JF35-ADN1 Series

User's Manual

NO.: G03-JF35-ADN1-F

Revision: 1.0

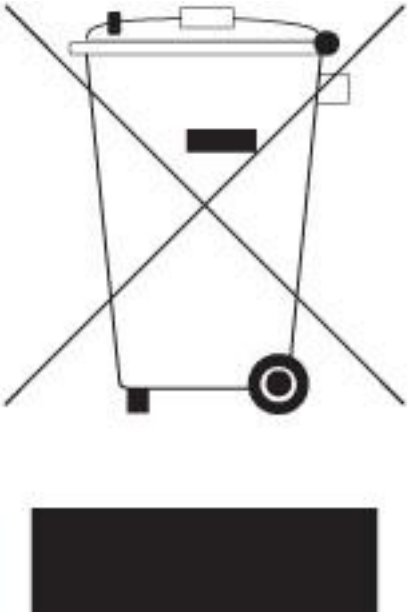
Release date: January 25, 2024

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	2024-1-25

Item Checklist

☑ Motherboard
☑ Cable(s)

Chapter 1
Introduction of the Motherboard

1-1 Feature of Motherboard

- Onboard Intel® Alder Lake-N SoC Processor(TDP12W),with low power consumption never denies high performance
- Support 1* DDR5 4800MHz SO-DIMM, maximum capacity up to 32GB
- Onboard 2* i225V 2.5GbE LAN port
- Support 2* HDMI2.0b, 1* eDP (co-layout LVDS), 1* LVDS w/Inverter
- Support 1* SATAIII device
- Onboard 1* M.2 M-key slot, type-2280, support NVME
- Onboard 1* M.2 E-key slot, type-2230, support CNVi
- Onboard 1* M.2 B-key slot,type-3042/3052, support 4G/5G module
- Support 1* USB 3.2 (Gen.2) type-A port & 1* USB 3.2(Gen.2) type-C port with ALT mode; 8* USB 2.0 type-A ports
- Support 6* COM Ports (**FP_COM1** supports RS232/RS422/RS485)
- Support 12~28V DC-in
- Support onboard TPM 2.0 **(Optional)**
- Support CPU Smart FAN
- Compliance with ErP standard
- Support Watchdog function
- Solution for Panel PC / IOT Solution / Edge computing/ Industrial PCs

1-2 Specification

Spec	Description
Design	● 3.5”SBC; 10-Layers; PCB size: 14.8x 10.2 cm
Embedded CPU	● Integrated with Intel® Alder Lake-N series CPU **(TDP 12W)** ** **Note:** CPU model varies from different IPC options. Please consult your dealer for more information of onboard CPU.TDP varies depending on CPU.*
Memory Slot	● 1*DDR5 SO-DIMM slot support 1* DDR5 4800MHz up to 32GB ***Note:** Memory clock supporting range is decided by specific CPU of the model. For more memory compatibility information please consults your local dealer.
Expansion Slot	● ***M2E1:***1* M.2 E-key type-2230 (USB 2.0/PCIe Gen.3 x1 interface) supports CNVi for WIFI/BT Module ● ****M2B1:***1* M.2 B-key type-3042/3052 (USB 3.1/ USB 2.0 interface) for 4G/5G Module ● ****SIMCARDB1:*** 1* SIM card slot ***Note: M2B1** co-functions with **SIMCARDB1**.*
Storage	● ***M2M1:***1* M.2 M-key type-2280 (PCIe Gen.3 x2 interface) support NVME ● Onboard 64GB eMMC 5.1 (Supported by **JF35-ADN1-N97004 & JF35-ADN1- N97008 only**) ● 1* SATAIII 6Gb/s port
LAN Chip	● Integrated with 2* Intel i225V 2.5Gigabit LAN chip, ● Support Fast Ethernet LAN function of providing 10/100/1000/2500Mbps Ethernet data transfer rate
Audio Chip	● Integrated with Realtek HD audio chip
Graphics	***Intel® UHD Graphics, shared memory for***: ● *2* HDMI 2.0b* ● *1* LVDS/eDP* ● *1* DP 1.4a from external USB Type-C* ***Note:** Support Triple Displays.*
BIOS	● AMI 256Mb Flash ROM
Rear I/O	● 1* 12~28V DC-in power Jack **(DCIN1)**

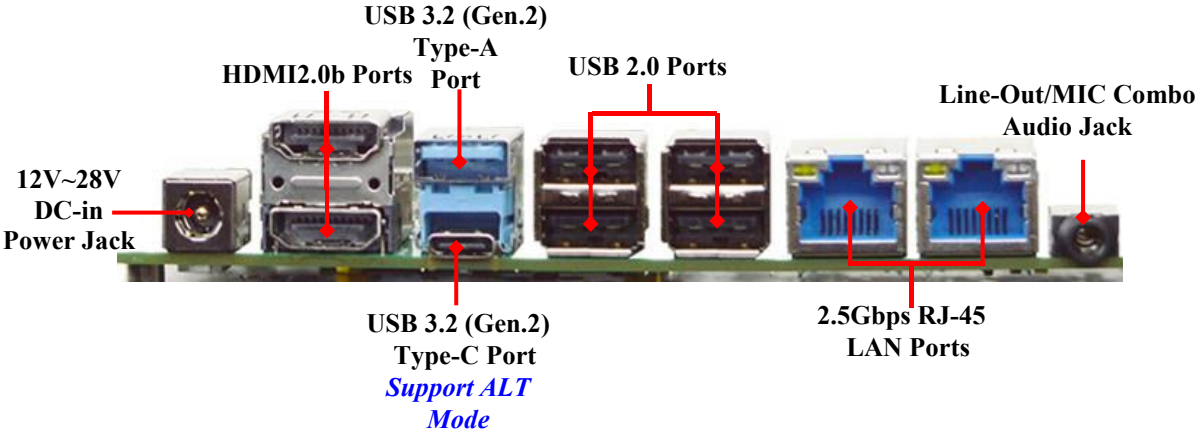
	● 2* HDMI 2.0b ● 1* USB3.2 (Gen.2) Type-A port ● 1* USB3.2 (Gen.2) Type-C port **supports DP1.4a display output** ● 4* USB 2.0 port ● 2* 2.5Gbps RJ-45 LAN port ● 1* Audio Line-out/MIC port
Internal I/O	● 1* 2-pin internal 12~28V DC-in power connector **(DCIN)** ● 1* SATA Power-out connector ● 1* CPU FAN connector ● 1* Front panel header ● 1* Front panel audio header ● 1* 3W amplifier wafer **(SPK_CON)** ● 1* GPIO header ● 1* SMBUS header ● 2* 9-pin USB 2.0 header (Expansible to 4* USB 2.0 ports) ● 6* Serial port header *(**FP_COM1** supports RS232/422/485; **FP_COM2/3/4/5/6** supports RS232)* ● 1* LVDS_EDP header ● 1* LVDS inverter header
TPM 2.0	● Supported by **JF35-ADN1-N97002/ JF35-ADN1-N97008** series
OS Support	● *for detailed OS support information please visit our website for latest update*

***Note:** The main differences among **JF35-ADN1** series are listed as below:*

Model	*TPM2.0*	*Onboard 64GB eMMC*
JF35-ADN1-N97000	***N/A***	***N/A***
JF35-ADN1-N97002	***Yes***	***N/A***
JF35-ADN1-N97004	***N/A***	***Yes***
JF35-ADN1-N97008	***Yes***	***Yes***

1-3 Layout Diagram

Rear IO Diagram:



Warning!!

The board has a 12~28V DC-in power connector **(DCIN1)** in I/O back panel and an internal 12~28V power connector **(DCIN).** User can only connect one type of compatible power supply to one of them to power the system.

Diagram-Front Side:

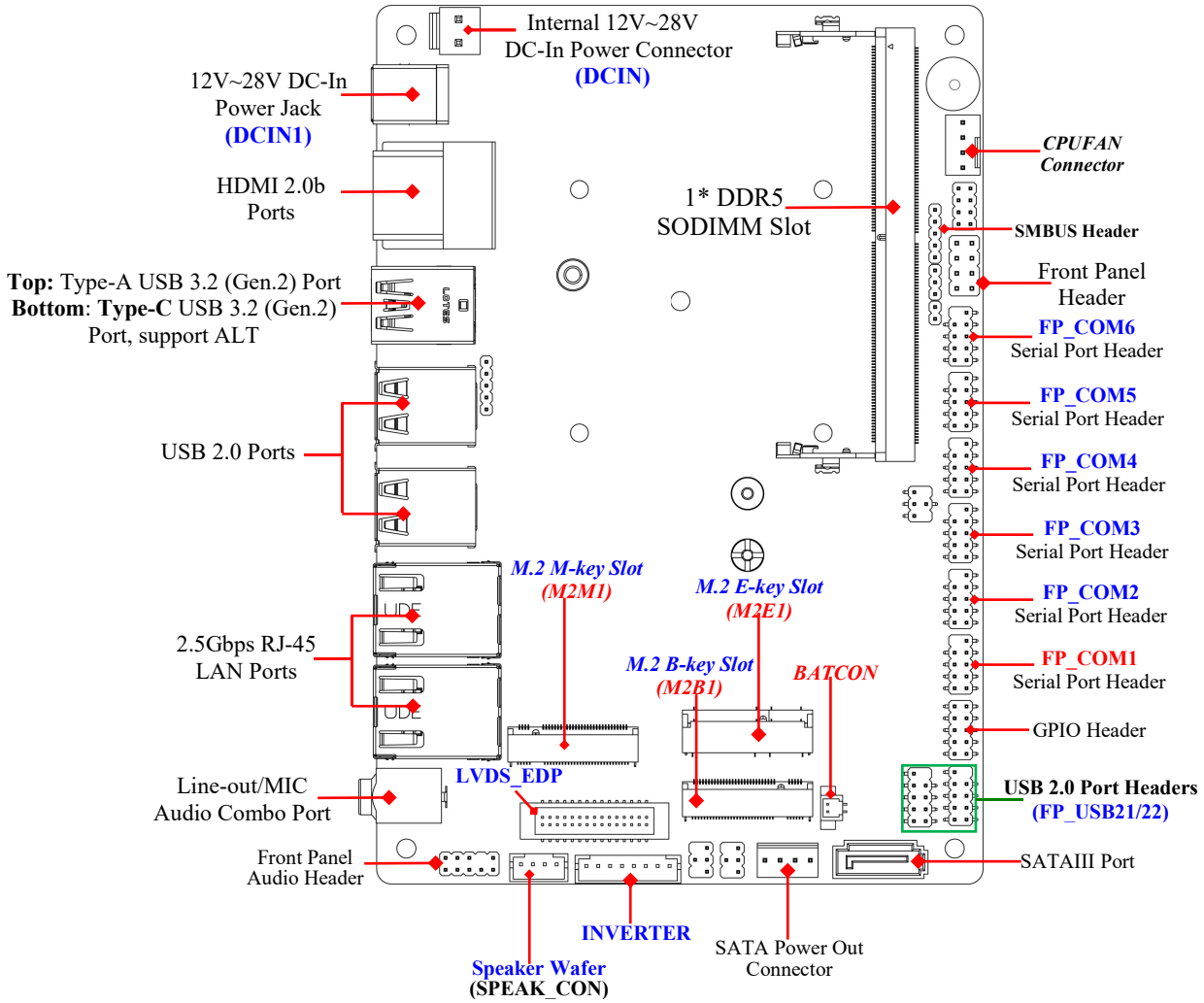
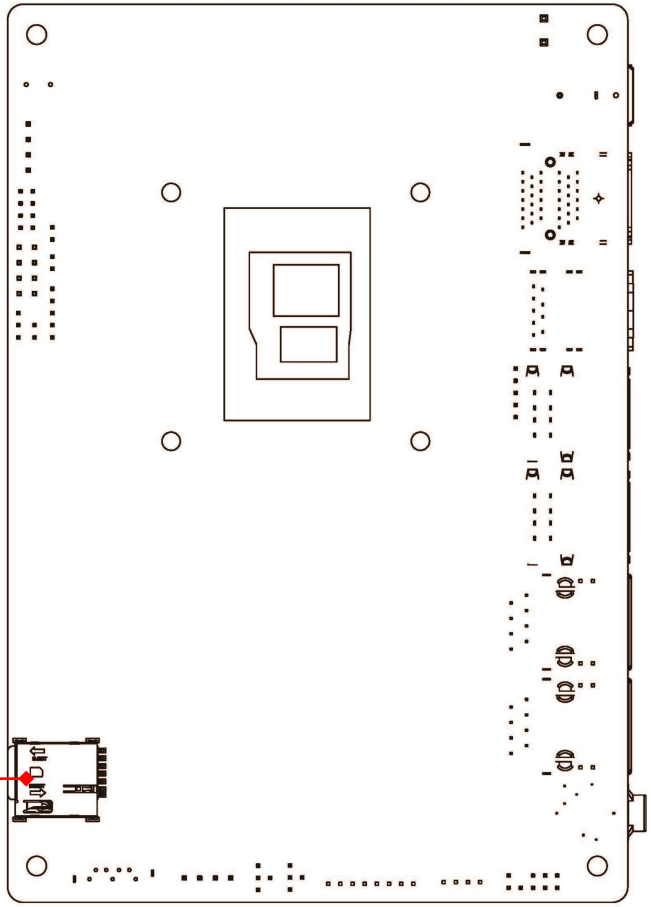
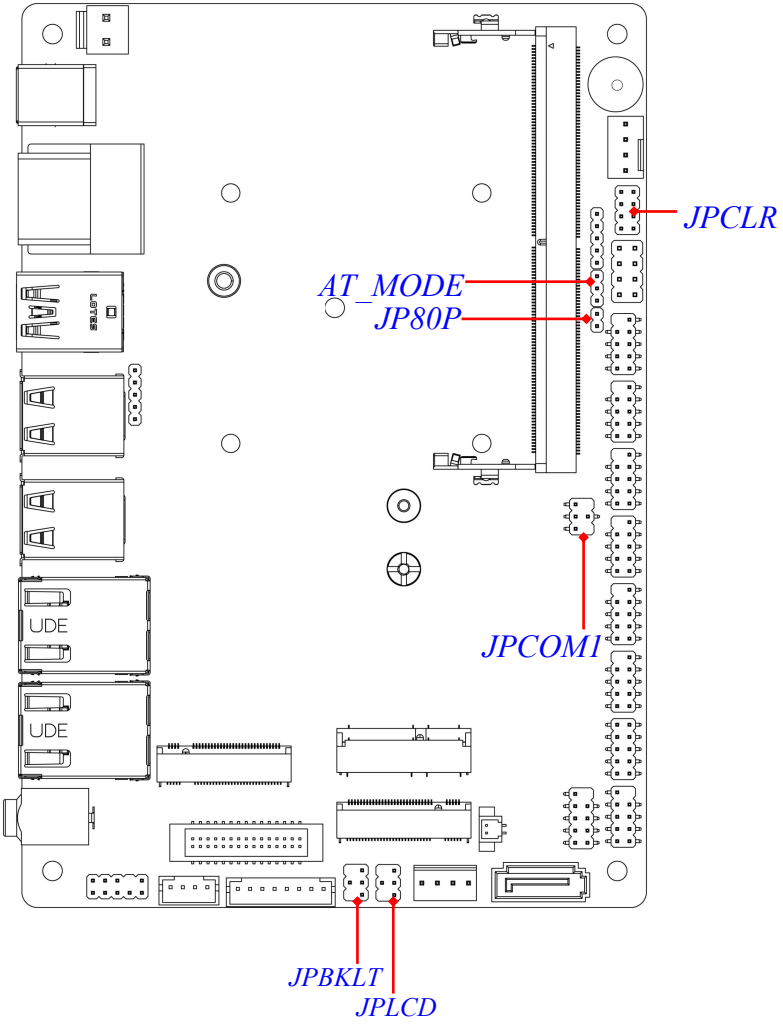


Diagram-Back Side:



***Note:** SIM card slot co-functions with M.2 B-key slot.*

Jumper Positions:



Jumpers

Jumper	Name	Description	Pitch
JPCLR	PIN (1-2) = Clear RTC PIN (3-4) = Clear CMOS PIN (5-6) = ME Disable PIN (7-8) = CASE OPEN	8-Pin Block	2.0mm
AT_MODE	ATX Mode/AT Mode Select	3-Pin Block	2.0mm
JP80P	GPIO/80 Port Function Select	2-Pin Block	2.0mm
JPCOM1	**FP_COM1** Header Pin-9 Function Select	4-Pin Block	2.0mm
JPLCD	LCD Panel VCC Power Select	4-Pin Block	2.0mm
JPBKLT	LCD Backlight Power VCC Select	4-Pin Block	2.0mm

Connectors

Connector	Name
DCIN1	12~28V DC–in Power Connector
HDMI1-HDMI2	HDMI2.0b Port Connector X2
USBC1	USB 3.2 (Gen.2) Type-C Port Connector **Support DP ALT Mode*
USB31	USB 3.2 (Gen.2) Port Connector
USB21/USB22	USB 2.0 Port Connector X4
LAN1/LAN2	RJ-45 LAN Port Connector X2
AUDIO1	Audio Line Out/MIC Combo Connector
DCIN	Internal 2-Pin 12~28V DC-in Power Connector
CPUFAN	CPU FAN Connector
SATA1	SATAIII Port Connector
SATAPWR	SATA HDD Power-out Connector

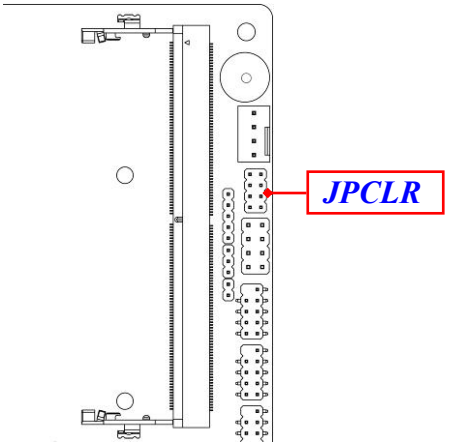
Headers

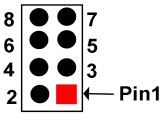
Header	Name	Description	Pitch
JW_FP	Front Panel Header (PWR LED/ HDD LED/Power Button /Reset)	8-pin Block	2.54mm
FP_USB21/22	USB 2.0 Port Header	9-pin Block	2.0mm
FP_AUDIO1	Front Panel Audio Header	9-pin Block	2.0mm
SPK_CON	3W Amplifier Wafer	4-pin Block	2.0mm
GPIO	GPIO Port Header	10-pin Block	2.0mm
SMBUS	SMBUS Header	5-pin Block	2.0mm
FP_COM1	RS232/422/485 Serial Port Header	9-pin Block	2.0mm
FP_COM2/3/4/5/6	RS232 Serial Port Header	9-pin Block	2.0mm
LVDS_EDP	LVDS/EDP Header	30-pin Block	1.25mm
INVERTER	LVDS_EDP Inverter Wafer	8-pin Block	2.0mm

Chapter 2
Hardware Installation

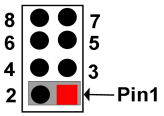
2-1 Jumper Settings

PIN(1-2) of JPCLR (8-pin): Clear RTC (2.0 pitch)



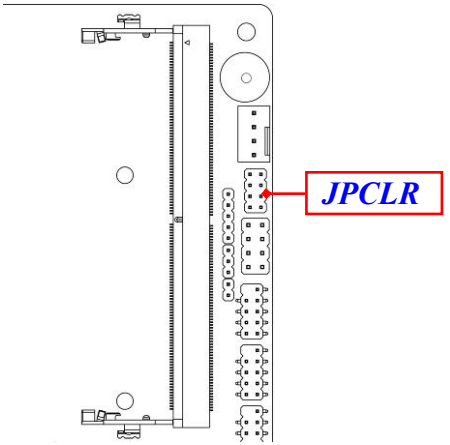


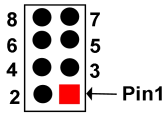
1-2 Open: Normal(Default)



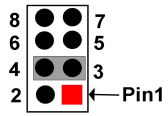
1-2 Closed: Clear RTC

PIN(3-4) of JPCLR (8-pin): Clear CMOS (2.0 pitch)





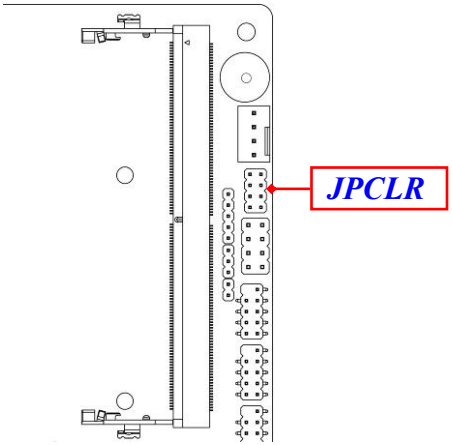
3-4 Open: Normal(Default)



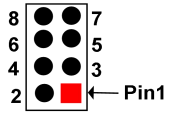
3-4 Closed: Clear CMOS

***Note:** Due to Intel MRC Code design factor, the first reboot after Clear CMOS will run a full **Memory Sizing**, and the boot time will take about **40** seconds (normal reboot time length, not function failure).*

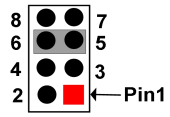
PIN(5-6) of JPCLR (8-pin): ME Disable (2.0 pitch)



PIN(5-6): ME Disable

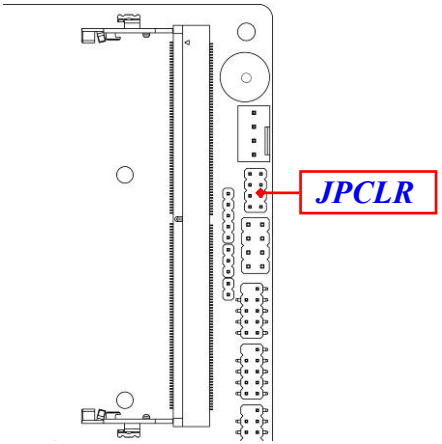


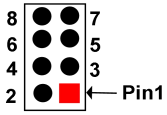
5-6 Open: Normal(Default)



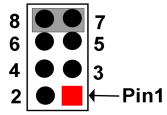
5-6 Closed: ME Disable

PIN(7-8) of JPCLR (8-pin): CASE OPEN (2.0 pitch)





7-8 Open: Normal(Default)

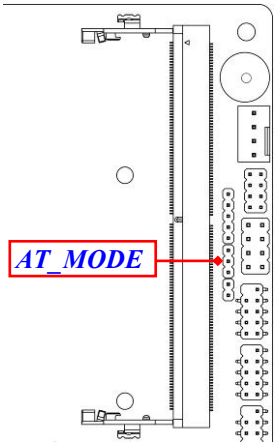


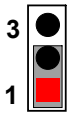
7-8 Closed: CASE OPEN

Pin (7-8) Closed: *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*

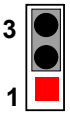
removed, next time when you restart your computer, a message will be displayed on screen to inform you of this.

AT_MODE(3-pin): ATX Mode/AT Mode Select (2.0 pitch)





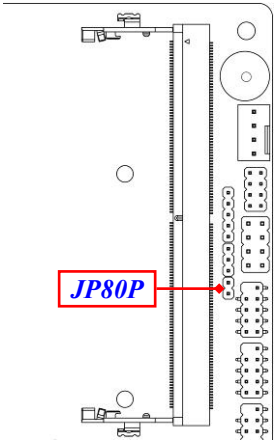
1-2 Closed: ATX Mode Selected (Default);



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.*

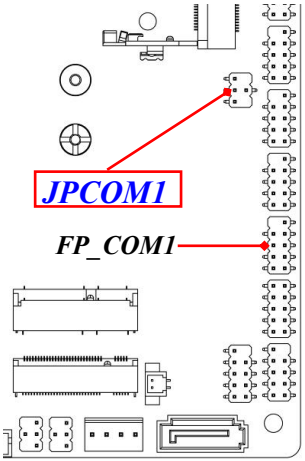
JP80P (2-pin): GPIO Header 80 Port/GPIO Function Select (2.0 pitch)

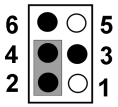


1-2 Open: GPIO =80 Port

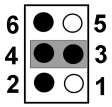
1-2 Closed: GPIO =GPIO Port

JPCOM1(4-pin): FP_COM1 Header Pin-9 Function Select (2.0 pitch)

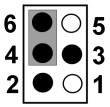




2-4 Closed:
RI=RING;

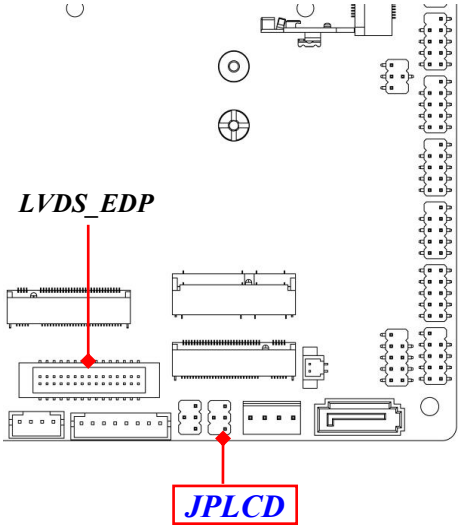


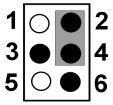
3-4 Closed:
RI =5V;



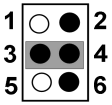
4-6 Closed:
RI=12V.

JPLCD (4-pin): LCD Panel VCC Power Select (2.0 pitch)

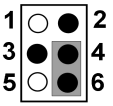




2-4 Closed:
VCC= 3.3V;

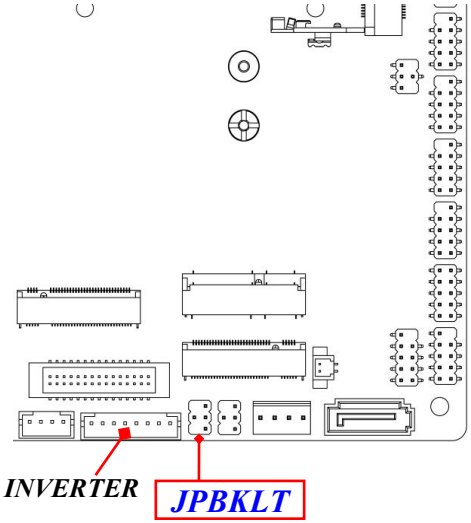


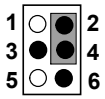
3-4 Closed:
VCC= 5V;



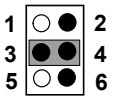
4-6 Closed:
VCC= 12V.

JPBKLT (4-pin): LCD Backlight Power VCC Select (2.0 pitch)

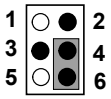




2-4 Closed: Backlight Power=5V;



3-4 Closed: Backlight Power=12V;



4-6 Closed: Backlight Power =Adapter VCC (12V).

***Note:** In the case that **JPBKLT** is set as **Pin(4-6) clo**sed, backlight power VCC is the same as adapter buck controller ADP12V.*

2-2 Connectors, Headers and Wafers

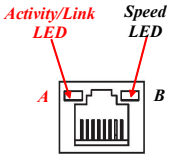
2-2-1 Rear I/O Panel Connectors

**** Refer to Page-4 Rear IO Diagram.***

Icon	*Name*	*Function*
	**12~28V DC-in Power Jack**	For user to connect compatible power adapter to provide power supply for the system.
	**HDMI2.0b Port**	For user to connect display device that support HDMI2.0b specification.
	**Type-A USB 3.2 (Gen.2) Port**	To connect USB keyboard, mouse or other devices compatible with USB 3.2 (Gen.2) specification. Ports support up to 10Gbps data transfer rate.
	**Type-C USB 3.2 (Gen.2) & DP 1.4a Port**	Type-C USB3.2 (Gen.2) port also **supports DP ALT mode & PD 5V/3A.**
	**Type-A USB 2.0 Port**	To connect USB keyboard, mouse or other devices compatible with USB 2.0 specification.
	**2.5Gbps RJ-45 LAN Port**	This connector is standard RJ-45 LAN jack for Network connection which supports10/100/1000/2500 Mbps Ethernet data transfer rate ***(*Note: 2.5Gbps is only supported with CAT 5e UTP cable).***
	**Line_Out/MIC Audio Combo Jack**	This connector can functions as audio Line-Out jack and MIC jack with compatible cables & devices.

2.5Gbps RJ-45 LAN port LED Signals:

*** There are two LED next to the RJ-45 LAN port. Please refer to the table below for LAN port LED indications.*

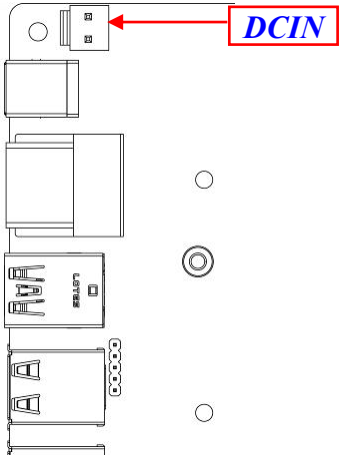


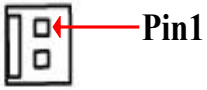
A: Activity/Link LED		B: Speed LED	
Status	**Description**	**Status**	**Description**
Off	No Link	Off	10/100Mbps connection
Blinking	Data Activity	Orange	1000Mbps connection
On	Link	Green	2.5Gbps connection

Note:* ***2.5Gbps* *high-speed transmission rate is* ***only*** *supported over* ***CAT 5e UTP cable****.*

2-2-2 Motherboard Internal Connectors

(1) DCIN (2-pin) : Internal 12~28V DC-in Power Connector

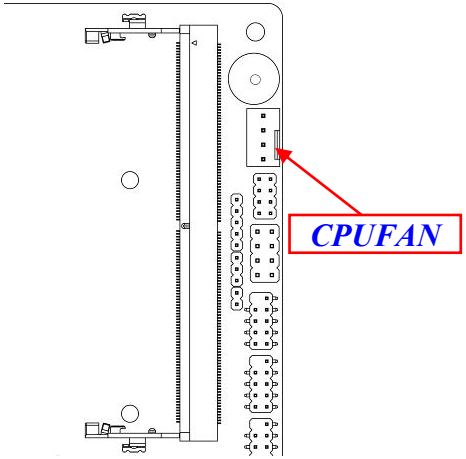


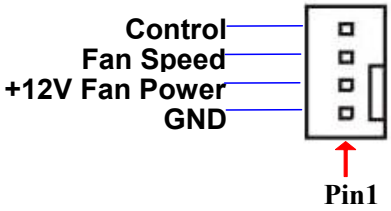


Pin No.	Definition
1	+12V~28V DC-In
2	GND

Warning! The board has a 12V~28V DC-in power connector **(DCIN1)** on I/O back panel and an internal 12V~28V power connector **(DCIN).** User can only connect one type of compatible power supply to one of them to power the system.

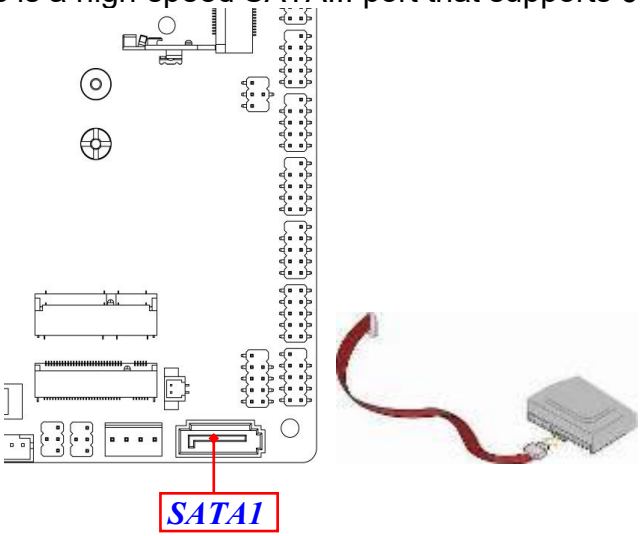
(2) CPUFAN (4-pin): CPU FAN Connector





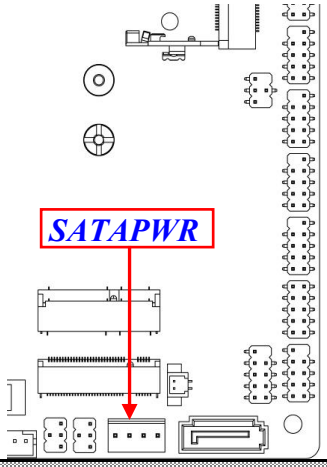
(3) SATA1 (7-pin): SATAIII Port connector

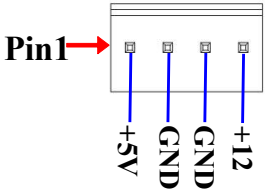
This is a high-speed SATAIII port that supports 6GB/s transfer rate.



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

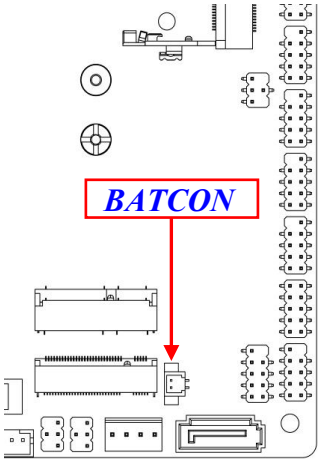
(4) SATAPWR (4-pin): SATA HDD Power-Out Connector

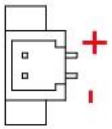




Warning: *Make sure that Pin-1 of compatible SATA Power out connector is inserted into corresponding Pin-1 of* ***SATAPWR*** *connector to avoid possible damage to the board and hard disk driver!*

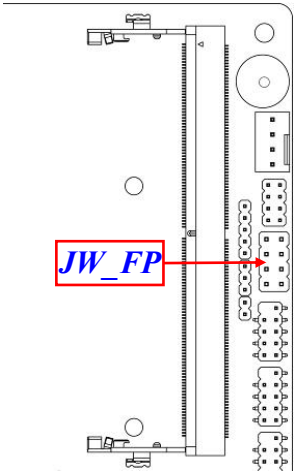
(5) BATCON(2-pin): Battery Connector

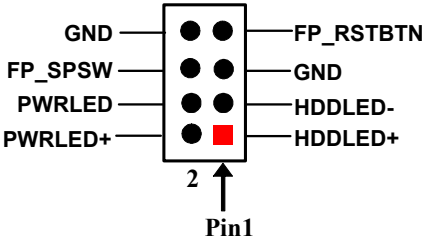




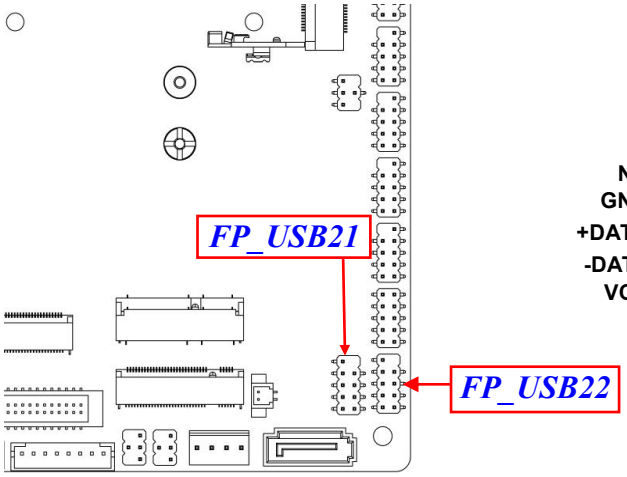
2-2-3 Pin Definition for Headers & Wafers

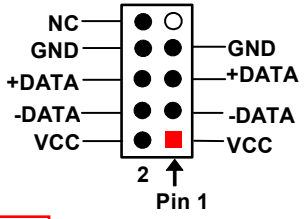
JW_FP (8-pin): Front Panel Header (2.54 pitch)





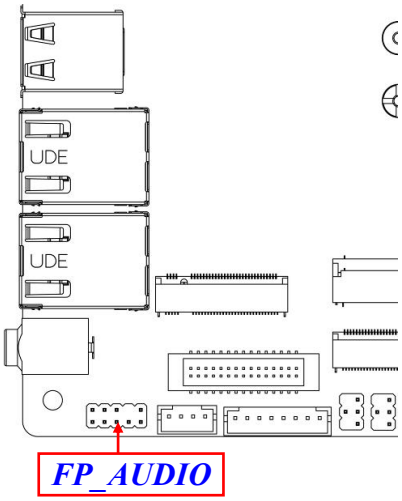
FP_USB21/FP_USB22 (9-pin): USB 2.0 Port Header (2.0 pitch)

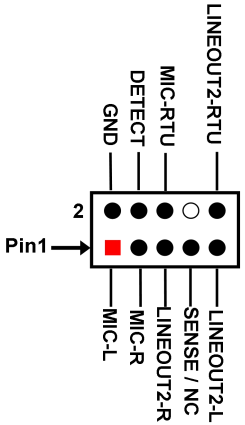




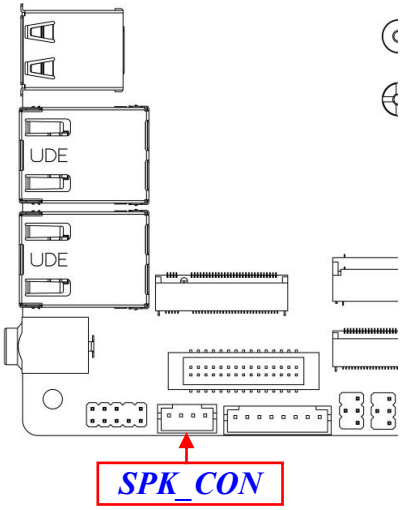
FP_AUDIO (9-pin): Front Panel Audio Header (2.0 pitch)

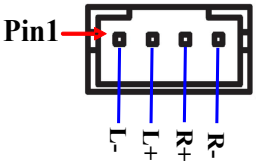
This header connects to Front Panel Line-out, MIC-In connector with cable.



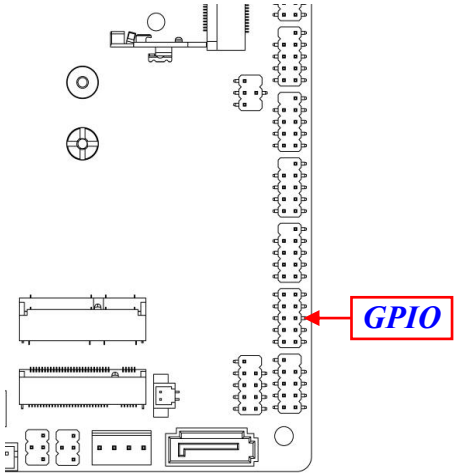


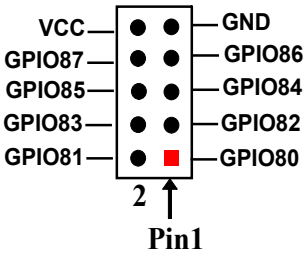
SPK_CON (4-pin): 3W Amplifier Connector (2.0 pitch)





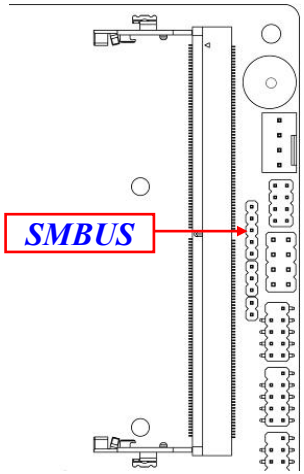
GPIO (10-pin): GPIO Port Header (2.0 pitch)

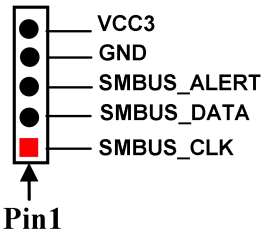




JP80P Open: For 80Port Function;
JP80P Closed: Normal 8-bit GPIO.

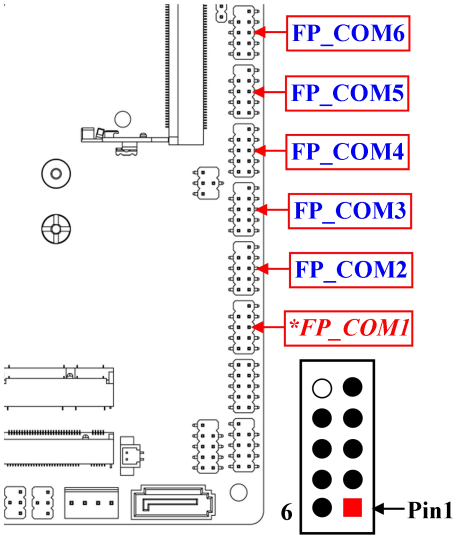
SMBUS (5-pin): SM BUS Header (2.0 pitch)





FP_COM1/2/3/4/5/6 (9-pin): Serial Port Headers (2.0 pitch)

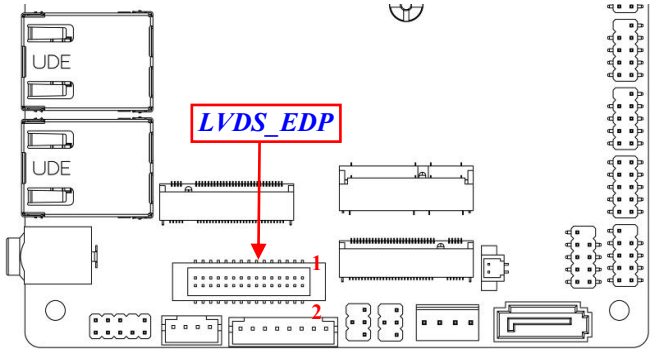
FP_COM1: RS232/422/485 Serial Port Header.
FP_COM2/FP_COM3/FP_COM4/FP_COM5/FP_COM6: RS232 Serial Port Header.

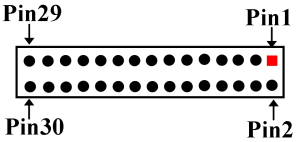


Pin NO.	RS232	*RS422 (FP_COM1)	*RS485 (FP_COM1)
Pin 1	DCD	TX-	DATA-
Pin 2	SIN	TX+	DATA+
Pin 3	SO-	RX+	NC
Pin 4	DTR	RX-	NC
Pin 5	GND	GND	GND
Pin 6	DSR-	NC	NC
Pin 7	RTS-	NC	NC
Pin 8	CTS-	NC	NC
Pin 9	RI-	NC	NC

Note: FP_COM1 header can function as RS232/422/485 port header. *In normal settings COM1 functions as RS232 header. With compatible COM cable* ***FP_COM1*** *can function as RS422 or RS 485 header. User also needs to go to BIOS to set '****Transmission Mode Select****' for* ***FP_COM1*** *at first, before using specialized cable to connect different pins of this port.*

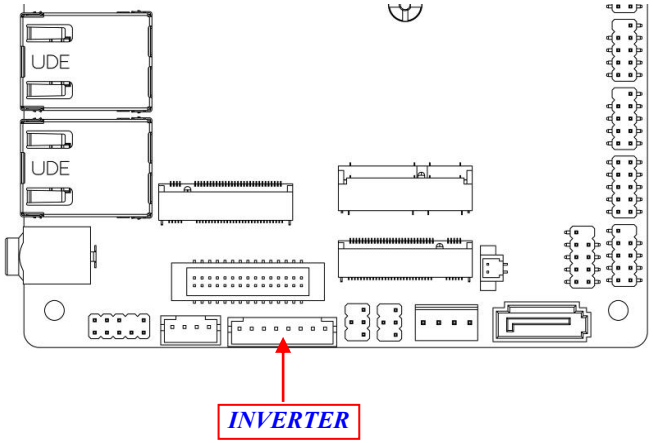
LVDS_EDP (30-pin): 24-bit Dual Channel LVDS/2-Lane EDP Header (1.25 pitch)

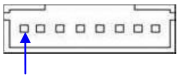




Pin Define	Pin No.	Pin No.	Pin Define
LVDSB_DATAN3	Pin 1	Pin 2	LVDSB_DATAP3
LVDSB_CLKN	Pin 3	Pin 4	LVDSB_CLKP
LVDSB_DATAN2	Pin 5	Pin 6	LVDSB_DATAP2
LVDSB_DATAN1	Pin 7	Pin 8	LVDSB_DATAP1
LVDSB_DATAN0	Pin 9	Pin 10	LVDSB_DATAP0
LVDS_DDC_SDA	Pin 11	Pin 12	LVDS_DDC_SCL
GND	Pin 13	Pin 14	GND
GND	Pin 15	Pin 16	GND
LVDSA_DATAP3	Pin 17	Pin 18	LVDSA_DATAN3
LVDSA_CLKP/eDP_AUXP	Pin 19	Pin 20	LVDSA_CLKN/eDP_AUXN
LVDSA_DATAP2/eDP_TX0P	Pin 21	Pin 22	LVDSA_DATAN2/eDP_TX0N
LVDSA_DATAP1/eDP_TX1P	Pin 23	Pin 24	LVDSA_DATAN1/eDP_TX1N
LVDSA_DATAP0	Pin 25	Pin 26	LVDSA_DATAN0
LCD_VCC	Pin 27	Pin 28	LCD_VCC
LCD_VCC	Pin 29	Pin 30	LCD_VCC

INVERTER (8-pin): LVDS Inverter Connector (2.0 pitch)





Pin No.	Definition
1	Backlight Enable
2	Backlight PWM
3	PVCC
4	PVCC
5	GND
6	GND
7	Backlight Up SW
8	Backlight Down SW

Warning! *Find* ***Pin-1*** *location of the inverter and make sure that the installation direction is correct! Otherwise serious harm will occur to the board/display panel!!*

2-2-4 Maximum Voltage & Current Limit

Below is a list of maximum voltage & Current Limit specification for motherboard interface (including but not limited to slots, connectors and headers) for setup reference:

Parts		Working Voltage	Current Support
USB Port from	***USBC1 (Type-C ALT)***	5V	**3A**
	USB31	5V	900mA
	USB21	5V	500mA x2
	USB22	5V	500mA x2
	FP_USB21	5V	500mA x2
	FP_USB22	5V	500mA x2
FP_COM1(JPCOM1)		5V/12V	500mA
JW_FP		5V	1A
GPIO		5V	1A
SMBUS		3.3V	500mA
LVDS_EDP (JPLCD)		3.3V/5V/12V (via jumper setting)	**2A**
INVERTER (JPBKLT)		5V/12V/Adapter 12V (via jumper setting)	**2A**
CPUFAN1		12V	1.5A
SATAPWR		5V	1A

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.

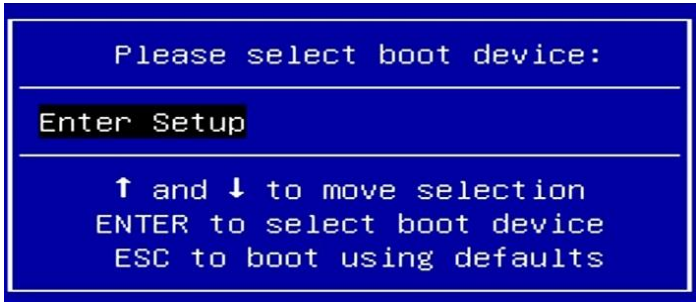
The BIOS is a program located on a Flash Memory on the motherboard. This program is a bridge between motherboard and operating system. When you start the computer, the BIOS program will gain control. The BIOS first operates an auto-diagnostic test called POST (power on self test) for all the necessary 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.

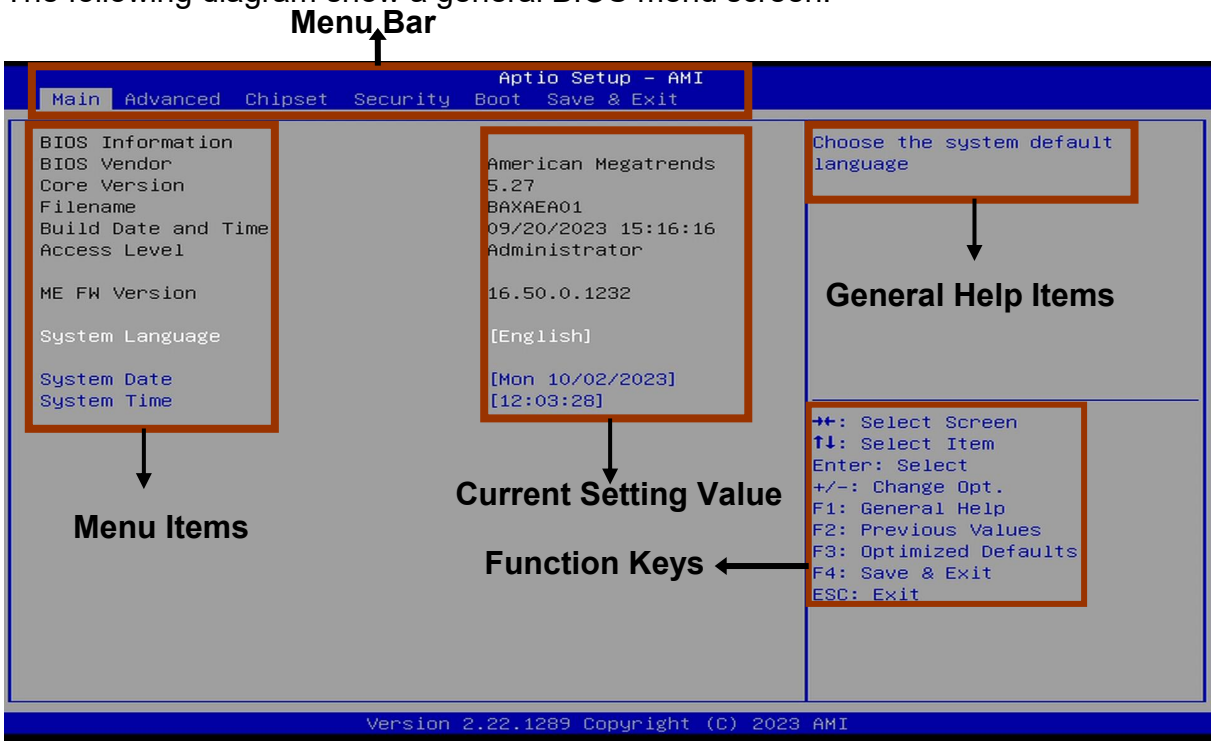
If the message disappears before your respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the “RESET” button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt> and <Delete> keys. If you do not press the keys at 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>** to enter pop-up Boot menu.



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 & Reset.
- 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

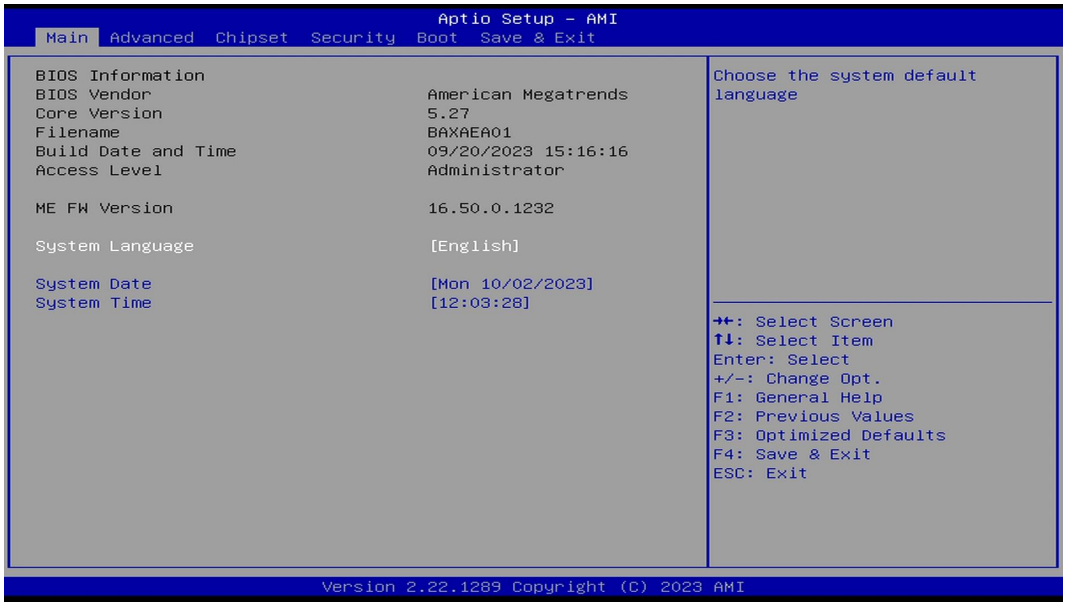
There are six menu bars on top of BIOS screen:

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.

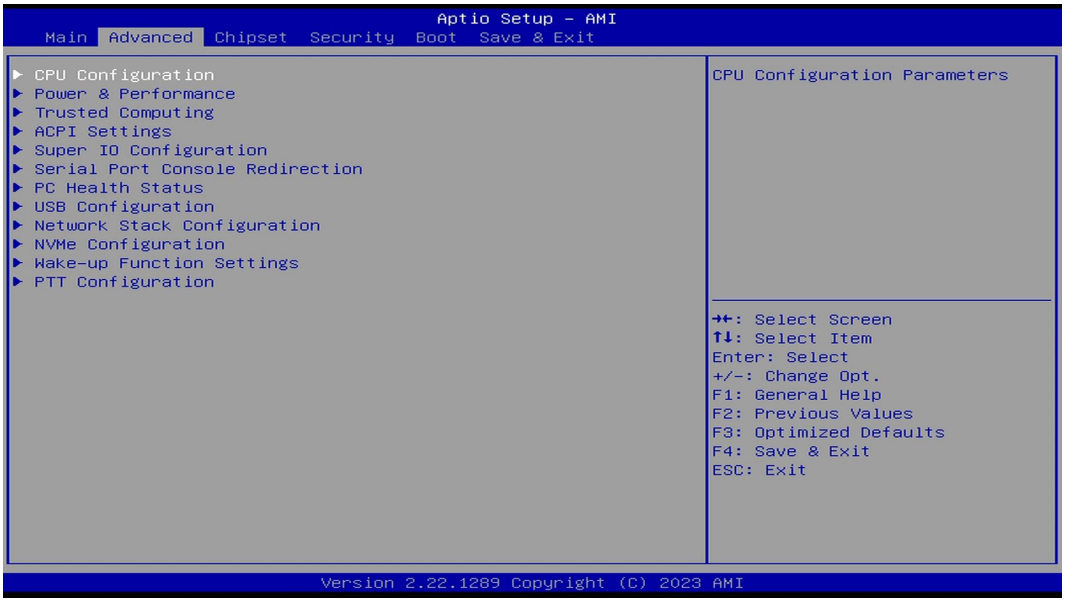
3-6 Main Menu

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

3-7 Advanced Menu



- **CPU Configuration**
  Press [Enter] to view current CPU configuration and make settings for the following sub-items:
- **Efficient-Core Information**
  Use this item to display the E-Core Information.
  Efficient-Core Information
- ***Performance-Core Information***
  Boot Performance Mode
  Use this item to select the performance state that the BIOS will set starting from reset vector.

The optional settings are:[Min Non-Turbo Performance]; [Max Non-Turbo Performance]; [Turbo Performance].

Intel (R) SpeedStep™

Use this item to Allows more than two frequency ranges to be supported.

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

Turbo Mode

Use this item to enable/disable processor turbo mode (requires EMTTM enabled too). AUTO means enabled.

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

C states

Use this item to enable/disable CPU Power Management. Allows CPU to go to C states when it's not 100% utilized.

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

When set as [Enabled], the following sub-item should appear:

Enhanced C-States

Use this item to enable/disable C1E. When enabled, CPU will switch to minimum speed when all cores enter C-State.

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

Package C State Limit

Maximum Package C State Limit Setting.

The optional settings are: [C0/C1]; [C2]; [C3]; [C6]; [C7]; [C7S]; [C8]; [C9]; [C10]; [Cpu Default]; [Auto].

[Cpu Default]: Leaves to Factory default value.

[Auto]: Initializes to deepest available Package C State Limit.

- **Power & Performance**

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

Power & Performance

- **CPU – Power Management Control**

CPU-Power Management Control Options.

CPU – Power Management Control

Power Limit 1 Override

Use this item to enable/disable Power Limit 1 override. If this option is disabled, BIOS will program the default values for Power Limit 1 and Power Limit 1 Time Widow.
The optional settings are: [Disabled]; [Enabled].
When set as [Enabled], the following sub-item should appear:

Power Limit 1

Use this item to set Power Limit 1 in Milli Watts. BIOS will round to the nearest 1/8W when programming.
0 = no custom override. For 12.50W, enter 12500.
Overclocking SKU: Value must be between Max and Min Power Limits (specified by PACKAGE_POWER_SKU_MSR).
Other SKUs: This value must be between Min Power Limit and Processor Base Power (TDP) Limit. If value is 0, BIOS will program Processor Base Power (TDP) value.

Power Limit 1 Time Window

Use this item to set Power Limit 1 Time Window value in seconds. The value may vary from 0 to 128. 0 = default value (28 sec for Mobile and 8 sec for Desktop). Defines time window which Processor Base Power (TDP) value should be maintained.
The optional settings are: [0]; [1]; [2]; [3]; [4]; [5]; [6]; [7]; [8]; [10]; [12]; [14]; [16]; [20]; [24]; [28]; [32]; [40]; [48]; [56]; [64]; [80]; [96]; [112]; [128].

Power Limit 2 Override

Use this item to enable/disable Power Limit 2 override. If this option is disabled, BIOS will program the default values for Power Limit 2.
The optional settings are: [Disabled]; [Enabled].
When set as [Enabled], the following sub-item should appear:

Power Limit 2

Use this item to set Power Limit 2 Value in Milli Watts. BIOS will round to the nearest 1/8W when programming.
If the value is 0, BIOS will program this value as 1.25* Processor Base Power (TDP). For 12.50W, enter 12500. Processor applies control policies such that the

package power does not exceed this limit.

- **GT – Power Management Control**

  GT – Power Management Control Options.

  GT – Power Management Control

  RC6 (Render Standby)

  Check to enable render standby support.

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

  Maximum GT frequency

  Maximum GT frequency limited by the user. Choose between 200MHz (RPN) and 1200MHz (RPO). Value beyond the range will be clipped to min/max supported by SKU.

  The optional settings are: [Default Max Frequency]; [100Mhz]; [150Mhz]; [200Mhz]; [250Mhz]; [300Mhz]; [350Mhz]; [400Mhz]; [450Mhz]; [500Mhz]; [550Mhz]; [600Mhz]; [650Mhz]; [700Mhz]; [750Mhz]; [800Mhz]; [850Mhz]; [900Mhz]; [950Mhz]; [1000Mhz]; [1050Mhz]; [1100Mhz]; [1150Mhz]; [1200Mhz].

  Disable Turbo GT frequency

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

  [Enabled]: Disables Turbo GT frequency.

  [Disabled]: GT frequency is not limited.

- **Trusted Computing**

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

  Security Device Support

  Use this item to enables or disables BIOS support for security device. O.S will not show security device. TCG EFI protocol and INT1A interface will not be available.

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

  When set as [Enabled], user can make setting in the following items that appear:

  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 schedule an operation for security device.

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

Note:** **Your computer will reboot during restart in order to change State of Security Device.

- **ACPI Settings**

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

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 IO 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

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

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

When set as [Enabled], user can make settings in the following items that appear:

Change Settings

Use this item to select an optimal settings 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

Use this item to RS232/RS422/RS485 Speed Select.

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

- **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: [Disabled]; [Enabled].
  When set as [Enabled], user can make settings in the following items that 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];
- **Serial Port 3 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: [Disabled]; [Enabled].
  When set as [Enabled], user can make settings in the following items that appear:
  Change Settings
  Use this item to select an optimal setting for super IO device.
  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];
- **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: [Disabled]; [Enabled].
  When set as [Enabled], user can make settings in the following items that appear:
  Change Settings
  Use this item to select an optimal setting for super IO device.

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];

- **Serial Port 5 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: [Disabled]; [Enabled].

  When set as [Enabled], user can make settings in the following items that appear:

  Change Settings

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

  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];

- **Serial Port 6 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: [Disabled]; [Enabled].

  When set as [Enabled], user can make settings in the following items that appear:

  Change Settings

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

  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];

ERP Support

Use this item to make setting for energy-related products function. Disable ERP to active all wake-up function.

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

Case Open Detect
Use this item to detect if case have ever been opened. Show message in POST.
The optional settings: [Disabled]; [Enabled].
When set as [Enabled], system will detect if COPEN has been short or not (*refer to **JPCLR** jumper setting for Case Open Detection*); if Pin 7&8 of ***JPCLR*** are short, system will show Case Open Message during POST.

WatchDog Reset Timer
Use this item to support WDT reset function.
The optional settings: [Disabled]; [Enabled].
When set as [Enabled], user can make settings in the following items that appear:

WatchDog Reset Timer Value
User can set a value in the range of [10] to [255] seconds or [1] to [255] minutes.

WatchDog Reset Timer Unit
The optional settings are: [Sec.]; [Min.]

WatchDog Wake-up Timer
Use this item to support WDT Wake-up.
The optional settings are: [Disabled]; [Enabled].
When set as [Enabled], user can make settings in the following items that appear:

WatchDog Wake-up Timer Value
User can set a value in the range of [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 support Emulate AT power function, MB power On/Off control by power supply. Use needs to select 'AT or ATX Mode' on MB jumper at first (refer to **AT MODE** jumper setting Pin 1&2 of for ATX Mode & Pin 2&3 of **AT Mode** Select).

- **Serial Port Console Redirection**

Press [Enter] to make settings for the following sub-items:
COM1

Console Redirection

Console Redirection enable or disable.

The optional settings: [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: [VT100]; [VT100Plus]; [VT-UTF8]; [ANSI].

[ANSI]: Extended ASCII char set;

[VT100]: ASCII char set;

[VT100Plus]: 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. They can be used as

an additional data bit.

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 enabled 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].

Putty KeyPad

Use this item to select FunctionKey and KeyPad on Putty.

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

Serial Port for Out-of-Band Management/ Windows Emergency Management Services (EMS)

Console Redirection EMS

Use this item to enable or disable console redirection.

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

When set as **[Enabled]**, user can make further settings in ‘**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 EMS

The optional settings: [VT100]; [VT100Plus]; [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 EMS

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 EMS

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 EMS

The default setting is: [8].

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

Parity EMS

The default setting is: [None].

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

Stop Bits EMS

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, make further settings in '**SmartFAN Configuration**' and set value in '**Shutdown Temperature**'.
- **SmartFAN Configuration**
  Press [Enter] to make settings for SmartFAN Configuration:
  SmartFAN Configuration

  CPUFAN Smart Mode
  The optional settings: [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 pre-set temperature.
  CPUFAN Full-Speed Duty
  Use this item to set CPUFAN full-speed duty. Fan will run at full speed when above this 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 pre-set temperature.

  CPUFAN Idle-Speed Duty
  Use this item to set CPUFAN idle speed duty. Fan will run at idle speed when below this pre-set duty.
- **USB Configuration**
  Press [Enter] to make settings for the following sub-items:
  USB Configuration
  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: [Enabled]; [Disabled].
  USB Mass Storage Driver Support
  Use this item to enable or disable USB Mass storage driver support.

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

USB hardware delay and time-out

USB Transfer time-out

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

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

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

Select **[Manual]** you can set value for the following sub-item: '**Device power-up delay in seconds**', the delay range is 1 .. 40 seconds, in one second increments.

- **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: [Disabled]; [Enabled].

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

IPv4 PXE Support

Use this item to enable/disable IPv4 PXE Boot Support. When set as [Disabled], IPv4 PXE boot support will not be available.

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

IPv6 PXE Support

Use this item to enable/disable IPv6 PXE Boot Support. When set as [Disabled], IPv6 PXE boot support will not be available.

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

PXE boot wait time

Wait time in seconds to press [ESC] key to abort the PXE boot.

Use either [+]/[-] or numeric keys to set the value.

Media detect count

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

Use either [+]/[-] or numeric keys to set the value.

- **NVMe Configuration**

Use this item to set NVMe Device options settings.

NVMe Configuration

Wake-up Function Settings

Wake-up System With Fixed Time

This item will only show when* *'Wake-up System with Dynamic Time'*** *is set as [Disabled].*

Use this item to enable or disable system wake-up by RTC alarm. When this function is enabled, system will wake on the time (hr::min::sec) specified.

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

When set as [Enabled], user can make settings in the following items that 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

This item will only show when* *'Wake-up System with Fixed Time'*** *is set as [Disabled].*

Use this item to enable or disable system wake-up by RTC alarm. When enabled, system will wake on the current time + Increase minute(s)

When set as [Enabled], user can make settings in the following items that appear:

Wake-up Minute Increase

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

USB Power Gating S4-S5

USB Wake-up is affected by ERP function in S4. Please disable ERP before activating this function in S4.
The optional settings: [Disabled]; [Enabled].

PCIE Wake-up from S3-S5
The optional settings: [Disabled]; [Enabled].

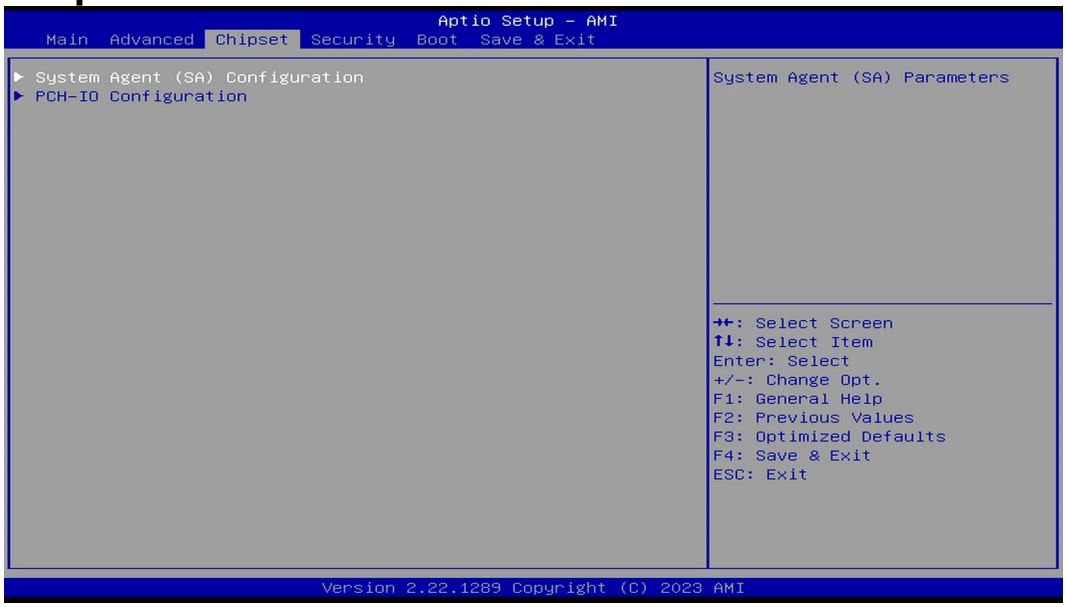
- **PTT Configuration**

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

PTT Capability/state

TPM Device Selection
Use this item to selects TPM device: PTT or dTPM.
The optional settings are: [dTPM]; [PTT].
[PTT]- Enables PTT in SkuMgr.
[dTPM 1.2] – Disables PTT in SkuMgr.
Warning! *PTT/dTPM will be disabled and all data saved on it will be lost.*

3-8 Chipset Menu



- **System Agent (SA) Configuration**

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

  System Agent (SA) Configuration

  GTT Size

  Use this item to select GTT Size.

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

  DVMT Pre-Allocated

  Select DVMT 5.0 Pre-Allocated (Fixed) Graphics Memory size used by the Internal Graphics Device.

  The optional settings: [0M]; [32M]; [64M]; [96M]; [128M]; [160M]; [4M]; [8M]; [12M]; [16M]; [20M]; [24M]; [28M]; [32M/F7]; [36M]; [40M]; [44M]; [48M]; [52M]; [56M]; [60M].

  Active LFP

  Use this item to select the Active LFP Configuration.

  No LVDS: VBIOS does not enable LVDS.

  Int-LVDS: VBIOS enables LVDS driver by Integrated encoder.

  SDV0 LVDS: VBIOS enables LVDS driver by SDV0 encoder.

  eDP Port-A: LFP Driven by Int-DisplayPort encoder from Port-A.

  eDP Port-D: LFP Driven by Int-DisplayPort encoder from Port-D (through PCH).

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

  Panel Type

  The optional settings are: [800x480 1ch 18-bit]; [800x600 1ch 18-bit]; [800x600 1ch 24-bit]; [1024x600 1ch 18-bit]; [1024x768 1ch 18-bit]; [1024x768 1ch 24-bit]; [1280x800 1ch 18-bit]; [1280x800 1ch 24-bit]; [1366x768 1ch 18-bit]; [1366x768 1ch 24-bit]; [1440x900 2ch 18-bit]; [1440x900 2ch 24-bit]; [1280x1024 2ch 24-bit]; [1680x1050 2ch 24-bit]; [1920x1080 2ch 24-bit]; [eDP].

  Backlight Control

  Use this item to make back light control setting.

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

Maximum Memory Frequency

Use this item to set maximum memory frequency selections in Mhz.

The optional settings are: [Auto]; [1067]; [1333]; [1400]; [1600]; [1800]; [1867]; [2000]; [2133]; [2200]; [2400]; [2600]; [2667]; [2800]; [2933]; [3000]; [3200]; [3467]; [3600]; [3733]; [4000]; [4200]; [4267]; [4400]; [4600]; [4800]; [5000]; [5200]; [5400]; [5600]; [5800]; [6000]; [6200]; [6400]; [10000]; [12800].

- **PCH-IO Configuration**

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

  PCH-IO Configuration

- **SATA Configuration**

  SATA Device Options Settings.

  SATA Configuration

  SATA Controller(s)

  Use this item to enable/disable SATA Device.

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

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

  SATA Mode Selection

  Determines how SATA controller (s) operate.

  The optional settings are: [AHCI].

  Serial ATA Port

  Port

  Use this item to enable or disable SATA Port.

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

  Hot Plug

  Use this item to designates this port as Hot Pluggable.

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

  HD Audio

  Use this item to control detection of the HD-Audio device.

  Disabled= HDA will be unconditionally disabled

  Enabled= HDA will be unconditionally enabled.

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

eMMC Controller

Use this item to enable or disable SCS eMMC Controller.

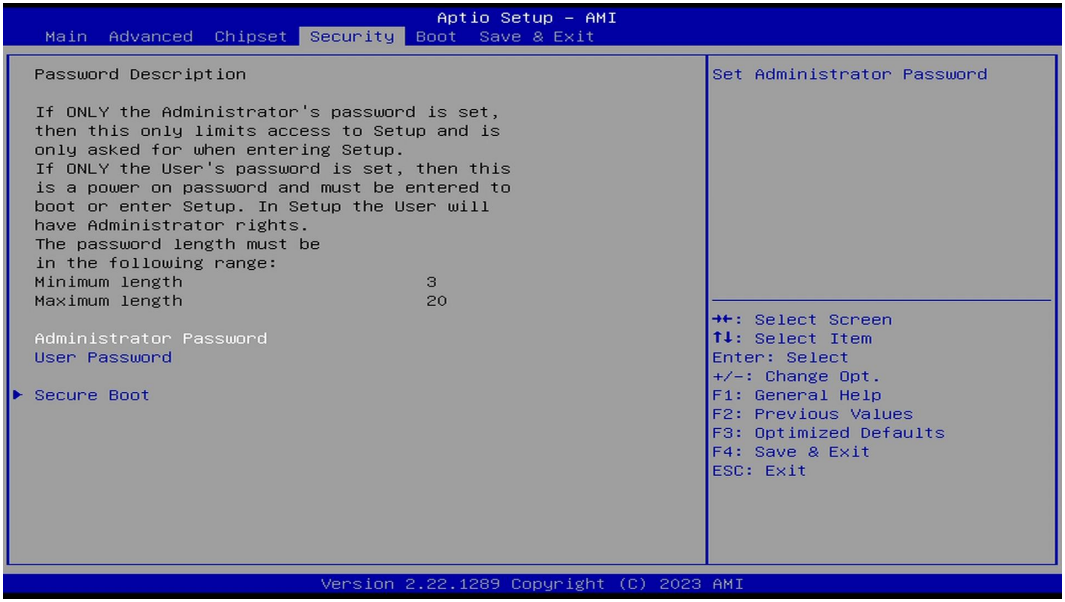
The optional settings: [Enabled]; [Disabled].

System State after Power Failure

Use this item to specify what state to go to when power is re-applied after a power failure.

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

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 user 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 user password.

- **Secure Boot**

  Press [Enter] to make customized secure settings:

  System Mode

  Secure Boot

  Secure Boot feature is Active if Secure Boot is Enabled, Platform Key(PK) is enrolled and the System is in User mode. The mode change requires platform reset.

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

  Secure Boot Mode

  Secure Boot mode options: Standard or Custom.

  In Custom mode, Secure Boot Policy variables can be configured by a physically present user without full authentication.

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

  When set as [**Custom**], user can make further settings in the following items that show up:

- **Restore Factory Keys**

  Use this item to force system to User Mode. Install factory default Secure Boot key databases.

- **Reset To Setup Mode**

  Use this item to delete all Secure Boot key databases from NVRAM.

- **Key Management**

  This item enables expert users to modify Secure Boot Policy variables without variable authentication.

Vendor Keys

Factory Key Provision

This item is for user to install factory default Secure Boot keys after the platform reset and while the System is in Setup mode.

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

- **Restore Factory Keys**

  Use this item to force system to User Mode. Install factory default Secure Boot key databases.

- **Reset To Setup Mode**

  Use this item to delete all Secure Boot key databases from NVRAM.

- **Enroll Efi Image**

  This item allows Efi image to run in Secure Boot mode.

  Enroll SHA256 Hash certificate of a PE image into Authorized Signature Database (db).

- **Export Secure Boot variables**

  Use this item to save NVRAM content of Secure Boot variables to a file.

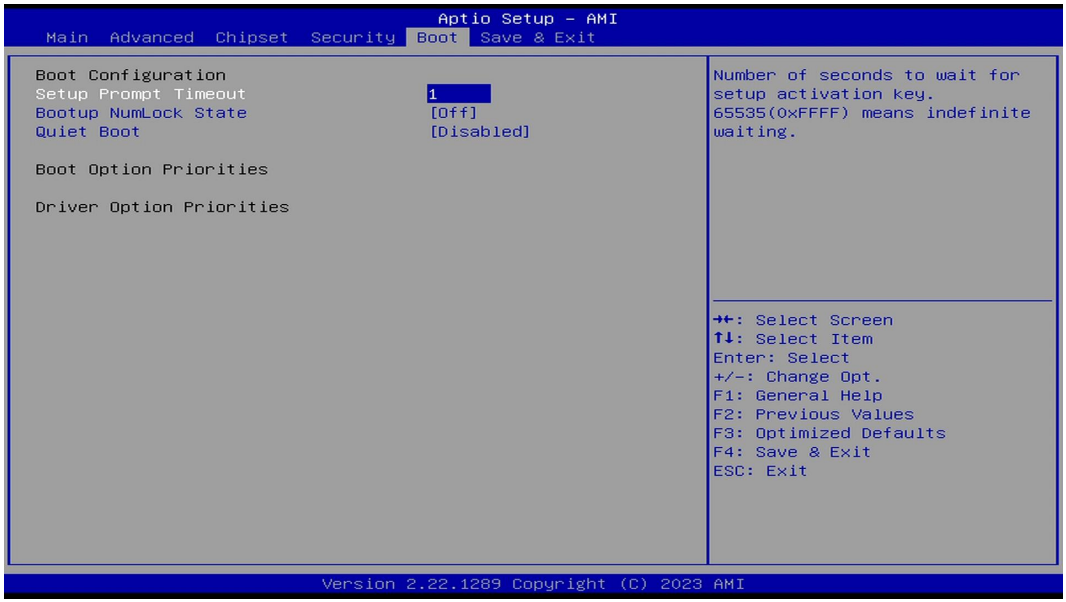
- **Platform Key(PK)/Key Exchange Keys(KEK)/Authorized Signatures(db)/Forbidden Signatures(dbx)/ Authorized TimeStamps(dbt)/OsRecovery Signatures(dbr)**

  Use this item to enroll Factory Defaults or load certificates from a file:

  1. Public Key Certificate:
     a) EFI_SIGNATURE_LIST
     b) EFI_ CERT_X509 (DER)
     c) EFI_ CERT_RSA2048 (bin)
     d) EFI_ CERT_SHAXXX
  2. Authenticated UEFI Variable
  3. EFI PE/COFF Image (SHA256)

  Key Source: Factory, Modified, Mixed

3-10 Boot Menu



Boot Configuration

Setup Prompt Timeout

Use this item to set number of seconds to wait for setup activation key. 65535 (0xFFFF) means indefinite waiting.

Bootup Numlock State

Use this item to select keyboard numlock state.

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

Quiet Boot

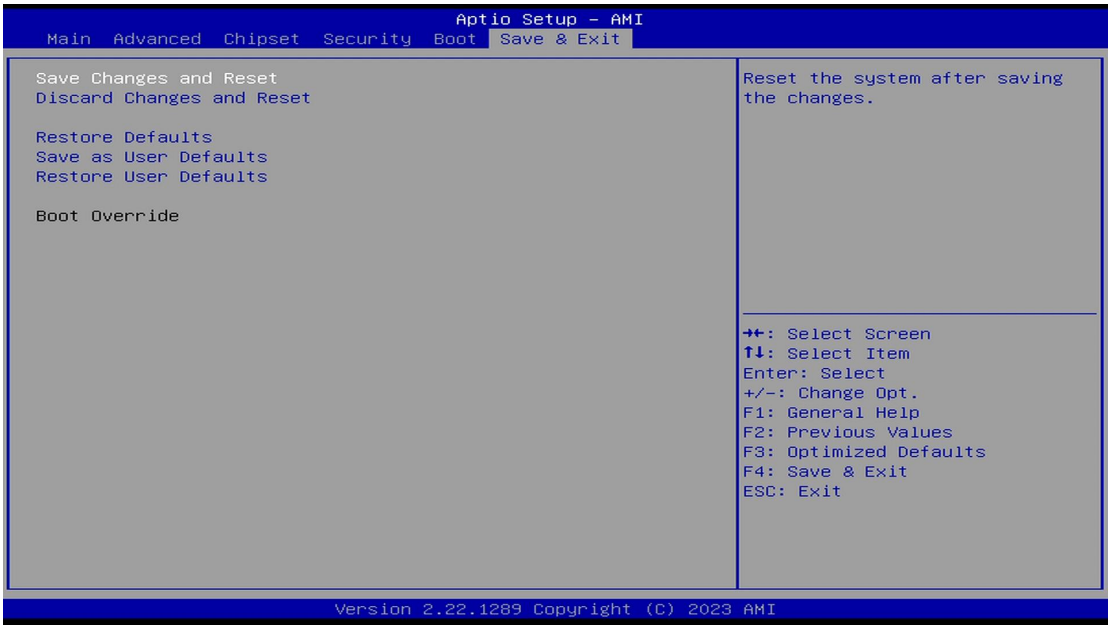
Use this item to enable or disables Quiet Boot option.

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

Boot Option Priorities

Driver Option Priorities

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 setup 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