solution can be used along with the soft cotton cloth.
- Computer wipes. Only use these if they specifically state on the package they are designed for LCD laptop screens. Computer wipes can come in handy for fast clean-ups or when you want to avoid mixing up a cleaning solution yourself.

What types of cleaners are acceptable?

- Water
- Vinegar (mixed with water)
- Isopropyl Alcohol

NOTICE: The following cleaners are unacceptable:

- Acetone
- Ethyl alcohol
- Ethyl acid
- Ammonia
- Methyl chloride