

# ***NF692K6 Series***

## ***User's Manual***

**NO. G03-NF692K-F**

**Revision: 1.0**

**Release date: November 23, 2021**

### **Trademark:**

\* Specifications and Information contained in this documentation are furnished for information use only, and are subject to change at any time without notice, and should not be construed as a commitment by manufacturer.

# Environmental Protection Announcement

Do not dispose this electronic device into the trash while discarding. To minimize pollution and ensure environment protection of mother earth, please recycle.



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## Environmental Safety Instruction

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- Avoid the dusty, humidity and temperature extremes. Do not place the product in any area where it may become wet.
- 0 to 60 centigrade is the suitable temperature. (The figure comes from the request of the main chipset)
- Generally speaking, dramatic changes in temperature may lead to contact malfunction and crackles due to constant thermal expansion and contraction from the welding spots' that connect components and PCB. Computer should go through an adaptive phase before it boots when it is moved from a cold environment to a warmer one to avoid condensation phenomenon. These water drops attached on PCB or the surface of the components can bring about phenomena as minor as computer instability resulted from corrosion and oxidation from components and PCB or as major as short circuit that can burn the components. Suggest starting the computer until the temperature goes up.
- The increasing temperature of the capacitor may decrease the life of computer. Using the close case may decrease the life of other device because the higher temperature in the inner of the case.
- Attention to the heat sink when you over-clocking. The higher temperature may decrease the life of the device and burned the capacitor.

## USER'S NOTICE

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## Manual Revision Information

Reversion	Revision History	Date
1.0	First Edition	November 23, 2021

## Item Checklist

- Motherboard
- Cable(s)
- I/O Back panel shield

# Chapter 1

## Introduction of the Motherboard

### 1-1 Feature of Motherboard

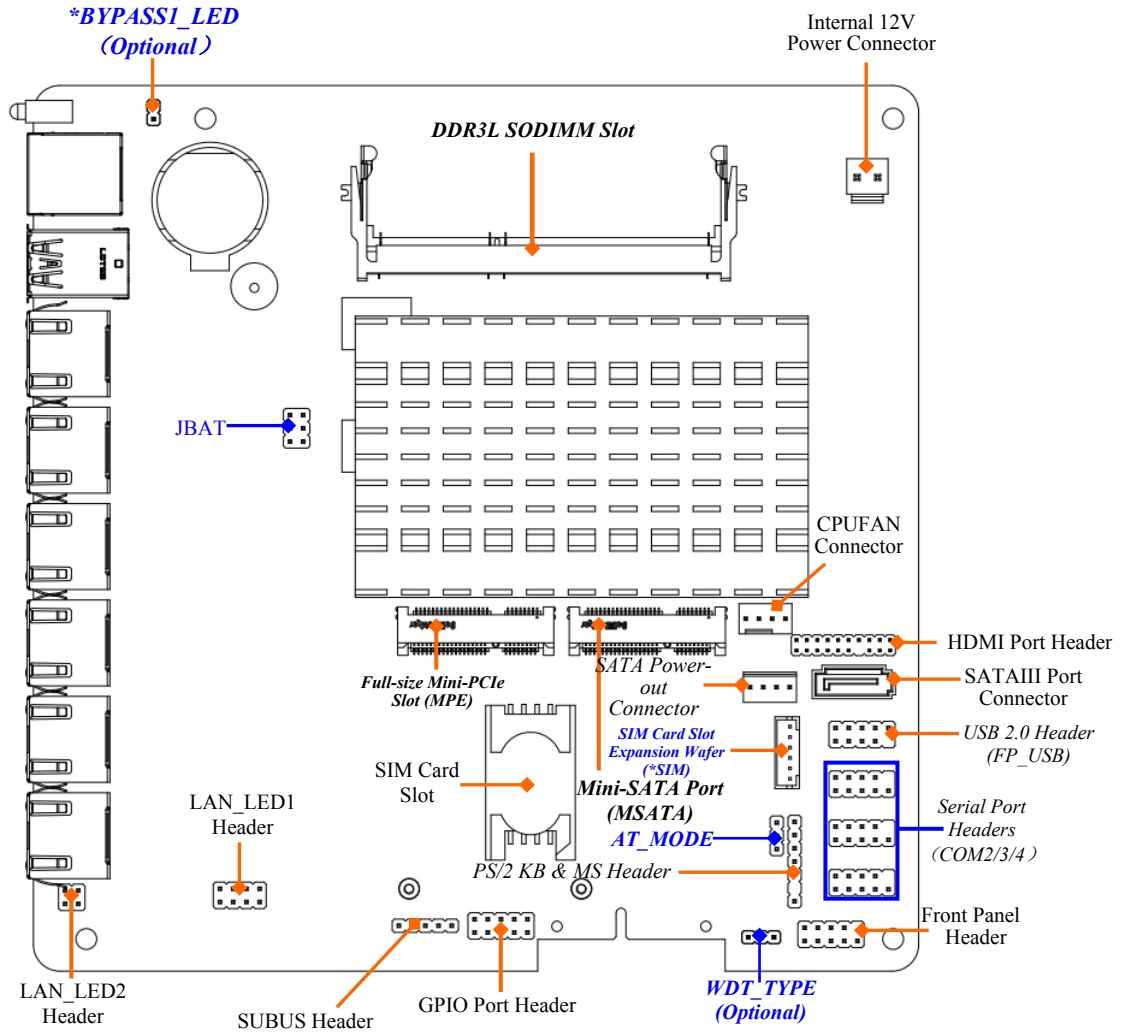
- Onboard Intel® Apollo Lake Series Processor, with low power consumption and high performance
- Support 1\* DDR3L 1866 MHz SO-DIMM, up to 8GB
- Support 1\* full-size Mini-PCIe slot
- Support 1 \* SATAIII (6Gb) port & 1\* full-size m-SATA slot
- Support 6\* 10/100/1000 Base-TX Ethernet Ports
- support ByPass GbE (*optional for **NF692K6-345B1** Series*)
- Support USB 3.0 data transport demand
- Supports ACPI S3 Function
- Compliance with EuP Standard
- Support CPU Smart FAN
- Support Watchdog Technology

## 1-2 Specification

Spec	Description
<b>Design</b>	<ul style="list-style-type: none"> <li>● Mini-ITX form factor 6 layers; PCB size: 17.0x17.0cm</li> </ul>
<b>Embedded CPU</b>	<ul style="list-style-type: none"> <li>● Intel® Apollo Lake series CPU</li> </ul> <p><i>* for detailed CPU support information please visit our website</i></p>
<b>Memory Socket</b>	<ul style="list-style-type: none"> <li>● 1*DDR3L SO-DIMM slot</li> <li>● Support DDR3L 1866 MHz SO-DIMM up to 8GB</li> </ul>
<b>Expansion Slot</b>	<ul style="list-style-type: none"> <li>● 1* Full-size Mini-PCIe slot (<b>MPE</b>) supports USB/PCIe signal</li> <li>● 1* SIM card slot (<b>SIMCARD</b>)</li> </ul>
<b>Storage</b>	<ul style="list-style-type: none"> <li>● 1* SATA III 6G/s connector (<b>SATA1</b>)</li> <li>● 1* Full-size mSATA slot (<b>MSATA</b>)</li> </ul>
<b>LAN Chip</b>	<ul style="list-style-type: none"> <li>● Integrated with 6* Intel I211AT PCI-E Gigabit LAN chips</li> <li>● Support Fast Ethernet LAN function of providing 10/100/1000Mbps Ethernet data transfer rate <b>NF692K6-345B1 Series</b> : support 1 pair (LAN3&amp;LAN4) ByPass Gigabit LAN Ethernet</li> </ul>
<b>BIOS</b>	<ul style="list-style-type: none"> <li>● AMI 128MB Flash ROM</li> </ul>
<b>Rear I/O</b>	<ul style="list-style-type: none"> <li>● 1* RJ-45 COM port</li> <li>● 2* USB 3.0 port</li> <li>● 6* RJ-45 LAN port</li> </ul>
<b>Internal I/O</b>	<ul style="list-style-type: none"> <li>● 1* 2-pin internal 12V DC-in power connector</li> <li>● 1* SATA Power connector</li> <li>● 1* CPU FAN connector</li> <li>● 1* Front panel header</li> <li>● 1* USB 2.0 header (Expansible to 2* USB 2.0 ports)</li> <li>● 3* RS232 Serial port header</li> <li>● 1* PS/2 keyboard &amp; mouse header</li> <li>● 1* HDMI port header</li> <li>● 1* 8-pin LANLED header (LAN_LED1)</li> <li>● 1* 4-pin LANLED header (LAN_LED2)</li> <li>● 1* optional Bypass LED header (BYPASS1_LED)</li> <li>● 1* SMBUS header</li> <li>● 1* GPIO port header</li> <li>● 1* SIM card wafer</li> </ul>

# 1-3 Layout Diagram

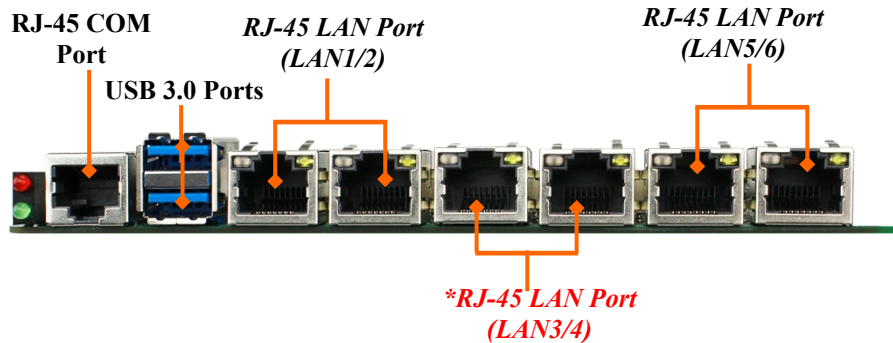
## Motherboard Internal Diagram






**Note:** 1. SIM card slot (BSIMCARD/expansion card from SIM wafer) only work when compatible SIM card installed & 3G LAN card installed in the full-size Mini-PCIE slot (MPE); 2. BSIMCARD and SIM wafer is optional, i.e., only one can work in the same time. 3. BYPASS1\_LED header / WDT\_TYPE header is optional. 4. The module should be DDR3L 1.35V SODIMM and not exceeding 8GB total capacity.



## Rear IO Diagram



<i>Icon</i>	<i>Name</i>	<i>Function</i>
	<b>RJ-45 LAN Port</b>	This connector is standard RJ-45 LAN jack for Network connection.
	<b>USB 3.0 Port</b>	To connect USB keyboard, mouse or other devices compatible with USB specification. USB 3.0 ports supports up to 5Gbps data transfer rate.
	<b>RJ-45 COM Port</b>	Mainly for user to connect external MODEM or other devices that supports Serial Communications Interface.

**Note:** This manual serves as a common manual for **NF692K6-345 & NF692K6-345B1** series.

**Their main differences are listed as below:**

<b>Model</b>	<b>BYPASSED1</b>	<b>Bypass LAN (on LAN3/LAN4)</b>
<b>NF692K6-345B1</b>	<b>Y</b>	<b>Support (Optional)</b>
<b>NF692K6-345</b>	<b>N</b>	<b>Not Support</b>

**\*Note:** The pictures for illustration examples are mostly taken from the above layout diagram for **NF692K6-345B1** series, unless otherwise stated. Please refer to your actual product for specification reference.

## Jumper

Jumper	Name	Description
JBAT	<b>Pin (1-2):</b> Clear CMOS RAM Settings <b>Pin (3-4):</b> Clear ME_RTC <b>Pin (5-6):</b> TXE Override	6-Pin Block (2.54 pitch)
AT_MODE	AT/ATX Mode Select	3-Pin Block (2.54 pitch)
WDT_TYPE (NF692S6-345B1)	WDT Type Select	3-Pin Block (2.54 pitch)

## Connectors

Connector	Name
LAN1/2/3/4/5/6	RJ-45 LAN Connector X6
USB1	USB 3.0 Port Connector X2
RJ45_COM1	RJ45 COM Port Connector
DCIN	2-Pin Internal 12V DC-in Power Connector
SATA1	SATAIII Port Connector
SATAPW	SATA Power out Connector
CPUFAN1	CPU FAN Connector

## Headers & Wafer

Header	Name	Description
FP	Front Panel Header (PWR LED/ HD LED /Power Button /Reset)	9-pin Block (2.54 pitch)
FP_USB	USB 2.0 Header	9-pin Block (2.54 pitch)
COM2	RS232/422/485 Serial Port Header	9-pin Block (2.54 pitch)
COM3/4	RS232 Serial Port Header	9-pin Block (2.54 pitch)
HDMI	HDMI Port Header	19-pin Block (2.0 pitch)
PS2KBMS	PS/2 Keyboard & Mouse Header	6-pin Block (2.54 pitch)
SMBUS	SMBUS Header	5-pin Block (2.54 pitch)
GPIO_CON	GPIO Header	10-pin Block (2.54 pitch)
LAN_LED1	LAN1/2/3/4 Activity LED Header	8-pin Block (2.54 pitch)
LAN_LED2	LAN5/6 Activity LED Header	4-pin Block (2.54 pitch)
SIM	SIM Card Slot Wafer	6-pin Block (2.0 pitch)
BYPASS1_LED	LAN3&Lan4 Bypass Mode LED Header	2-pin Block (2.54 pitch)

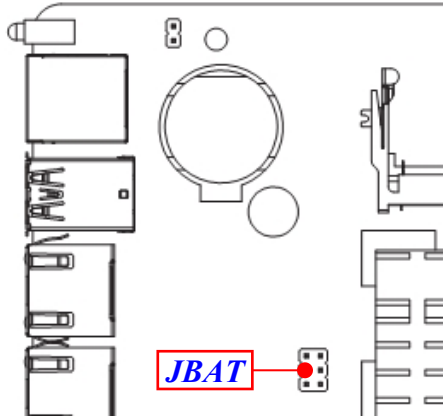
**\*Note:** *BYPASS1\_LED* & *WDT\_TYPE* are optional to **NF692K6-345B1** series.

# Chapter 2

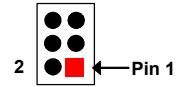
## Hardware Installation

### 2-1 Jumper Setting

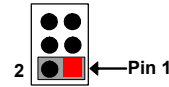
**Pin 1&2 of JBAT (6-pin): Clear CMOS RAM Setting** (2.54 pitch)



**Pin (1&2) of JBAT → Clear CMOS**

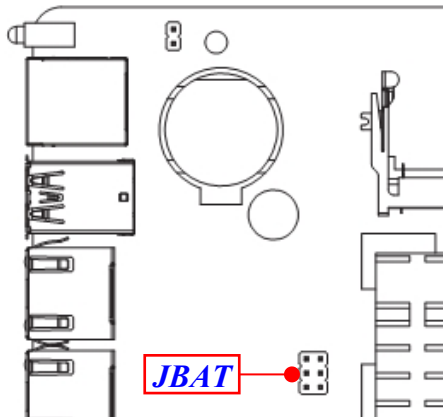


**1-2 Open: Normal(Default);**

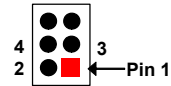


**1-2 Closed: Clear CMOS(One Touch).**

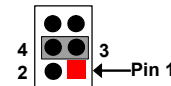
**Pin 3&4 of JBAT (6-pin): Clear ME\_RTC** (2.54 pitch)



**Pin (3&4) of JBAT → Clear ME\_RTC**

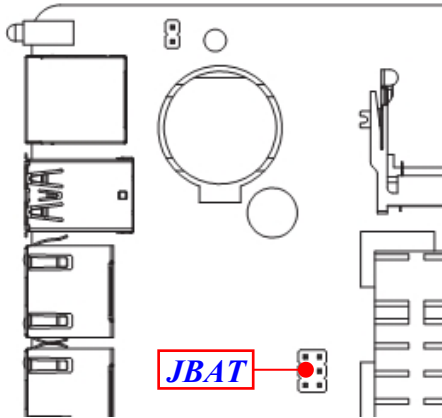


**3-4 Open: Normal(Default);**

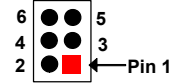


**3-4 Closed: Clear ME\_RTC (One Touch).**

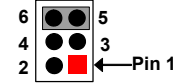
**Pin 5&6 of JBAT (6-pin): TXE Override Function Select** (2.54 pitch)



**Pin (5&6) of JBAT → TXE Override**

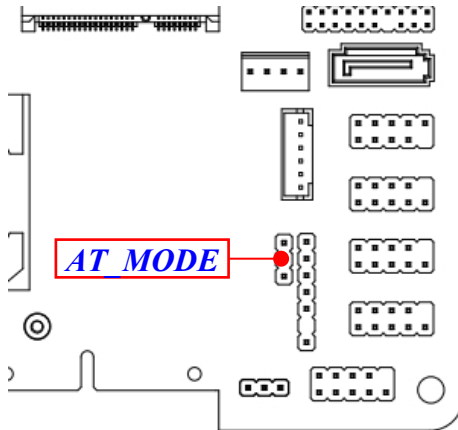


**5-6 Open: Normal(Default);**



**5-6 Closed: TXE Override(One Touch).**

**AT\_MODE (3-pin): AT Mode/ATX Mode Select** (2.54 pitch)



**AT\_MODE → ATX/AT Mode Select**



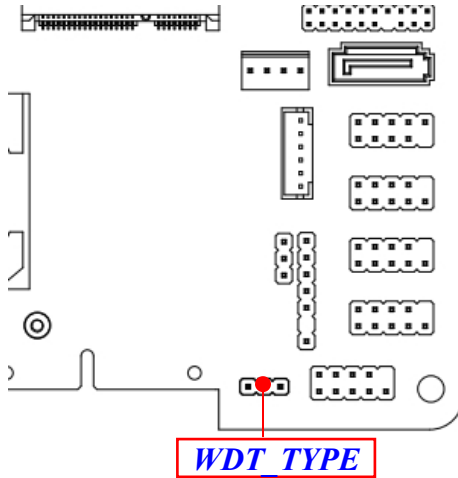
**1-2 Closed: ATX Mode Selected;**



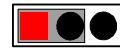
**2-3 Closed: AT Mode Selected.**

**\*ATX Mode Selected:** Press power button to power on after power input ready;  
**AT Mode Selected:** Directly power on as power input ready.

**WDT\_TYPE (3-pin): WDT Type Select** (2.54 pitch)



**WDT\_TYPE → WDT Type Select**



1 3

1-2 Close: WDT for Bypass;



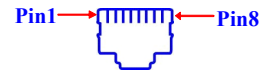
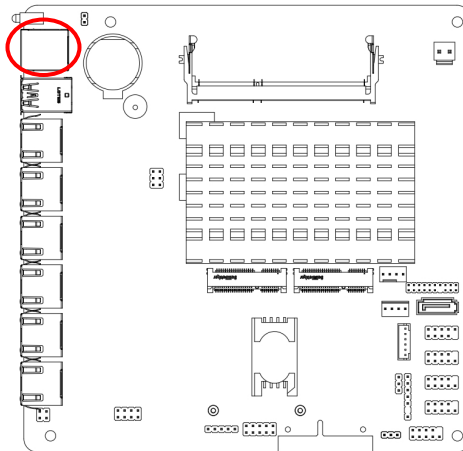
1 3

2-3 Close: WDT for System Reset.

## 2-2 Connectors, Headers and Wafers

### 2-2-1 Connectors

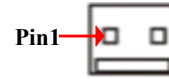
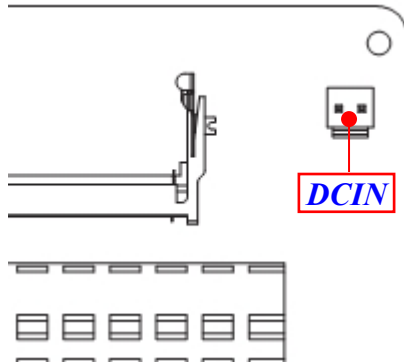
(1) RJ45\_COM1(8-pin block): RJ-45 COM Port Connector for Console



RJ45\_COM1

Pin No.	Definition
1	RTS
2	DTR
3	TXD
4	GND
5	NC
6	RXD
7	DSR
8	CTS

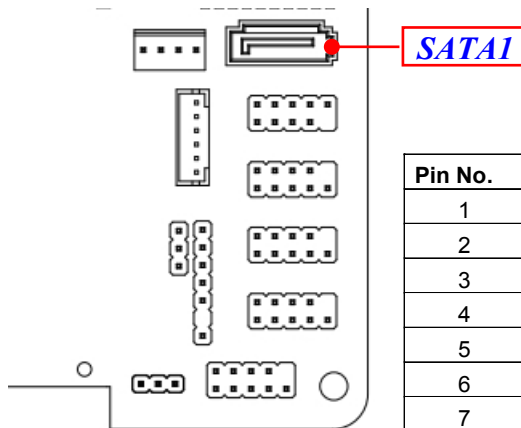
**(2) DCIN1(2-pin): Internal 12V DC-in power connector**



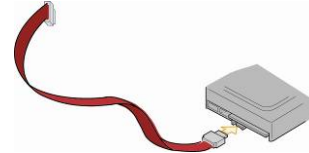
Pin No.	Definition
1	+12V DC_IN
2	GND

**(3) SATA1 (7-pin): SATA III Port Connector**

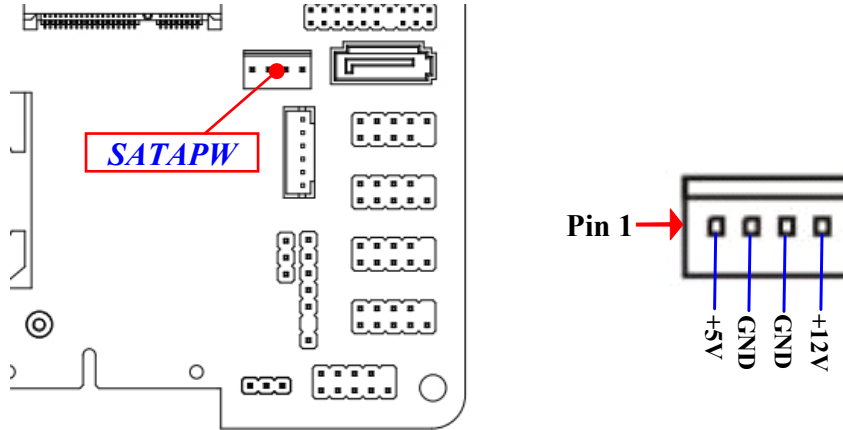
SATA1 is a high-speed SATAIII port that supports 6GB/s transfer rate.



Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

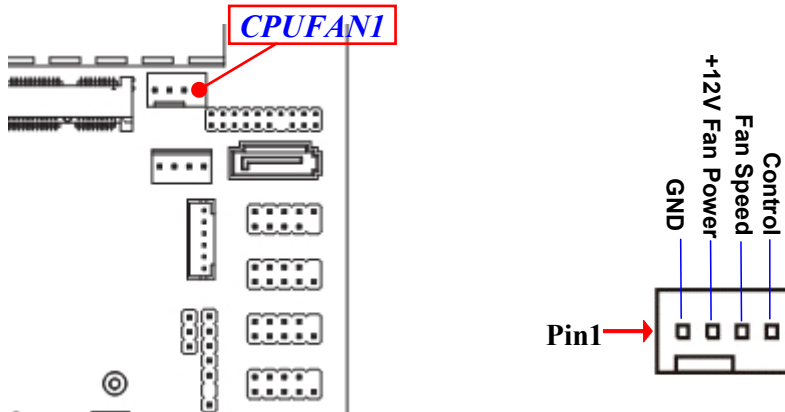


**(4) SATAPW(4-pin): SATA Power Out Connector** (2.54 pitch)



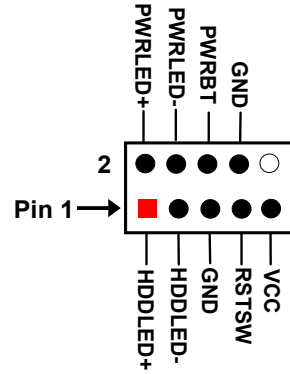
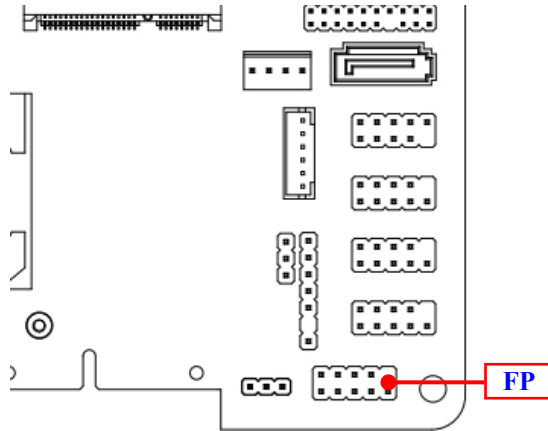
**Warning:** Make sure that Pin-1 of compatible SATA Power connector is inserted into corresponding Pin-1 of **SATAPW** connector to avoid possible damage to the board and hard disk driver!

**(5) CPUFAN1 (4-pin): CPU Fan Connector** (2.54 pitch)

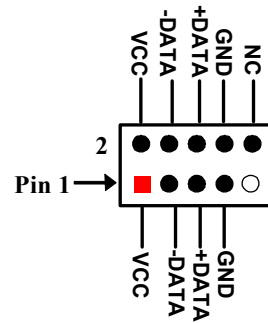
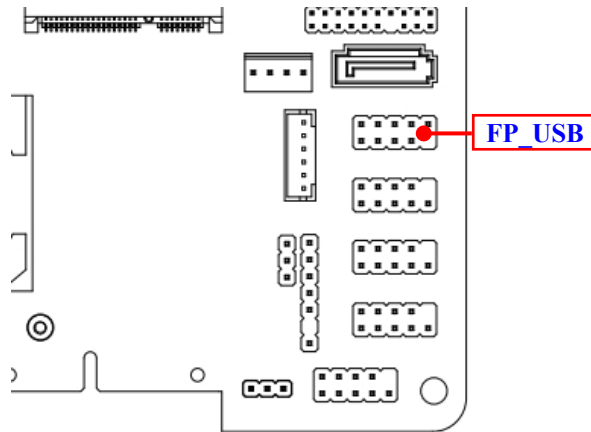


## 2-2-2 Headers & Wafers

### (1) FP (9-pin): Front Panel Header (2.54 pitch)



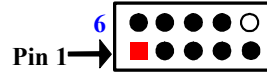
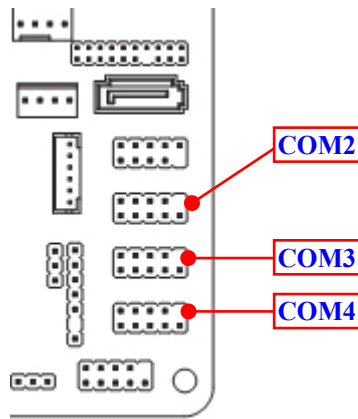
### (2) FP\_USB (9-pin): USB 2.0 Port Header (2.54 pitch)





**(3) COM2/3/4 (9-pin): Serial Port Headers** (2.54 pitch)

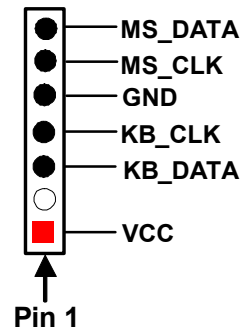
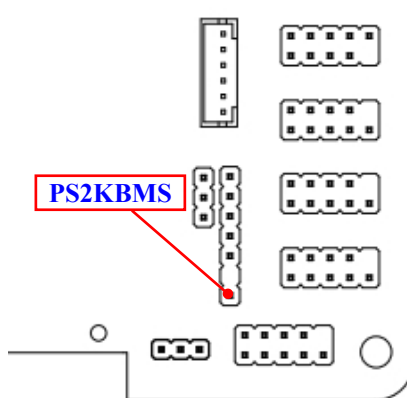
**COM2: RS232/422/485 Serial Port Header;**  
**COM1/3/4: RS232 Serial Port Header.**



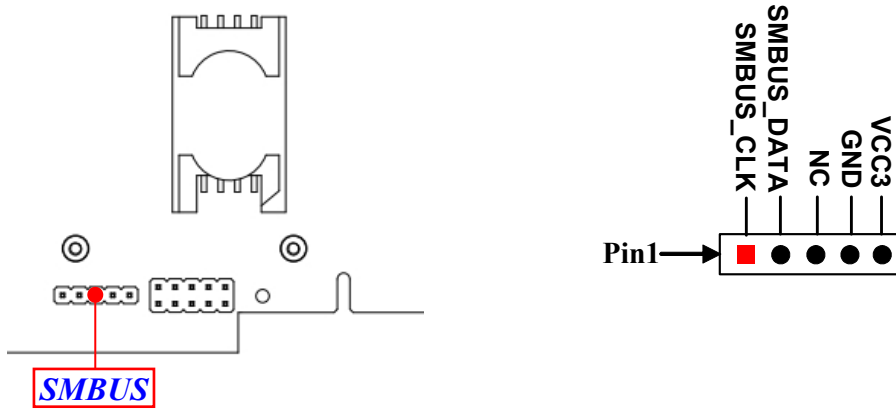
Pin NO.	RS232	*RS422	*RS485
Pin 1	DCD	TX-	DATA-
Pin 2	RXD	TX+	DATA+
Pin 3	TXD	RX+	NC
Pin 4	DTR	RX-	NC
Pin 5	GND	GND	GND
Pin 6	DSR	NC	NC
Pin 7	RTS	NC	NC
Pin 8	CTS	NC	NC
Pin 9	RI	NC	NC

**\*Notice:** RS422, RS485 function is supported by COM2 header only, with compatible COM cable for RS422 or RS 485 function. User also needs to go to BIOS to set 'Transmission Mode Select' for COM2 (refer to Page 23).

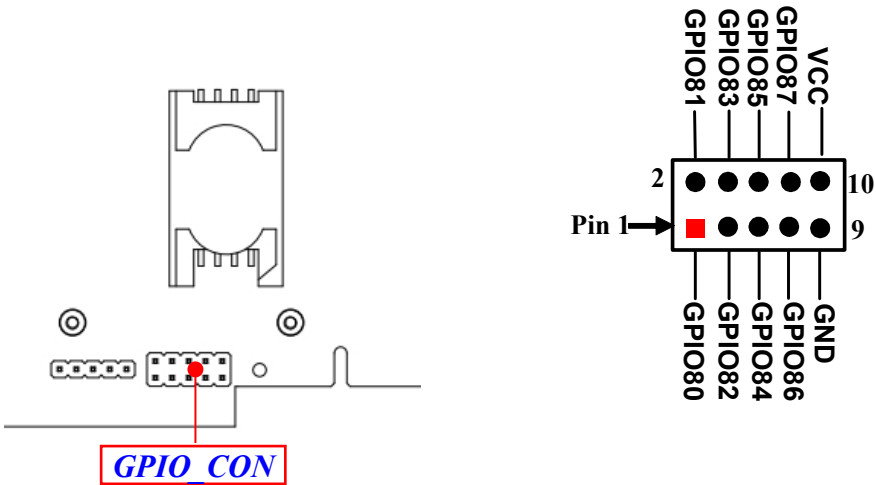
**(4) PS2KBMS (6-pin): PS/2 Keyboard & Mouse Header** (2.54 pitch)



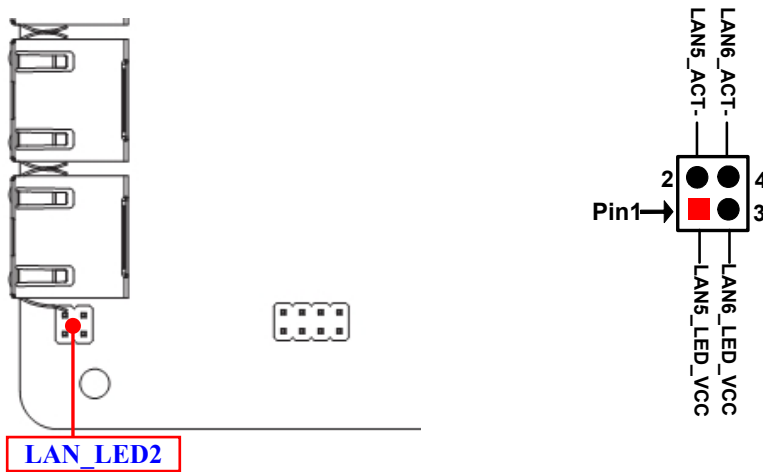
**(5) SMBUS (5-Pin): SM BUS Header** (2.54 pitch)



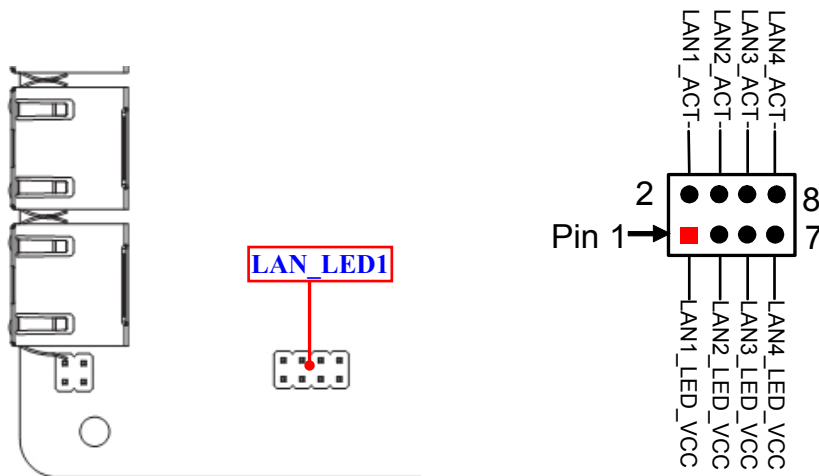
**(6) GPIO\_CON (10-pin): GPIO Port Header** (2.54 pitch)



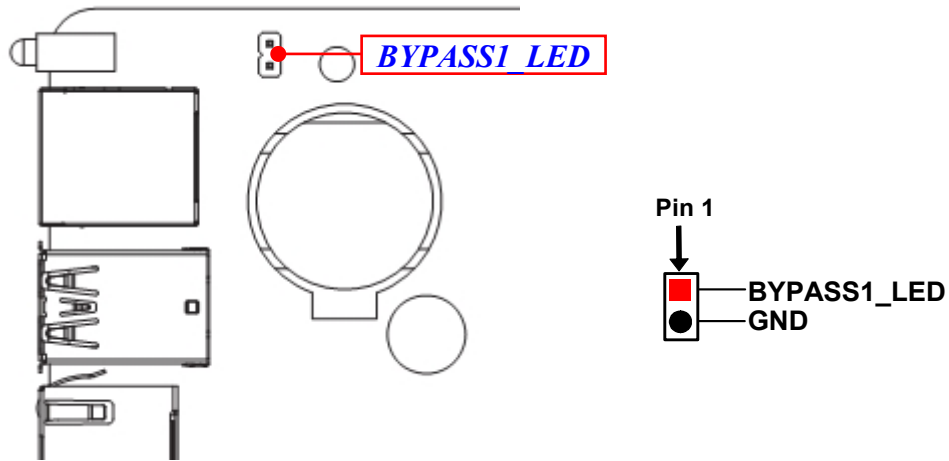
**(7) LAN\_LED2(4-pin): LAN5 & LAN6 Activity LED Header** (2.54 pitch)



**(8) LAN\_LED1(8-pin): LAN1 & LAN2 & LAN3 & LAN4 Activity LED Header** (2.54 pitch)



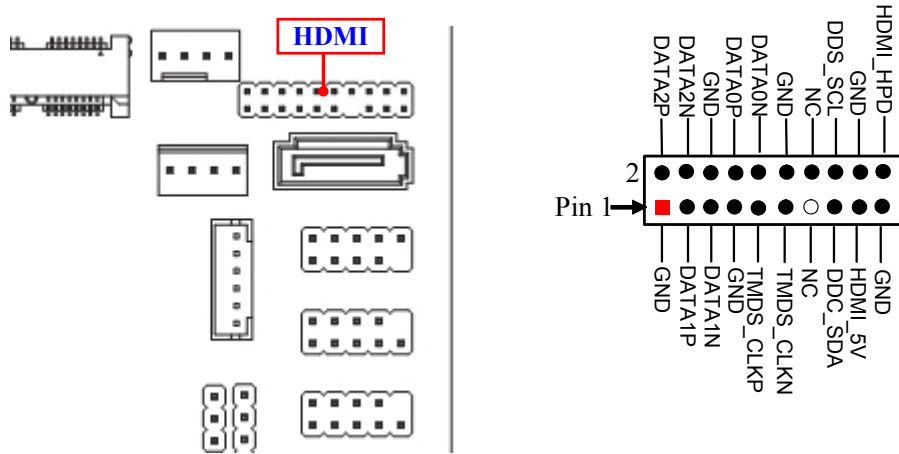
**(9) BYPASS1\_LED(2-pin): LAN3 & LAN4 Bypass Mode LED Header** (2.54 pitch)



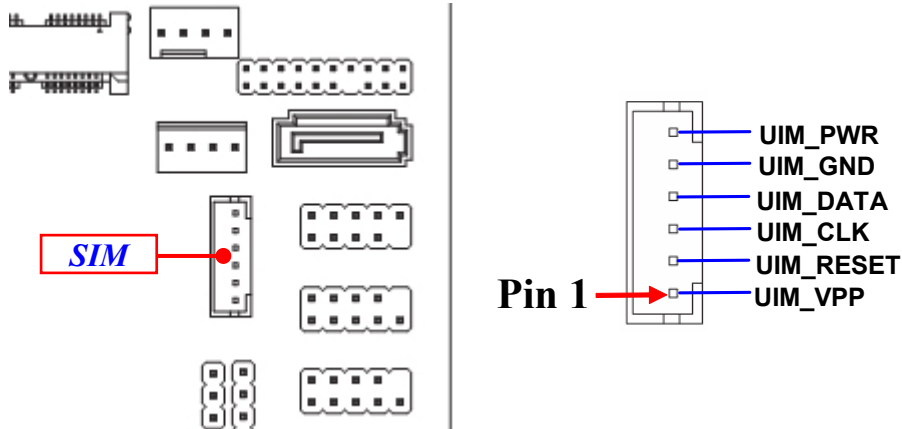
**\*Note:** *BYPASS1\_LED* is only optional for **NF692K6-345B1** series that support Bypass Mode for external Bypass LED connection.

<b><i>Bypass Led</i></b>	<b><i>On</i></b>	<b><i>Off</i></b>
		<b><i>LAN3&amp;LA4 Bypass</i></b>

**(10) HDMI (19-pin): HDMI Port Header** (2.0 pitch)



**(11) SIM (6-pin): SIM Card Expansion Wafer** (2.0 pitch)



# Chapter 3

## Introducing BIOS

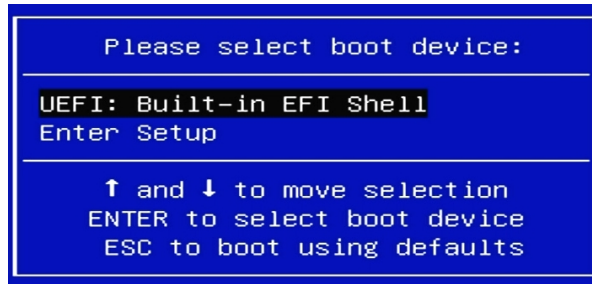
**Notice!** The BIOS options in this manual are for reference only. Different configurations may lead to difference in BIOS screen and BIOS screens in manuals are usually the first BIOS version when the board is released and may be different from your purchased motherboard. Users are welcome to download the latest BIOS version form our official website.

The BIOS is a program located on a Flash Memory on the motherboard. This program is a bridge between motherboard and operating system. When you start the computer, the BIOS program will gain control. The BIOS first operates an auto-diagnostic test called POST (power on self test) for all the necessary hardware, it detects the entire hardware device and configures the parameters of the hardware synchronization. Only when these tasks are completed done it gives up control of the computer to operating system (OS). Since the BIOS is the only channel for hardware and software to communicate, it is the key factor for system stability, and in ensuring that your system performance as its best.

### 3-1 Entering Setup

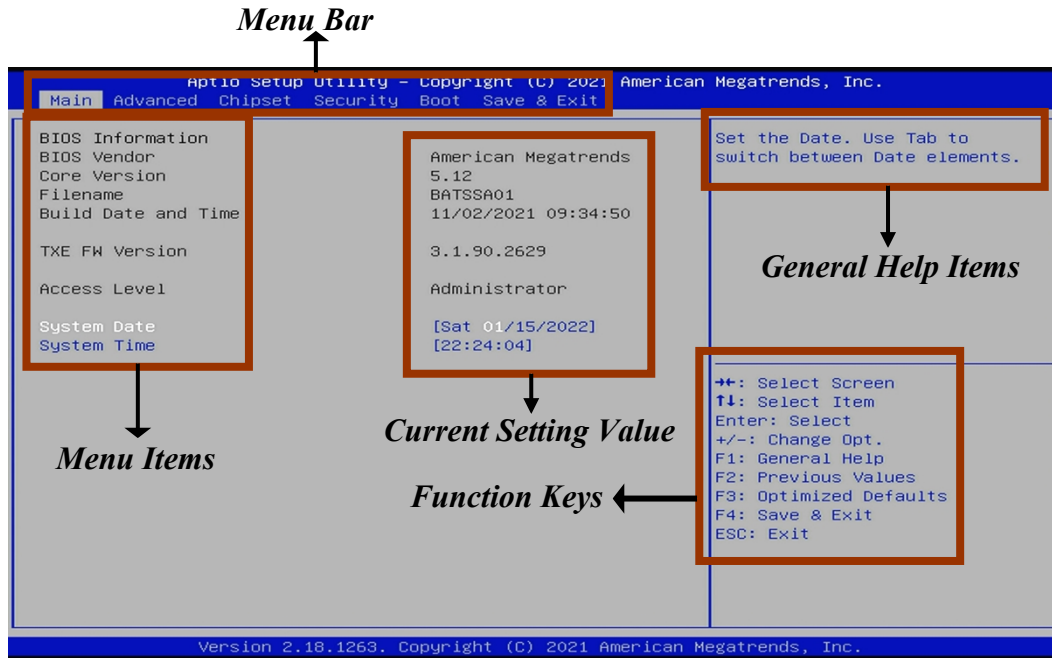
Power on the computer and by pressing <Del> immediately allows you to enter Setup. If the message disappears before your respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the “RESET” button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt> and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to

Press **<Del>** to enter Setup; press **< F7>** for Pop Menu.



### 3-2 BIOS Menu Screen

The following diagram show a general BIOS menu screen:



BIOS Menu Screen

## 3-3 Function Keys

In the above BIOS Setup main menu of, you can see several options. We will explain these options step by step in the following pages of this chapter, but let us first see a short description of the function keys you may use here:

- Press ←→ (left, right) to select screen;
- Press ↑↓ (up, down) to choose, in the main menu, the option you want to confirm or to modify.
- Press <Enter> to select.
- Press <+>/<-> keys when you want to modify the BIOS parameters for the active option.
- [F1]: General help.
- [F2]: Previous value.
- [F3]: Optimized defaults.
- [F4]: Save & Exit.
- Press <Esc> to quit the BIOS Setup.

## 3-4 Getting Help

### Main Menu

The on-line description of the highlighted setup function is displayed at the top right corner the screen.

### Status Page Setup Menu/Option Page Setup Menu

Press [F1] to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window, press <Esc>.

## 3-5 Menu Bars

**There are six menu bars on top of BIOS screen:**

<b>Main</b>	To change system basic configuration
<b>Advanced</b>	To change system advanced configuration
<b>Chipset</b>	To change chipset configuration
<b>Security</b>	Password settings



**Boot**

To change boot settings

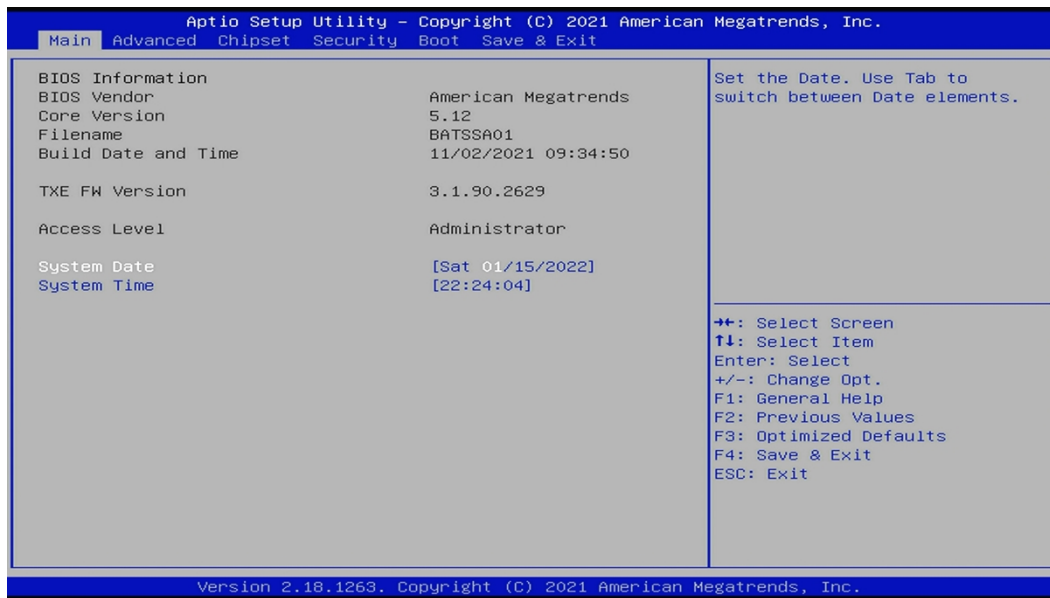
**Save & Exit**

Save setting, loading and exit options.

User can press the right or left arrow key on the keyboard to switch from menu bar. The selected one is highlighted.

## 3-6 Main Menu

Main menu screen includes some basic system information. Highlight the item and then use the <+> or <-> and numerical keyboard keys to select the value you want in each item.

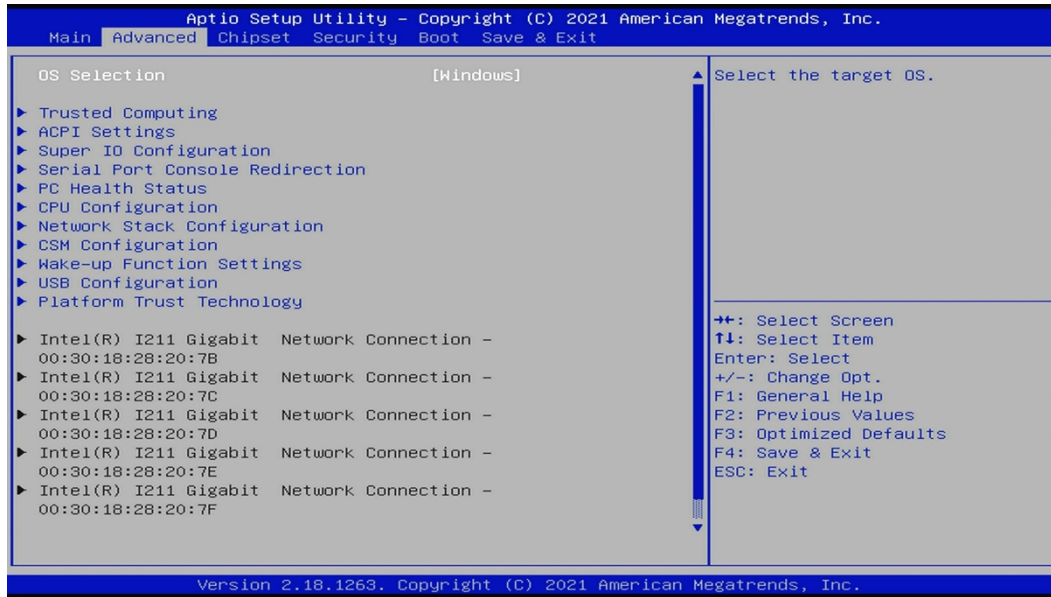
**System Date**

Set the date. Please use [Tab] to switch between data elements.

**System Time**

Set the time. Please use [Tab] to switch between time elements.

## 3-7 Advanced Menu



### OS Selection

The optional settings: [Windows]; [Intel Linux]; [MSDOS].

*\* **Note:** User need to go to this item to select the OS mode before installing corresponding OS driver, otherwise problems will occur when installing the driver.*

#### ▶ **Trusted Computing**

Press [Enter] to enable or disable 'Security Device Support'.

#### Configuration

#### **Security Device Support**

Use this item to enable or disable BIOS support for security device.

*\* **Note:** O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.*

The optional settings: [Disabled]; [Enabled].

#### **SHA-1 PCR Bank**

Use this item to enable or disable SHA-1PCR Bank.

The optional settings: [Disabled]; [Enabled].

### **SHA256 PCR Bank**

Use this item to enable or disable SHA256 PCR Bank.  
The optional settings: [Disabled]; [Enabled].

### **SHA384 PCR Bank**

Use this item to enable or disable SHA384 PCR Bank.  
The optional settings: [Disabled]; [Enabled].

### **Pending Operation**

Use this item to set an operation for the Security Device.

\*Note: User's computer will reboot during restart in order to change State of Security Device.

The optional settings: [None]; [TPM Clear].

### ▶ **ACPI Settings**

Press [Enter] to make settings for the following sub-item:

#### **ACPI Settings**

#### **ACPI Sleep State**

Use this item to select the highest ACPI sleep state the system will enter when the suspend button is pressed.

The optional settings are: [Suspend Disabled]; [S3 (Suspend to RAM)].

### ▶ **Super I/O Configuration**

Press [Enter] to make settings for the following sub-items:

#### **Super IO Configuration**

#### ▶ **Serial Port 1 Configuration/ Serial Port 3 Configuration/ Serial Port 4 Configuration**

Press [Enter] to make settings for the following items:

#### **Serial Port**

Use this item to enable or disable serial port (COM).

The optional settings are: [Disabled]; [Enabled].

When set as [Enabled], the following sub-items shall appear:

#### **Change Settings**

Use this item to select an optimal setting for super IO device.

The optional settings are: [Auto]; [IO=3F8h; IRQ=4]; [IO=2F8h; IRQ=3]; [IO=3E8h; IRQ=4]; [IO=2E8h; IRQ=3] for '**Serial Port 1 Configuration**'.

The optional settings are: [Auto]; [IO=3F8h; IRQ=10]; [IO=2F8h; IRQ=10]; [IO=3E8h; IRQ=10]; [IO=2E8h; IRQ=10]; [IO=2F0h; IRQ=10]; [IO=2E0h; IRQ=10] for '**Serial Port 3 Configuration**' & '**Serial Port 4 Configuration**'.

### ▶ **Serial Port 2 Configuration**

Press [Enter] to make settings for the following items:

#### **Serial Port**

Use this item to enable or disable serial port (COM).

The optional settings are: [Disabled]; [Enabled].

When set as [Enabled], the following sub-items shall appear:

#### **Change Settings**

Use this item to select an optimal settings fro Super IO Device.

The optional settings are: [Auto]; [IO=3F8h; IRQ=4]; [IO=2F8h; IRQ=3]; [IO=3E8h; IRQ=4]; [IO=2E8h; IRQ=3] for '**Serial Port 2 Configuration**'.

#### **Transmission Mode Select**

The optional settings are: [RS422]; [RS232]; [RS485].

#### **Mode Speed Select**

The optional settings are: [RS232/RS422/RS485=250kbps]; [RS232=1Mbps, RS422/RS485=10Mbps].

#### **ERP Support**

Use this item to enable or disable Energy-Related Products function.

The optional settings: [Enabled]; [Disabled].

This item should be set as [Disabled] if you wish to have all active wake-up functions.

#### **PS2 KB/MS Connect**

Use this item to set PS2 connect primary devices.

The optional settings are: [Keyboard First]; [Mouse First].

***\*Note:** This item should be set as [**Disabled**] if you wish to have all active wake-up functions.*

#### **WatchDog Reset Timer**

Use this item to enable or disable WDT reset function. When set as [Enabled], the following sub-items shall appear:

#### **WatchDog Reset Timer Value**

User can set a value in the range of [10] to [255].

### **WatchDog Reset Timer Unit**

The optional settings are: [Sec.]; [Min.].

### **WatchDog Wake-up Timer**

This item support WDT wake-up.

The optional settings are: [Enabled]; [Disabled].

When set as [Enabled], the following sub-items shall appear:

### **WatchDog Wake-up Timer Value**

User can select a value in the range of [10] to [4095] seconds when '**WatchDog Wake-up Timer Unit**' set as [Sec]; or in the range of [1] to [4095] minutes when '**WatchDog Wake-up Timer Unit**' set as [Min].

### **WatchDog Wake-up Timer Unit**

The optional settings are: [Sec.]; [Min.].

### **ATX Power Emulate AT Power**

This item displays current Emulate AT Power Status, motherboard power On/Off control by power supply. User needs to select 'AT or ATX Mode' on MB jumper at first (refer to **Page 7, Jumper AT\_MODE Pin1-2 of ATX Mode & Pin 2-3 of AT Mode Select**).

## ▶ **Serial Port Console Redirection**

### **COM1**

#### **Console Redirection**

The optional settings: [Disabled]; [Enabled]. When set as [Enabled], the following sub-items shall appear:

#### ▶ **Console Redirection Settings**

The settings specify how the host computer and the remote computer (which the user is using) will exchange data. Both computers should have the same or compatible settings.

Press [Enter] to make settings for the following items:

#### **Terminal Type**

The optional settings: [VT100]; [VT100+]; [VT-UTF8]; [ANSI].

Emulation: [ANSI]: Extended ASCII char set; [VT100]: ASCII char set; [VT100+]: Extends VT100 to support color, function keys, etc.; [VT-UTF8]: Uses UTF8 encoding to map Unicode chars onto 1 or more bytes.

**Bits per second**

Use this item to select serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.

The optional settings: [9600]; [19200]; [38400]; [57600]; [115200].

**Data Bits**

The optional settings: [7]; [8].

**Parity**

A parity bit can be sent with the data bits to detect some transmission errors.

The optional settings: [None]; [Even]; [Odd]; [Mark]; [Space].

[Even]: parity bit is 0 if the num of 1's in the data bits is even; [Odd]: parity bit is 0 if num of 1's in the data bits is odd; [Mark]: parity bit is always 1; [Space]: Parity bit is always 0; [Mark] and [Space] Parity do not allow for error detection.

**Stop Bits**

Stop bits indicate the end of a serial data packet. (A start bit indicates the beginning). The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit.

The optional settings: [1]; [2].

**Flow Control**

Flow control can prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a "stop" signal can be sent to stop the data flow. Once the buffers are empty, a "start" signal can be sent to re-start the flow. Hardware flow control uses two wires to send start/stop signals.

The optional settings: [None]; [Hardware RTS/CTS].

**VT-UTF8 Combo Key Support**

Use this item to enable VT-UTF8 Combination Key Support for ANSI/VT100 terminals.

The optional settings: [Disabled]; [Enabled].

**Recorder Mode**

With this mode enable only text will be sent. This is to capture Terminal data.

The optional settings: [Disabled]; [Enabled].

**Resolution 100x31**

Use this item to enable or disable extended terminal resolution.

The optional settings: [Disabled]; [Enabled].

## **Legacy OS Redirection Resolution**

On Legacy OS, the Number of Rows and Columns supported redirection.  
The optional settings: [80x24]; [80x25].

## **Putty KeyPad**

Use this item to select FunctionKey and KeyPad on Putty.

The optional settings: [VT100]; [Intel Linux]; [XTERMR6]; [SCO]; [ESCN]; [VT400].

## **Redirection After BIOS POST**

The optional settings are: [Always Enable]; [BootLoader].

When Bootloader is selected, then Legacy Console Redirection is disabled before booting to legacy OS. When Always Enable is selected, then Legacy Console is enabled for legacy OS. Default setting for this option is set to Always Enable.

## **Serial Port for Out-of-Band Management/**

## **Windows Emergency Management Services (EMS)**

### **Console Redirection**

The optional settings: [Disabled]; [Enabled]. When set as [Enabled], the following sub-items shall appear:

#### **► Console Redirection Settings**

The settings specify how the host computer and the remote computer (which the user is using) will exchange data. Both computers should have the same or compatible settings.

Press [Enter] to make settings for the following items:

#### **Out-of-Band Mgmt Port**

The optional setting is: [COM1].

#### **Terminal Type**

The optional settings: [VT100]; [VT100+]; [VT-UTF8]; [ANSI].

[VT-UTF8] is the preferred terminal type for out-of-band management. The next best choice is [VT100+] and then [VT100]. See above, in Console Redirection Settings page, for more help with Terminal Type/Emulation.

#### **Bits per second**

Use this item to select serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.

The optional settings: [9600]; [19200]; [57600]; [115200].

## **Flow Control**

Flow control can prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a “stop” signal can be sent to stop the data flow. Once the buffers are empty, a “start” signal can be sent to re-start the flow. Hardware flow control uses two wires to send start/stop signals.

The optional settings: [None]; [Hardware RTS/CTS]; [Software Xon/Xoff].

## **Data Bits**

The default setting is: [8].

*\*This item may or may not show up, depending on different configuration.*

## **Parity**

The default setting is: [None].

*\*This item may or may not show up, depending on different configuration.*

## **Stop Bits**

The default setting is: [1].

*\*This item may or may not show up, depending on different configuration.*

## ▶ **PC Health Status**

Press [Enter] to view current hardware health status, set shutdown temperature, or make further settings in ‘**Smart Fan Configuration**’.

### ▶ **SmartFan Configuration**

Press [Enter] to make settings for SmartFan Configuration:

#### **SmartFAN Configuration**

#### **CPUFAN Smart Mode**

Use this item to enable or disable CPUFAN smart mode.

The optional settings are: [Disabled]; [Enabled].

When set as [Enabled], the following sub-items shall appear:

#### **CPUFAN Full-Speed Temperature**

Use this item to set CPUFAN full speed temperature. Fan will run at full speed when above this temperature.

#### **CPUFAN Full-Speed Duty**

Use this item to set CPUFAN full speed duty. Fan will run at full speed when above the pre-set duty.

#### **CPUFAN Idle-Speed Temperature**

Use this item to set CPUFAN idle speed temperature. Fan will run at idle speed when below this temperature.



### **CPUFAN Idle-Speed Duty**

Use this item to set CPUFAN idle speed duty. Fan will run at idle speed when below the pre-set duty.

### ▶ **CPU Configuration**

Press [Enter] to view current CPU configuration and make settings for the following sub-items:

#### **VT-d**

Use this item to enable or disable CPU VT-d.

The optional settings: [Enabled]; [Disabled].

#### **EIST**

Use this item to enable or disable Intel SpeedStep.

The optional settings: [Disabled]; [Enabled].

#### **Turbo Mode**

Use this item to enable or disable Turbo Mode.

The optional settings: [Disabled]; [Enabled].

#### **C States**

Use this item to enable or disable CPU C states. The optional settings: [Disabled]; [Enabled].

*When set as [Enabled], users can make more settings for the following sub-items:*

##### **Enhanced C-states**

Use this item to enable or disable C1E. When set as [Enabled], CPU will switch to minimum speed when all cores enter C-state.

The optional settings: [Disabled]; [Enabled].

##### **Max Package C State**

This item controls Max Package C state that the processor will support.

The optional settings: [PC2]; [PC1]; [C0].

##### **Max Core C State Limit**

This item controls the max Core C State that cores will support.

The optional settings: [Fused Value]; [Core C10]; [Core C9] [Core C8]; [Core C 7]; [Core C 6]; [Core C1]; [Unlimited].

### ▶ **Network Stack Configuration**

Press [Enter] to go to '**Network Stack**' screen to make further settings.

## **Network Stack**

Use this item to enable or disable UEFI Network Stack.

The optional settings are: [Enabled]; [Disabled].

*When set as [Enabled], the following sub-items shall appear:*

### **Ipv4 PXE Support**

Use this item to enable Ipv4 PXE Boot Support. When set as [Disabled], Ipv4 boot option will not be created.

The optional settings are: [Disabled]; [Enabled].

### **Ipv6 PXE Support**

Use this item to enable Ipv6 PXE Boot Support. When set as [Disabled], Ipv6 boot option will not be created.

The optional settings are: [Disabled]; [Enabled].

### **PXE boot wait time**

Use this item to set wait time to press [ESC] key to abort the PXE boot.

The optional setting range is from [0] to [5].

### **Media Detect Count**

Use this item to set number of times presence of media will be checked.

The optional setting range is from [1] to [50].

## ▶ **CSM Configuration**

Press [Enter] to make settings for the following sub-items:

### **Compatibility Support Module Configuraton**

#### **Boot option filter**

This item controls Legacy/UEFI ROMs priority.

The optional settings are: [UEFI and Legacy]; [Legacy only]; [UEFI only].

#### **Network**

This item controls the execution of UEFI and Legacy PXE OpROM.

The optional settings are: [Do not launch]; [UEFI]; [Legacy].

#### **Storage**

This item controls the execution of UEFI and Legacy Storage OpROM.

The optional settings are: [Do not launch]; [UEFI]; [Legacy].

#### **Video**

This item controls the execution of UEFI and Legacy Video OpROM.

The optional settings are: [UEFI]; [Legacy].

## Other PCI devices

This item determines OpROM execution policy for devices other than Network, storage or video.

The optional settings are: [Do not launch]; [UEFI]; [Legacy].

### ▶ **Wake-up Function Settings**

Press [Enter] to make settings for the following sub-items:

#### **Wake-up System with Fixed Time**

Use this item to enable or disable system wake-up by RTC alarm.

The optional settings are: [Disabled]; [Enabled].

When set as [Enabled], the following items shall appear:

##### **Wake-up Hour**

Use this item to select 0-23. For example enter 3 for 3am and 15 for 3pm.

##### **Wake-up Minute**

Use this item to select 0-59.

##### **Wake-up Second**

Use this item to select 0-59.

#### **Wake-up System with Dynamic Time**

Use this item to enable or disable system wake on alarm event.

System will wake on the current time + Increase minutes.

The optional settings are: [Disabled]; [Enabled].

When set as **[Enabled]**, the following items shall appear:

##### **Wake-up Time Increase**

Use this item to select 1-60 minute(s).

#### **PS2 KB/MS Wake-Up from S3-S5**

Use this item to enable or disable PS2 KB/MS device from S3-S5 Wake-up.

The optional settings: [Disabled]; [Enabled].

*\*Note: This item is only supported when 'ERP Support' is set as [Disabled].*

#### **USB Wake-up from S4**

Use this item to enable or disable USB device from S4 Wake-up.

The optional settings: [Enabled]; [Disabled].

*\*Note: USB Wake-up is affected by ERP function in S4. Please disable 'ERP Support' before activating this function in S4.*

▶ **USB Configuration**

Press [Enter] to make settings for the following sub-items:

**USB Configuration**

**Legacy USB Support**

Use this item to enable Legacy USB support.

The optional settings are: [Enabled]; [Disabled]; [Auto].

**[Enabled]:** To enable legacy USB support.

**[Disabled]:** To keep USB devices available only for EFI specification,

**[Auto]:** To disable legacy support if no USB devices are connected.

**XHCI Hand-off**

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

The optional settings are: [Enabled]; [Disabled].

**USB Mass Storage Driver Support**

Use this item to enable or disable USB mass storage driver support.

The optional settings are: [Disabled]; [Enabled].

**USB Hardware Delays and Time-outs:**

**USB Transfer Time-out**

Use this item to set the time-out value for control, bulk, and interrupt transfers.

The optional settings are: [1 sec]; [5 sec]; [10 sec]; [20 sec].

**Device Reset Time-out**

Use this item to set USB mass storage device start unit command time-out.

The optional settings are: [10 sec]; [20 sec]; [30 sec]; [40 sec].

**Device Power-up Delay**

Use this item to set maximum time the device will take before it properly reports itself to the host controller.

The optional settings: [Auto]; [Manual].

'Auto' uses default value: for a root port it is 100 ms, for a hub port the delay is taken from hub descriptor.

Select [Manual] you can set value for the following sub-item: '**Device Power-up Delay in Seconds**'.

**Device Power-up Delay in Seconds**

The delay range is from [1] to [40] seconds, in one second increments.

▶ **Platform Trust Technology**

Press [Enter] to make settings for the following sub-items:

**TPM configuration**

**fTPM**

Use this item to enable or disable fTPM.

The optional settings are: [Disabled]; [Enabled].

▶ **Intel(R) I211 Gigabit Network Connection-:XX:XX:XX:XX:XX:XX/...**

Use this item to get driver information and configure Intel(R) I211 gigabit network connections.

▶ **Intel(R) I211 Gigabit Network Connection-:XX:XX:XX:XX:XX:XX/...**

Use this item to get driver information and configure Intel(R) I211 gigabit network connections.

▶ **Intel(R) I211 Gigabit Network Connection-:XX:XX:XX:XX:XX:XX/...**

Use this item to get driver information and configure Intel(R) I211 gigabit network connections.

▶ **Intel(R) I211 Gigabit Network Connection-:XX:XX:XX:XX:XX:XX/...**

Use this item to get driver information and configure Intel(R) I211 gigabit network connections.

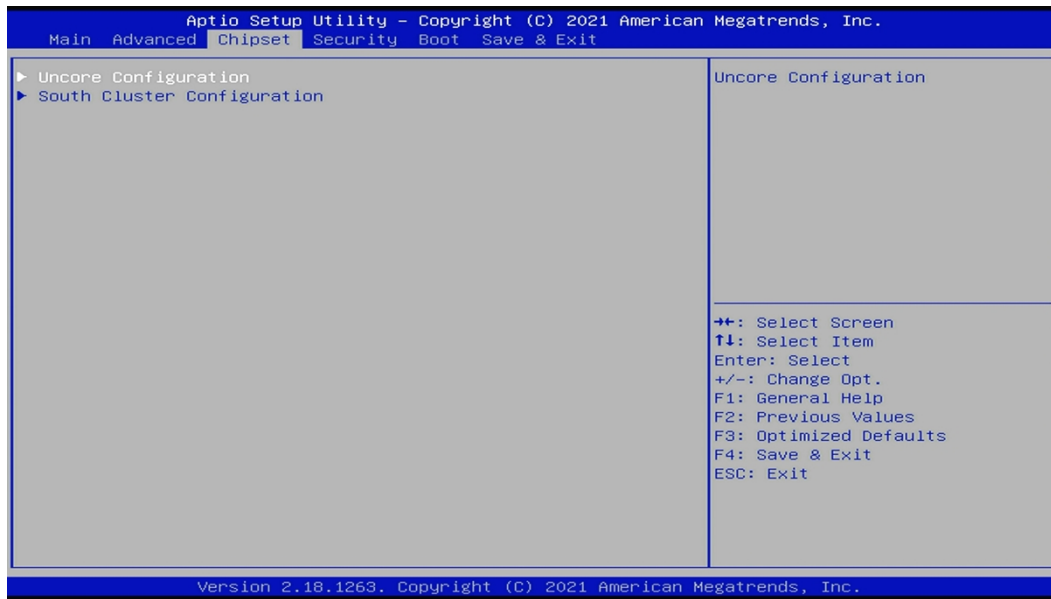
▶ **Intel(R) I211 Gigabit Network Connection-:XX:XX:XX:XX:XX:XX/...**

Use this item to get driver information and configure Intel(R) I211 gigabit network connections.

▶ **Intel(R) I211 Gigabit Network Connection-:XX:XX:XX:XX:XX:XX/...**

Use this item to get driver information and configure Intel(R) I211 gigabit network connections.

## 3-8 Chipset Menu



### ▶ **Uncore Configuration**

Press [Enter] to make settings for the following sub-items:

#### **GTT Size**

The optional settings are: [2MB]; [4MB]; [8MB].

#### **DVMT Pre-Allocated**

Use this item to select DVMT 5.0 pre-allocated (fixed) graphics memory size used by the internal graphics device.

The optional settings are: [64M]; [96M]; [128M]; [160M]; [192M]; [224M]; [256M]; [288M]; [320M]; [352M]; [384M]; [416M]; [448M]; [480M]; [512M].

#### **DVMT Total Gfx Mem**

Use this item to select DVMT 5.0 total graphics memory size used by the internal graphics device.

The optional settings are: [256M]; [128M]; [MAX].

#### **Memory Configuration**

The working memory information will be on display.

▶ **South Cluster Configuration**

▶ **PCI Express Configuration**

Press [Enter] to make settings for PCI Express Configuration Settings:

**PCI Express Configuration**

**Peer Memory Write Enable**

Use this item to enable or disable Peer memory write.

The optional settings are: [Disabled]; [Enabled].

**Compliance Mode**

The optional settings are: [Disabled]; [Enabled].

*\*Note: The optional settings for the following sub-items are only for NF692K6-345B1.*

**LAN3&4 Bypass State @ PowerOn**

Use this item to set bypass state at power on.

The optional settings are: [Bypass]; [Passthrough].

**LAN3&4 Bypass State @ PowerOff**

Use this item to set bypass state at power off.

The optional settings are: [Bypass]; [Passthrough].

*\*Note: The optional settings for the following sub-items are only for NF692K6-345B2.*

**LAN5&6 Bypass State @ PowerOn**

Use this item to set bypass state at power on.

The optional settings are: [Bypass]; [Passthrough].

**LAN5&6 Bypass State @ PowerOff**

Use this item to set bypass state at power off.

The optional settings are: [Bypass]; [Passthrough].

▶ **SATA Configuration**

Press [Enter] to make settings for the following sub-items:

**SATA Controller(s)**

Use this item to enable or disable the chipset SATA controller. The chipset SATA controller supports the 2 black internal SATA ports (up to 3Gb/s supported per port).

The optional settings are: [Enabled]; [Disabled].

*When set as [Enabled], users can make more settings for the following sub-items:*

### **SATA Mode Selection**

This item determines SATA controller(s) operation.  
The default setting is: [AHCI].

### **SATA Port**

#### **SATA Port**

Use this item to enable or disable SATA port.  
The optional settings are: [Disabled]; [Enabled].

### **mSATA**

#### **mSATA**

Use this item to enable or disable mSATA port.  
The optional settings are: [Disabled]; [Enabled].

### **SCC eMMC Support**

Use this item to enable or disable SCC eMMC Support.  
The optional settings are: [Disabled]; [Enabled]

When set as [Enabled], the following item shall appears:

#### **eMMC Max Speed**

Use this item to select the eMMC max speed allowed.  
The optional settings are: [HS400]; [HS200]; [DDR50].

### **System State after Power Failure**

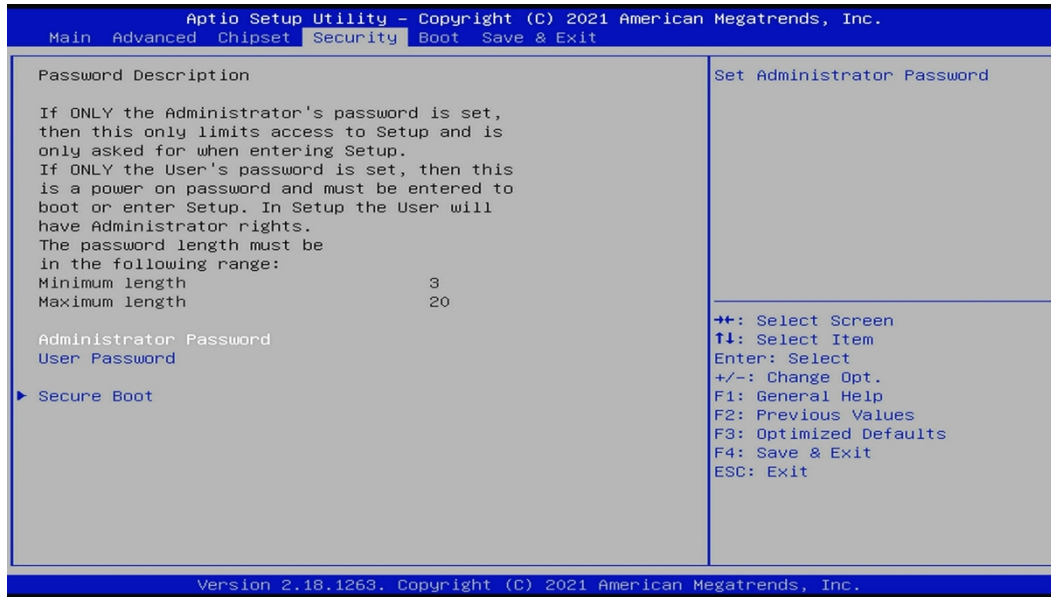
Use this item to select AC power state when power is re-applied after a power failure.

The optional settings are: [Always On]; [Always Off]; [Former State].

*\* The option [Always On] and [Former State] are affected by ERP function. Please disable ERP to support [Always On] and [Former State] function.*



## 3-9 Security Menu



Security menu allow users to change administrator password and user password settings.

### Administrator Password

If there is no password present on system, please press [Enter] to create new administrator password. If password is present on system, please press [Enter] to verify old password then to clear/change password. Press again to confirm the new administrator password.

### User Password

If there is no password present on system, please press [Enter] to create new administrator password. If password is present on system, please press [Enter] to verify old password then to clear/change password. Press again to confirm the new administrator password.

#### ▶ Secure Boot

Press [Enter] to make customized secure settings:

## **Secure Boot Control**

Secure Boot can be enabled if 1. System running in user mode with enrolled Platform Key (PK); 2. CSM function is disabled.

The optional settings are: [Disabled]; [Enabled].

## **Secure Boot Mode**

Set UEFI Secure Boot Mode to Standard mode or Custom mode. This change is effective after save. After reset, this mode will return to Standard mode.

The optional settings are: [Standard]; [Custom].

*\*When set as [Custom], user can make further settings in 'Key Management'.*

### **▶ Key Management**

This item enables experienced users to modify Secure Boot variables, which includes the following items:

#### **Provision Factory Default Keys**

This item is for user to install factory default secure boot keys when system is in Setup Mode.

The optional settings are: [Disabled]; [Enabled].

##### **▶ Enroll all Factory Default Keys**

This item forces system to User Mode-install all Factory Default keys.

##### **▶ Save all Secure Boot Variables**

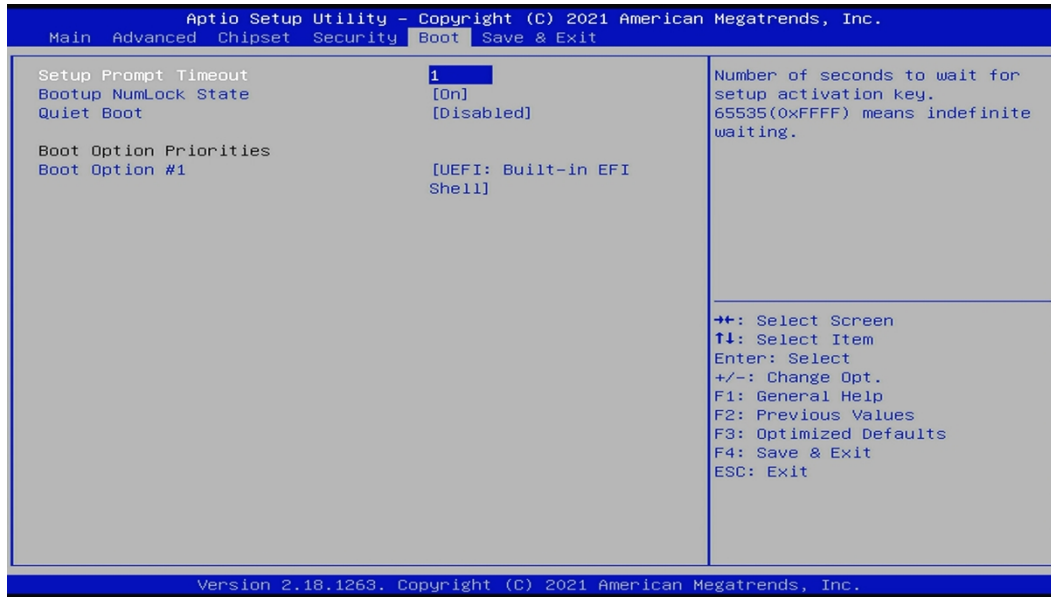
This item will save all secure boot variables made by user.

#### **▶ Platform Key (PK)/Key Exchange Keys/Authorized Signature/Forbidden Signature/ Authorized TimeStamps/OS Recovery Signatures**

Use this item to enroll Factory Defaults or load the keys from a file with:

1. Public Key Certificate in:
  - a) EFI\_SIGNATURE\_LIST
  - b) EFI\_CERT\_X509 (DER encoded)
  - c) EFI\_CERT\_RSA2048 (bin)
  - d) EFI\_CERT\_SHA256 (bin)
2. Authenticated UEFI Variable

## 3-10 Boot Menu



### **Setup Prompt Timeout**

Use this item to set number of seconds to wait for setup activation key.

### **Bootup Numlock State**

Use this item to select keyboard numlock state.

The optional settings are: [On]; [Off].

### **Quiet Boot**

Use this item to enable or disable Quiet Boot option.

The optional settings are: [Disabled]; [Enabled].

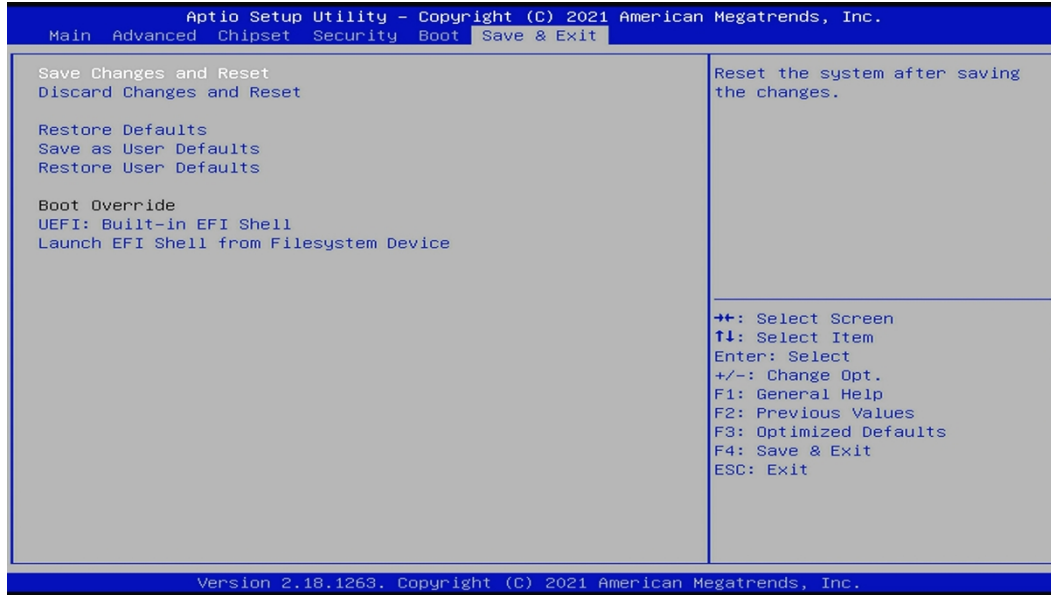
### **Boot Option Priorities**

### **Boot Option #1**

Use this item to set the system boot order.

The optional settings are: [UEFI: Built-in EFI Shell]; [Disabled].

## 3-11 Save & Exit Menu



### **Save Changes and Reset**

This item allows user to reset the system after saving the changes.

### **Discard Changes and Reset**

This item allows user to reset the system without saving any changes.

### **Restore Defaults**

Use this item to restore /load default values for all the setup options.

### **Save as User Defaults**

Use this item to save the changes done so far as user defaults.

### **Restore User Defaults**

Use this item to restore defaults to all the setup options.

### **Boot Override**

The available options here are dynamically updated and make system boot to any boot option selected.

### **UEFI: Built-in EFI Shell**

### **Launch EFI Shell from filesystem device**

Use this item to launch EFI shell application (Shell.efi) from one of the available filesystem devices.