

# 2I380D

**Intel Bay Trail-D J1900 (Quad Core) CPU,  
On Board DDR3L, 3 x Intel LAN / USB / VGA / COM**

## **All-In-One**

**Intel Bay Trail-I D J1900, 2.0 GHz  
VGA, PCIe mini card, M.2 B Key SATA  
Multi-LAN Board, 4 x USB, 2 x COM**

## **CAUTION**

**RISK OF EXPLOSION IF BATTERY IS REPLACED  
BY AN INCORRECT TYPE.  
DISPOSE OF USED BATTERIES ACCORDING  
TO THE INSTRUCTIONS**

**NO. 2I380D\_V0.1**

**Release date: Feb. 10. 2017**

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2I380D

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User Manual edition 0.1, Feb. 10. 2017

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## Warning !

1. Battery  
Batteries on board are consumables.  
The life time of them are not guaranteed.
2. Fless solution with HDD  
The specification & limitation of HDD should be considered carefully when the fanless solution is implemented.
3. We will not give further notification in case of changes of product information and manual.
4. SATA interface does not support Hot SWAP function.
5. There might be a 20% inaccuracy of WDT at room temperature.
6. Please make sure the voltage specification meets the requirement of equipment before plugging in.
7. There are two types of SSD, commercial grade and industrial grade, which provide different read/write speed performance, operation temperature and life cycle. Please contact sales for further information before making orders.
8. Caution! Please notice that the heat dissipation problem could cause the MB system unstable. Please deal with heat dissipation properly when buying single MB set.
9. Please avoid approaching the heat sink area to prevent users from being scalded with fanless products.
10. If users repair, modify or destroy any component of product unauthorizedly, We will not take responsibility or provide warranty anymore.
11. DO NOT apply any other material which may reduce cooling performance onto the thermal pad.
12. It is important to install a system fan toward the CPU to decrease the possibility of overheating / system hanging up issues, or customer is suggested to have a fine cooling system to dissipate heat from CPU.

## \* Hardware Notice Guide

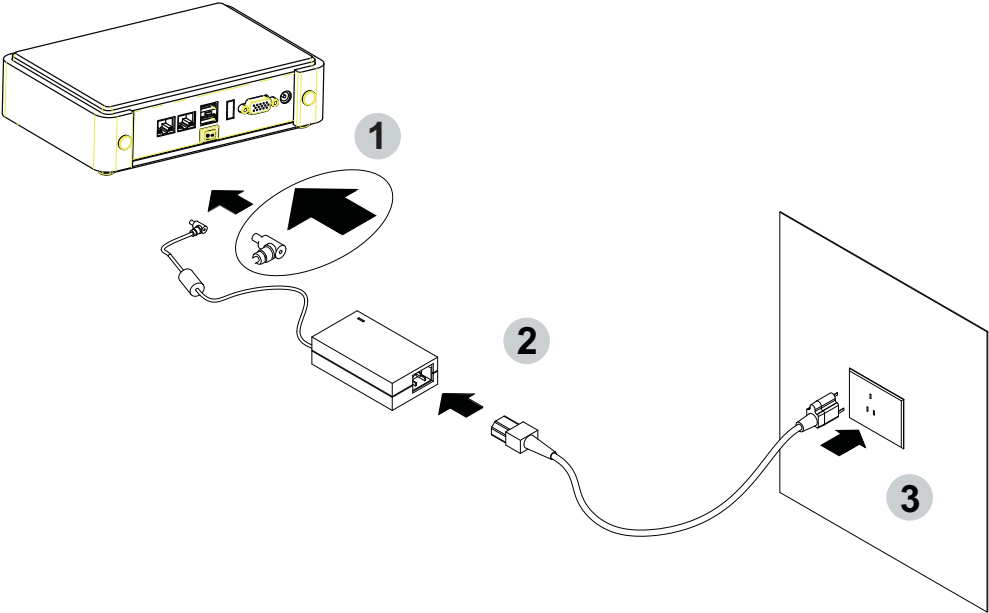
1. Before linking power supply with the motherboard, please attach DC-in adapter to the motherboard first. Then plug the adapter power to AC outlet.  
Always shut down the computer normally before you move the system unit or remove the power supply from the motherboard. Please unplug the DC-in adapter first and then unplug the adapter from the AC outlet.  
Please refer photo 1 as standard procedures.
2. In case of using DIRECT DC-in (without adapter), please check the allowed range for voltage & current of cables. And make sure you have the safety protection for outer issues such as short/broken circuit, overvoltage, surge, lightning strike.
3. In case of using DC-out to an external device, please make sure its voltage and current comply with the motherboard specification.
4. The total power consumption is determined by various conditions (CPU/motherboard type, device, application, etc.). Be cautious to the power cable you use for the system, one with UL standard will be highly recommended.
5. It's highly possible to burn out the CPU if you change/ modify any parts of the CPU cooler.
6. Please wear wrist strap and attach it to a metal part of the system unit before handling a component. You can also touch an object which is ground connected or attached with metal surface if you don't have wrist strap.
7. Please be careful to handle & don't touch the sharp-pointed components on the bottom of PCBA.
8. Remove or change any components from the motherboard will VOID the warranty of the motherboard.
9. Before you install/remove any components or even make any jumper setting on the motherboard, please make sure to disconnect the power supply first. (follow the aforementioned instruction guide)
10. "POWERON after PWR-Fair" function must be used carefully as below:  
When the DC power adaptor runs out of power, unplug it from the DC current;  
Once power returns, plug it back after 5 seconds.  
If there is a power outage, unplug it from the AC current, once power returns, plug it back after 30 seconds. Otherwise it will cause system locked or made a severe damage.

### **Remark 1:**

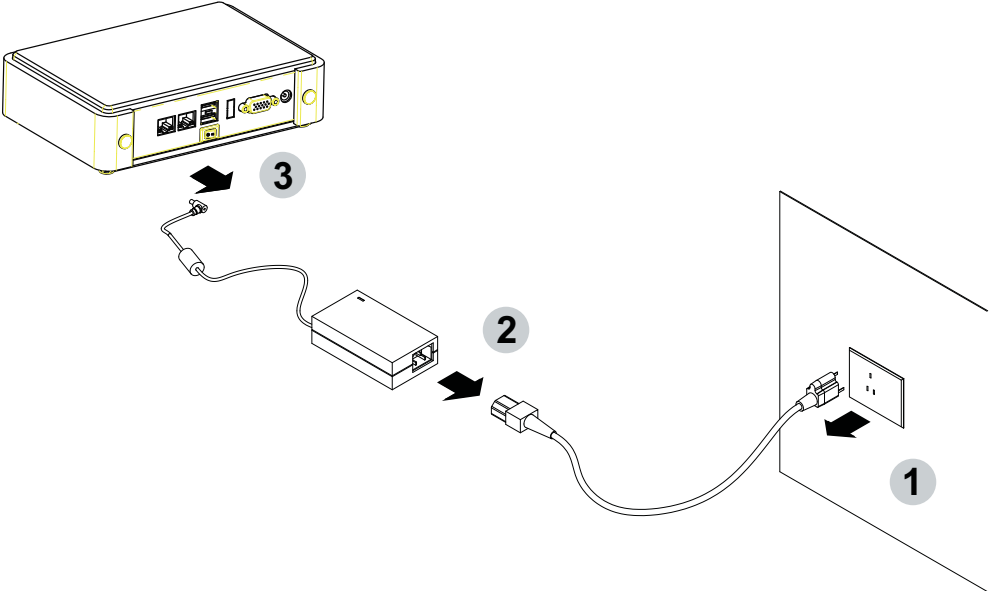
**Always insert / unplug the DC-in horizontally & directly to / from the motherboard. DO NOT twist, it is designed to fit snugly. Moreover, erratic pull / push action might cause an unpredictable damage to the component & system unit.**

# Photo 1

# Insert



# Unplug



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# Chapter-1

## General Information

The 2I380D SBC with built-in 3 x Intel Giga LAN ports, 1 USB 3.0 & 3 USB 2.0 ports as an economic and flexible hardware platform for industrial communication solution. A reliable and efficient communication network which connects all the components of the factory to work together effectively plays an important role of success industrial automation.

LEX 2I380D provides customers a robust, wide range power input and compact computing system with an industrial design and built-in I/O to handle diverse applications.

2I380D is specially designed for advanced embedded VPN or firewall applications where the economical use of power is in high demand. With on board 2GB DDR3L memory

2I380D supports with 3 Intel I210-IT LAN chipset for PCIe x 1 V2.1 interface with 10 / 100 / 1000 Mbps, 1 USB 3.0, 3 USB 2.0 and also offers two COM ports auto selected RS232 / 485 / 422 by BIOS setting (by wafer connection) to meet the needs.

2I380D integrates 1 PCIe mini card for mSATA / PCIe / USB device and 1 M.2(B key 2242) SATA interface for storage..



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## 1-1 Major Feature

1. Intel Bay-Trail J1900 2.00GHz SOC (Quad core)
2. Intel Bay-Trail Integrated Graphics chipset, J1900 688 MHz to 854MHz render clock frequency
3. On board DDR3L SDRAM 2GB Memory, data transfer rate of 1333MT/s
4. Support 3 x 10 / 100 / 1000 Mbps Intel LAN ports
5. Support 2 x RS232 / 485 / 422 selected by BIOS, 1 x USB3.0 and 3 x USB 2.0
6. Support extended 1 x Mini PCIe card for mSATA / PCIe / USB device, 1 x M.2 (B key 2242) SATA interface for storage
7. On board DC +12V / 24V
8. PCB Dimension: 76.25 x 90.8 mm
9. Support VGA display

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## 1-2 Specification

1. SOC: Intel Bay-Trail J1900 2.00GHz (Quad core)
2. Memory: DDR3L SDRAM 2GB Memory, data transfer rate of 1333MT/s
3. Graphics: Intel Bay-Trail Integrated Graphics chipset, J1900 688 MHz to 854MHz render clock frequency
4. I/O Chip: F81801U I/O chipset for 2 ports RS232 / 485 / 422 auto selected
5. 3 Intel I211-AT LAN chipset or Intel I210-IT LAN chipset (Option) with 10 / 100 / 1000 Mbps for PCIe x 1 V2.1 interface
6. 1 type A USB 3.0 and 3 USB 2.0 connector onboard
7. Expansion interface: one full size PCIe Mini card for mSATA / PCIe / USB, 1 M.2 connector for B key 2242
8. Power button & power + HDD LED on board
9. BIOS: Insyde UEFI BIOS
10. Dimension: 76.25 x 90.8 mm
11. Power: On board DC +12V / 24V

## 1-3 Directions for installing the Mini Card

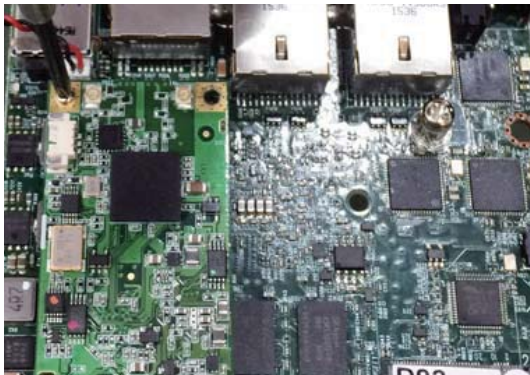
1. Unscrew the screw on the board



2. Plug in the Mini Card in a 45 angle

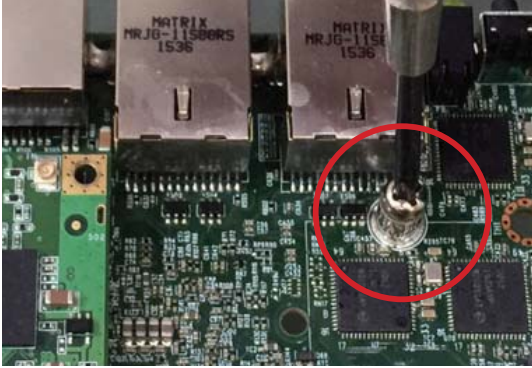


3. Gently push down the Mini Card and screw the screw back.



## 1-4 Directions for installing the M.2B Key Mini Card

1. Unscrew the screw on the board



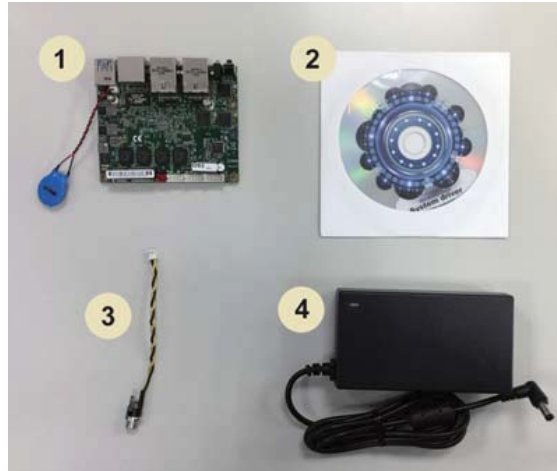
2. Plug in the Mini Card in a 45 angle



3. Gently push down the Mini Card and screw the screw back.



## 1-5 Packing List



	Material Code	Description	Detail Specification	Quantit
1	7G1901-1640001-0	MB-2I380D-D92-001	LLF,2I380D-D92,Rev.:001	1
2	6G8006-2349-0100	LEX Product Driver DVD	LF, Intel Baytrail Driver,Windows 7/8.1 32/64	1
3	6G6003-7329-0100	Power Cable	LF,L=9cm,2.0 1*2/DC JK	1
4	6G5212-0301-0600	30W Power Adapter,12V/2.5A	LF,L Type,EA1024H1(06),EDAC	1

\*The packing list above is for the users who purchase single motherboard. The users who purchase the board with chassis may refer to the packing list in the Assembly Guide.

Please contact with your dealer if any of these items is missing or damaged on delivery. And please keep all parts of the delivery package with packing materials in case if you need to deliver or store the product in the future.

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# Chapter-2

## Hardware Installation

### 2-1 Unpacking Precaution

This chapter provides the information how to install the hardware of 2I380D. Please follow section 1-4, 2-1 and 2-2 to check the delivery package and unpack carefully. Please follow the jumper setting procedure.

**NOTE!**

1. Do not touch the board or any other sensitive components without all necessary anti-static protection.
2. Please pay attention to the voltage limitation of DC-IN12 V 5 %.  
Overuse of DC-IN voltage limitation or change to another power adapter ( not provided with this system ) will VOID warranty.

You should follow these steps to protect the board from the static electric discharge whenever you handle the board:

1. Ground yourself by a grounded wrist strap at all times when you handle the 2I380D.  
Well secure the ALLIGATOR clip of the strap to the end of the shielded wire lead from a grounded object. Please put on and connect the strap before handling the 2I380D for harmlessly discharge any static electricity through the strap.
2. Please use anti-static pad to put any components, parts, or tools on the pad whenever you work on them outside the computer. You may also use the anti-static bag instead of the pad. Please ask your local supplier for necessary parts on anti-static requirement.
3. Do not plug any connector or set any jumper when the power is on.

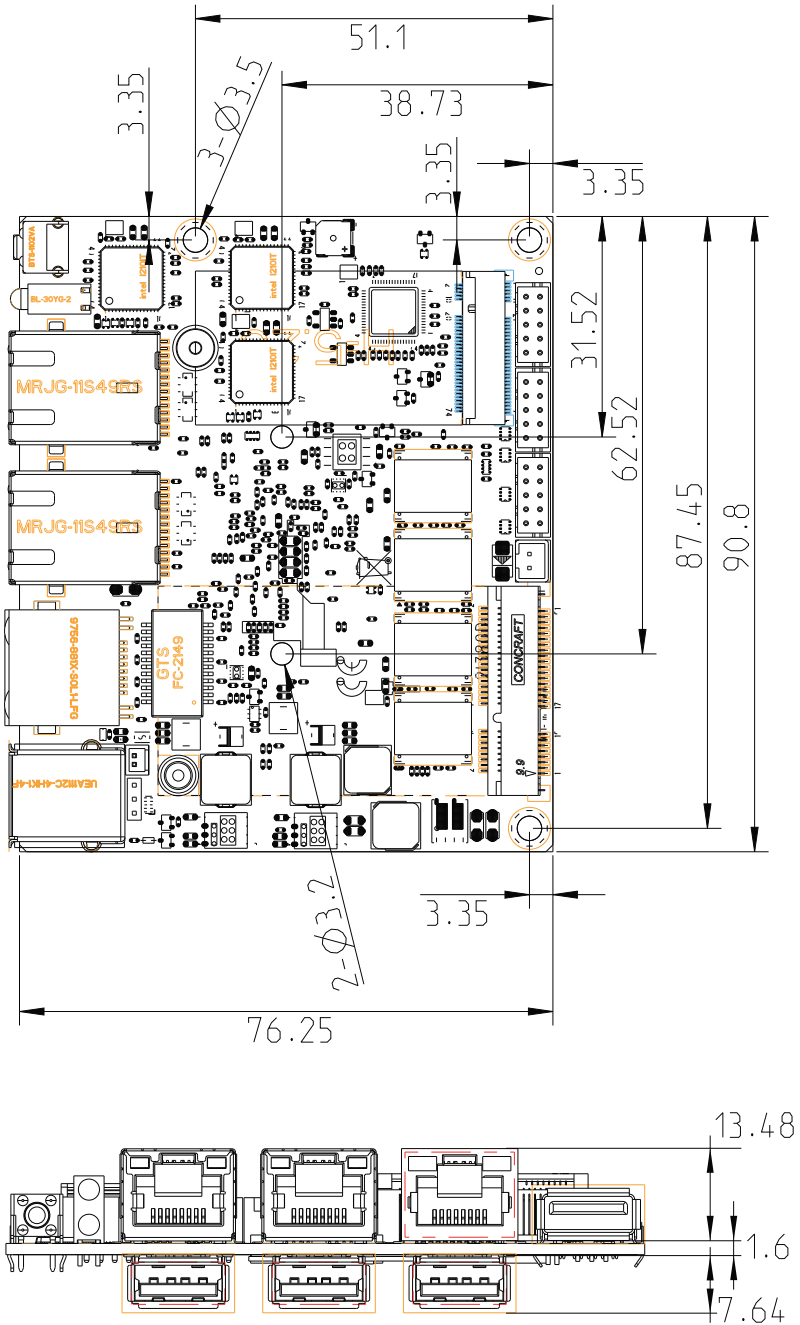
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## 2-2 Unpacking checkup

First of all, please follow all necessary steps of section 2-1 to protect 2I380D from electricity discharge. With reference to section 1-4 please check the delivery package again with following steps:

1. Unpack the 2I380D board and keep all packing material, manual and driver disc etc, do not dispose !
2. Is there any components lose or drops from the board?  
DO NOT CONTINUE TO INSTALL THIS BOARD!  
CONTACT THE DEALER YOU PURCHASED THIS BOARD FROM, IMMEDIATELY.
3. Is there any visible damage on the board?  
DO NOT CONTINUE TO INSTALL THIS BOARD!CONTACT THE DEALER YOU PURCHASED THIS BOARD FROM, IMMEDIATELY.
4. Check your optional parts (i.e. DDR, CF etc.), all necessary jumpers setting to jumper pin-set, and CMOS setup correctly.  
Please also refer to all information of jumper settings in this manual.
5. Check your external devices (i.e. Add-On-Card, Driver Type etc.) for complete add-in or connection and CMOS setup correctly.  
Please also refer to all information of connector connection in this manual.
6. Please keep all necessary manual and driver disc in a good condition for future re-installation if you change your Operating System.

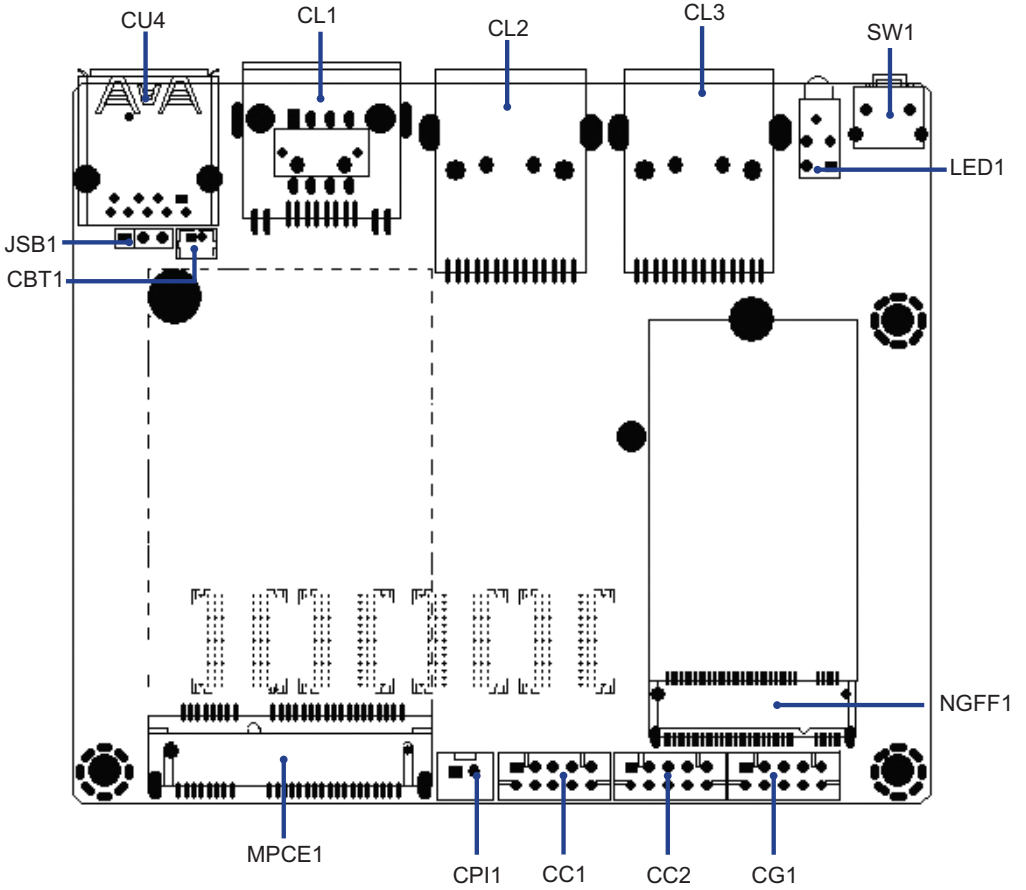
## 2-3 Dimension-2I380D





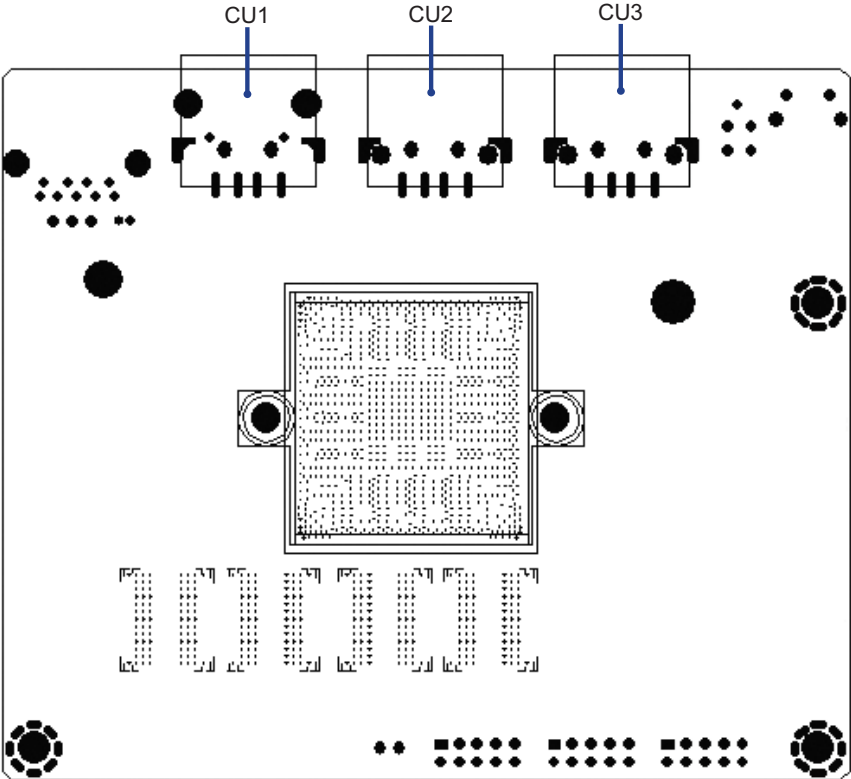
## 2-4 Layout-2I380D- Connector MAP

TOP



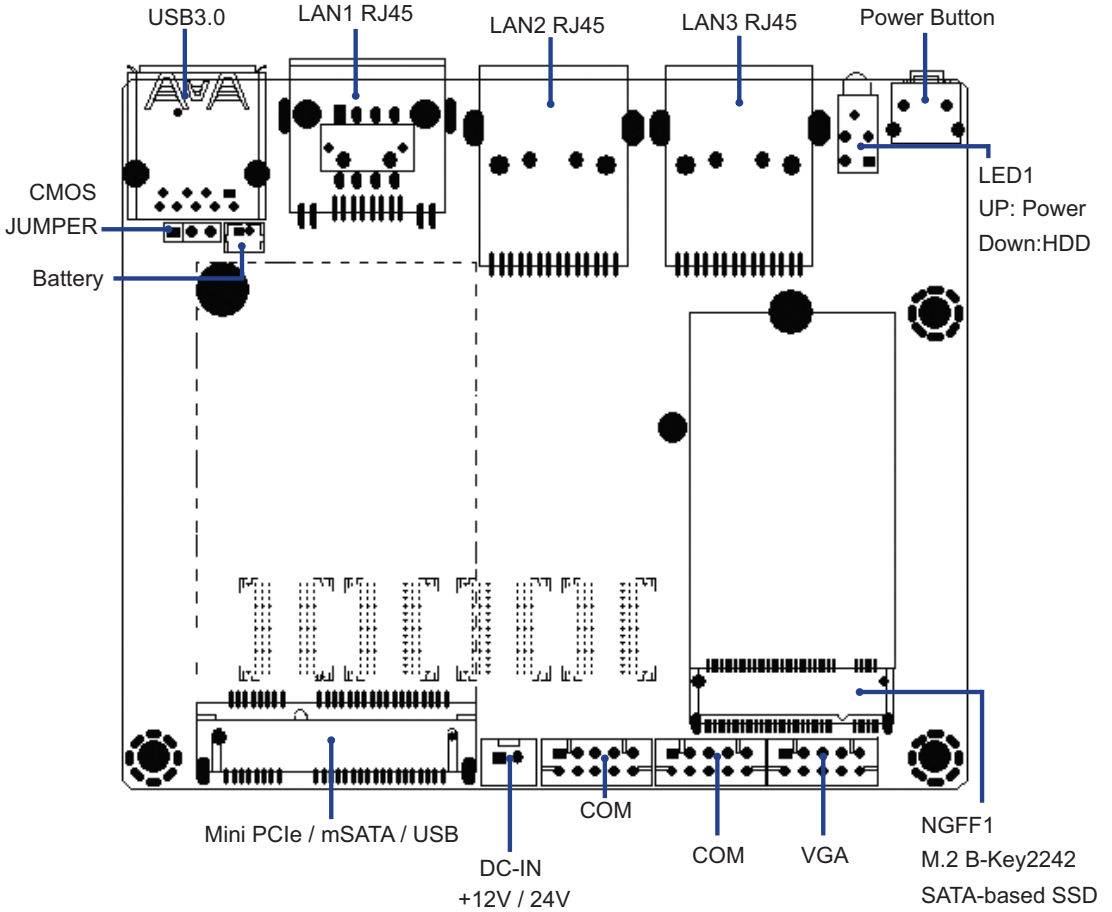
# 2-4 Layout-2I380D- Connector MAP

BOT



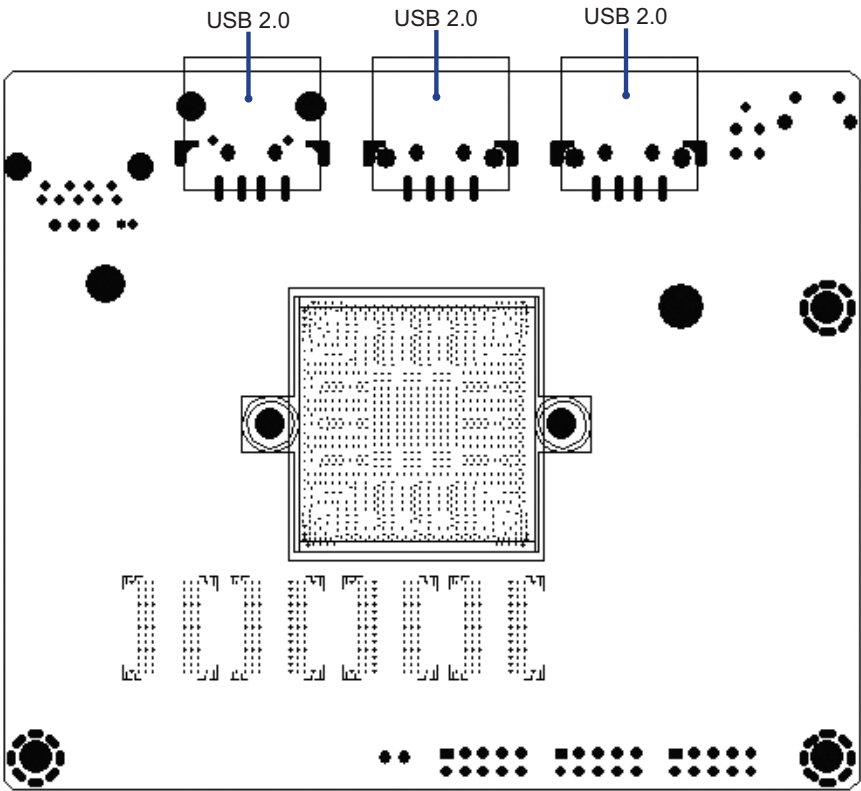
## 2-4-1 Layout-2I380D-Function MAP

### TOP

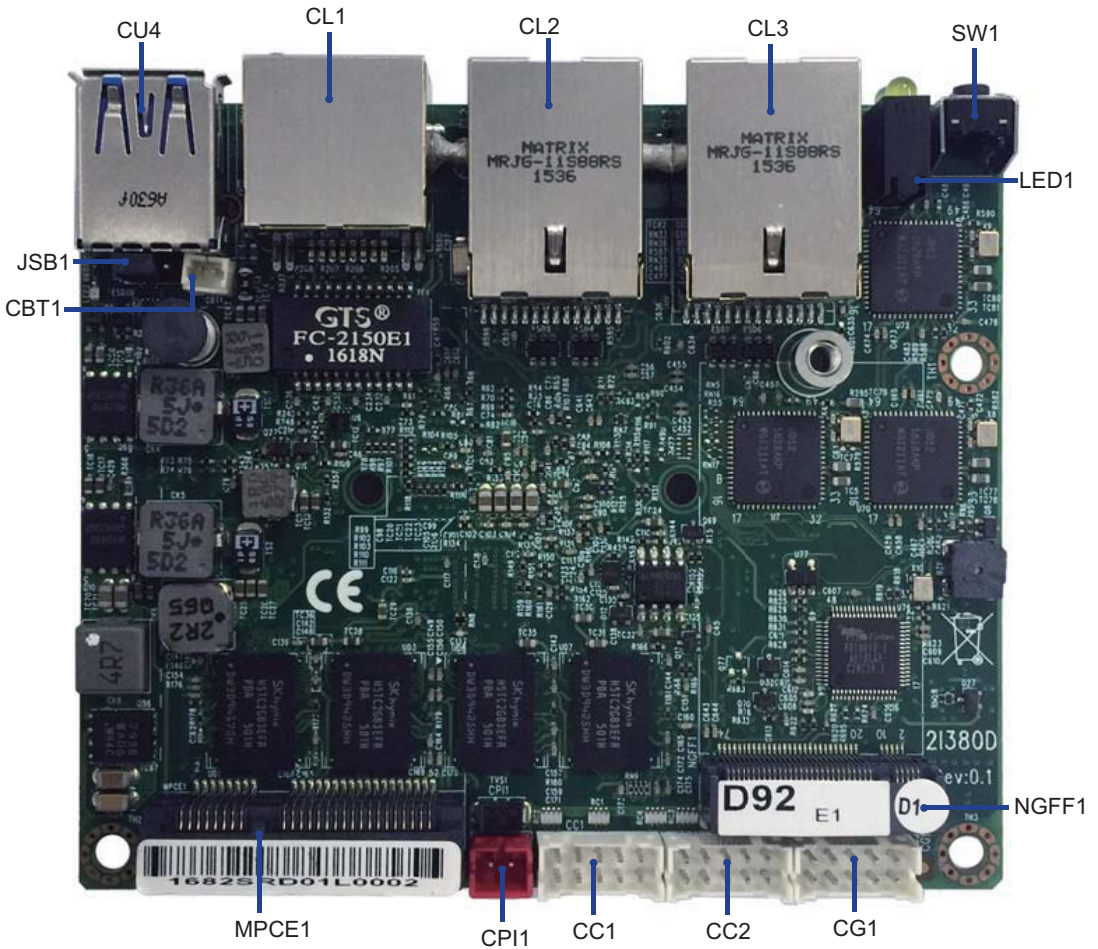


# 2-4-1 Layout-2I380D-Function MAP

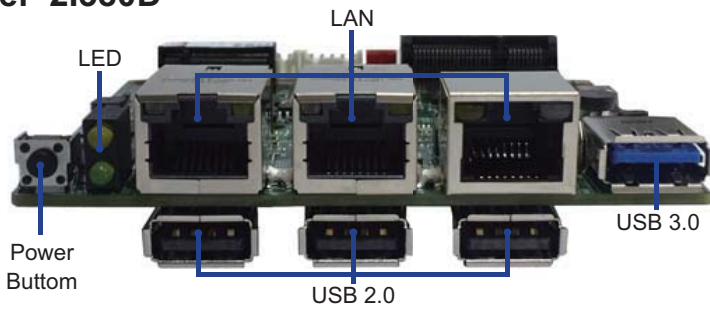
BOT



## 2-5 Diagram- 2I380D



## BACK Panel- 2I380D



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## 2-6 List of Jumpers

JSB1: CMOS DATA clear

## 2-7 Jumper Setting Description

A jumper is ON as a closed circuit with a plastic cap covering two pins. A jumper is OFF as an open circuit without the plastic cap. Some jumpers have three pins, labeled 1, 2, and 3. You could connect either pin 1 and 2 or 2 and 3.

The below figure 2.2 shows the examples of different jumper settings in this manual.

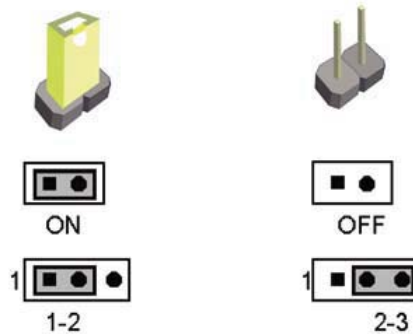


Figure 2.2

All jumpers already have its default setting with the plastic cap inserted as ON, or without the plastic cap as OFF. The default setting may be referred in this manual with a " \* " symbol .

## 2-8 JSB1: CMOS Data Clear

A battery must be used to retain the motherboard configuration in CMOS RAM. Close Pin1 and pin 2 of JSB1 to store the CMOS data.

To clear the CMOS, follow the procedures below:

1. Turn off the system and unplug teh AC power
2. Remove DC 12V power cable from DC 12V power connector
3. Locate JSB1 and close pin 1-2 for few seconds
4. Return to default setting by close pin 1-2
5. Connect DC 12V power cable back to DC 12V Power connector

JSB1	Description
*1-2	Normal set
2-3	CMOS data clear

Note: Normal work is open jumper

Note: Do not clear CMOS unless

- 1. Troubleshooting**
- 2. Forget password**
- 3. You fail over-clocking system**

JSB1



\*Normal



COMS



---

# Chapter-3

## Connection

This chapter provides all necessary information of the peripheral's connections, switches and indicators. Always power off the board before you install the peripherals.

### 3-1 List of Connectors

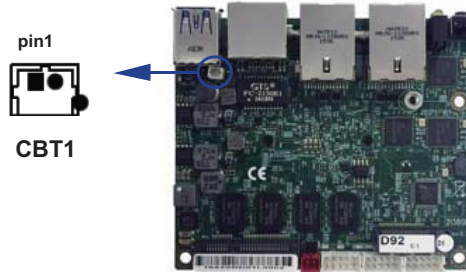
CBT1:	Li 3V battery 2 pin (1.25mm)wafer
CPI1:	+12V power input 2 pin (2.0mm) wafer Red.
CG1:	VGA wafer 2 x 5 pin (2.0mm) wafer
CC1,CC2:	RS485 / RS422 / RS232 2 x 5 pin (2.0mm) wafer
CU1,CU2,CU3:	USB2.0 Type A Connector
CU4:	USB3.0 Type A Connector
CL1,CL2,CL3:	RJ45 LAN Connector
CL11:	LAN 2x4 pin (2.0mm) wafer (option)
MPCE1:	Full size mini card port 1 sockets 52pin
NGFF1:	PCIe M.2 B key slot 2242



### 3-2 Battery wafer

- CBT1: 3V Battery 2pin (1.25mm) wafer

PIN NO.	Description
1	GND
2	VBAT

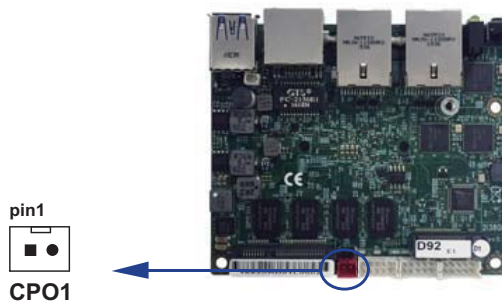


### 3-3 DC Power input

- CPI1: DC Power input (2pin 2.0mm Wafer) (Red)

PIN NO.	Description
1	DC-IN(12V to 24V)
2	GND

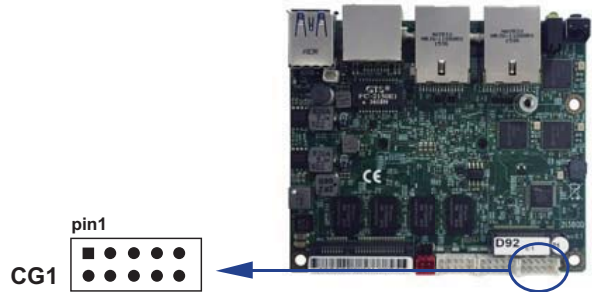
Note: Very important check Dc-in Voltage



### 3-4 VGA connector

●CG1: VGA 2x5pin 2.0mm wafer connector

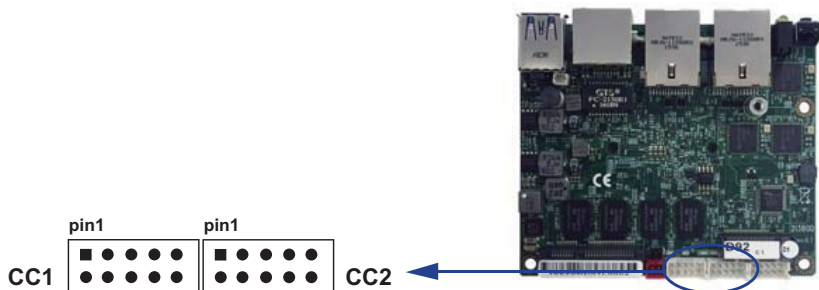
PIN NO.	Description	PIN NO.	Description
1	BULE	2	GND
3	GND	4	DDC CLOCK
5	GREEN	6	V-SYNC
7	GND	8	H-SYNC
9	RED	10	DDC DATA



### 3-5 COM port connector

● CC1 / CC2: Two RS232 ports (2x5pin 2.0mm Wafer)

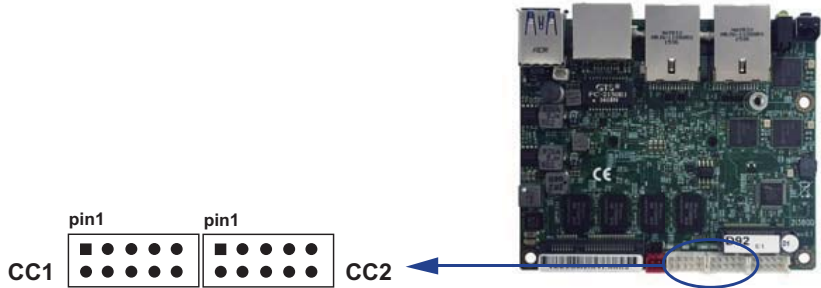
PIN NO.	Description	PIN NO.	Description
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	+5V



● **CC1 / CC2: Two RS485 ports (2x5pin 2.0mm Wafer)**

PIN NO.	Description	PIN NO.	Description
1	RS485 TX-	2	RS485 TX+
3	NC	4	NC
5	GND	6	NC
7	NC	8	NC
9	NC	10	+5V

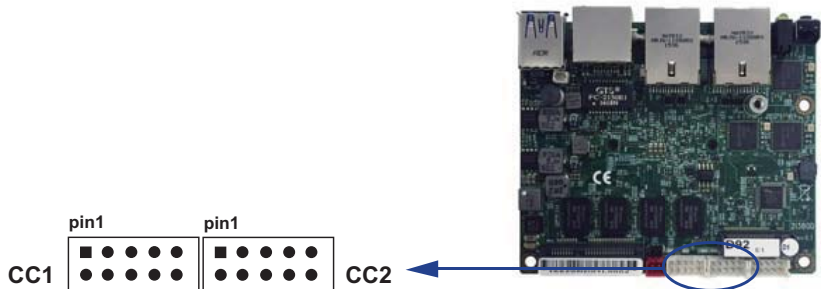
Note: BIOS need setting to RS485 mode.



● **CC1 / CC2: Two RS422 ports (2x5pin 2.0mm Wafer)**

PIN NO.	Description	PIN NO.	Description
1	TX-	2	TX+
3	RX+	4	RX-
5	GND	6	NC
7	NC	8	NC
9	NC	10	+5V

Note: BIOS need setting to RS422 mode.



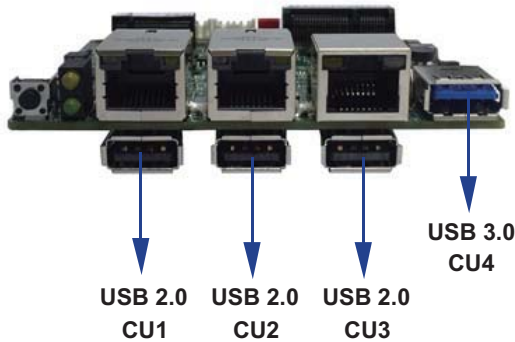
### 3-6 USB 2.0 port

●CU1 / 2 / 3: USB 2.0 Type A Connector

PIN NO.	Description
1	+5V
2	DATA-
3	DATA+
4	GND

●CU4: USB3.0 / 2.0 Type A Connector (USB 2.0 Option)

PIN NO.	Description	PIN NO.	Description
		1	USB 3.0 TX+
1	+5V		
2	USB 2.0 D-	2	USB 3.0 TX-
		3	GND
3	USB 2.0 D+	4	USB 3.0 RX+
4	GND		
		5	USB 3.0 RX-



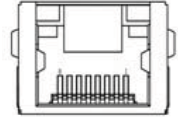
# 3-7 LAN Connector

## ● CL1 / 2 / 3: RJ45 LAN Connector

PIN NO.	Description	PIN NO.	Description
1	TD0+/TX+	5	TD2-/NC
2	TD0-/TX-	6	TD1-/RX-
3	TD1+/RX+	7	TD3+/NC
4	TD2+/NC	8	TD3-/NC

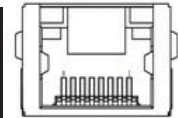
## ●CL1 RJ45 LAN Connector-LED define Giga / 100MB Connector

Back side con	Right		Left
	RED LED	GREEN LED	YELLOW LED
Indicate	GIGA LAN Link(light)	100Mb LAN Link(light)	Active LED Link(Blink)



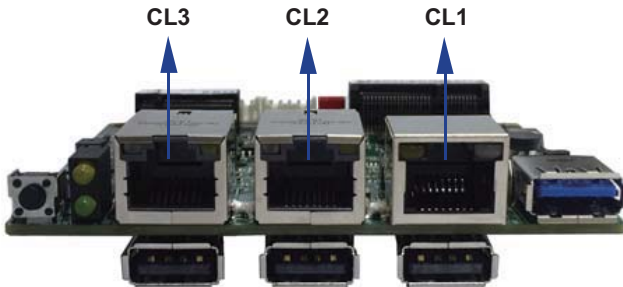
## ●CL2/3 RJ45 LAN Connector-LED define Giga/100MB Connector

Back side con	Left		Right
	RED LED	GREEN LED	YELLOW LED
Indicate	GIGA LAN Link(light)	100Mb LAN Link(light)	Active LED Link(Blink)



## ●CL11 LAN signal out (2x4 pin 2.0 Wafer) (option)

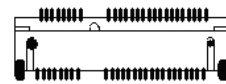
PIN NO.	Description	PIN NO.	Description
1	TR0-	5	TR1-
2	TR0+	6	TR2+
3	TR2+	7	TR3-
4	TR1+	8	TR3+



## 3-8 PCI Express Mini card

### ● MPCE1 Support mSATA /PCIe/USB interface (Full Size)

PIN NO.	Description	PIN NO.	Description
1	NC	2	+3.3V
3	NC	4	GND
5	NC	6	+1.5V
7	NC	8	NC
9	GND	10	NC
11	PCIe-CLK-	12	NC
13	PCIe-CLK+	14	NC
15	GND	16	NC
KEY	KEY	KEY	KEY
17	NC	18	GND
19	NC	20	NC
21	GND	22	RST-
23	PCIe-RX-/mSATA-RX+	24	+3.3V
25	PCIe-RX+/mSATA-RX-	26	GND
27	GND	28	+1.5V
29	GND	30	SMB-CLK
31	PCIe-TX-/mSATA-TX-	32	SMB-DATA
33	PCIe-TX+/mSATA-TX+	34	GND
35	GND	36	USB-DATA-
37	GND	38	USB-DATA+
39	+3.3V	40	GND
41	+3.3V	42	NC
43	NC	44	NC
45	NC	46	NC
47	NC	48	+1.5V
49	NC	50	GND
51	mSATA-Detect	52	+3.3V

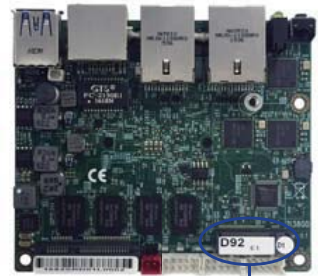


**MPCE1**

## 3-9 PCI Express M.2 B key Mini card

●Support SATA-based SSD Interface (Mini card socket 75pin)

PIN NO.	Description	PIN NO.	Description
1	GND	2	+3.3V
3	GND	4	+3.3V
5	NC	6	NC
7	NC	8	NC
9	NC	10	NC
11	NC		
B KEY			
21	GND	20	NC
23	NC	22	NC
25	NC	24	NC
27	GND	26	NC
29	NC	28	NC
31	NC	30	NC
33	GND	32	NC
35	NC	34	NC
37	NC	36	NC
39	GND	38	DEVSLP
41	mSATA-RX+	40	USB-DATA-
43	mSATA-RX-	42	USB-DATA+
45	GND	44	NC
47	mSATA-TX-	46	NC
49	mSATA-TX+	48	NC
51	GND	50	NC
53	NC	52	NC
55	NC	54	NC
57	GND	56	NC
59	NC	58	NC
61	NC	60	NC
63	NC	62	NC
65	NC	64	NC
67	NC	66	NC
69	GND	68	NC
71	GND	70	+3.3V
73	GND	72	+3.3V
75	GND	74	+3.3V



---

# Chapter-4

## Introduction of BIOS

The BIOS is a program located in the Flash Memory on the motherboard.

This program is a bridge between motherboard and operating system.

When you start the computer, the BIOS program gains control.

The BIOS first operates an auto-diagnostic test called POST (Power on Self Test) for all the necessary hardware, it detects the entire hardware devices and configures the parameters of the hardware synchronization. After these tasks are completed, BIOS will give control of the computer back to operating system (OS). Since the BIOS is the only channel for hardware and software to communicate with, it is the key factor of system stability and of ensuring your system performance at best.

In the BIOS Setup main menu, you can see several options. We will explain these options in the following pages. First, let us see the function keys you may use here:

Press <Esc> to quit the BIOS Setup.

Press ↑↓←→(up, down, left, right) to choose the option you want to confirm or modify.

Press <F10> to save these parameters and to exit the BIOS Setup menu after you complete the setup of BIOS parameters.

Press Page Up/Page Down or +/- keys to modify the BIOS parameters for the active option.

### 4-1 Enter Setup

Power on the computer and press <Del> key immediately to enter Setup.

If the message disappears before your respond but you still wish to enter Setup, restart the system by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart the system by simultaneously pressing <Ctrl>, <Alt> and <Delete> keys.



## 4-2 BIOS Menu Screen & Function Keys

InsydeH20 Setup Utility		Rev. 5.0			
Main	Advanced	Security	Power	Boot	Exit
BIOS Version	2I380D D2				
Build Date	02/08/2017				
Build Time	15:34:19				
Processor Type	Intel(R) Celeron(R) CPU J1900 @ 1.99GHz				
System Memory Speed	1333 MHz				
Cache RAM	2048 KB				
Total Memory	2048 MB				
System Time	[ 00:00:00 ]				
System Date	[ 01/01/2016 ]				
<b>F1 Help</b>	<b>↑ ↓ Select</b>	<b>F5/F6 Change Values</b>	<b>F9 Setup Defaults</b>		
<b>Esc Exit</b>	<b>← Select Menu</b>	<b>Enter Select ► SubMenu</b>	<b>F10 Save and Exit</b>		

In the above BIOS Setup main menu of, you can see several options.

We will explain these options step by step in the following pages of this chapter, but let us first see a short description of the function keys you may use here:

- Press ←→ (left, right) to select screen
- Press ↑↓ (up, down) to choose, in the main menu, the option you want to confirm or to modify.
- Press <Enter> to select.
- Press <+>/<-> or <F5>/<F6> keys when you want to modify the BIOS parameters for the active option.
- [F1]: General help.
- [F9]: Optimized defaults.
- [F10]: Save & Exit.
- Press <Esc> to quit the BIOS Setup.

## 4-3 Getting Help

InsydeH20 Setup Utility				Rev. 5.0	
Main	Advanced	Security	Power	Boot	Exit
<b>[General Help]</b>					
<p>The Setup Utility is a ROM-based configuration utility that displays the system's configuration status and provides users with a tool to set their system parameters. Setting incorrect values may cause system boot failure:</p>					
<p>Load setup default values to recover</p>					
<p>&lt;Left/Right&gt; Select Screen</p>					
<p>&lt;Up/Down&gt; Select Item</p>					
<p>&lt;Enter&gt; Select or Enter SubMenu</p>					
<p>&lt;F9&gt; Load Setup Default</p>					
<p>&lt;F10&gt; Save and Exit</p>					
<p>&lt;ESC&gt; Exit Setup</p>					
<p>&lt;F1&gt; key displays General Help(This Screen)</p>					
<p>Push Enter/ESC -- Leave</p>					
<p>Push PageUp -- previous</p>					
<p>Push PageDown -- Next Page</p>					
<b>F1 Help</b>	↑ ↓ Select	<b>F5/F6 Change Values</b>	<b>F9 Setup Defaults</b>		
<b>Esc Exit</b>	← Select Menu	<b>Enter Select ► SubMenu</b>	<b>F10 Save and Exit</b>		

### Status Page Setup Menu / Option Page Setup Menu

Press F1 to pop up a help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window, press <Esc>.

## 4-4 Menu Bars

There are six menu bars on top of BIOS screen:

**Main** To change system basic configuration

**Advanced** To change system advanced configuration

**Security** Password settings

**Power** PME & Power button settings

**Boot Exit** Save setting, loading and exit options.

User can press the right or left arrow key on the keyboard to switch from menu bar.

The selected one is highlighted.

## 4-5 Main

InsydeH20 Setup Utility		Rev. 5.0			
Main	Advanced	Security	Power	Boot	Exit
BIOS Version	2I380D D2				
Build Date	02/08/2017				
Build Time	15:34:19				
Processor Type	Intel(R) Celeron(R) CPU J1900 @ 1.99GHz				
System Memory Speed	1333 MHz				
Cache RAM	2048 KB				
Total Memory	2048 MB				
System Time	[ 00:00:00 ]				
System Date	[ 01/01/2016 ]				
F1 Help	↑ ↓ Select	F5/F6 Change Values	F9 Setup Defaults		
Esc Exit	← Select Menu	Enter Select ► SubMenu	F10 Save and Exit		

Main menu screen includes some basic system information. Highlight the item and then use the <+> or <-> and numerical keyboard keys to select the value you want in each item.

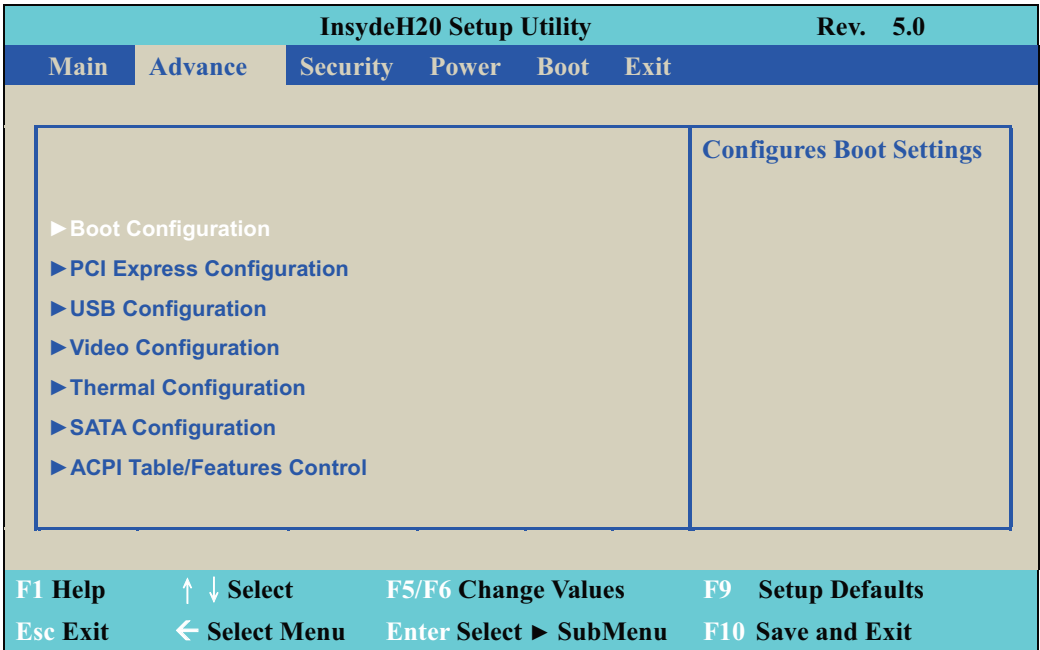
### System Date

Set the Date. Please use [Tab] to switch between data elements.

### System Time

Set the Time. Please use [Tab] to switch between data elements.

## 4-6 Advanced



### Boot Configuration

Please refer section 4-6-1

### PCI Express Configuration

Please refer section 4-6-2

### USB Configuration

Please refer section 4-6-3

### Video Configuration

Please refer section 4-6-4

### Thermal Configuration

Please refer section 4-6-5

### SATA Configuration

Please refer section 4-6-6

### ACPI Table/Features Control

Please refer section 4-6-7

## 4-6-1 Boot Configuration

InsydeH20 Setup Utility		Rev. 5.0	
Advance			
<b>Boot Configuration</b>		Selects Power-on state For Numlock	
Numlock	<On>		
F1 Help	↑ ↓ Select	F5/F6 Change Values	F9 Setup Defaults
Esc Exit	← Select Menu	Enter Select ► SubMenu	F10 Save and Exit

### Numlock

Select Power-on state for Numlock, default is <ON>

## 4-6-2 PCI Express Configuration

InsydeH20 Setup Utility		Rev. 5.0	
Advance			
<b>PCI Express Configuration</b>		Control the PCI Express Root Port.	
► PCE Express Root Port 1			
► PCE Express Root Port 2			
► PCE Express Root Port 3			
► PCE Express Root Port 4			
F1 Help	↑ ↓ Select	F5/F6 Change Values	F9 Setup Defaults
Esc Exit	← Select Menu	Enter Select ► SubMenu	F10 Save and Exit

PCIe 1 / 2 / 3 / 4 configuration settings

## 4-6-2-1 ► PCI Express Root Port 1 / 2 / 3 / 4

InsydeH20 Setup Utility		Rev. 5.0
Advance		
<b>PCI Express Root Port 1</b>		<b>Control the PCI Express Root Port.</b>
PCE Express Root Port 1	<Enable>	
PCIE Port 1 Speed	<Gen1>	
PCIE Port 1 Option ROM	<Disabled>	
<b>F1 Help</b>	<b>↑ ↓ Select</b>	<b>F5/F6 Change Values</b>
<b>Esc Exit</b>	<b>← Select Menu</b>	<b>Enter Select ► SubMenu</b>
		<b>F9 Setup Defaults</b>
		<b>F10 Save and Exit</b>

### Control the PCI Express Root Port.

The optional settings are: Enabled(default), Disabled.

### Select PCI Express port speed.

The optional settings are: Gen1(default), Gen2

### Select PCIE TXE ROM support

The optional settings are: Disabled(default), Enabled

## 4-6-3 USB Configuration

InsydeH20 Setup Utility		Rev. 5.0
Advance		
<b>USB Configuration</b>		<b>Control the PCI Express Root Port.</b>
XHCI Mode	<Best Auto>	
XHCI Controller	<Enabled>	
EHCI Controller	<Enabled>	
<b>F1 Help</b>	<b>↑ ↓ Select</b>	<b>F5/F6 Change Values</b>
<b>Esc Exit</b>	<b>← Select Menu</b>	<b>Enter Select ► SubMenu</b>
		<b>F9 Setup Defaults</b>
		<b>F10 Save and Exit</b>

## XHCI Mode

Mode of operation of xHCI controller.

The optional settings are: Best Auto (default), Enabled, Disabled.

## Mini Card USB2.0

Mini card or USB2.0 select.

The optional settings are: Disabled(default), Enabled.

When Mini card use USB2.0 (Enabled), USB3.0 port only supply USB3.0.

When Mini card do not use USB2.0, USB3.0 port have support USB3.0 / USB2.0.

## 4-6-4 Video Configuration

InsydeH20 Setup Utility		Rev. 5.0
Advance		
<b>Vedio Configuration</b>		<b>Select Hardware CRT Configuration.</b>
Configure CRT as	<Enabled>	
Aperture Size	<256MB>	
IGD – DVMT Pre-Allocated	<64M>	
IGD – DVMT Total Gfx Mem	<256M>	
<b>F1 Help</b>	<b>↑ ↓ Select</b>	<b>F5/F6 Change Values</b>
<b>Esc Exit</b>	<b>← Select Menu</b>	<b>Enter Select ► SubMenu</b>
		<b>F9 Setup Defaults</b>
		<b>F10 Save and Exit</b>

### Configure CRT as

Enable or disable CRT function.

The optional settings are: Enabled (default) or disabled.

### Aperture Size

The optional settings are: 128MB, 256MB (default), 512MB.

### IGD - DVMT Pre - Allocated

Use this item to select DVMT 5.0 pre-allocated (fixed) graphics memory size used by the internal graphics device.

The optional settings are: 64(default)/96/128/160/192/224/256/288/320/352/384/416/448/480/512MB

### IGD - DVMT Total Gfx Mem

Use this item to select DVMT 5.0 total graphics memory size used by the internal graphics device

The optional settings are: 128M, 256M (default), MAX

## 4-6-5 Thermal Configuration

InsydeH20 Setup Utility		Rev. 5.0
Advance		
<b>Thermal Configuration Parameters</b>		<b>This value controls the temperature of The ACPI Critical Trip Point – the point in Which the OS will Shut the system off.</b>  <b>NOTE: 100C is the Plan of Record (POR)</b>  <b>For all Intel mobile procesors.</b>
Critical Trip Point	<110 °C>	
Passive Trip Point	<105 °C>	
<b>F1 Help</b>	<b>↑ ↓ Select</b>	<b>F5/F6 Change Values</b>
<b>Esc Exit</b>	<b>← Select Menu</b>	<b>Enter Select ► SubMenu</b>
		<b>F9 Setup Defaults</b>
		<b>F10 Save and Exit</b>

### Thermal Configuration Parameters

This Value controls the temperature of the ACPI Critical Trip Point, the point in which the OS will shutdown the system.

Critical Trip point is the shutdown temperature, the default value is 110°

The CPU frequency will auto reduce when cpu temperature arrived to passive Trip point.

The default of the passive trip point is 105°



## 4-6-6 SATA Configuration

InsydeH20 Setup Utility		Rev. 5.0	
Advance			
<b>SATA Configuration</b>		<b>DISABLED: Disables SATA Controller.</b>	
SATA Controller	<Enabled>	<b>ENABLED: Enables SATA Controller.</b>	
Chipset SATA Mode	<IDE>		
SATA Speed	<Gen1>		
IDE Mode	<Native IDE>		
SATA Port 0 Connected to an ODD	<Enabled>		
SATA Port 1 Connected to an ODD	<Enabled>		
▶ Serial ATA Port 0	[Not Installed]		
▶ Serial ATA Port 1	[Not Installed]		
<b>F1 Help</b>	<b>↑ ↓ Select</b>	<b>F5/F6 Change Values</b>	<b>F9 Setup Defaults</b>
<b>Esc Exit</b>	<b>← Select Menu</b>	<b>Enter Select ▶ SubMenu</b>	<b>F10 Save and Exit</b>

### SATA Controller

Use this item to Enable or Disable SATA Device.

The optional settings are: Enabled (default) or Disabled

### Chipset SATA Mode

Determine how SATA controller (s) operate.

The optional settings are: IDE Mode (default), AHCI Mode.

### SATA Speed

Indicates the maximum speed the SATA controller can support.

The optional settings: Gen1, Gen2 (default).

### IDE Mode

Legacy IDE or Native IDE MODE,

The optional settings: Legacy IDE or Native IDE (default)

### SATA Port 1 Connected to an ODD

Use this item to Enable or Disable SATA Port1 ODD function

The optional settings are: Enabled (default) or Disable

### SATA Port 1 Connected to an ODD

Use this item to Enable or Disable SATA Port1 ODD function

The optional settings are: Enabled (default) or Disable

## 4-6-7 ACPI Table / Features Control

InsydeH20 Setup Utility		Rev. 5.0
Advance		
ACPI Table/Features Control		Enable/Disable ACPI S3 State
DSDT – ACPI S3 <Disabled>		
F1 Help	↑ ↓ Select	F5/F6 Change Values
Esc Exit	← Select Menu	Enter Select ► SubMenu
		F9 Setup Defaults
		F10 Save and Exit

### ACPI Table / Features Control

Select ACPI sleep state the system will enter when the SUSPEND button is pressed.

The optional settings: DSDT - ACPI S3 (Suspend to RAM), Enabled or Disabled (default)

## 4-7 Security

InsydeH20 Setup Utility				Rev. 5.0	
Main	Advanced	Security	Power	Boot	Exit
Supervisor Password		Not Install		Install or Change the password and the length of password must be greater than one character.	
Set Supervisor Password					
F1 Help	↑ ↓ Select	F5/F6 Change Values	F9 Setup Defaults		
Esc Exit	← Select Menu	Enter Select ► SubMenu	F10 Save and Exit		

### Supervisor Password

To set up an Supervisor password

1. Select Supervisor Password.

The screen then pops up an Create New Password dialog.

2. Enter your desired password that is no less than 3 characters and no more than 10 characters.
3. Hit [Enter] key to submit.

## 4-8 Power

InsydeH20 Setup Utility				Rev. 5.0	
Main	Advanced	Security	Power	Boot	Exit
Wake on LAN		<Disabled>		Determines the action take when the system power is off and a PCI Power Management Enable wake up event occurs.	
Wake on USB		<Disabled>			
F1 Help	↑ ↓ Select	F5/F6 Change Values	F9 Setup Defaults		
Esc Exit	← Select Menu	Enter Select ► SubMenu	F10 Save and Exit		

## Wake on LAN

Determines the action taken when the system power is off and the PCI power management Enable wake up event occurs.

The optional settings: S3, S5, S3 / S5, Disabled (default)

## Wake on USB

The optional settings: S3, Disabled (default)

## 4-9 Boot

InsydeH20 Setup Utility		Rev. 5.0			
Main	Advanced	Security	Power	Boot	Exit
Boot Type	<Dual Boot Type>		Select boot type to Dual type, Legacy type or UEFI type.		
Quiet Boot	<Enabled>				
EFI/Legacy Device Order	<Legacy device first>				
▶ EFI					
▶ Legacy					
F1 Help	↑ ↓ Select	F5/F6 Change Values	F9 Setup Defaults		
Esc Exit	← Select Menu	Enter Select ▶ SubMenu	F10 Save and Exit		

### Boot type

Select boot type for Dual type, Legacy boot type or UEFI boot type, default is Dual boot type

### Quiet Boot

The optional settings are: Enabled (default), Disabled.

### EFI / Legacy Device order

Determine EFI device first or legacy device first.

The optional settings: EFI device first, Legacy device first (default), smart mode

## 4-9-1 Legacy

InsydeH20 Setup Utility		Rev. 5.0
<b>Boot</b>		
<b>Boot Device Priority</b>		<b>Select Normal Boot Option Priority or Advance Boot Option Priority.</b>
Normal Boot Menu	<Normal>	
▶ Boot Type Order		
▶ USB		
<b>F1 Help</b>	<b>↑ ↓ Select</b>	<b>F5/F6 Change Values</b>
<b>Esc Exit</b>	<b>← Select Menu</b>	<b>Enter Select ▶ SubMenu</b>
		<b>F9 Setup Defaults</b>
		<b>F10 Save and Exit</b>

### Normal Boot Menu

Select Normal Boot option priority or Advance Boot option priority.

The optional settings: Normal (default), Advance

## 4-9-2 Boot Type Order

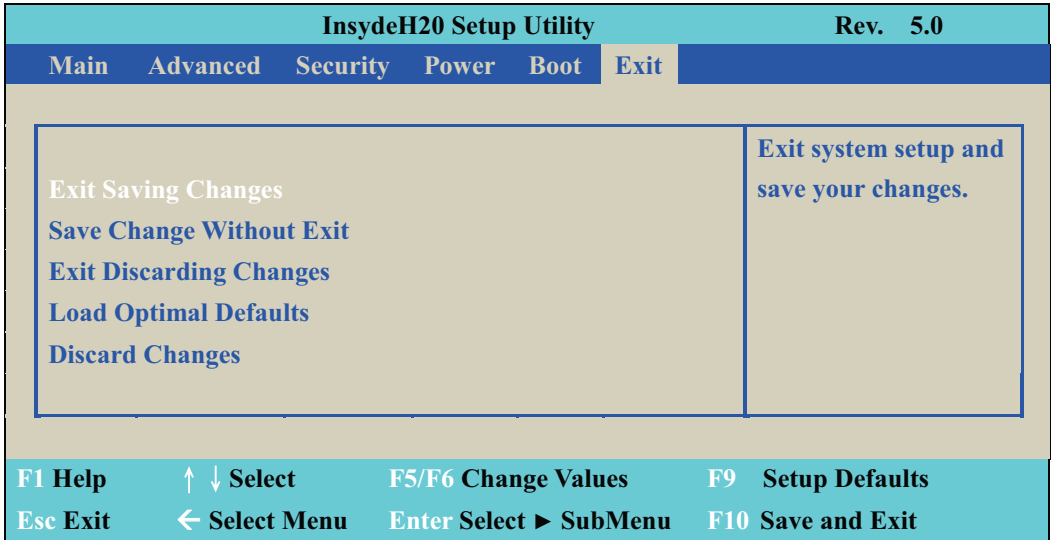
InsydeH20 Setup Utility		Rev. 5.0
<b>Boot</b>		
<b>Boot Type Order</b>		
USB		
Hard Disk Drive		
CD/DVD-ROM Drive		
Others		
<b>F1 Help</b>	<b>↑ ↓ Select</b>	<b>F5/F6 Change Values</b>
<b>Esc Exit</b>	<b>← Select Menu</b>	<b>Enter Select ▶ SubMenu</b>
		<b>F9 Setup Defaults</b>
		<b>F10 Save and Exit</b>

### Boot Type Order

Setting the boot type priority.

The default settings is 1. USB drive 2. Hard Disk Drive 3. CD / DVD ROM drive 4. Others

## 4-10 EXIT



### Exit Saving Changes

This item allows user to reset the system after saving the changes.

### Save Change Without Exit

This item allows user to saving the changes but doesn't restart.

### Exit Discard Changes

This item allows user restart the system but no saving the changes

### Load Optimal Default

Use this item to restore the optimal default for all the setup options.

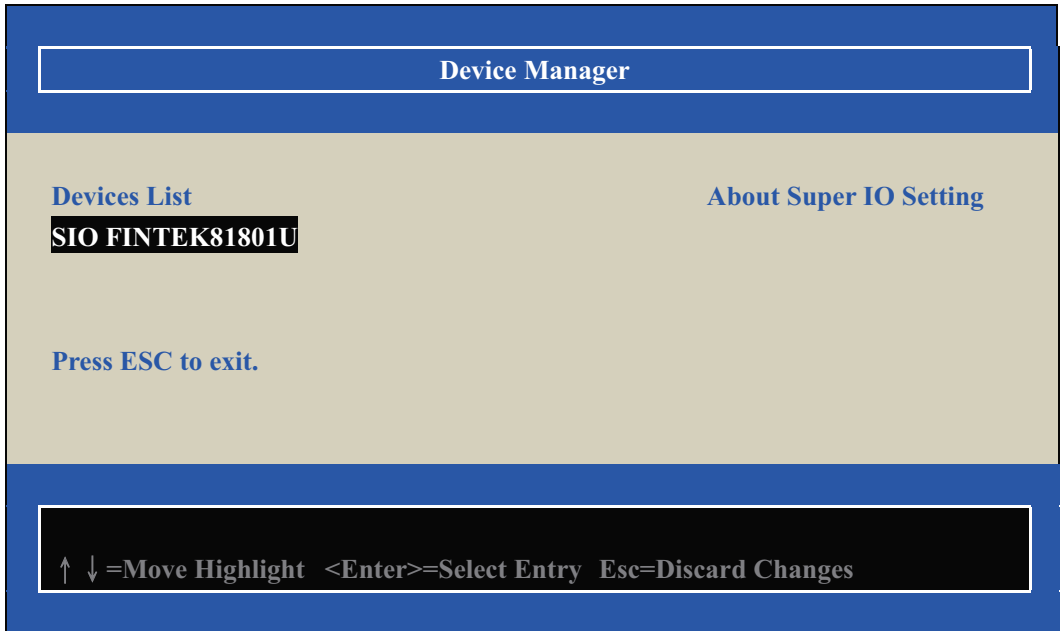
### Discard Changes

Use this item to cancel all the setup options.

---

## 4-11 Device Manager

Please press the key F10 when boot up to go into the Device Manager menu



### Serial Port 1/2 Configuration

Please refer section 4-11-1

## 4-11-1 SIO FINTEK81801U

### SIO FINTEK81801U

#### Serial Port 1

Base I/O Address

<Enable>

<3F8>

Interrupt

<IRQ4>

Serial Mode

<RS232 driver>

#### Serial Port 2

Base I/O Address

<Enable>

<2F8>

Interrupt

<IRQ3>

Serial Mode

<RS232 driver>

Power Fail

<Keep State>

Hardware Monitor

Configure Serial port  
using options : Disable No  
configuration [Enable]  
User configuration  
[Auto] EFI/OS chooses  
configuration

F9=Reset to Defaults

↑ ↓ =Move Highlight <Enter>=Select Entry Esc=Discard Changes

#### Serial Port 1/2

Use this item to enable or disable serial port (COM1 or COM2).

The optional settings are: Enabled (default), Disabled.

#### Serial Port 1 Base IO Address / Interrupt / Serial Mode

Use this item to select an optimal setting for super IO device.

The optional settings are:

IO=3F8h; IRQ=4 (default)

IO=3E8h; IRQ=3,4

IO=2E8h; IRQ=3,4

IO=2F8h; IRQ=3,4

#### Serial Port 2 Base IO Address / Interrupt / Serial Mode

Use this item to select an optimal setting for super IO device.

The optional settings are:

IO=2F8h; IRQ=3 (default)

IO=2E8h; IRQ=3,4

IO=3E8h; IRQ=3,4

IO=3F8h; IRQ=3,4



## Serial Mode

RS232 driver (default): When hardware select to RS232 or RS422 mode, please enter to RS232 driver.  
RS485 driver: When hardware select to RS485 mode, please enter to RS485 driver. It is the auto flow function for RS485.

## Power Failure

This item specifies whether your system will reboot after a power failure or interrupt occurs.

[Keep state] Restores the system to the status before power failure or interrupt occurred. (default)

[Always on] Leaves the computer in the power on state.

[Always off] Leaves the computer in the power off state.

## 4-11-2 Hardware Monitor

**Hardware Monitor**

**Hardware Monitor**

**Voltage**

VCC3	3.344 V
VCORE	0.560 V
VGFX	0.920 V
VBAT	3.232V

**Temperature**

CPU (°C/°F)	77°C/170°F
System (°C/°F)	55°C/131°F

Press [Enter] to view PC health status.

This section shows the status of your CPU, Fan, and overall system.

This is only available when there is Hardware Monitor function onboard.

---

# Chapter-5

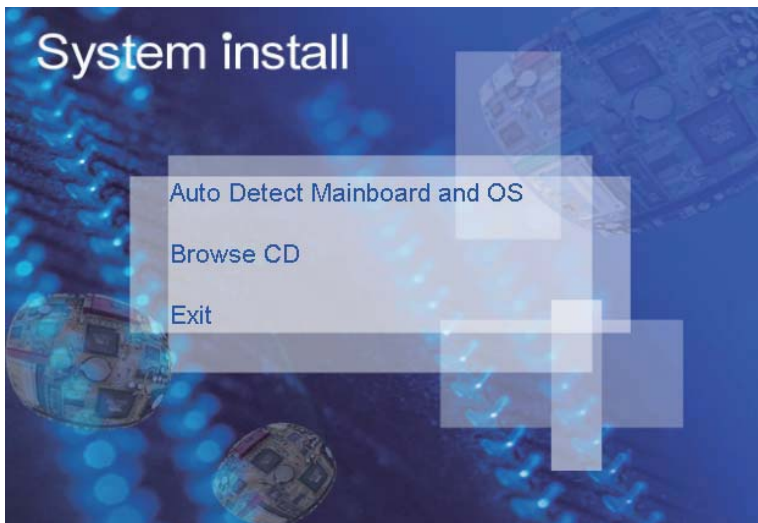
## DRIVER INSTALLATION

There is a system installation DVD in the package. This DVD does not only include all the drivers you need but also some other free application programs and utility programs.

In addition, this DVD also includes an auto detect software telling you which hardware is installed and which driver is needed so that your system can function properly. We call this auto detect software SYSTEM INSTALL.

### **SYSTEM INSTALL Supports Windows 7(32bit/64bit) / Windows 8/8.1(32bit/64bit) & Windows 10 (64 bit)**

Insert the DVD into your DVD-ROM drive and the SYSTEM INSTALL menu should appear as below. If the menu does not appear, double-click MY COMPUTER and double-click DVD-ROM drive or click START, click RUN, and type X:\SETUP.EXE (assuming your DVD-ROM drive is X).



### **Make your selection from SYSTEM INSTALL menu:**

1. Auto Detect Main board and OS to AUTOMATIC DRIVER INSTALLATION menu
2. Browse DVD to view the contents of the DVD
3. Exit to exit SYSTEM INSTALL menu

*Bay Trail for Windows 8.1 (x64)*

1. INF

4. LAN

2. VGA

5. TXE

3. HD Audio

6. MBI

[Back to previous page](#)

## *Bay Trail for Windows 7 (x64)*

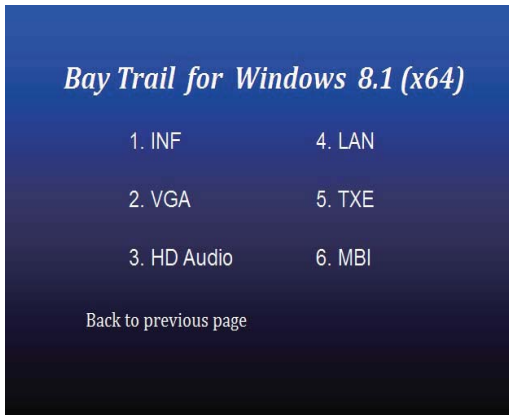
- |              |              |
|--------------|--------------|
| 1. INF       | 5. HD Audio  |
| 2. VGA       | 6. LAN       |
| 3. Serial IO | 7. TXE Patch |
| 4. xHCI      | 8. TXE       |

[Back to previous page](#)

- |              |  |
|--------------|--|
| 1. INF       | Install Intel Baytrail chipset driver              |
| 2. VGA       | Install onboard VGA driver                         |
| 3. Serial IO | Install Serial IO driver (FOR Win 7 only)          |
| 4. xHCI      | Install Intel USB 3.0 xHCI driver (FOR Win 7 only) |
| 5. HD Audio  | Install HD Audio Codec driver                      |
| 6. MBI       | Install MBI driver (FOR Win 8/8.1 only)            |
| 7. LAN       | To the LAN driver Readme file                      |
| 8. TXE Patch | Install Intel TXE patch (FOR Win 7 only)           |
| 9. TXE       | Install Intel TXE driver                           |

Each selection is illustrated below:

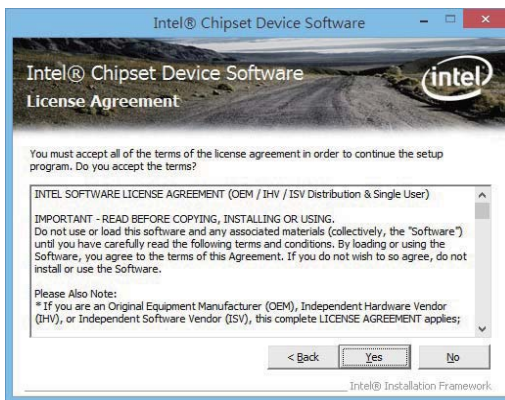
## 5-1 INF Install Intel Baytrail Chipset Driver (example for WIN8 64bit)



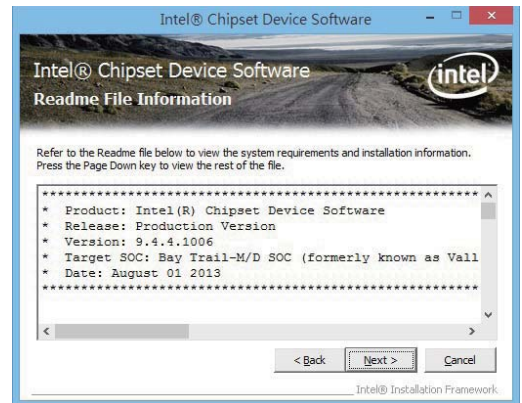
1. At the "AUTOMATIC DRIVER INSTALLATION menu" screen, click "INF".



2. At the "Intel® Chipset Device Software" screen, click "Next".



3. At the "License Agreement" screen, click "Yes"



4. At the "Readme File Information" screen, Click "Next".



5. Click "Next"



6. Click "Finish" & restart computer.

**NOTE: SYSTEM INSTALL will auto detect file path**

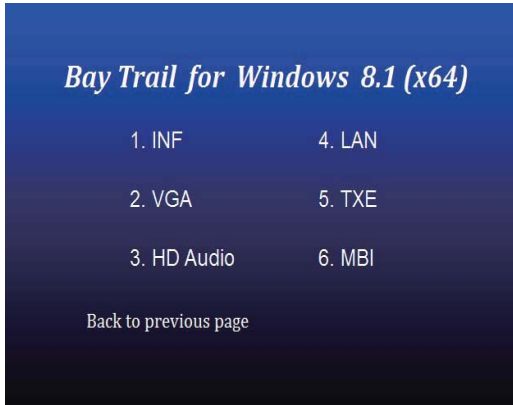
**For Windows 7 64 / 32-bit,**

**X:\driver\INTEL\BAY\INF\WIN7\infinst\_autol.exe**

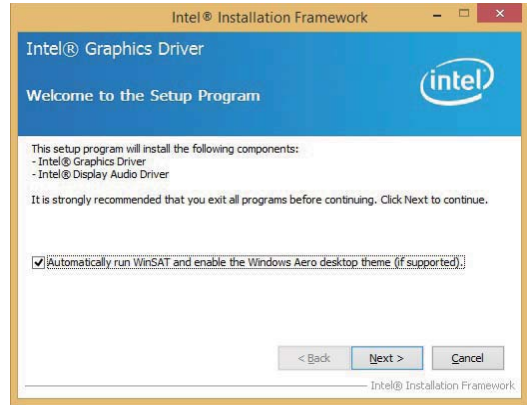
**For Windows 8 / 8.1 32 / 64-bit**

**X:\driver\INTEL\BAY\INF\WIN\_8\_64\infinst\_autol.exe**

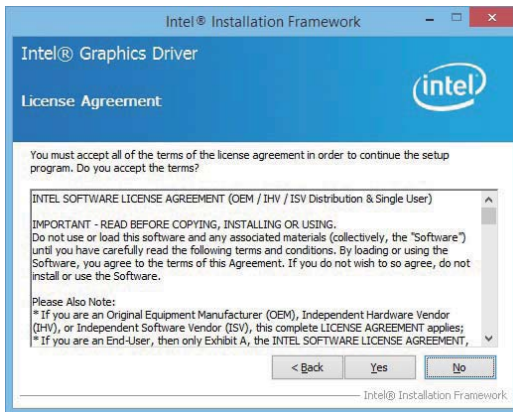
## 5-2 VGA Install Intel Baytrail VGA Driver (example for WIN8 64bit)



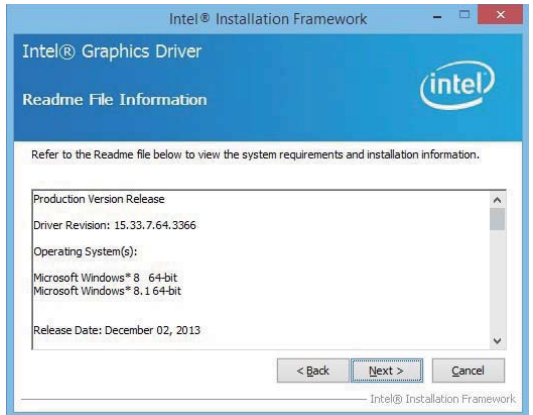
1. At the "AUTOMATIC DRIVER INSTALLATION menu"screen, click "VGA".



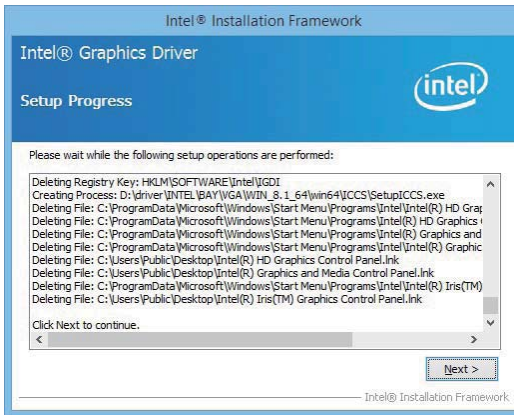
2. At the "Welcome to the Setup Program screen, Click "Next".



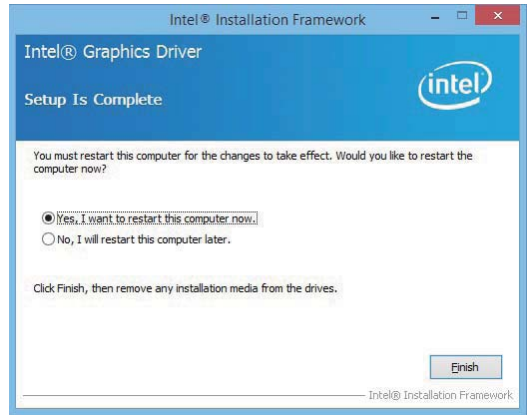
3. At the "License Agreement" screen, Click "Yes"



4. At the "Readme File Information" screen, Click "Next"



5. At the "Setup Progress" screen,  
Click "Next".



6. Click "Finish" to restart computer

**NOTE: SYSTEM INSTALL will auto detect file path**

**For Windows 7 32-bit,**

**X:\driver\INTEL\BAY\VGA\WIN\_7\_32\Setup.exe**

**For Windows 7 64-bit**

**X:\driver\INTEL\BAY\VGA\WIN\_7\_64\Setup.exe**

**For Windows 8 / Windows 8.1 32-bit**

**X:\driver\INTEL\BAY\VGA\WIN\_8\_32\Setup.exe**

**For Windows 8 / Windows 8.1 64-bit**

**X:\driver\INTEL\BAY\VGA\WIN\_8\_64\Setup.exe**



## 5-3 Serial IO Install Driver Baytrail Serial IO Driver

*(FOR Windows 7 only)*

**Bay Trail for Windows 7 (x64)**

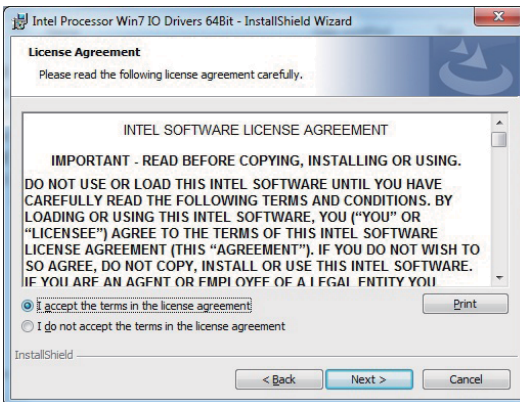
1. INF	5. HD Audio
2. VGA	6. LAN
3. Serial IO	7. TXE Patch
4. xHCI	8. TXE

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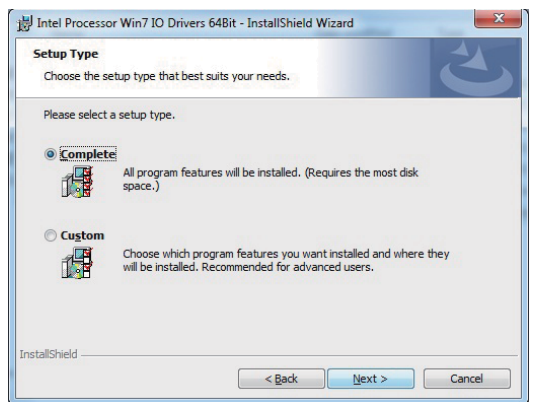


1. At the "AUTOMATIC DRIVER INSTALLATION menu" screen, click "Serial IO"

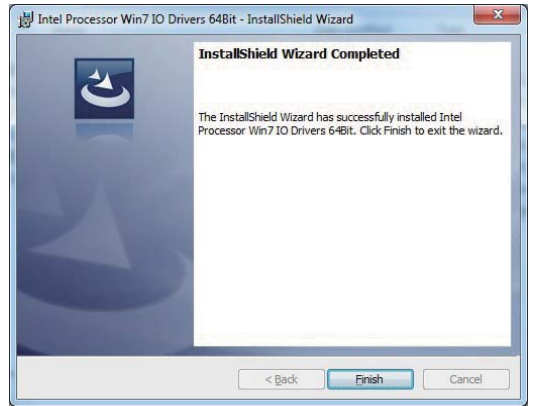
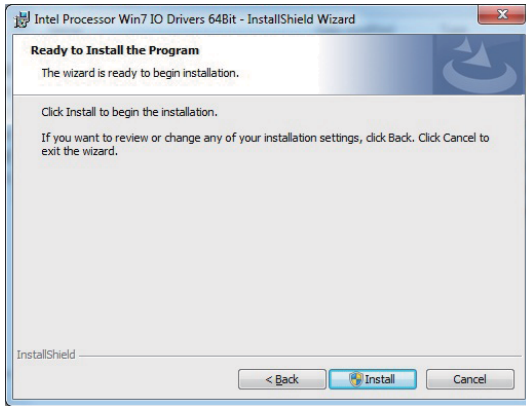
2. At the "Welcome to the Setup Program screen, Click "Next".



3. At the "License Agreement" screen, Click "Yes"



4. At the "Setup type" screen, select "complete" and Click "Next".



5. At the "Ready to install the program" screen, 6. Click "Finish" and restart computer  
Click "Install"

**NOTE: SYSTEM INSTALL will auto detect file path**

**For Windows 7 32-bit,**

**X:\driver\INTEL\BAY\SERIALIO\WIN7\_32Bit.msi**

**For Windows 7 64-bit**

**X:\driver\INTEL\BAY\SERIALIO\Win7\_64Bit.msi**

## 5-4 xHCI Install Intel USB 3.0 xHCI Driver

(FOR Windows 7 only)

*Bay Trail for Windows 7 (x64)*

1. INF	5. HD Audio
2. VGA	6. LAN
3. Serial IO	7. TXE Patch
4. xHCI	8. TXE

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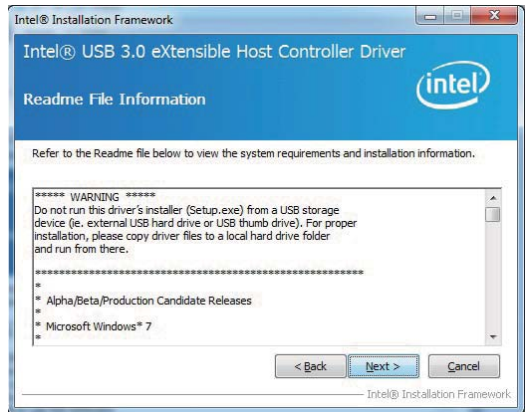


1. At the "AUTOMATIC DRIVER INSTALLATION menu", screen, click "xHCI".

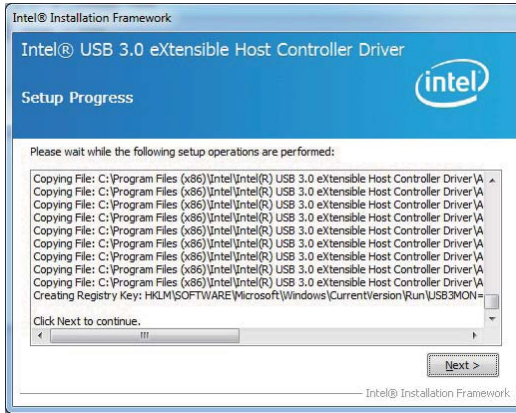
2. At the "Welcome to the Setup Program screen, Click "Next".



3. At the "License Agreement" screen, Click "Yes"



4. At the "Readme File Information" screen, Click "Next"



5. At the "Setup Progress" screen, Click "Next" 6. Click "Finish" to restart computer.

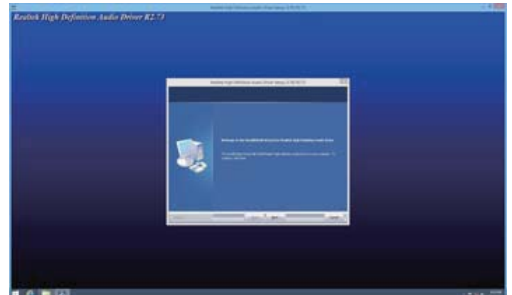
**NOTE: SYSTEM INSTALL** will auto detect file path

For Windows 7 32 / 64-bit,

X:\driver\INTEL\BAY\XHCI\Driver\_Installer\Setup.exe

## 5-5 HD Audio Install High Definition Audio Driver

*(example for WIN8 64bit)*



1. At the "AUTOMATIC DRIVER INSTALLATION menu", click "HD Audio"

2. Click "Next".



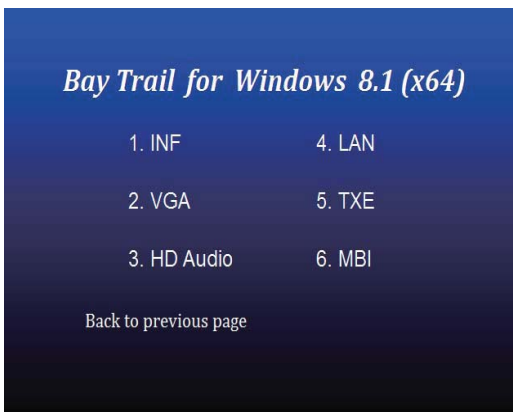
3. Click "Finish" to restart computer

**NOTE: SYSTEM INSTALL will auto detect file path**

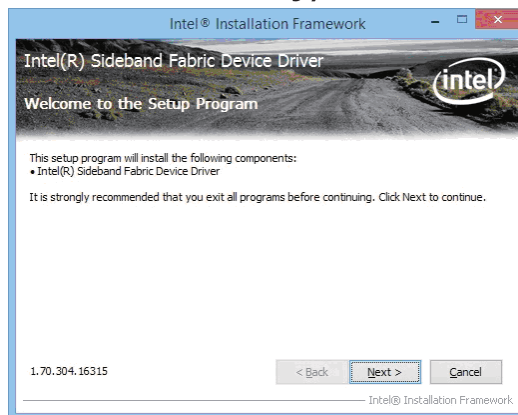
**For Windows 7 32 / 64-bit, Windows 8/8.1 32 / 64-bit**

**X:\driver\INTEL\BAY\SOUND\Win7\_Win8\_Win81\_R273.exe**

## 5-6 MBI Install Intel MBI Driver (FOR Win 8/8.1 only)



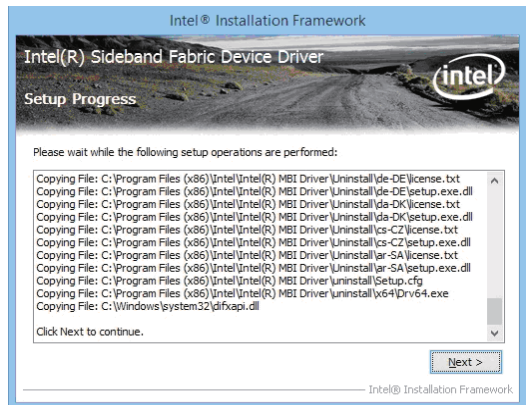
1. At the "AUTOMATIC DRIVER INSTALLATION menu", click "HD Audio"



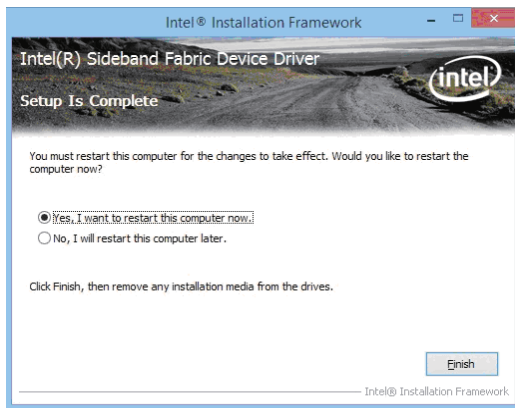
2. At the "Welcome to the Setup Programscreen, Click "Next".



3. At the "License Agreement" screen, Click "Yes".



4. At the "Setup Progress" screen, Click "Next".

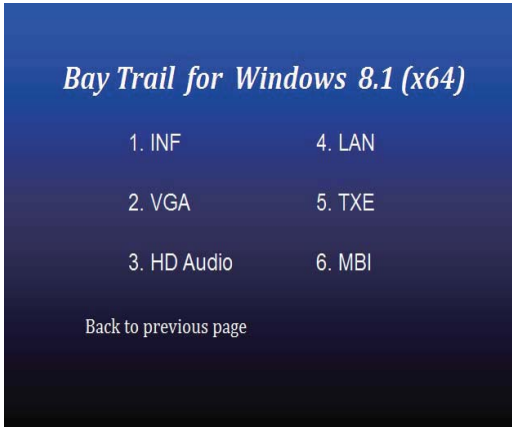


5. Click "Finish" to restart computer.

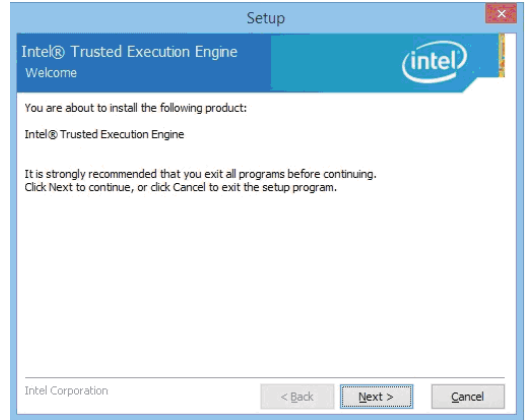
**NOTE: SYSTEM INSTALL will auto detect file path  
For Windows 8/8.1 32 / 64-bit,  
X:\driver\INTEL\BAY\MBI\Setup.exe**

## 5-7 TXE Install Intel TXE driver

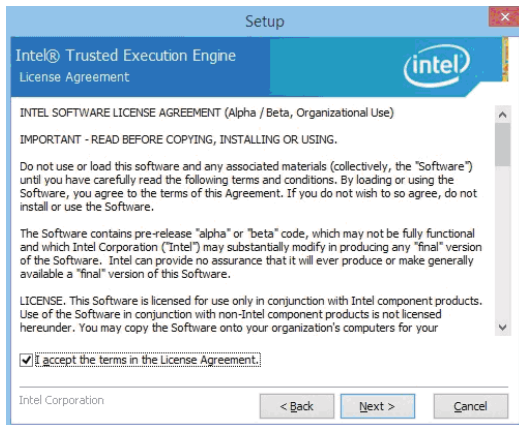
### 5-7-1 TXE Install for WIN8 / WIN8.1



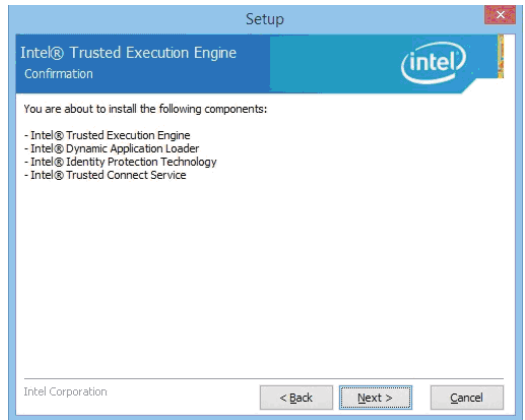
1. At the "AUTOMATIC DRIVER INSTALLATION menu", click "TXE"



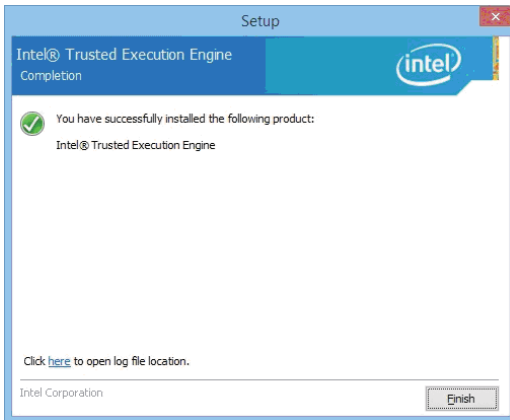
2. At the "Setup" screen, Click "Next".



3. At the "License Agreement" screen, Click "Yes"



4. Click "Next"



5. Click “Finish” & restart computer

**NOTE: SYSTEM INSTALL** will auto detect file path

For Windows 8 32 / 64-bit,

X:\driver\INTEL\BAY\TXE\WIN\_8\SetupTXE.exe

For Windows 8.1 32 / 64-bit,

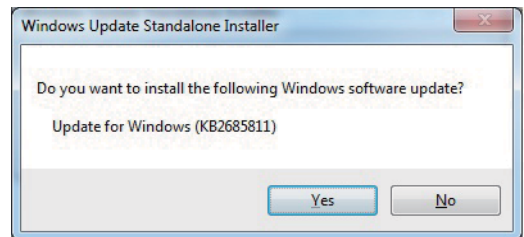
X:\driver\INTEL\BAY\TXE\WIN\_8.1\SetupTXE.exe

## 5-7-2 TXE Install for WIN7

Please install TXE Patch first.



1. At the "AUTOMATIC DRIVER INSTALLATION" menu", click "TXE Patch "



2. At the "Windows Update" screen, Click “Yes”.



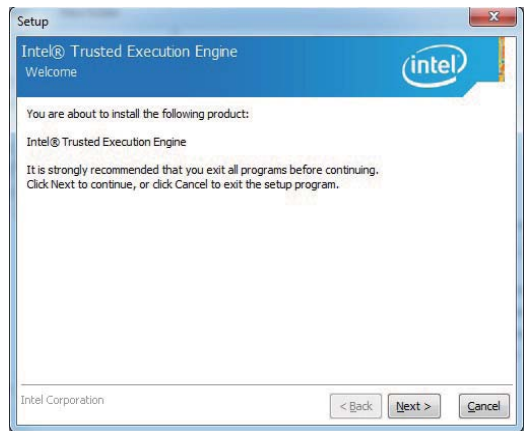


3. Click "Finish" & restart computer

*Bay Trail for Windows 7 (x64)*

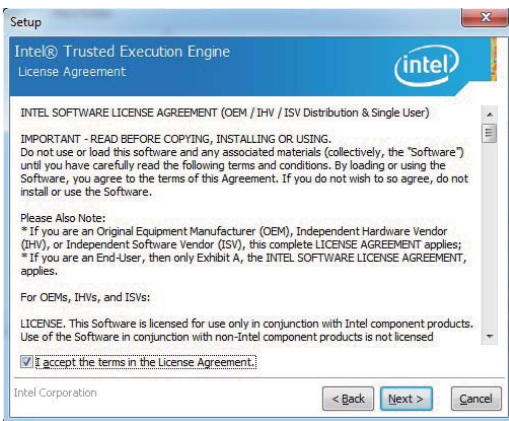
1. INF	5. HD Audio
2. VGA	6. LAN
3. Serial IO	7. TXE Patch
4. xHCI	8. TXE

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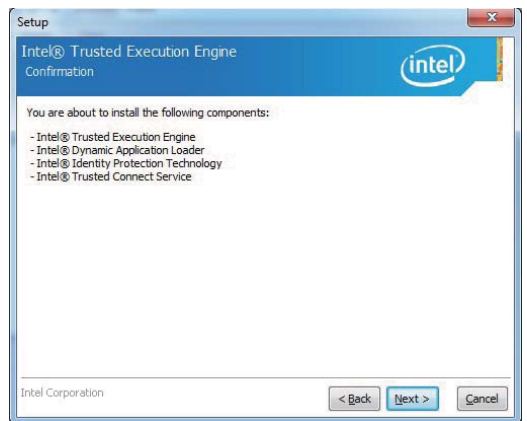


4. At the "AUTOMATIC DRIVER INSTALLATION menu",click "TXE "

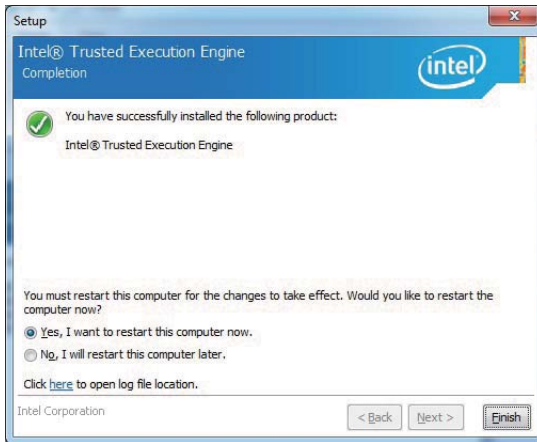
5. At the "TXE Setup" screen, Click "Next".



6. At the "License Agreement" screen, Click "Yes".



7. Click "Next".



## 8. Click “Finish” & restart computer

**NOTE: SYSTEM INSTALL will auto detect file path**

**For Windows 7 32 / 64-bit,**

**TXE Patch**

**X:\driver\INTEL\BAY\TXE\WIN\_7\kmdf-1.11-Win-6.1-x86.msu**

**X:\driver\INTEL\BAY\TXE\WIN\_7\kmdf-1.11-Win-6.1-x64.msu**

**TXE**

**X:\driver\INTEL\BAY\TXE\WIN\_7\SetupTXE.exe**

**X:\driver\INTEL\BAY\TXE\WIN\_7\SetupTXE.exe**

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## 5-8 How to update Insyde BIOS

Under DOS Mode

STEP 1. Prepare a bootable disc.

(Storage device could be USB FDD or USB pen drive.)

STEP 2. Copy utility program to your bootable disc. You may download it from our website.

STEP 3. Copy the latest BIOS for your LEX motherboard from our website to your bootable disc.

STEP 4. (Here take 2I380D as an example, please enter your motherboard's name)

Insert your bootable disc into X: (X could be C:, A: or others.

It depends on which type of storage device you use. )

Start the computer and type

```
X:\: H2OFFT-D.EXE 2I380DA2.BIN-BIOS-ALL
```

2I380DA2.BIN is the file name of the latest BIOS.

It may be 2I380DA1.BIN or 2I380DA2.BIN, etc.

Please leave one space between .BIN & -BIOS -ALL

By Bay Trail series mainboard, please type

```
X:\: H2OFFT-D.EXE 2I380DA2.BIN-BIOS-ALL
```

```
-BIOS: Flash BIOS region
```

```
-ALL: Flash all
```

STEP 5. Press ENTER and the BIOS will be updated,  
Computer will restart automatically.

## Appendix A: Power Consumption Test

### Condition

Item	Spec
CPU	Atom E3845 1.91 Ghz / Celeron J1900 1.99 Ghz
Memory	DDRL 1333 4GB / DDRL 1333 2GB
Operating System	Windows 7 / SP1
Test Program	3D Mark 06
mSATA	64GB

### Test Result for reference only !

Processor	Power off	Start up		Operation Maximum	Shut down Maximum	In Put Voltage
		Maximum	Stable			
E3845	0.07A	0.70A	0.42A	0.94A	0.60A	12V
	0.06A	0.38A	0.24A	0.50A	0.32A	24V
J1900	0.06A	0.62A	0.40A	1.07A	0.62A	12V
	0.05A	0.40A	0.23A	0.58A	0.34A	24V

**The power consumption depends on your device choice!**

---

## Appendix B: Resolution list

640 x 480 x ( 256 / 16bit / 32bit )
800 x 600 x ( 256 / 16bit / 32bit )
1024 x 768 x ( 256 / 16bit / 32bit )
1152 x 864 x ( 256 / 16bit / 32bit )
1280 x 600 x ( 256 / 16bit / 32bit )
1280 x 720 x ( 256 / 16bit / 32bit )
1280 x 768 x ( 256 / 16bit / 32bit )
1280 x 800 x ( 256 / 16bit / 32bit )
1280 x 960 x ( 256 / 16bit / 32bit )
1280 x 1024 x ( 256 / 16bit / 32bit )
1400 x 1050 x ( 256 / 16bit / 32bit )
1440 x 900 x ( 256 / 16bit / 32bit )
1600 x 900 x ( 256 / 16bit / 32bit )
1600 x 1200 x ( 256 / 16bit / 32bit )
1680 x 1050 x ( 256 / 16bit / 32bit )
1920 x 1080 x ( 256 / 16bit / 32bit )
1920 x 1200 x ( 256 / 16bit / 32bit )