/ISRock®

SBC-210

User Manual

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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.

CALIFORNIA, USA ONLY

The Lithium battery adopted on this motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.

"Perchlorate Material-special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate"

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Contents

Chapter 1: Introduction

Thank you for purchasing ASRock *SBC-210* motherboard, a reliable motherboard produced under ASRock's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock's commitment to quality and endurance.

In this manual, chapter 1 and 2 contain introduction of the motherboard and step-by-step guide to the hardware installation. Chapter 3 and 4 contain the configuration guide to BIOS setup and information of the Support CD.

> Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on ASRock website without further notice. You may find the latest VGA cards and CPU support lists on ASRock website as well.
> ASRock website   http://www.asrock.com
> If you require technical support related to this motherboard, please visit our website for specific information about the model you are using.
> www.asrock.com/support/index.asp

1.1 Package Contents

ASRock *SBC-210* Motherboard (3.5" SBC (5.8-in x 4.0-in) / (148 x 102 mm))
ASRock *SBC-210* Driver CD
ASRock *SBC-210* Jumper setting instruction

1.2 Specifications

Form Factor	Dimensions	3.5" SBC (5.8-in x 4.0-in) / (148 x 102 mm)
Processor System	CPU	Intel® new Atom™ Baytrail-M/D
	Core Number	4
	Max Speed	(By CPU)
	Cache	(By CPU)
	Chipset	N/A
	BIOS	UEFI
Expansion Slot	PCI	0
	Mini-PCIe	1 (Half Size) + 1 (Full Size) shared with mSATA
	mSATA	1 (Full Size) shared with SATAII_2
	PCIe	0
	CFast Card Socket	0
Memory	Technology	Single Channel DDR3L 1066/1333 MHz SDRAM
	Max.	8GB
	Socket	1 x SO-DIMM
Graphics	Controller	Intel® Gen7 Intel Graphics DX 11, OGL3.2
	VRAM	Shared Memory
	VGA	Supports max. resolution 1920 x 1200
	LVDS	Dual channel 24-bit, max resolution 1920 x 1200 @60Hz
	HDMI	Supports HDMI 1.4a, max resolution 1920 x 1200
	DVI	N/A
	DisplayPort	N/A
	Multi Display	Yes (Dual Display)
Ethernet	Ethernet	10/100/1000 Mbps
	Controller	GbE LAN: Realtek RTL8111G-CG
	Connector	2 x RJ-45
SATA	Max Data Transfer Rate	SATA2 (3.0Gb/s)
Rear I/O	VGA	1
	DVI	0
	HDMI	1
	DisplayPort	0

|	Ethernet	2
	USB	2 x USB 3.0 compliant
	Audio	1 (Line out)
	Serial	0
	PS/2	0
Internal Connector	USB	6 (3*2.54 pitch header USB 2.0 compliant)
	LVDS/ Inverter	1/1
	VGA	0
	Serial	4 (RS-232)
	SATA	2x SATA2 (3.0Gb/s) (SATAII_2 is shared with mSATA)
	Parallel	0
	IrDA	0
	GPIO 8-bit	4 x GPI + 4 x GPO
	SATA PWR Output Con	1
	Speaker Header	1
Watchdog Timer	Output	From Super I/O to drag RESETCON#
	Interval	256 segments, 0,1,2…255sec/min
Power Requirements	Input PWR	9-36V DC-In using 4-pin ATX PWR Con
	Power On	AT/ATX Supported AT: Directly PWR on as power input ready ATX: Press button to PWR on after power input ready
Environment	Temperature	0ºC – 60ºC

1.3 Motherboard Layout
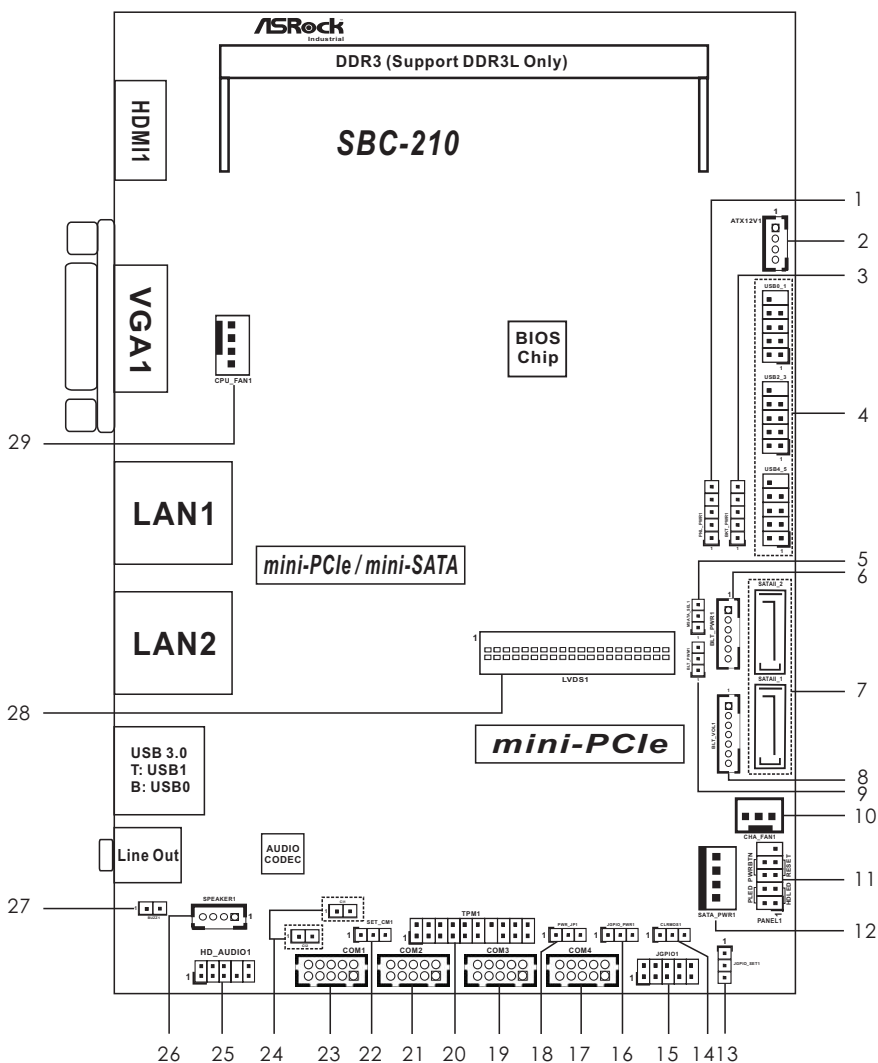
1 : Panel Power Selection (PNL_PWR1)
2 : ATX Power Connector
3 : Backlight Power Selection (BKT_PWR1)
4 : USB2.0 Headers (USB0_1, USB2_3, USB4_5)
5 : mSATA Selection
6 : Inverter Power Control Wafer (BLT_PWR1)
7 : SATA2 Connectors (SATAII_1, SATAII_2)
8 : Backlight & Amp Volume Control (BLT_VOL1)
9 : Backlight Control Level (BLT_PWM1)
10 : 3-Pin Chassis FAN Connector
11 : System Panel Header
12 : SATA Power Output Connector
13 : GPIO Default Setting
14 : Clear CMOS Header
15 : Digital Input / Output Pin Header
16 : Digital Input / Output Power Select
17 : COM Port Header (COM4)
18 : ATX/AT Mode Selection
19 : COM Port Header (COM3)
20 : TPM Header
21 : COM Port Header (COM2)
22 : COM1 Pin9 PWR Setting
23 : COM Port Header (COM1)
24 : Chassis Intrusion Headers (CI1, CI2)
25 : Front Panel Audio Header
26 : 3W Audio AMP Output Wafer
27 : 2-Pin Buzzer Header
28 : LVDS Panel Connector
29 : 4-Pin CPU FAN Connector

1.4 I/O Panel
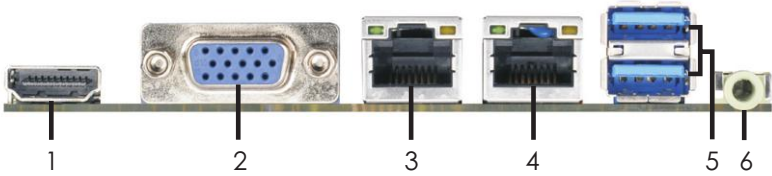
1	**HDMI Port (HDMI1)**	**4**	**LAN RJ-45 Port (LAN2)***
2	**VGA Port (VGA1)**	**5**	**USB 3.0 Ports (USB01)**
3	**LAN RJ-45 Port (LAN1)***	**6**	**Line out (Green)**

* There are two LED next to the LAN port. Please refer to the table below for the LAN port LED indications.

LAN Port LED Indications

Activity/Link LED		SPEED LED	
Status	Description	Status	Description
Off	No Link	Off	10Mbps connection
Blinking	Data Activity	Off	100Mbps connection
On	Link	Green	1Gbps connection

ACT/LINK LED   SPEED LED
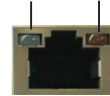
LAN Port

Chapter 2: Installation

This is a 3.5" SBC (5.8-in x 4.0-in) form factor (148 x 102 mm) motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.

> Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so may cause physical injuries to you and damages to motherboard components.

2.1 Screw Holes

Place screws into the holes to secure the motherboard to the chassis.

> Do not over-tighten the screws! Doing so may damage the motherboard.

2.2 Pre-installation Precautions

Take note of the following precautions before you install motherboard components or change any motherboard settings.

1. Unplug the power cord from the wall socket before touching any component.
2. To avoid damaging the motherboard components due to static electricity, NEVER place your motherboard directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that comes with the component.

> Before you install or remove any component, ensure that the power is switched off or the power cord is detached from the power supply.
> Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

2.3 Installation of Memory Modules (SO-DIMM)

SBC-210 provides one 204-pin DDR3 (Double Data Rate 3) SO-DIMM slot, which supports single channel DDR3L SDRAM only.

Step 1.   Align a SO-DIMM on the slot such that the notch on the SO-DIMM matches the break on the slot.
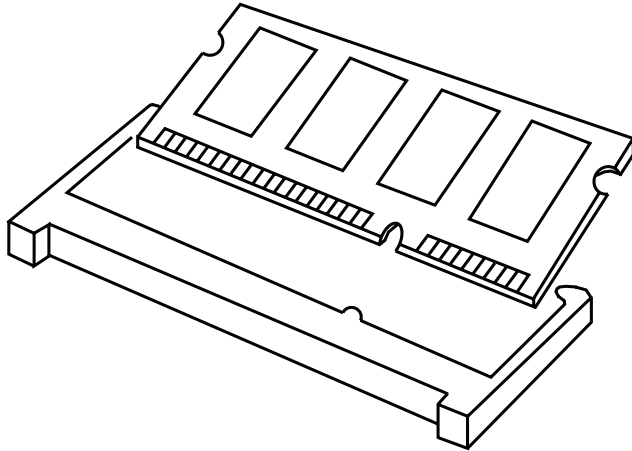
The SO-DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the SO-DIMM if you force the SO-DIMM into the slot at incorrect orientation.

Step 2.   Firmly insert the SO-DIMM into the slot until the retaining clips at both ends fully snap back in place and the SO-DIMM is properly seated.

2.4 Expansion Slots (mini-PCIe and mini-PCIe/mini-SATA Slots)

There is 1 mini-PCIe slot and 1 mini-PCIe/mini-SATA slot on this motherboard.

mini-PCIe slot:

MINI_PCIE1 (mini-PCIe slot; half size) is used for PCI Express mini cards.

mini-PCIe/mini-SATA slot:

MINI_PCIE2 (mini-PCIe/mini-SATA slot; full size) is used for PCI Express mini cards or mSATA cards.

Installing an expansion card

Step 1.   Before installing the expansion card, please make sure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation.

Step 2.   Remove the system unit cover (if your motherboard is already installed in a chassis).

Step 3.   Remove the bracket facing the slot that you intend to use. Keep the screws for later use.

Step 4.   Align the card connector with the slot and press firmly until the card is completely seated on the slot.

Step 5.   Fasten the card to the chassis with screws.

Step 6.   Replace the system cover.

2.5 Jumpers Setup

The illustration shows how jumpers are setup. When the jumper cap is placed on pins, the jumper is "Short". If no jumper cap is placed on pins, the jumper is "Open". The illustration shows a 3-pin jumper whose pin1 and pin2 are "Short" when jumper cap is placed on these 2 pins.

Short   Open
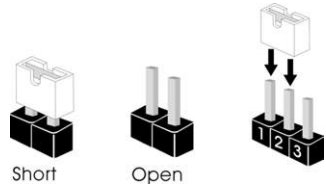
Clear CMOS Jumper
(CLRCMOS1)
(see p.8, No. 14)

1_2   2_3

Default   Clear CMOS

Note: CLRCMOS1 allows you to clear the data in CMOS. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord from the power supply. After waiting for 15 seconds, use a jumper cap to short pin2 and pin3 on CLRCMOS1 for 5 seconds. However, please do not clear the CMOS right after you update the BIOS. If you need to clear the CMOS when you just finish updating the BIOS, you must boot up the system first, and then shut it down before you do the clear-CMOS action. Please be noted that the password, date, time, user default profile and MAC address will be cleared only if the CMOS battery is removed.

Digital Input/Output PWR Select
(3-pin JGPIO_PWR1)
(see p.8 No. 16)

1 2 3

1-2: +12V
2-3: +5V
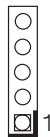
ATX/AT Mode Selection
(3-pin PWR_JP1)
(see p.8 No. 18)

1 2 3

1-2: AT Mode
2-3: ATX Mode

Panel Power Selection (LCD_VCC)
(5-pin PNL_PWR1)
(see p.8 No. 1)

1

Use this to set up the VDD power of the LVDS connector.
1-2: +3V
2-3: +5V
3-4: +5V
4-5: +12V

Backlight Power Selection
(LCD_BLT_VCC)
(5-pin BKT_PWR1)
(see p.8 No. 3)
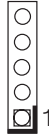
Use this to set up the backlight power of the LVDS connector.
1-2: +5V
2-3: +12V
3-4: +12V
4-5: DC_IN Power

Backlight Control Level
(3-pin BLT_PWM1)
(see p.8 No. 9)

1-2: +3V
2-3: +5V

COM1 Pin9 PWR Setting
(3-pin SET_CM1)
(see p.8 No. 22)

1-2: +5V
2-3: +12V

mSATA Selection
(3-pin MSATA_SEL1)
(see p.8 No. 5)

1-2: SATAII_2 + mini-PCIe
2-3: mSATA,
        SATAII_2 no function

GPIO Default Setting
(3-pin JGPIO_SET1)
(see p.8 No. 13)

1-2: Pull-High
2-3: Pull-Low

2.6 Onboard Headers and Connectors

> Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage of the motherboard!

SATA2 Connectors
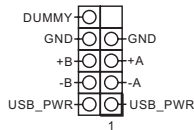(SATAII_1, SATAII_2: see p.8, No. 7)

SATAII_2

SATAII_1

These two Serial ATA2 (SATA2) connectors support SATA data cables for internal storage devices. The current SATA2 interface allows up to 3.0 Gb/s data transfer rate.

USB 2.0 Headers
(see p.8 No. 4)
(9-pin USB0_1, USB2_3, USB4_5)

DUMMY
GND   GND
+B   +A
-B   -A
USB_PWR   USB_PWR
1

There are three USB 2.0 headers on this motherboard.

System Panel Header
(9-pin PANEL1)
(see p.8 No. 11)

GND
GND   RESET#
PWRBTN#   GND
PLED-   HDLED-
PLED+   HDLED+
1
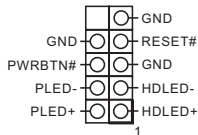
This header accommodates several system front panel functions.

> Connect the power switch, reset switch and system status indicator on the chassis to this header according to the pin assignments below. Note the positive and negative pins before connecting the cables.
>
> **PWRBTN (Power Switch):**
> Connect to the power switch on the chassis front panel. You may configure the way to turn off your system using the power switch.
> **RESET (Reset Switch):**
> Connect to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.
> **PLED (System Power LED):**
> Connect to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED keeps blinking when the system is in S1 sleep state. The LED is off when the system is in S3/S4 sleep state or powered off (S5).

HDLED (Hard Drive Activity LED):
Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED, speaker and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assign-ments are matched correctly.

3W Audio AMP Output Wafer

(4-pin SPEAKER1)

(see p.8 No. 26)

PIN	Signal Name
1	SPK L-
2	SPK L+
3	SPK R+
4	SPK R-

Chassis Fan Connector

(3-pin CHA_FAN1)

(see p.8 No. 10)

GND
+12V
CHA FAN SPEED
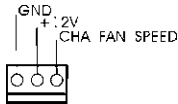
Please connect the fan cable to the fan connector and match the black wire to the ground pin.

CPU Fan Connector

(4-pin CPU_FAN1)

(see p.8 No. 29)

1 GND
2 +12V
3 CPU_FAN_SPEED
4 FAN_SPEED_CONTROL
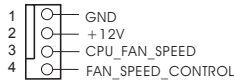
Please connect the CPU fan cable to the connector and match the black wire to the ground pin.

Though this motherboard provides 4-Pin CPU fan (Quiet Fan) support, the 3-Pin CPU fan still can work successfully even without the fan speed control function. If you plan to connect the 3-Pin CPU fan to the CPU fan connector on this motherboard, please connect it to Pin 1-3.

Pin 1-3 Connected ←

3-Pin Fan Installation
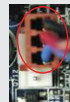
ATX Power Connector (Input 9V-36V)

(4-pin ATX12V1)

(see p.8 No. 2)

1

Please connect a DC power supply (9V-36V) to this connector.
1-4 : GND
2-3 : DC Input

SATA Power Output Connector

(4-pin SATA_PWR1)

(see p.8 No. 12)

```
+12V
GND
GND
+5V
```
1
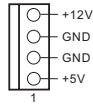
COM Port Headers

(10-pin COM1)

(see p.8 No. 23)

2

1
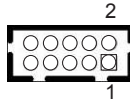
(10-pin COM2)

(see p.8 No. 21)

(10-pin COM3)

(see p.8 No. 19)

(10-pin COM4)

(see p.8 No. 17)

PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
10	DUMMY	8	CCTS#	6	DDSR#	4	DDTR#	2	RRXD
9	DUMMY	7	RRTS#	5	GND	3	TTXD	1	DDCD#

This motherboard supports RS232/422/485 on COM1 port. Please refer to below table for the pin definition. In addition, COM1 port (RS232/422/485) can be adjusted in BIOS setup utility > Advanced Screen > Super IO Configuration. You may refer to page 29 for details.

COM1 Port Pin Definition

PIN	RS232	RS422	RS485
1	DCD	TX-	RTX-
2	RXD	RX+	N/A
3	TXD	TX+	RTX+
4	DTR	RX-	N/A
5	GND	GND	GND
6	DSR	N/A	N/A
7	RTS	N/A	N/A
8	CTS	N/A	N/A
9	NA/+5V/+12V	N/A	N/A

LVDS Connector

(40-pin LVDS1)

(see p.8 No. 28)
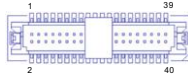
PIN	Signal Name	PIN	Signal Name
1	LCD_VCC	2	LCD_VCC
3	+3V	4	N/A
5	N/A	6	LVDS_A_DATA0#
7	LVDS_A_DATA0	8	GND1
9	LVDS_A_DATA1#	10	LVDS_A_DATA1
11	GND6	12	LVDS_A_DATA2#
13	LVDS_A_DATA2	14	GND2
15	LVDS_A_DATA3#	16	LVDS_A_DATA3
17	GND7	18	LVDS_A_CLK#
19	LVDS_A_CLK	20	GND3
21	LVDS_B_DATA0#	22	LVDS_B_DATA0
23	GND8	24	LVDS_B_DATA1#
25	LVDS_B_DATA1	26	GND4
27	LVDS_B_DATA2#	28	LVDS_B_DATA2
29	DPLVDD_EN	30	LVDS_B_DATA3#
31	LVDS_B_DATA3	32	GND5
33	LVDS_B_CLK#	34	LVDS_B_CLK
35	GND9	36	CON_LBKLT_EN
37	CON_LBKLT_CTR	38	LCD_BLT_VCC
39	LCD_BLT_VCC	40	LCD_BLT_VCC

Digital Input/Output Pin Header

(10-pin JGPIO1)

(see p.8 No. 15)
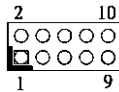
PIN	Signal Name	PIN	Signal Name
1	SIO_GP24	2	SIO_GP20
3	SIO_GP25	4	SIO_GP21
5	SIO_GP26	6	SIO_GP22
7	SIO_GP27	8	SIO_GP23
9	JGPIO_PWR	10	GND

Front Panel Audio Header

(9-pin HD_AUDIO1)

(see p.8 No. 25)

GND
PRESENCE#
MIC_RET
OUT_RET
OUT2_L
J_SENSE
OUT2_R
MIC2_R
MIC2_L
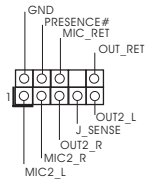
Backlight & Amp Volume Control

(7-pin BLT_VOL1)

(see p.8 No. 8)

PIN	Signal Name
1	GPIO_VOL_UP
2	GPIO_VOL_DW
3	PWRDN
4	GPIO_BLT_UP
5	GPIO_BLT_DW
6	GND
7	GND

Inverter Power Control Wafer

(6-pin BLT_PWR1)

(see p.8 No. 6)

PIN	Signal Name
1	GND
2	GND
3	CON_LBKLT_CTL
4	CON_LBKLT_EN
5	LCD_BLT_VCC
6	LCD_BLT_VCC

TPM Header

(17-pin TPM1)

(see p.8 No. 20)
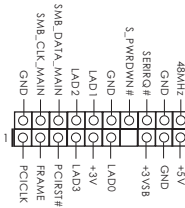
This connector supports Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.

Chassis Intrusion Headers

(2-pin CI1, CI2)

(see p.8 No. 24)

This motherboard supports CASE OPEN detection feature that detects if the chassis cover has been removed. This feature requires a chassis with chassis intrusion detection design.

Buzzer Header

(2-pin BUZZ1)

(see p.8 No. 27)

Chapter 3: UEFI SETUP UTILITY

3.1 Introduction

This section explains how to use the UEFI SETUP UTILITY to configure your system. The UEFI chip on the motherboard stores the UEFI SETUP UTILITY. You may run the UEFI SETUP UTILITY when you start up the computer. Please press <F2> or <Del> during the Power-On-Self-Test (POST) to enter the UEFI SETUP UTILITY, otherwise, POST will continue with its test routines.

If you wish to enter the UEFI SETUP UTILITY after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart by turning the system off and then back on.

> Because the UEFI software is constantly being updated, the following UEFI setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen.

3.1.1 UEFI Menu Bar

The top of the screen has a menu bar with the following selections:

Main	To set up the system time/date information
Advanced	To set up the advanced UEFI features
H/W Monitor	To display current hardware status
Security	To set up the security features
Boot	To set up the default system device to locate and load the Operating System
Exit	To exit the current screen or the UEFI SETUP UTILITY

Use < ← > key or < → > key to choose among the selections on the menu bar, and then press <Enter> to get into the sub screen. You can also use the mouse to click your required item.

3.1.2 Navigation Keys

Please check the following table for the function description of each navigation key.

Navigation Key(s)	Function Description
← / →	Moves cursor left or right to select Screens
↑ / ↓	Moves cursor up or down to select items
+ / -	To change option for the selected items
<Enter>	To bring up the selected screen
<F1>	To display the General Help Screen
<F7>	Discard changes
<F9>	To load optimal default values for all the settings
<F10>	To save changes and exit the UEFI SETUP UTILITY
<F12>	Print screen
<ESC>	To jump to the Exit Screen or exit the current screen

3.2 Main Screen

When you enter the UEFI SETUP UTILITY, the Main screen will appear and display the system overview.
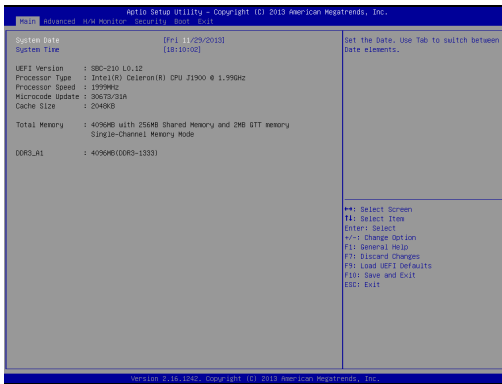
3.3 Advanced Screen

In this section, you may set the configurations for the following items: CPU Configuration, Chipset Configuration, Storage Configuration, Intel(R) Smart Connect Technology, Super IO Configuration, ACPI Configuration and USB Configuration.
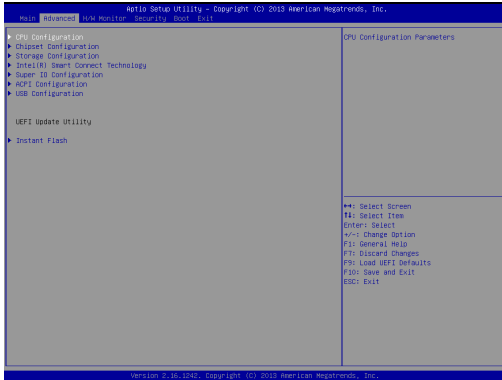

> Setting wrong values in this section may cause the system to malfunction.

Instant Flash

Instant Flash is a UEFI flash utility embedded in Flash ROM. This convenient UEFI update tool allows you to update system UEFI without entering operating systems first like MS-DOS or Windows®. Just launch this tool and save the new UEFI file to your USB flash drive, floppy disk or hard drive, then you can update your UEFI only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system. If you execute Instant Flash utility, the utility will show the UEFI files and their respective information. Select the proper UEFI file to update your UEFI, and reboot your system after UEFI update process completes.

3.3.1 CPU Configuration


```
                    Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc.
      Advanced

Intel(R) Celeron(R) CPU J1900 @ 1.99GHz                        Intel SpeedStep technology allows
Max CPU Speed                        1999 MHz                  processors to switch between multiple
Min CPU Speed                        0 MHz                     frequencies and voltage points for
Processor Cores                      4                         better power saving and heat
Intel VT-x Technology                Not Supported             dissipation.
64-bit                               Supported

Intel SpeedStep Technology           [Disabled]
CPU C States Support                 [Disabled]
Enhanced Halt State(C1E)             [Disabled]

No-Execute Memory Protection         [Enabled]
Hardware Prefetcher                  [Enabled]
Adjacent Cache Line Prefetch         [Enabled]
Intel Virtualization Technology      [Enabled]

                                                               →←: Select Screen
                                                               ↑↓: Select Item
                                                               Enter: Select
                                                               +/-: Change Option
                                                               F1: General Help
                                                               F7: Discard Changes
                                                               F9: Load UEFI Defaults
                                                               F10: Save and Exit
                                                               ESC: Exit



                    Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.
```

Intel SpeedStep Technology

Intel SpeedStep technology is Intel's new power saving technology. Pro-cessors can switch between multiple frequencies and voltage points to en-able power saving. The default value is [Disabled]. Configuration options: [Enabled] and [Disabled]. If you install Windows® 7 / 8 and want to enable this function, please set this item to [Enabled]. This item will be hidden if the current CPU does not support Intel SpeedStep technology.

Please note that enabling this function may reduce CPU voltage and lead to system stability or compatibility issues with some power supplies. Please set this item to [Disabled] if above issues occur.

CPU C States Support

Enable CPU C States Support for power saving. It is recommended to keep C3 enabled, C6 and C7 disabled.

Enhanced Halt State (C1E)

Enable or disable Enhanced Halt State (C1E) for lower power consumption.

No-Excute Memory Protection

No-Execution (NX) Memory Protection Technology is an enhancement to the IA-32 Intel Architecture. An IA-32 processor with "No Execute (NX) Memory Protection" can prevent data pages from being used by malicious software to execute code.

Hardware Prefetcher

Use this item to turn on/off the MLC streamer prefetcher.

Adjacent Cache Line Prefetch

Use this item to turn on/off prefetching of adjacent cache lines.

Intel Virtualization Technology

When this option is set to [Enabled], a VMM (Virtual Machine Architecture) can utilize the additional hardware capabilities provided by Vanderpool Technology. This option will be hidden if the installed CPU does not support Intel Virtualization Technology.

3.3.2 Chipset Configuration
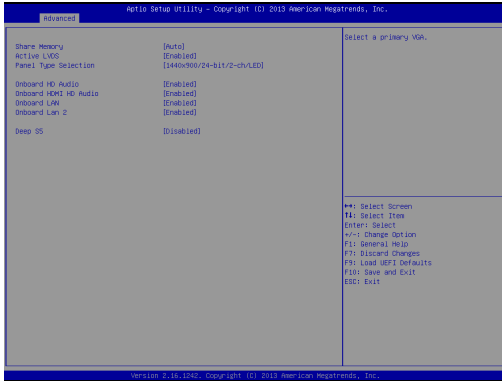
Share Memory

Configure the size of memory that is allocated to the integrated graphics processor when the system boots up.

Active LVDS

Use this to enable or disable the LVDS. The default value is [Enabled].

Panel Type Selection

Use this to select panel type.

Onboard HD Audio

Select [Enabled] or [Disabled] for the onboard HD Audio feature.

Onboard HDMI HD Audio

This allows you to enable or disable the Onboard HDMI HD Audio feature.

Onboard LAN

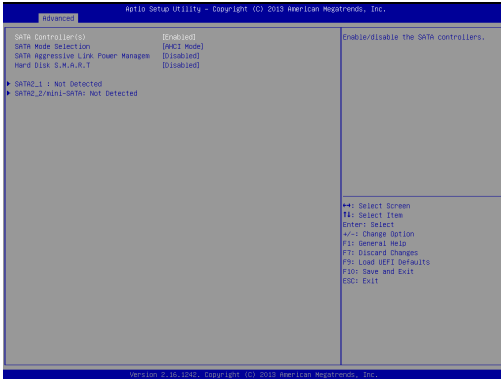This allows you to enable or disable the Onboard LAN feature.

Onboard LAN 2

This allows you to enable or disable the Onboard LAN 2 feature.

Deep S5

This allows you to enable or disable Deep S5.

3.3.3 Storage Configuration

SATA Controller(s)

Use this item to enable or disable the SATA Controller feature.

SATA Mode Selection

Use this to select SATA mode. Configuration options: [IDE Mode] and [AHCI Mode]. The default value is [AHCI Mode].

> AHCI (Advanced Host Controller Interface) supports NCQ and other new features that will improve SATA disk performance but IDE mode does not have these advantages.
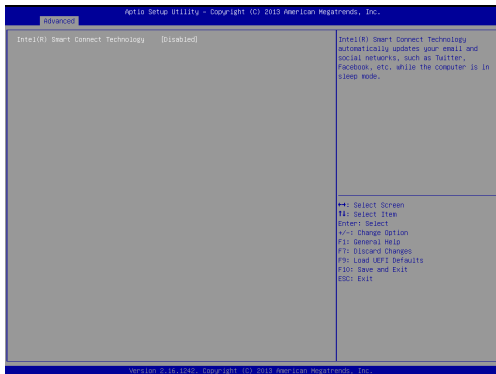
SATA Aggressive Link Power Management

Use this item to configure SATA Aggressive Link Power Management.

Hard Disk S.M.A.R.T.

Use this item to enable or disable the S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) feature. Configuration options: [Disabled] and [Enabled].

3.3.4 Intel(R) Smart Connect Technology

Intel(R) Smart Connect Technology

Use this item to enable or disable Intel(R) Smart Connect Technology. Intel(R) Smart Connect Technology keeps your e-mail and social networks, such as Twitter, Facebook, etc. updated automatically while the computer is in sleep mode. The default is [Disabled].

3.3.5 Super IO Configuration

COM1 Configuration

Use this to set parameters of COM1. Select COM1 port type: [RS232], [RS422] or [RS485].

COM2 Configuration

Use this to set parameters of COM2.

COM3 Configuration

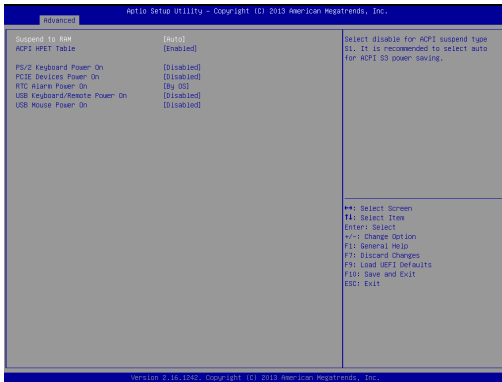Use this to set parameters of COM3.

COM4 Configuration

Use this to set parameters of COM4.

WDT Timeout Reset

This allows users to enable/disable the Watch Dog Timer timeout to reset system. The default value is [Disabled].

3.3.6 ACPI Configuration

Suspend to RAM

Use this item to select whether to auto-detect or disable the Suspend-to-RAM feature. Select [Auto] will enable this feature if the OS supports it.

ACPI HPET Table

Use this item to enable or disable ACPI HPET Table. The default value is [Enabled]. Please set this option to [Enabled] if you plan to use this motherboard to submit Windows® certification.

PS/2 Keyboard Power On

Use this item to enable or disable PS/2 keyboard to turn on the system from the power-soft-off mode.

PCIE Devices Power On

Use this item to enable or disable PCIE devices to turn on the system from the power-soft-off mode.

RTC Alarm Power On

Use this item to enable or disable RTC (Real Time Clock) to power on the system.
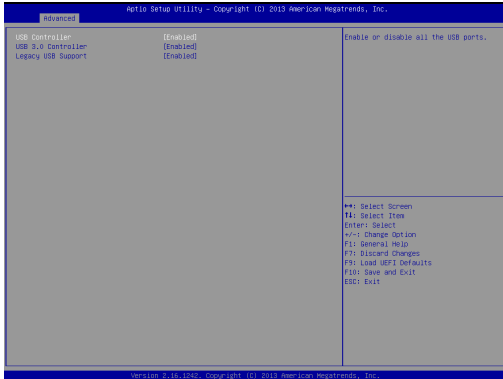
USB Keyboard/Remote Power On

Use this item to enable or disable USB Keyboard/Remote to power on the system.

USB Mouse Power On

Use this item to enable or disable USB Mouse to power on the system.

3.3.7 USB Configuration

USB Controller

Use this item to enable or disable the use of USB controller.

USB 3.0 Controller

Use this item to enable or disable the use of USB 3.0 controller.

Legacy USB Support

Use this option to select legacy support for USB devices. There are four configuration options: [Enabled], [Auto] and [UEFI Setup Only]. The default value is [Auto]. Please refer to below descriptions for the details of these four options:

[Enabled] - Enables support for legacy USB.

[Auto] - Enables legacy support if USB devices are connected.

[UEFI Setup Only] - USB devices are allowed to use only under UEFI setup and Windows / Linux OS.

3.4 Hardware Health Event Monitoring Screen

In this section, it allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature, CPU fan speed, chassis fan speed, and the critical voltage.
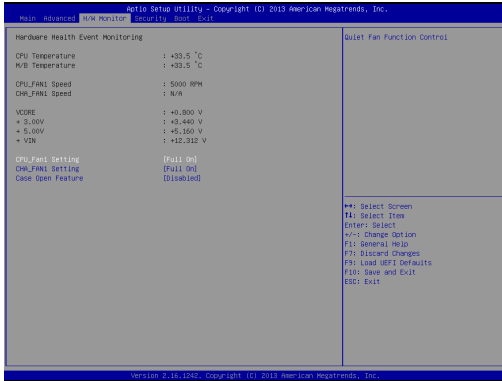
CPU_FAN1 Setting

> This allows you to set CPU fan 1's speed. Configuration options: [Full On] and [Automatic Mode]. The default value is [Full On].

CHA_FAN1 Setting

> This allows you to set chassis fan 1's speed. Configuration options: [Full On] and [Automatic Mode]. The default value is [Full On].

Case Open Feature

> This allows you to enable or disable case open detection feature. The default is value [Disabled].
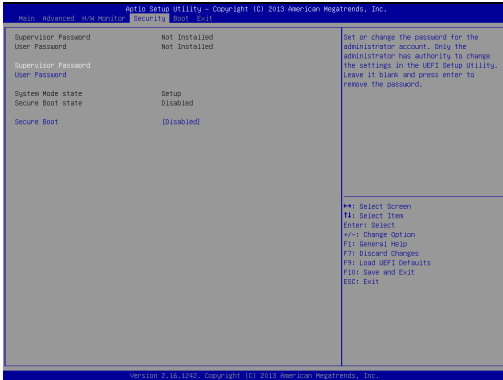
Clear Status

> This option appears only when the case open has been detected. Use this option to keep or clear the record of previous chassis intrusion status.

3.5 Security Screen

In this section, you may set, change or clear the supervisor/user password for the system.

Supervisor Password

Set or change the password for the administrator account. Only the administrator has authority to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

User Password

Set or change the password for the user account. Users are unable to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.
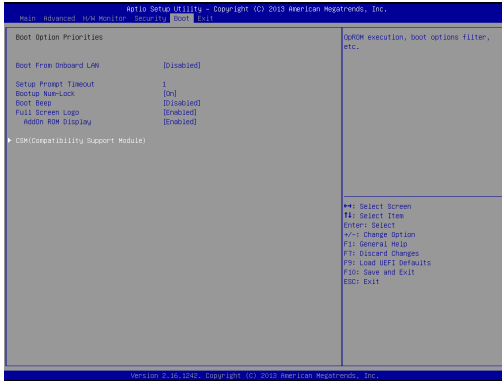
Secure Boot

Enable to support Windows 8 Secure Boot.

3.6 Boot Screen

In this section, it will display the available devices on your system for you to config-
ure the boot settings and the boot priority.

Boot From Onboard LAN

　Use this item to enable or disable the Boot From Onboard LAN feature.

Setup Prompt Timeout

　This shows the number of seconds to wait for setup activation key.
65535(0XFFFF) means indefinite waiting.

Bootup Num-Lock

　If this item is set to [On], it will automatically activate the Numeric Lock
function after boot-up.

Boot Beep

　Select whether the Boot Beep should be turned on or off when the
system boots up. Please note that a buzzer is needed.

Full Screen Logo

　Use this item to enable or disable OEM Logo. The default value is [Enabled].

CSM (Compatibility Support Module)

CSM

> Enable to launch the Compatibility Support Module. Please do not disable unless you're running a WHCK test. If you are using Windows® 8 64-bit and all of your devices support UEFI, you may also disable CSM for faster boot speed.

Launch PXE OpROM Policy

> Select UEFI only to run those that support UEFI option ROM only. Select Legacy only to run those that support legacy option ROM only. Do not launch?

Launch Storage OpROM Policy

> Select UEFI only to run those that support UEFI option ROM only. Select Legacy only to run those that support legacy option ROM only. Do not launch?

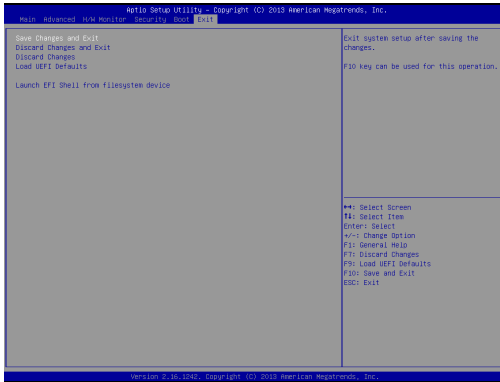**Launch Video OpROM Policy**

> Select UEFI only to run those that support UEFI option ROM only. Select Legacy only to run those that support legacy option ROM only. Do not launch?

3.7 Exit Screen

Save Changes and Exit

When you select this option, it will pop-out the following message, "Save configuration changes and exit setup?" Select [OK] to save the changes and exit the UEFI SETUP UTILITY.

Discard Changes and Exit

When you select this option, it will pop-out the following message, "Discard changes and exit setup?" Select [OK] to exit the UEFI SETUP UTILITY without saving any changes.

Discard Changes

When you select this option, it will pop-out the following message, "Discard changes?" Select [OK] to discard all changes.

Load UEFI Defaults

Load UEFI default values for all the setup questions. F9 key can be used for this operation.

Launch EFI Shell from filesystem device

Attempts to Launch EFI Shell application (Shell64.efi) from one of the available filesystem devices.

Chapter 4: Software Support

4.1 Install Operating System

This motherboard supports Microsoft® Windows® operating systems: 8 / 7. Because motherboard settings and hardware options vary, use the setup procedures in this chapter for general reference only. Refer to your OS documentation for more information.

4.2 Support CD Information

The Support CD that came with the motherboard contains necessary drivers and useful utilities that enhance the motherboard's features.

4.2.1 Running The Support CD

To begin using the support CD, insert the CD into your CD-ROM drive. The CD automatically displays the Main Menu if "AUTORUN" is enabled in your computer. If the Main Menu did not appear automatically, locate and double click on the file "ASRSETUP.EXE" from the BIN folder in the Support CD to display the menus.

4.2.2 Drivers Menu

The Drivers Menu shows the available device's drivers if the system detects installed devices. Please install the necessary drivers to activate the devices.

4.2.3 Utilities Menu

The Utilities Menu shows the application software that the motherboard supports. Click on a specific item then follow the installation wizard to install it.

4.2.4 Contact Information

If you need to contact ASRock or want to know more about ASRock, you're welcome to visit ASRock's website at http://www.asrock.com; or you may contact your dealer for further information.