

NF792 Series

User's Manual

NO. G03-NF792-F

Revision: 1.0

Release date: August 16, 2017

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.

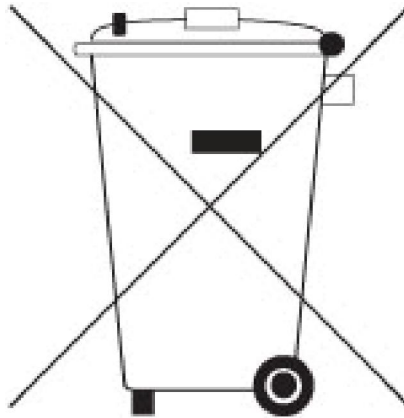


TABLE OF CONTENT

ENVIRONMENTAL SAFETY INSTRUCTION	iv
USER'S NOTICE	v
MANUAL REVISION INFORMATION	v
ITEM CHECKLIST	v
CHAPTER 1 INTRODUCTION OF THE MOTHERBOARD	
1-1 FEATURE OF MOTHERBOARD	1
1-2 SPECIFICATION	2
1-3 MAIN BOARD DIAGRAM	4
CHAPTER 2 HARDWARE INSTALLATION	
2-1 LOCATION OF INTERNAL JUMPER AND CONNECTOR.....	5
2-2 INTERNAL JUMPER AND CONNECTOR SETTING	6
2-2-1 CONNECTORS	8
2-2-2 HEADERS	11
CHAPTER 3 INTRODUCING BIOS	
3-1 ENTERING SETUP	16
3-2 BIOS MENU SCREEN	17
3-3 FUNCTION KEYS	17
3-4 GETTING HELP	18
3-5 MEMU BARS	18
3-6 MAIN MENU	19
3-7 ADVANCED MENU	20
3-8 CHIPSET MENU	32
3-9 SECURITY MENU	35
3-10 BOOT MENU	36
3-11 SAVE & EXIT MENU	37



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 16, 2017

Item Checklist

- ☒ Motherboard
- ☒ User's Manual
- ☒ CD for motherboard utilities
- ☒ Cable(s)

Chapter 1

Introduction of the Motherboard

1-1 Feature of Motherboard

- Intel® Braswell series SoC Processor, with low power consumption never denies high performance
- Support DDR3L-1600, 2 * SO-DIMM slot, up to 8GB memory
- Realtek ALC662VD Audio
- 2 * Realtek 8111H Giga LAN
- Support 1 * SATA III (6Gb/s) & 1 * M.2 (M key 2242/2260)
- Support HDMI/VGA/LVDS, triple displays
- 2 * External COM and 4 * internal COM
- 3 * External USB3.0 & 1 * External USB2.0 & 6 * Internal USB2.0
- 1 * Parallel port
- 1 * Mini-PCIe slot & 1 * PCIe x1 slot
- 1 * SIM Card Holder
- ATX power

1-2 Specification

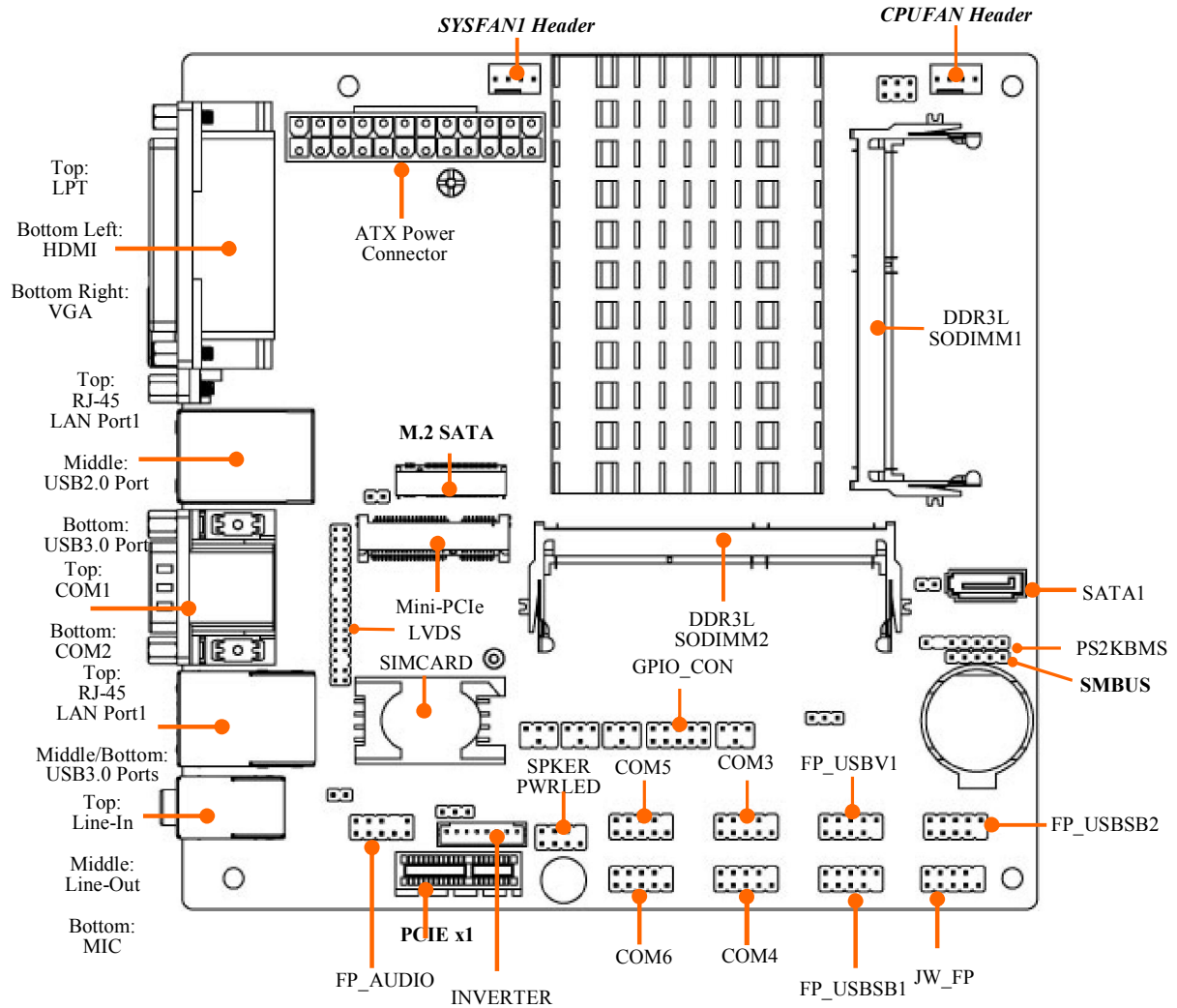
Spec	Description
CPU	<ul style="list-style-type: none">● Intel® Braswell *SoC CPU <i>*CPU model varies from different IPC options. Please consult your dealer for more information of onboard CPU.</i>
Memory	<ul style="list-style-type: none">● 2* Dual CH DDR3L 1600MHz SO-DIMM slot up to 8GB
Expansion Slot	<ul style="list-style-type: none">● 1* Full-size Mini PCIe slot● 1* PCIe x1 Slot● 1* M.2 (M Key 2242/2260)● 1* SIM Card Holder
Storage	<ul style="list-style-type: none">● 1* SATA III 6G/s Connector
LAN Chip	<ul style="list-style-type: none">● 2* Realtek® 8111H GbE● Support Fast Ethernet LAN function of providing 10/100/1000Mbps Ethernet data transfer rate
Audio Chip	<ul style="list-style-type: none">● Realtek ALC662VD HD Audio Codec integrated● Audio driver and utility included
BIOS	<ul style="list-style-type: none">● AMI Flash ROM
Rear I/O	<ul style="list-style-type: none">● 1* VGA● 1* HDMI● 2* RJ45, 10/100/1000 Mbps● 3* USB3.0, 1* USB2.0 port● 1* MIC, Line-in, Line-out port● 2* COM ports (COM1 support RS232/RS422/RS485)● 1* Parallel port
Internal I/O	<ul style="list-style-type: none">● 6* USB 2.0● 1* PS/2● 1* LVDS/inverter● 4* Serial ports● 1* SATA3 (6.0Gb/s)● 1* Mini PCIe (Full-size)

	<ul style="list-style-type: none">● 1* M.2 (M key 2242/2260)● 1* 8-bit GPIO● 1* Chassis Intrusion● 1* Audio Header● 1* AT_ATX Mode● 1* TPM (onboard option)● 1* SIM Card Holder● 1* SMBUS Header
--	---

Note:

1. The module for **SODIMM1** and **SODIMM2** should be **DDR3L 1.35V SODIMM** and **not exceeding 8GB total capacity**.
2. The SODIMM installed should be of or above the memory clock the model supported, otherwise the board will not start.

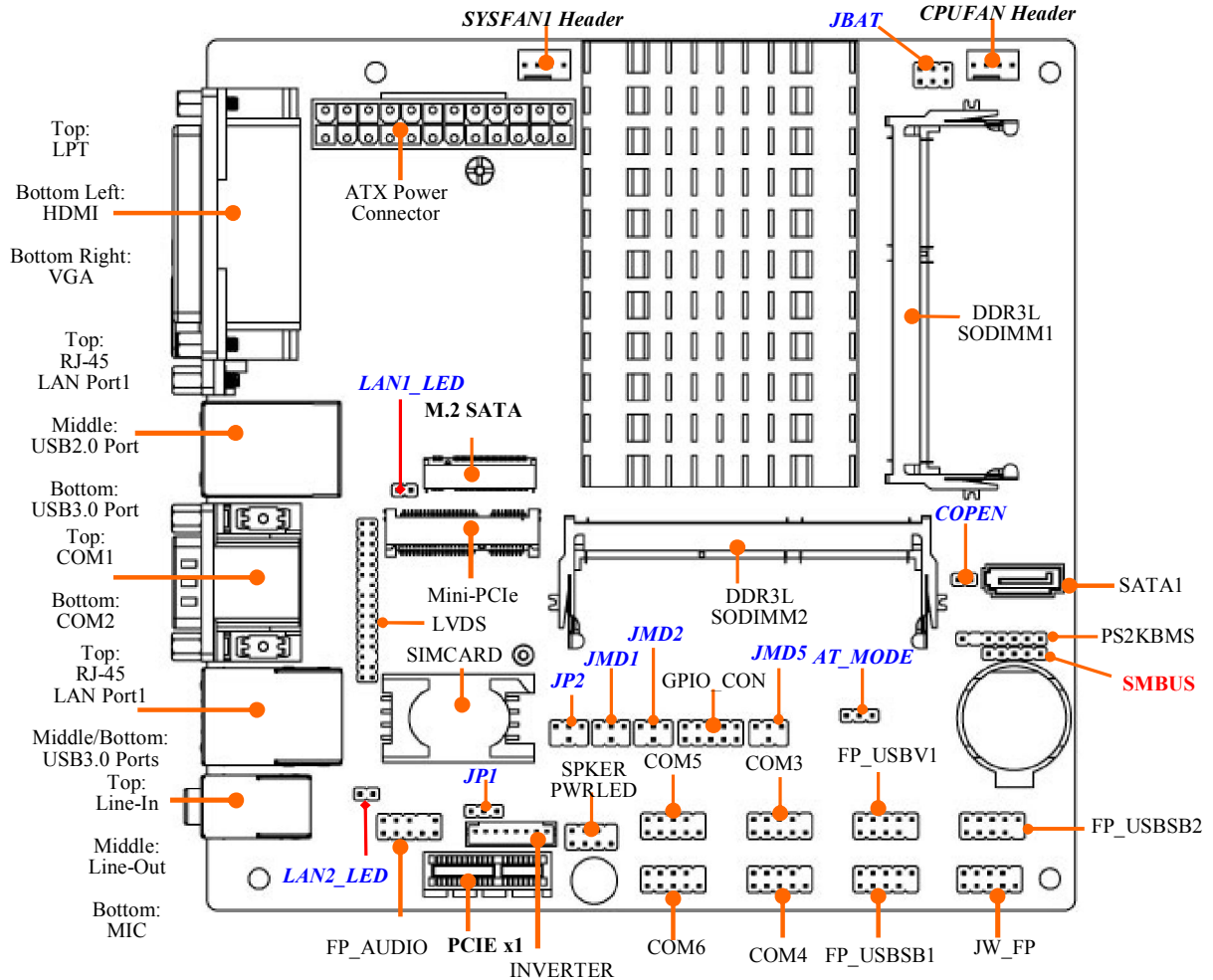
1-3 Main Board Diagram



Chapter 2

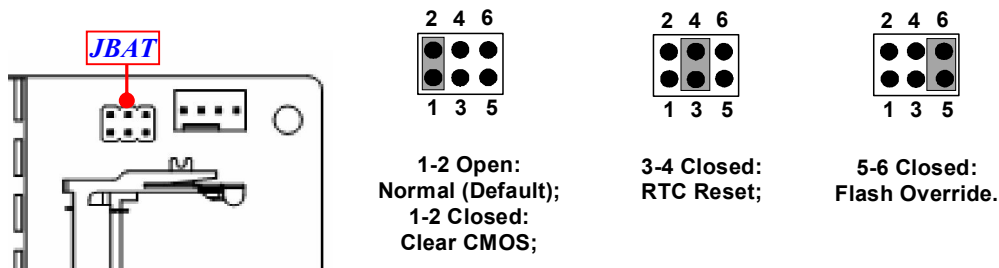
Hardware Installation

2-1 Location of Internal Jumper and Connector

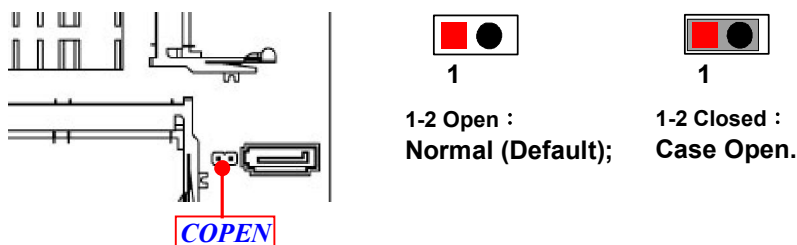


2-2 Internal Jumper and Connector Setting

(1) JBAT(6-pin): Clear CMOS / FLASH Select

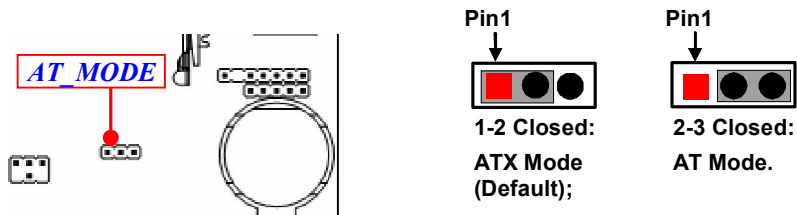


(2) COPEN (2-pin): Case Open Message Display Function Select



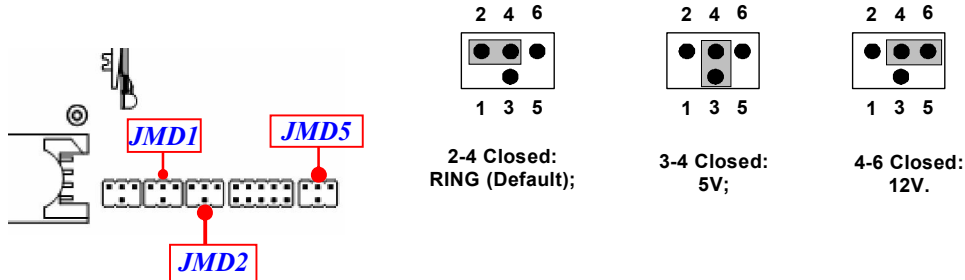
Pin (1-2) Close: When Case Open function pin short to GND, the Case Open function was detected. When Used, needs to enter BIOS and enable 'Case Open Detect' function. In this case if your case is removed, next time when you restart your computer, a message will be displayed on screen to inform you of this.

(3) AT_Mode (3-pin): AT/ATX Mode Function Select

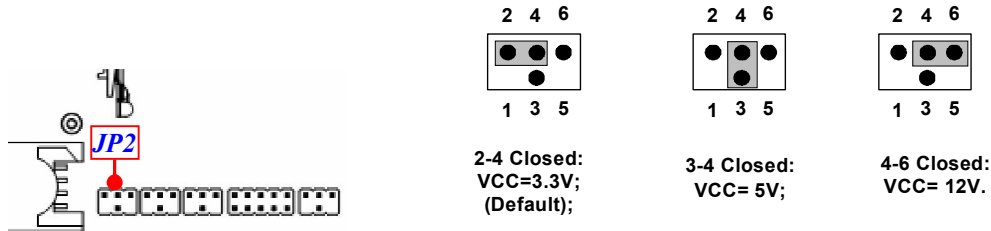


***ATX Mode Selected:** Press power button to power on after power input ready;
AT Mode Selected: Directly power on as power input ready.

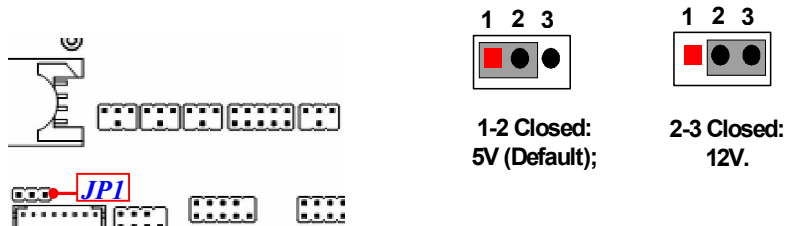
(4) JMD1/2/5 (4-pin): COM1/COM2/COM5 Port Pin9 Function Select



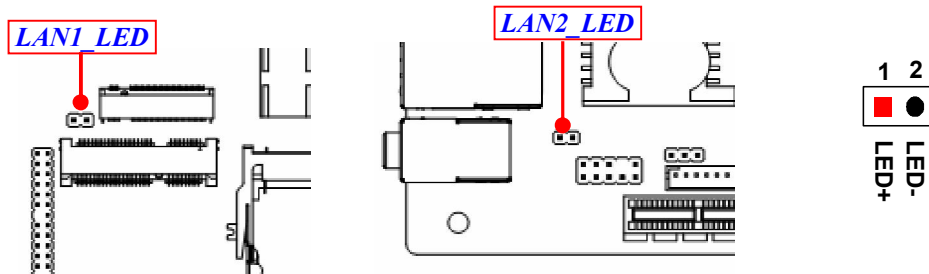
(5) JP2 (4-pin): LVDS Panel VCC 3.3V/5V/12V Select



(6) JP1 (3-pin): LVDS Backlight VCC 5V/12V Select

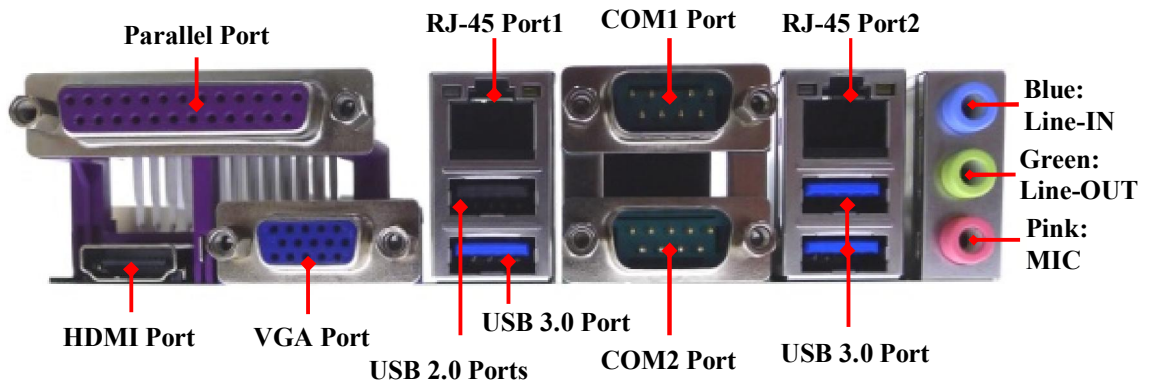


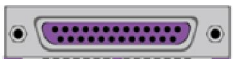







(7) LAN1_LED / LAN2_LED (2-pin): LAN LED Activity Function Select



2-2-1 Connectors

(1) Rear I/O Connectors

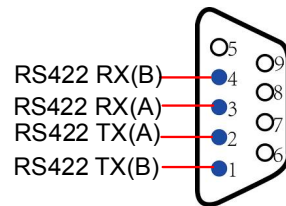


Icon	Name	Function
	Parallel Port	Also called LPT connector. Mostly for user to connect printer or scanner with parallel interface.
	HDMI Port	To connect display device that support HDMI specification.
	VGA Port	To connect display device that support VGA specification.
	RJ-45 LAN Port	This connector is standard RJ-45 LAN jack for Network connection.
	USB 2.0 Port	To connect USB keyboard, mouse or other devices compatible with USB specification.
	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.
	COM Port	Mainly for user to connect external MODEM or other devices that supports Serial Communications Interface.
	Audio Connectors	BLUE : Line-in Connector GREEN : Line-out Connector PINK : MIC Connector

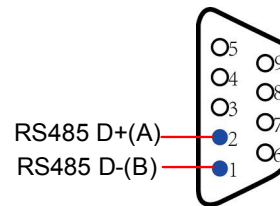
(2) COM1 (9-pin Block): RS232/422/485 Serial Port Connector

COM1 port can function as RS232/422/485 port. In normal settings COM1 functions as RS232 port. With compatible COM cable COM1 can function as RS422 or RS 485 port.

User also needs to go to BIOS to set '**Transmission Mode Select**' for COM1 (refer to BIOS Setting) at first, before using specialized cable to connect different pins of this port.

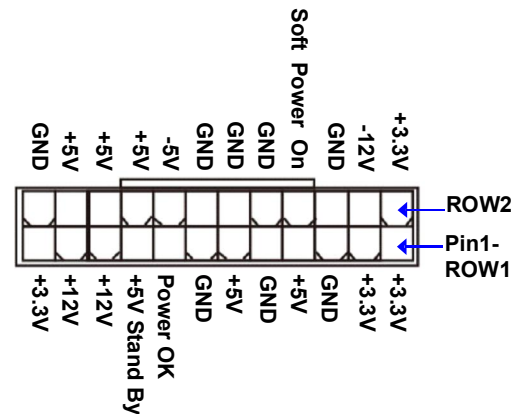
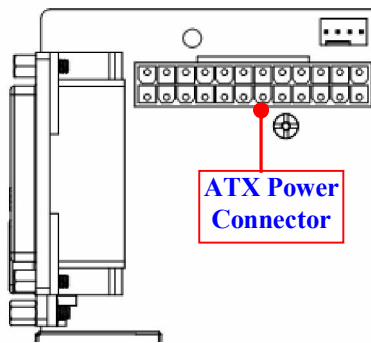


For RS422 Mode



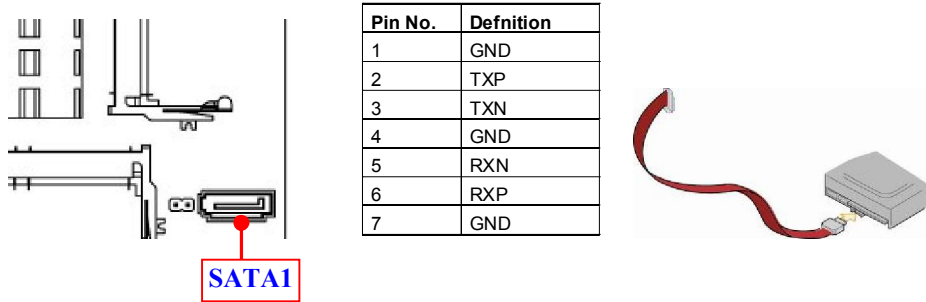
For RS485 Mode

(3) ATXPWR (24-pin Block): ATX Power Header



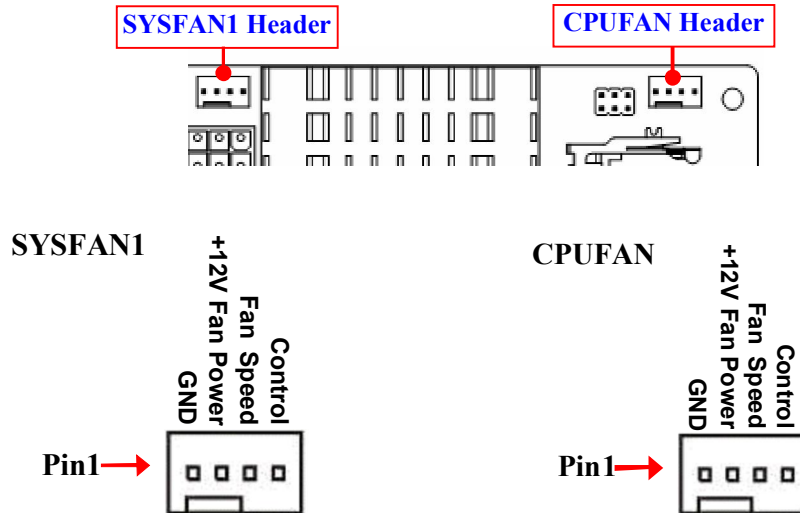
(4) SATA1 (7-pin block):SATAIII Port connector

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

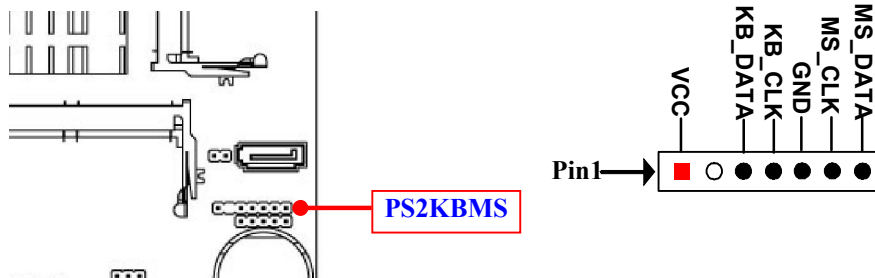


2-2-2 Headers

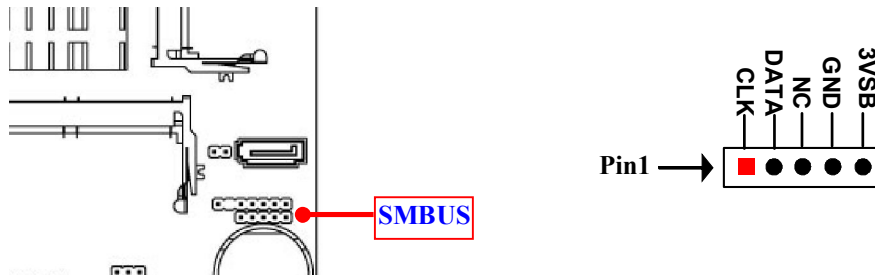
(1) SYSFAN1/ CPUFAN (4-pin): FAN Headers



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

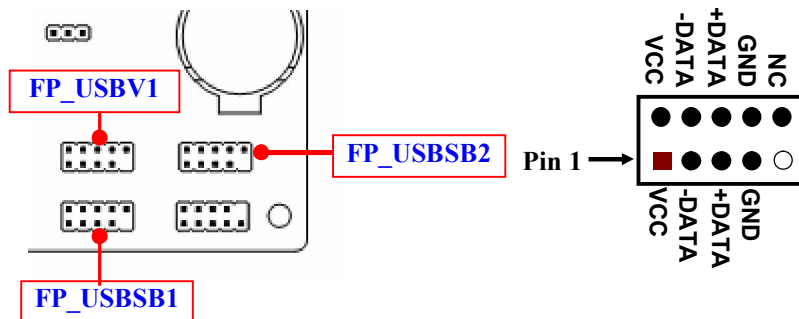


(3) SMBUS (5-pin): SMBUS Header

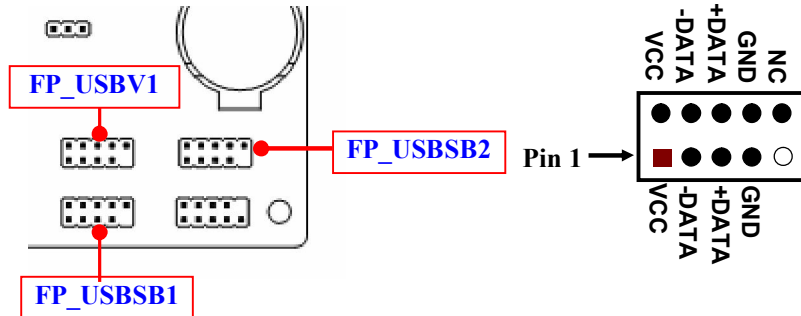


(4) FP_USBV1 (9-pin): USB 2.0 Port Header

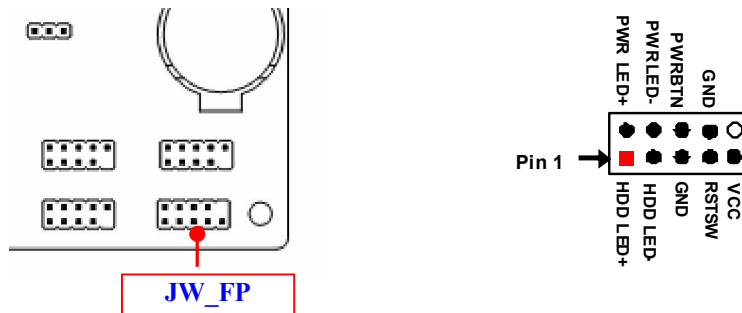
POWER: NORMAL POWER (VCC5V) without wake up function



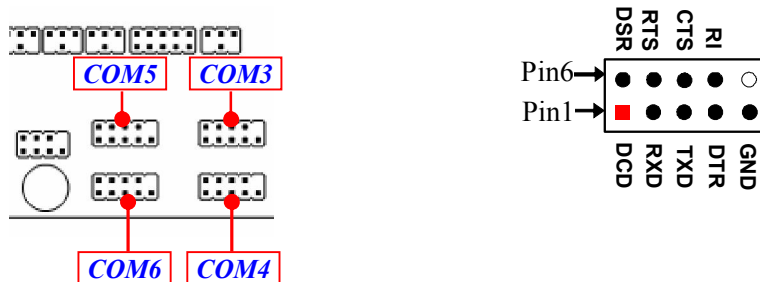
(5) FP_USBSB1 / FP_USBSB2 (9-pin): USB 2.0 Port Header
POWER: STANDBY POWER (5VSB) with wake up function



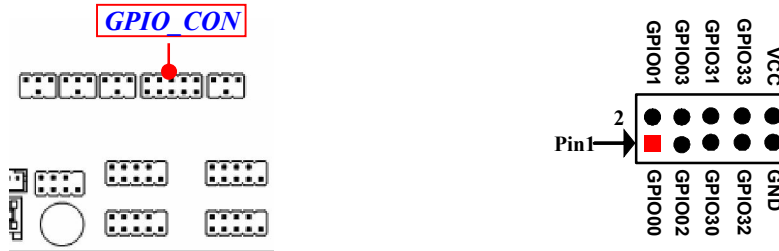
(6) JW_FP (9-pin): Front Panel Header



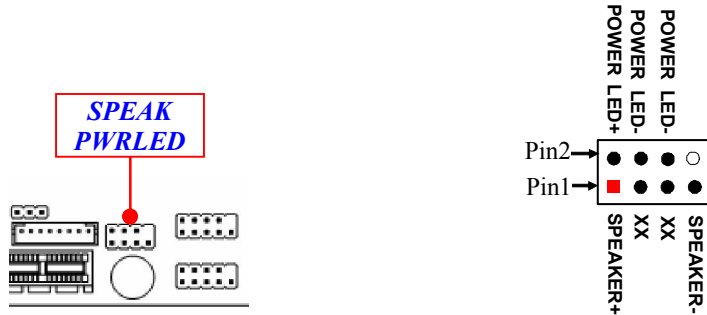
(7) COM3 / COM4 / COM5 / COM6 (9-pin): RS232 Serial Port Header



(8) GPIO_CON (10-pin): GPIO Header

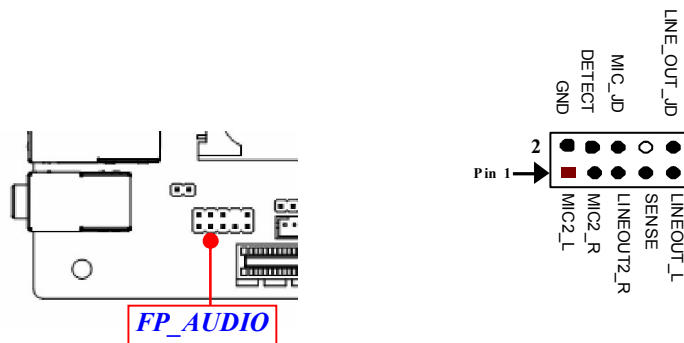


(9) SPEAK PWRLED (7-pin): SPEAKER and PWRLED Header

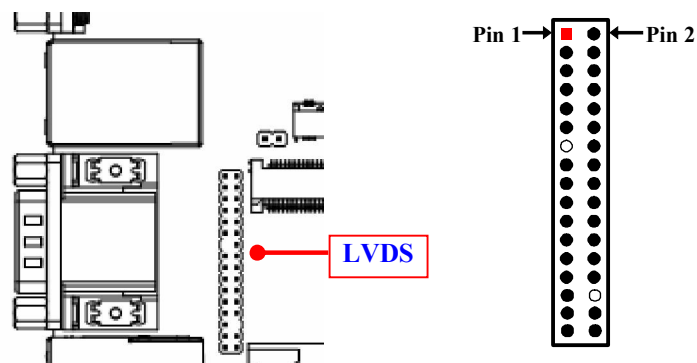


(10) FP_AUDIO1 (9-pin): Line-Out, MIC-In Header

This header connects to Front Panel Line-out, MIC-In connector with cable.



(11) LVDS (32-Pin): 24-bit dual channel LVDS Header



Pin NO.	Pin Define	Pin NO.	Pin Define
Pin 1	LVDSB_DATAN3	Pin 2	LVDSB_DATAP3
Pin 3	LVDS_CLKBN	Pin 4	LVDS_CLKBP
Pin 5	LVDSB_DATAN2	Pin 6	LVDSB_DATAP2
Pin 7	LVDSB_DATAN1	Pin 8	LVDSB_DATAP1
Pin 9	LVDSB_DATAN0	Pin 10	LVDSB_DATAP0
Pin 11	LVDS_DDC_DAT	Pin 12	LVDSA_DCC_CLK
Pin 13	XX	Pin 14	LVDS_DETECT-
Pin 15	GND	Pin 16	GND
Pin 17	LVDSA_DATAP3	Pin 18	LVDSA_DATAN3
Pin 19	LVDS_CLKAP	Pin 20	LVDS_CLKAN
Pin 21	LVDSA_DATAP2	Pin 22	LVDSA_DATAN2
Pin 23	LVDSA_DATAP1	Pin 24	LVDSA_DATAN1
Pin 25	LVDSA_DATAP0	Pin 26	LVDSA_DATAN0
Pin 27	LCD_VCC	Pin 28	XX
Pin 29	LCD_VCC	Pin 30	LCD_VCC
Pin 31	GND	Pin 32	GND

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.

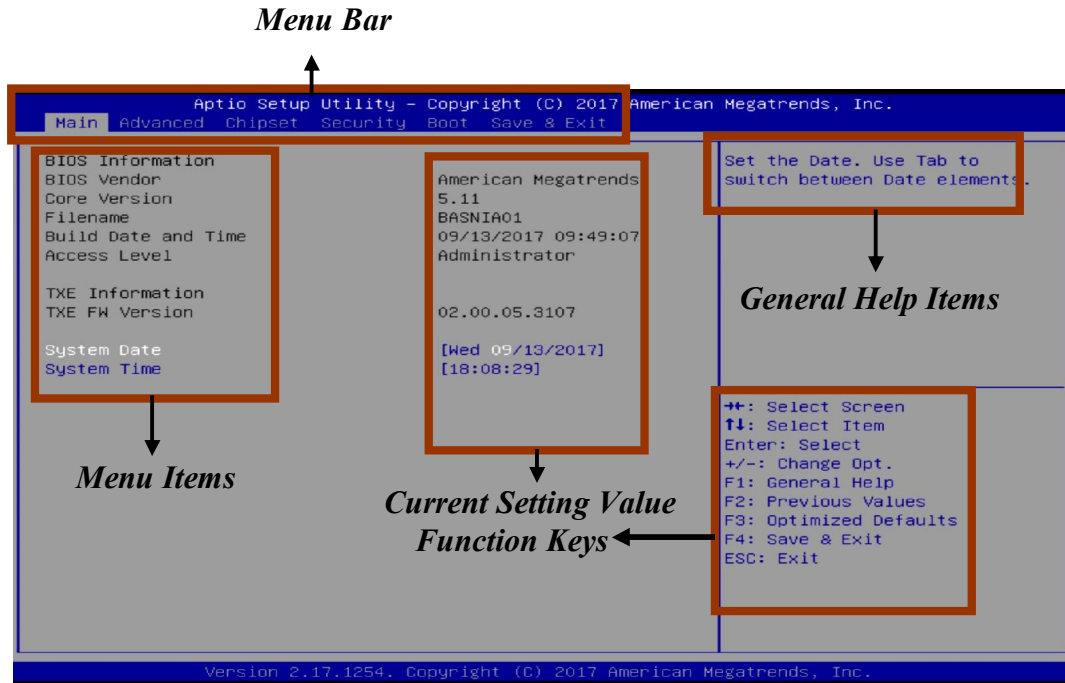
3-1 Entering Setup

Power on the computer and by pressing 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.

3-2 BIOS Menu Screen

The following diagram show a general 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.
 - **[F7]**: To enter pop-up boot menu to select boot device.
 - 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

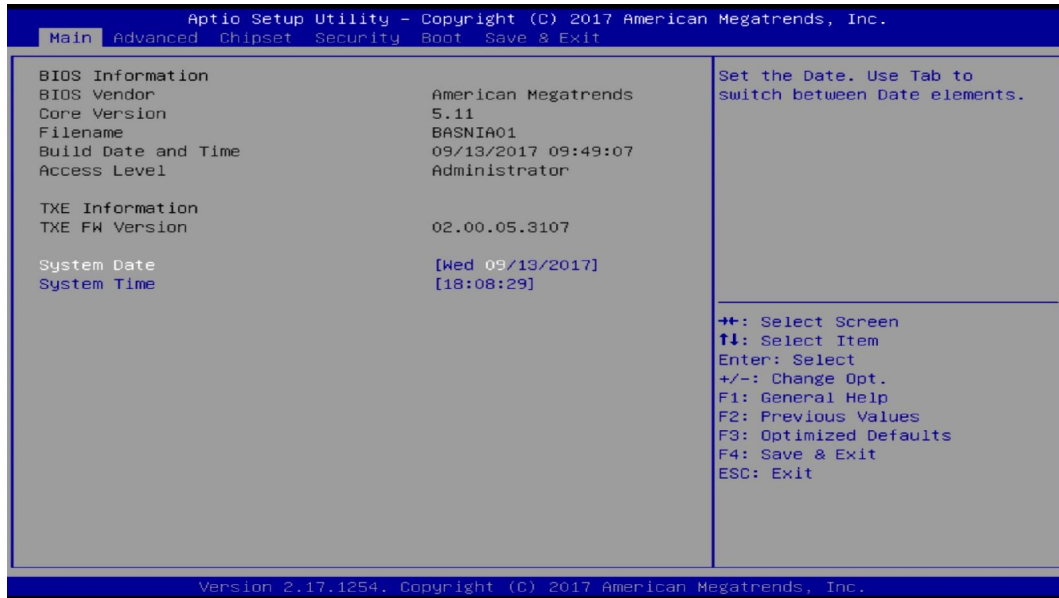
There are six menu bars on top of BIOS screen:

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.



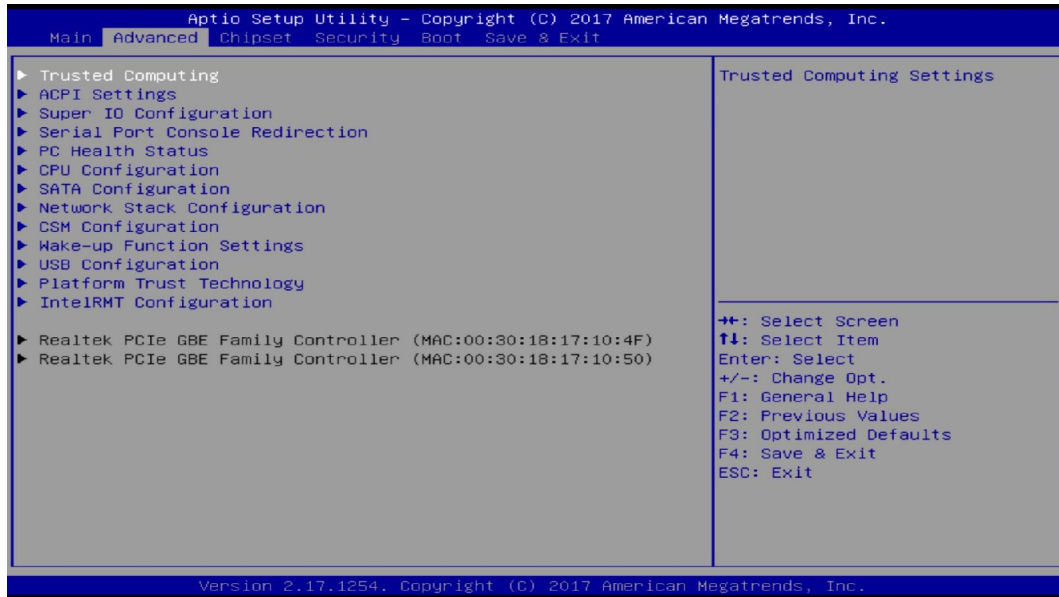
System Date

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



▶ **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. TCG EFI protocol and INT1A interface will not be available.

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

When set as [Enabled], user can make further settings in the following item:

SHA-1 PCR Bank

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

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

SHA256 PCR Bank

Use this item to enable or disable SHA256 PCR Bank.

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

TPM2.0 UEFI Spec Version

Use this item to select the TCG2 spec. version supported.

The optional settings: [1.0]; [1.x].

[1.0]: compatible mode for Win8/Win10.

[1.x]: for TCG2 newer spec. compatible mode for Win10.

▶ **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**

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

Serial Port 1 Configuration

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].

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].

Serial Port FIFO Mode

The optional settings are: [16-Byte FIFO]; [32-Byte FIFO]; [64-Byte FIFO]; [128-Byte FIFO].

► **Serial Port 2 Configuration/ Serial Port 3 Configuration/ Serial Port 4 Configuration/ Serial Port 5 Configuration/ Serial Port 6 Configuration**

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

Serial Port 2/3/4/5/6 Configuration

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 2 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**'.

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 4 Configuration**'.

The optional settings are: [Auto]; [IO=3F8h; IRQ=11]; [IO=2F8h; IRQ=11]; [IO=3E8h; IRQ=11]; [IO=2E8h; IRQ=11]; [IO=2F0h; IRQ=11]; [IO=2E0h; IRQ=11] for '**Serial Port 5 Configuration**'.

The optional settings are: [Auto]; [IO=3F8h; IRQ=11]; [IO=2F8h; IRQ=11]; [IO=3E8h; IRQ=11]; [IO=2E8h; IRQ=11]; [IO=2F0h; IRQ=11]; [IO=2E0h; IRQ=11] for '**Serial Port 6 Configuration**'.

Serial Port FIFO Mode

The optional settings are: [16-Byte FIFO]; [32-Byte FIFO]; [64-Byte FIFO]; [128-Byte FIFO].

► **Parallel Port Configuration**

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

Parallel Port Configuration

Parallel Port

Use this item to enable or disable serial port (LPT/LPTE).

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

Change Settings

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

The optional settings are: [Auto]; [IO=378h; IRQ=5];

[IO=378h; IRQ=5,6,7,9,10,11,12]; [IO=278h; IRQ=5,6,7,9,10,11,12];

[IO=3BCh; IRQ=5,6,7,9,10,11,12].

Device Mode

The optional settings are: [STD Printer Mode]; [SPP Mode]; [EPP-1.9 and SPP Mode]; [EPP-1.7 and SPP Mode]; [ECP Mode]; [ECP and EPP 1.9 Mode]; [ECP and EPP 1.7 Mode].

OS Select for Serial Port

The optional settings: [Windows]; [LINUX].

ERP Support

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

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

Case Open Detect

This item controls detect case open function.

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

PS2 KB/MS Connect

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

WatchDog Reset Timer

Use this item to enable or disable WatchDog Timer 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

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

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

WatchDog Wake-up Timer Value

The setting range is [10] ~ [4095] seconds, or [1] ~ [4095] minutes.

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 9, Pin (1&2) of J1** for ATX Mode & AT Mode Select).

▶ **Serial Port Console Redirection**

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

COM1

Console Redirection

Use this item to enable or disable COM1 Console Redirection.

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

When set as [Enabled], user can make further settings in the 'Console Redirection Settings' screen:

▶ **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 sub-items.

Terminal Type

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

Bits per second

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

Data Bits

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

Parity

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

Stop Bits

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

Flow Control

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

VT-UTF8 Combo Key Support

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

Recorder Mode

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

Resolution 100x31

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

Legacy OS Redirection Resolution

The optional settings are: [80x24]; [80x25].

Putty Keypad

The optional settings are: [VT100]; [LINUX]; [XTERMR6]; [SCO]; [ESCN]; [VT400].

Redirection After BIOS POST

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

Serial Port for Out-of-Band Management/

Windows Emergency Management Services (EMS)

Console Redirection

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

When set as [Enabled], user can make further settings in 'Console Redirection Settings':

► **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 sub-items.

Out-of-Band Mgmt Port

The default setting is: [COM1].

Terminal Type

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

Bits per second

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

Flow Control

The optional settings are: [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 '**SmartFAN Configuration**'.

► **SmartFAN Configuration**

Press [Enter] to make settings for SmartFAN Configuration:

CPUFAN/SYSFAN1 Smart Mode

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

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

CPUFAN/SYSFAN1 Full-Speed Temperature

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

CPUFAN/SYSFAN1 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/SYSFAN1 Idle-Speed Temperature

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

CPUFAN/SYSFAN1 Idle-Speed Duty

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

Shutdown Temperature Configuration

Use this item to select system shutdown temperature.

The optional settings are: [Disabled]; [65°C/148°F]; [70°C/156°F]; [75°C/164°F]; [80°C/172°F]; [85°C/180°F].

► **CPU Configuration**

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

Limit CPUID Maximum

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

This item should be set as [Disabled] for Windows XP.

EIST

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

Use this item to enable or disable Intel SpeedStep.

Turbo Mode

Use this item to enable or disable CPU Turbo Mode.

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

CPU C State Report

Use this item to enable or disable CPU C state report to OS.

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

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

Max CPU C-State

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

The optional settings: [C7]; [C6]; [C1].

S0ix

Use this item to enable or disable CPU S0ix state.

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

▶ **SATA Configuration**

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

SATA Configuration

SATA Controller

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

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

SATA Mode Selection

The default setting is: [AHCI].

SATA Interface Speed

The item is for user to set the maximum speed the SATA controller can support.

The optional settings are: [Gen1]; [Gen2]; [Gen3].

SATA Port1/M.2.SATA

Port1

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

▶ **Network Stack Configuration**

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

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 optional 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 optional 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 settings range from [1] to [50].

► **CSM Configuration**

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

Compatibility Support Module Configuration

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].

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: [Disabled]; [Enabled].

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

Wake-up System with Dynamic Time

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

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).

PS2 KB/MS Wake-Up from S3-S5

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

**Note: PS2 KB/MS wake-up function is affected by ERP function in S4-S5. Please disable ERP before activating this function in S4-S5.*

USB Wake-Up from S3-S4

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

**Note: USB wake-up function is affected by ERP function in S4. Please disable ERP 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.

▶ **Platform Trust Technology**

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

TPM Configuration

fTPM

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

▶ **IntelRMT Configuration**

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

IntelRMT Configuration

Intel RMT Support

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

*When set as **[Enabled]**, user can make further settings in the following item:*

HW Notification

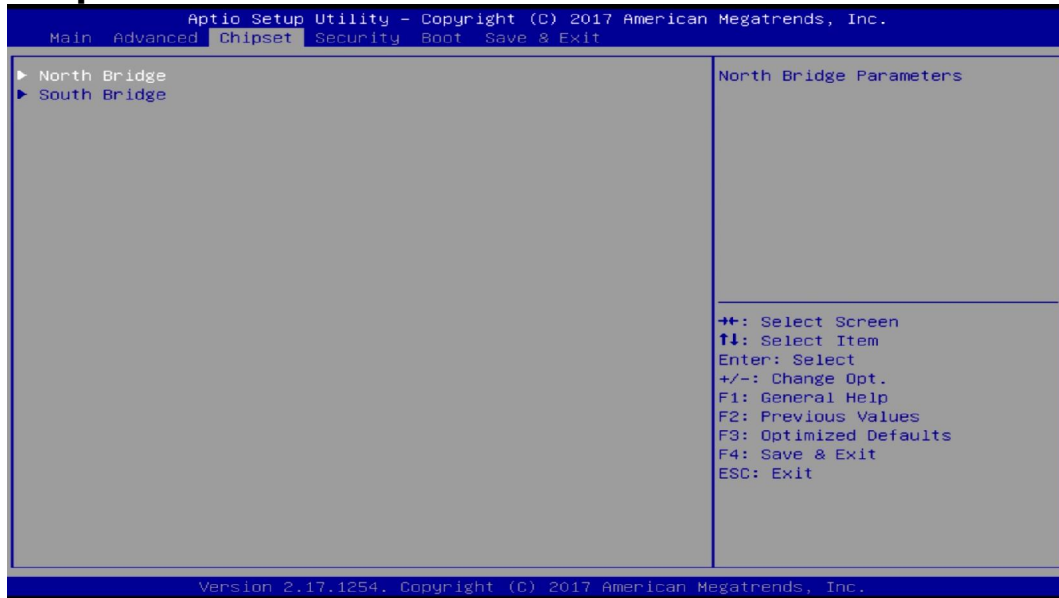
This item is for user to select hardware notification enabling status.

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

▶ **Realtek PCIe GBE Family Controller (MAC:XX:XX:XX:XX:XX:XX)/ Realtek PCIe GBE Family Controller (MAC:XX:XX:XX:XX:XX:XX)**

This item gives Intel gigabit ethernet controller basic driver information.

3-8 Chipset Menu



► North Bridge

Press [Enter] to view memory configurations or make settings for the following sub-items:

PAVC

Use this item to enable or disable protected audio video control.

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

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: [32M]; [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: [128M]; [256M]; [MAX].

Aperture Size

The optional settings are: [128MB]; [256MB]; [512MB].

GTT Size

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

Primary IGFX Boot Display

The optional settings are: [Auto]; [CRT]; [HDMI] when 'Active LFP' is set as [Disabled], or [Auto]; [CRT]; [LVDS]; [HDMI] when 'Active LFP' is set as [Enabled].

Secondary IGFX Boot Display

The optional settings are: [Disabled]; [CRT]; [HDMI] when 'Active LFP' is set as [Disabled], or [Disabled]; [CRT]; [LVDS]; [HDMI] when 'Active LFP' is set as [Enabled].

Active LFP

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

[Disable]: VBIOS does not enable LVDS.

[Enable]: VBIOS enable LVDS driver by integrated encoder.

**The default setting is: [Disabled].*

When set as [Enable], user can make further settings in 'LVDS Panel Type' and 'Backlight Control'.

LVDS Panel Type

Use this item to select LCD panel resolution used by internal graphics device by selecting the appropriate setup item.

The optional setting are: [800 x 480 1ch 18-bit]; [800x 600 1ch 18-bit]; [800x 600 1ch 24-bit]; [1024 x 600 1ch 18-bit]; [1024 x 768 1ch 18-bit]; [1024 x 768 1ch 24-bit]; [1280 x 768 1ch 24-bit]; [1280 x 800 1ch 18-bit]; [1280 x 800 1ch 24-bit]; [1366 x 768 1ch 18-bit]; [1366 x 768 1ch 24-bit]; [1440 x 900 2ch 18-bit]; [1440 x 900 2ch 24-bit]; [1280 x 1024 2ch 24-bit]; [1680 x 1050 2ch 24-bit]; [1920 x 1080 2ch 24-bit].

Backlight Control

The optional settings are: [PWM Inverted]; [PWM Normal].

Max T0LUD

Use this item to select the maximum value of T0LUD.

The optional settings are: [2GB]; [2.25GB]; [2.5GB]; [2.75GB]; [3GB].

► **South Bridge**

Press [Enter] for further settings in the following items:

Onboard PCIE LAN2

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

PCIE Slot (x1)

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

PCIE Slot (x1) Speed

The optional settings are: [Auto]; [Gen 2]; [Gen 1].

Mini PCIE

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

Mini PCIE Speed

The optional settings are: [Auto]; [Gen 2]; [Gen 1].

Audio Controller

Use this item to control detection of the Azalia device.

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

[Disabled]: Azalia will be unconditionally disabled;

[Enabled]: Azalia will be unconditionally enabled.

Azalia HDMI Codec

Use this item to enable or disable internal HDMI codec for Azalia.

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

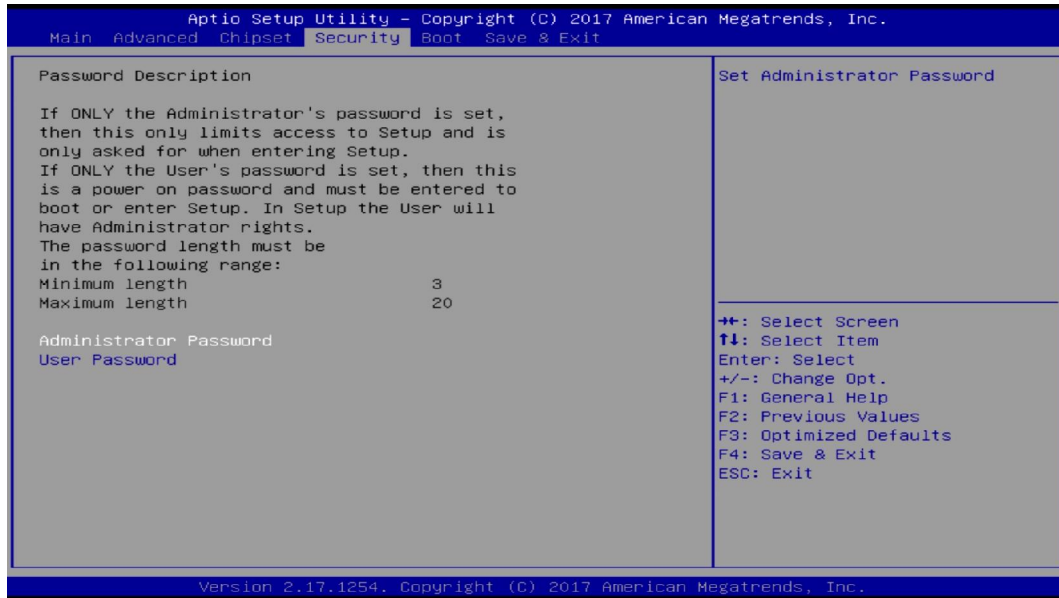
System State after Power Failure

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

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

***Note:** The option [Always On] and [Former State] are affected by '**ERP Support**'. 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.

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

Boot Option #1/ Boot Option #2...

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

New Boot Option Policy

This item controls the placement of newly detected UEFI boot options.

The optional settings are: [Default]; [Place First]; [Place Last].

UEFI Boot

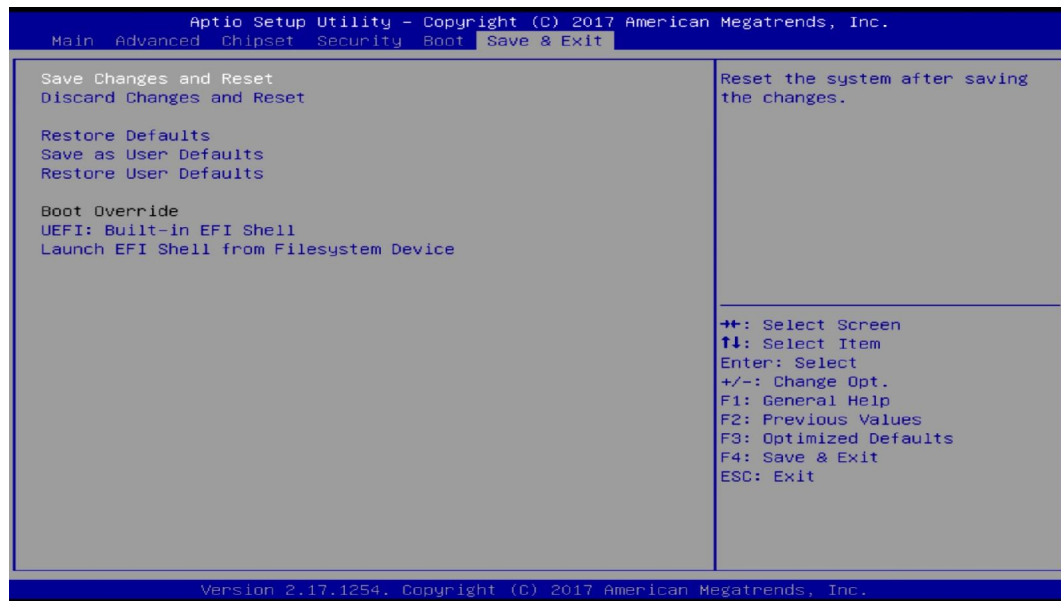
The optional settings are: [Disabled]; [Enabled]; [Auto].

[Auto]: If the 1st boot HDD is GPT then enable UEFI boot options, otherwise disable.

[Enabled]: Enable all UEFI boot options.

[Enabled]: Disable all UEFI boot 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 the user defaults to all the setup options.

Boot Override

Boot Override

UEFI:xx/...

Press this item to select the device as boot disk after save configuration and reset.

Launch EFI Shell from file system device

This item is used for attempts to launch EFI shell application from one of the available file system devices.