

NF692G4 Series

User's Manual

Model: JNF692G4

Revision: 1.0

Release date: August 18, 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

- 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	August 18, 2021

Item Checklist

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

Chapter 1

Introduction of the Motherboard

1-1 Feature of Motherboard

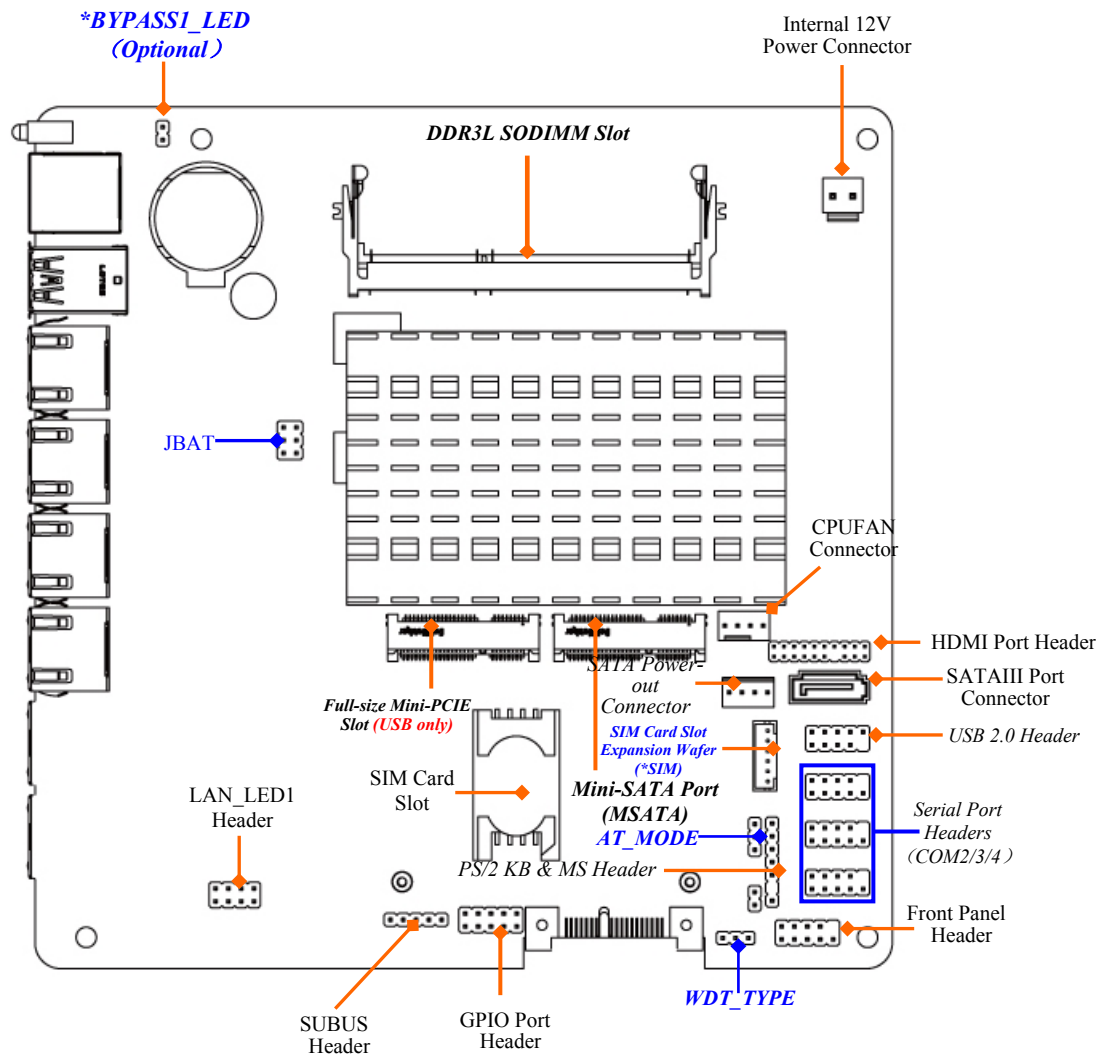
- Onboard Intel® Apollo Lake Series Processor, with low power consumption and high performance
- Support 1* DDR3L 1866 MHz SO-DIMM, up to 8GB
- Support 1* full-size Mini-PCIE slot (USB signal only)
- Support 1 * SATAIII (6Gb) port & 1* full-size m-SATA slot
- Support 4* 10/100/1000 Base-TX Ethernet Ports
- support ByPass GbE (*optional for **JNF692G4-345B1** 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
Design	<ul style="list-style-type: none"> ● Mini-ITX form factor 6 layers; PCB size: 17.0x17.0cm
Embedded CPU	<ul style="list-style-type: none"> ● Intel® Apollo Lake series CPU <p><i>* for detailed CPU support information please visit our website</i></p>
Memory Socket	<ul style="list-style-type: none"> ● 1* DDR3L SO-DIMM slot ● Support DDR3L 1866 MHz SO-DIMM up to 8GB
Expansion Slot	<ul style="list-style-type: none"> ● 1* Full-size Mini-PCIE slot (USB only) ● 1* SIM card slot (SIMCARD)
Storage	<ul style="list-style-type: none"> ● 1* SATA III 6G/s connector (SATA1) ● 1* Full-size mSATA slot (MSATA)
LAN Chip	<ul style="list-style-type: none"> ● Integrated with 4* Intel I211AT PCI-E Gigabit LAN chips ● Support Fast Ethernet LAN function of providing 10/100/1000Mbps Ethernet data transfer rate. JNF692G4-345B1 Series : support 1 pair (LAN3&LAN4) ByPass Gigabit LAN Ethernet
BIOS	<ul style="list-style-type: none"> ● AMI 128MB Flash ROM
Rear I/O	<ul style="list-style-type: none"> ● 1* RJ-45 COM port ● 2* USB 3.0 port ● 4* RJ-45 LAN port
Internal I/O	<ul style="list-style-type: none"> ● 1* 2-pin internal 12V DC-in power connector ● 1* SATA Power connector ● 1* CPU FAN connector ● 1* Front panel header ● 1* USB 2.0 header (Expansible to 2* USB 2.0 ports) ● 3* RS232 Serial port header ● 1* PS/2 keyboard & mouse header ● 1* HDMI port header ● 1* 8-pin LANLED header (LAN_LED1) ● 1* optional Bypass LED header (BYPASS1_LED) ● 1* SMBUS header ● 1* GPIO port header ● 1* SIM card wafer

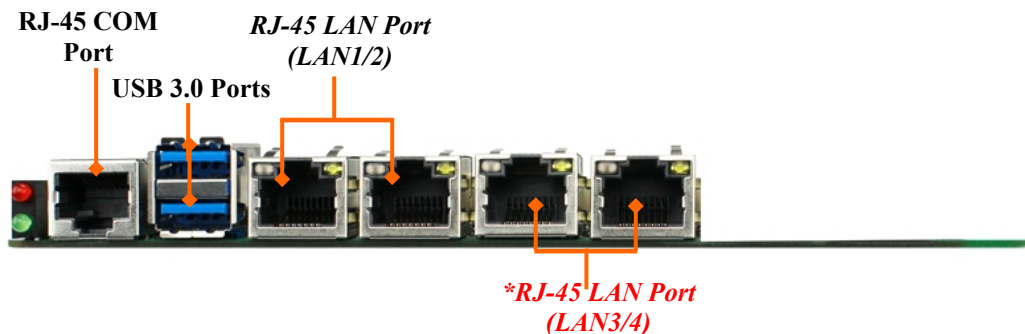
1-3 Layout Diagram




Motherboard Internal Diagram



Note: 1. SIM card slot (BSIMCARD/expansion card from SIM wafer) only work when compatible SIM card installed; 2. BSIMCARD and SIM wafer is optional, i.e., only one can work in the same time. 3. BYPASS_LED1 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>
	RJ-45 LAN Port	This connector is standard RJ-45 LAN jack for Network connection.
	USB 3.0 Port	To connect USB keyboard, mouse or other devices compatible with USB specification. USB 3.0 ports supports up to 5Gbps data transfer rate.
	RJ-45 COM Port	Mainly for user to connect external MODEM or other devices that supports Serial Communications Interface.

Note: This manual serves as a common manual for **JNF692G4-345 & JNF692G4-345B1** series.

Their main differences are listed as below:

Model	BYPASS1_LED	Bypass LAN (on LAN3/LAN4)
JNF692G4-345B1	Y	support
JNF692G4-345	N	Not Support

Jumper

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

Connectors

Connector	Name
LAN1/2/3/4	RJ-45 LAN Connector X4
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

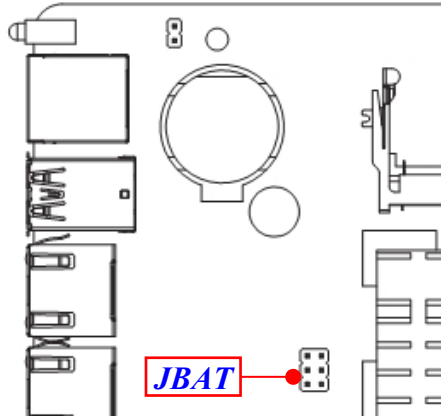
Header	Name	Description
FP	Front Panel Header(PWR LED/ HD LED /Power Button /Reset)	9-pin Block
FP_USB	USB 2.0 Header	9-pin Block
COM2	RS232/422/485 Serial Port Header	9-pin Block
COM3/4	RS232 Serial Port Header	9-pin Block
HDMI	HDMI Port Header	19-pin Block
PS2KBMS	PS/2 Keyboard & Mouse Header	6-pin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

Chapter 2

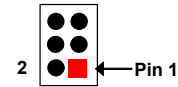
Hardware Installation

2-1 Jumper Setting

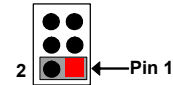
Pin 1&2 of JBAT (6-pin): Clear CMOS RAM Setting



Pin (1&2) of JBAT → Clear CMOS

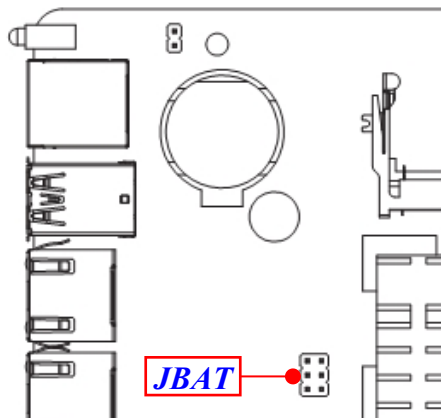


1-2 Open: Normal(Default);

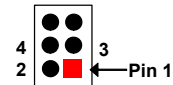


1-2 Closed: Clear CMOS(One Touch).

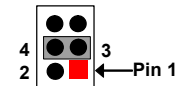
Pin 3&4 of JBAT (6-pin): Clear ME_RTC



Pin (3&4) of JBAT → Clear ME_RTC

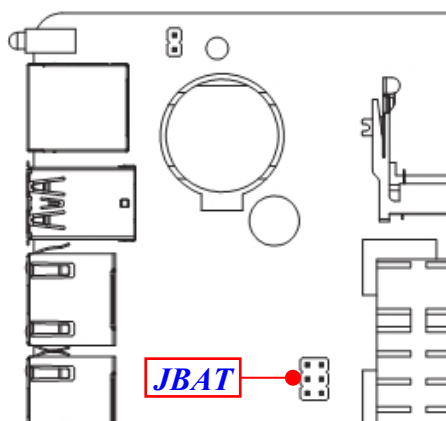


3-4 Open: Normal(Default);

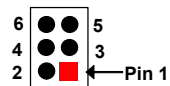


3-4 Closed: Clear ME_RTC (One Touch).

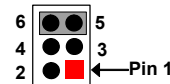
Pin 5&6 of JBAT (6-pin): TXE Override Function Select



Pin (5&6) of JBAT → TXE Override

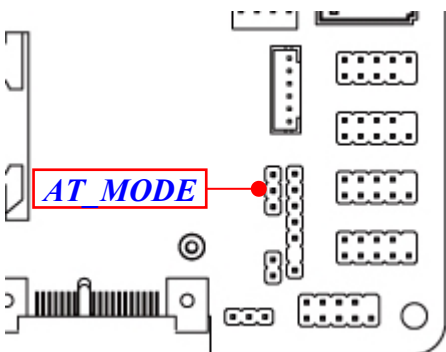


5-6 Open: Normal(Default);



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

AT_MODE (3-pin): AT Mode/ATX Mode Select



AT_MODE → ATX/AT Mode Select



1-2 Closed: ATX Mode Selected;

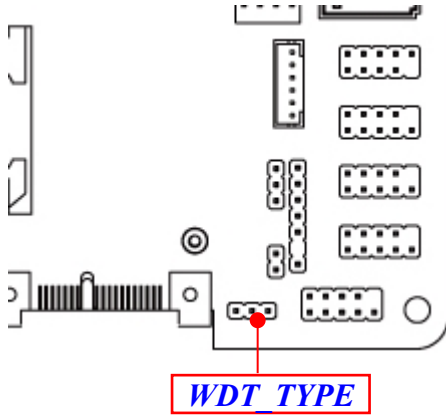


2-3 Closed: AT Mode Selected.

***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

WDT_TYPE → WDT Type Select



1 3

1-2 Close: WDT for Bypass;



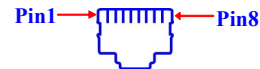
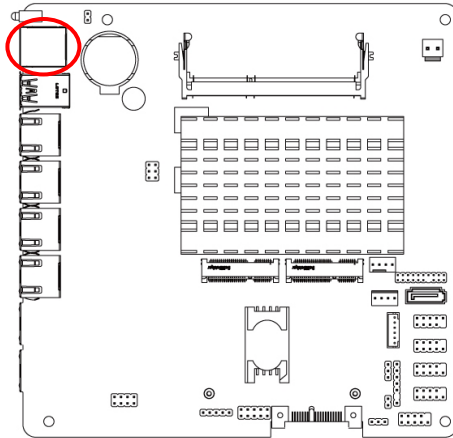
1 3

2-3 Close: WDT for System Reset.

2-2 Connectors, Headers and Wafers

2-2-1 Connectors

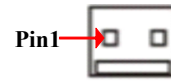
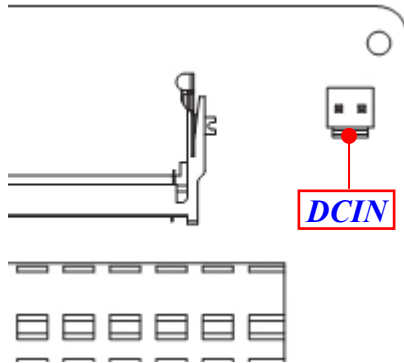
(1) RJ45_COM1(8-pin block): RJ-45 COM Port Connector for Console



RJ45_COM1

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

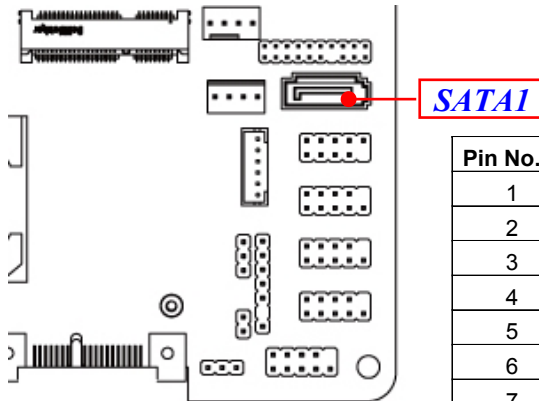
(2) DCIN1(2-pin) : Internal 12V DC-in power connector



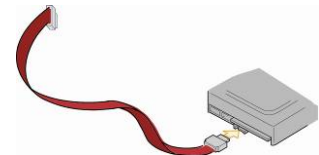
Pin No.	Definition
1	+12V DC_IN
2	GND

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

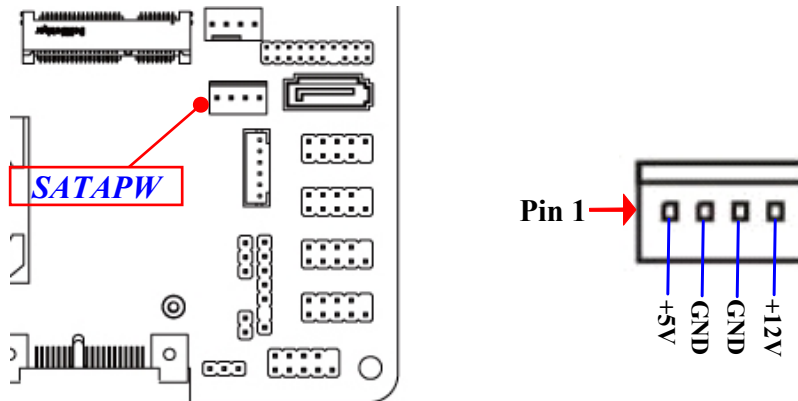
SATA1 is a high-speed SATAIII port that supports 6GB/s transfer rate.



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

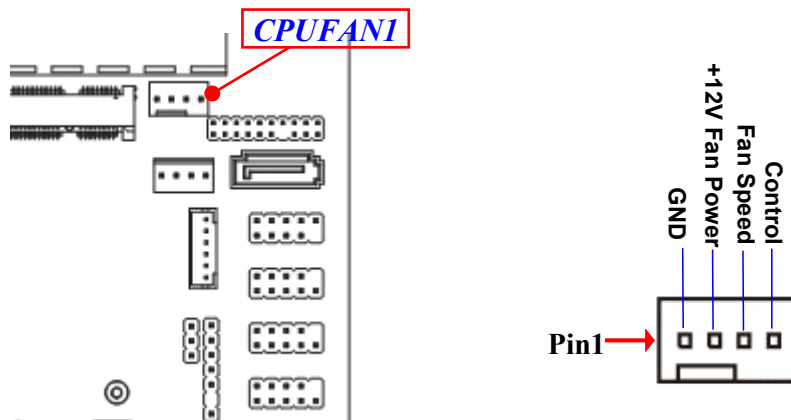


(4) SATAPW(4-pin): SATA Power Out Connector



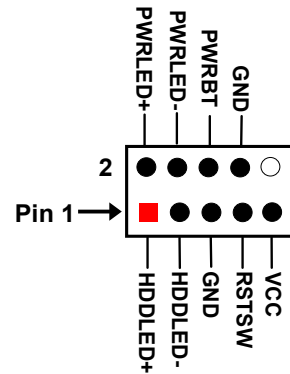
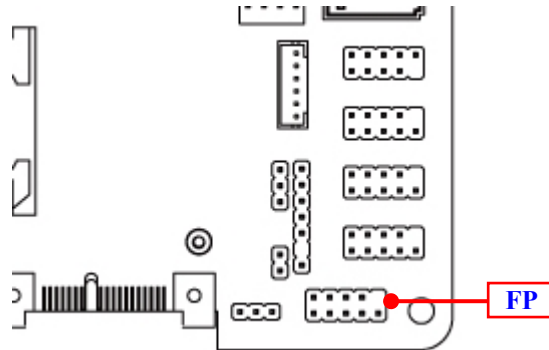
Warning: Make sure that Pin-1 of compatible SATA Power connector is inserted into corresponding Pin-1 of **SATAPW** connector to avoid possible damage to the board and hard disk driver!

(5) CPUFAN1 (4-pin): CPU Fan Connector

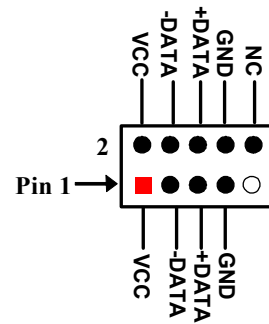
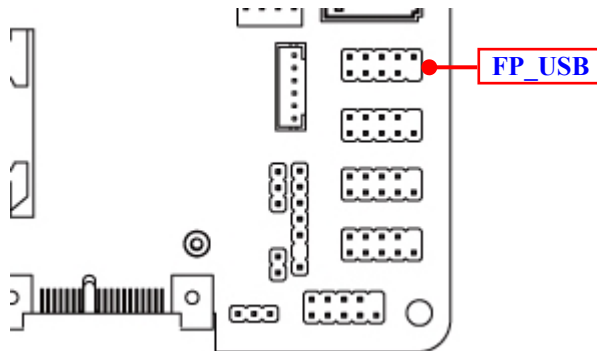


2-2-2 Headers & Wafers

(1) FP (9-pin): Front Panel Header



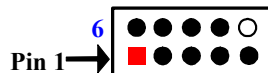
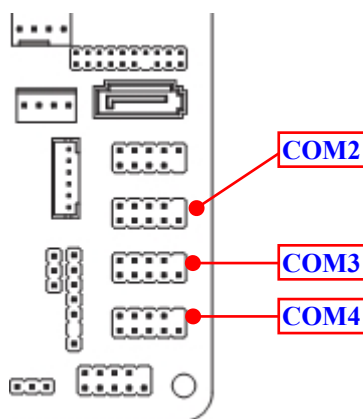
(2) FP_USB (9-pin): USB 2.0 Port Header



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

COM2: RS232/422/485 Serial Port Header;

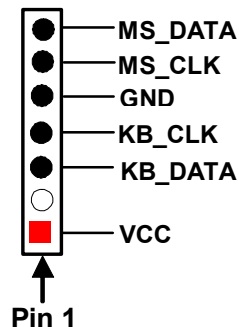
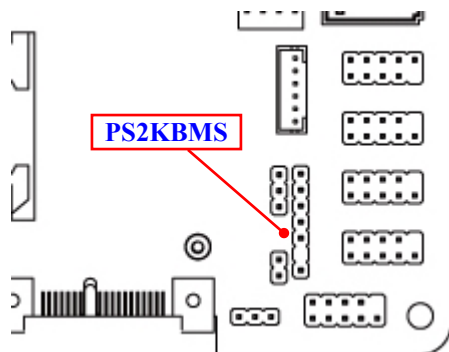
COM1/3/4: RS232 Serial Port Header.



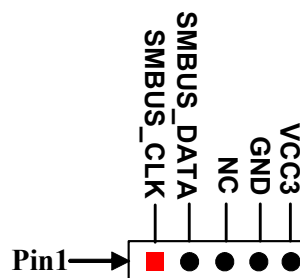
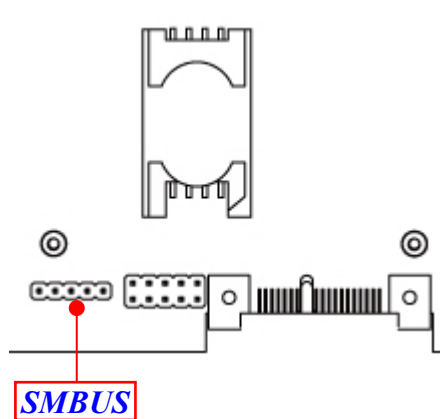
Pin NO.	RS232	*RS422	*RS485
Pin 1	DCD	TX-	DATA-
Pin 2	RXD	TX+	DATA+
Pin 3	TXD	RX+	NC
Pin 4	DTR	RX-	NC
Pin 5	GND	GND	GND
Pin 6	DSR	NC	NC
Pin 7	RTS	NC	NC
Pin 8	CTS	NC	NC
Pin 9	RI	NC	NC

***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).

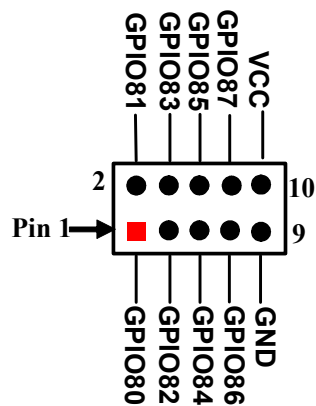
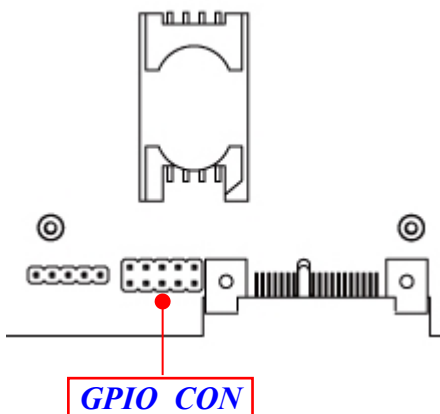
(4) PS2KBMS (6-pin): PS/2 Keyboard & Mouse Header



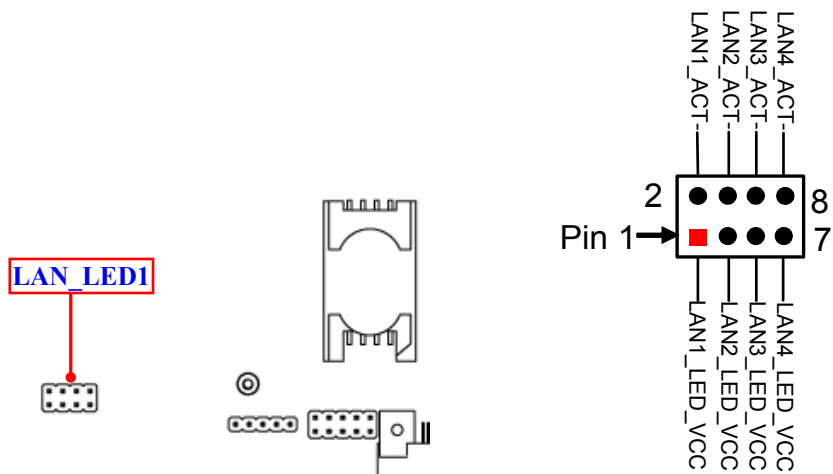
(5) SMBUS (5-Pin): SM BUS Header



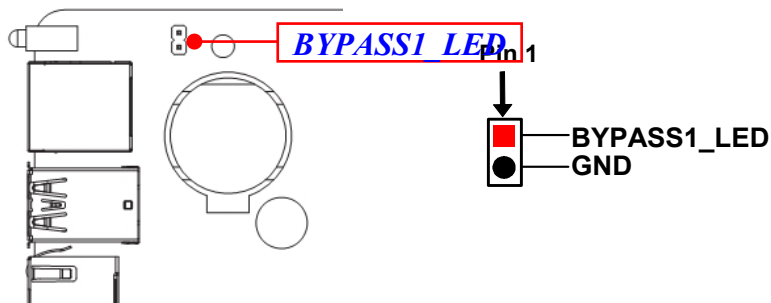
(6) GPIO_CON (10-pin): GPIO Port Header



(7) LAN_LED1(4-pin): LAN1 & LAN2& LAN3 & LAN4 Activity LED Header



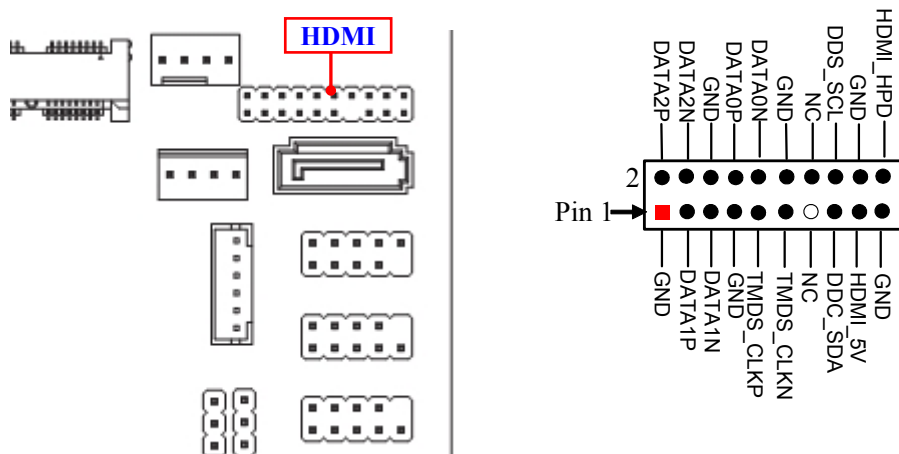
(8) BYPASS1_LED(2-pin): LAN3 & LAN4 Bypass Mode LED Header



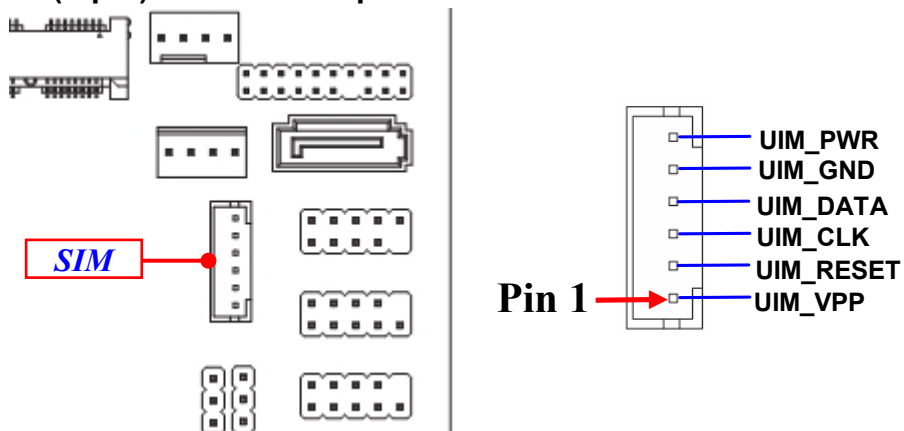
***Note:** BYPASS1_LED is only optional for JNF692G4-345B1 series that support Bypass Mode for external Bypass LED connection.

Bypass Led	On	Off
	LAN3&LA4 Bypass	LAN3&LAN4 Pass Through

(9) HDMI (19-pin): HDMI Port Header



(10) SIM (6-pin): SIM Card Expansion Wafer



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 from 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.

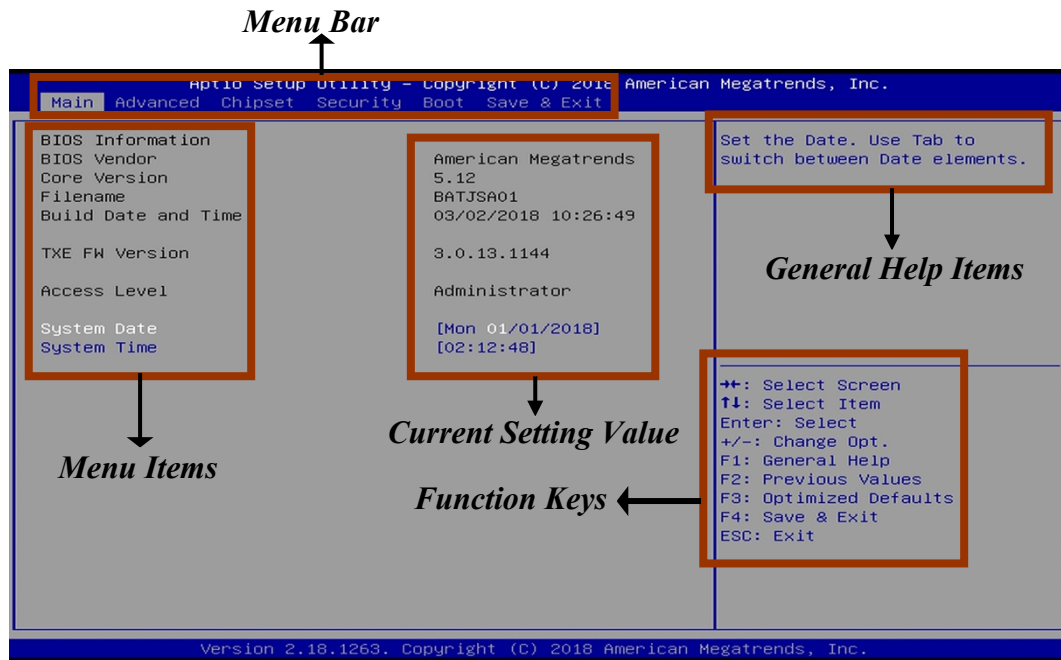
3-1 Entering Setup

Power on the computer and by pressing 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 **** 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

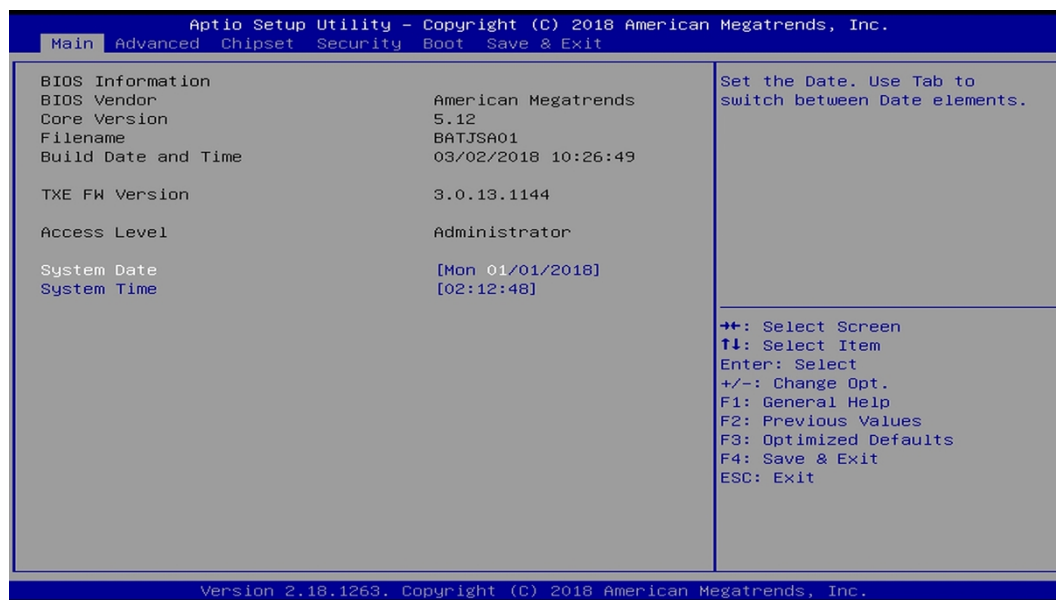
There are six menu bars on top of BIOS screen:

Main	To change system basic configuration
Advanced	To change system advanced configuration
Chipset	To change chipset configuration
Security	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.



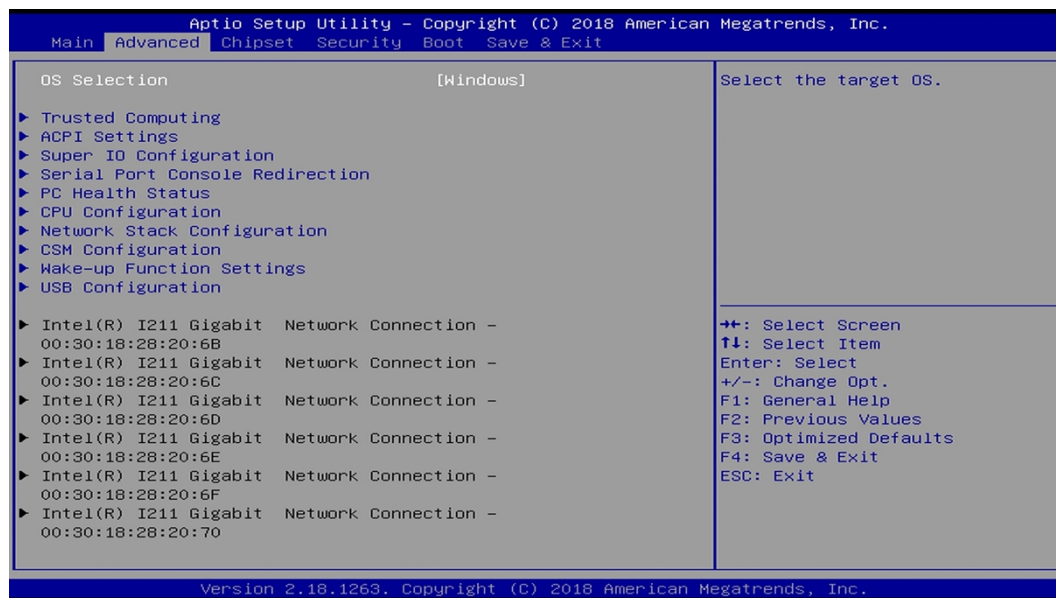
System Date

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.

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].

► **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).

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).

Change Settings

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

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 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

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

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 select a value in the range of [10] to [255] seconds when ‘**WatchDog Reset Timer Unit**’ set as [Sec]; or in the range of [1] to [255] minutes when ‘**WatchDog Reset Timer Unit**’ set as [Min].

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 for ATX Mode & 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]; [XTERM6]; [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

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].

C States

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

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

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

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

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

Ipv6 PXE Support

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

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

PXE boot wait time

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

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 on alarm event.

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

When set as [Enabled], system will wake on the hour/min/sec specified.

Wake-up System with Dynamic Time

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

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

When set as [Enabled], system will wake on the current time + increased minute(s). The settings range is from [1] ~ [60] minute(s).

PXE boot wait time

Use this item to select value for PXE boot wait time

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

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

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

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

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.

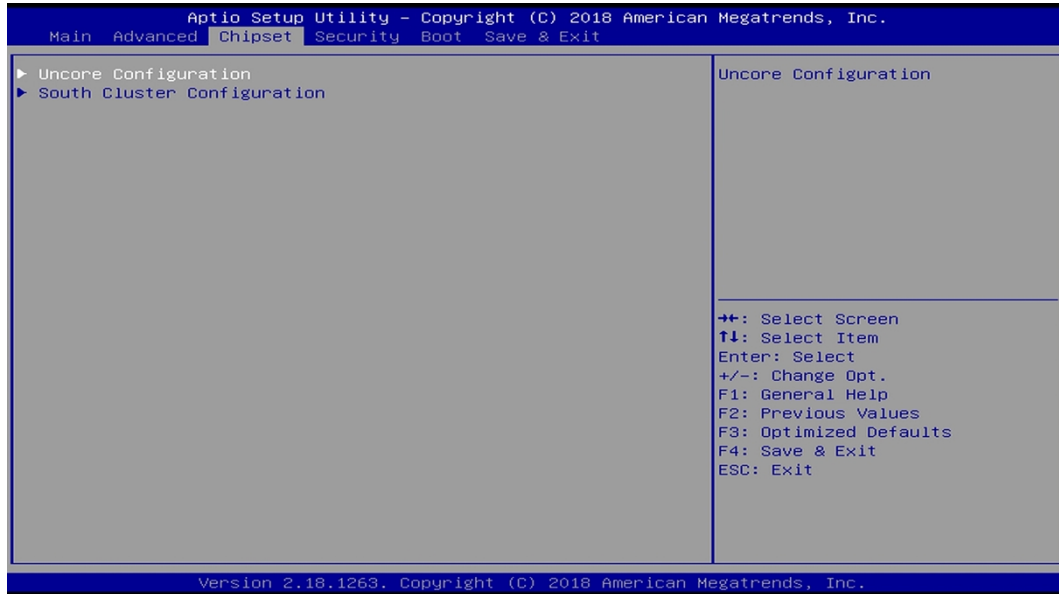
Select [Manual] you can set value for the following sub-item: '**Device Power-up Delay in Seconds**'.

Device Power-up Delay in Seconds

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

- ▶ **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

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

Compliance Mode

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

***LAN3&4 Bypass State @ PowerOn (Optional)**

Use this item to select Bypass State at power on.

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

***Note:** 'LAN3&4 Bypass State @ PowerOn' is only optional for **JNF692G4-345B1** series.

***LAN3&4 Bypass State @ PowerOff(Optional)**

Use this item to select Bypass State at power off.

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

***Note:** 'LAN3&4 Bypass State @ PowerOff' is only optional for **JNF692G4-345B1** series.

▶ **SATA Configuration**

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

SATA Controller(s)

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

SATA Mode

The default setting is: [AHCI].

SATA Port

SATA Port

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

Use this item to enable or disable SATA port.

mSATA

mSATA

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

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

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

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

Secure Boot Mode

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

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.

**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.

▶ **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:

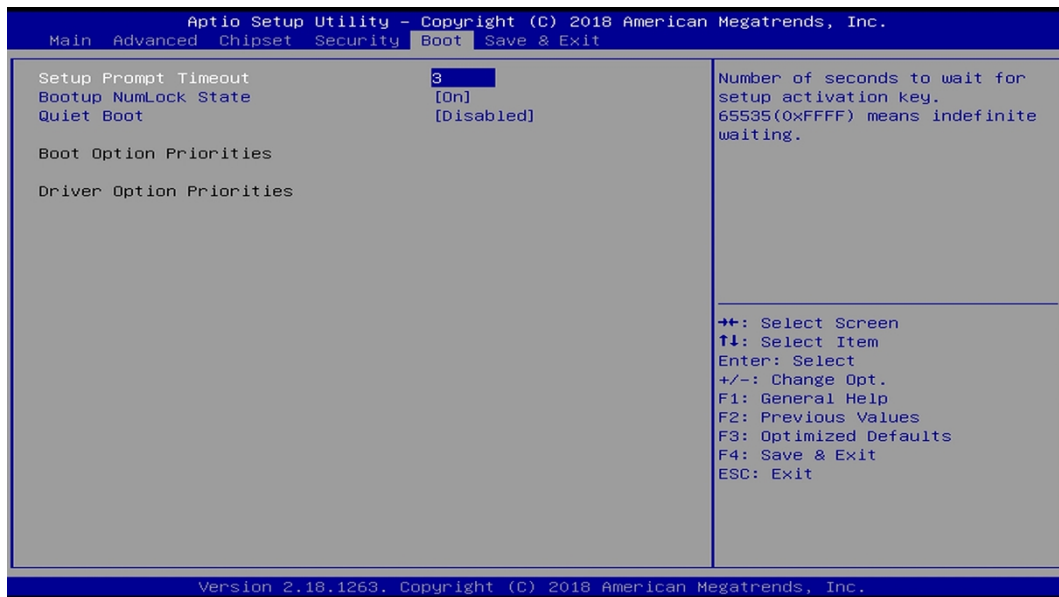
1. Public Key Certificate in:

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

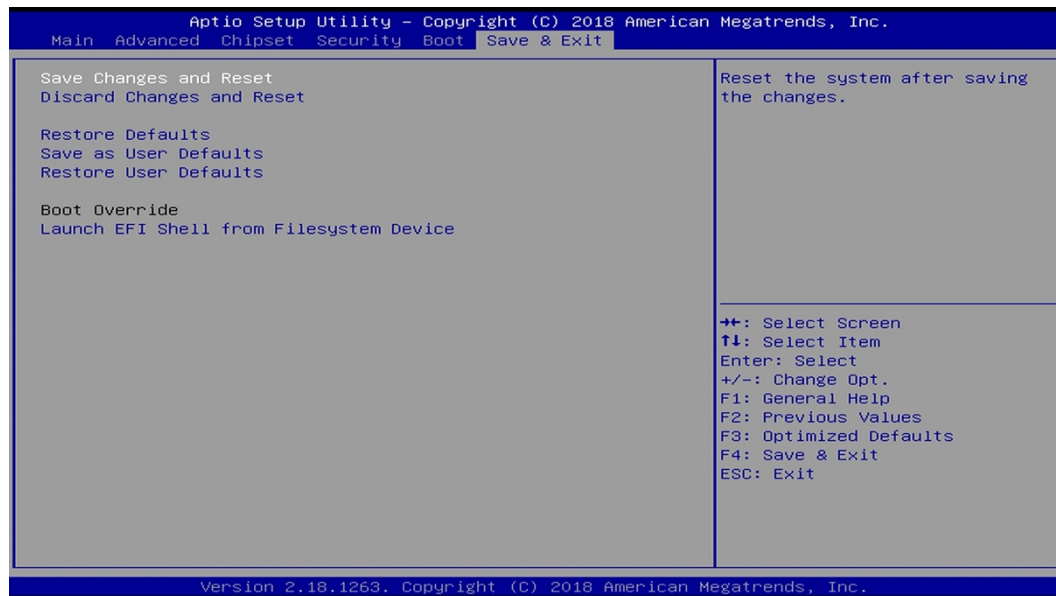
The optional settings are: [Disabled]; [Enabled].

Boot Option Priorities

DRIVER Option Priorities

Use this item to decide system boot order from available options.

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.

Launch EFI Shell from filesystem device

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