Colormetrics

Vion
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 install. A drop or fall could cause injury.
5. Make sure power cord 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 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 can not get it work according to user manual.
   e. The equipment has dropped and damaged.
10. Do not leave this equipment in an environment unconditioned, storage temperature below -20°C or above 60°C, it may damage the equipment.
11. Unplug the power cord when doing any service or adding optional kits.

Lithium Battery Caution:

Danger of explosion can happen if the battery is incorrectly replaced, Replace only the original or equivalent type recommended by the manufacture. Dispose used batteries according to the manufacture's instructions.

Do not remove the cover, and ensure no user serviceable components are inside. Take the unit to the service center for service and repair.

NOTICE

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 B 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 into 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

a.	**b.**
c.	**d.**

a. System (with stand)

b. Power Adapter

c. Power Cord

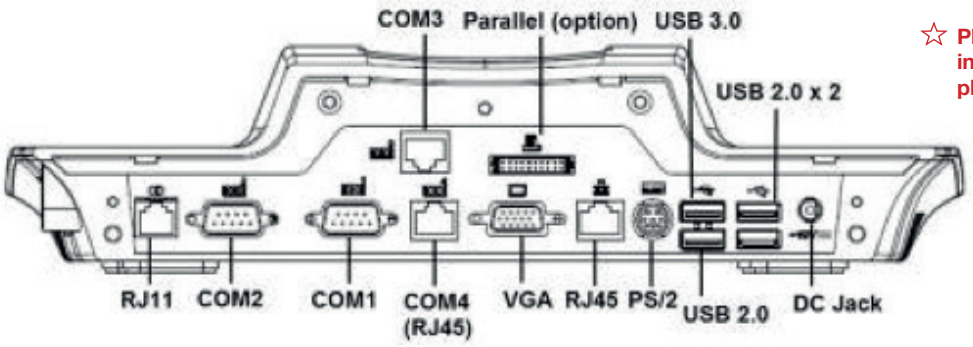
d. Driver Bank

1-2. Optional Accessories

- MSR (side)
- Barcodescanner (1D/2D, front)
- 2x20 customer display
- 8” customer display
- 10” customer display
- 15” customer display
- MSR + RF-ID (side)
- MSR + iButton (side)
- iButton (front)
- Wi-Fi

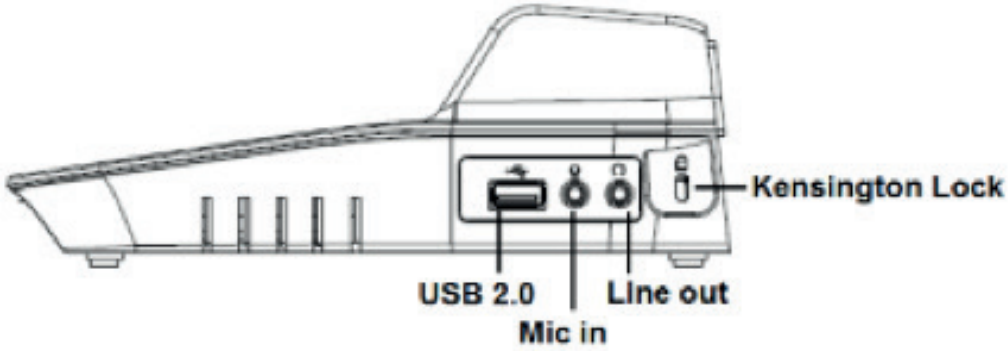
2 SYSTEM VIEW

2-1. Rear View

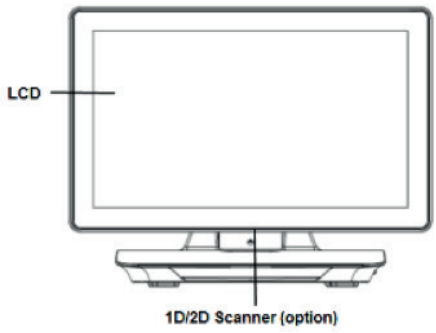


☆ Please make sure 19V DC plug in the right direction before plugging in DC jack.

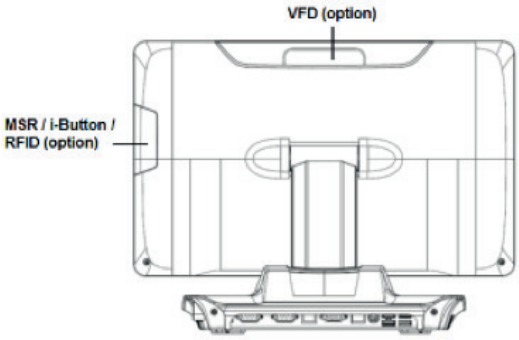
2-2. Side View



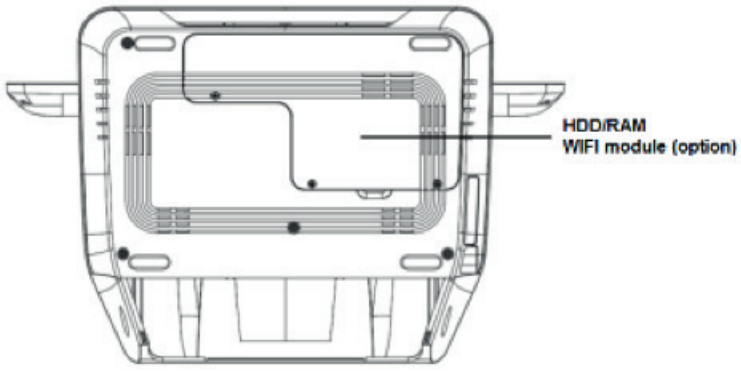
2-3. Front View



2-4. Back View



2-5. Bottom View

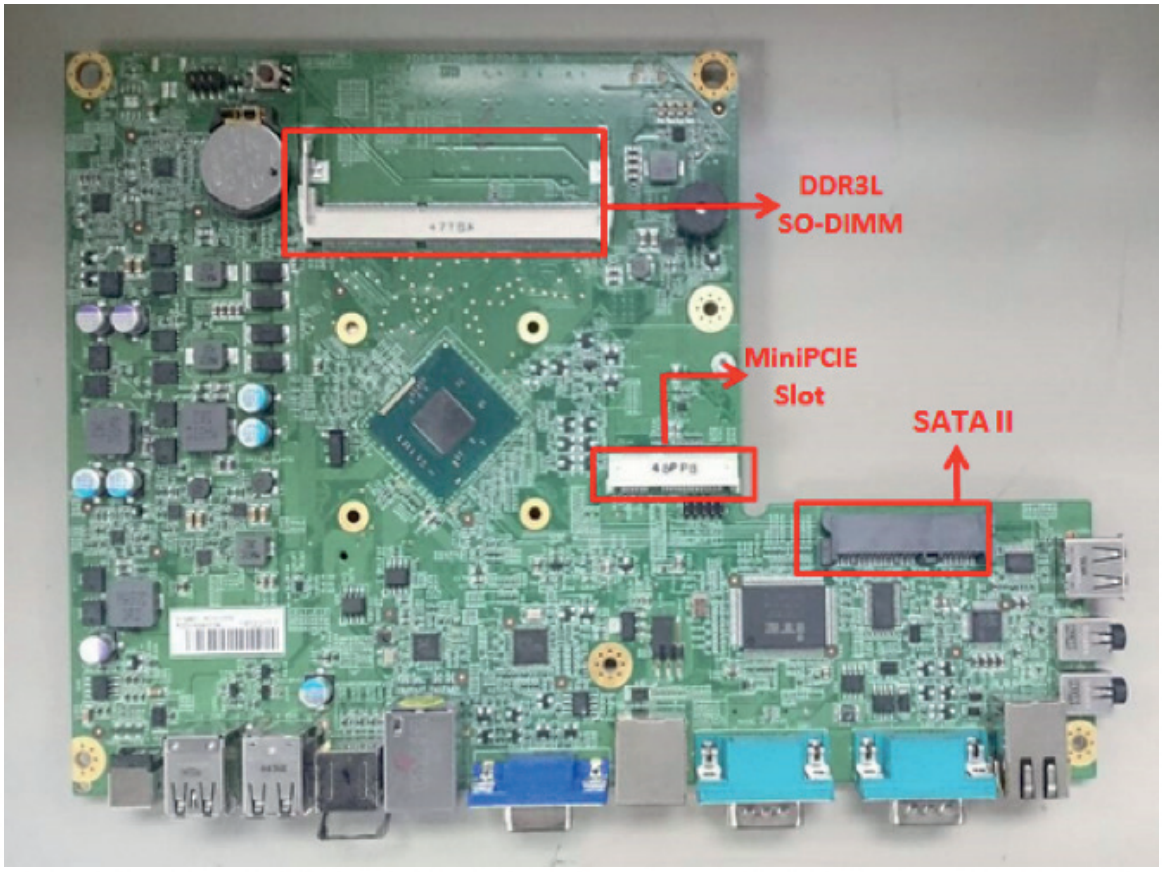


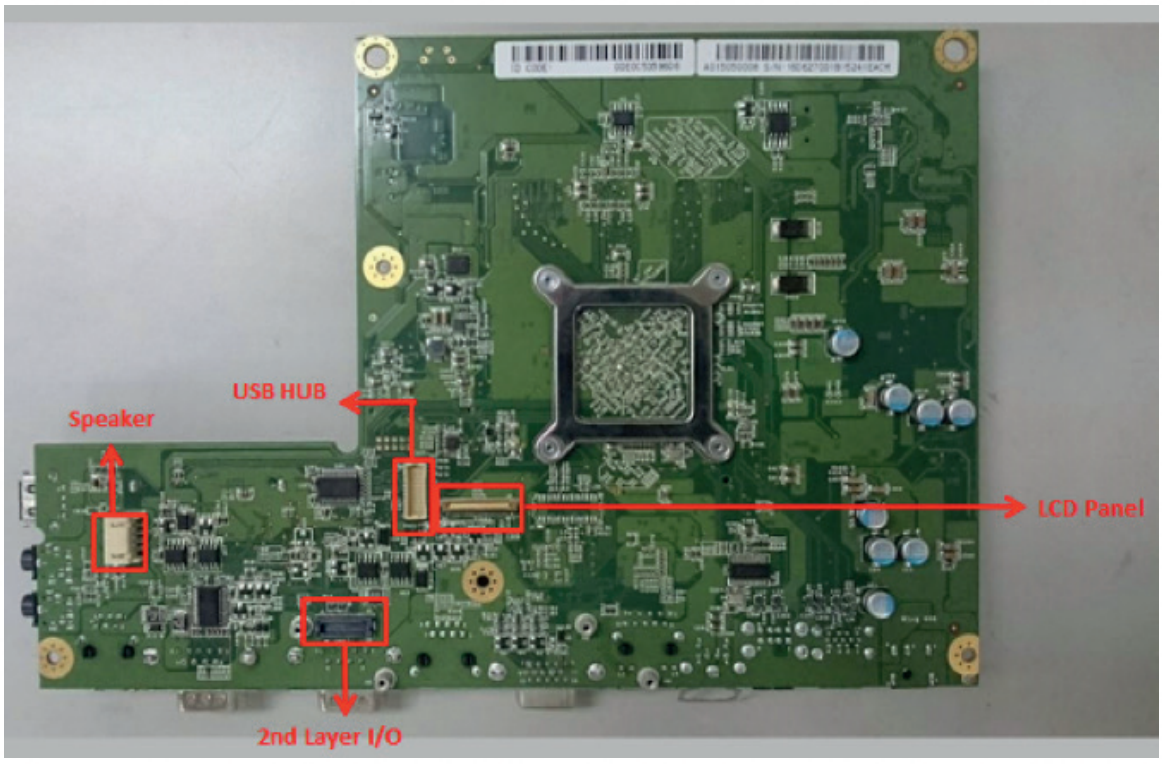
2-6. Specification

Processor	Intel® Celeron J1900 Quad Core 2.0Ghz
Memory	One SO-DIMM socket supports DDR3L up to 8GB
Storage	2.5” SATAII HDD / SSD
Audio	Line-out/Mic-in
Network	RJ45 10/100/1000 Base-T
USB port	4x USB 2.0 / 1x USB 3.0
Serial port	2x DB9, 2x RJ45
BIOS	Insyde UEFI BIOS
Power	AC 19V 60W Adaptor
Thermal Solution	Fanless
Dimension	398 (W) x 325 (H) x 257 (D) mm
Operating Temperature	0°C ~ 35°C
Storage Temperature	-20°C ~ 60°C
Storage Humidity	20% ~ 80%, non-condensing
Display	
LCD Panel Size	115.1-inch TFT LED LCD
Resolution	1366*768 Pixels
Brightness	220 cd/m2
Touch Panel	5-wire Resistive Type / Projected Capacitive Type

Note:
Intel® Celeron J1900 CPU does not support POSReady 2009 / Windows XP

2-7. Internal Layout

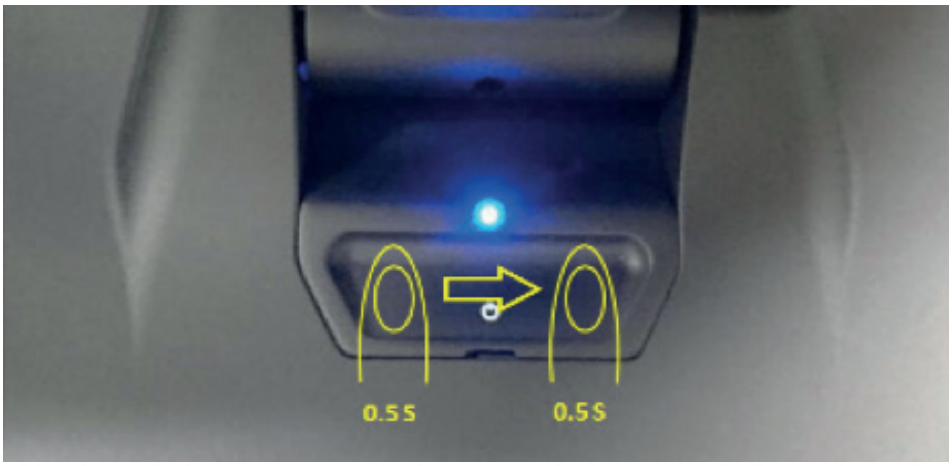




2-8. Power on/Power off SOP

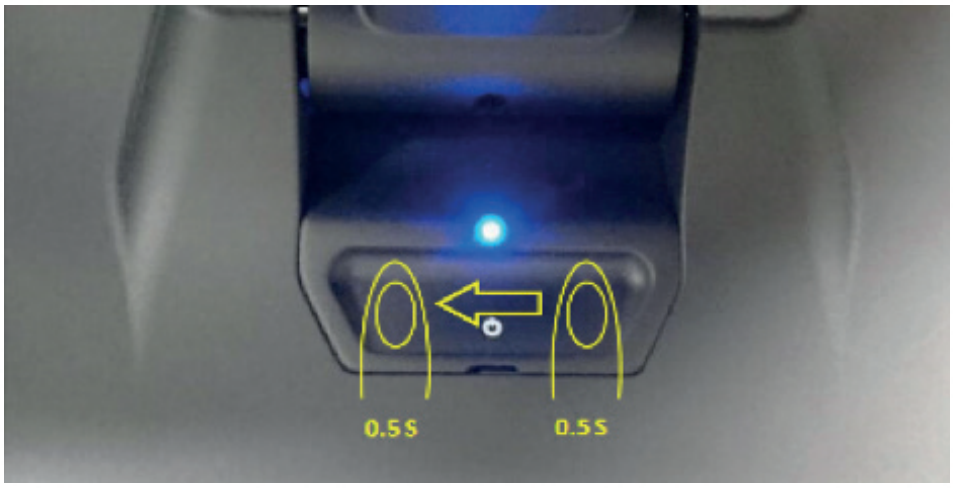
1. Power on

Put the finger on the pad for 0.5 second and slide your finger from left to right



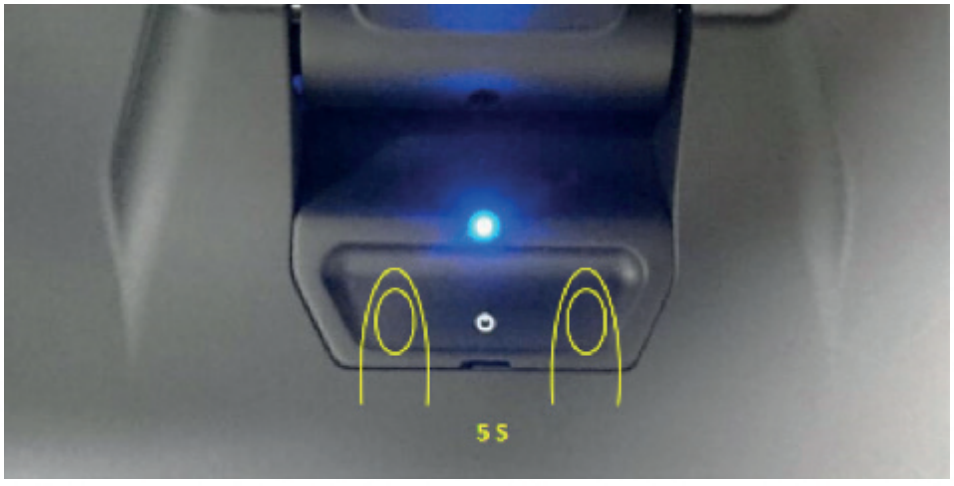
4. Power off

Put the finger on the pad for 0.5 second and slide your finger from right to left



3. Shut down

Put two fingers on the pad for around 5 second, the power will shut down automatically



3 PIN DEFINITION

1. LCD Panel (J1)

Pin NO.	Definition	Pin NO.	Definition
1	NA	16	GND
2	GND	17	HPDET
3	NC	18	GND
4	NC	19	GND
5	GND	20	GND
6	DDI1 TX0 DN	21	GND
7	DDI1 TX0 DP	22	BL Enable
8	GND	23	BL PWM DIM
9	DDI1 AUX DP	24	NC
10	DDI1 AUX DN	25	NC
11	GND	26	+12V
12	LCD VCC	27	+12V
13	LCD VCC	28	+12V
14	LCD Self Test	29	+12V
15	GND	30	NC

2. USB HUB (CN5)

Pin NO.	Definition	Pin NO.	Definition
1	+V5S	13	NTXD4
2	+V5S	14	NC
3	NDSR4#	15	GND
4	TXD	16	GND
5	NDSR4#	17	+V5S
6	RXD	18	+V5A
7	NDSR4#	19	D-
8	GND	20	+V5S
9	NDSR4#	21	D+
10	+12V	22	PM PWRBTN
11	NTXD4	23	GND
12	NC	24	GND

3. Speaker (SPK1)

Pin NO.	Definition
1	SPKOUT L+
2	SPKOUT L-
3	-
4	SPKOUT R+
5	SPKOUT R-

4. 2nd Layer I/O Board (CN7)

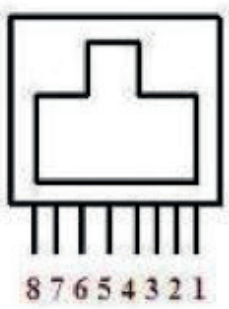
Pin NO.	Definition	Pin NO.	Definition
1	+V5S	20	SLCT
2	+V5S	21	PD6
3	+V5S	22	GND
4	+V5S	23	PD7
5	GND	24	GND
6	GND	25	ACK#
7	STB#	26	GND
8	AFD#	27	GND
9	PD0	28	DSR#3
10	ERR#	29	DCD#3
11	PD1	30	RTS#3
12	INIT#	31	SIN3
13	PD2	32	CTS#3
14	SLIN#	33	SOUT3
15	PD3	34	RI#3
16	BUSY	35	DTR#3
17	PD4	36	COM3 Pin9
18	PE	37	NRI3#
19	PD5	38	COM3 Pin9

1. COM1, COM2 port

Pin NO.	Definition
1	DCD#
2	RxD
3	TxD
4	DTR#
5	GND
6	DSR#
7	RTS#
8	CTS#
9	RI#/+5V/+12V

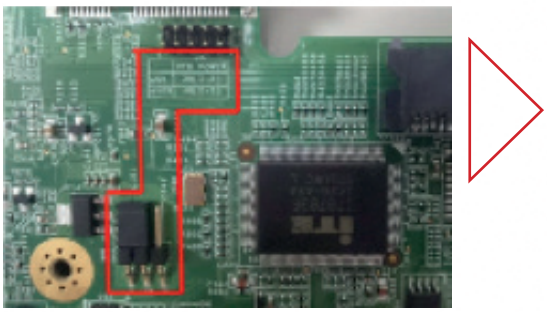
2. RJ45 VFD (COM4)

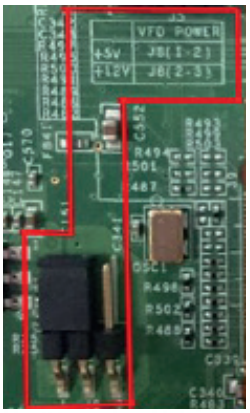
Pin NO.	Definition
1	+5V/+12V
2	DSR#
3	GND
4	DTR#
5	RST#
6	CTS#
7	TxD
8	RxD



Pin 1: +5V/+12V
Pin 2: DSR#
Pin 3: GND
Pin 4: DTR#
Pin 5: RTS#
Pin 6: CTS#
Pin 7: TxD
Pin 8: RxD

Jumper for COM4





Enlarge JUMP

Voltage Setting

NOTICE:

☆ **COM 4 port. Warning!! COM4 (RJ45 Connector) for external VFD use only. Never use on network device. If you are using on the network device will cause device damage.**

☆☆ **COM 4 port will be inactive if POS has internal VFD. (Alternative of COM 4 or internal VFD)**

3. RJ11 port (for Cash drawer)

Pin NO.	Signal Name	Direction
1	Frame GND	-
2	Drawer Kick-out drive signal 1	Output
3	Cash Drawer Status	Input
4	+12V	-
5	N/C	-
6	Signal GND	-

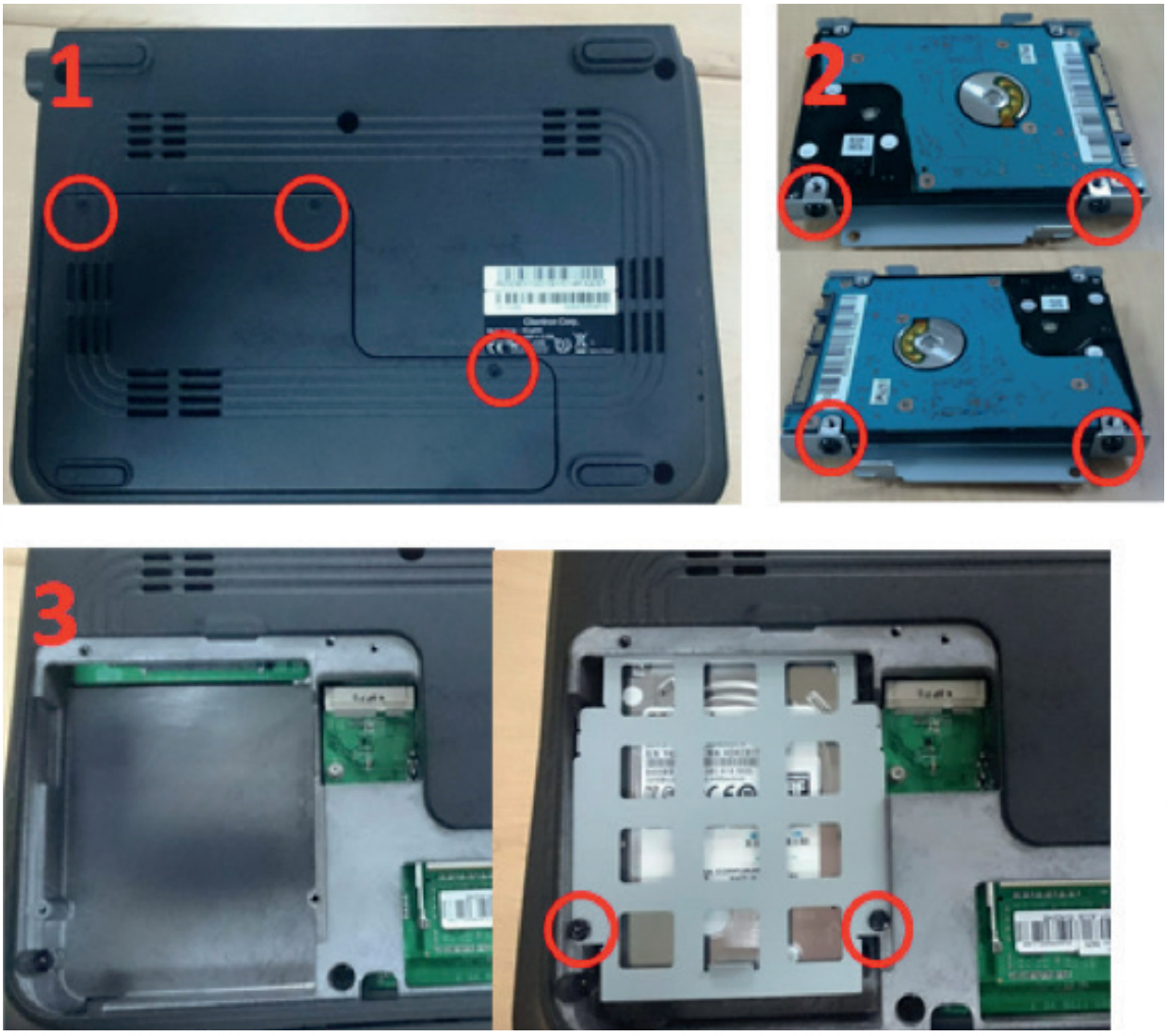
Example DOS COMMAND for Cash Drawer:

1. Create the file: TEST.TXT
2. Input below contents in TEST.TXT
   CONTEXT-“000.0”
   MODE COM 6:300

4. DC Jack

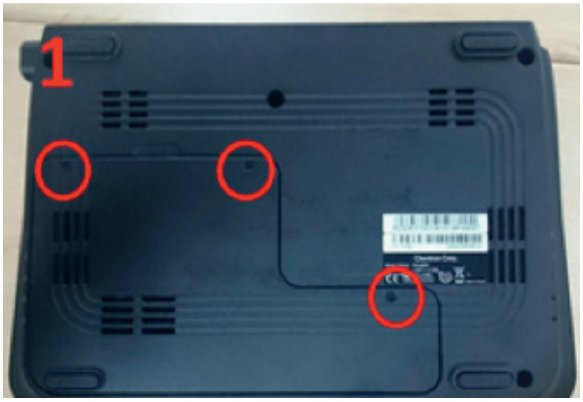
Pin NO.	Signal Name
1	Ground
2	Ground
3	Ground
4	DC IN 19V
5	Ground
6	Ground

5-1. HDD



1. Unscrew 3 screws and remove the base cover
2. Fasten HDD on HDD bracket with 4 screws
3. Install HDD with 2 screws

5-2. Memory

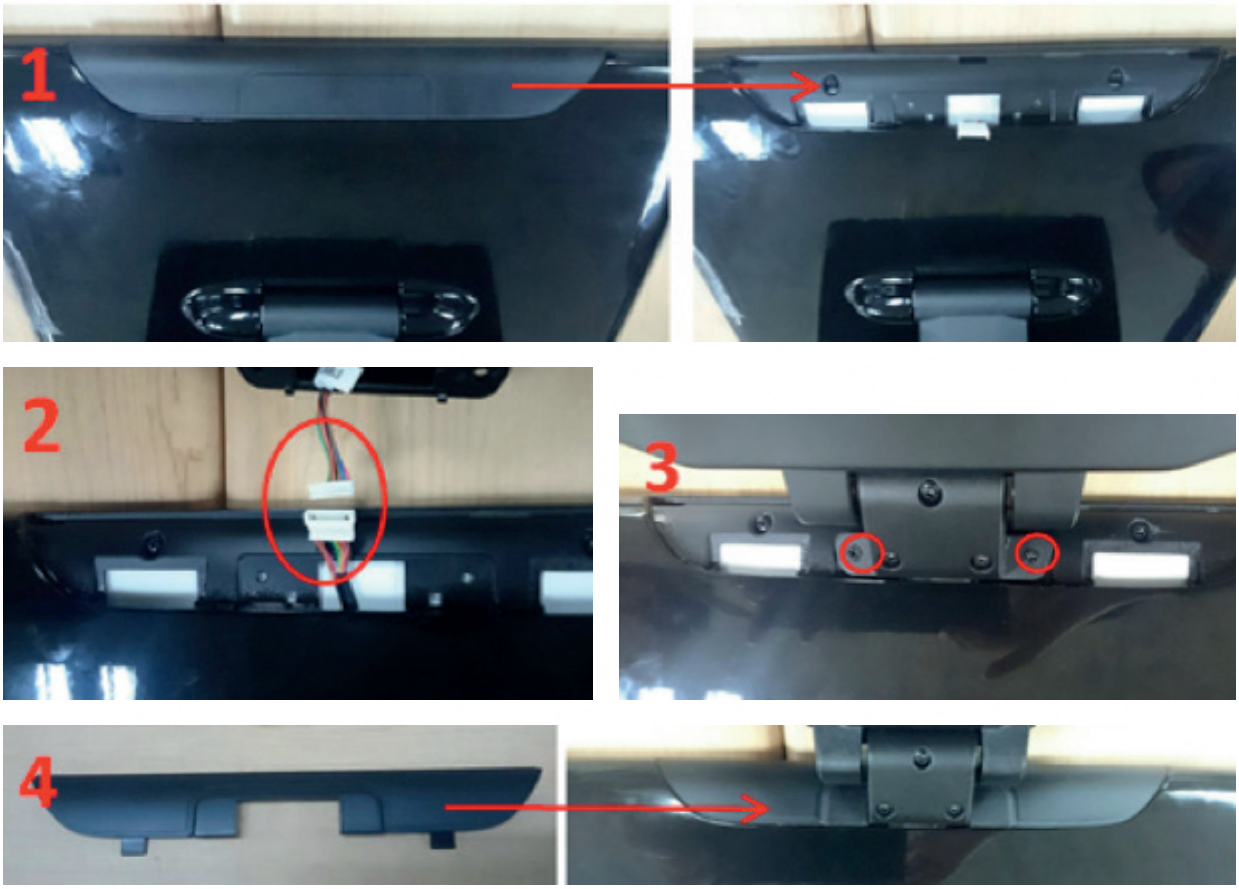


1. Unscrew 3 screws and remove the base cover
2. Put the memory into socket

5-3. MSR

1. Remove MSR cover
2. Install MSR holder with 2 screws
3. Plug MSR cable
4. Install MSR with 2 screws

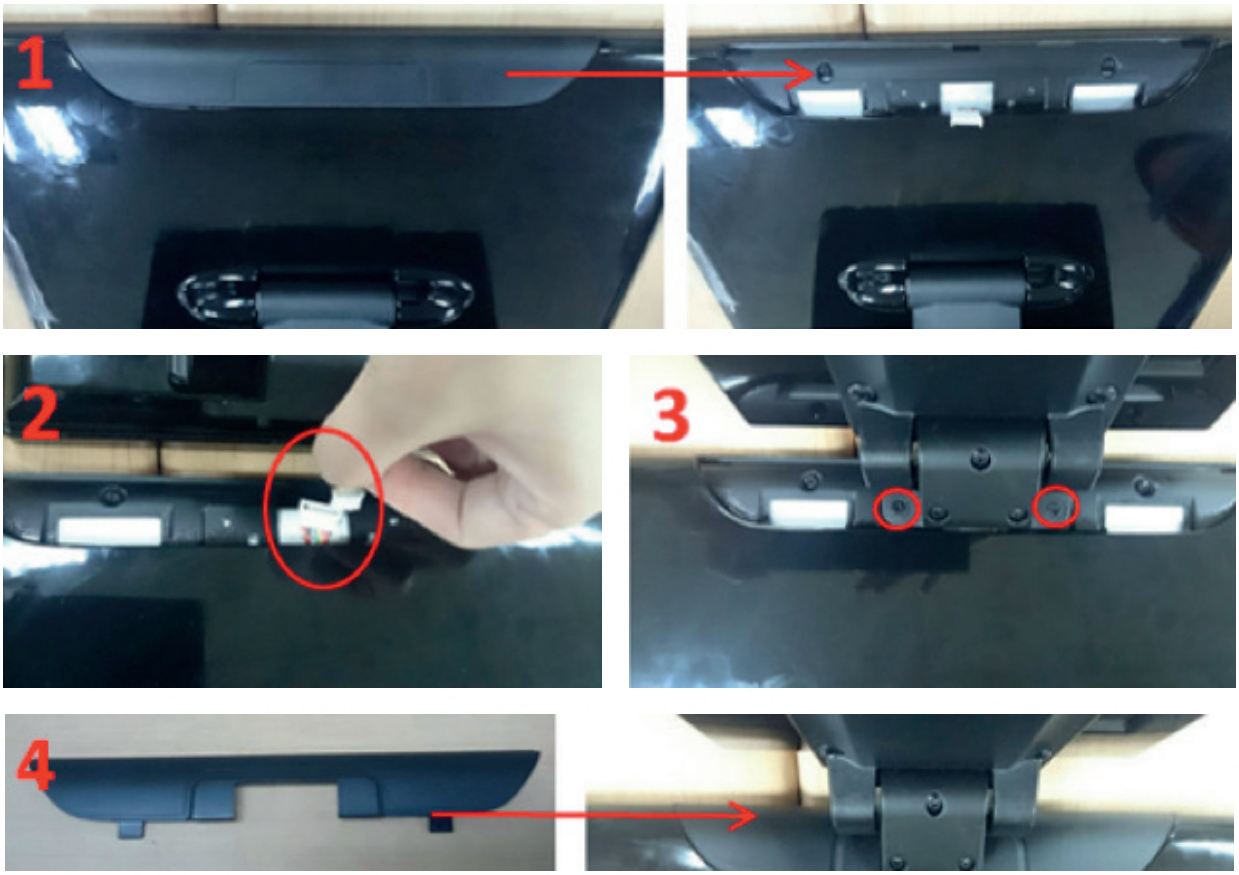
5-4. VFD



1. Remove the Top cover
2. Plug VFD cable
3. Install VFD with 2 screws
4. Cover the Top cover (with Hinge hole)

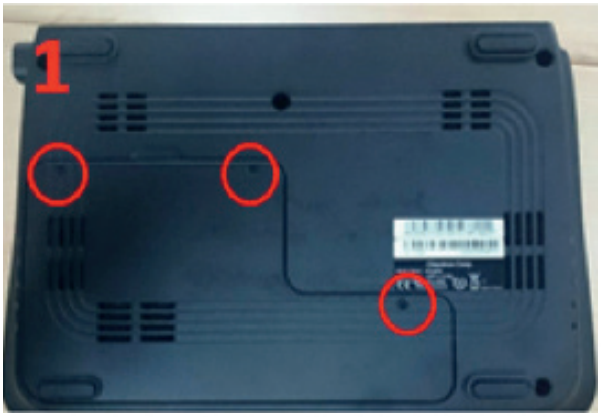
☆ **Alternative of external COM4 (RJ45 Connector) or Internal VFD.**

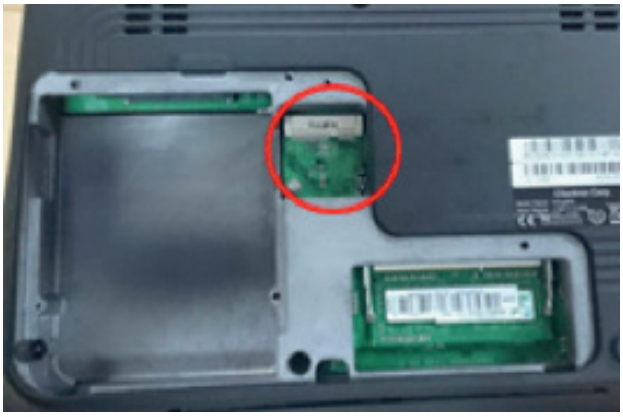
5-5. 8” 2nd Display



1. Remove the Top cover
2. Plug 8” 2nd display cable
3. Install 8” 2nd display with 2 screws
4. Cover the Top cover (with Hinge hole)

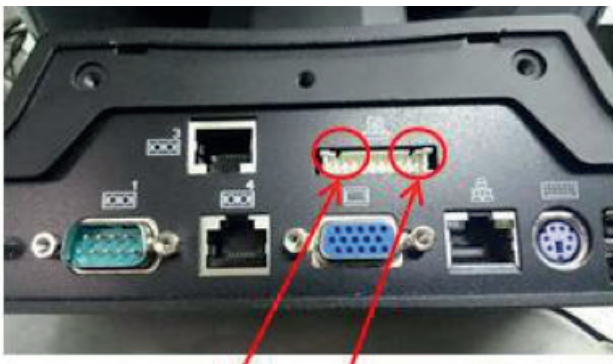
5-6. Wi-Fi

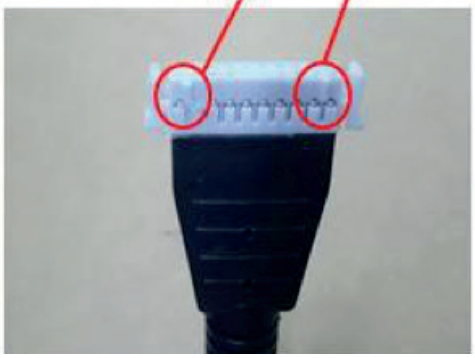




1. Unscrew 3 screws and remove the base cover
2. Connect 2 antennas on Wi-Fi module.(Notice: The antenna in black should be connected on position 1 of WI-FI module, and antenna in gray should be connected on position 2 of WI-FI module)
3. Put Wi-Fi module into socket with 1 screw

5-7. Parallel cable

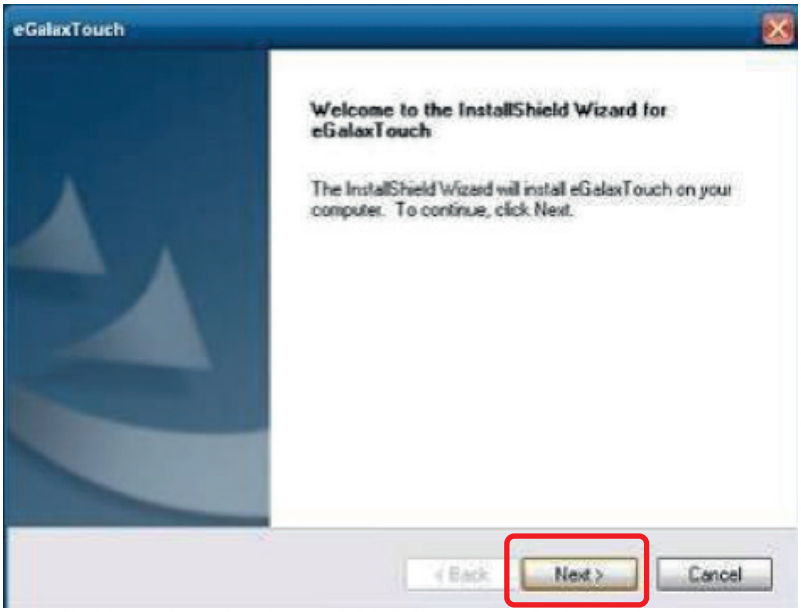




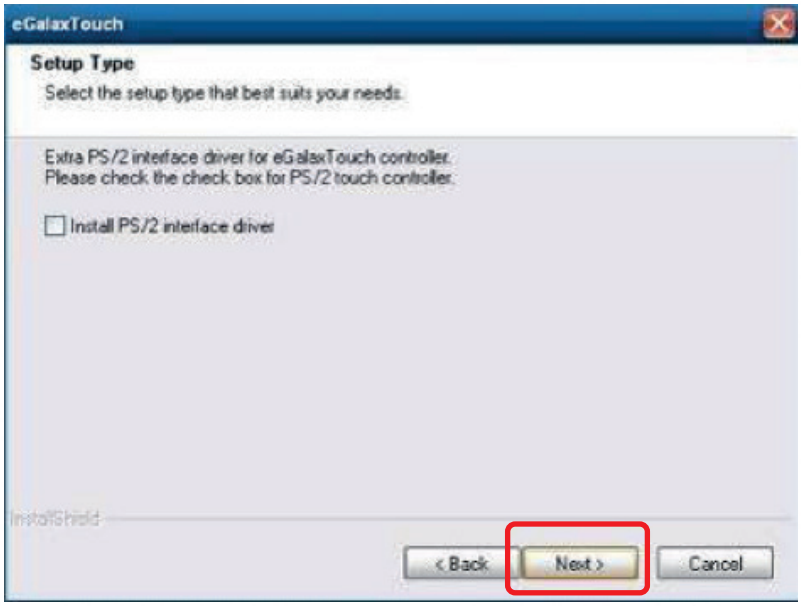
Please ensure error proofing pin is on the upside position of the connector before plugging in

6-1. Resistive Type Touch Panel and P-CAP

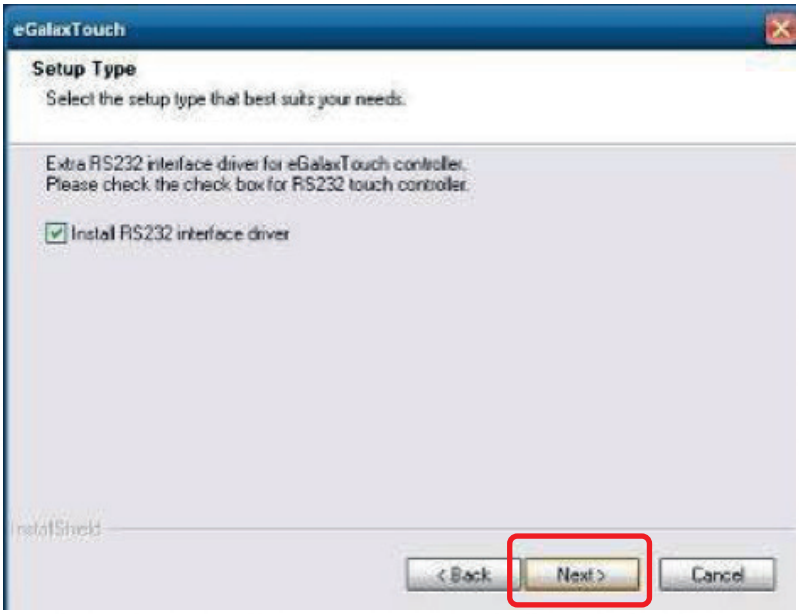
1. Click “Next”.



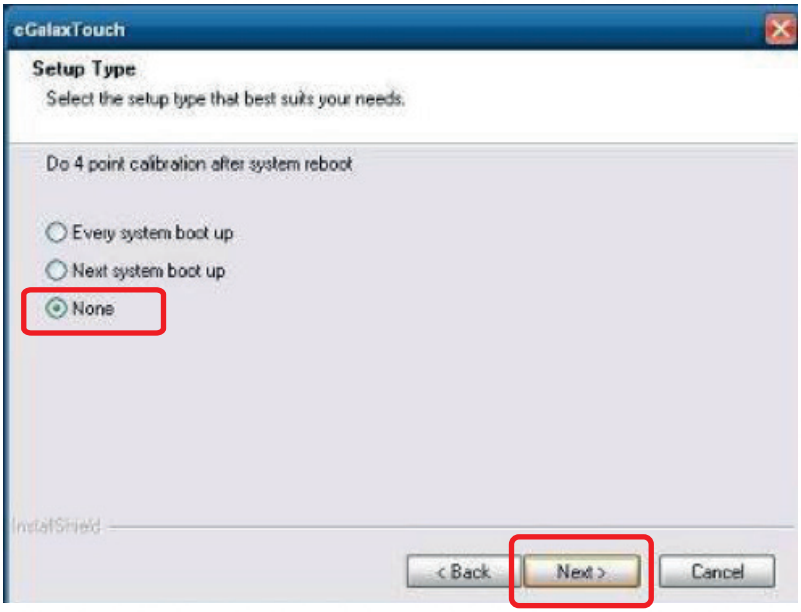
2. Click “Next”.



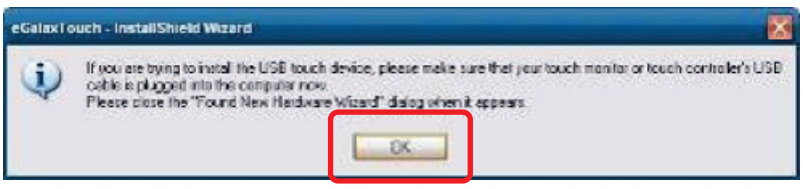
3. Click “Next”.



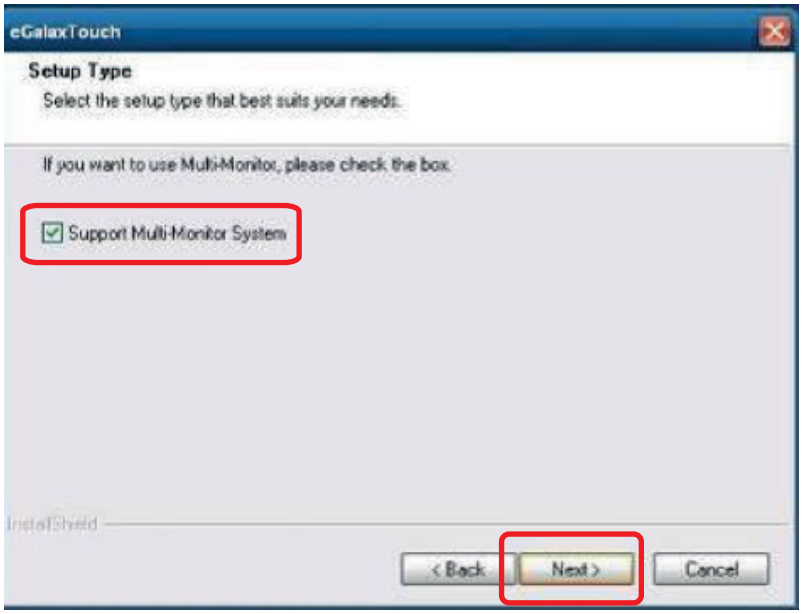
4. Select “None”, Click “Next”.



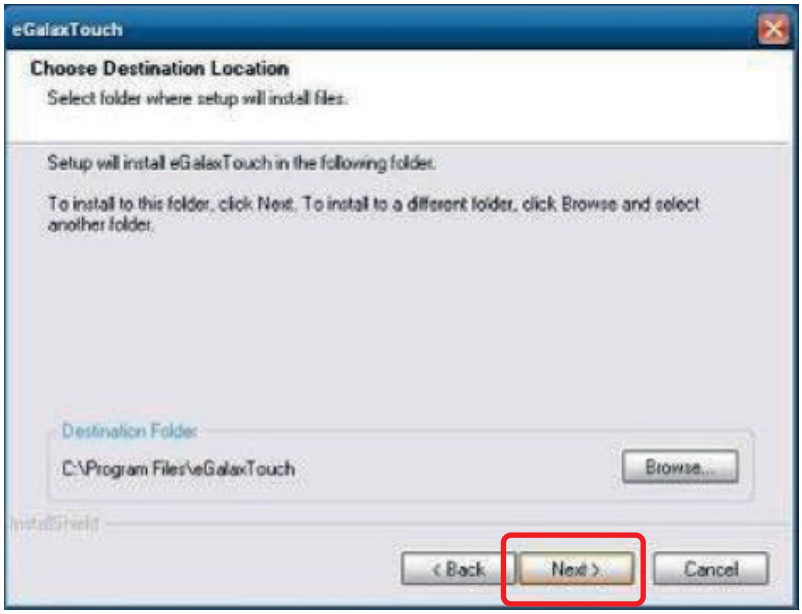
5. Click “OK”.



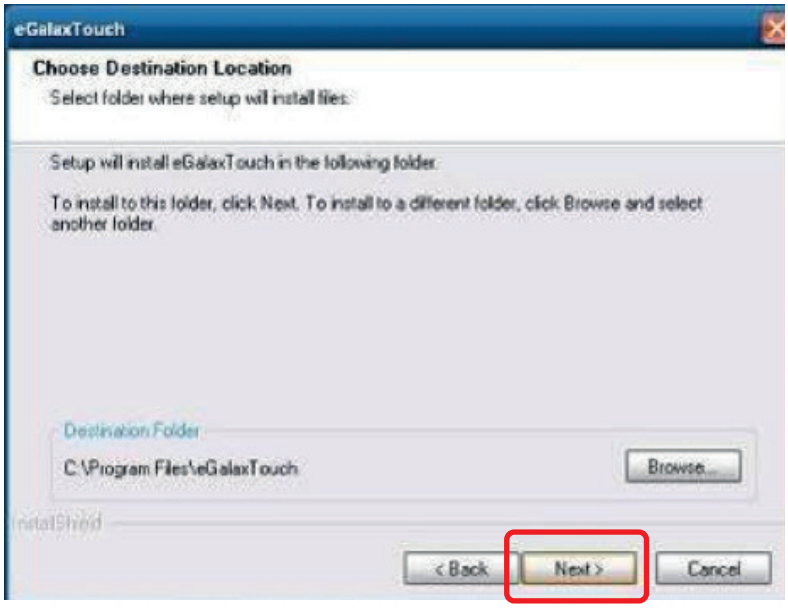
6. Select “Support Multi-Monitor System”, Click “Next”.



7. Click “Next”.

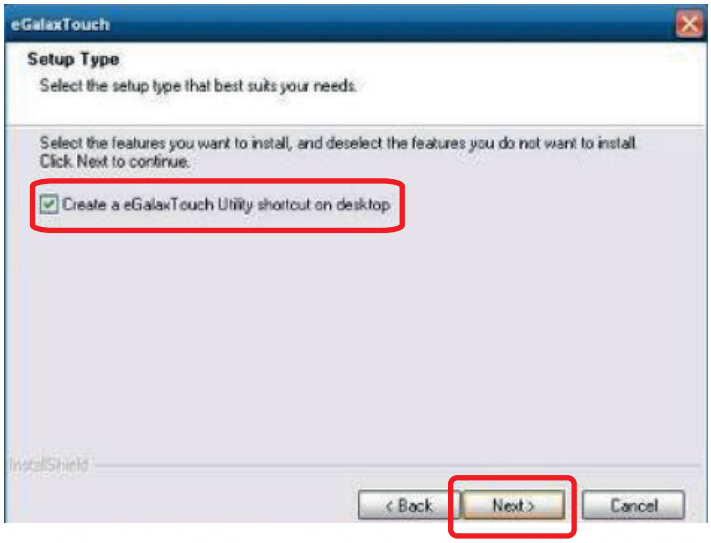


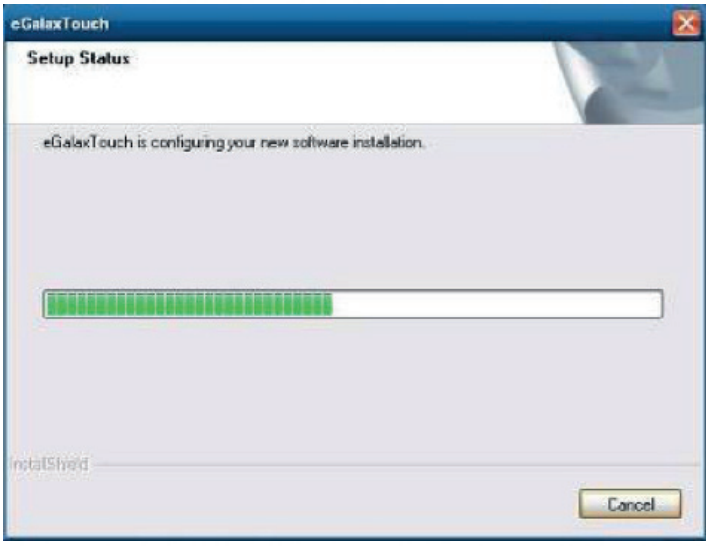
8. Click “Next”.

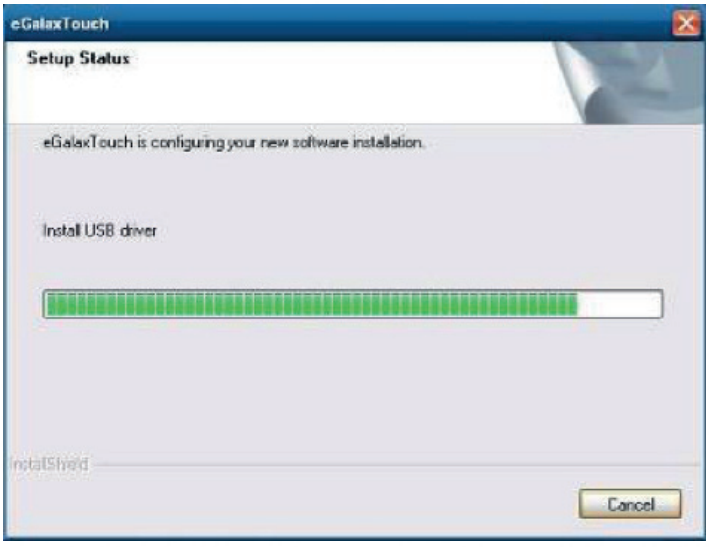


9. Click “Next”.

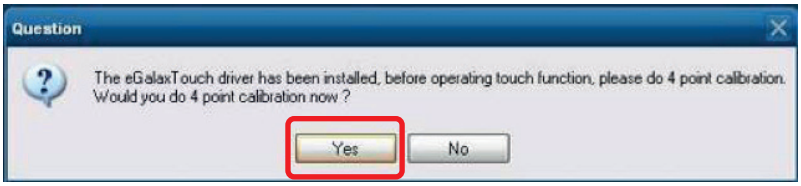
10. Select “Create a eGalaxTouch Utility shortcut on desktop”, Click “Next”.







11. Would you do 4 point calibration now? Click “Yes”.



12. Do 4 points aligrment to match display.

13. Calibration utility.

6-2. MagStripe Card Reader Configuration Utility

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

Installation

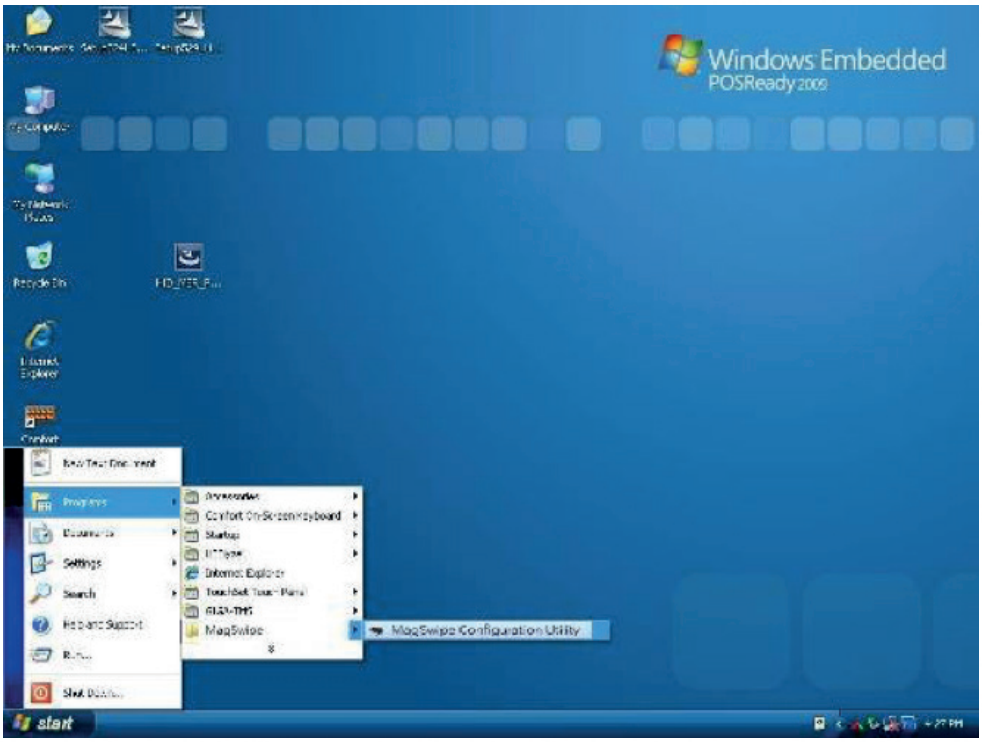
Below steps guide you how to install the Utility program

- Insert the setup CD
- Run the 80066804-006_Magswipe_Configuration_Software_V2_1_A setup file that is located in the Software folder of CD.
- Follow the wizard to complete the installation.

Launching Program

Below steps guide you how to load the Utility program.

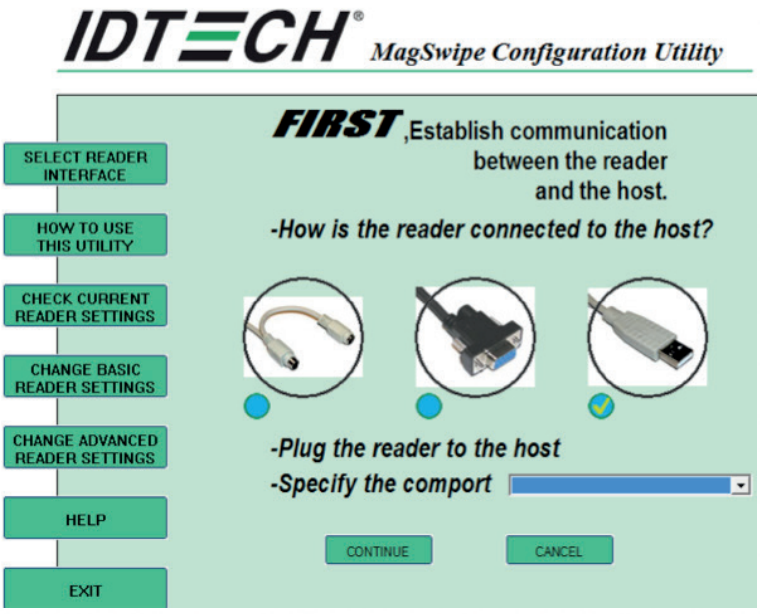
- From Start/Programs, click MagSwipe folder
- Click MagSwipe Configuration Utility to launch the program.



Configuration

Select Reader Interface

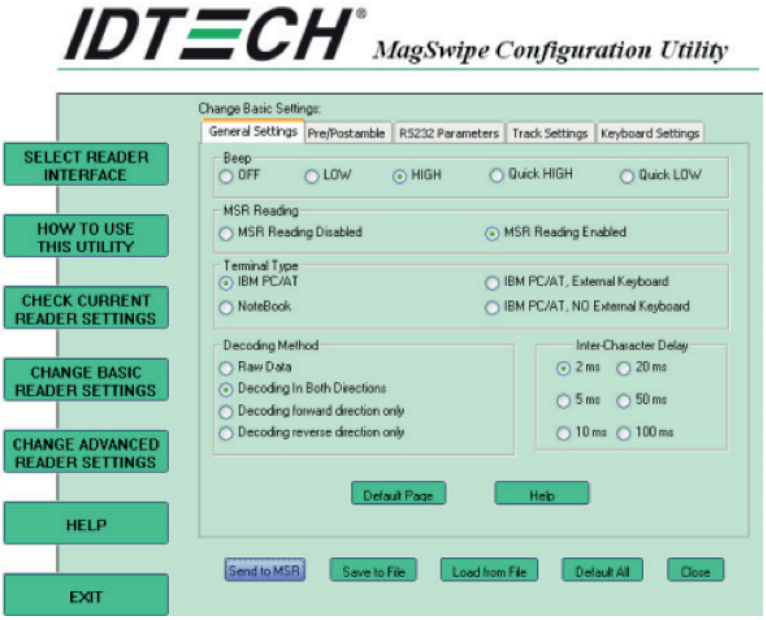
The reader to be configured should be connected. Select the corresponding connected reader interface and click the Continue button



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. The Home Menu Page is shown below

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.



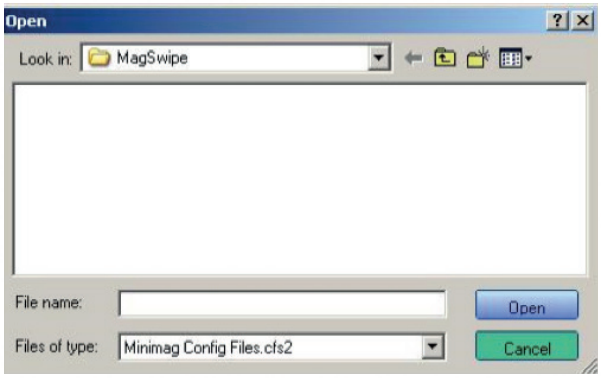
Button Definitions

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.

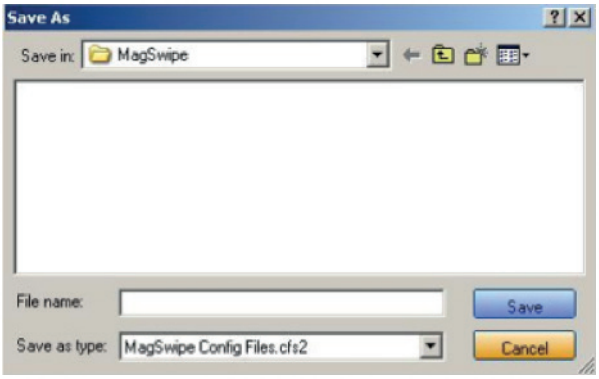
Load From File

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.



Save To File

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



Default All

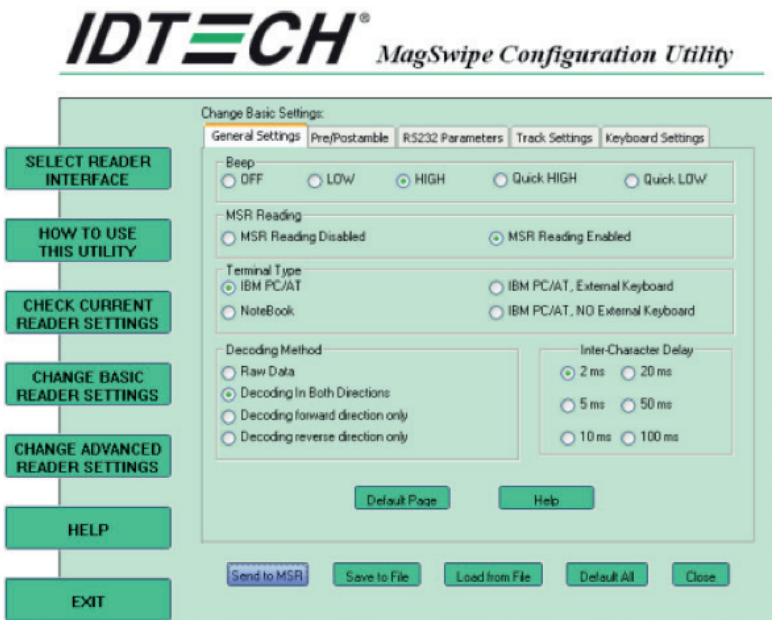
This button sets the reader with the default configuration parameters (the default factory settings). The settings take effect immediately. The default parameters affect all reader configurations settings.

Close

Close this dialog and return to the Home Menu Page.

General Settings

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



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.

Decoding Method Settings

This option gives 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).

Beep Volume

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

Quick High

Quick Low

High

Low

The default is High beep

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.

Inter-Character Delay :

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

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 2ms.

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.

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 Premable.

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).

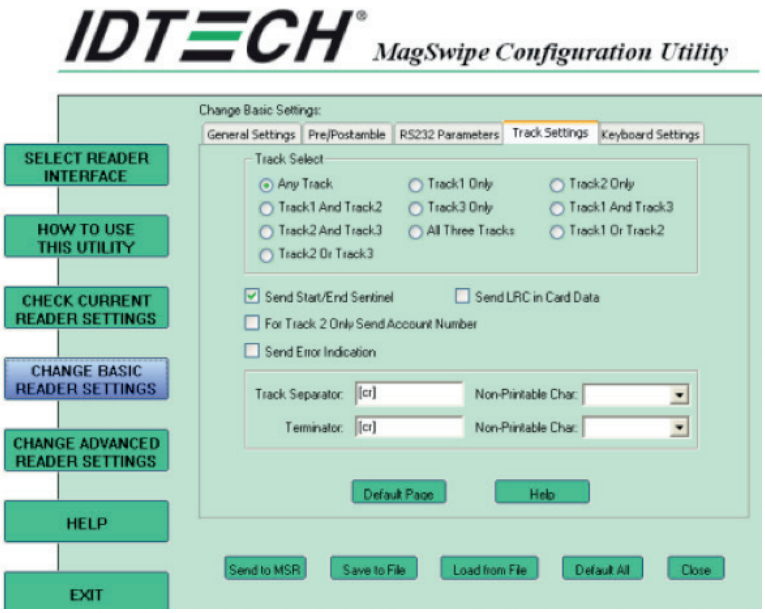
Track Start Sentinels

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 '?‘

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

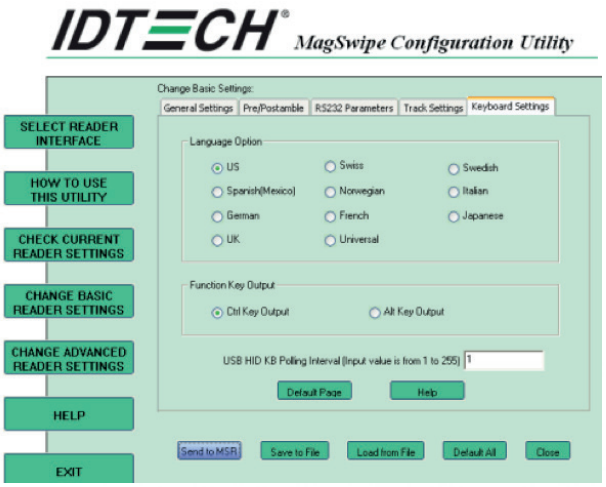
This option let reader to send out [SS]E[ES] if failed to read or missing data on a selected track. The default is off.

The error output for track 1 is „%E?“.

The error output for track 2 is „;E?“.

The error output for track 3 is „+E?“.

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.

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

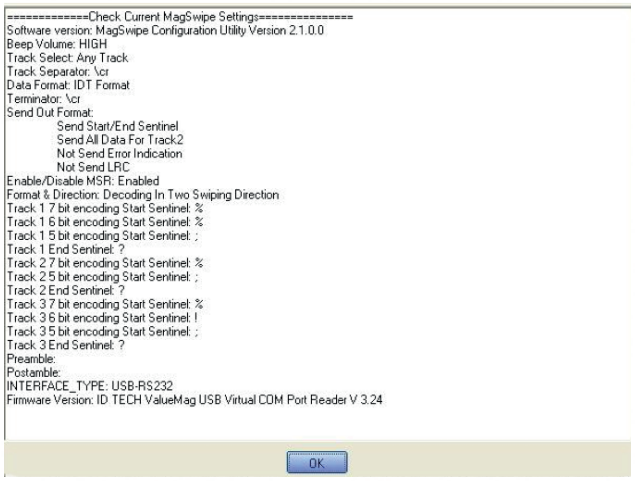
The function key output be used to support the special key to delay card data output.

USB HID KB Polling Interview

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

Check Current Reader Setting

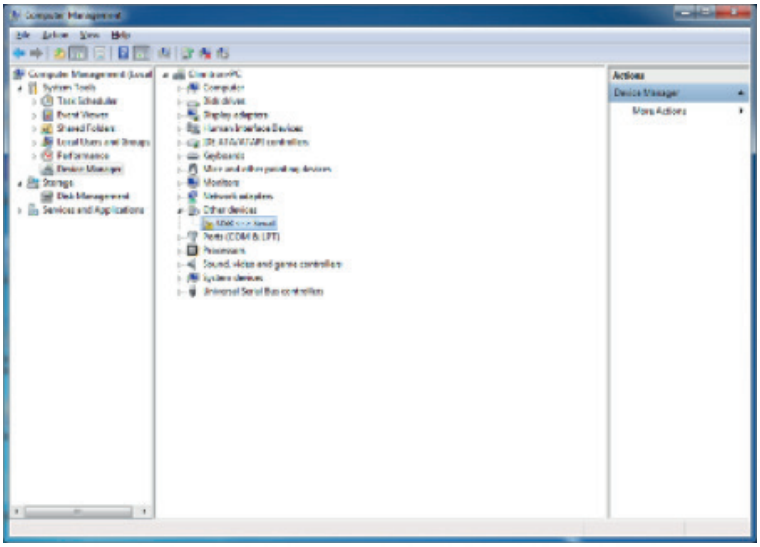
After you connect the device, the current reader configuration can be displayed by selecting this button. The configuration data of the connected reader will be displayed like in the example:



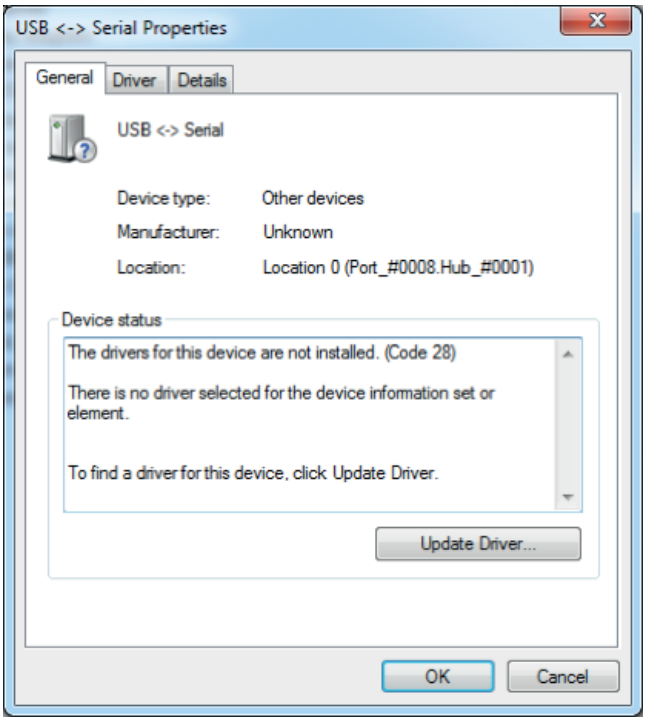
6-3. RFID

1. Install driver

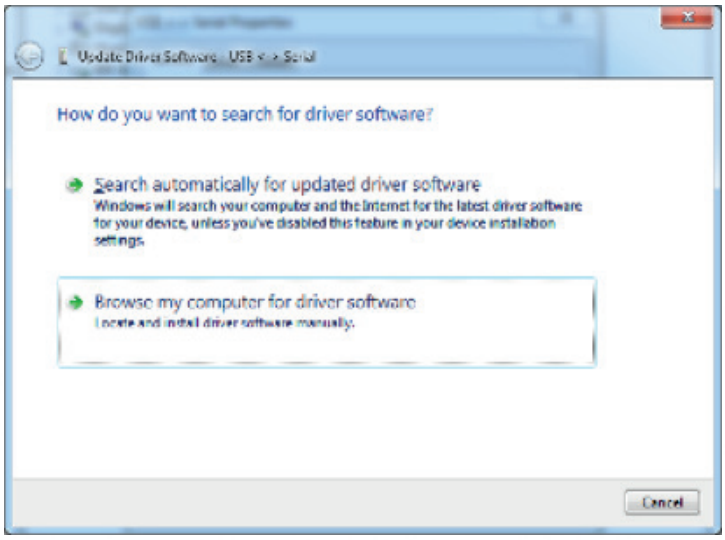
1.1 Check the Device Manager to verify the status of RFID reader.
Computer Management -> Device Manager -> Other devices (The device will show a question mark if the installation is not done properly.)



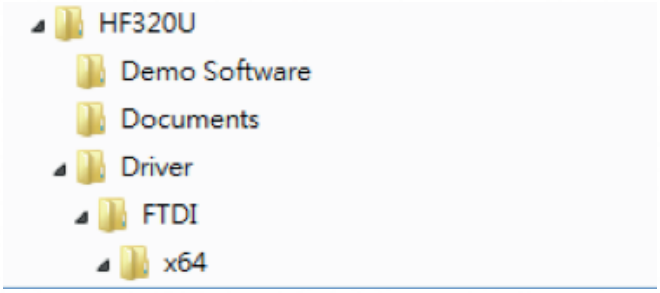
1.2 Double-click to Update driver.



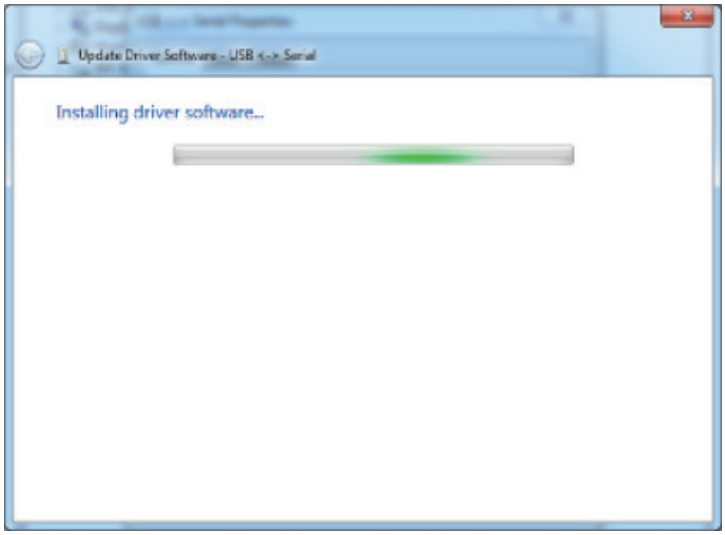
1.3 Select “Browse my computer for driver software.”



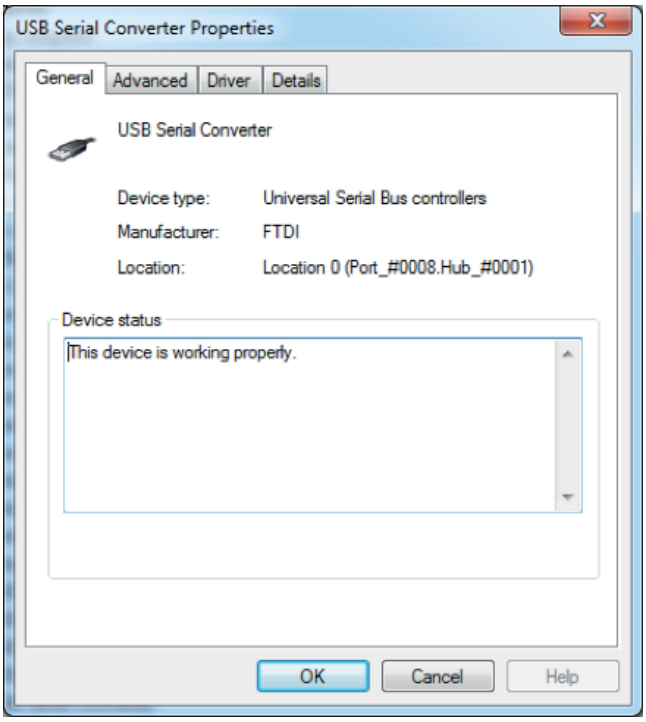
1.4 Click Browse to select file called HFF320U \Driver\FTD\x64



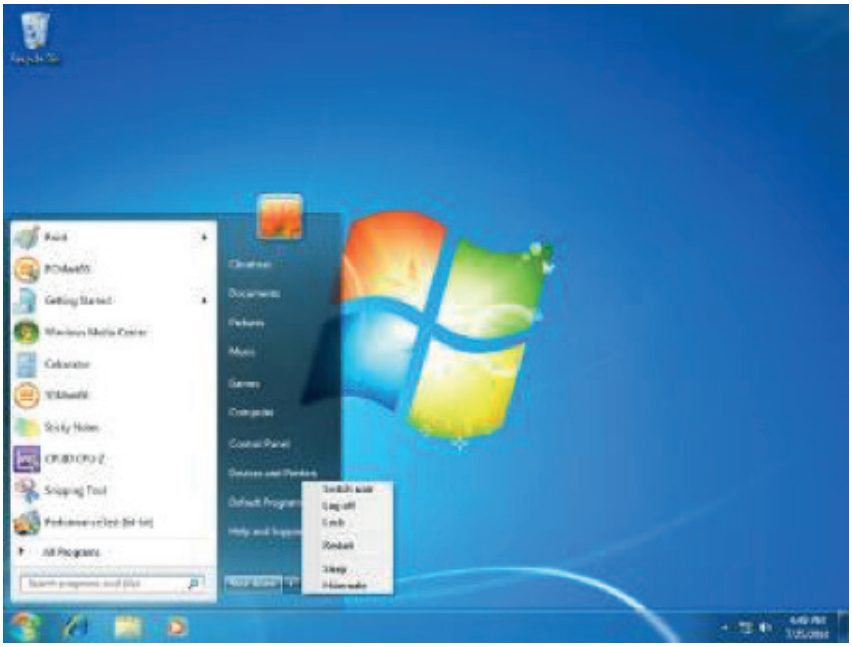
1.5 Install the driver



1.6 Install complete and then click “close”

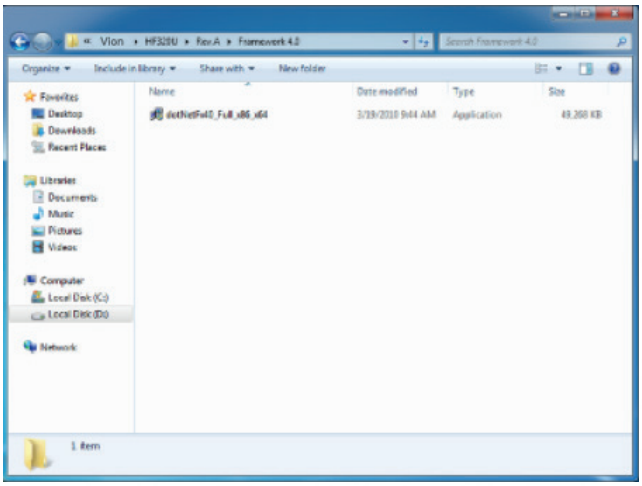


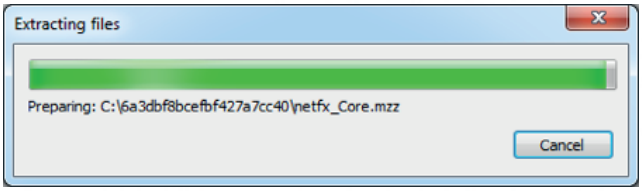
1.7 Restart the computer



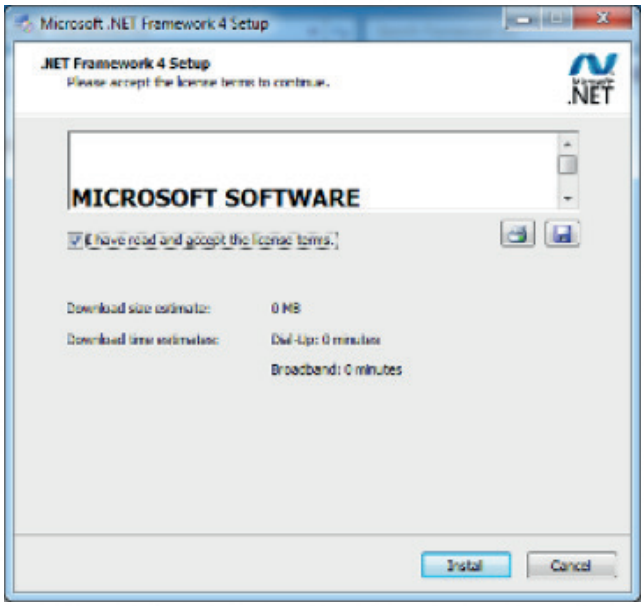
2. Install framework 4.0

2.1 Double-click to install.

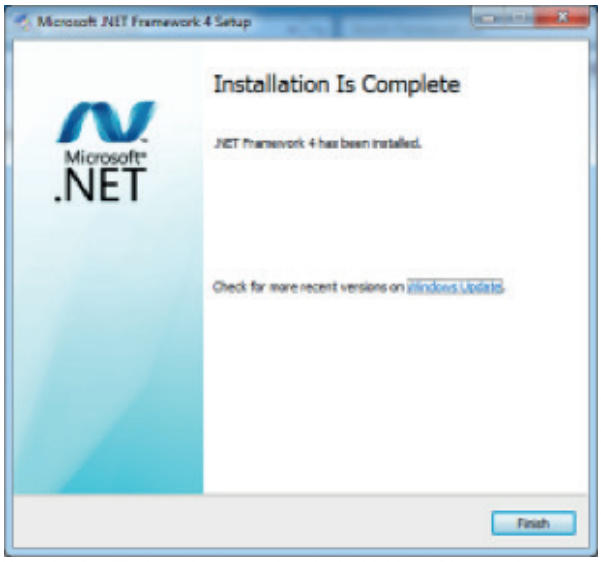




2.2 Select “I have read and accept the license terms. And click Install.

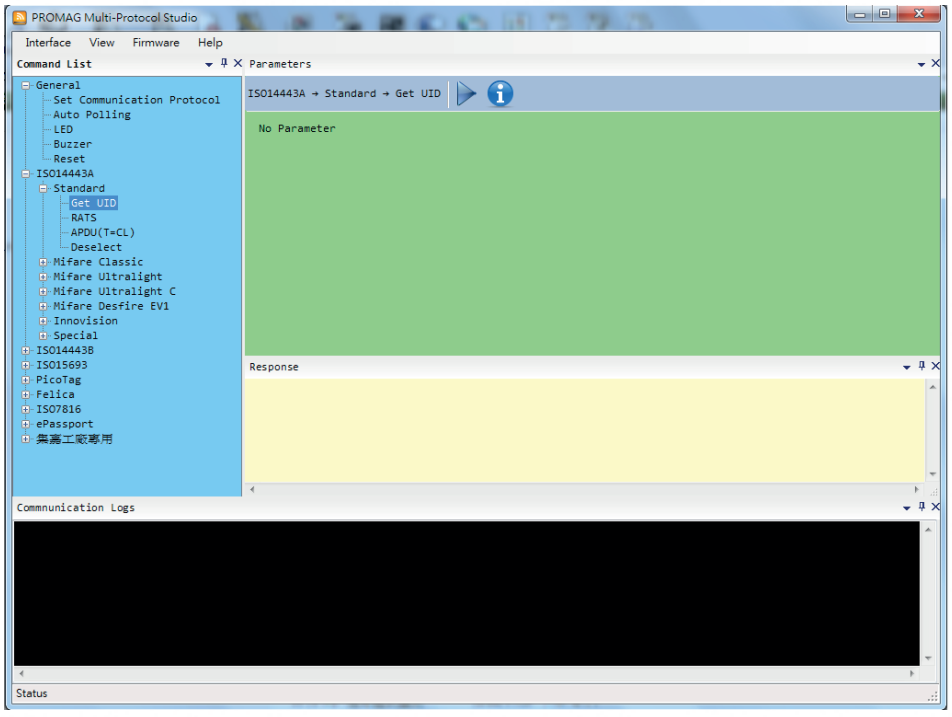


2.3 Click Finish.

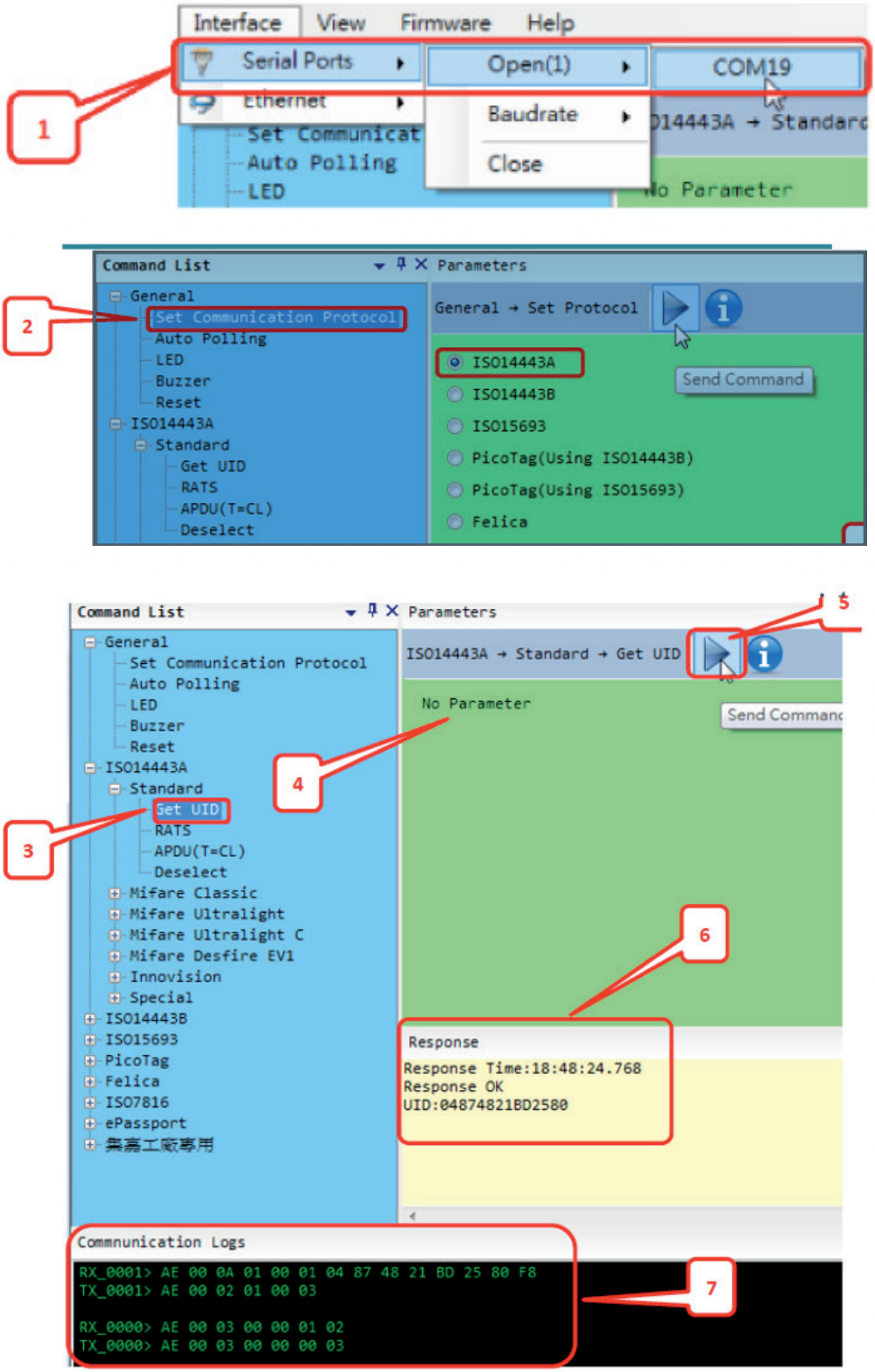


3. Quick Start with Demonstration Software

3.1 The demonstration software is “MP Studio.exe” provided in the folder “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 GUI of software is shown in below picture and ready to use.



3.2 Following steps, as shown in below picture, demonstration a simple usage in reading UID of ISO14443A card for quick understanding.



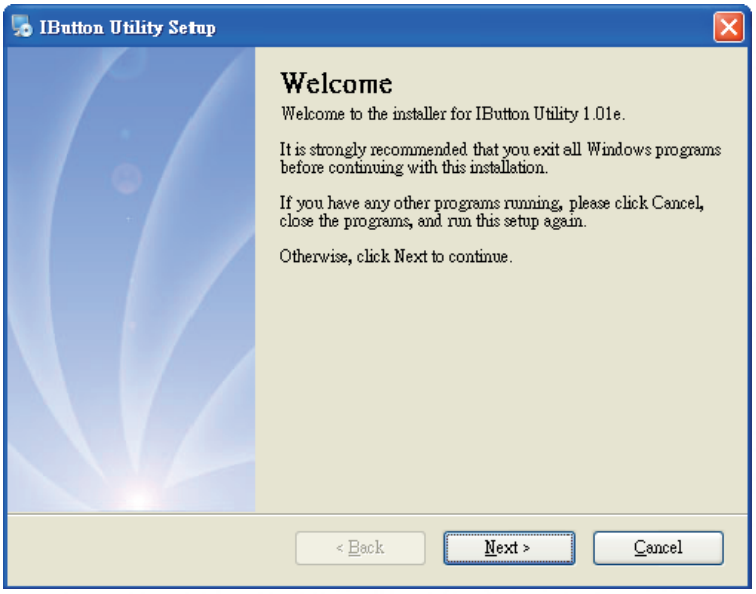
6-4. Configuration Utility of i-Button Reader

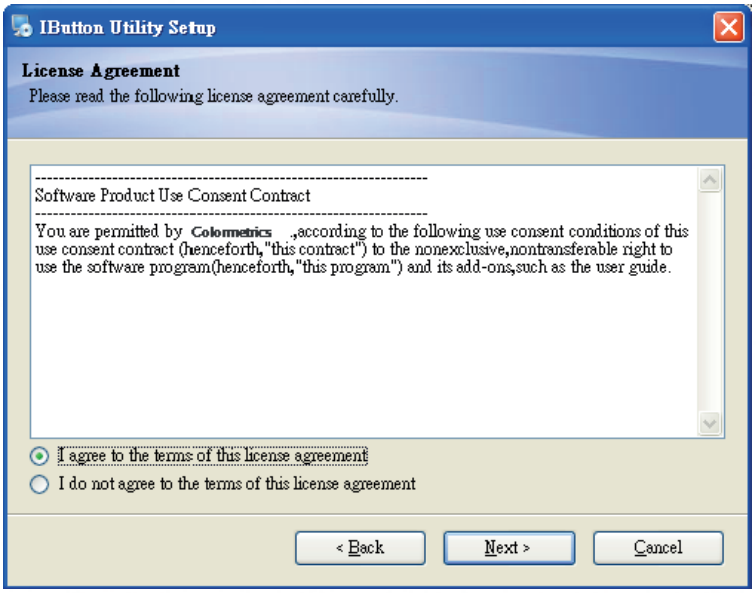
Installation

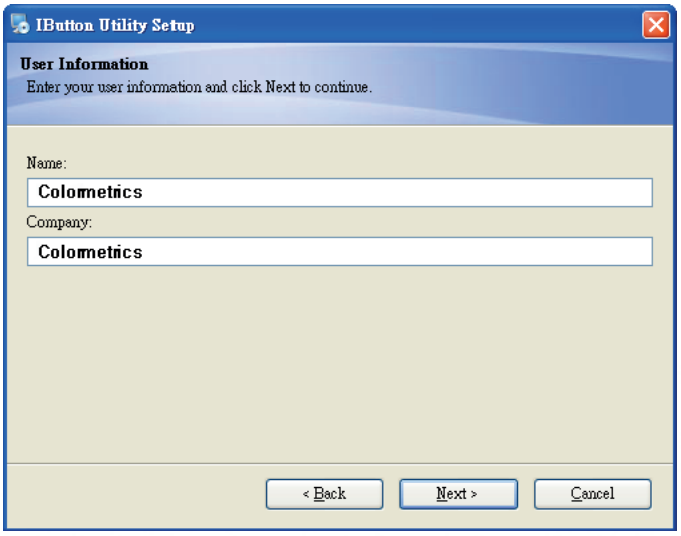
Below steps guide you how to install the Utility program.

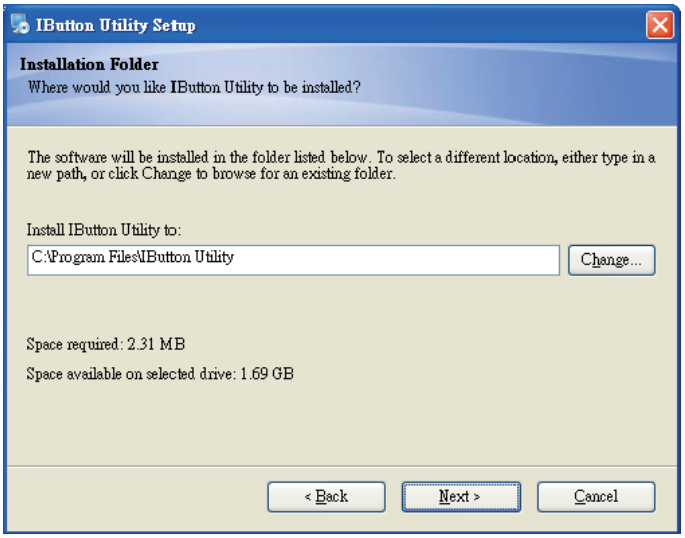
- Insert the setup CD
- Run the I Button Utility.exe setup file that is located in the Software folder of CD
- Follow the wizard to complete the installation.

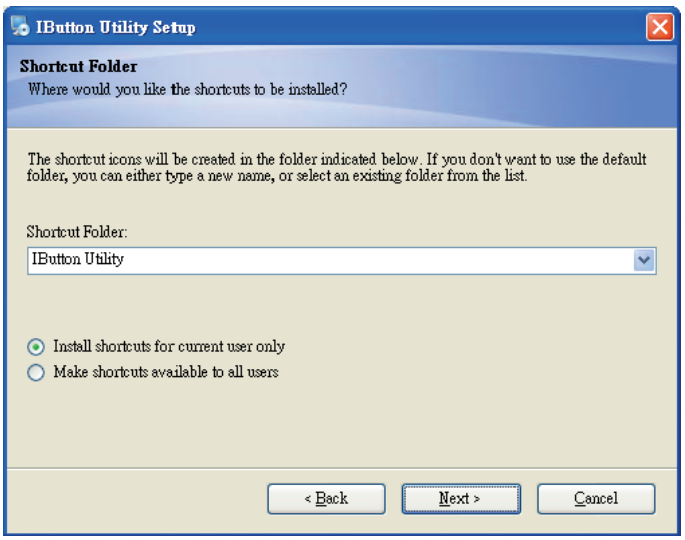
1. Setup IButton _V1.0.exe software

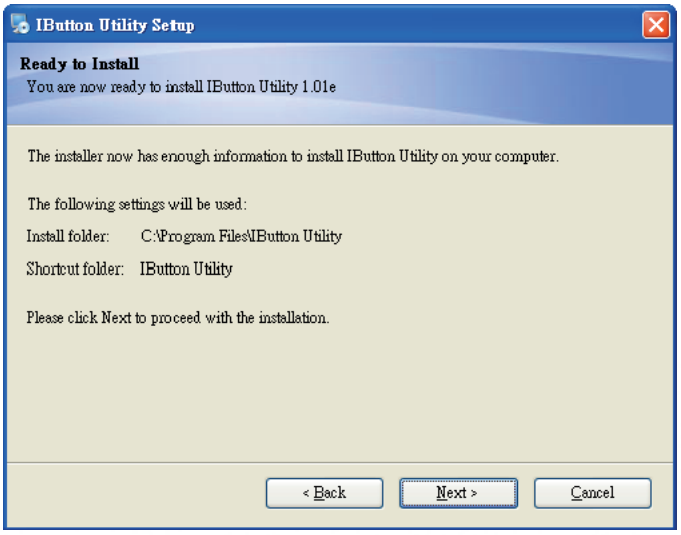


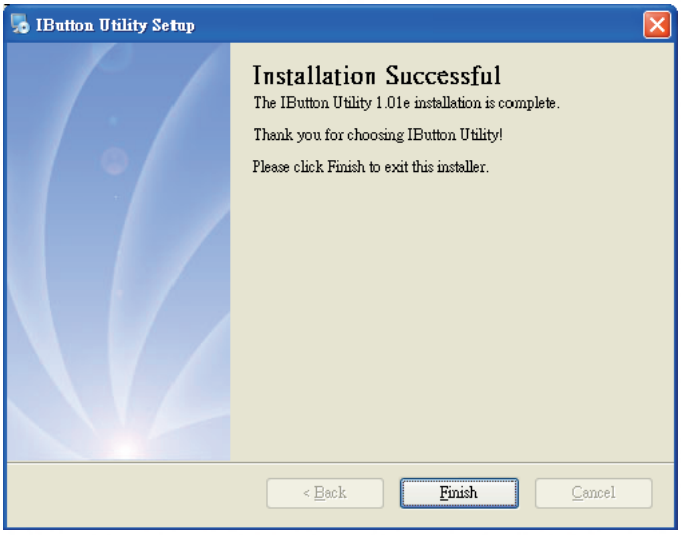



IButton Utility Setup
User Information
Enter your user information and click Next to continue.
Name:
Colormetrics
Company:
Colormetrics
< Back
Next >
Cancel


IButton Utility Setup
Installation Folder
Where would you like IButton Utility to be installed?
The software will be installed in the folder listed below. To select a different location, either type in a new path, or click Change to browse for an existing folder.
Install IButton Utility to:
C:\Program Files\IButton Utility
Change...
Space required: 2.31 MB
Space available on selected drive: 1.69 GB
< Back
Next >
Cancel

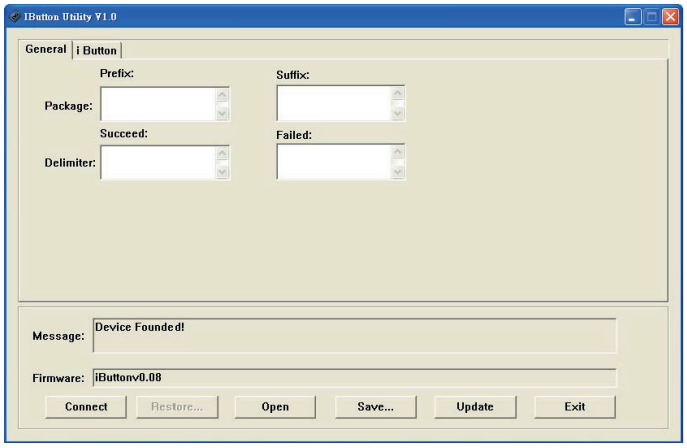

IButton Utility Setup
Shortcut Folder
Where would you like the shortcuts to be installed?
The shortcut icons will be created in the folder indicated below. If you don't want to use the default folder, you can either type a new name, or select an existing folder from the list.
Shortcut Folder:
IButton Utility
Install shortcuts for current user only
Make shortcuts available to all users
< Back
Next >
Cancel


IButton Utility Setup
Ready to Install
You are now ready to install IButton Utility 1.01e
The installer now has enough information to install IButton Utility on your computer.
The following settings will be used:
Install folder: C:\Program Files\IButton Utility
Shortcut folder: IButton Utility
Please click Next to proceed with the installation.
< Back
Next >
Cancel


IButton Utility Setup
Installation Successful
The IButton Utility 1.01e installation is complete.
Thank you for choosing IButton Utility!
Please click Finish to exit this installer.
< Back
Finish
Cancel

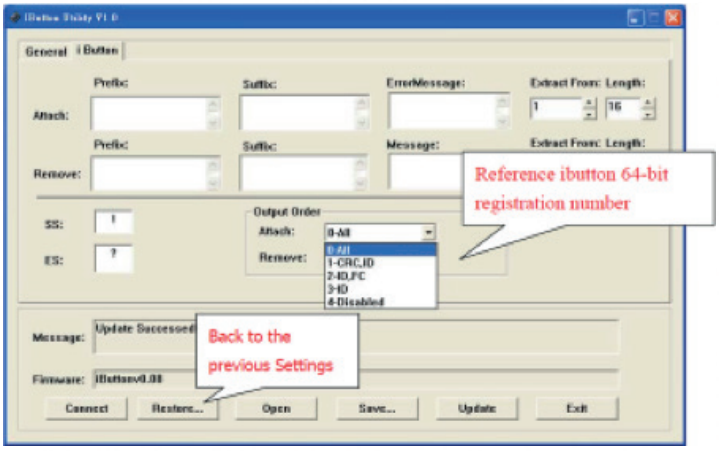
2. Execute “IButton_V1.0.exe” for setup communication between software and IButton module.

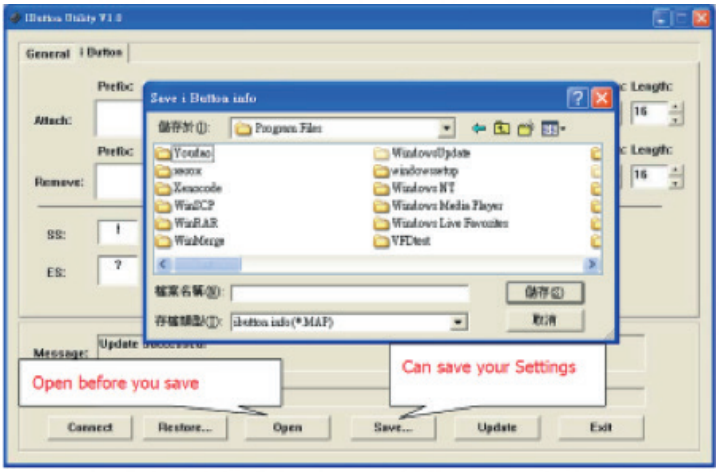
- The utility program will detect the connected reader. If detected, all the input text boxes will be enabled.
- If the reader has not been connected to PC yet, please connect the reader and then click Refresh to get connected.



Configuration

Below is the main window of i-Button Utility program.





For the settings, there are:

- Prefix/Suffix: Defines the data string which you would like to append in front or end of the i-Button key string.

- Error Message: Indicates error message when i-Button key read fail.
- Message: Indicates message when i-Button key read correctly
- SS/ES : Define Start and End sentinel byte for the i-Button ID string

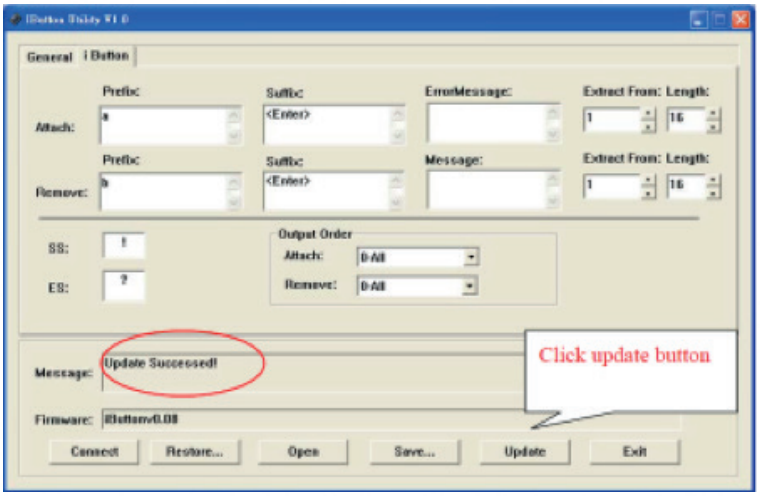
iButton data format:

SS + iButton 64- Bit Registration Number + ES

- Length : i-Button ID length request from 0~16
- Output order : 4 formats could be select at Attach /Remove i-Button ID

iButton 64- Bit Registration Number:
8-Bit CRC + 48-Bit ID + 8-Bit FC

DEMO SETUP & OUTPUT



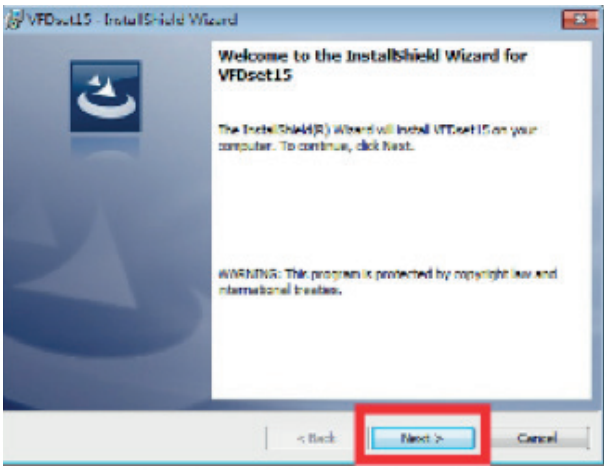
OUTPUT DATA :

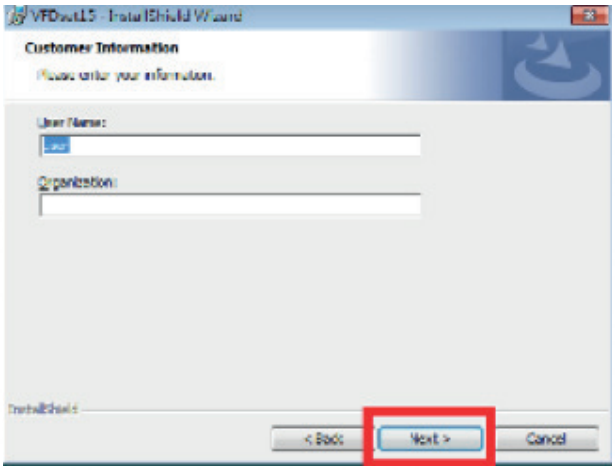
a!ab00000003bdfa01?
b!ab00000003bdfa01?

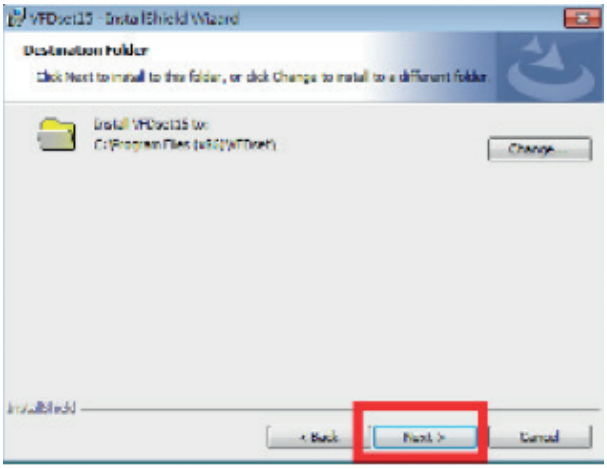
6-5. VFD VD1220

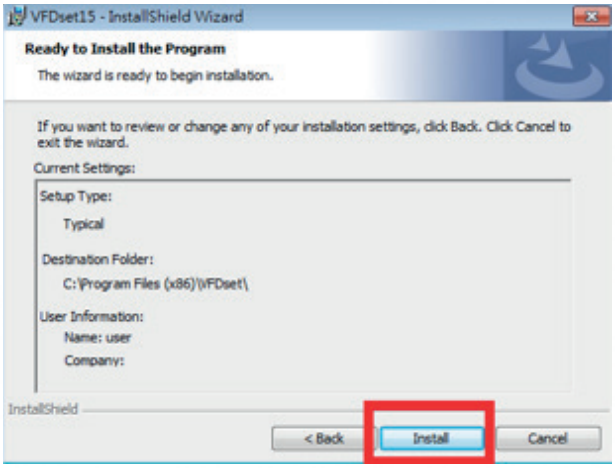
1. Power on VFD and waiting test page of EEPROM test, Baud rate and Command page. Set up the customer display by „ VFDset.exe”

2. Setup VFDset.exe software.

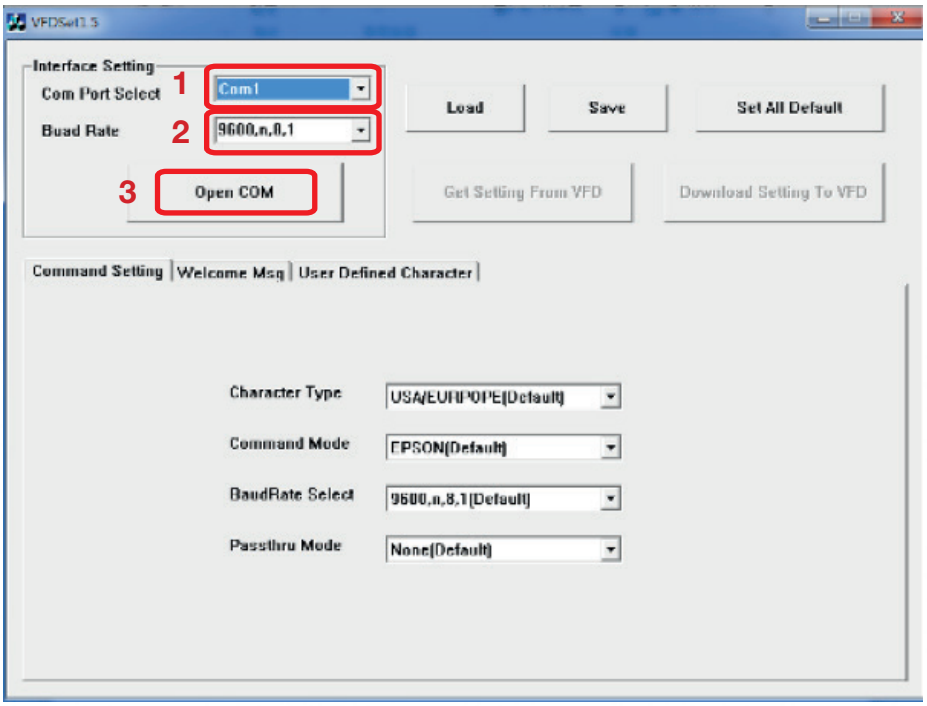








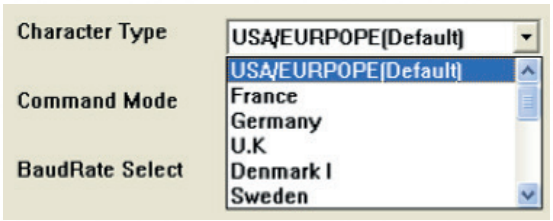
3. To execute “VFDset.exe” for setting up communication between software and VFD module.

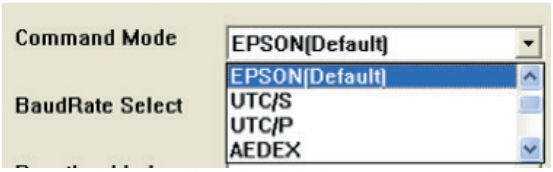


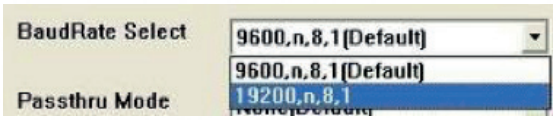
Please then follow the steps as shown in the above figure, the baud rate will show on states page of VFD module (Note: You may check it when power on VFD module), then click “Open COM” button.

4. “Get Setting from VFD” button to get all the settings from Colormetrics and it’ll refresh the “VFDset.exe” software.

5. Select “Character Type”/ “Command Mode”/ “Baud Rate Select”/ “pass-through Mode”.







6. Click “Set All Default” button To show default setting, the Default table is

Character Type : USA

Command Type : EPSON/EURPOPE

Baud Rate setting : 9600/n/8/1

Pass-through Mode : None

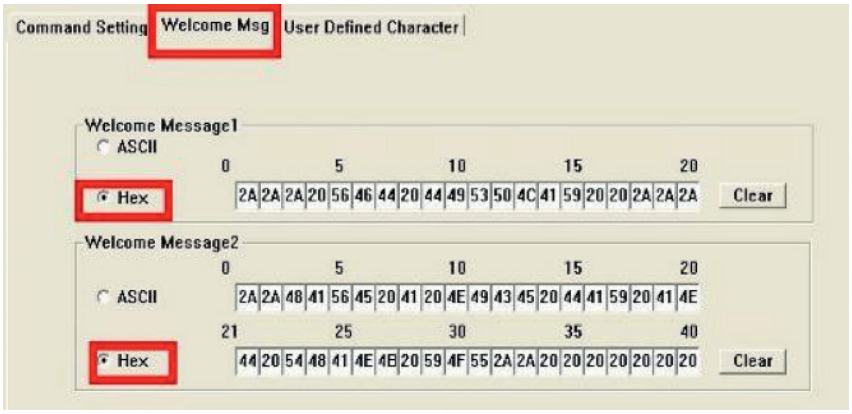
Welcome msg line1 : *** VFD DISPLAY ***

Welcome msg line2 : ** HAVE A NICE DAY AND THANK YOU **

7. Welcome Message

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

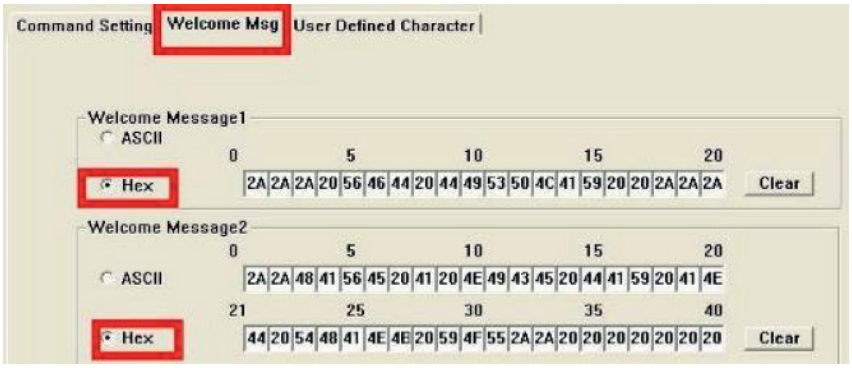
a. ASCII mode



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 to0xFFh · the range 0x80~0XFF which depends on the code page table.



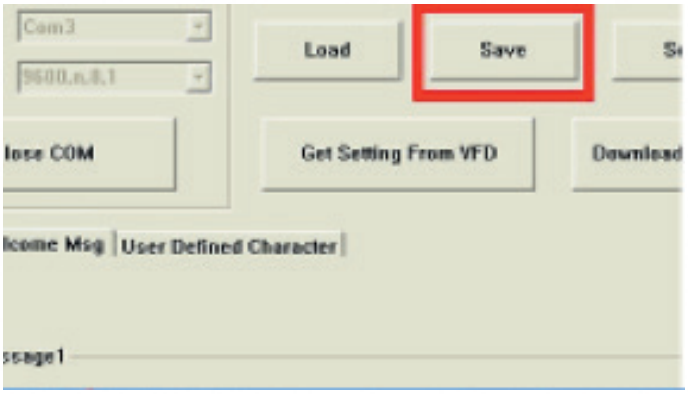
Like the first character (0x80) · in default code page will show on VFD module.

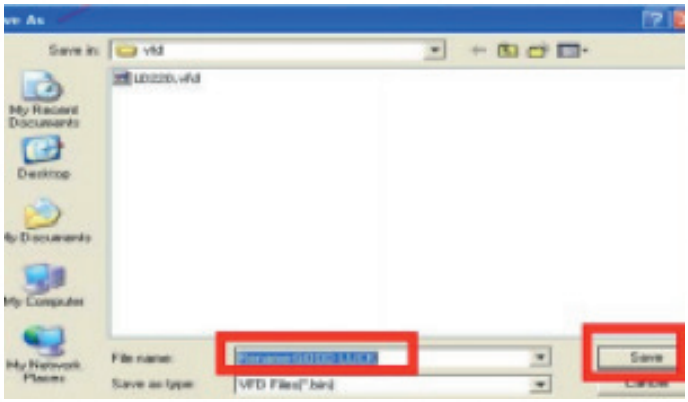
8. Click “Download setting to VFD” button

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 for enable new setting.

9. Click “Save” button

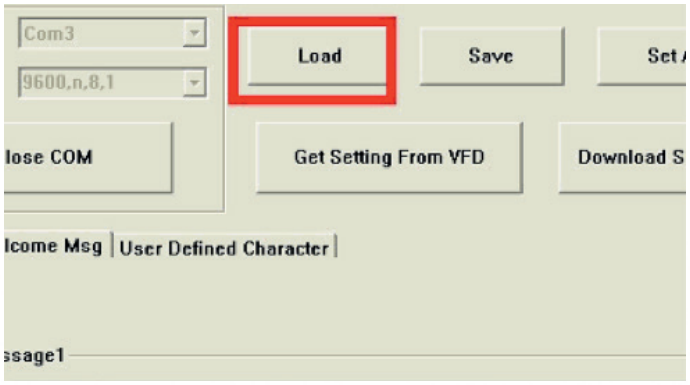
To save user’s setting in file; for example, below picture to save file name as “GOODLUCK” file set for Welcome Message.

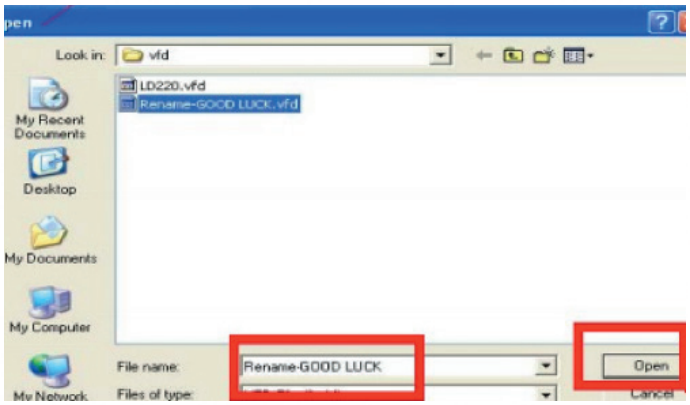




10. Click “Load” button

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

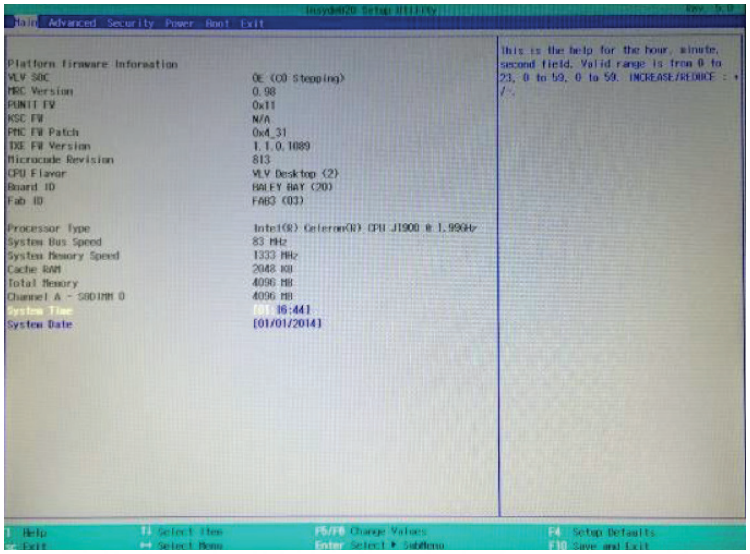




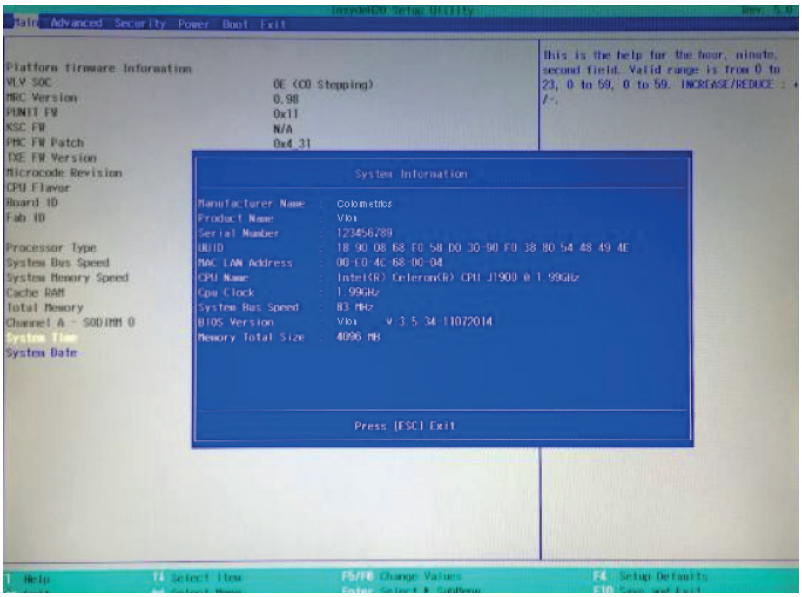
7 BIOS/UTILITY SETUP

Press <DEL > / <F2> key to enter BIOS SETUP UTILITY when system boot up.

☆ **Please press <DEL > / <F2> key tenderly and slowly.**



Press <F9> to view the system information



Date and Time

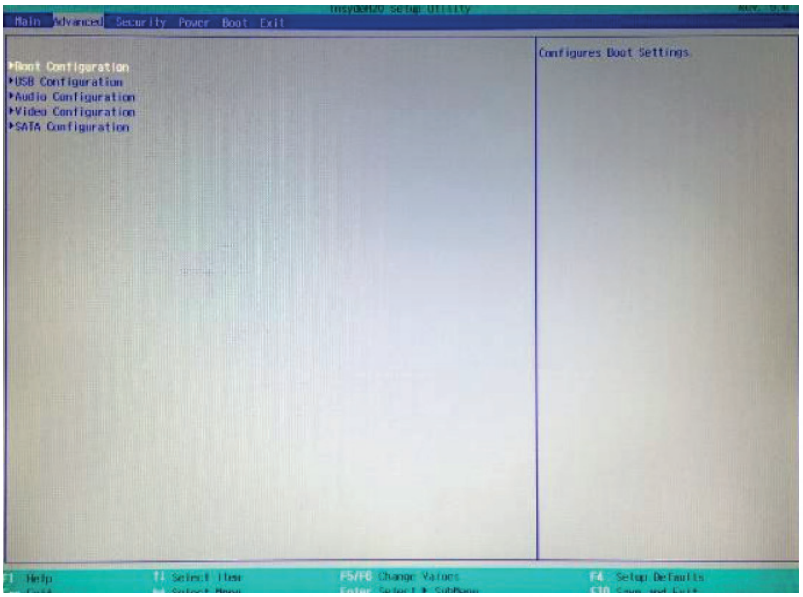
The Date and Time items show the current date and time on the computer. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

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.

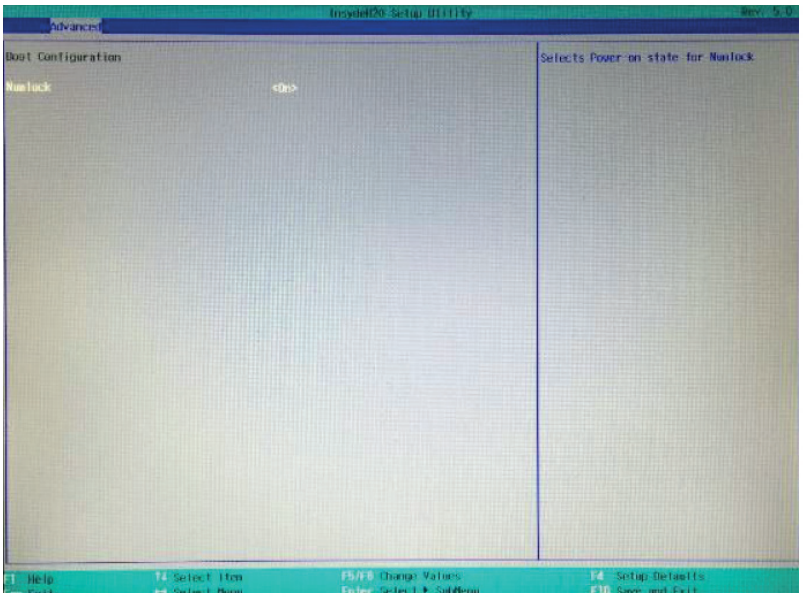
7-1 Advanced

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



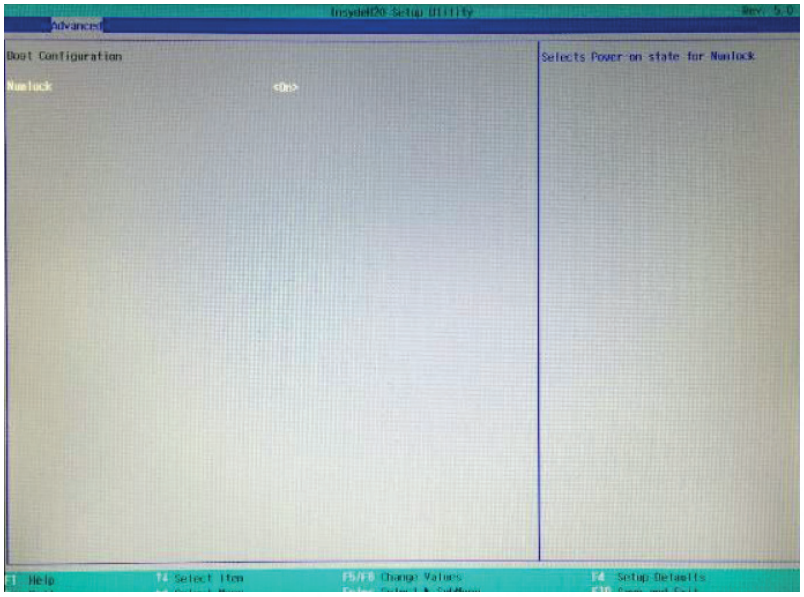
7-1-1 Boot Configuration

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



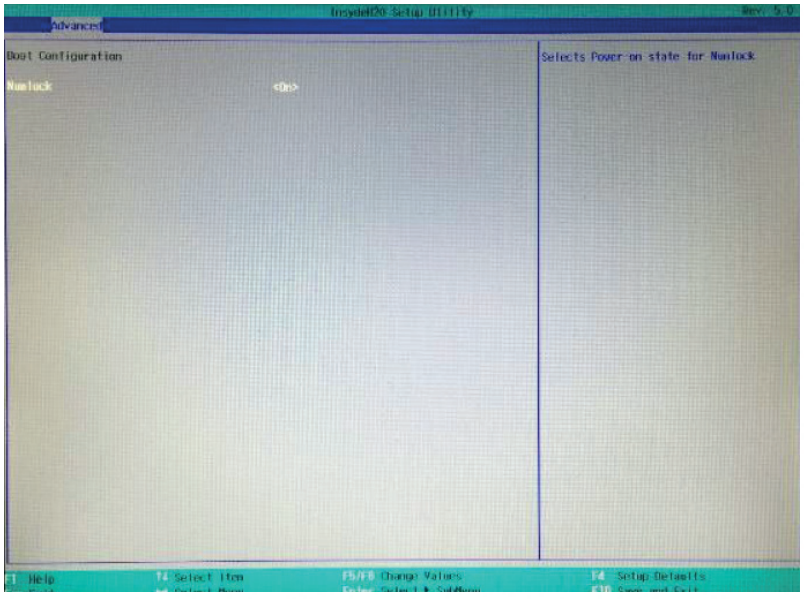
7-1-2 Audio Configuration

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



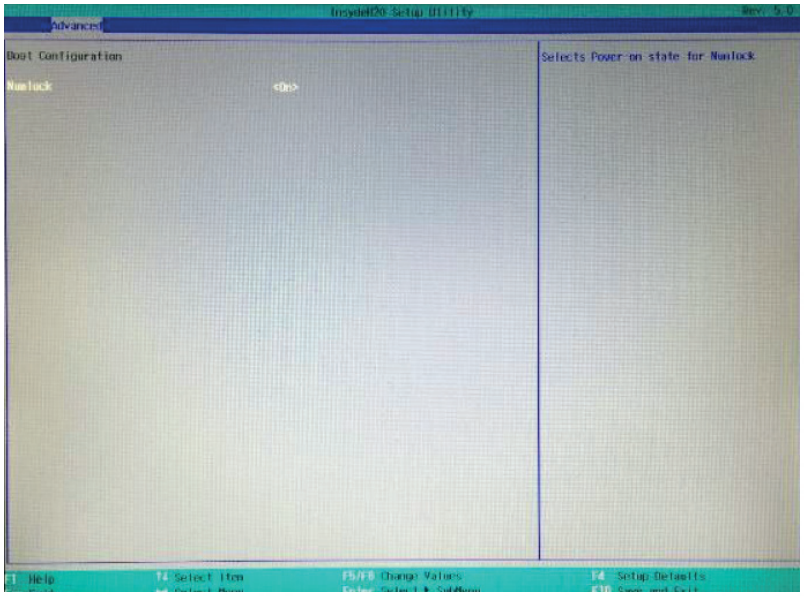
7-1-3 Video Configuration

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



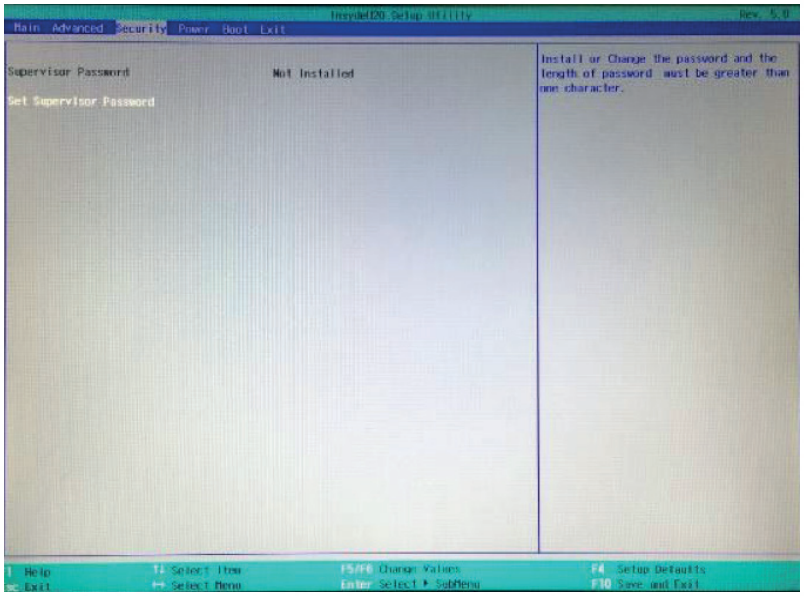
7-1-4 SATA Configuration

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



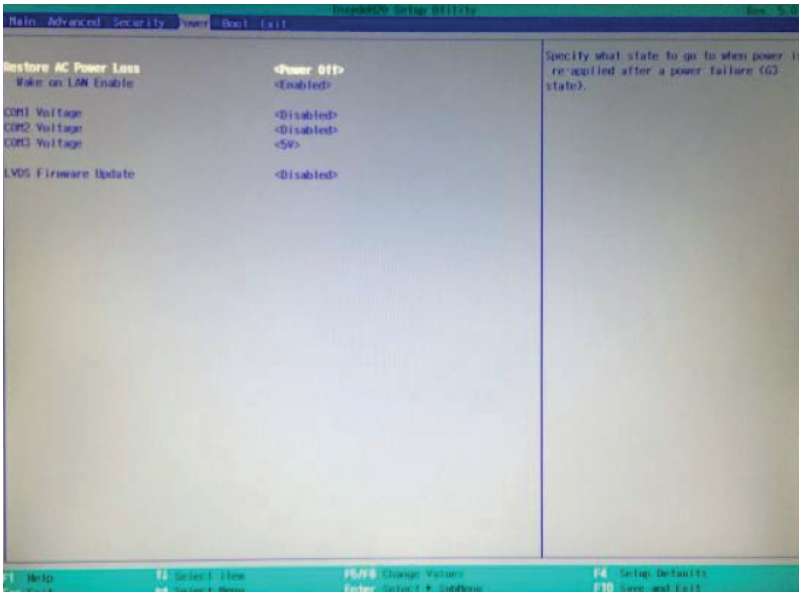
7-2 Security

Use the Security menu to install or change the password.



7-3 Power

Use the Power menu to install or change the password



AC Loss Auto Restart

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

Enable or disable system power on automatically after AC power restored

When enabled, System will wake on the hr;;min;;sec specified.

Wake on LAN

Enable or disable system wake by onboard LAN chip.

Power button delay 4s

This item allows you to enable or disable power button delay 4s.

COM Voltage

This item allows you to select off, 5V or 12V powered COM.

COM Voltage

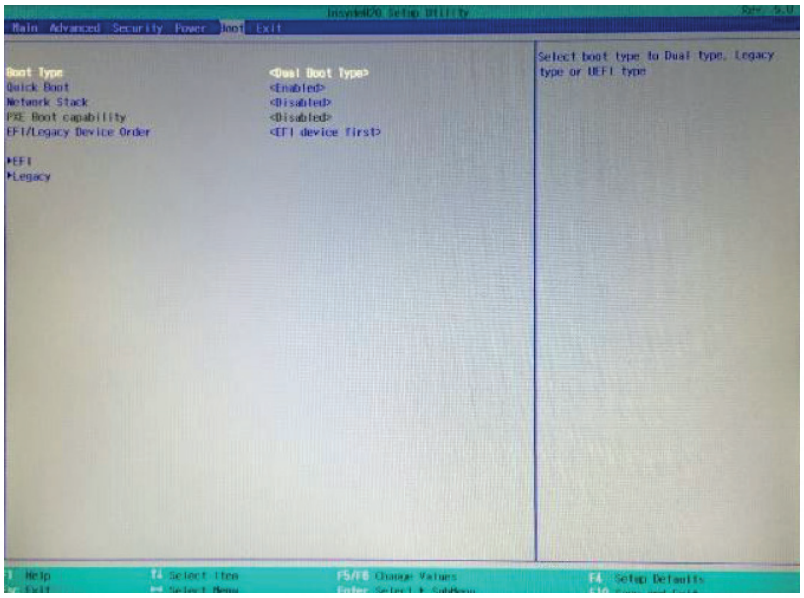
This item allows you to select off, 5V or 12V powered COM.

LVDS Firmware update

This item allows you to enable or disable LVDS Firmware update.

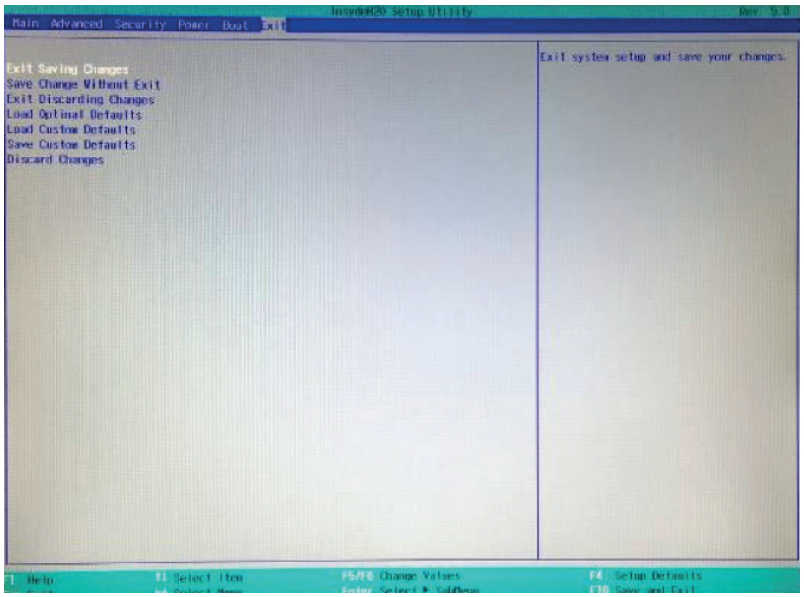
7-4 Boot

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



7-5 Exit

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



8 LCD SURFACE CLEANING

1. 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 computer or laptop.
- ☆ Stroke the cloth across the display in one direction, moving from the top of the display to the bottom.

2. 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.

3. 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