IEC-3300

**Fanless BOXed Chassis System with
Intel® Celeron® Processor**

User's Manual

Version 1.1

CE

RoHS
VERIFIED

2015.04

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Revision History

Version	Date	Description
1.0	February, 2015	Initial release
1.1	April, 2015	Per PM Funway request, Remove IEC-3300-E3845 information from Specifications and Ordering information on page 2, 3, 4. Per PM Funway request, Revise RAM installation on page 32, 33. Per PM Ning request, Add P.35 4.1.4. Wall-mount

Contents

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Declaration of Conformity
CE

The CE symbol on the computer indicates that it is in compliance with the directives of the Union European (EU). A Certificate of Compliance is available by contacting Technical Support.

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. This kind of cable is available from ARBOR. Please contact your local supplier for ordering information.

Warning
This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

FCC Class A

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

RoHS

ARBOR Technology Corp. certifies that all components in its products are in compliance and conform to the European Union's Restriction of Use of Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive 2002/95/EC.

The above mentioned directive was published on 2/13/2003. The main purpose of the directive is to prohibit the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), and polybrominated diphenyl ethers (PBDE) in electrical and electronic products. Member states of the EU are to enforce by 7/1/2006.

ARBOR Technology Corp. hereby states that the listed products do not contain unintentional additions of lead, mercury, hex chrome, PBB or PBDB that exceed a maximum concentration value of 0.1% by weight or for cadmium exceed 0.01% by weight, per homogenous material. Homogenous material is defined as a substance or mixture of substances with uniform composition (such as solders, resins, plating, etc.). Lead-free solder is used for all terminations (Sn(96-96.5%), Ag(3.0-3.5%) and Cu(0.5%)).

SVHC / REACH

To minimize the environmental impact and take more responsibility to the earth we live, Arbor hereby confirms all products comply with the restriction of SVHC (Substances of Very High Concern) in (EC) 1907/2006 (REACH --Registration, Evaluation, Authorization, and Restriction of Chemicals) regulated by the European Union.

All substances listed in SVHC < 0.1 % by weight (1000 ppm)

Important Safety Instructions

Read these safety instructions carefully

1. Read all cautions and warnings on the equipment.

2. Place this equipment on a reliable surface when installing. Dropping it or letting it fall may cause damage

3. Make sure the correct voltage is connected to the equipment.

4. For pluggable equipment, the socket outlet should be near the equipment and should be easily accessible.

5. Keep this equipment away from humidity.

6. The openings on the enclosure are for air convection and protect the equipment from overheating. DO NOT COVER THE OPENINGS.

7. Position the power cord so that people cannot step on it. Do not place anything over the power cord.

8. Never pour any liquid into opening. This may cause fire or electrical shock.

9. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.

10. If one of the following situations arises, get the equipment checked by service personnel:

    a. The power cord or plug is damaged.

    b. Liquid has penetrated into the equipment.

    c. The equipment has been exposed to moisture.

    d. The equipment does not work well, or you cannot get it to work according to the user's manual.

    e. The equipment has been dropped or damaged.

    f. The equipment has obvious signs of breakage.

11. Keep this User's Manual for later reference.

Product Heat

The computer generates heat during operation. Contact the computer's chassis with your body could cause discomfort or even a skin burn.

Warning

The Box PC and its components contain very delicately Integrated Circuits (IC). To protect the Box PC and its components against damage caused by static electricity, you should always follow the precautions below when handling it:

1. Disconnect your Box PC from the power source when you want to work on the inside.

2. Use a grounded wrist strap when handling computer components.

3. Place components on a grounded antistatic pad or on the bag that came with the Box PC, whenever components are separated from the system.

Replacing Lithium Battery

Incorrect replacement of the lithium battery may lead to a risk of explosion.

The lithium battery must be replaced with an identical battery or a battery type recommended by the manufacturer.

Do not throw lithium batteries into the trash can. It must be disposed of in accordance with local regulations concerning special waste.

Technical Support

If you have any technical difficulties, please consult the user's manual first at:
http://www.arbor.com.tw

Please do not hesitate to call or e-mail our customer service when you still cannot find out the answer.

http://www.arbor.com.tw

E-mail:info@arbor.com.tw

Warranty

This product is warranted to be in good working order for a period of one year from the date of purchase. Should this product fail to be in good working order at any time during this period, we will, at our option, replace or repair it at no additional charge except as set forth in the following terms. This warranty does not apply to products damaged by misuse, modifications, accident or disaster.

Vendor assumes no liability for any damages, lost profits, lost savings or any other incidental or consequential damage resulting from the use, misuse of, or inability to use this product. Vendor will not be liable for any claim made by any other related party.

Vendors disclaim all other warranties, either expressed or implied, including but not limited to implied warranties of merchantability and fitness for a particular purpose, with respect to the hardware, the accompanying product's manual(s) and written materials, and any accompanying hardware. This limited warranty gives you specific legal rights.

Return authorization must be obtained from the vendor before returned merchandise will be accepted. Authorization can be obtained by calling or faxing the vendor and requesting a Return Merchandise Authorization (RMA) number. Returned goods should always be accompanied by a clear problem description.

Chapter 1

Introduction

1.1. Product Highlights

- **Ultra Low Power and Fanless Design**
- **VGA/ HDMI output supported**
- **Rugged Design for Shock/Vibration Protection**
- **Easy Installation/Maintenance**

1.2. About this Manual

This manual is meant for the experienced users and integrators with hardware knowledge of personal computers. If you are not sure about the description herein, consult your vendor before further handling.

We recommend that you keep one copy of this manual for the quick reference for any necessary maintenance in the future. Thank you for choosing ARBOR products.

1.3. Specifications

System Kernel	
Processor/ Chipset	Soldered onboard Intel® Celeron® Processor N2807 dual-core 1.58GHz / J1900 quad-core 2GHz
	Intel® Atom™ E3800 Processor by OEM Request
BIOS	Insyde BIOS
Graphics	Intel® Integrated HD Graphic
System Memory	1 x 204-pin DDR3L SO-DIMM socket, supporting 1600MHz SDRAM up to 8GB
	Optional pre-install 2GB/4GB DDR3L SO-DIMM Memory Module
Ethernet Controller	2 x Realtek RTL8111E PCIe GbE controllers
I/O Ports	
Serial Port	1 x DB-9 male connector for RS-232
USB Port	1 x USB 3.0 port 3 x USB 2.0 ports
LAN Port	2 x RJ-45 Gigabit Ethernet ports
Video Port	1 x DB-15 female connector for analog RGB
	1 x HDMI port
Expansion Bus	1 x Mini-card socket (Half Size)

Storage	
Type	1 x mSATA socket
Qualification	
Certification	CE, FCC
Environment	
Operating Temp.	-20 ~ 55°C (-4 ~ 131°F), ambient w/ air flow
Storage Temp.	-40 ~ 85°C (-40 ~ 185°F)
Relative Humidity	10 ~ 90% @ 55°C (non-condensing)
Vibration	3 Grms/5~500Hz/random operation
Shock	Operating 40G (11ms), Non-operating 60G with mSATA
Mechanical	
Construction	Whole aluminum chassis
Mounting	Wall-mount, VESA mount
Weight (Net / Gross)	0.6kg 1.32lb (Barebone)
Dimensions (W x D x H)	163 x 109 x 39 mm (6.41" x 4.29" x 1.54")
Power Requirement	
Power Input	DC 12V input
Power Consumption	0.77A@12V (typical w/ N2807)
	1.04A@12V (typical w/ J1900)

1.4. Inside the Package

Upon opening the package, carefully inspect the contents. If any of the items is missing or appears damaged, contact your local dealer or distributor. The package should contain the following items:

1 x IEC-3300 Programmable Embedded Controller

1 x Driver CD
1 x User's Manual

1.5. Ordering Information

IEC-3300-N2807	Barebone system with Intel® Celeron® Processor N2807
IEC-3300-J1900	Barebone system with Intel® Celeron® Processor J1900
IEC-3300-N2807-2G	System with Intel® Celeron® Processor N2807, 2GB Memory
IEC-3300-J1900-2G	System with Intel® Celeron® Processor J1900, 2GB Memory
IEC-3300-N2807-4G (BTO)	System with Intel® Celeron® Processor N2807, 4GB Memory
IEC-3300-J1900-4G (BTO)	System with Intel® Celeron® Processor J1900, 4GB Memory

1.5.1. Standard Accessories

The following items are normally optional, but some vendors may include them as a standard package, or some vendors may not carry all the items.

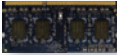|		
Power Adaptor	12VDC, 5A, 60W, 2.5φ JACK, AC/DC Adaptor with power cord	
WMK-3300	Wall mount kit	

1.5.2. Optional Accessories

Make the computer more tailored to your needs by selecting one or more components from the list below to be fabricated to the computer.

VMK-3300	VESA mount kit	

1.5.3. Configure-to-Order Service

Make the computer more tailored to your needs by selecting one or more components from the list below to be fabricated to the computer.

WIFI-AT2200	Atheros AR9462 Wi-Fi module w/ 15cm internal wiring	
ANT-D11	1 x WiFi Dual-band 2.4G/5G antenna	
2GB SO-DIMM	DDR3L-1600 2GB SO-DIMM Memory module	
4GB SO-DIMM	DDR3L-1600 4GB SO-DIMM Memory module	
8GB SO-DIMM	DDR3L-1600 8GB SO-DIMM Memory module	
16GB SSD	mSATA MLC 16GB	
32GB SSD	mSATA MLC 32GB	

Chapter 2

Getting Started

2.1. Dimensions

The following illustration shows the dimensions of IEC-3300, with the measurements in width, depth, and height called out.
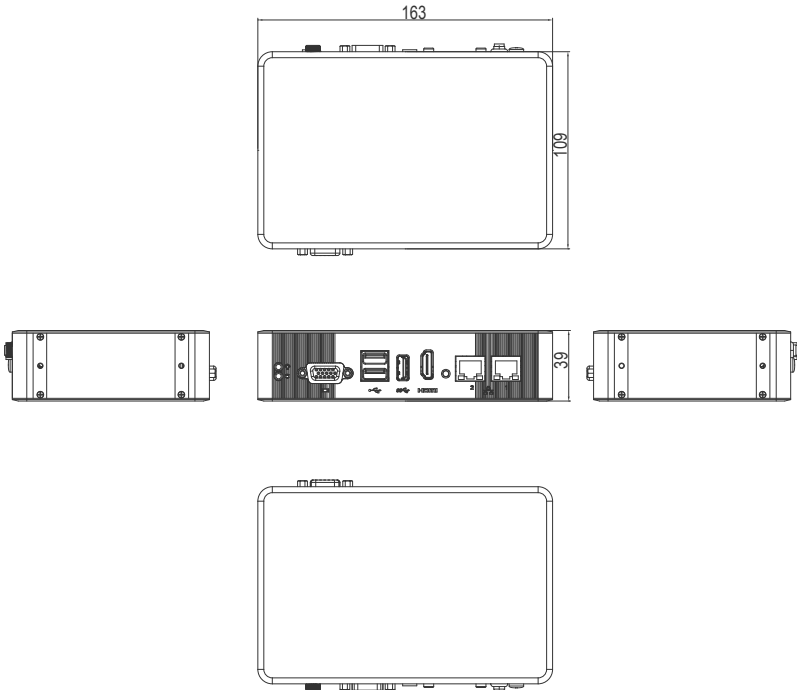
Unit: mm

2.2. Take A Tour

The computer has some I/O ports, status LED light and controls on the front and rear panels. The following illustrations show all the components called out for IEC-3300.

Front View
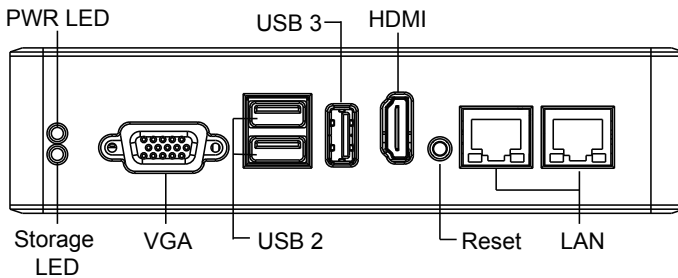
- **Status LED Lamps**
  LED lamps are recessed on the front side of the computer to draw users' prompt awareness of the computer's contiguous events such as power on/off, data transmission and so on.
  These lamps and the notifications delivered are summarized as following:

LED Lamp	Color	State	Description
PWR	Green	on	Power is on.
	N/A	off	No power input.
Storage	Yellow	Flashing	Storage is operating

Rear View

Antenna Hole

POWER SW   USB 1   AUDIO   COM   DC IN
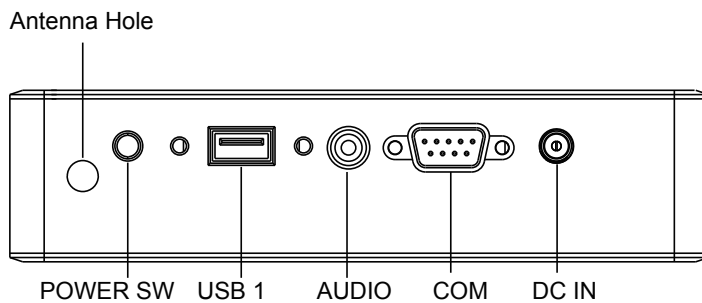
2.3. Driver Installation Notes

The IEC-3300 supports Windows 7 and Windows 8.1. Find the necessary drivers on the CD that comes with your purchase. For different OS, the driver/ utility installation may vary slightly, but generally they are similar.

Find the drivers on CD by the following paths:

Windows 7

Device	Driver Path
Audio	\Audio\32bit_Win7_Win8_Win81_R275
	\Audio\64bit_Win7_Win8_Win81_R275
Chipset	\Chipset\SetupChipset_10.0.13_PC
Ethernet	\Ethernet\Realtek\Win7\Install_Win7_7085_05222014
GPIO	\GPIO\windows 7 32_64\Intel Atom E3800 Win7 IO Drivers_Gold_v1.0 package 501232_ 20140211
Graphic	\Graphics\WIN7_32\Intel_EMGD.WIN7_PC_Version_36_15_0_1073
	\Graphics\WIN7_64\Intel_EMGD.WIN7_PC_Version_37_15_0_1073
TXE	\TXE\Installers (Only for 64-bit)
USB3.0	\USB3.0\Intel(R) USB 3.0 eXtensible Host Controller_Win7_32bit_64bit_R3.0.0.33
Serial IO	\Serial IO\Intel Processor IO Drivers_Win7_32bit_64bit_Gold_v2.0

Windows 8.1

Device	Driver Path
Audio	\Audio\32bit_Win7_Win8_Win81_R275
	\Audio\64bit_Win7_Win8_Win81_R275
Chipset	\Chipset\SetupChipset_10.0.13_PC
Ethernet	\Ethernet\Realtek\Win8_8.1\Install_Win8_8.1_8031_05222014
GPIO	\GPIO\Kit 100882 20140211 windows 8.1 64\GPIO(Only for 64-bit)
Graphic	\Graphics\WIN8_32\15.33.22.3621
	\Graphics\WIN8_64\15.33.22.64.3621
TXE	\TXE\Installers
Serial IO	\Serial IO\SerialIO_Installer_Win8.1_64bit_WW23

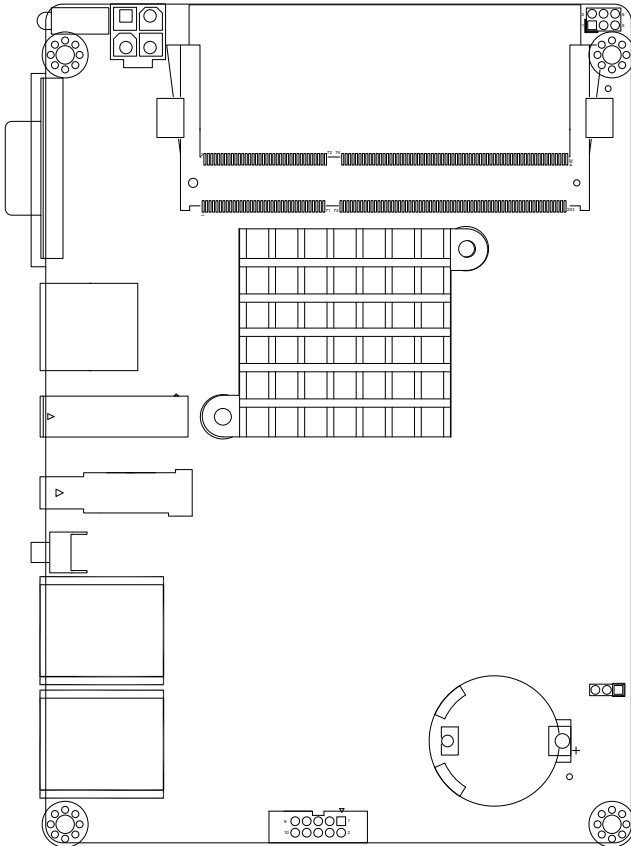This page is intentionally left blank.
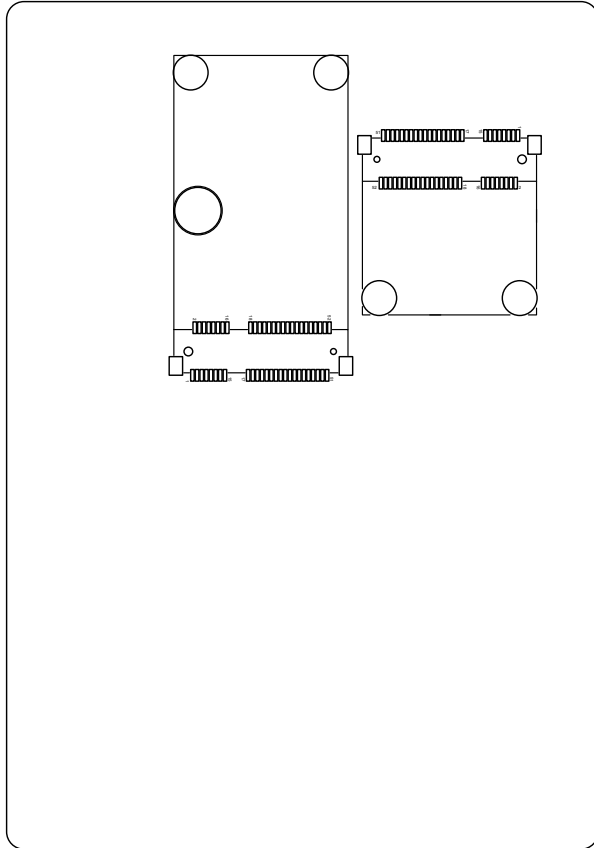
Chapter 3

System Configuration

3.1. Board Layout

The engine of the computer is the main board. This section will provide an thorough view.

3.1.1. Main Board

Board Top

Board Bottom

3.2. Jumper & Connectors

The main board comes with some connectors to join some devices and some jumpers to alter hardware configuration. The power board also comes with some connectors. The following in this chapter will explicate each of these components.

3.2.1. Jumpers

JPIC1

Function:	Sets the AT/ATX mode
Jumper Type:	2.00mm pitch 2x3-pin header
Setting:	

Pin	Description	
2-4	AT	
4-6	ATX mode (default)	

Note to make consistent setting in **BIOS** | **Advanced** menu | **ACPI Settings** | **Power-Supply Type** to avoid possible conflict. See .

Board Top

JPIC1
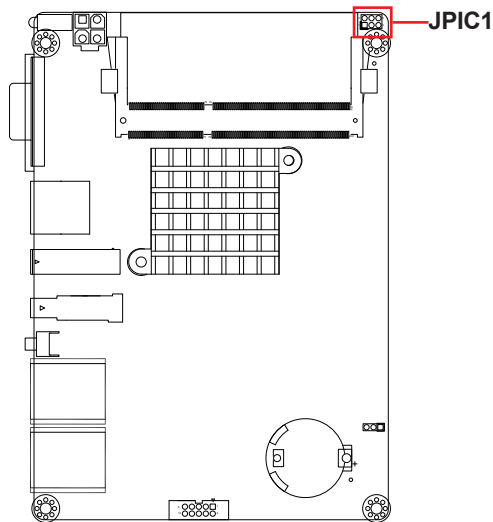
JBAT1

Function:	Clears/keeps CMOS	
Jumper Type:	2.00 mm pitch 1x3-pin header	
Setting:		

Pin	Description	
1-2	Keeps CMOS (default)	3 2 1
2-3	Clears CMOS	3 2 1

Board Top

JBAT1
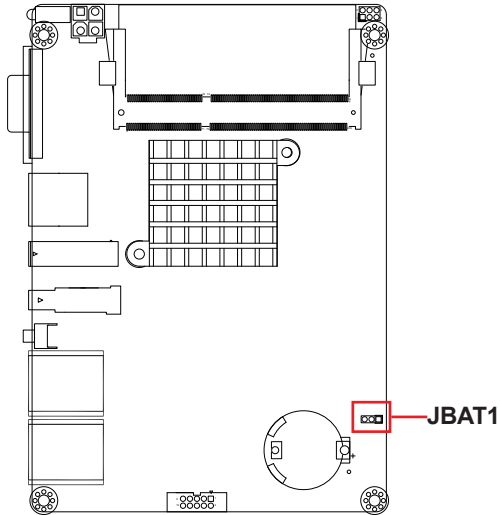
3.2.2 Connectors

This section will guide you through the connectors on the main board.

LAN1, 2

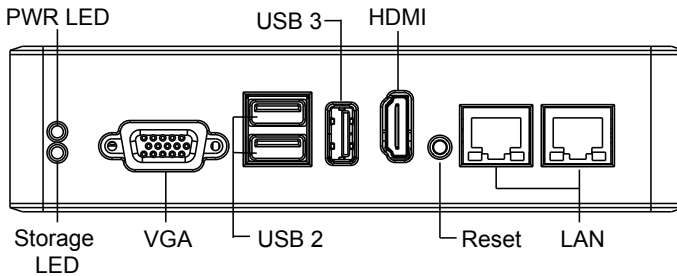**Function:** Ethernet connectors
Connector Type: RJ-45 connector that supports 10/100/1000Mbps fast Ethernet
Pin Assignment:

Pin	Description	Pin	Description
1	MDI0+	2	MDI0-
3	MDI1+	4	MDI1-
5	MDI2+	6	MDI2-
7	MDI3+	8	MDI3-

Front Panel

PWR LED   USB 3   HDMI

Storage LED   VGA   USB 2   Reset   LAN
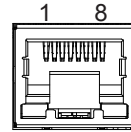
Reset

Function: Reset button

Front Panel
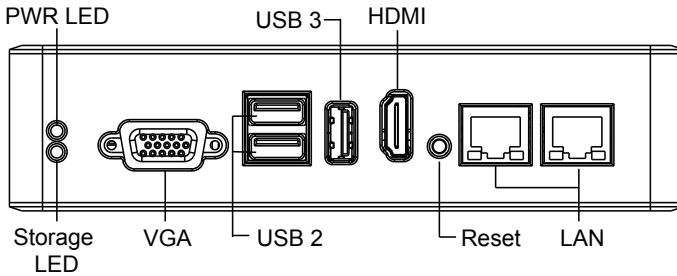
HDMI

Function:	HDMI connector
Connector Type:	19-pin HDMI connector with flange
Pin Assignment:	
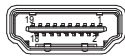
The pin assignments conform to the industry standard.
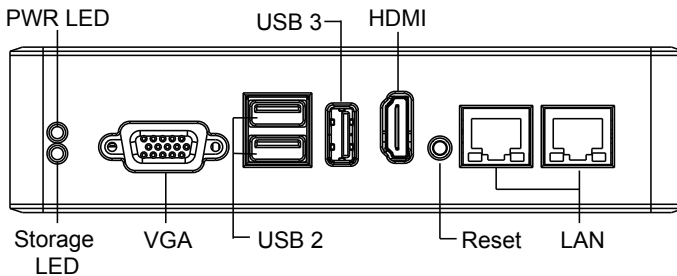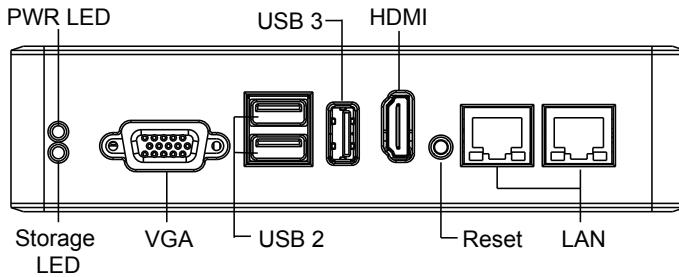
Front Panel

USB 3.0

Function:　　　　USB 3.0 connector
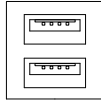**Connector Type:**　USB 3.0/2.0 type-A connectors
Pin Assignment:

The pin assignments conform to the industry standard.

Front Panel

PWR LED　　　　　USB 3　　HDMI

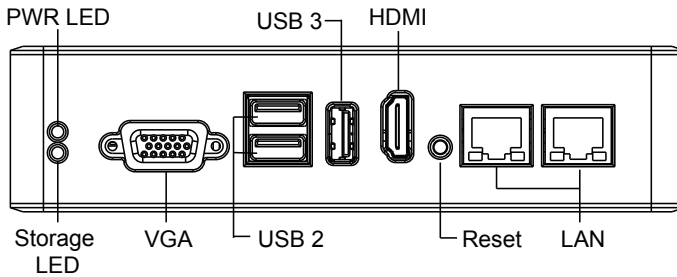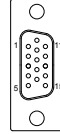Storage　　VGA　　USB 2　　　Reset　　LAN
LED

USB 2.0

Function: Double-stacked USB connectors
Connector Type: Two USB 2.0/1.0 type-A connectors
Pin Assignment:

The pin assignments conform to the industry standard.

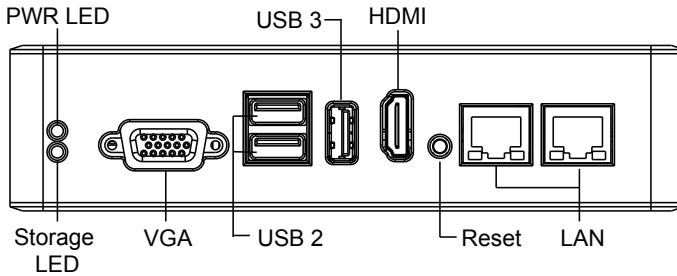**Front Panel**

VGA

Function: Analog RGB connector
Connector Type: D-Sub 15-pin female connector
Pin Assignment:

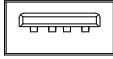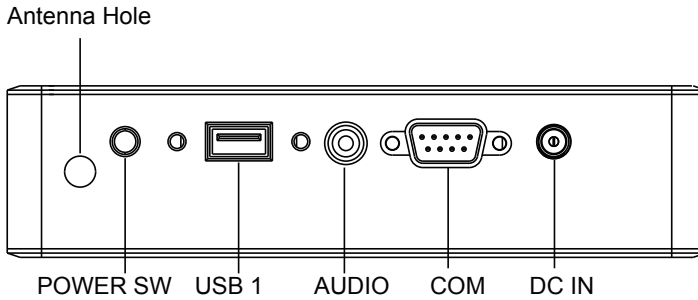| Pin	Description.	Pin	Description
1	RED	9	5V
2	GREEN	10	GND
3	BLUE	11	N/C
4	N/C	12	D-DATA
5	GND	13	H-SYNC
6	GND	14	V-SYNC
7	GND	15	D-DCLK
8	GND		

Front Panel

USB1

Function: USB 2.0 connector
Connector Type: USB 2.0/1.0 type-A connectors
Pin Assignment:

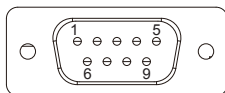The pin assignments conform to the industry standard.

Rear Panel

Antenna Hole
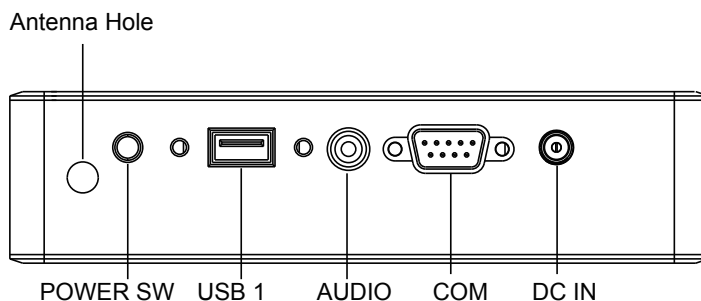
POWER SW   USB 1   AUDIO   COM   DC IN

COM1

Function: Serial port
Connector Type: External 9-pin D-sub male connector
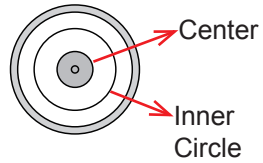

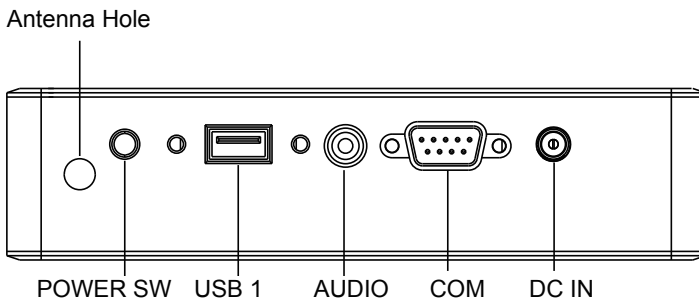The pin assignments conform to the industry standard.

Rear Panel

Antenna Hole

POWER SW   USB 1   AUDIO   COM   DC IN

DC IN

Function:	12V adapter in DC jack
Connector Type:	2.5φ DC jack with nut and washer

Pin	Description
Center	12V
Inner circle	GND

Center

Inner
Circle

Rear Panel

Antenna Hole

POWER SW　　USB 1　　AUDIO　　COM　　DC IN

AUDIO

Function: Line_out

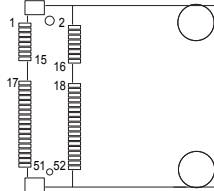**Rear Panel**

Antenna Hole
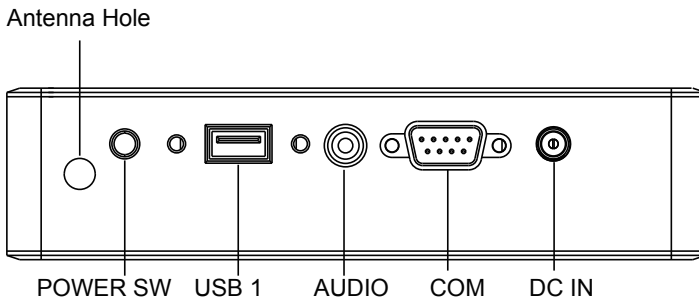
POWER SW　　USB 1　　AUDIO　　COM　　DC IN

MC1

Function: Mini-card socket
Connector Type: Onboard 0.8mm-pitch 52-pin edge card connector

The pin assignments conform to the industry standard.
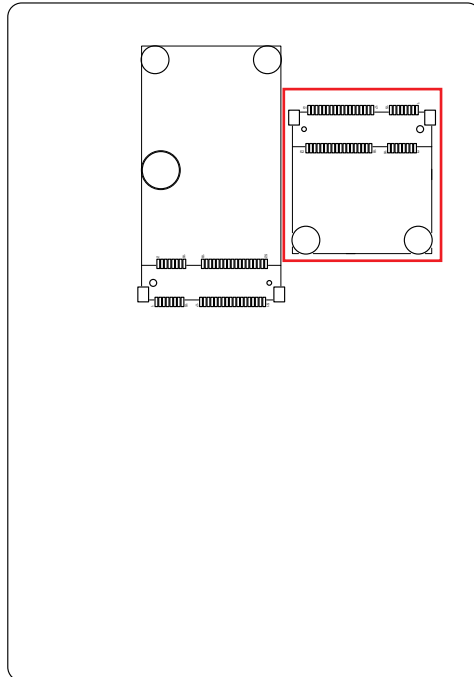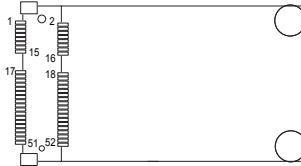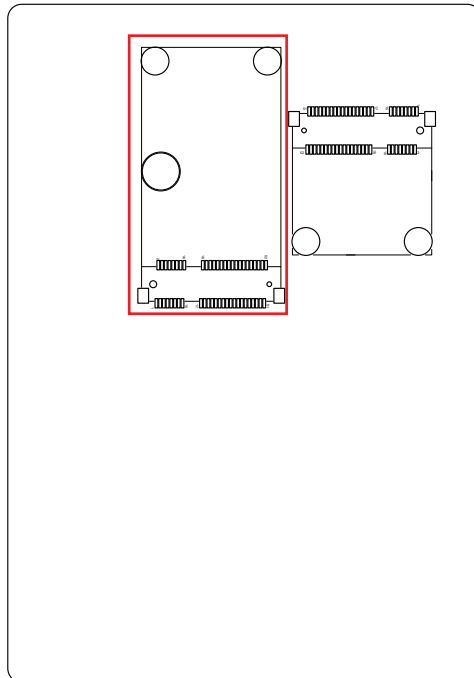
Board Bottom

mSATA1

Function: mSATA socket
Connector Type: Onboard 0.8mm pitch 52-pin edge card connector

The pin assignments conform to the industry standard.

Board Bottom

This page is intentionally left blank.

Chapter 4

Installation and Maintenance

4.1. Install Hardware

The IEC-3300 is constructed based on modular design to make it easy for users to add hardware or to maintain the computer. The following sections will guide you to the simple hardware installations for the computer.

4.1.1. Open the upper/bottom cover of the Computer

Most of the connectors are built on the top side of the main board. To access these components, the computer's top cover has to go. Follow through the steps below to remove the top cover from the computer.

1. Place the computer on a flat surface. Loosen and remove the 4 screws from the computer's two sides as shown in the illustration below:

Upper cover

Bottom cover

2. Remove the upper/bottom cover completely from the computer.

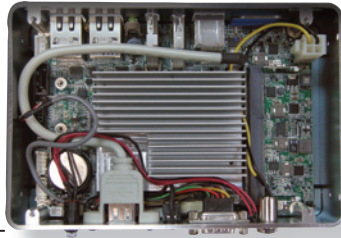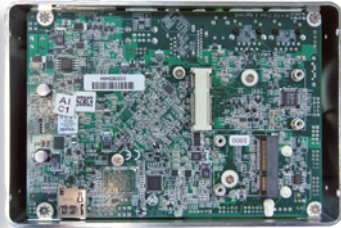Upper cover   Bottom cover

3. The inside of the computer comes to view.

Upper side   Bottom side

4.1.2. Restore the upper/bottom cover

1. Restore the upper/bottom cover with the box.

Upper cover   Bottom cover

2. Fasten the screws on sides to complete the assembly.

Upper cover

Bottom cover

4.1.3. Install Memory Module

The main board has one dual inline memory module (DIMM) socket. Load the computer with a memory module to make the computer run programs. The memory module for the computer's SO-DIMM socket should be a 204-pin DDR3 with a "key notch" off the centre among the pins, which enables the memory module for particular applications. There are another two notches at each left and right side of the memory module to help fix the module in the socket.
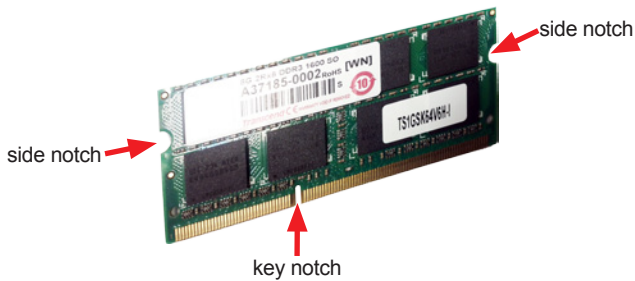
To install a memory module:

1. Remove the upper cover from the computer as described in 4.1.1. Open the upper/bottom cover of the Computer on page 30.

2. Find the SO-DIMM socket on the board as marked in the illustration below.
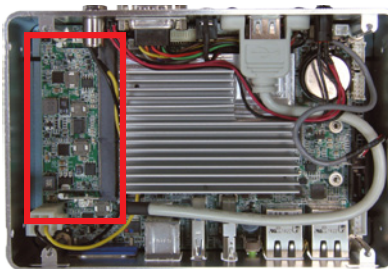
The SO-DIMM socket is horizontal type, and it has two spring-loaded locks to fix the memory module.

3. To prevent from interfering during installation, unplug the power connector.
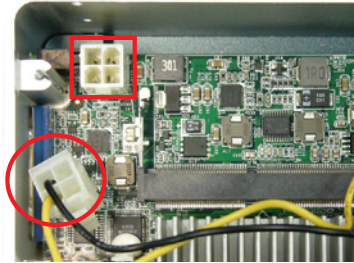
4. Confront the memory module's edge connector with the SO-DIMM slot connector. Align the memory module's key notch at the break on the SO-DIMM slot connector.

SO-DIMM slot connector's break

memory module's key notch
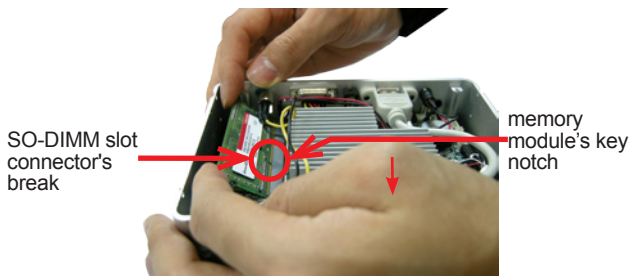
Aligh the memory module's key notch at the SO-DIMM slot connector's break.

5. By a slanted angle, fully plug the memory module until it cannot be plugged any more.
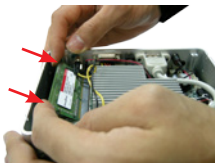
6.   Press down the memory module until it is auto-locked in place.

7.   Plug the power connector into the socket.
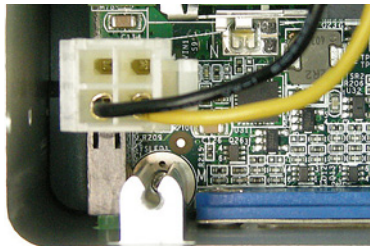
4.1.4. Wall-Mount

1. Fix the wall-mount kit on the both side of device with screws.
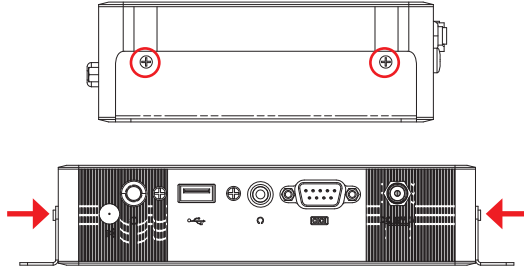
2. Find the cutouts marked in the illustration below. Mount the computer to a wall by the said cutouts.
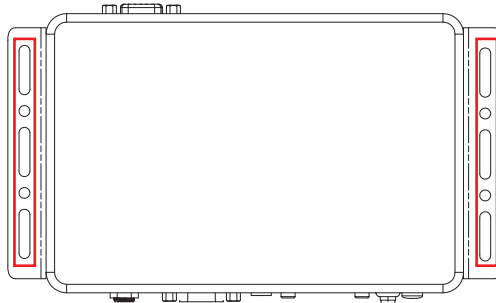
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Chapter 5

BIOS

The BIOS Setup utility for the computer is featured by American Megatrends Inc to configure the system settings stored in the system's BIOS ROM. The BIOS is activated once the computer powers on. When the computer is off, the battery on the main board supplies power to BIOS RAM.

To enter the BIOS Setup utility, keep hitting the "Esc" key upon powering on the computer.
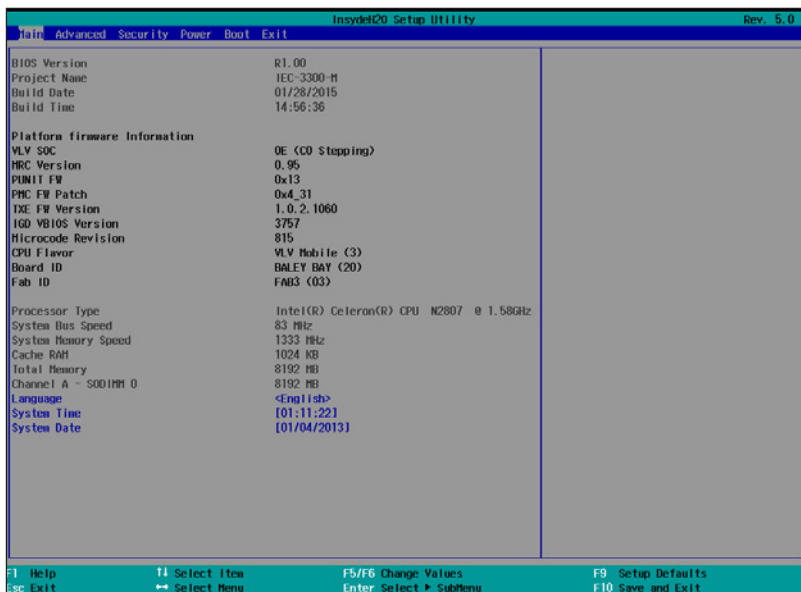
The BIOS featured menus are:

Menu	Description
Main	See 5.1. Main on page 40.
Advanced	See 5.2. Advanced on page 41.
Security	See 5.3. Security on page 46.
Power	See 5.4. Power on page 47.
Boot	See 5.5. Boot on page 48.
Exit	See 5.6. Exit on page 49.

Key Commands

The BIOS Setup utility relies on a keyboard to receive user's instructions. Hit the following keys to navigate within the utility and configure the utility.

Keystroke	Function
← →	Moves left/right between the top menus.
↓ ↑	Moves up/down between highlight items.
Enter	Selects an highlighted item/field.
Esc	▶ On the top menus: Use **Esc** to quit the utility without saving changes to CMOS. (The screen will prompt a message asking you to select **OK** or **Cancel** to exit discarding changes. ▶ On the submenus: Use **Esc** to quit current screen and return to the top menu.
F5	Increases current value to the next higher value or switches between available options.
F6	Decreases current value to the next lower value or switches between available options.
F1	Opens the **Help** of the BIOS Setup utility.
F9	Restore the Setup Default (The screen then prompts a message asking you to select **OK** or **Cancel** to restore to default.)
F10	Exits the utility saving the changes that have been made. (The screen then prompts a message asking you to select **OK** or **Cancel** to exit saving changes.)

Note: Pay attention to the "WARNING" that shows at the left pane onscreen when making any change to the BIOS settings.

This BIOS Setup utility is updated from time to time to improve system performance and hence the screenshots hereinafter may not fully comply with what you actually have onscreen.

5.1. Main

The **Main** menu features the settings of **System Date** and **System Time** and displays some BIOS info and system info.
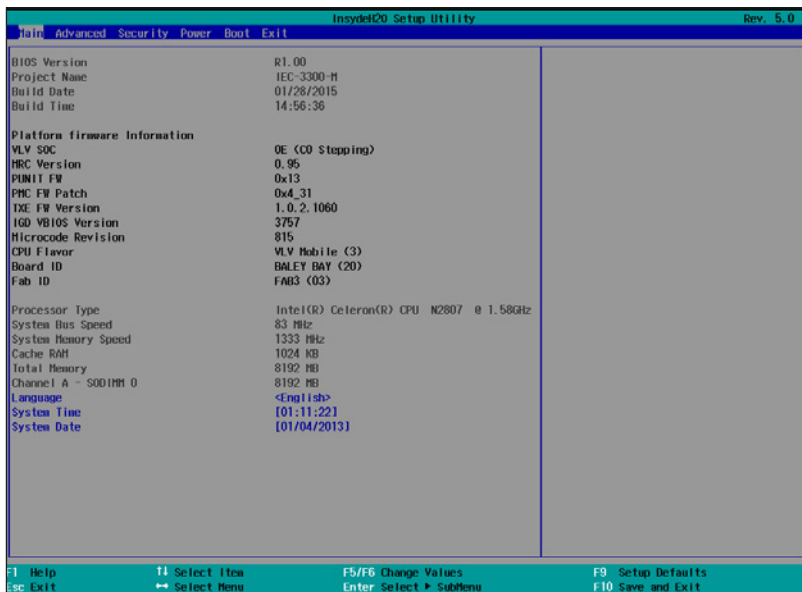
The BIOS info displayed are:

Info	Description
BIOS Version	Delivers the computer's BIOS version.
Project name	Delivers the name of the project
Build Date and Time	Delivers the date and time when the BIOS Setup utility was created/updated.
Platform firmware Information	Delivers the Platform firmware Information

The featured settings are:

Setting	Description
Language	Select the current default language used by the InsydeH20
System Time	Sets system time.
System Date	Sets system date.

5.2. Advanced

Access the **Advanced** menu to manage the computer's system configuration including the Super IO chip.
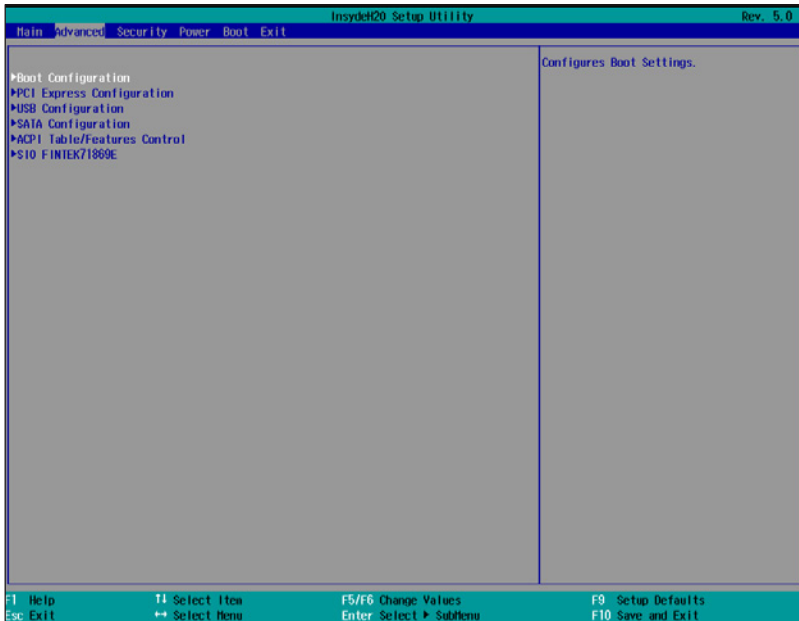
The featured settings and submenus are:

Setting	Description
Boot Configuration	See 5.2.1. Boot Configuration on page 42
PCI Express Configuration	See 5.2.2. PCI Express Configuration on page 42
USB Configuration	See 5.2.3. USB Configuration on page 43
SATA Configuration	See 5.2.4. SATA Configuration on page 44
ACPI Table/Feature Control	See 5.2.5. ACPI Table/Feature Control on page 45
SIO FINTEK71869E	See 5.2.6. SIO FINTEK71869E on page 45.

5.2.1. Boot Configuration

Setting	Description
Numlock	Select Power-on state for Num lock

5.2.2. PCI Express Configuration

Configures PCI Express by the following settings:

Setting	Description
Mini PCI Port	▶ PCI Express Root Port 4 Enables/disables this PCIe port. ▶ PCIe Speed Options are: Auto, Gen 1, Gen 2 Auto is the default. ▶ ASPM Support Options are: Disable : disables ASPM L0s : force all links to L0s state L1 : force all links to L1 state L0sL1 : force all links to L0s+L1 state Auto : BIOS auto configure

5.2.3. USB Configuration

Select this submenu to view the status of the USB ports and configure USB features.

The featured settings are:

Setting	Description
XHCI Pre-Boot Mode Support	Enables/Disables XHCI Pre-Boot mode support
xHCI Mode	Set the mode of operation of xHCI controller Options are Disabled/Enabled/Auto/Smart Auto(default)
XCHI Controller	Enables/Disables XHCI controller
USB2 Link Power Management	Enables/Disables USB2 Link Power Management.
XCHI Streams	Enables/disables XHCI Stream
USB OTG Support	Enables/disables USB OTG Support
USB VBUS	Turn ON/OFF USB VBUS. Turn ON in HOST mode, and turn OFF in OTG device mode.
USB RMH Mode	Enables/disables USB RMH Mode
USB ECHI debug	Enables/disables USB ECHI debug
USB Per-Port Control	Enables/Disables USB Per-port control

5.2.4. SATA Configuration

Select this submenu to configure the SATA controller and HD.

Setting	Description
SATA Controller(s)	Enables/disables the present SATA controller. ▸ **Enabled** is the default.
SATA Test Mode	Enables/disables the SATA test mode.
Configures SATA Mode	Configures how to sun the SATA drives. ▸ Options available are **AHCI** (default) and **IDE**.
SATA Port 0 Hot Plug Capability	Enables/disables hot-pluggable feature for the SATA port. ▸ **Enabled** is the default.
SATA Port 1 Hot Plug Capability	
SATA Port 0 Connect to an ODD	Enables/disables the SATA port connect to an ODD If enabled, when you connect an ODD to a SATA port.
SATA Port 1 Connect to an ODD	The software auto detection for media insert and tray will be enabled. ▸ **Disabled** is the default.
Serial ATA Port 0	Delivers the SATA port Media information and Security Mode.
Serial ATA Port 1	

5.2.5. ACPI Table/Feature Control

Setting	Description
FACP - RTC S4 Wakeup	This function will be avalible only when ACPI is enabled. Enables/disables S4 Wakup from RTC.
APIC - IO APIC Mode	This item is valid only for WIN2K and WINXP. Also, a frech install of the OS must occur when APIC mode is desired. Enables/disables the APIC mode
DSDT - ACPI S3	Enables/disables ACPI S3 state
DSDT - ACPI S4	Enables/disables ACPI S4 state
BGRT - ACPI BGRT	Enables/disables ACPI BGRT Table

5.2.6. SIO FINTEK71869E

Configures SIO by the following settings:

Setting	Description
Power Loss mode	Set the state of Power Loss mode Options are Keep last state/ Bypass mode/ Always On(default)/ Always Off
Serial Port A	▶ Serial Port A Enables/disables the Serial port. ▶ Base I/O Address Setup the Base I/O Address of the Serial Port. ▶ Interrupt Setup the Interrupt of the Serial Port

5.3. Security

The **Security** menu sets up the TPM (Trusted Platform Module) device and password for the system's administrator account. Once the administrator password is set up, this BIOS Setup utility is limited to access and will ask for the password each time any access is attempted.
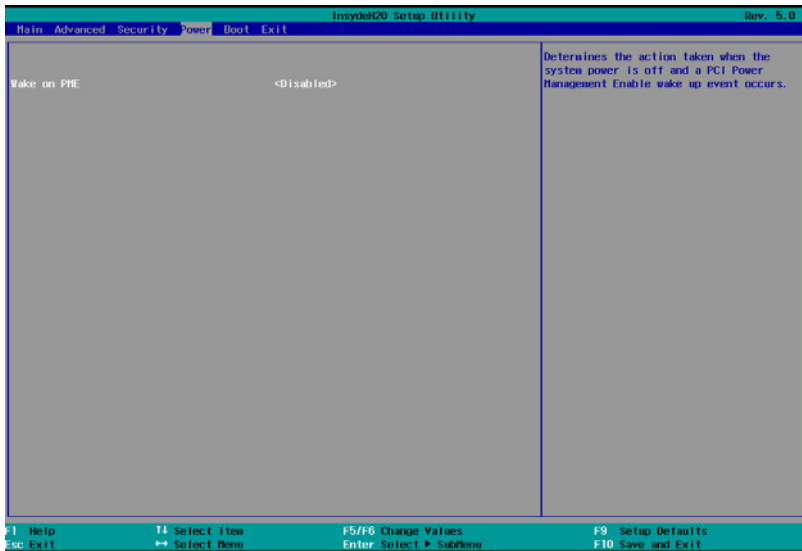

The featured setting is:

Setting	Description
Select TPM Device	Select TPM device to initialize if a TPM device is installed.
Administrator Password	To set up an administrator password: 1. Select **Administrator Password**. An **Create New Password** dialog then pops up onscreen. 2. Enter your desired password that is no less than 3 characters and no more than 20 characters. 3. Hit [Enter] key to submit.

5.4. Power

The **Security** menu sets up the password for the system's administrator account. Once the administrator password is set up, this BIOS Setup utility is limited to access and will ask for the password each time any access is attempted.
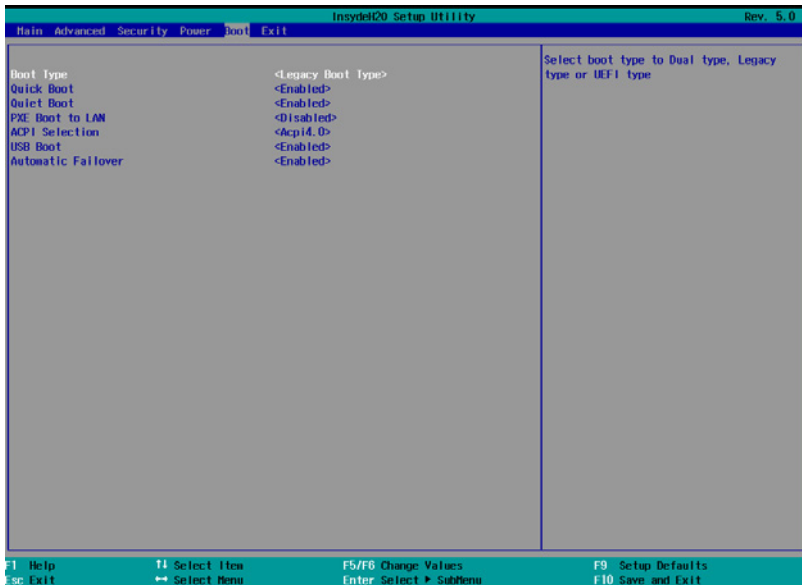

The featured setting is:

Setting	Description
Wake on PME	Enables or diables Wake on PME. Determines the action taken when the system power is off and a PCI Power Management Enable wake up event occurs.

5.5. Boot

The **Boot** menu configures how to boot up the system such as the configuration of boot device priority.
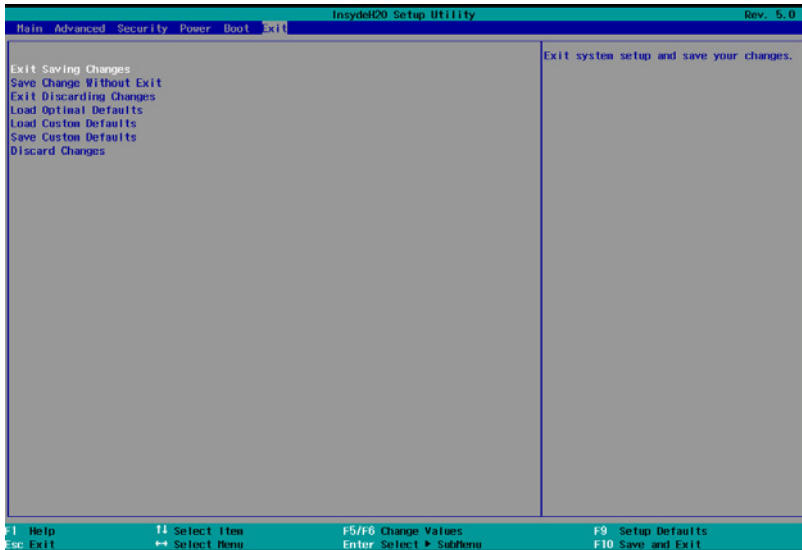

The featured settings are:

Setting	Description
Boot Type	Select Boot Type. Options are **Legacy Boot Type**(default) and **UEFI Boot Type**
Quick Boot	Allow InsydeH20 to Skip certain tests while booting . This will descrese the time need to boot the system.
Quiet Boot	Disables or enables booting in text mode.
PXE boot to LAN	Disables or enables PXE boot to LAN.
APCI Selection	Select boot to Acpi 3.0/Acpi 1.0B Options are Acpi 1.0B/Acpi 3.0/Acpi 4.0/Acpi 5.0
USB Boot	Disables or enables booting to USB boot devices.
Automatic Failover	Enables/disables the Automatic Failover.

5.6. Exit

The **Save & Exit** menu features a handful of commands to launch actions from the BIOS Setup utility regarding saving changes, quitting the utility and recovering defaults.

The features settings are:

Setting	Description
Exit Saving Changes	Saves the changes and quits the BIOS Setup utility.
Save Changes Without Exit	Save Changes but does not quit the BIOS.
Exit Discard Changes	Quits the BIOS Setup utility without saving the change(s).
Load Optimal Defaults	Restores all settings to defaults. ▸ This is a command to launch an action from the BIOS Setup utility rather than a setting.
Load Custom Default	Load custome default values
Save Custom Default	Save current setting as custome default
Discard Changes	Discard all changes without Exit.

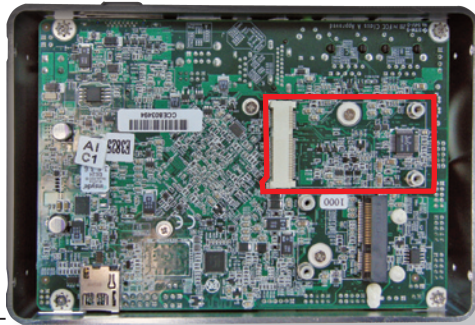This page is intentionally left blank.

Appendices

Appendix A: Install mSATA Storage

To install an mSATA storage module to the computer:

1. Remove the top cover from the computer as described in <u>4.1.1. Open the upper/bottom cover of the Computer</u> on page <u>30</u>.

    The inside of the computer comes to view.

2. Find the socket for mSATA module as the picture above shows.

3. Confront the mSATA module's edge connector with the socket's connector. Align the module's key notch the connector's break.
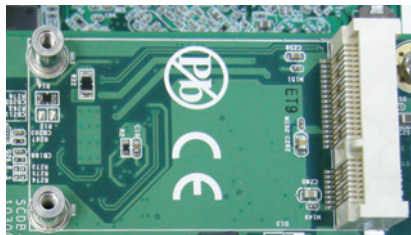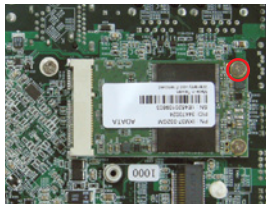

The module's key notch should meet the connector's break.

4. Fully plug the module until it cannot be plugged any more.

Connector break

Fully plug the module.

5. Press the module down and fix the module in place using two screws.

6. Restore the upper cover to the computer.

7. Fasten the screws on sides to complete the assembly.

## Appendix B: Wi-Fi Module WIFI-AT2200 Hardware Installation

To use Wi-Fi, hardware-wise the computer needs a Wi-Fi module installed, and software-wise the computer needs the device driver and an application program. This appendix will guide you to install the Wi-Fi module **WIFI-AT2100** and the device driver. (To have a copy of the device driver, please contact ARBOR customer service by the contact info described in Technical Support on page vii.)

1. Remove the computer's upper cover as described in 4.1.1. Open the upper/bottom cover of the Computer on page 30.

2. Dismantle the power board from the main board.

    The **PCI Express Mini-card** socket for wireless modules comes to view.
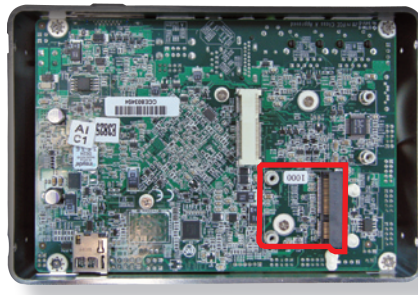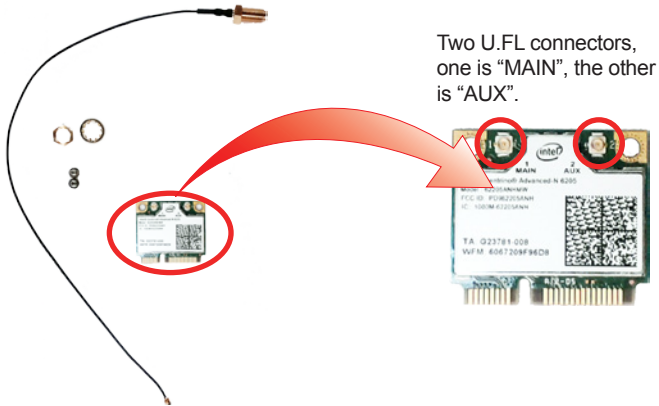

    Note the socket has a break among the connector .
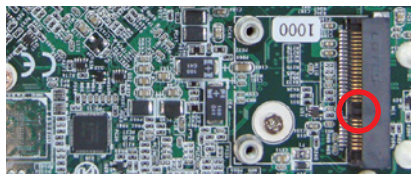
    The module's key notch should meet the connector's break.

3. Prepare the **WIFI-AT2100** Wi-Fi module kit. The module is a half-size module of **PCI Express Mini-card** form factor, with two U.FL connectors, one is "MAIN", and the other is "AUX".

Two U.FL connectors, one is "MAIN", the other is "AUX".

4. Plug the Wi-Fi module to the socket's connector by a slanted angle. Fully plug the module, and note the notch on the wireless module should meet the break of the connector.
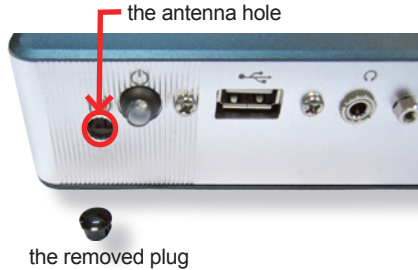

Connector break

Fully plug the module.

5.   Press the module down and fix the module in place using two screws.

6.   Remove a plastic plug from the computer's rear (or front) panel to make an antenna hole. Keep the plastic plug for any possible restoration in the future.

the antenna hole

the removed plug

7.   Have the RF antenna. The antenna has an SMA connector on one end and an MHF connector on the other.
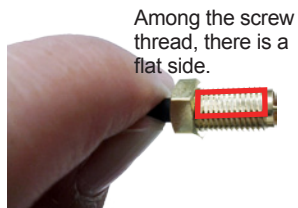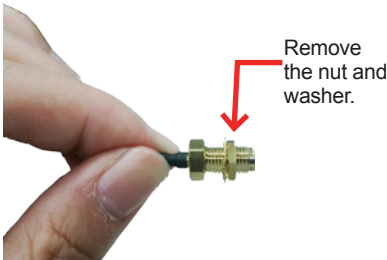

SMA connector
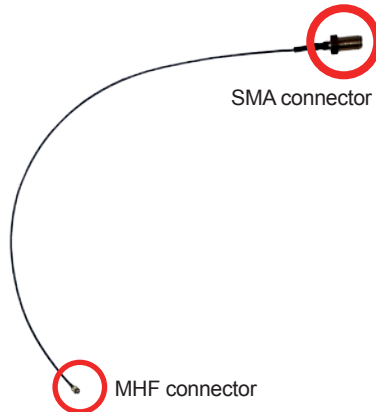
MHF connector

8. Connect the RF antenna's MHF connector to the Wi-Fi module's "MAIN" connector.


Connect the RF antenna's MHF connector to the Wi-Fi module's "MAIN" connector

9. From the other end of the RF antenna, which is an SMA connector, remove the washer and the nut. Save the washer and nut for later use. Note the SMA connector has the form of a threaded bolt, with one flat side.

Remove the nut and washer.

Among the screw thread, there is a flat side.

10. Pull the SMA connector through the above mentioned antenna hole. Note to meet the aforesaid flattened side with the antenna hole's flat side.

Arrange the flat side of the SMA connector to meet the flat side of the antenna hole.
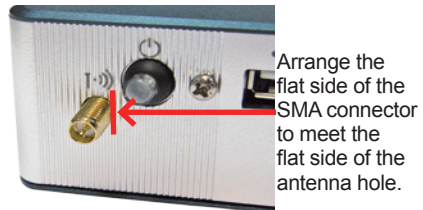
11. Mount the washer first and then the nut to the SMA connector. Make sure the nut is tightened.

Mount the washer and the nut to the SMA connector. Tighten the nut.

12. Restore the computer's bottom cover and fasten the screws

13. Have an external antenna. Screw and tightly fasten the antenna to the SMA connector.