



4X4 BOX-4800U 4X4 BOX-4500U 4X4 BOX-4300U

Version 1.0

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- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

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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”

ASRock's Website: www.ASRock.com

Replaceable batteries

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.

DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS

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Chapter 1 Introduction



Because the hardware specifications might be updated, the content of this documentation will be subject to change without notice.

1.1 Package Contents

- 4X4 BOX-4000 Series
- 4X4 BOX-4000 Series (pre-installed motherboard)
- 1 x SATA 1 to 1 Power Cable
- 4 x HDD Screws (M3x4)
- 1 x WiFi Module Screw
- 1 x Screw for M.2 slot
- 1 x Bracket for M.2 2280 support
- 1 x 19V/90W Power Adapter
- 1 x VESA Mount Bracket & Screw Package
- Support CD
- Quick Installation Guide



If any items are missing or appear damaged, contact your authorized dealer.

1.2 Product Specifications

4X4 BOX-4000 Series	Barebone
CPU	4X4 BOX-4800U (AMD Ryzen™ 7 4800U, 8Cores, Max Speed up to 4.2GHz)
	4X4 BOX-4500U (AMD Ryzen™ 5 4500U, 6Cores, Max Speed up to 4.0GHz)
	4X4 BOX-4300U (AMD Ryzen™ 3 4300U, 4Cores, Max Speed up to 3.7GHz)
OS	N/A
Chipset	SoC
Memory	Supports Dual Channel DDR4 3200 MHz, 2 x SO-DIMM slots, Max. 32GB
HDD	M.2 slot Optional
	2.5"HDD Supports 1 x 2.5" SATA HDD*/SSD
LAN	LAN1: Realtek RTL8125BG with 10/100/1000/2500 Mbps LAN2: Realtek R8111FPV with 10/100/1000 Mbps, support DASH function
WiFi	1 x Intel® Wi-Fi 6 AX200 module
Audio	Realtek ALC233, High Definition Audio
Front I/O	1 x USB 3.2 Gen2 (Type A), 2 x USB 3.2 Gen2 (Type C, Supports DP1.2a display output), 1 x Audio-out with MIC-In

Rear I/O	2 x USB 2.0 (Type A), 1 x HDMI, 2 x DP, 2 x LAN(1 x 1 Gigabit LAN, 1 x 2.5 Gigabit LAN), DC-IN, 1 x Kensington lock
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Power Unit	19V/90W Adapter
-------------------	-----------------

Dimension	110.mm (W)x 117.5mm (D) x 47.85mm (H)
------------------	---------------------------------------

VESA	Bracket included , supports 75 x 75 and 100 x 100 mm
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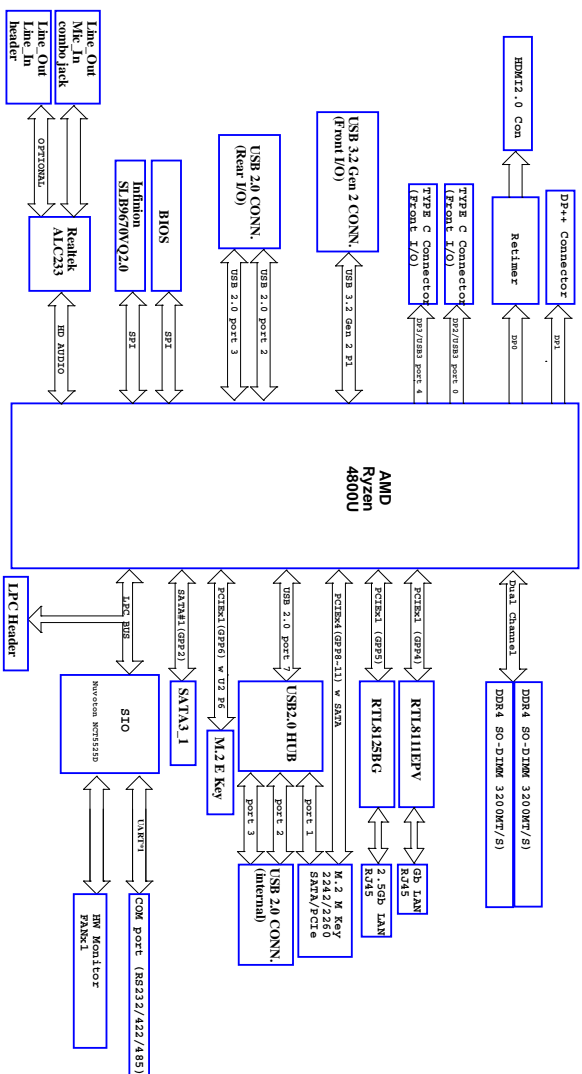
Volume (Liters)	0.6L
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Operating Temperature	0°C~40°C
----------------------------------	----------

** For 4X4 BOX-4000 Series, it is not recommended to install 2.5" HDD. If you install the 2.5" HDD, please keep the 4X4 BOX-4000 Series in a vertical position to ensure better cooling performance.*

1.3 Block Diagram

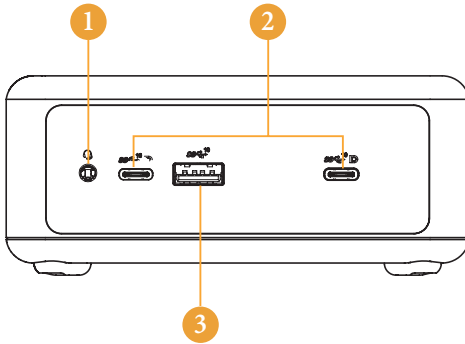
4X4-4800U



Chapter 2 Product Overview

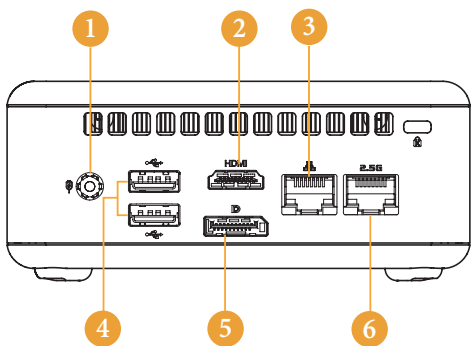
This chapter provides diagrams showing the location of important components of the 4X4 BOX-4000 Series.

2.1 Front View



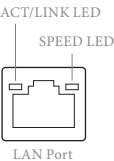
No.	Description
1	Audio(Mic-in, Line-out)
2	2 x USB 3.2 Gen2 Ports (Type C, supports DP1.2a display output)
3	USB 3.2 Gen2 (Type A)

2.2 Rear View



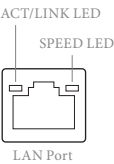
No.	Description
1	DC-IN
2	HDMI
3	RJ-45 (1G)*
4	2 x USB 2.0 Ports
5	DisplayPort
6	RJ-45 (2.5G)**

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



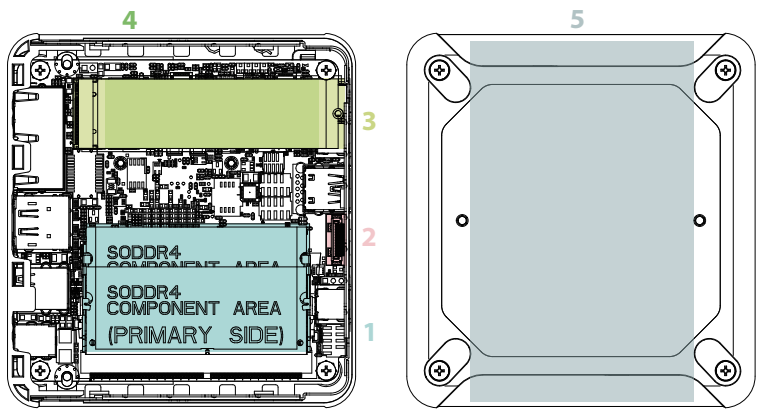
Activity / Link LED		Speed LED	
Status	Description	Status	Description
Off	No Link	Off	10Mbps connection
Blinking	Data Activity	Orange	100Mbps connection
On	Link	Green	1Gbps connection

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



Activity / Link LED		Speed LED	
Status	Description	Status	Description
Off	No Link	Off	10Mbps connection
Blinking	Data Activity	Orange	100Mbps/1Gbps connection
On	Link	Green	2.5Gbps connection

2.3 Inside View



No.	Description
1	SO-DIMM Slot
2	SATA 3.0 Connector
3	Mini PCIe Slot
4	M.2 Slot
5	Hard disk drive tray (compatible with 2.5" SATA HDD/SSD)



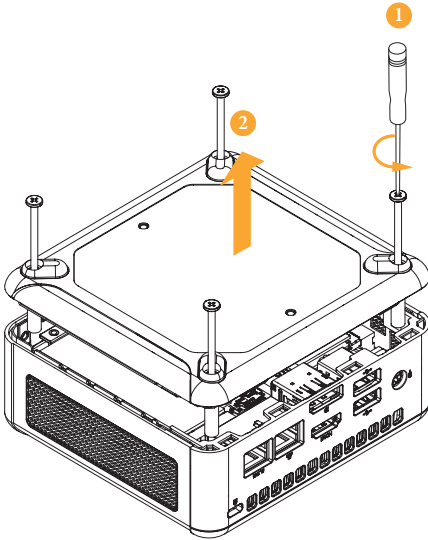
SO-DIMM memory, hard drive and mSATA SSD are not included with this system.

Chapter 3 Hardware Installation

This chapter helps you install or remove important components.

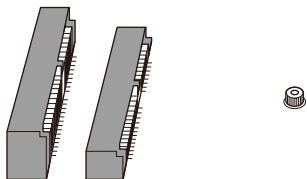
3.1 How to Remove the Bottom Case

1. Remove the four screws on the bottom case.
2. Then lift up and remove the bottom panel..

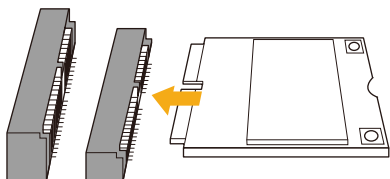


3.2 How to Install the WiFi Module

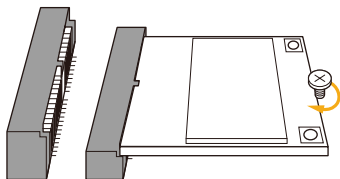
1. Locate the WiFi Module slot on the motherboard.



2. Carefully insert the WiFi Module into the slot.

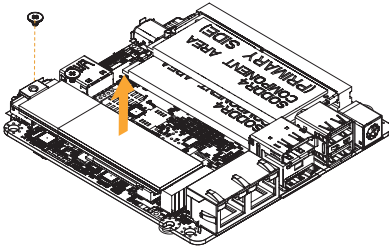


3. Tighten the screw to secure the WiFi Module to the motherboard.

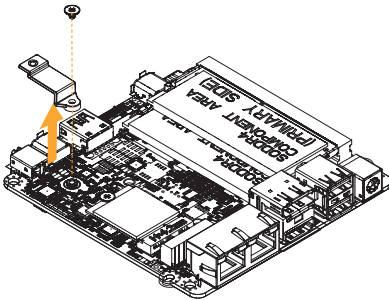


3.3 How to Remove the M.2 SSD and the Bracket

1. Release the screw and carefully remove the M.2 SSD.

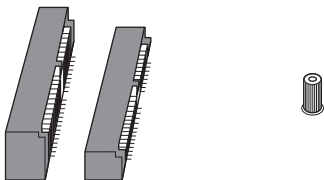


2. Release the screw and remove the bracket from the motherboard.

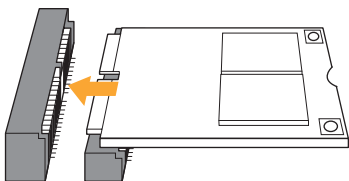


3.4 How to Install the M.2 SSD

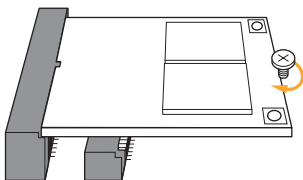
1. Locate the M.2 slot on the motherboard.



2. Carefully insert the M.2 SSD into the slot.

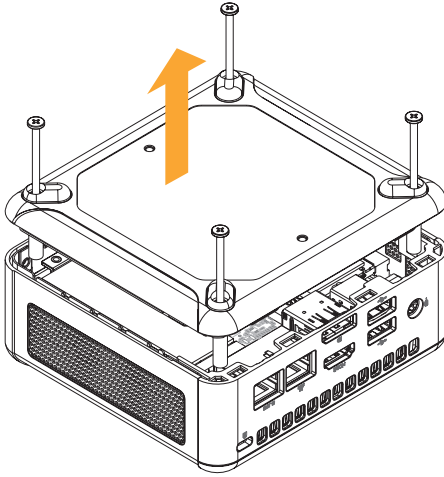


3. Tighten the screw to secure the M.2 SSD to the motherboard.

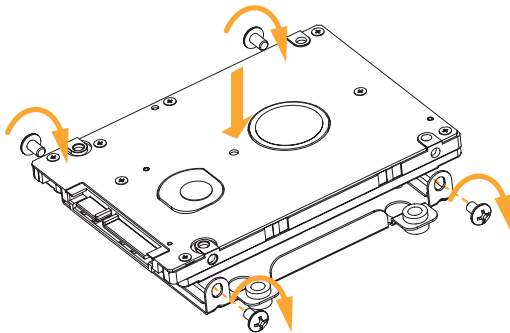


3.5 How to Install the 2.5-inch Hard Drive

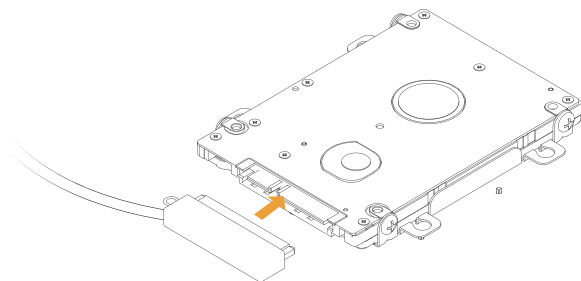
1. Remove the four screws on the bottom case. Then lift up and remove the bottom panel.



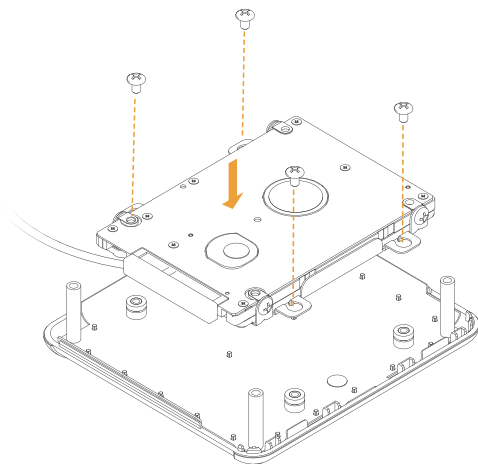
2. Attach the HDD to the hard drive mounting bracket and secure it using the four screws.



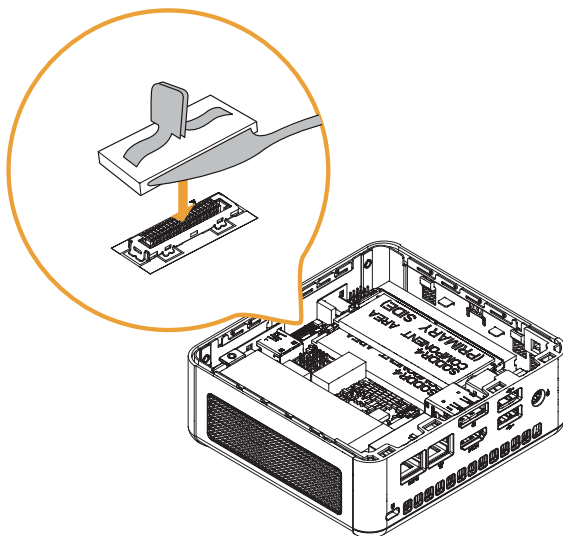
3. Connect the SATA Data and Power Cable to the HDD.



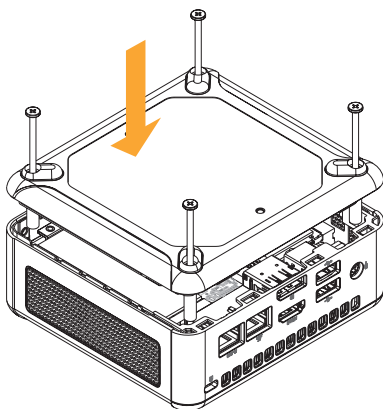
4. Connect the SATA Data and Power Cable to the HDD.



5. Connect the SATA Cable to the connector.



6. Then reinstall the bottom panel.



3.6 How to Install the Memory Modules (DDR4)

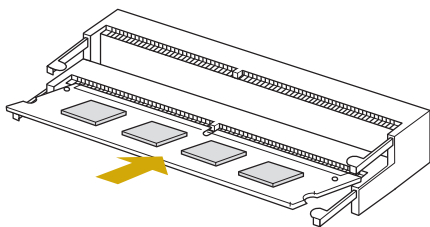


1. The 4X4 BOX-4000 Series requires DDR4 SO-DIMM.
2. For dual channel configuration, you always need to install identical (the same brand, speed, size and chip-type) DDR4 SO-DIMM pairs.

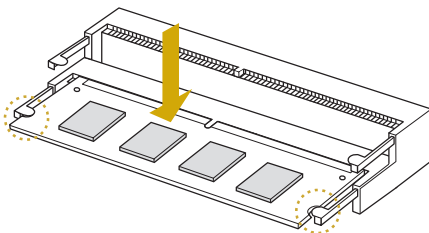


The SO-DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

1. Carefully insert the SO-DIMM memory modules into the slot at a 30-degree angle.

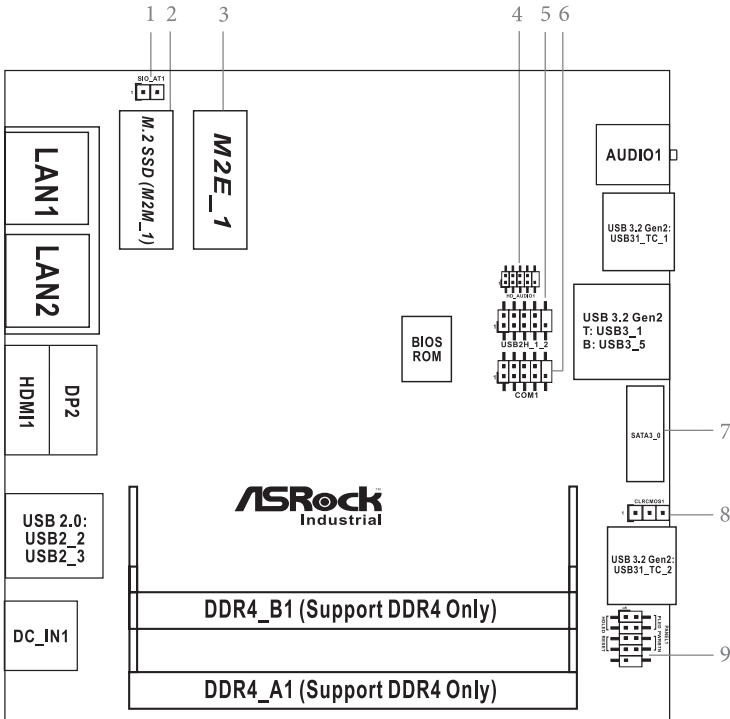


2. Push down until the modules snap into place.



Chapter 4 Motherboard

4.1 Motherboard Layout



- 1 : SIO_AT1
- 2 : M.2 Key-M Socket (M2M_1)
- 3 : M.2 Key-E Socket (M2E_1)
- 4 : Front Panel Audio Header
- 5 : USB2.0 Connector (USB2H_1_2)
- 6 : COM Port Header (RS232/422/485)
- 7 : SATA3 Port (SATA3_0)
- 8 : Clear CMOS Header (CLRCMOS1)
- 9 : System Panel Header (PANEL1)

Back Side :

- Power Button (PWR_BTN3)
- Fan Connector (FAN1)
- Battery Connector (BAT1)
- LPC Connector (LPC1)

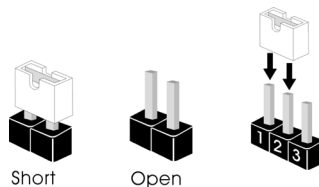
4.2 Motherboard Specifications

Form Factor	Dimensions	NUC 4.09" x 4.02" (104 x 102mm)
Processor System	CPU	4X4-4800U: AMD Ryzen™ 7 4800U (Max Speed up to 4.2GHz)
		4X4-4500U: AMD Ryzen™ 5 4500U (Max Speed up to 4.0GHz)
		4X4-4300U: AMD Ryzen™ 3 4300U (Max Speed up to 3.7GHz)
	Chipset	SoC
	BIOS	AMI SPI 128 Mbit
Expansion Slot	M.2	1 x M.2 (Key E, 2230) with PCIe x1, USB 2.0 and CNVio for Wireless
Memory	Technology	Dual Channel DDR4 3200 MHz
	Capacity	64GB (32 GB per DIMM)
	Socket	2 x 260-pin SO-DIMM
Graphics	Controller	AMD Radeon™ Graphics
	HDMI	HDMI 2.0a Max resolution up to 4096x2160@60Hz
	DisplayPort	DisplayPort 1.2a, DP++ Max resolution up to 4096x2160@60Hz
	Multi Display	Max 4 display (Included 2 outputs from type C)
Audio	Interface	Realtek ALC233, High Definition Audio.
Ethernet	Controller/ Speed	LAN1: 1 x Realtek RTL8125BG with 10/100/1000/2500 Mbps LAN1: 1 x Realtek R8111FPV (Dash) with 10/100/1000 Mbps
	Connector	2 x RJ-45
Front I/O	USB	2 x USB 3.2 Gen2 (Type A) 2 x USB 3.2 Gen2 (Type C) (Supports DP1.2a display output)
	Audio	1 (headphone & microphone jack)
Rear I/O	HDMI	1 x HDMI 2.0a
	DisplayPort	1 x DP1.2a
	Ethernet	2 x 1 Gigabit LAN
	USB	2 x USB 2.0
	DC Jack	1

Internal Connector	USB	2 x USB2.0 (1 x 2.54 pitch header)
	COM	1 x COM (RS-232/422/485)
	TPM	Infinion SLB9670VQ2.0
	eDP	1
Storage	M.2	1 x M.2 (KEY M, 2242/2260/2280) with PCIe x4 and SATA3 for SSD *M.2 Key M 2280 (Supported by bracket)
	SATA	1 x SATA3.0 (6.0 Gb/s)
Watchdog Timer	Output	From Super I/O to drag RESETCON#
	Interval	256 segments, 0,1,2...255sec
Power Requirements	Input PWR	12V~19V DC-In Jack
	Power On	AT/ATX Supported AT: Directly PWR on as Power input ready Environment ATX: Press Button to PWR on after Power input ready
Environment	Operating Temp	0°C ~ 60°C
	Storage Temp	-40°C ~ 85°C
	Operating Humidity	5% ~ 90%
	Storage Humidity	5% ~ 90%

4.3 Jumpers Setup

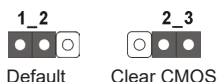
The illustration shows how jumpers are setup. When the jumper cap is placed on pins, the jumper is "Short". If no jumper cap is placed on pins, the jumper is "Open". The illustration shows a 3-pin jumper whose pin1 and pin2 are "Short" when jumper cap is placed on these 2 pins.



Clear CMOS Jumper

(3-pin CLRMOS1)

(see p.8, No. 8)



Note: CLRMOS1 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 CLRMOS1 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.

ATX/AT Mode Jumper

(2-pin SIO_AT1)

(see p.8, No. 1)



Open : ATX Mode

Short : AT Mode

4.4 Onboard Headers and Connectors

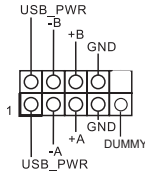


Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage of the motherboard!

USB 2.0 Connector

(9-pin USB2H_1_2)

(see p.8 No. 5)

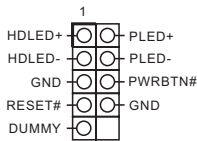


There is one USB 2.0 connector on this motherboard.

System Panel Header

(9-pin PANEL1)

(see p.8 No. 9)



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):

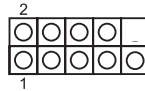
Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

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 assignments are matched correctly.

Front Panel Audio Header

(9-pin HD_AUDIO1)

(see p.8 No. 4)



This is an interface for front panel audio cable that allows convenient connection and control of audio devices.

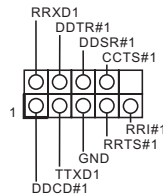
PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
2	AGND	4	NC	6	LIN1_JD	8	LIN2_JD	10	NC
1	LIN1_L_IN	3	LIN1_R_IN	5	LIN2_R_OUT	7	AGND	9	LIN2_L_OUT



- High Definition Audio supports Jack Sensing, but the panel wire on the chassis must support HDA to function correctly. Please follow the instruction in our manual and chassis manual to install your system.
- If you use AC'97 audio panel, please install it to the front panel audio header as below:
 - Connect Mic_IN (MIC) to MIC2_L.
 - Connect Audio_R (RIN) to OUT2_R and Audio_L (LIN) to OUT2_L.
 - Connect Ground (GND) to Ground (GND).
 - MIC_RET and OUT_RET are for HD audio panel only. You don't need to connect them for AC'97 audio panel.
 - To activate the front mic.
Go to the "FrontMic" Tab in the Realtek Control panel. Adjust "Recording Volume".

COM Port Header (RS232/422/485)

(9-pin COM1: see p.8, No. 6)



* 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 23 for details.

COM1 Port Pin Definition

PIN	RS232	RS422	RS485
1	DCD, Data Carrier Detect	TX-	RTX-
2	RXD, Receive Data	TX+	RTX+
3	TXD, Transmit Data	RX+	N/A
4	DTR, Data Terminal Ready	RX-	N/A
5	GND	GND	GND
6	DSR, Data Set Ready	N/A	N/A
7	RTS, Request To Send	N/A	N/A
8	CTS, Clear To Send	N/A	N/A
9	N/A	N/A	N/A

Back Side:

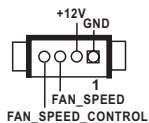
Power Button Header

(PWR_BTN3)



Fan Connector

(FAN1)



4.5 Expansion Slots (M.2 Slots)

There are 2 M.2 slots on this motherboard.

M.2 for SSD: 1 x M.2 (KEY M, 2242/2260/2280) with PCIe x4 and SATA3 for SSD.

* M.2 Key M 2280 (Supported by bracket)

M.2 for Wi-Fi: 1 x M.2 (Key E, 2230) with PCIe x1, USB 2.0 and CNVio for Wireless.

M.2 Key-M Socket (M2M_1)

PIN	Signal Name	PIN	Signal Name
1	GND	2	+3.3V
3	GND	4	+3.3V
5	PERn3	6	USB_D+
7	PERp3	8	USB_D-
9	GND	10	SATA_LED
11	PETn3	12	+3.3V
13	PETp3	14	+3.3V
15	GND	16	+3.3V
17	PERn2	18	+3.3V
19	PERp2	20	NA
21	GND	22	NA
23	PETn2	24	NA
25	PETp2	26	NA
27	GND	28	NA
29	PERn1	30	NA
31	PERp1	32	NA
33	GND	34	NA
35	PETn1	36	NA
37	PETp1	38	DEVSLP
39	GND	40	SMB_CLK
41	PERn0/ SATA-B+	42	SMB_DATA
43	PERp0/ SATA-B-	44	NA
45	GND	46	NA
47	PETn0/ SATA-A-	48	NA
49	PETp0/ SATA-A+	50	PERST#
51	GND	52	CLKREQ#
53	PEFCLKn	54	WAKE#
55	PEFCLKp	56	NA
57	GND	58	NA
67	NA	68	NA
69	PEDET	70	+3.3V
71	GND	72	+3.3V
73	GND	74	+3.3V
75	GND		

M.2 Key-E Socket (M2E_1)

PIN	Signal Name	PIN	Signal Name
1	GND	2	+3.3V
3	USB_D+	4	+3.3V
5	USB_D-	6	NA
7	GND	8	NA
9	NA	10	NA
11	NA	12	NA
13	NA	14	NA
15	NA	16	NA
17	NA	18	GND
19	NA	20	NA
21	NA	22	NA
23	NA		
33	GND	32	NA
35	PETp	34	NA
37	PETn	36	NA
39	GND	38	NA
41	PERp	40	NA
43	PERn	42	NA
45	GND	44	NA
47	PEFCLKp	46	NA
49	PEFCLKn	48	NA
51	GND	50	SUSCLK
53	CLKREQ#	52	PERST0#
55	WAKE#	54	W_DISABLE1#
57	GND	56	W_DISABLE2#
59	NA	58	SMB_DATA
61	NA	60	SMB_CLK
63	GND	62	NA
65	NA	64	NA
67	NA	66	NA
69	GND	68	NA
71	NA	70	NA
73	NA	72	+3.3V
75	GND	74	+3.3V

* Pin6 and Pin8 are defined as USB2.0 signal to support Key-M to Key-B extension card.

Chapter 6 UEFI Setup Utility

6.1 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 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.

6.1.1 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.

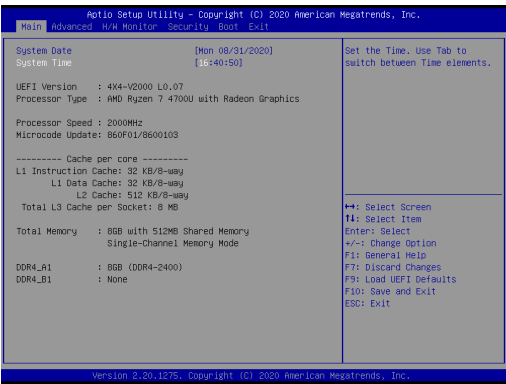
6.1.2 Navigation Keys

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

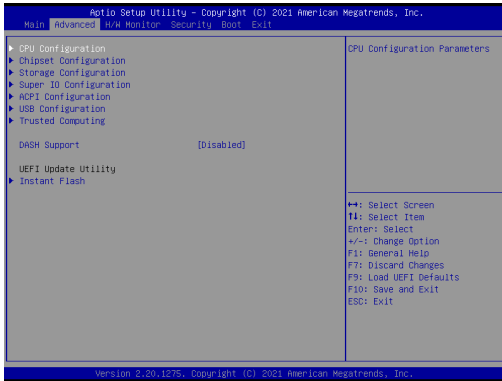
6.2 Main Screen

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



6.3 Advanced Screen

In this section, you may set the configurations for the following items: CPU Configuration, Chipset Configuration, Storage Configuration, Super IO Configuration, ACPI Configuration, USB Configuration, Trusted Computing, MCTP Configuration and Serial Port Console Redirection.



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

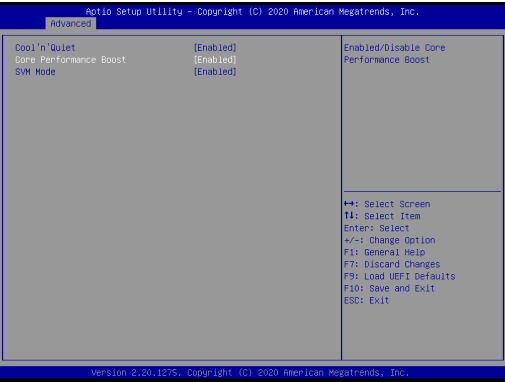
DASH Support

Enable or disable Realtek Lan DASH Function.

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.

6.3.1 CPU Configuration



Cool 'n' Quiet

Use this item to enable or disable AMD's Cool 'n' Quiet™ technology. The default value is [Enabled]. Configuration options: [Enabled] and [Disabled]. If you install Windows® OS and want to enable this function, please set this item to [Enabled]. Please note that enabling this function may reduce CPU voltage and memory frequency, and lead to system stability or compatibility issue with some memory modules or power supplies. Please set this item to [Disable] if above issue occurs.

Core Performance Boost

Core Performance Boost controls whether the processor transitions to a higher frequency than the processor's rated speed if the processor has available power and is within temperature specifications. The default value is [Enabled].

SVM Mode

When this is set to [Enabled], a VMM (Virtual Machine Architecture) can utilize the additional hardware capabilities provided by AMD-V. The default value is [Enabled]. Configuration options: [Enabled] and [Disabled].

6.3.2 Chipset Configuration



Share Memory

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

Onboard HD Audio

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

Verb Table Select

The default value is [Combo Jack].

Onboard LAN 1

This allows you to enable or disable the Onboard LAN 1.

Onboard LAN 2

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

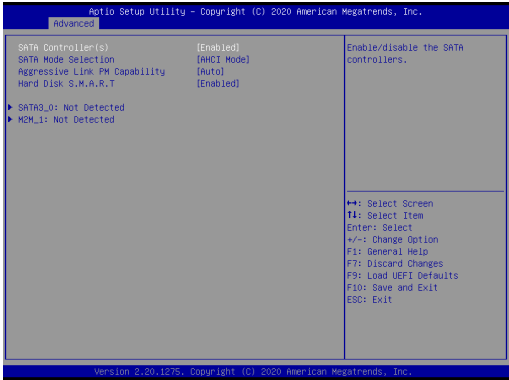
Restore on AC/Power Loss

Select the power state after a power failure. If [Power Off] is selected, the power will remain off when the power recovers. If [Power On] is selected, the system will start to boot up when the power recovers.

Deep S5

[Auto] will disable the deep S5 configuration if RTC/LAN/USB device power on settings are enabled. The default value is [Disabled].

6.3.3 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. 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.

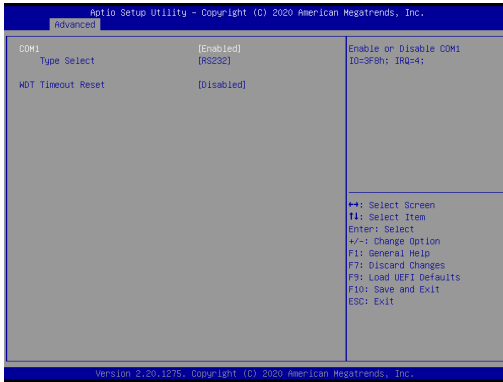
Aggressive Link Power Management

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].

6.3.4 Super IO Configuration



COM1 Configuration

Use this to set parameters of COM1.

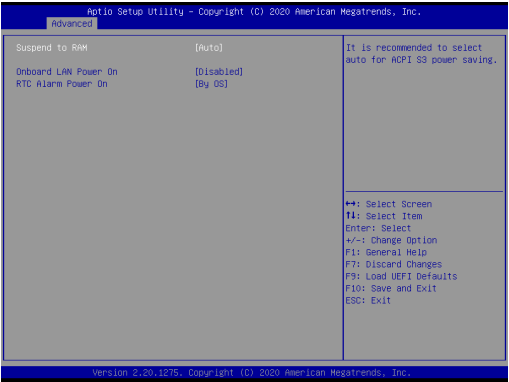
Type Select

Use this to select COM1 port type: [RS232], [RS422] or [RS485].

WDT Timeout Reset

Use this to set the Watch Dog Timer.

6.3.5 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.

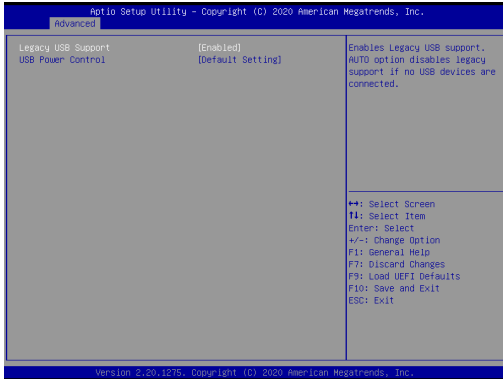
Onboard LAN Power On

Use this item to enable or disable onboard LAN 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.

6.3.6 USB Configuration



Legacy USB Support

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

[Enabled] - Enables support for legacy USB.

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

USB Power Control

Use this to control USB power. The default value is [Default Setting].

6.3.7 Trusted Computing

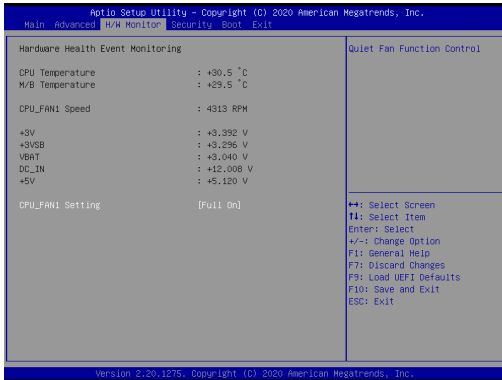


Security Device Support

Enable or disable BIOS support for security device.

6.4 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.

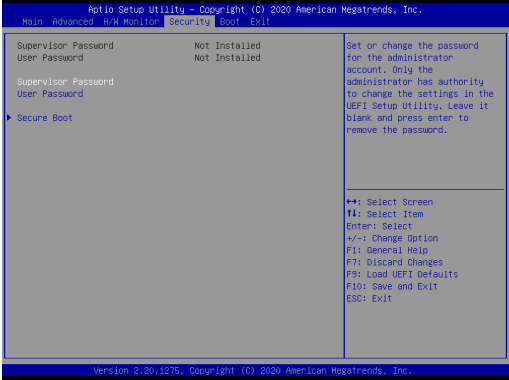


CPU_FAN1 Setting

This allows you to set CPU_FAN1's speed. Configuration options: [Full On], [Manual] and [Automatic Mode]. The default value is [Automatic Mode].

6.5 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

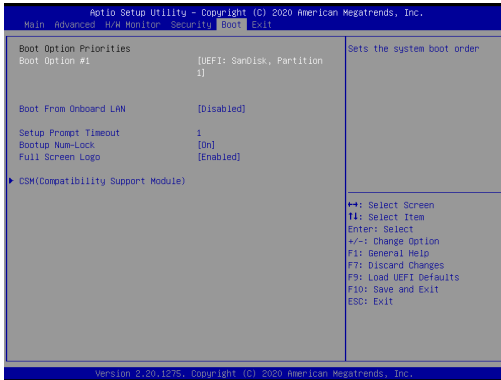
Set or change the password for the user account. Users are unable to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

Secure Boot

Enable to support Windows 8.1 / 8 Secure Boot.

6.6 Boot Screen

In this section, it will display the available devices on your system for you to configure 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.

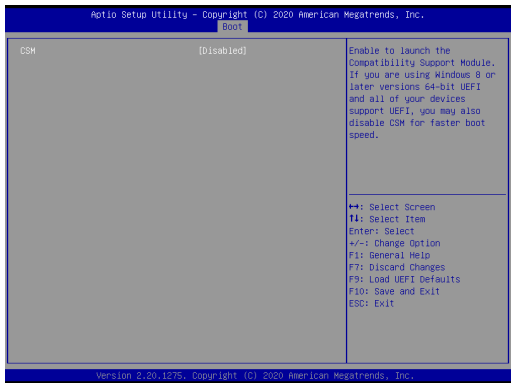
Bootup Num-Lock

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

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 8.1 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. Select Do not launch to not execute both legacy and UEFI option ROM.

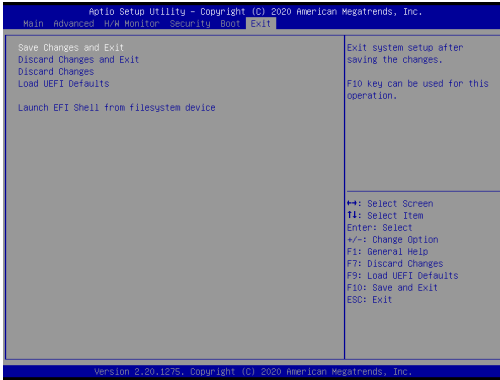
Launch Storage OpROM Policy

Select UEFI only to run those that support UEFI option ROM only. Select Legacy only to run those that support legacy option ROM only. Select Do not launch to not execute both legacy and UEFI option ROM.

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. Select Do not launch to not execute both legacy and UEFI option ROM.

6.7 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 8 Software Support

8.1 Install Operating System

This motherboard supports various Microsoft® Windows® operating systems: 10 64-bit / 8.1 64-bit / 7 32-bit / 7 64-bit. Because motherboard settings and hardware options vary, use the setup procedures in this chapter for general reference only. Refer your OS documentation for more information.

8.2 Support CD Information

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

8.2.1 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.

8.2.2 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.

8.2.3 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.

8.2.4 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.