

2I385D

**Intel Bay Trail-I E3815/
E3825(Single Core / Dual Core)CPU,
On Board DDR3L, 3 x Intel I211AT LAN / mini USB / VGA**

**All-In-One
Intel Bay Trail-I E3815/ E3825, 1.46/1.33GHz
VGA, PCIe mini card
Multi-LAN Board , mini USB**

NO. 2I385D_V0.1

Release date: May. 14. 2016

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User Manual edition 0.1, May. 14. 2016

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.

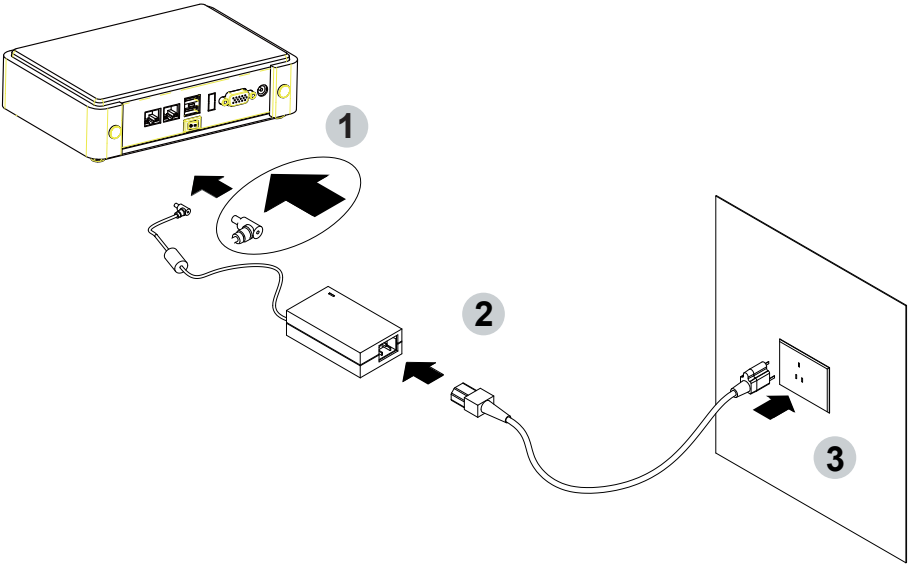
Remark 1:

Always insert / unplug the DC-in horizontally & directly to / from the motherboard. DO NOT twist, it is designed to fit snugly.

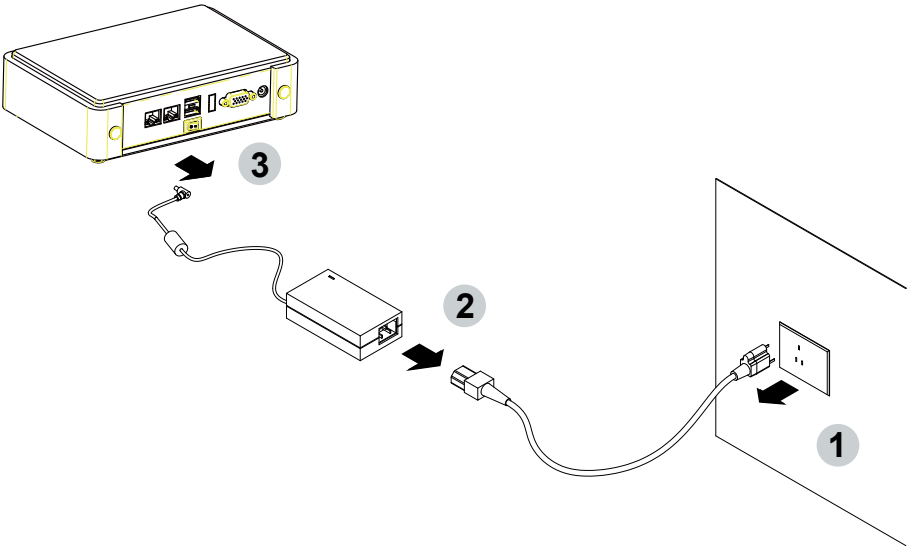
Moreover, erratic pull / push action might cause an unpredictable damage to the component & system unit.

Photo 1

Insert



Unplug



Chapter-1

General Information

The 2I385D SBC with built-in 3 x Intel Giga LAN 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 2I385D 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.

2I385D 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 2I385D supports with 3 Intel I210-IT LAN chipset for PCIe x 1 V2.1 interface with 10/100/1000 Mbps and also offers two RS485 ports (by wafer connection) to meet the needs.

2I385D integrates 1 PCIe mini card for mSATA only.

1-1 Major Feature

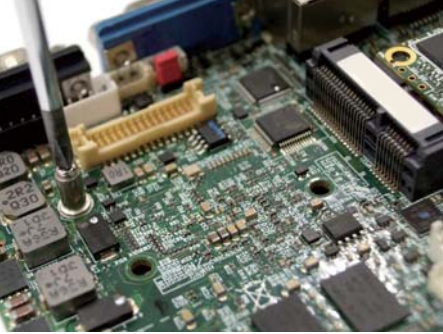
1. Intel Bay-Trail-I E3825 1.33GHz SOC (Daul core)
2. Intel Bay-Trail-I Integrated Graphics chipset, E3825 533 MHz render clock frequency
3. On board DDR3L SDRAM 2GB Memory, data transfer rate of 1066MT/s
4. Support 3 x 10/100/1000 Mbps Intel LAN ports
5. Support 2 x RS485 1 x type B USB2.0 and 1 x USB 2.0
6. Support extended 1 x Mini PCIe card for mSATA only
7. On board DC + 12V / 24V
8. PCB Dimension: 76.25 x 90.8 mm
9. Support VGA display

1-2 Specification

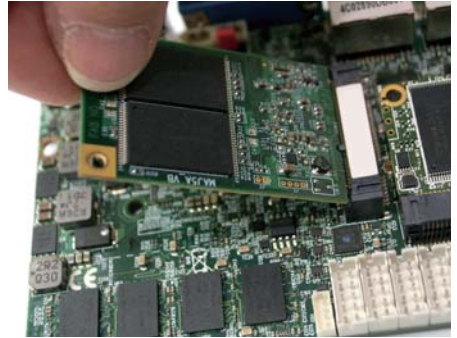
1. SOC: Intel Bay-Trail-I E3825 1.33GHz Daul core)
2. Memory: DDR3L SDRAM 2GB Memory, data transfer rate of 1066MT/s
3. Graphics: Intel Bay=Trail-I Integrated Graphics chipset,
E3825 533 MHz MHz render clock frequency
4. I/O Chip : F81801U I/O chipset for 2 ports RS485
5. 3 Intel I210-IT LAN chipset or Intel I211-AT LAN chipset (Option)
with 10/100/1000 Mbps for PCIe x 1 V2.1 interface
6. 1 type B mini USB connector onboard and 1 USB 2.0 (internal)
7. Expansion interface: one full size PCIe Mini card for mSATA, only
8. BIOS: Insyde UEFI BIOS
9. Dimension: 76.25 x 90.8 mm
10. Power: On board DC +12V / 24V

1-3 Directions for installing the Mini Card

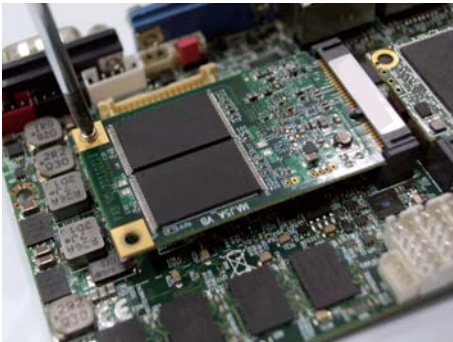
1. Unscrew the screw on the board



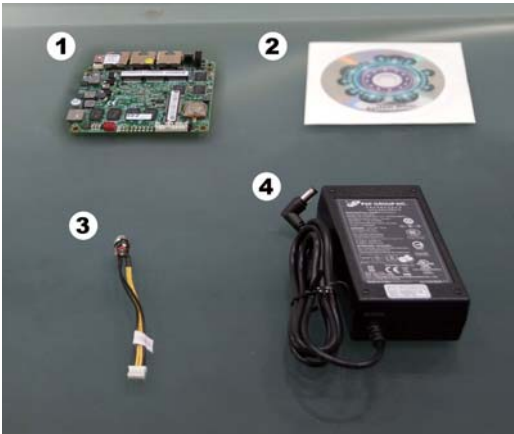
2. Plug in the Mini Card in a 45 angle



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



1-4 Packing List



	Material Code	Description	Detail Specification	Quantit
1	7G1901-1615001-0	MB-2I385D-I22-001	LF, 2I385D-I22,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.

Chapter-2

Hardware Installation

2-1 Unpacking Precaution

This chapter provides the information how to install the hardware of 2I385D. 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:

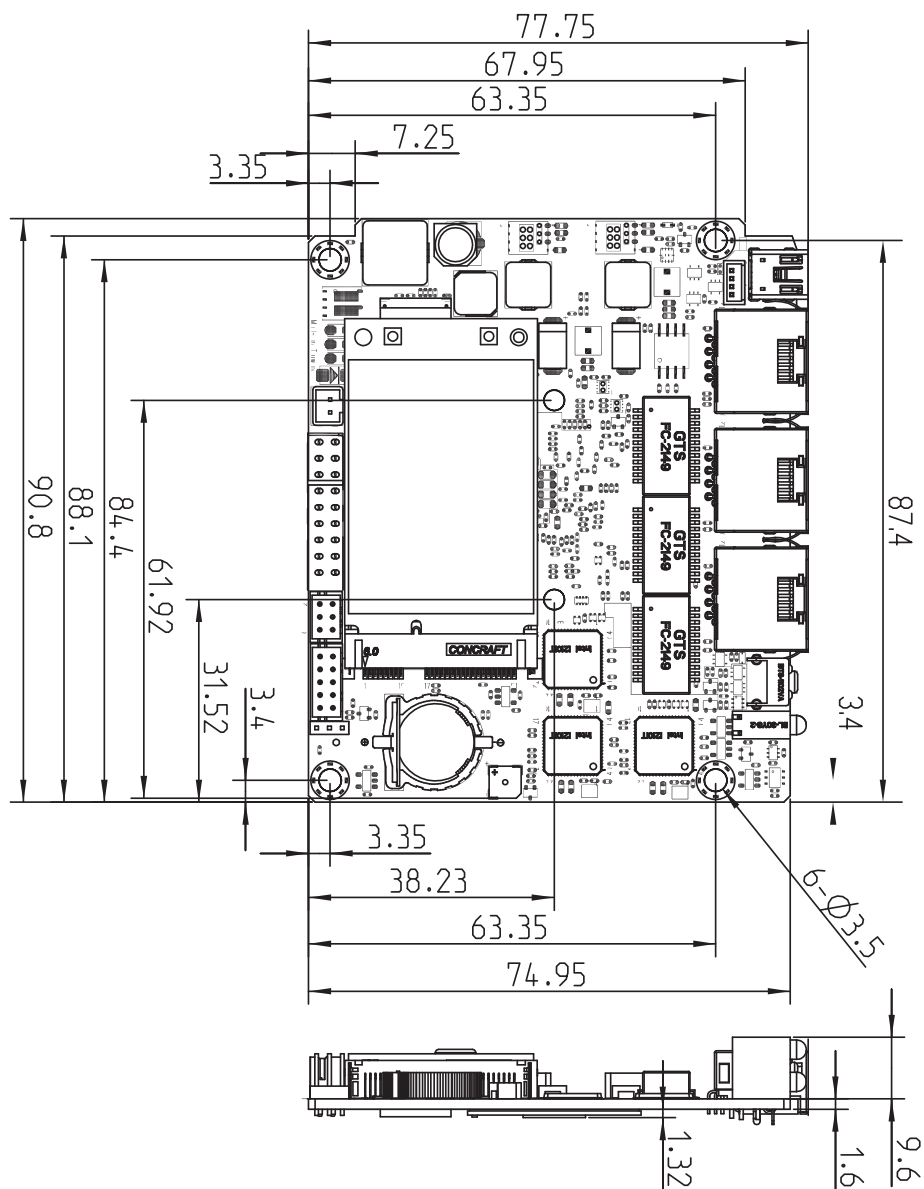
1. Ground yourself by a grounded wrist strap at all times when you handle the 2I385D.
Well secure the ALLIGATOR clip of the strap to the end of the shielded wire lead from a grounded object. Please put on and connect the strap before handling the 2I385D for harmlessly discharge any static electricity 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.

2-2 Unpacking checkup

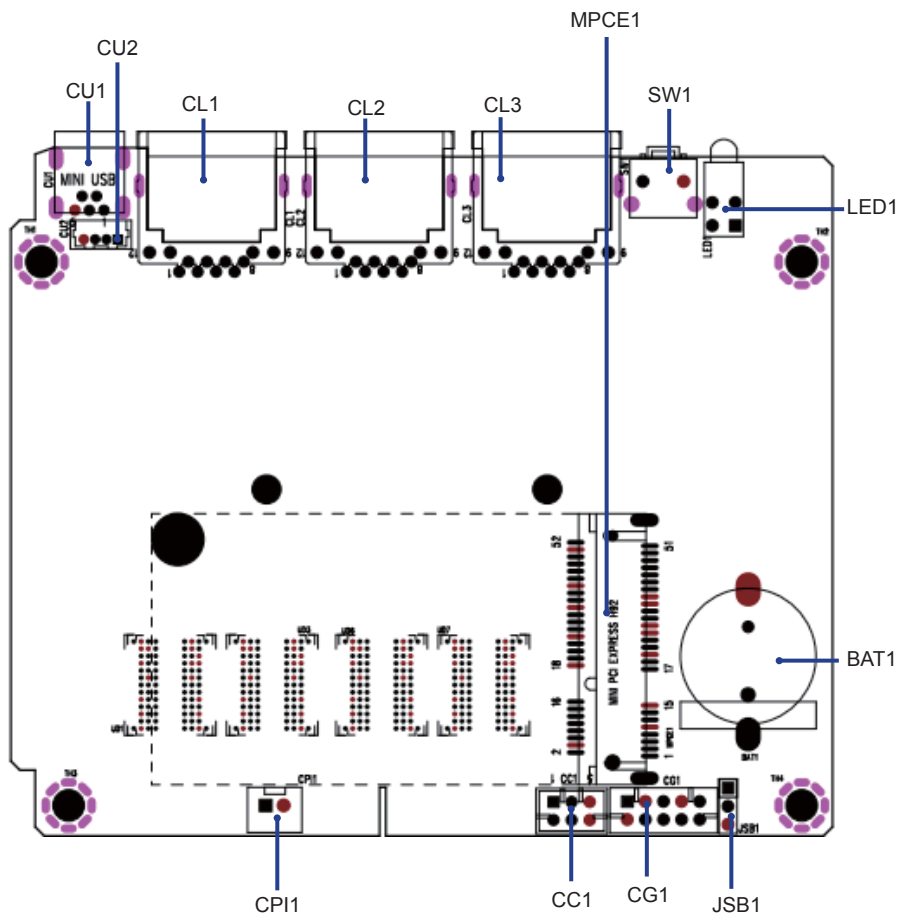
First of all, please follow all necessary steps of section 2-1 to protect 2I385D from electricity discharge. With reference to section 1-4 please check the delivery package again with following steps:

1. Unpack the 2I385D 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.

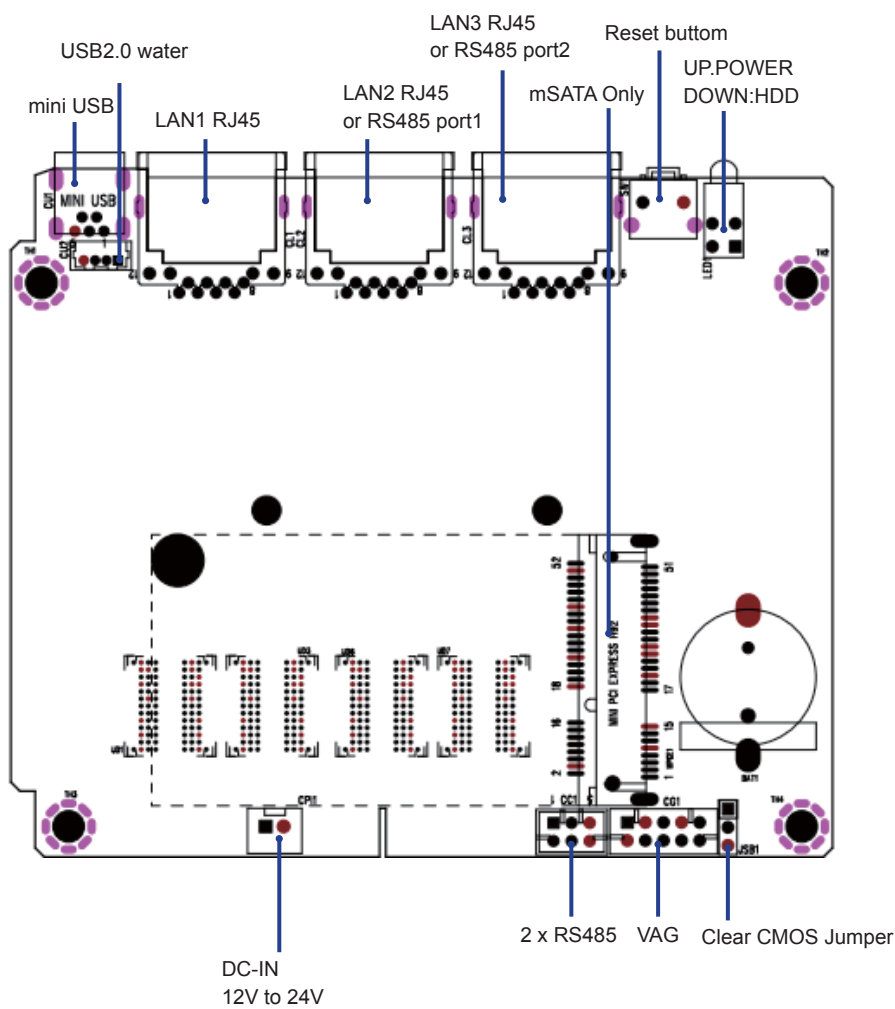
2-3 Dimension-2I385D



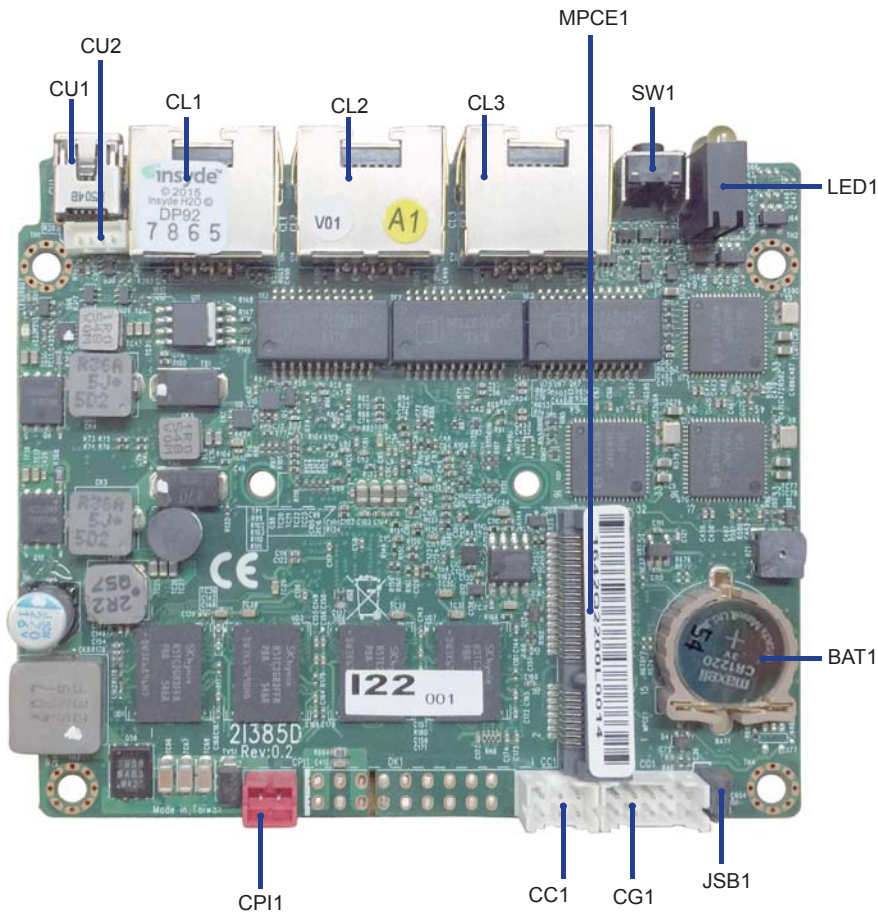
2-4 Layout-2I385D- Connector MAP



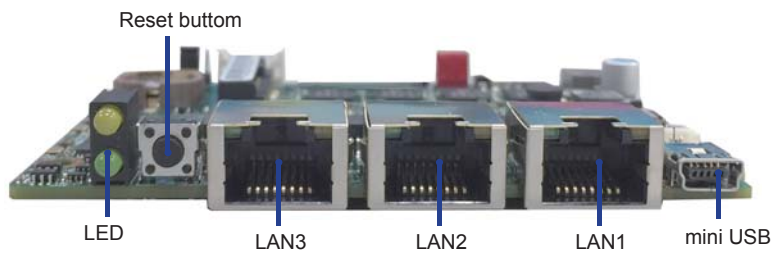
2-4-1 Layout-2I385D-Function MAP



2-5 Diagram- 21385D



BACK Panel- 21385D



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.

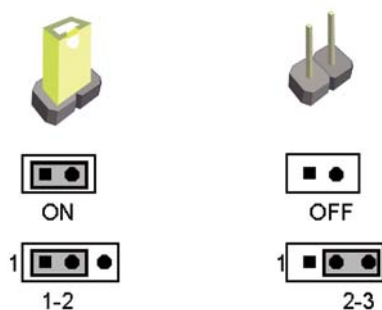


Figure 2.2

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 the 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

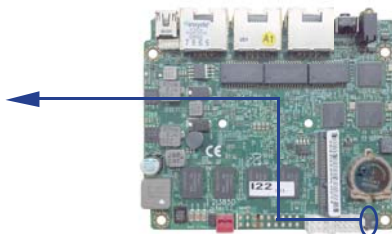
JSB1



*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

BAT1: Li 3V battery holder

CPI1: +12V power input 2 pin (2.0mm) wafer Red.

CG1: VGA wafer 2x5 pin (2.0mm) wafer

CC1: 2Ports RS485 wafer 2x3 pin (2.0mm) wafer

CU2: USB2.0 wafer 1x4 pin (1.25mm) wafer

CL1: RJ45 LAN Connector

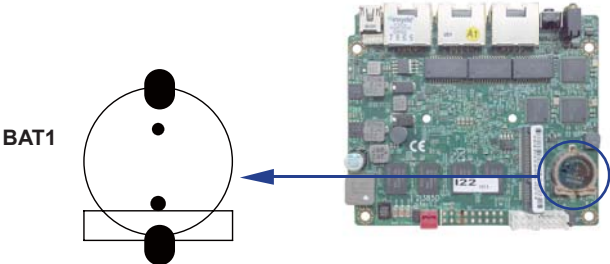
CL2/3: RJ45 LAN Connector (RS485 port 1/2 Option)

MPCE1 : Full size mini card port 1 sockets 52pin

3-2 CMOS Battery connector

- BAT1: Battery use Li 3V / 40mAh (CR1220)

PIN NO.	Description
1	+VRTC 3.3V
2	GND

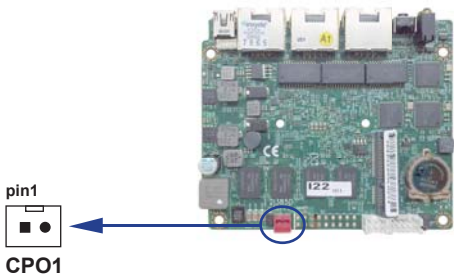


3-3 DC Power input

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

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

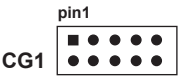
Note: Very important check Dc-in Voltage



3-4 VGA connector

● **CG1: VGA 2x5pin 2.0mm wafer connector**

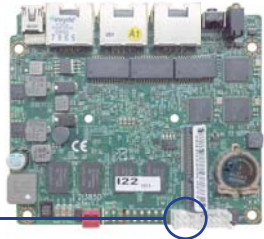
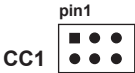
PIN NO.	Description	PIN NO.	Description
1	BULE	2	GND
3	GND	4	DDC CLOCK
5	GREEN	6	V-SYNC
7	GND	8	H-SYNC
9	RED	10	DDC DATA



3-5 COM connector

● **CC1: 2 Ports RS485 wafer 2x3 pin (2.0mm) wafer**

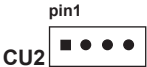
PIN NO.	Description	PIN NO.	Description
1	RS485 P1 DATA-	2	RS485 P2 DATA-
3	RS485 P1 DATA+	4	RS485 P2 DATA+
5	GND	6	GND



3-6 USB2.0 port

● **CU2: USB2.0 port (1x4pin 1.25mm Wafer)**

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



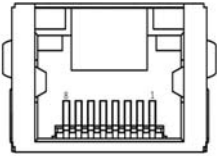
3-7 LAN Connector

• CL1/2/3: RJ45 LAN Connector

PIN NO.	Description	PIN NO.	Description
1	MDI0+	5	MDI2-
2	MDI0-	6	MDI1-
3	MDI1+	7	MDI3+
4	MID2+	8	MDI3-

• RJ45 LAN LED Behavior

Speed	Right (Orange)	Left (Green)
10/100 Link	Off	On
10/100 Active	Off	Blink
1000 Link	On	Off
1000 Active	Blink	Off



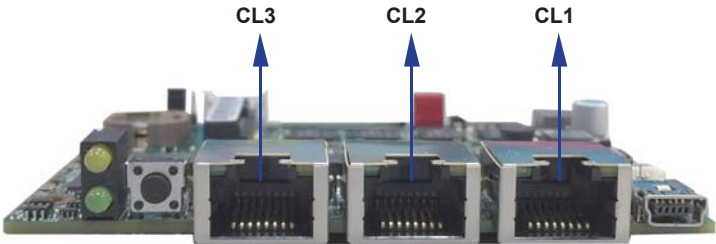
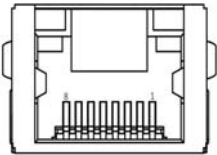
• CL2/3 RS485 over RJ45 Connector

PIN NO.	Description	PIN NO.	Description
1	DATA+	5	NC
2	DATA-	6	NC
3	NC	7	NC
4	NC	8	GND

Note: RS485 over RJ45 connector is option.
RS485 port 1 map to CL2 RJ45 port
RS485 port 2 map to CL3 RJ45 port

• RS485 Over RJ45 LED Behavior

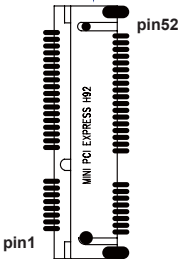
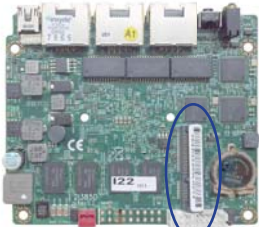
Speed	Right (Orange)	Left (Green)
TX	Off	Blink
RX	Blink	Off
NOfthing	Off	Off



3-8 PCI Express Mini card

● MPCE1 only Support mSATA interface

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	NC	12	NC
13	NC	14	NC
15	GND	16	NC
KEY	KEY	KEY	KEY
17	NC	18	GND
19	NC	20	NC
21	GND	22	Reset
23	mSATA-RX+	24	+3.3V
25	mSATA-RX-	26	GND
27	GND	28	+1.5V
29	GND	30	SMB-CLK
31	mSATA-TX-	32	SMB-DATA
33	mSATA-TX+	34	GND
35	GND	36	NC
37	GND	38	NC
39	+3.3V	40	GND
41	+3.3V	42	NC
43	GND	44	NC
45	NC	46	NC
47	NC	48	+1.5V
49	NC	50	GND
51	NC	52	+3.3V



MPCE1

3-9 Connector wafer of Compatible Brand and part number list

Location	CKTS	PITCH	Brand Name	Mating connector	Cable housing
CC1	2x3 6Pin	2.00mm	HIROSE	DF13-06DS-1.25C	DF13-06DP-1.25V
CG1	2x5 10Pin	2.00mm	HIROSE	DF13-06DS-1.25C	DF13-06DP-1.25V
CPI1	1x2 2pin	2.00mm	JST	B2B-PH-KL	PHR-2
CU2	1x4 4Pin	1.25mm	MOLEX	53047-0410	51021-0400

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 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. You may also restart the system by simultaneously pressing <Ctrl>, <Alt> and <Delete> keys.

4-3 Getting Help

InsydeH20 Setup Utility				Rev. 5.0							
Main	Advanced	Security	Power	Boot	Exit						
<div><p align="center">[General Help]</p><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><Left/Right> Select Screen</p><p><Up/Down> Select Item</p><p><Enter> Select or Enter SubMenu</p><p><F9> Load Setup Default</p><p><F10> Save and Exit</p><p><ESC> Exit Setup</p><p><F1> key displays General Help(This Screen)</p><table><tr><td>Push Enter/ESC</td><td>-- Leave</td></tr><tr><td>Push PageUp</td><td>-- previous</td></tr><tr><td>Push PageDown</td><td>-- Next Page</td></tr></table></div>						Push Enter/ESC	-- Leave	Push PageUp	-- previous	Push PageDown	-- Next Page
Push Enter/ESC	-- Leave										
Push PageUp	-- previous										
Push PageDown	-- Next Page										
F1 Help	↑ ↓ Select	F5/F6 Change Values	F9	Setup Defaults							
Esc Exit	← Select Menu	Enter Select ► SubMenu	F10	Save and Exit							

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

InsydeH2O Setup Utility				Rev. 5.0																				
Main	Advanced	Security	Power	Boot Exit																				
<table><tr><td>BIOS Version</td><td>2I385D A1</td></tr><tr><td>Build Date</td><td>03/23/2016</td></tr><tr><td>Build Time</td><td>14:18:04</td></tr><tr><td>Processor Type</td><td>Intel(R) Atom(TM) CPU E3825 @ 1.33GHz</td></tr><tr><td>System Memory Speed</td><td>1066 MHz</td></tr><tr><td>Cache RAM</td><td>1024 KB</td></tr><tr><td>Total Memory</td><td>2048 MB</td></tr><tr><td colspan="2"> </td></tr><tr><td>System Time</td><td>[00:00:00]</td></tr><tr><td>System Date</td><td>[01/01/2015]</td></tr></table>					BIOS Version	2I385D A1	Build Date	03/23/2016	Build Time	14:18:04	Processor Type	Intel(R) Atom(TM) CPU E3825 @ 1.33GHz	System Memory Speed	1066 MHz	Cache RAM	1024 KB	Total Memory	2048 MB			System Time	[00:00:00]	System Date	[01/01/2015]
BIOS Version	2I385D A1																							
Build Date	03/23/2016																							
Build Time	14:18:04																							
Processor Type	Intel(R) Atom(TM) CPU E3825 @ 1.33GHz																							
System Memory Speed	1066 MHz																							
Cache RAM	1024 KB																							
Total Memory	2048 MB																							
System Time	[00:00:00]																							
System Date	[01/01/2015]																							
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.

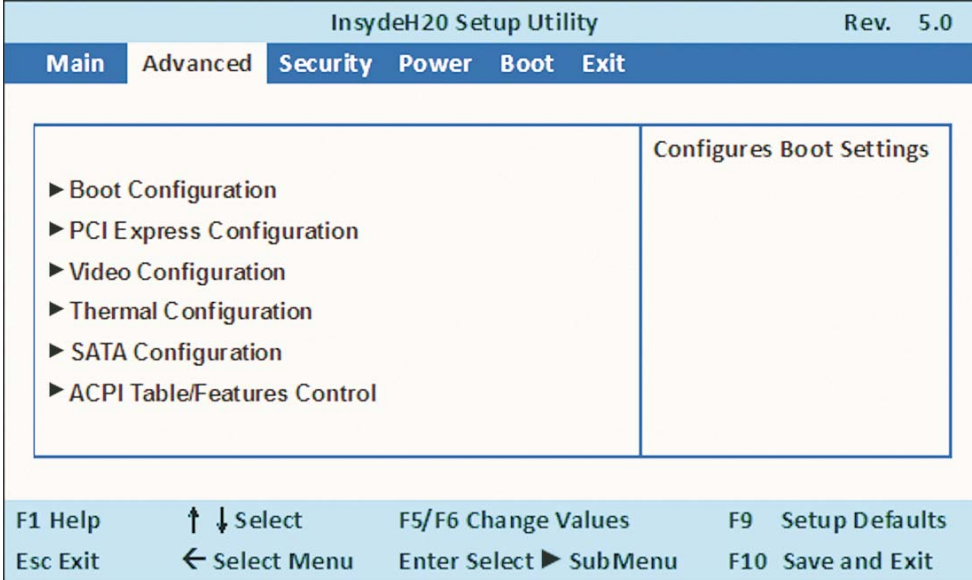
System Date

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

Video Configuration

Please refer section 4-6-3

Thermal Configuration

Please refer section 4-6-4

SATA Configuration

Please refer section 4-6-5

ACPI Table/Features Control

Please refer section 4-6-6

4-6-1 Boot Configuration

InsydeH20 Setup Utility		Rev. 5.0
Advanced		
Boot Configuration		Selects Power-on state For Numlock
Numlock <On>		
F1 Help	↑ ↓ Select	F5/F6 Change Values
Esc Exit	← Select Menu	Enter Select ► SubMenu
		F9 Setup Defaults
		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
Advanced		
PCI Express Configuration		Control the PCI Express Root Port.
► PCE Express Root Port 1		
► PCE Express Root Port 2		
► PCE Express Root Port 3		
F1 Help	↑ ↓ Select	F5/F6 Change Values
Esc Exit	← Select Menu	Enter Select ► SubMenu
		F9 Setup Defaults
		F10 Save and Exit

PCIe 1/2/3 configuration settings

4-6-2-1 ► PCI Express Root Port 1/2/3

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

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 Video Configuration

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

Aperture Size

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

IGD - DVM T Pre-Allocated

Use this item to select DVM T 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 - DVM T Total Gfx Mem

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

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

4-6-4 Thermal Configuration

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

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°

4-6-5 SATA Configuration

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

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

4-6-6 ACPI Table/Features Control

InsydeH20 Setup Utility

Rev. 5.0

Advanced

ACPI Table/Features Control

Enable/Disable ACPI S3 State

DSDT – ACPI S3 <Disabled>

F1 Help

↑ ↓ Select

F5/F6 Change Values

F9 Setup Defaults

Esc Exit

← Select Menu

Enter Select ► SubMenu

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

Determines the action taken when the system power is off and use USB KB/MS to Enable wake up event occurs.

The optional settings: S3, Disabled (default)

4-9 Boot

InsydeH2O Setup Utility				Rev. 5.0	
Main	Advanced	Security	Power	Boot	Exit
<div>Boot Type<Dual Boot Type></div> <div>Quiet Boot<Enabled></div> <div>EFI/Legacy Device Order<Legacy device first></div> <div>►EFI</div> <div>►Legacy</div>				<div>Select boot type to Dual type, Legacy type or UEFI type.</div>	
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	
Boot			
<div>Boot Device Priority</div> <div>Normal Boot Menu <Normal></div> <div>► Boot Type Order</div> <div>► USB</div>		<div>Select Normal Boot Option Priority or Advance Boot Option Priority.</div>	
F1 Help	↑ ↓ Select	F5/F6 Change Values	F9 Setup Defaults
Esc Exit	← Select Menu	Enter Select ► SubMenu	F10 Save and Exit

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

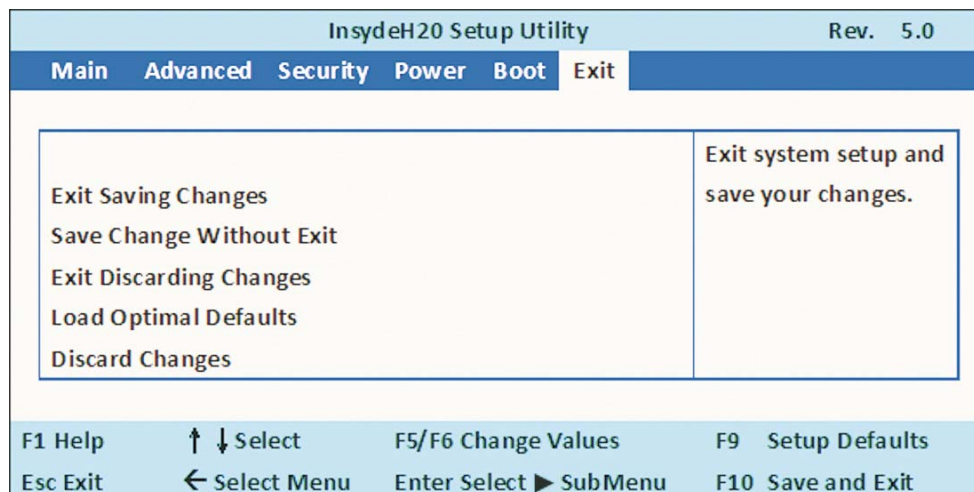
InsydeH20 Setup Utility		Rev. 5.0	
Boot			
<div>Boot Type Order</div> <div>USB</div> <div>Hard Disk Drive</div> <div>CD/DVD-ROM Drive</div> <div>Others</div>			
F1 Help	↑ ↓ Select	F5/F6 Change Values	F9 Setup Defaults
Esc Exit	← Select Menu	Enter Select ► SubMenu	F10 Save and Exit

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

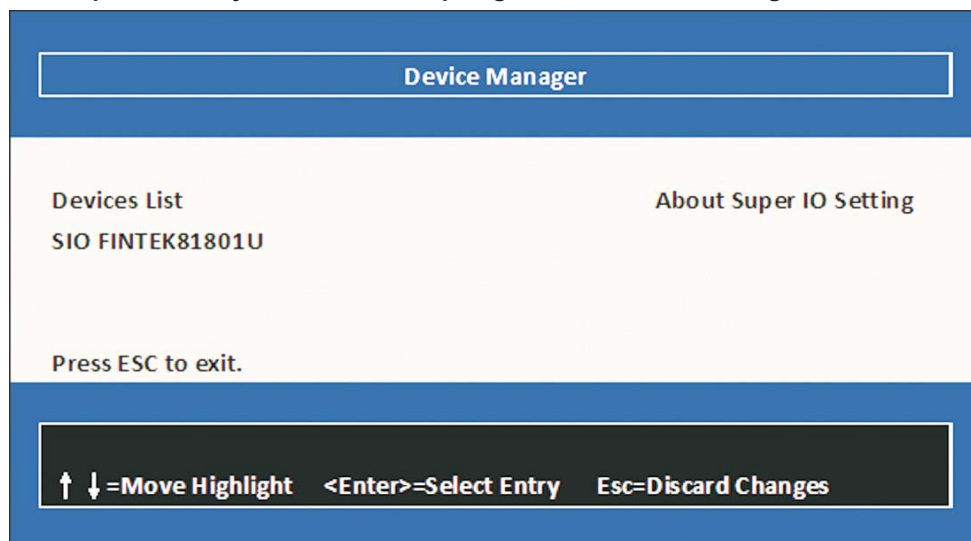
Use this item to restore the optimal default for all the setup options.

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	<Enable>	Configure Serial port
Base I/O Address	<3F8>	using options : Disable
Interrupt	<IRQ4>	No configuration
Serial Port 2	<Enable>	[Enable] User
Base I/O Address	<2F8>	configuration [Auto]
Interrupt	<IRQ3>	EFI/OS chooses
Hardware Monitor		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

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

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

4-11-2 Hardware Monitor

Hardware Monitor

Hardware Monitor

Voltage

VCC3	3.344 V
VCORE	0.560 V
VGFX	0.920 V

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)

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)

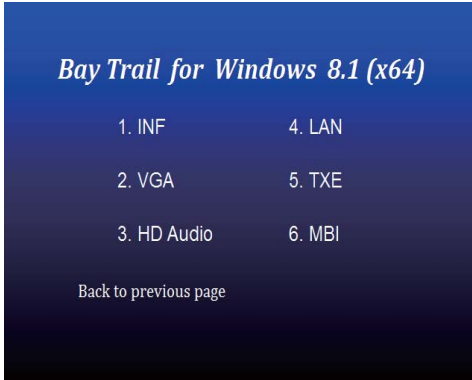
- | | |
|--------------|--------------|
| 1. INF | 5. HD Audio |
| 2. VGA | 6. LAN |
| 3. Serial IO | 7. TXE Patch |
| 4. xHCI | 8. TXE |

[Back to previous page](#)

- | | |
|--------------|------------------------------------------|
| 1. INF | Install Intel Baytrail chipset driver |
| 2. VGA | Install onboard VGA driver |
| 3. LAN | To the LAN driver Readme file |
| 4. TXE Patch | Install Intel TXE patch (FOR Win 7 only) |
| 4.1. TXE | Install Intel TXE driver |

Each selection is illustrated below:

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



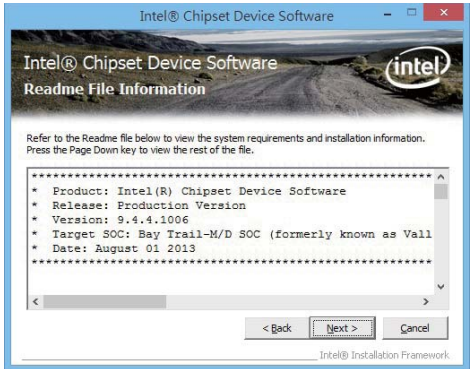
1. At the "AUTOMATIC DRIVER INSTALLATION menu" screen, click "INF".



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

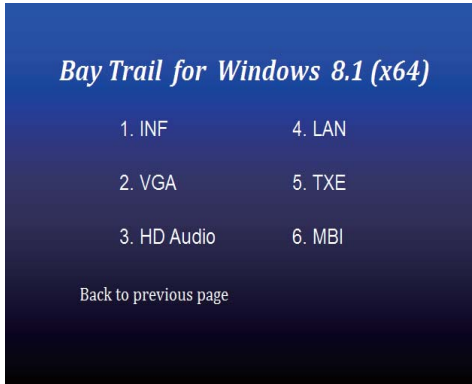
For Windows 7 64/32-bit,

X:\driver\INTEL\BAY\INF\WIN7\infinst_autol.exe

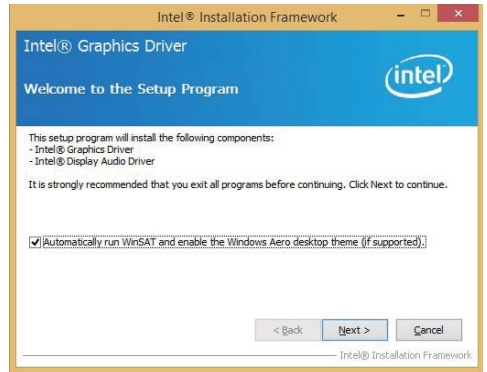
For Windows 8 / 8.1 32/64-bit

X:\driver\INTEL\BAY\INF\WIN_8_64\infinst_autol.exe

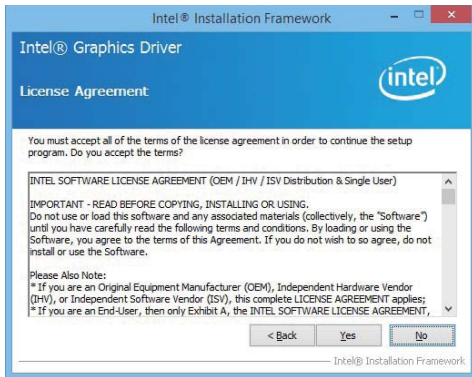
5-2 VGA Install Intel Baytrail VGA Driver (example for WIN8 64bit)



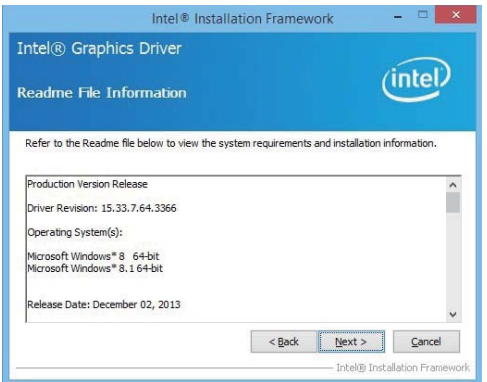
1. At the "AUTOMATIC DRIVER INSTALLATION menu"screen, click "VGA".



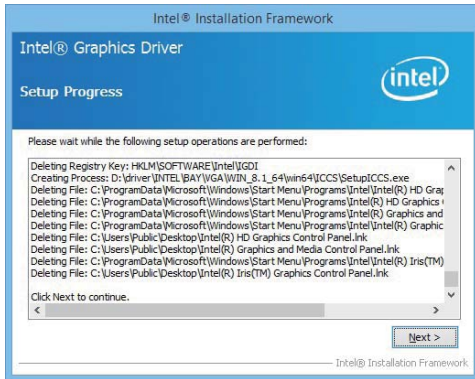
2. At the "Welcome to the Setup Program screen, Click "Next".



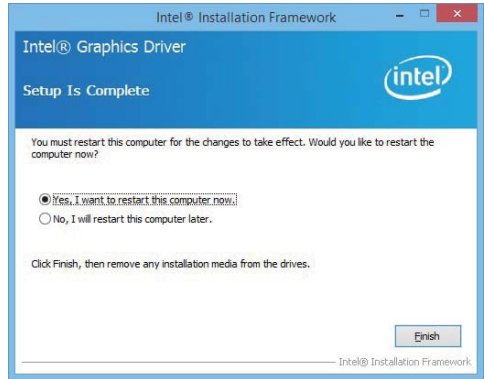
3. At the "License Agreement" screen, Click "Yes"



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

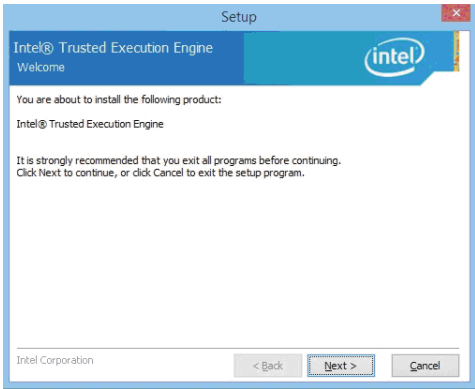
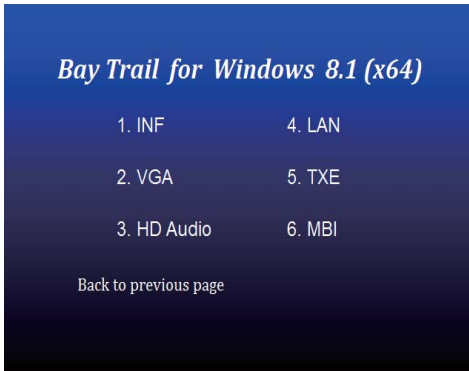
X:\driver\INTEL\BAY\VGA\WIN_8_32\Setup.exe

For Windows 8 / Windows 8.1 64-bit

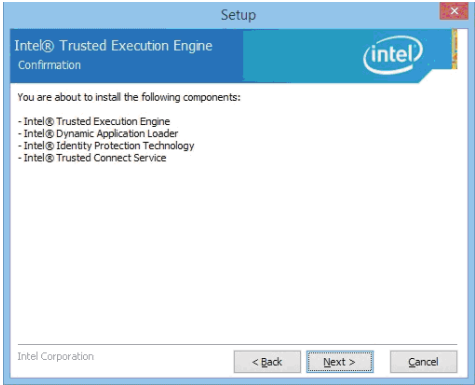
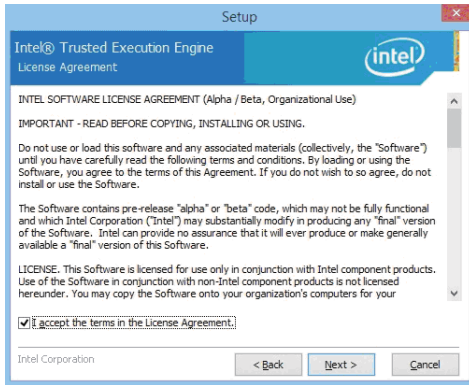
X:\driver\INTEL\BAY\VGA\WIN_8_64\Setup.exe

5-3 TXE Install Intel TXE driver

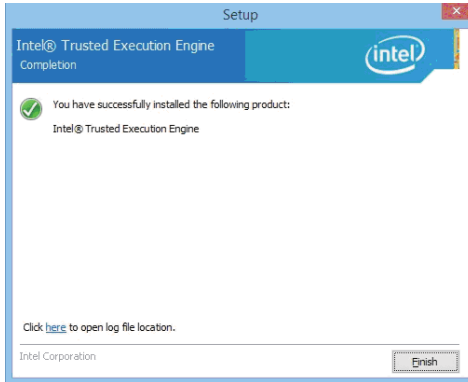
5-3-1 TXE Install for WIN8/WIN8.1



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,

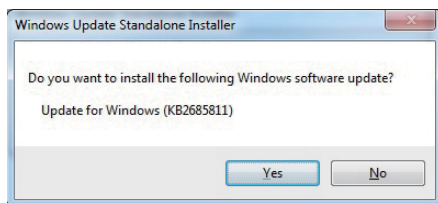
X:\driver\INTEL\BAY\TXE\WIN_8\SetupTXE.exe

For Windows 8.1 32 / 64-bit,

X:\driver\INTEL\BAY\TXE\WIN_8.1\SetupTXE.exe

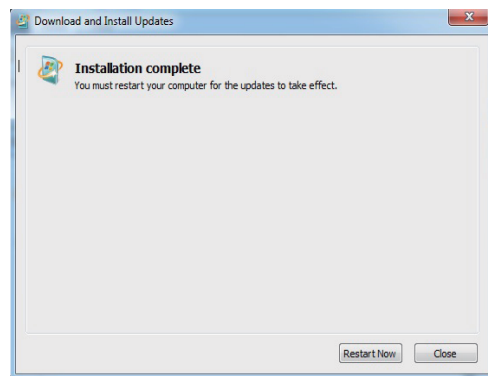
5-3-2 TXE Install for WIN7

Please install PXE Patch first.



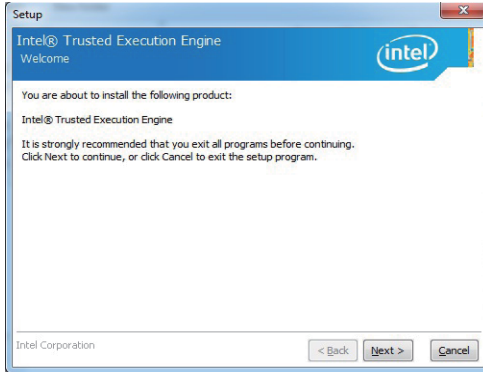
1. At the "AUTOMATIC DRIVER INSTALLATION menu", click "TXE Patch "

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



3. Click "Finish" & restart computer

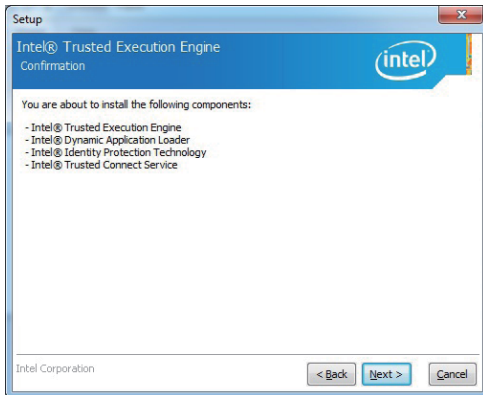
4. At the "AUTOMATIC DRIVER INSTALLATION menu", click "TXE "



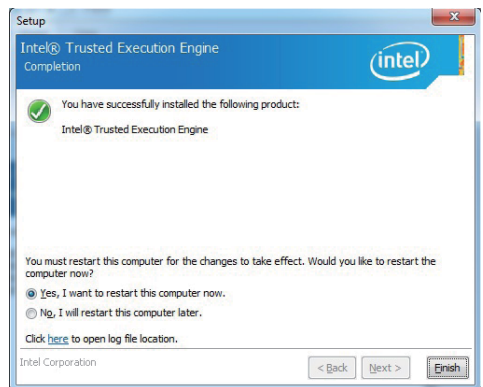
5. At the "TXE Setup" screen, Click "Next".



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

5-4 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 2I385D 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 2I385DA2.BIN -BIOS -ALL

2I385DA2.BIN is the file name of the latest BIOS.

It may be 2I385DA1.BIN or 2I385DA2.BIN, etc.

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

By Bay Trail series mainboard, please type

X:\: H2OFFT-D.EXE 2I385DA2.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 E3815 1.46 Ghz / E3825 1.33 Ghz
Memory	DDR3L 1066 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			
E3815	0.05A	0.49A	0.37A	0.64A	0.46A	12V
	0.05A	0.27A	0.21A	0.35A	0.26A	24V
E3825	0.06A	0.49A	0.36A	0.66A	0.47A	12V
	0.05A	0.27A	0.20A	0.35A	0.25A	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)