

ASB200-908

User Manual

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IBASE Technology Inc.

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Safety Information

Your ASB200-908 is designed and tested to meet the latest standards of safety for information technology equipment. However, to ensure your safety, it is important that you read the following safety instructions

Setting up your system

- Read and follow all instructions in the documentation before you operate your system.
- Do not use this product near water.
- Set up the system on a stable surface. Do not secure the system on any unstable plane.
- Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
- Slots and openings on the chassis are for ventilation. Do not block or cover these openings. Make sure you leave plenty of space around the system for ventilation.
 Never insert objects of any kind into the ventilation openings.
- This system should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- Use this product in environments with ambient temperatures between 0°C and 40°C.
- If you use an extension cord, make sure that the total ampere rating of the devices plugged into the extension cord does not exceed its ampere rating.
- DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THESTORAGE TEMPERATURE MAY GO BELOW -20° C (-4° F) OR ABOVE 80° C (176° F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.



Care during use

- Do not walk on the power cord or allow anything to rest on it.
- Do not spill water or any other liquids on your system.
- When the system is turned off, a small amount of electrical current still flows. Always unplug all power, and network cables from the power outlets before cleaning the system.
- If you encounter the following technical problems with the product, unplug the power cord and contact a qualified service technician or your retailer.
 - The power cord or plug is damaged.
 - Liquid has been spilled into the system.
 - The system does not function properly even if you follow the operating instructions.
 - > The system was dropped or the cabinet is damaged.

Lithium-Ion Battery Warning

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

NO DISASSEMBLY

The warranty does not apply to the products that have been disassembled by users

WARNING HAZARDOUS MOVING PARTS KEEP FINGERS AND OTHER BODY PARTS AWAY



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CHAPTER 1 INTRODUCTION

1.1 General Description

ASB200-908 Embedded Box PC comes with 4th Gen. Intel[®] CoreTM i7/i5/i3 Celeron Quad Core/Dual Core processors and Intel HD Integrated Graphics Engine with high performance and low power. It supports DVI-I display output, 2 x USB 3.0, 2 x USB 2.0, 1x CFAST expansion slot, and 2 x Gigabit LAN giving a great selection for data communication in display applications. The compact design 180 x 150 x 66 mm chassis enables the unit to easily fit into the tightest spaces behind displays. This embedded box computer is ideal for digital signage player, Kiosk, entry-level gaming, video surveillance, and other automation & embedded application.



1.2 System Specifications



1.2.1 Hardware Specifications

Engineer Specifications

Product Name	ASB200-908	
	ASB200-908-4650	
	ASB200-908-4COM	
Motherboard	IB908	
CPU type	Intel [®] 4 th generation Core [™] i5-4300U Processor (1.9	
	GHz, 3MB cache)	
	TDP=15W	
Chipset	Integrated in SoC	
Memory	2 x DDR3L-1333 SO-DIMM 2GB, Max. 16GB	
	(Non-ECC)	
	memory module with heatsink	
Storage	1 x 2.5" SATA HDD	
	2.5" 320GB 5400RPM Toshiba MQ01ABF032 HDD	
Front Panel I/O	1 x power button	
	2 x USB2.0	
	1 x CFAST socket	
	1 x HDD LED	
Rear Panel I/O	2 x Antenna reserved on real panel	
	1 x COM Ports	
	2 x DB9 for COM Port	
	1 x 12V~24V DC-in (Terminal block 3 pins) 1 x DC Jack with lock	
	(share Terminal 3 pins space)	
	DC-in connector must be near power pin header	
	IB908 edge I/O as below :	
	- 1 x DB9 for COM#1(RS232/422/485, select from	
	BIOS)	
	 1 x USB 3.0 Stacking Connector (2-ports) 	
	- 2 x RJ-45 GbE Connector	
	- 1 x DVI-I	
Power Adaptor [optional]	DPS-60PBA-A00 60W Adapter	
	Input Voltage: 90~264V	
	Input Frequency: 47~63Hz	
	Output Voltage: 12V/5A	
Mounting	Desktop or wall mount	

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VESA Mounting	VESA mount kit for optional
Chassis Material	SPCC for EMI enhancement
Chassis Color	Black
External dimensions	180 (W) x ~150 (D) x 60 (H) mm
Operating Temperature	0°C~45°C (14°F~113°F)
Storage Temperature	-20°C~80°C (-4°F~176°F)
Relative Humidity	5%~90%@45°C (non-condensing)
Vibration	Operating : 0.25Grms / 5~500Hz
	Non-operating : 1Grms / 5~500Hz
Shock	Operating : 20G / 11ms
	Non-operating : 40G / 11ms
Certification	CE / LVD / FCC / CCC / UL-CB
Regulation	RoHS
Eup/Erp function	N/A

 $\cdot \mbox{This specification is subject to change without prior notice.}$



1.2.2 Dimensions









1.2.3 I/O View



Item	Connector	Item	Connector
1	DVI-I	5	1x RS232
2	12V~24V DC in	6	2x Gigabit LAN
3	2x RS232 for optional	7	2x USB3.0
4	1x RS232/422/485		



1.3 Exploded View of the ASB200-908 Assembly



1.3.1 Parts Description

Part No.	Description	Part No.	Description
1	ASB200-908 Heatsink	2	DIP PCBA, IB908
3	DIP PCBA, ID112	4	DIP PCBA, IBCFAST
5	BASE	6	ASB200-908_Front
7	2.5" HDD	8	COM Port
9	Power input connector	10	Power button
11	Sticker_12V~24V	12	CFAST Cover
13	ASB200-908_Bracket		

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1.4 Packing List

Item No.	Description	Qty
1	Driver CD	1
2	User manual	1
3	Wall mount kit	2

1.4.1 Optional Items

WiFi Solution	Description	
WiFi module	WIRELESS;PCI-E MINI CARD 802.11B/G/N [AW-NE238H] (A008WLAWNE238H000P)	The man and the man an
External Antenna	WiFi Antenna (A055RFA02C2M20800P)	
Internal cable-1/2	From Wifi module to Rear/Front panel (A055RFA0000021000P/A055RFA0000032000P)	
Bracket	MPCIE-EXT V-B1 Bracket, RoHS; Extend Half to Full size. (SC2MPCIEEXT0B1100P)	
3G Solution	Description	
ZU 202	Wireless; 3.75G UMTS/HSPA [ZU202] RoHS (A008WIRELESS00520P)	
ZU 200	Wireless; 3.75G UMTS/HSPA & GPS Module [ZU200] RoHS (A008WIRELESS00510P)	
Cable	Cable; Antenna-2 30CM P 2pcs (C501ANT0200300000P)	
Antenna	Antenna; 3G, P, 2pcs (A055ANT0921Q2P000P)	
VESA/Power kit	Description	
VESA BRACKET	Bracket; VESA mount bracket RoHS (H06Z01VESI66SG00BP)	
Power Adaptor	P/S; ADAPTER 60W 12V 2 PIN bare wire type, DPS-60PBA-A00] RoHS (A005PS060W0702000P)	
Power Cord	PW CORD; Chinese/American/Japan 3PIN 10A (A030PCAM040100000P)	



CHAPTER 2 MOTHERBOARD INTRODUCTION

2.1 Introduction

The IB908F is a 3.5-inch single board computer based on the Intel[®] Haswell-ULT MCP processors.

The IB908F platform is well-suited for low-power and high-performance designs in a broad range of markets including Industrial Control & Automation, Digital Signage, Thin Client, Electronic Gaming Machines, and SMB storage appliances.

IB908F Features:

- Supports Intel[®] 4th generation mobile CoreTM i MCP processors
- Two DDR3L SO-DIMM, 1333/1600 MHz, Max. 16GB memory
- Integrated graphics for DVI-I, LVDS displays
- 2 x SATA III connector
- 2x COM port connector
- 2 x Mini-PCIe(x1) slot (w/ USB/MSATA support)
- 2x GbE (RJ-45) connector
- 1x 12V to 24V DC-IN power connector

Product Name	IB908F
Form Factor	3.5"
СРИ Туре	- Intel [®] 4 th generation mobile Core [™] i MCP processors
	(22nm monolithic)
	- TDP = 15W (DC) , FCBGA1168 @ solder side ,
CPU Speed	Intel [®] Core [™] i7-4650U processor (1.7GHz)
	Intel [®] Core [™] i5-4300U processor (1.9GHz)
	Intel [®] Core [™] i3-4010U processor (1.7GHz)
	Intel [®] Celeron [®] 2980U processor (1.6GHz)
Cache	Up to 4MB
Chipset	Integratd in Intel [®] 4 th Generation Core [™] i U-series processor
BIOS	AMI BIOS
Memory	Intel [®] 4 th Gen. Core [™] i U-series processor integrated
	memory controller
	- DDR3L (1.35V) @1600 MHz , SO-DIMM [204-pin vertical
	type] x 2
	- Max. 16GB , Non-ECC
Display	Intel [®] 4 th Gen. Core TM i U-series processor integrated Gfx,

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	supports 3 independent displays, Direct X 11.1, OpenGL 3.2,	
	Open CL 1.2	
	- DVI-I x 1 (Thru DDI#1 w/ Level shifter [ASM1442K] for DVI	
	+ DP to VGA [NXP PTN3392])	
LVDS	- LVDS(Thru eDP, via NXP PTN3460 bridge IC)	
	24-bit dual channels LVDS interface w/DF20 socket x2	
LAN	1. Intel [®] I218LM GbE PHY (IB908 A F-4650 & IB908 A F-4300)	
	or I218V GbE PHY	
	2. Intel [®] I211AT as 2 nd GbE	
USB (Universal Serial Bus)	- Intel [®] 4 th Gen. Core [™] i U-series processor integrated USB	
	2.0 host controller, supports 6 x USB 2.0 : 2-ports onboard	
	pin header + 2 port thru MiniPCIe	
	- Intel [®] 4 th Gen. Core [™] i U-series processor integrated USB	
	3.0 host controller, support 2 x USB 3.0 in the rear panel	
Serial ATA Ports	Intel [®] 4 th Gen. Core [™] i U-series processor built-in SATA	
	controller	
	2 x SATA 3.0 (6Gbps) and 2 x mSATA via MiniPCIe slots	
	(w/NXP CBTL02043A switching IC)	
Audio	Intel [®] 4 th Gen. Core [™] i U-series processor built-in High	
	Definition Audio controller + Realtek ALC269Q-VC2-GR	
	Codec [6mm x 6mm @ MQFN48]	
	w/class-D speaker amplifier(2W per channel @ 5V power	
	supply)	
LPC I/O	Nuvoton NCT6102D [128-pin LQFP, 14 mm x 14mm x	
	<u>1.4mm)</u>	
	COM1 (RS232/422/485) [EXAR SP339EER1 232/422/485	
	transceiver for jumper-less] ;COM2(RS232 only) [SIPEX	
	SP3243EBER, QFN32]	
	[Hardware Monitor]	
	2 x Thermal inputs	
	2 x Voltage monitoring	
	1 x CPU Fan (PWM Fan type, 4-pin connector)	
Digital IO	4 in & 4 out	
iAMT(9.5)	IB908AF-4650 & IB908AF-4300	
Expansion Slots	1 x mSATA/mPCIe(x1) w/ USB signal [Half-sized]	
	1 x mSATA/mPCIe(x1) w/ USB signal [Full-sized]	
Edge Connector	DVI-I x 1	
	RJ45 x2 for LAN#1 & #2	



	USB 3.0 stack connector x 1 for USB1 / 2 [Blue color]	
	DB9 x 1 for COM #1	
On Board Header/Connector	DF20-20 socket connector x 2 for 24-bit dual channel LVDS	
	2 ports x SATA III [Blue color]	
	2x4 pins header x 2 for 4 USB 2.0 ports[DF11]	
	2x6 pins box header x1 for Audio [DF11]	
	1 x 4 pins box header x 1 for Speaker out	
	2x5 pins box header x 1 for COM2	
	2x5 pins headers x 1 for LPC (Debug purpose only)	
	5 pins box header x 1 for smart battery	
	4 pins box header x 1 for backlight/brightness control	
	4 pins power connector x 1 for SATA HDD	
	2 pins power connector x 1 for DC-in [180 degree vertical	
	type]	
Watchdog Timer	Yes (256 segments, 0, 1, 2255 sec/min)	
Power Input	<u>+12V ~ +24V DC-in</u>	
RoHS	Yes	
Board Size	102mm x 147mm	
OS supporting	- Windows 8 / Embedded ; Windows 7 / Embedded	
	- Linux	

2.2 Board Dimensions



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2.3 Setting the Jumpers

Jumpers are used on IB908F to select various settings and features according to your needs and applications. Contact your supplier if you have doubts about the best configuration for your needs. The following lists the connectors on IB908F and their respective functions.

2.4 Jumper Locations on IB908





J3: Clear CMOS Contents



J3	Setting	Function
	Pin 1-2	
123	Short/Close	Normal
	d	
	Pin 2-3	Clear
123	Short/Close	CMOS
	d	CIVIOS

J4: Clear ME Contents



J4	Setting	Function
	Pin 1-2	
123	Short/Close	Normal
120	d	
	Pin 2-3	Clear ME
123	Short/Close	RTC
	d	REGISTER

J7: Flash Descriptor Security Override (Factory use only)

J7	Flash Descriptor Security Override
Open	Disabled (Default)
Close	Enabled

J9: LVDS Panel Power Selection



J9	Setting	Panel Voltage
••• 1 2 3	Pin 1-2 Short/Close d	3.3V (default)
123	Pin 2-3 Short/Close d	5V





Connector Locations on IB908F



CN3, CN4: Gigabit LAN

CN3: Intel[®] Clarkville I218V/I218LM GbE PHY CN4: Intel[®] Pearsonville I211AT as 2nd GbE

CN5: USB 1/2 Connector

CN6: VGA DVI-I Connector

CN7: DB9 Connector

(COM1) is a DB-9 connector.

Signal Name	Pin	Pin	Signal Name
	#	#	
DCD, Data carrier	1	6	DSR, Data set
detect			ready
RXD, Receive data	2	7	RTS, Request to
			send
TXD, Transmit data	3	8	CTS, Clear to
			send
DTR, Data terminal	4	9	RI, Ring indicator
ready			
GND, ground	5	10	Not Used

COM1 is jumper-less for RS-232, RS-422 and RS-485 and is to be configured with BIOS Selection.



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		RS-23
	1	DCD
	2	RX
	3	ТХ
	4	DTR
	5	Groun
	6	DSR
	7	RTS

Pin #	Signal Name		
	RS-232	R2-422	RS-485
1	DCD	TX-	DATA-
2	RX	TX+	DATA+
3	ТХ	RX+	NC
4	DTR	RX-	NC
5	Ground	Ground	Ground
6	DSR	NC	NC
7	RTS	NC	NC
8	CTS	NC	NC
9	RI	NC	NC
10	NC	NC	NC

CN1, CN2: SATA Connectors



JP1: LCD Backlight Connector



Pin #	Signal Name
1	+12V
2	Backlight Enable
3	Brightness Control
4	Ground

JP2: USB3/4 Connector



Signal	Pin	Pin	Signal
Name	#	#	Name
Vcc	1	2	Ground
D0-	3	4	D1+
D0+	5	6	D1-
Ground	7	8	Vcc



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J2: Audio Connector (DF11 Connector)



Signal	Pin	Pin	Signal
Name	#	#	Name
LINEOUT_ R	2	1	LINEOUT_L
Ground	4	3	JD_FRONT
LINEIN_R	6	5	LINEIN_L
Ground	8	7	JD_LINEIN
MIC-R	10	9	MIC_L
Ground	12	11	JD_MIC1

JP3, JP5: LVDS Connectors (LVDS1,LVDS2)

The LVDS connectors (Hirose DF20G-20DP-1V) on board consist of the first channel (LVDS1) and second channel (LVDS2).



Signal	Pin	Pin	Signal
Name	#	#	Name
TX0N	2	1	TX0P
Ground	4	3	Ground
TX1N	6	5	TX1P
Ground	8	7	Ground
TX2N	10	9	TX2P
Ground	12	11	Ground
CLKN	14	13	CLKP
Ground	16	15	Ground
TX3N	18	17	TX3P
Power	20	19	Power

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JP4: SPI Flash Connector (factory use only)



J5: Amplifier Connector



Pin #	Signal Name
1	OUTL+
2	OUTL-
3	OUTR-
4	OUTR+

J6, J8: DDR3L SO-DIMM Sockets



J7: Factory use only





JP6: SATA HDD Power Connectors



Pin #	Signal Name
1	+5V
2	Ground
3	Ground
4	+12V

JP7: Debug 80 Port Connector (factory use only)



J11: MCU Flash Connector (factory use only)



J12: Smart Battery



Pin #	Signal Name
1	RST#
2	ICHSWI#
3	Ground
4	SMB_DATA
5	SMB_CLK

J13: Board Input Power Connector



Pin #	Signal Name
1	+9V to +24V
2	GND



J14: Front Panel Connector

The following table shows the pin outs of the 2x4 pin header



Signal	Pin	Pin	Signal Name
Name	#	#	
Ground	1	2	PWR_SW
PWR_LED	3	4	PWR_LED-
+			
HDD_LED	5	6	HDD_LED-
+			
Ground	7	8	RESET

J14 provides connectors for system indicators that provide light indication of the computer activities and switches to change the computer status.

J14 is an 8-pin header that provides interfaces for the following functions.

ATX Power ON Switch: Pins 1 and 2

This 2-pin connector is an "ATX Power Supply On/Off Switch" on the system that connects to the power switch on the case. When pressed, the power switch will force the system to power on. When pressed again, it will force the system to power off.

Power LED: Pins 3 and 4

Pin #	Signal Name	
3	LED(+)	
4	LED(-)	

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Hard Disk Drive LED Connector: Pins 5 and 6

This connector connects to the hard drive activity LED on control panel. This LED will flash when the HDD is being accessed.

Pin #	Signal Name
5	LED(+)
6	LED(-)

Reset Switch: Pins 7 and 8

The reset switch allows the user to reset the system without turning the main power switch off and then on again. Orientation is not required when making a connection to this header.

J15: Mini PCIE Connector (Supports mSATA)



J16: Mini PCIE Connector (Half Size/ Supports mSATA)



** The gap of height between J15 & J16 is following PCI Express Mini Card electromechanical spec. **

J17: COM2/RS232 Serial Port





Signal Name	Pin	Pin	Signal Name
	#	#	
DCD, Data carrier	1	2	RXD, Receive
detect			data
TXD, Transmit data	3	4	Data terminal
			ready
GND, ground	5	6	DSR, Data set
			ready
RTS, Request to send	7	8	CTS, Clear to
			send
RI, Ring indicator	9	10	Not Used

J19: Digital I/O Connector



Signal	Pin	Pin	Signal
Name	#	#	Name
GND	1	2	VCC
OUT3	3	4	OUT1
OUT2	5	6	OUT0
IN3	7	8	IN1
IN2	9	10	IN0

CPU_FAN1: CPU Fan Power Connector

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Pin #	Signal Name
1	Ground
2	+12V
3	Rotation
	detection
4	Control



CHAPTER 3 BIOS SETUP

This chapter describes the different settings available in the AMI BIOS that comes with the board. The topics covered in this chapter are as follows:

BIOS Introduction

The BIOS (Basic Input/Output System) installed in your computer system's ROM supports Intel processors. The BIOS provides critical low-level support for a standard device such as disk drives, serial ports and parallel ports. It also password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

BIOS Setup

The BIOS provides a Setup utility program for specifying the system configurations and settings. The BIOS ROM of the system stores the Setup utility. When you turn on the computer, the BIOS is immediately activated. Pressing the key immediately allows you to enter the Setup utility. If you are a little bit late pressing the key, POST (Power On Self Test) will continue with its test routines, thus preventing you from invoking the Setup. If you still wish to enter Setup, restart the system by pressing the "Reset" button or simultaneously pressing the <Ctrl>, <Alt> and <Delete> keys. You can also restart by turning the system Off and back On again. The following message will appear on the screen:

Press or <F2> to Enter Setup

In general, you press the arrow keys to highlight items, <Enter> to select, the <PgUp> and <PgDn> keys to change entries, <F1> for help and <Esc> to quit.

When you enter the Setup utility, the Main Menu screen will appear on the screen. The Main Menu allows you to select from various setup functions and exit choices.

Warning: It is strongly recommended that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both AMI and your system manufacturer to provide the absolute maximum performance and reliability. Changing the defaults could cause the system to become unstable and crash in some cases.

Main Settings

Main Advanced	Chipset Boot	Security	Save &	Exit
BIOS Information				Choose the system default language
Total memory		8176 MB (DDR3)		
memory requercy				
				→ ← Select Screen
System Date		[Tue 10/29/2013]		+- Change Field
System Time		[15:27:20]		F2: Previous Values
Access Level		Administrator		F3: Optimized Default
				ESC: Exit

Aptio Setup Utility – Copyright © 2011 American Megatrends, Inc.

System Date

Set the Date. Use Tab to switch between Data elements.

System Time

Set the Time. Use Tab to switch between Data elements.



Advanced Settings

This section allows you to configure and improve your system and allows you to set up some system features according to your preference.

Main	Advanced Chipset	Boot	Security	y Save & Exit
PCI Subsys	stem Settings			
ACPI Settir	ngs			\rightarrow \leftarrow Select Screen
► Wake up ev	vent setting			↑↓ Select Item
► CPU Config	guration			Enter: Select
SATA Conf	figuration			+- Change Field
► Shutdown 1	Temperature Configuration			F1: General Help
ISmart Con	troller			F2: Previous Values
► USB Confid	auration			F3: Optimized Default
· • • • • • • • • • • • •	J			F4: Save
► NCT6102D	Super IO Configuration			ESC: Exit
► NCT6102D	H/W Monitor			

Aptio Setup Utility

PCI Subsystem Settings

Main Advan	ced Chipset	Boot	Security	y Save & Exit
PCI Bus Driver Versio	n		V 2.0502	
				\rightarrow \leftarrow Select Screen
				↑↓ Select Item
PCI Common Settings				Enter: Select
PCI Latency Timer		32 PCI Bus (Clocks	+- Change Field
VGA Palette Snoop		Disabled		F1: General Help
PERR# Generation		Disabled		F2: Previous Values
				F3: Optimized Default
SERR# Generation		Disabled		F4: Save
				ESC: Exit
 PCI Express Setting 	<u>js</u>			

Aptio Setup Utility

PCI Latency Timer

Value to be programmed into PCI Latency Timer Register.

VGA Palette Snoop

Enables or disables VGA Palette Registers Snooping.

PERR# Generation

Enables or disables PCI device to generate PERR#.

SERR# Generation

Enables or disables PCI device to generate SERR#.


PCI Express Settings

Main Advanced Chipset	Boot	Security Save & Exit
PCI Express Device Register Settings	3	
Relaxed Ordering	Disabled	
Extended Tag	Disabled	
No Snoop	Enabled	
Maximum Payload	Auto	\rightarrow \leftarrow Select Screen
Maximum Read Request	Auto	↑↓ Select Item
		Enter: Select
PCI Express Link Register Settings		+- Change Field
	Disabled	F1: General Help
ASPM Support	Disabled	F2: Previous Values
WARNING: Enabling ASPM may cause	se	F3: Optimized Default
PCI-E devices to	o fail	F4: Save ESC: Exit
Extended Synch	Disabled	
Link Training Retry	5	
Link Training Timeout (uS)	100	
Unpopulated Links	Keep Link ON	
Restore PCIE Registers	Disabled	

Aptio Setup Utility

Relaxed Ordering

Enables or disables PCI Express Device Relaxed Ordering.

Extended Tag

If ENABLED allows device to use 8-bit Tag field as a requester.

No Snoop

Enables or disables PCI Express Device No Snoop option.

Maximum Payload

Set Maximum Payload of PCI Express Device or allow System BIOS to select the value.

Maximum Read Request

Set Maximum Read Request Size of PCI Express Device or allow System BIOS to select the value.

ASPM Support

Set the ASPM Level: Force L0s – Force all links to L0s State: AUTO – BIOS auto configure: DISABLE – Disables ASPM.

Extended Synch

If ENABLED allows generation of Extended Synchronization patterns.

Link Training Retry

Defines number of Retry Attempts software will take to retrain the link if previous training attempt was unsuccessful.

Link Training Timeout (uS)

Defines number of Microseconds software will wait before polling 'Link Training' bit in Link Status register. Value range from 10 to 1000 uS.

Unpopulated Links

In order to save power, software will disable unpopulated PCI Express links, if this option set to 'Disable Link'.

Restore PCIE Registers

On non-PCI Express aware OS's (Pre Windows Vista) some devices may not be correctly reinitialized after S3.Enabling this restore PCI Express device configuration on S3 resume Warning: Enabling this may cause issues with other hardware after S3 resume.1

ACPI Settings

Aptio Setup Utility

Main	Advanced Chipset	Boot	Security	y Save & Exit
ACPI Set	ings			
				\rightarrow \leftarrow Select Screen
Enable Hi	bernation	Enabled		†↓ Select Item
ACPI Slee	ep State	S3 (Suspend to R)	Enter: Select
Lock Lega	acy Resources	Disabled		+- Change Field
S3 Video	Repost	Disabled		F1: General Help
				F2: Previous Values
				F3: Optimized Default
				F4: Save
				ESC: Exit



Enable Hibernation

Enables or Disables System ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some OS.

ACPI Sleep State

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

Lock Legacy Resources

Enabled or Disabled Lock of Legacy Resources.

S3 Video Repost

Enable or disable S3 Video Repost.

Wake up event settings

Aptio Setup Utility				
Main	Advanced Chipset	Boot	Security	Save & Exit
Wake on I	PCIE Wake Event	Disabled	⊣ ↑ + F F F	 → Select Screen ↓ Select Item inter: Select - Change Field 1: General Help 2: Previous Values 3: Optimized Default 4: Save ESC: Exit

Wake on PCIE PME Wake Event

The options are Disabled and Enabled.

CPU Configuration

Aptio Setup Utility

Main	Advanced Chipset	Boot	Securit	y Save & Exit
CPU Confi	guration			
Intel(R) CP	PU Core(TM)i3-4010U @ 1.70	GHz		
CPU Signa	ature	40651		
Processor	Family	6		
Microcode	Patch	16		
FSB Speed	d	100MHz		
Max CPU \$	Speed	1700 MHz		
Min CPU S	Speed	800 MHz		
CPU Spee	d	800 MHz		
Processor	Cores	2		
Intel HT Te	echnology	Supported		
Intel VT-x	Technology	Supported		
Intel SMX	Technology	Not Supported		
64-bit		Supported		
EIST		Supported		
CPU C3 St	tate	Supported		
CPU C6 St	tate	Supported		
CPU C7 St	tate	Supported		
L1 Data Ca	ache	Supported		
L1 Code C	ache	Supported		
L2 Cache		Supported		→ ←Select Screen
L3Cache		Supported		↑↓ Select Item
				Enter: Select
Hyper-thre	ading	Enabled		+- Change Field
Active Pro	cessor Cores	All		F1: General Help
Overclocki	ng lock	Disabled		F2: Previous Values
Limit CPUI	D Maximum	Disabled		F3: Optimized Default
Execute Di	isable Bit	Enabled		F4: Save ESC: Exit
Intel Virtua	lization Technology	Enabled		
CPU AES		Enabled		
EIST		Enabled		
				1



Hyper-threading

Select the performance state that the BIOS will set before OS handoff.

Active Processor Cores

Number of cores to enable in each processor package.

Overclocking lock

Flex_RATIO(194)MSR

Limit CPUID Maximum

Disabled for Windows XP.

Execute Disable Bit

XD can prevent certain classes of malicious buffer overflow attacks when combined with a supporting OS

Intel Virtualization Technology

When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

CPU AES

Enabled/Disabled CPU Advanced Encryption Standard instructions

EIST

Enabled/Disabled Intel Speedstep.

SATA Configuration

SATA Devices Configuration.

Main Advanced Chipset	Boot	Security	Save & Exit
SATA Controller(s)	Enabled		
SATA Mode Selection	AHCI		
SATA Port0	Empty		
Software Preserve	Unknown		
Hot Plug	Disabled		
SATA Port1	Empty		
Software Preserve	Unknown		
Hot Plug	Disabled		Select Screen
SATA Port2	Empty		↑↓ Select Item
Software Preserve	Unknown		Enter: Select
Hot Plug	Disabled		+- Change Field
SATA Port3	Empty		F1: General Help
Software Preserve	Unknown		F2: Previous Values
Hot Plug	Disabled		F3: Optimized Default
			F4: Save ESC: Exit

Aptio Setup Utility

SATA Controller(s)

Enable / Disable Serial ATA Controller.

SATA Mode Selection

(1) AHCI Mode.

(2) RAID Mode.

Hot Plug

Designates this port as Hot Plugable.



Shutdown Temperature Configuration

Main	Advanced	Chipset	Boot	Secur	rity	Save & Exit
APCI Shu	tdown Temperatur	e	Disabled		→ ↓ +- F1:: F3: F4:	- Select Screen Select Item er: Select Change Field General Help Previous Values Optimized Default Save ESC: Exit

Aptio Setup Utility

ACPI Shutdown Temperature

The default setting is Disabled.

iSmart Controller

Aptio Setup Utility

Main	Advanced	Chipset	Boot	Securi	ty S	ave & Exit
iSmart Co	ontroller					
Power-Or	n after Power failur	e	Disabl	e	$\rightarrow \leftarrow$ $\uparrow \downarrow s$ Ente	Select Screen Select Item r: Select
Schedule	Slot 1		None		+- (F1:(Change Field General Help
Schedule	Slot 2		None		F2: E F3: 0 F4: 5	Previous Values Optimized Default Save ESC: Exit

ISmart Controller

Setup the power on time for the system.

Schedule Slot 1 / 2

Setup the hour/minute for system power on.

Aptio Setup Utility							
Main	Advanced	Chipset	Boot	Security	Save & Exit		
Intel AMT			Enabled				
BIOS Hotk	ey Pressed		Disabled				
MEBx Sele	ection Screen		Disabled				
Hide Un-C	Hide Un-Configure ME Confirmation Disabled						
Un-Configu	Un-Configure ME Disabled						
Amt Wait 1	Fimer	0					
Activate R	emote Assistance P	rocess	Disabled				
USB Confi	gure		Enabled		→ ← Select Screen ↑ ↓ Select Item		
PET Progr	ress		Enabled		Enter: Select +- Change Field		
AMT CIRA	Timeout		0		F1: General Help		
Watchdog			Disabled		F3: Optimized Default		
OS Tim	ner		F4: Save ESC: Exit				
BIOS Tir	mer		0				

AMT Configuration

AMT Configuration

This configuration is supported only with IB902VF (with iAMT function). Options are Enabled and Disabled.

Note: iAMT H/W is always enabled. This option just controls the BIOS extension execution. If enabled, this requires additional firmware in the SPI device.

Unconfigure ME

This configuration is supported only with IB902VF (with iAMT function). Perform AMT/ME unconfigure without password operation.

Amt Wait Timer

Set timer to wait before sending ASF_GET_BOOT_OPTIONS.

Activate Remote Assistance Process

Trigger CIRA boot.

PET Progress

User can Enable/Disable PET Events progress to receive PET events or not.

Watchdog Timer

This configuration is supported only with IB902VF (with iAMT function). Enable/Disable Watchdog Timer.



USB Configuration

Main Advanced Chipset	Boot	Security	Save & Exit
USB Configuration			
USB Module Version	8.10.27		
USB Devices:			
1 Keyboard, 1 Mouse			
Legacy USB Support	Enabled		\rightarrow \leftarrow Select Screen
USB3.0 Support	Enabled		↑↓ Select Item
XHCI Hand-off	Enabled		Enter: Select
EHCI Hand-off	Enabled		+- Change Field
			F1: General Help
USB hardware delays and time-outs:			F2: Previous Values
			F3: Optimized Default
USB Transfer time-out	20 sec		F4: Save
Device reset tine-out	20 sec		ESC: Exit
Device power-up delay	Auto		

Legacy USB Support

Enables Legacy USB support.

AUTO option disables legacy support if no USB devices are connected.

DISABLE option keeps USB devices available only for EFI applications.

USB3.0 Support

Enable/Disable USB3.0 (XHCI) Controller support.

XHCI Hand-off

This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.

EHCI Hand-off

Enabled/Disabled. This is a workaround for OSes without EHCI hand-off support. The EHCI ownership change should be claimed by EHCI driver.

USB Transfer time-out

The time-out value for Control, Bulk, and Interrupt transfers.

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Device reset time-out

USB mass Storage device start Unit command time-out.

Device power-up delay

Maximum time the device will take before it properly reports itself to the Host Controller. 'Auto' uses default value: for a Root port it is 100ms, for a Hub port the delay is taken from Hub descriptor.

NCT6102D Super IO Configuration

Main Advanc	ced Chipset	Boot	Securit	y Save & Exit
NCT6102D Super IO C	onfiguration			
				\rightarrow \leftarrow Select Screen
NCT6102D Super IO C	hip	NCT6102D		↑↓ Select Item
 Serial Port 0 Configu 	ration			Enter: Select
 Serial Port 1 Configu 	ration			+- Change Field
				F1: General Help
				F2: Previous Values
				F3: Optimized Default
				F4: Save
				ESC: Exit

Aptio Setup Utility

Serial Port Configuration

Set Parameters of Serial Ports. User can Enable/Disable the serial port and Select an optimal settings for the Super IO Device.

NCT6102 H/W Monitor

Aptio Setup Utility					
Main	Advanced Chipset	Boot	Security	/ Save & Exit	
PC Health	Status				
Smart Far	1 Function	Disabled			
				\rightarrow \leftarrow Select Screen	



		↑↓ Select Item
SYS Temp	+40 C	Enter: Select
CPU Temp	+43 C	+- Change Field
CpuFan Speed	4166	F1: General Help
Vcore	+1.808 V	F2: Previous Values
+5V	+4.918 V	F3: Optimized Default
+12V	+12.000 V	F4: Save
1.35V	+1.376 V	ESC: Exit

Smart Fan Function

This field enables or disables the smart fan feature. At a certain temperature, the fan starts turning. Once the temperature drops to a certain level, it stops turning again.

Temperatures/Voltages

These fields are the parameters of the hardware monitoring function feature of the board. The values are read-only values as monitored by the system and show the PC health status.

Chipset Settings

This section allows you to configure and improve your system and allows you to set up some system features according to your preference.

		Aptio Setup l	Jtility		
Main	Advanced Chipset	Boot	Security	Save & Exit	
► PCH-IC ► System	0 Configuration Agent (SA) Configuration				

PCH-IO Configuration

This section allows you to configure the North Bridge Chipset.

Aptio Setup Utility

Main	Advanced	Chipset	Boot	Security Save &
Exit				
Intel PCH	RC Version		1.6.2.0	
Intel PCH	SKU Name	Premium SKI	U	
Intel PCH	Rev ID	03/B1		
► PCI Ex	press Configuration			
► USB C	onfiguration			
► PCH A	zalia Configuration			
PCH LAN	Controller	Enabled		
Wake on I	LAN	Disabled		→ ←
SLP_S4 A	ssertion Width	1-2 Seconds		↑↓ Select Item
				Enter: Select
				+- Change Field
				F1: General Help
				F2: Previous Values
				F3: Optimized Default
				F4: Save ESC: Exit

PCH LAN Controller

Enable or disable onboard NIC.

Wake on LAN

Enable or disable integrated LAN to wake the system. (The Wake On LAN cannot be disabled if ME is on at Sx state.)

SLP_S4 Assertion Width

Select a minimum assertion width of the SLP_S4# signal.

PCI Express Configuration

Main	Advanced	Chipset	Boot	Security	Save &
Exit					



PCI Express Configuration		
PCI Express Clock Gating DMI Link ASPM Control DMI Link Extended Synch Control PCIe-USB Glitch W/A PCIE Root Function Swapping Subtractive Decode	Disabled Disabled Disabled Disabled Disabled	
 PCI Express Root Port 1 PCI Express Root Port 2 PCI Express Root Port 3 PCI Express Root Port 4 PCI-E Port 5 is assigned to LAN PCI Express Root Port 6 		 → ← Select Screen ↑ ↓ Select Item Enter: Select +- Change Field F1: General Help F2: Previous Values F3: Optimized Default F4: Save ESC: Exit

PCI Express Clock Gating

Enable or disable PCI Express Clock Gating for each root port

DMI Link ASPM Control

The control of Active State Power Management on both NB side and SB side of the DMI link.

PCIe-USB Glitch W/A

PCIe-USB Glitch W/A for bad USB device(s) connected behind PCIE/PEG port.

Main	Advanced	Chipset	Boot	Security Save &
Exit				
USB Cont	figuration			
USB Prec	condition	Disabled		\rightarrow \leftarrow
xHCI Mod	le	Auto		Select Screen
xHCI Idle	L1	Enabled		↑↓ Select Item
				Enter: Select
USB Port	s Per-Port Disable Co	ontrol Disabled		+- Change Field
				F1: General Help
				F2: Previous Values
				F3: Optimized Default
				F4: Save ESC: Exit

USB Configuration

USB Precondition

Precondition work on USB host controller and root ports for faster enumeration.

xHCI Mode

Mode of operation of xHCI controller.

USB Ports Per-Port Disable Control

Control each of the USB ports (0~13) disabling.

PCH Azalia Configuration



Main	Advanced	Chipset	Boot	Security Save &
Exit				
PCH Azali	a Configuration			$\rightarrow \leftarrow$
				Select Screen
Azalia		Auto		↑↓ Select Item
Azalia	PME	Disabled		Enter: Select
				+- Change Field
				F1: General Help
				F2: Previous Values
				F3: Optimized Default
				F4: Save ESC: Exit

Azalia

Control Detection of the Azalia device.

Disabled = Azalia will be unconditionally be disabled.

Enabled = Azalia will be unconditionally be enabled.

Auto = Azalia will be enabled if present, disabled otherwise.

Azalia PME

Enable or disable power management capability of the audio controller.

System Agent (SA) Configuration

Main	Advanced	Chipset	Boot	Security Save &
Exit				
System A	gent Bridge Name		Haswell	
System A	gent RC Version	1.6.2.0		
VT-d Cap	ability	Supported		
VT-d		Enabled		\rightarrow \leftarrow Select Screen
				↑↓ Select Item
				Enter: Select
				+- Change Field
				F1: General Help
Graphi	cs Configuration			F2: Previous Values
				F3: Optimized Default
				F4: Save ESC: Exit

Aptio Setup Utility

VT-d

Check to enable VT-d function on MCH.

Graphics Configuration

Advanced Chipset Boot Security Main Save & Exit Graphics Configuration IGFX VBIOS Version 2166 IGfx Frequency 400 MHz Primary Display Auto $\leftarrow \texttt{Select Screen}$ Primary PEG Auto ↑↓ Select Item Primary PCIE Auto Enter: Select Internal Graphics Auto Change Field +-256MB Aperture Size F1: General Help DVMT Pre-Allocated 32M

Aptio Setup Utility



DVMT Total Gfx Mem	256MB	F2: Previous Values
► LCD Control		F3: Optimized Default
		F4: Save ESC: Exit

Primary Display

Select which of IGFX/PEG/PCI graphics device should be primary display or select SG for switchable Gfx.

Primary PEG

Select PEGO/PEG1/PEG2/PEG3 Graphics device should be Primary PEG.

Primary PCIE

Select PCIE0/PCIE1/PCIE2/PCIE3/PCIE4/PCIE5/PCIE6PCIE7 Graphics device should be primary PCIE.

Internal Graphics

Keep IGD enabled based on the setup options.

DVMT Pre-Allocated

Select DVMT 5.0 Pre-Allocated (Fixed) graphics memory size used by the internal graphics device.

DVMT Total Gfx Mem

Select DVMT 5.0 total graphics memory size used by the internal graphics device.

LCD Control

Select the Video Device that will be activated during POST. This has no effect if external graphics present. Secondary booty display selection will appear based on your selection. VGA modes will be supported only on primary display.

LCD Control

Aptio Setup Utility

Main	Advanced	Chipset	Boot	Security Save &
Exit				
LCD Contro	I			\rightarrow \leftarrow Select Screen
Primary IGF	X Boot Display	VBIOS Default		↑↓ Select Item
LCD Panel	Туре	1024x768 LVDS		Enter: Select
DC Output I	evel	LEVEL4		+- Change Field
				F1: General Help
LCD Chane	І Туре	Single		F2: Previous Values
LVDS Back	Light brightness volt Contr	rol 3.3V		F3: Optimized Default
Active LFP		No LVDS		F4: Save & Exit
Panel Color	Depth	24 Bit		ESC: Exit

Primary IGFX Boot Display

Select the Video Device, which will be activated during POST. This has no effect if external graphics present.

Secondary boot display selection will appear based on your selection. VGA modes will be supported only on primary display.

LCD Panel Type

Select LCD panel used by Internal Graphics Device by selecting the appropriate setup item: 640x480 LVDS ~ 2048x1536 LVDS.

DC Output level Backlight Brightness Control

LCD Chanel Type

Select LCD Chanel Type

LVDS Back Light Brightness Volt Control

LVDS Back Light Volt Control: 3.3V, 5V

Active LFP

Select the Active LFP Configuration. No LVDS: VBIOS does not enable LVDS.



Int-LVDS: VBIOS enables LVDS driver by Integrated encoder.SDVO LVDS: VBIOS enables LVDS driver by SDVO encoder.eDP Port-A: LFP Driven by Int-DisplayPort encoder from Port-A.

Panel Color Depth

Select the LFP Panel Color Depth: 18 Bit, 24 Bit.

Boot Settings

This section allows you to configure the boot settings.

		Aptio Setup Utilit	y	
Main	Advanced Chipset	Boot	Security	y Save & Exit
Boot Configu	ration			
Setup Prompt	t Timeout	1		
Bootup NumL	ock State	On		
Quiet Boot		Disabled		
Fast Boot		Disabled		\rightarrow \leftarrow Select Screen
				↑↓ Select Item
Boot Option F	Priorities			Enter: Select
				+- Change Field
► CSM16 Pa	arameters			F1: General Help
CSM Param	eters			F2: Previous Values
				F4: Save
				ESC: Exit
				Los. Late

Setup Prompt Timeout

Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.

Bootup NumLock State

Select the keyboard NumLock state.

Quiet Boot

Enables/Disables Quiet Boot option.

Fast Boot

Enables/Disables boot with initialization of a minimal set of devices required to launch active boot option. Has no effect for BBS boot options.

Boot Option Priorities

Sets the system boot order.



CSM parameters

OpROM execution, boot options, filter, etc.

Main	Advanced Chipset	Boot	Securit	y Save & Exit
Launch CS	SM	Emabled		
Boot option	n filter	UEFI and	Legacy	
Launch P>	E OpROM policy	Do not lau	inch	\rightarrow \leftarrow Select Screen
Launch St	orage OpROM policy	Legacy or	hly	↑↓ Select Item
Launch Vie	deo OpROM policy	Legacy or	nly	Enter: Select
				+- Change Field
Othor PCI	dovico POM priority	Logacy O	POM	F1: General Help
Other P CI		Legacy O		F2: Previous Values
				F3: Optimized Default
				F4: Save
				ESC: Exit

Aptio Setup Utility

Launch CSM

This option controls if CSM will be launched.

Boot option filter

This option controls what devices system can boot to.

Launch PXE OpROM policy

Controls the execution of UEFI and Legacy PXE OpROM.

Launch Storatge OpROM policy

Controls the execution of UEFI and Legacy Storage OpROM.

Launch Video OpROM policy

Controls the execution of UEFI and Legacy Video OpROM.

Other PCI device ROM priority

For PCI devices other than Network, Mass storage or Video defines which OpROM to launch.

Security Settings

This section allows you to configure and improve your system and allows you to set up some system features according to your preference.

		Aptio Setup Uti	ility
Main	Advanced Chipset	Boot	Security Save & Exit
Password	Description		
If ONLY th	ne Administrator's password is a	set, then	
this only li	mit access to Setup and is only	asked	
for when e	entering Setup.		
If ONLY th	e User's password is set, then	this is a	
power on	password and must be entered	to boot	
or enter S	etup. In Setup the User will hav	/e	
Administra	ator rights		$\rightarrow \leftarrow \texttt{Select Screen}$
The passv	vord length must be		↑↓ Select Item
in the follo	wing range:		Enter: Select
Minimum I	ength	3	+- Change Field
Maximum	length	20	F1: General Help
			F2: Previous Values
Administra	ator Password		F3: Optimized Default
User Pass	sword		F4: Save
			ESC: Exit

Administrator Password

Set Setup Administrator Password.

User Password

Set User Password.



Save & Exit Settings

Main	Advanced Chipset	Boot	Security	/ Save & Exit
Save Chang	es and Exit			
Discard Cha	nges and Exit			
Save Chang	es and Reset			
Discard Cha	nges and Reset			
Save Option	s			
Save Chang	es			\rightarrow \leftarrow Select Screen
Discard Cha	nges			↑↓ Select Item
				Enter: Select
Destars Def	o			+- Change Field
Restore Dera	auits			F1: General Help
Save as Use	er Defaults			F2: Previous Values
Restore Use	r Defaults			F3: Optimized Default
				F4: Save
				ESC: Exit

Save Changes and Exit

Exit system setup after saving the changes.

Discard Changes and Exit

Exit system setup without saving any changes.

Save Changes and Reset

Reset the system after saving the changes.

Discard Changes and Reset

Reset system setup without saving any changes.

Save Changes

Save Changes done so far to any of the setup options.

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Discard Changes

Discard Changes done so far to any of the setup options.

Restore Defaults

Restore/Load Defaults values for all the setup options.

Save as User Defaults

Save the changes done so far as User Defaults.

Restore User Defaults

Restore the User Defaults to all the setup options.



CHAPTER 4 DRIVERS INSTALLATION

This section describes the installation procedures for software and drivers. The software and drivers are included with the motherboard. If you find the items missing, please contact the vendor where you made the purchase.

IMPORTANT NOTE:

After installing your Windows operating system, you must install first the Intel Chipset Software Installation Utility before proceeding with the drivers installation.

4.1 Intel Chipset Software Installation Utility

The Intel Chipset Drivers should be installed first before the software drivers to enable Plug & Play INF support for Intel chipset components. Follow the instructions below to complete the installation.

1. Insert the DVD that comes with the board. Click Intel and then Intel(R) 8 Series Chipset Drivers.



2. Click Intel(R) Chipset Software Installation Utility.



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3. When the Welcome screen to the Intel® Chipset Device Software appears, click *Next* to continue.



4. Click **Yes** to accept the software license agreement and proceed with the installation process.





5. On the Readme File Information screen, click *Next* to continue the installation.



6. The Setup process is now complete. Click *Finish* to restart the computer and for changes to take effect.



4.2 VGA Drivers Installation

1. Insert the DVD that comes with the board. Click Intel and then Intel(R) 8 Series Chipset Drivers.



2. Click Intel(R) Core(TM) i3/i5/i7 Graphics Driver.





3. When the Welcome screen appears, click *Next* to continue.



4. Click **Yes** to to agree with the license agreement and continue the installation.



5. On the screen shown below, click *Install* to continue.



6. Setup complete. Click *Finish* to restart the computer and for changes to take effect.





4.3 Realtek HD Audio Driver Installation

1. Insert the DVD that comes with the board. Click Intel and then Intel(R) 8 Series Chipset Drivers.



2. Click Realtek High Definition Audio Driver.



3. On the Welcome to the InstallShield Wizard screen, click **Yes** to proceed with and complete the installation process.



4. The InstallShield Wizard Complete. Click *Finish* to restart the computer and for changes to take effect.

Realtek High Definition Audio Driver Setup (3.50) R2.70	
Realtek High Definition Audio Driver R2.70	
Restarting Windows	
Setup has finished copying files to your computer. Before you can use the program, you must restart your computer.	
Select one of the following options and click DK to finish setup.	
Yes, I want to restart my computer now.	
No, I will restart my computer later.	
ОК	
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4.4 LAN Driver Installation

1. Insert the DVD that comes with the board. Click Intel and then Intel(R) 8 Series Chipset Drivers.



2. Click Intel(R) PRO LAN Network Driver.



- Intel(R) Network Connections
- 3. Click Install Drivers and Software.

4. When the Welcome screen appears, click Next.

Networ	k Connections		lincer
	Installs drivers, Networking Serv	Intel(R) Network Connections, and A ices.	dvanced
	WARNING: This international tre	program is protected by copyright la aties.	w and



5. Click *Next* to to agree with the license agreement.

INTEL SOFTWARE LICENSE AGREEMENT	
INTEL SOFTWARE LICENSE AGREEMENT	
IMPORTANT - READ BEFORE COPYING, INSTALLING OR	
	CUSING.
("Agreement") until you have carefully read the following terms By copying, installing, or otherwise using the Software, you agre the terms of this Agreement. If you do not agree to the terms of do not copy, install, or use the Software.	and conditions. ee to be bound by this Agreement,
I accept the terms in the license agreement	Print
\bigcirc I do not accept the terms in the license agreement	

6. Click the checkbox for **Drivers** in the Setup Options screen to select it and click **Next** to continue.

itel(R) Network Connections		×
Setup Options Select the program features you want in	nstalled.	(intel)
nstall: Privers Intel(R) PROSet for Windows* Devi Advanced Network Services Intel(R) Network Connections SNMF	ce Manager ? Agent	
Feature Description Drivers for all wired Intel Network Connec	tions	

7. The wizard is ready to begin installation. Click *Install* to begin the installation.



8. When InstallShield Wizard is complete, click *Finish*.

BIntel(R) Network Connections Insta	ll Wizard	×
Install wizard Completed		(intel)
To access new feature properties of the netwo	s, open Device Manager, and ork adapters.	l view the
	< Back Fi	nish Cancel


Intel® Management Engine Interface

1. Insert the DVD that comes with the board. Click *Intel* and then *Intel(R)* 8 Series Chipset Drivers and then *Intel(R)* AMT 9.5 Drivers.



2. When the Welcome screen to the InstallShield Wizard for Intel® Management Engine Components, click the checkbox for **Install Intel® Control Center** & click *Next*.



3. Click Yes to to agree with the license agreement.

ntel® Installation Framework	
Intel® Management Engine Components License Agreement	(intel)
You must accept all of the terms of the license agreement in order to conti program. Do you accept the terms?	inue the setup
INTEL SOFTWARE LICENSE AGREEMENT (OEM / IHV / ISV Distribution & S IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING. Do not use or load this software and any associated materials (collectively until you have carefully read the following terms and conditions. By loadin Software, you agree to the terms of this Agreement. If you do not wish t install or use the Software.	ngle User)
Please Also Note: * If you are an Original Equipment Manufacturer (OEM), Independent Har (IHV), or Independent Software Vendor (ISV), this complete LICENSE AGR If you are an End-User, then only Exhibit A, the INTEL SOFTWARE LICE	dware Vendor REEMENT applies; INSE AGREEMENT, *
< Back Ye	s No



4. When the Setup Progress screen appears, click *Next*. Then, click *Finish* when the setup progress has been successfully installed.

Intel® Installation Framework	
Intel® Management Engine Components Setup Is Complete	(intel)
The setup program successfully installed the following components:	
- Intel® Management Engine Interface - Intel® Dynamic Application Loader - Intel® Identity Protection Technology (Intel® IPT) - Serial Over LAN - Intel® Management and Security Status - Local Management Service	
You must restart this computer for the changes to take effect. Would yo computer now?	u like to restart the
Yes, I want to restart this computer now.	
○ No, I will restart this computer later.	
Click Finish, then remove any installation media from the drives.	Finish
Int	el® Installation Framework

Intel® USB 3.0 Drivers

1. Insert the DVD that comes with the board. Click Intel and then Intel(R) 8 Series Chipset Drivers.



2. Click Intel(R) USB 3.0 Drivers.





3. When the Welcome screen to the InstallShield Wizard for Intel® USB 3.0 eXtensible Host Controller Driver, click *Next*.

Intel® Installation Framework		
Intel® USB 3.0 eXtensible Host Welcome to the Setup Program	t Controller Dri	ver (intel)
This setup program will install the following compor • Intel® USB 3.0 eXtensible Host Controller Driver • Intel® USB 3.0 Hub Driver • Intel® USB 3.0 Hub Driver • Intel® USB 3.0 Monitor Click Next to continue.	ents:	
	< Back Nex	kt > Cancel el® Installation Framework

4. Click Yes to to agree with the license agreement and continue the installation.

icense Agreement	lost Controller	inte	D
You must accept all of the terms of the licens program. Do you accept the terms?	e agreement in order to	continue the setup	
INTEL SOFTWARE LICENSE AGREEMENT (OE IMPORTANT - READ BEFORE COPYING, INST Do not use or load this software and any ass until you have carefully read the following te Software, you agree to the terms of this Agr install or use the Software.	EM / IHV / ISV Distributio TALLING OR USING. sociated materials (collec rrms and conditions. By I reement. If you do not v	n & Single User) :tively, the "Software") oading or using the vish to so agree, do no	, L
Please Also Note: * If you are an Original Equipment Manufact	urer (OEM), Independer (), this complete LICENS	nt Hardware Vendor E AGREEMENT applies;	

5. On the Readme File Information screen, click *Next* to continue the installation of the Intel® USB 3.0 eXtensible Host Controller Driver.

6. Setup complete. Click *Finish* to restart the computer and for changes to take effect.





Appendix

Mounting ASB200-908 to the Wall



You can install ASB200-908 on plastic (LCD monitor), wood, drywall surface over studs, or a solid concrete or metal plane directly. Ensure the installer uses at least four M3 length 6mm screws to secure the system on wall. *Four M3 length 6mm screws [Four M3 length 4.4mm for VESA mounting] are recommended to secure the system on wall.*

Fasteners are not included with the unit, and must be supplied by the installer. The types of fasteners required are dependent on the type of wall construction. Choose fasteners that are rated either "Medium Duty" or "Heavy Duty." To assure proper fastener selection and installation, follow the fastener manufacturer's recommendations.

VESA Mounting [Optional item]



Wall Mounting Requirements

Note: Before mounting the system on wall, ensure that you are following all applicable building and electric codes.

When mounting, ensure that you have enough room for power and signal cable routing. And have good ventilation for power adapter. The method of mounting must be able to support weight of the CSB110-902 plus the suspend weight of all the cables to be attached to the system. Use the following methods for mounting your system:



Mounting to hollow walls

- Method 1: Wood surface A minimum wood thickness 38mm (1.5in.) by 25.4 cm (10in.) of high, construction grade wood is recommended.
 Note: This method provides the most reliable attachment of the unit with little risk that the unit will come loose or require ongoing maintenance.
- Method 2: Drywall walls Drywall over wood studs is acceptable.

Mounting to a solid concrete or brick wall - Mounts on a flat smooth surface.

Selecting the Location

Plan the mounting location thoroughly. Locations such as walkway areas, hallways, and crowded areas are not recommended. Mount the unit to a flat, sturdy, structurally sound column or wall surface.

The best mounting surface is a standard countertop, cabinet, table, or other structure that is minimally the width and length of the unit. This recommendation reduces the risk that someone may accidentally walk into and damage the device. Local laws governing the safety of individuals might require this type of consideration.