TECHNICAL MANUAL

Of

Of Intel H610/Q670E Express Chipset

Based Micro-ATX M/B

No. G03-MM10-F

Rev: 4.0

Release date: Feb 10, 2025

Trademark:

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CAUTION 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 40 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.

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.

USER'S NOTICE

Manual Revision Information

Reversion	Revision History	Date
4.0	Fourth Edition	Feb 10, 2025

Item Checklist

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

Chapter 1
Introduction of the Motherboard

1-1 Specification

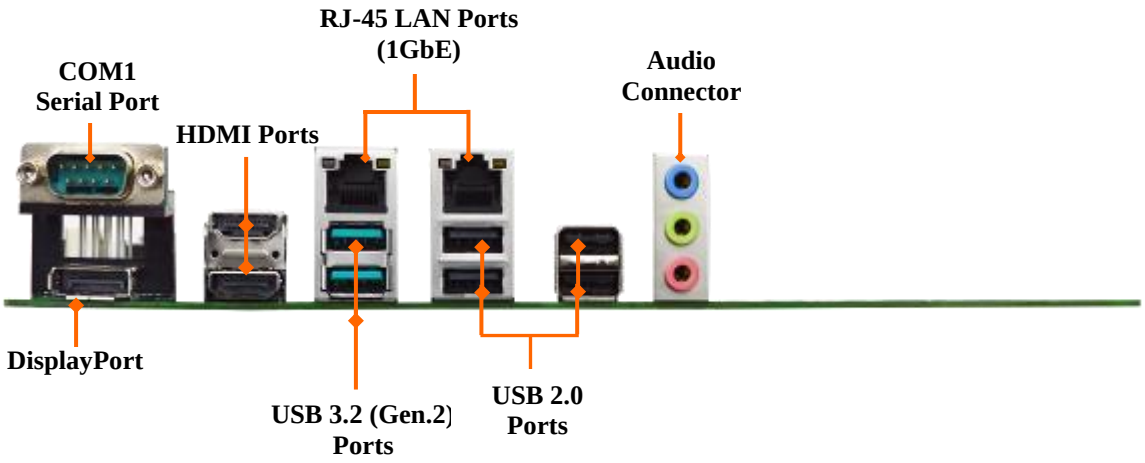
Spec	Description
Design	● Micro ATX form factor; PCB size: 24.4 x24.4 cm
Chipset	● **MM10-H6100/6102 series**: Intel H610 Chipset ● **MM10-Q6700/6702 series**: Intel Q670E Chipset
CPU Socket	● Intel LGA 1700 Socket supports 12th/13th/14th processors (Max. **65W** TDP) **Note:* *for detailed CPU support information please visit our website*
Memory Slots	● **MM10-H6100/6102 series**: 2* Long DIMM DDR5 4800/4000MHz UDIMM up to 96GB RAM Module ● **MM10-Q6700/6702 series**: 4* Long DIMM DDR5 DDR5 4800/4000MHz UDIMM up to 192GB RAM Module ● Support dual channel function **Actual memory frequency depends on the CPU types and DRAM modules, for more information refer to Product Test Report.*
Expansion Slots	● 1* PCI-Express 5.0 x16 slot ***(PCIE1)*** ● 1* PCI-Express 4.0 x4 slot ***(PCIE2 for MM10-Q6700/6702 Series only)*** ● 2* PCI-Express 3.0 x4 slot ***(PCIE3/4)***. ● 1* M.2 E-key 2230 USB2.0 interface support CNVi **(M2E1 for MM10-H6100/6102 series)** ● 1* M.2 E-key 2230 USB2.0/PCIe 3.0x1 interface support CNVi **(M2E1 for MM10-Q6700/6702 series)**
Storage	● **MM10-H6100/6102 series**: 3* SATAIII 6Gb/s port s ***(SATA2 support powered SATA DOM)*** 1* M.2 M-key 2242/2260/2280/22110 SATA slot (**M2M1**) ● **MM10-Q6700/6702 series**: 3*SATAIII 6Gb/s port support RAID 0/1/5 ***(SATA2 support powered SATA DOM)*** 1* M.2 M-key 2242/2260/2280/22110 SATA/PCIe 4.0x4 interface supports NVMe (***M2M1***) ****Note:*** *Support RAID 0/1 by using SATA3 and SATA4; RAID 0/1/5 by using SATA3, SATA4, and SATA2; RAID 0/1/5/10 by using SATA3, SATA4, SATA2, M.2 M-key with SATA interface.*
LAN Chips	● **MM10-H6100/6102 series**: 1* Intel i219V GbE & 1* Realtek RTL8153 GbE ● **MM10-Q6700/6702 series**: 1* Intel i219LM GbE, 1* Realtek RTL8153 GbE, 1* Intel i225V 2.5GbE ****Note: 2500Mbps*** *high-speed transmission rate is only supported over CAT 5e UTP cable.*
BIOS	● AMI 256M Bit AMI Flash ROM

Multi I/O	***Rear Panel I/O:*** ● 2* HDMI ● 1* DP ● 2* 1GbE RJ-45 LAN port ● 1* 2.5GbE RJ-45 LAN port (**MM10-Q6700/6702 Series only**) ● 1* COM (RS232/422/485) ● 1* 3-jack audio connector (Line-in, Line-out, MIC) ● **MM10-H6100/6102 Series:** 2* USB 3.2 (Gen.2) + 4* USB 2.0 ● **MM10-Q6700/6702 Series**: 6* USB 3.2 (Gen.2) ***Internal I/O Connectors & Headers:*** ● 1* 24-pin main power connector ● 1* 8-pin 12V power connector ● 1* CPUFAN connector & 2* SYSFAN connectors ● 1* Front panel header ● 1* 10-Pin USB 3.2 (Gen.1) header ● 1* 4-Pin USB 2.0 header ● 2* Vertical USB 2.0 headers ● **MM10-H6100/6102 Series**: 2* 9-Pin USB 2.0 headers for 4* USB 2.0 ports ● **MM10-Q6700/6702 Series**: 4* 9-Pin USB 2.0 headers for 8* USB 2.0 ports ● 5* RS232 COM port headers ● 1* 15-Pin VGA port header ● 1* 8-bit GPIO header ● 1* PS/2 Keyboard & Mouse header ● 1* 5-Pin SMBUS header
TPM 2.0 Function	● Optional for **MM10-H6102** & **MM10-Q6702 Series**

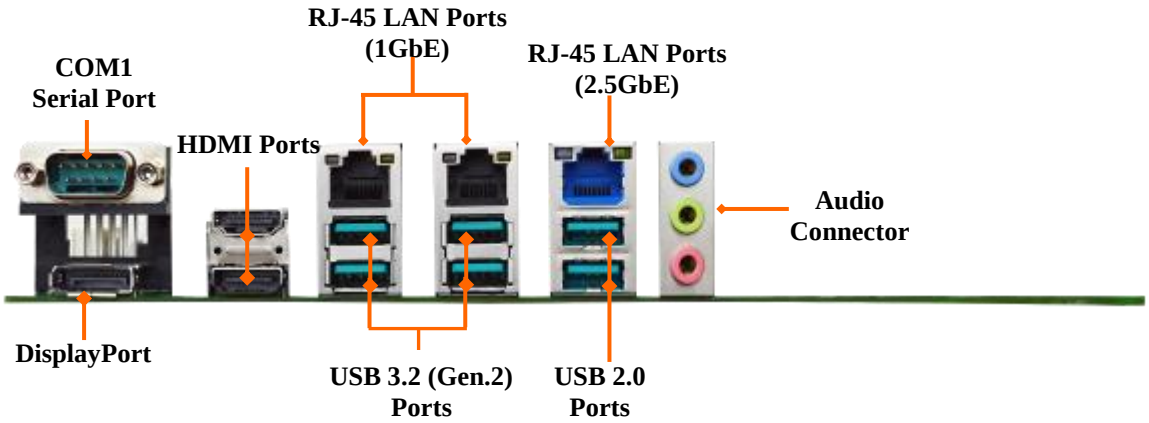
1-2 Layout Diagram

Rear IO Diagram

MM10-H6100/6102 Series:



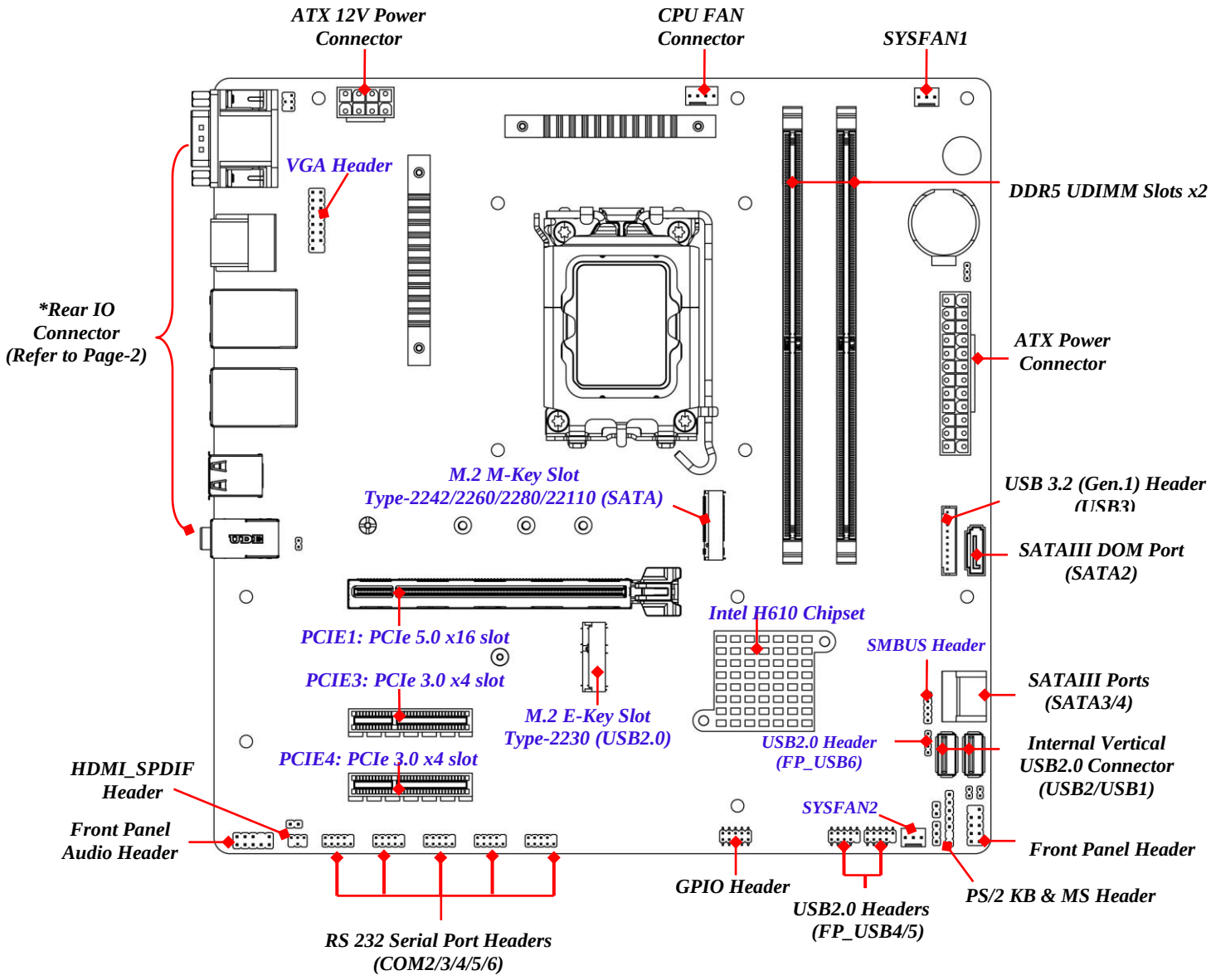
MM10-Q6700/6702 Series:



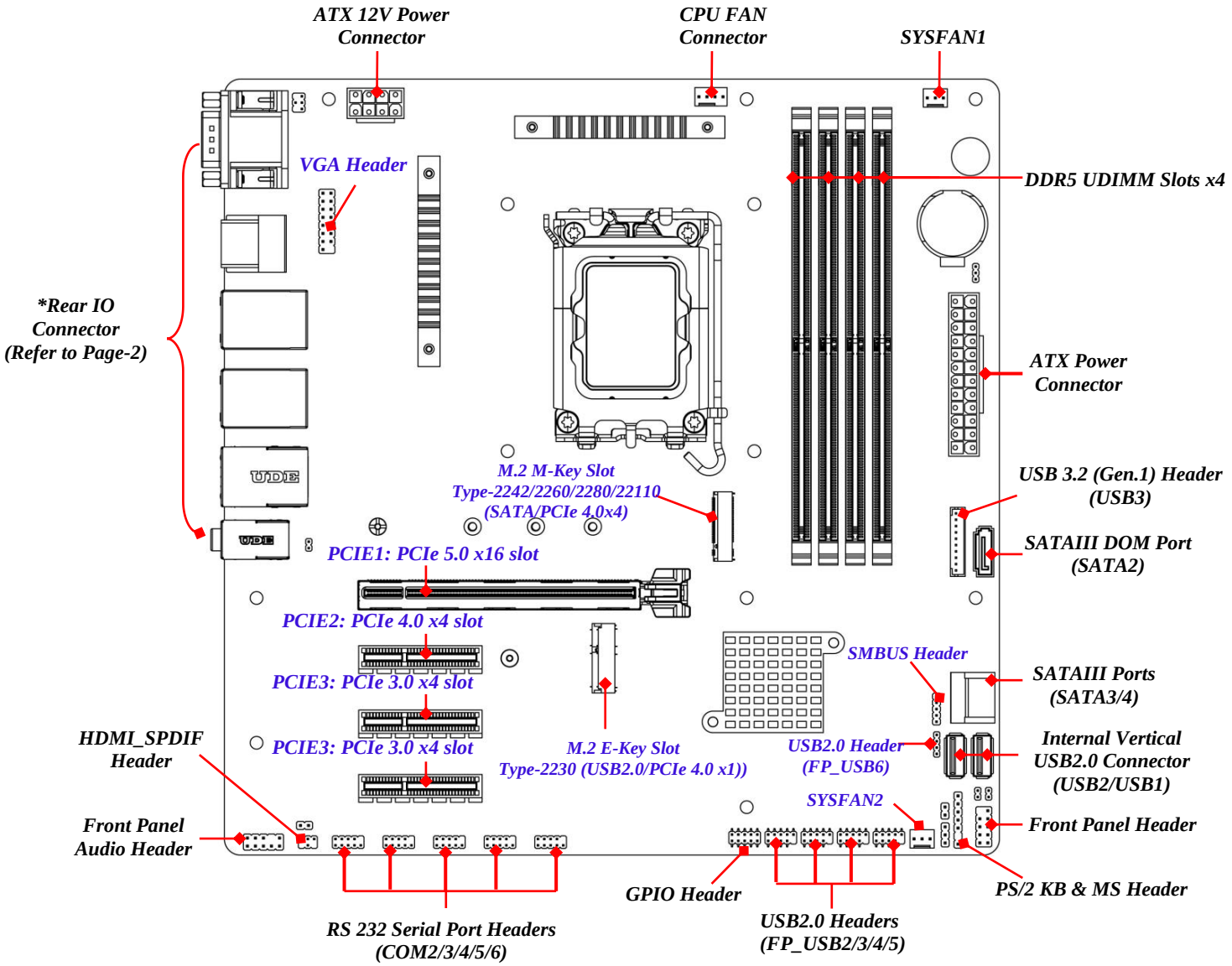
***Note:** **COM1** support RS232/422/485 function for both **MM10-H6100/6102 Series** and **MM10-Q6700/6702 Series**.*

Motherboard Internal Diagram

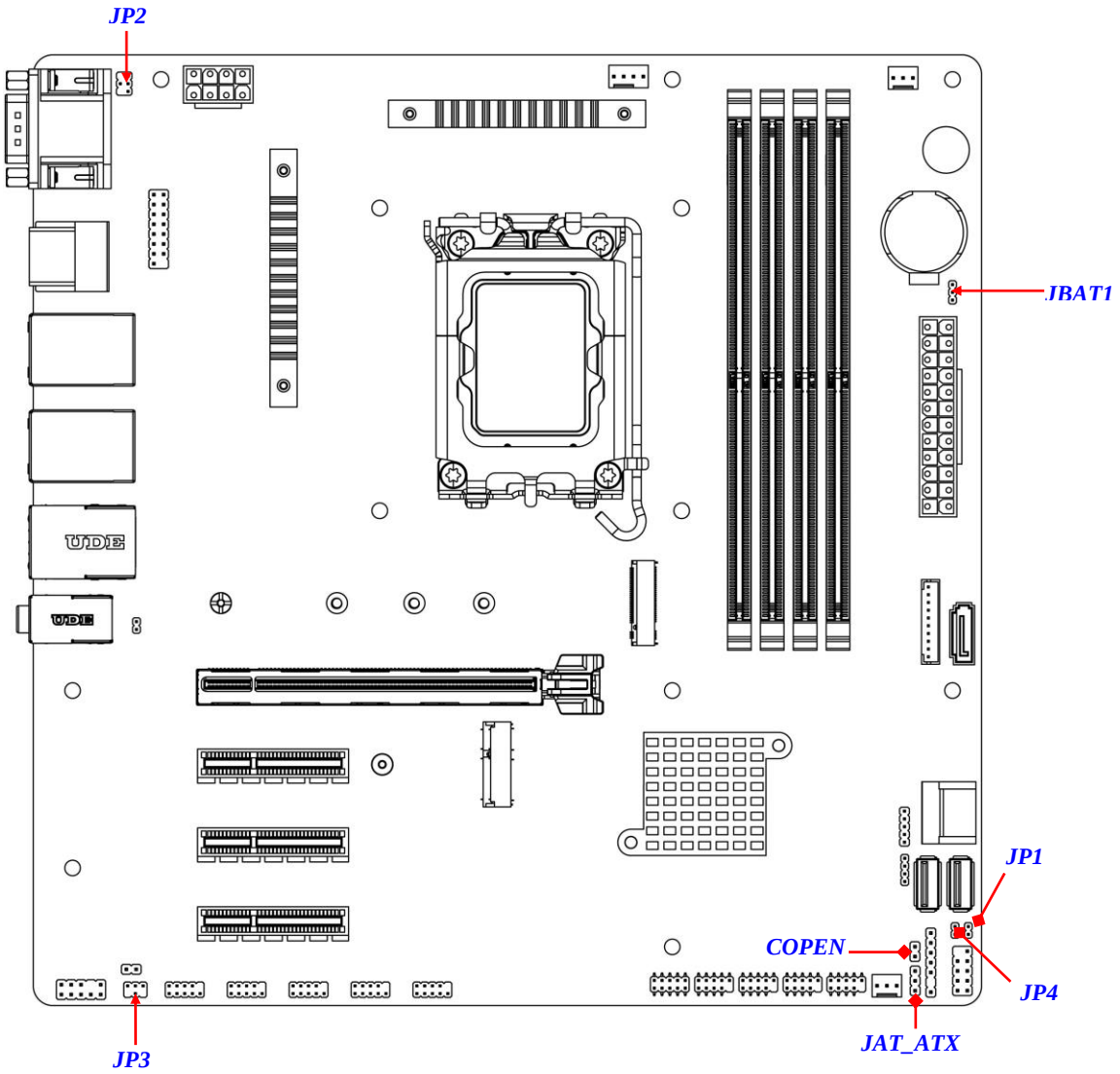
MM10-H6100/6102 Series:



MM10-Q6700/6702 Series:



Motherboard Jumper Position:



***Note**: The diagrams in the manual are mostly taken from **MM10-Q6700/6702** series unless otherwise stated.*

Jumper

Jumper	Name	Description	Pitch
JBAT1	Clear CMOS RAM Settings	3-pin Block	2.0mm
JAT_ATX	ATX/AT Mode Select	3-pin Block	2.54mm
COPEN	Case Open Message Display Detect	2-pin Block	2.54mm
JP1	ME Features Select	2-pin Block	2.0mm
JP2	COM1 Port Pin9 Function Select	4-pin Block	2.0mm
JP3	COM2 Port Pin9 Function Select	4-pin Block	2.0mm
JP4	GPIO/80 Port Select	2-pin Block	2.0mm

Connectors

Connector	Name
COM1	Serial Port X1
DP	Display 1.4a Port X1 *(Max Resolution: 4096x2304@60Hz)*
HDMI1-2	HDMI 2.0b Port X2 *(Max Resolution: 4096x2160@60Hz)*
UL1	**Top:** 1GbE RJ-45 Port X1 **Middle & Bottom:** USB 3.2 (Gen.2) Port X2
UL2	**Top:** 1GbE RJ-45 LAN Port X1 **Middle & Bottom**: USB 2.0 Port X2 (**MM10-H6100/6102**) USB 3.2 (Gen.2) Port X2 (**MM10-Q6700/6702**)
UL3	**MM10-H6100/6102:** USB 2.0 Port X2 **MM10-Q6700/6702:** **Top:** 2.5GbE RJ-45 Port X1 **Middle & Bottom:** USB 3.2 (Gen.2) X2
ATXPWR1	ATX Type Main Power Connector
ATX12V1	ATX 12V Power Connector
CPUFAN1	CPU FAN Connector
SYSFAN1/2	System FAN Connector X6
SATA2	SATAIII Connector X1
SATA_RA3	SATAIII Connector X2

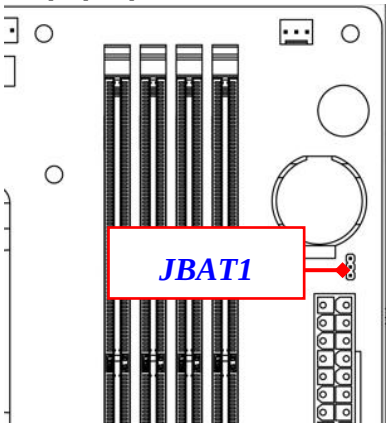
Headers

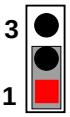
Header	Name	Description	Pitch
FP (Front Panel Header)	PWR LED/ HD LED/ Power Button /Reset	10-pin Block	2.54mm
MM10-Q6700/6702 Series only : FP_USB2/FP_USB3	USB 2.0 Port Header X2	9-pin Block	2.0mm
FP_USB4/FP_USB5	USB 2.0 Port Header X2	9-pin Block	2.0mm
FP_USB6	USB 2.0 Port Header X1	4-pin Block	2.0mm
USB3	USB 3.2 (Gen.1) Port Header	10-pin Block	2.0mm
COM2/3/4/5/6	RS232 Serial Port Header X5	9-pin Block	2.54mm
GPIO	GPIO Header	10-pin Block	2.0mm
PS2KBMS	PS/2 Keyboards & Mouse Header	6-pin Block	2.54mm
SMBUS1	SMBUS Header	5-pin Block	2.0mm

Chapter 2
Hardware Installation

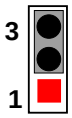
2-1 Jumper Setting

JBAT1 (3-pin): Clear CMOS Pitch=2.0mm



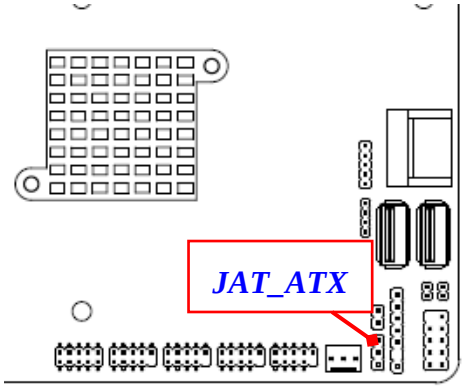


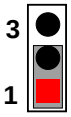
1-2 Closed: Normal (Default);



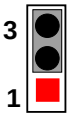
2-3 Closed: Clear CMOS Settings.

JAT_ATX (3-pin): ATX Mode/AT Mode Select Pitch=2.54mm





1-2 Closed: ATX Mode Selected;

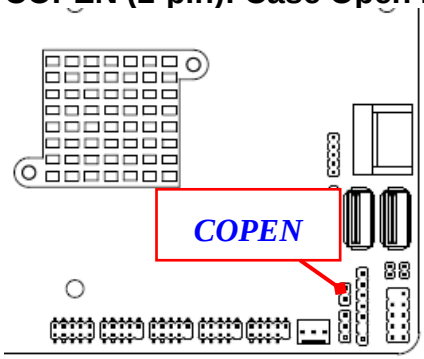


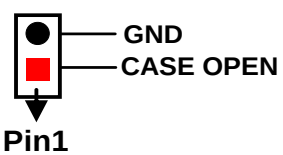
2-3 Closed: AT Mode Selected.

***ATX Mode Selected:** Press power button to power on after power input ready;*

***AT Mode Selected:** Directly power on as power input ready.*

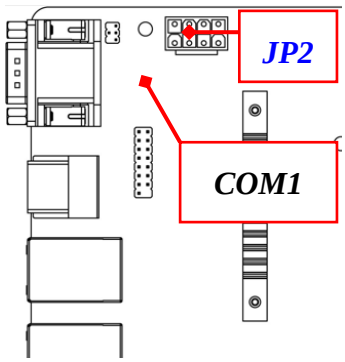
COPEN (2-pin): Case Open Message Display Function Pitch=2.54mm

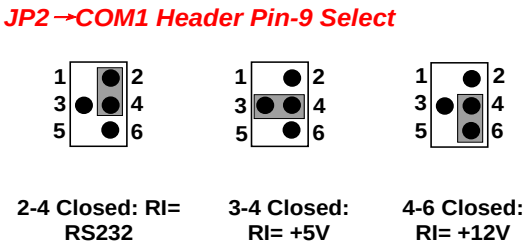




Pin 1-2 Short: *When Case open function pin short to GND, the Case open function was detected. When Used, needs to enter BIOS and enable 'Case Open Detect' function. In this case if your case is removed, next time when you restart your computer, a message will be displayed on screen to inform you of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

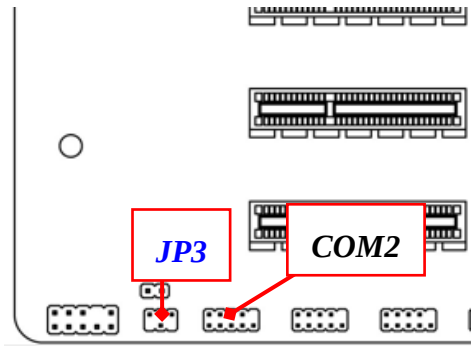
JP2 (4-piin): COM1 Header Pin9 Select Pitch=2.0mm

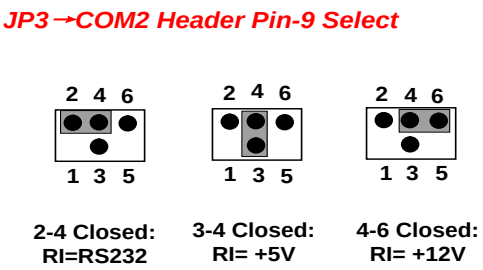




***Note:** Maximum current limit is 500mA while using 5V or 12V.*

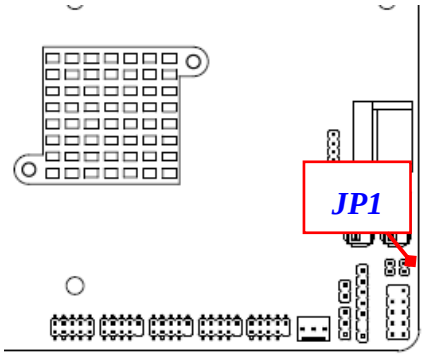
JP3 (4-pin): COM2 Header Pin9 Select Pitch=2.0mm

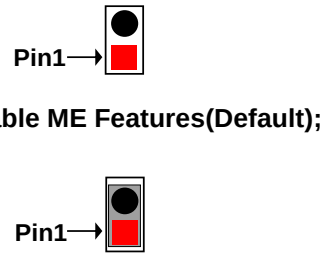




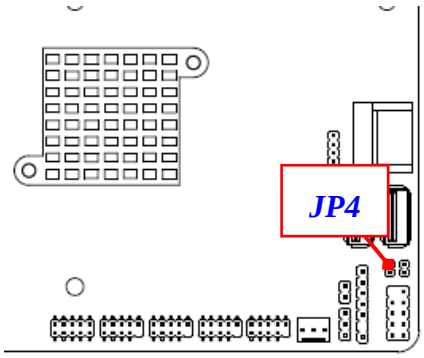
***Note:** Maximum current limit is 500mA while using 5V or 12V.*

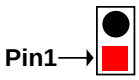
JP1 (2-pin): ME Features Select Pitch=2.0mm



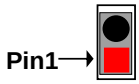


JP4 (2-pin): GPIO/80 PORT MODE Select Pitch2.0mm





1-2 Open: GPIO= 80 Port;



1-2 Closed: GPIO= GPIO Port (Default).

2-2 Connector and Headers

2-2-1 Rear I/O Back Panel Connectors

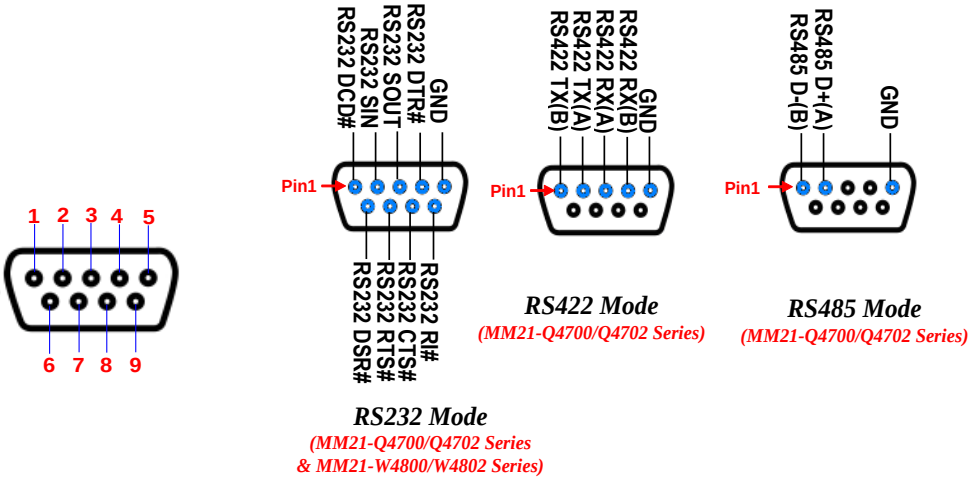
Refer to Page-2 Rear IO Diagram

Icon	*Name*	*Function*
	**Serial Port**	Mainly for user to connect external MODEM or other devices that supports Serial Communications Interface.
	**HDMI 2.0 Port**	To connect display device that support HDMI specification.
	**Display 1.4 Port**	To the system to corresponding display device with compatible display port cable.
	**RJ-45 LAN Port**	This connector is standard RJ-45 LAN jack for Network connection. These two RJ-45 LAN port from **UL1** and **UL2** support 1.0GbE transfer rate.
	**RJ-45 LAN Port**	This connector is standard RJ-45 LAN jack for Network connection. These two RJ-45 LAN port from **UL3** support 2.5GbE transfer rate. (**MM10-Q6700/6702** only) (***Note*: *2.5Gbps is only supported with CAT5e UTP cable***).
	**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.
	**USB 2.0 Port**	To connect USB keyboard, mouse or other devices compatible with USB 2.0 specification. Ports support up to 480Mbps data transfer rate.

	**Audio Connectors**	**BLUE**: Line-in Connector **GREEN**: Line-out Connector **PINK**: MIC Connector

COM1 (9-pin Block): Serial Port

The pin assignment for RS232/422/485 is listed as follows:



***Note:** **COM1** support **RS232/422/485** function.*

2-2-2 Motherboard Internal Connectors

(1) ATXPWR1 (24-pin block): Main Power Connector

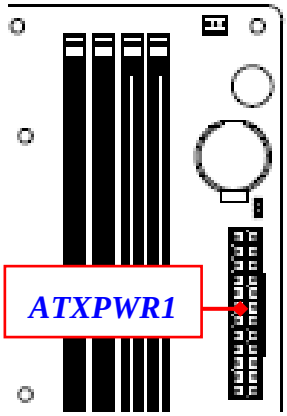
ATX Power Supply connector: This is a new defined 24-pins connector that usually comes with ATX case. The ATX Power Supply allows using soft power on momentary switch that connect from the front panel switch to 2-pins Power On jumper pole on the motherboard. When the power switch on the back of the ATX power supply turned on, the full power will not come into the system board until the front panel switch is momentarily pressed. Press this switch again will turn off the power to the system board.

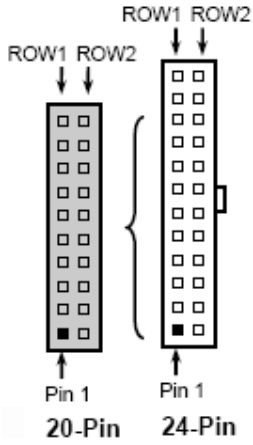
** We recommend that you use an ATX 12V Specification 2.0-compliant power supply unit (PSU) with a minimum of 350W power rating. This type has 24-pin and 4-pin power plugs.

** If you intend to use a PSU with 20-pin and 4-pin power plugs, make sure that the 20-pin power plug can provide at least 15A on +12V and the power supply unit has a minimum power rating of 350W. The system may become unstable or may not boot up if the power is inadequate.

** If you are using a 20-pin power plug, please refer to Figure1 for power supply connection. Power plug form power supply and power connectors from motherboard both adopt key design to avoid mistake installation. You can insert the power plug

into the connector with ease only in the right direction. If the direction is wrong it is hard to fit in and if you make the connection by force if is possible.





PIN	ROW1	ROW2
1	3.3V	3.3V
2	3.3V	-12V
3	GND	GND
4	5V	Soft Power On
5	GND	GND
6	5V	GND
7	GND	GND
8	Power OK	-5V
9	+5V (for Soft Logic)	+5V
10	+12V	+5V
11	+12V	+5V
12	+3V	GND

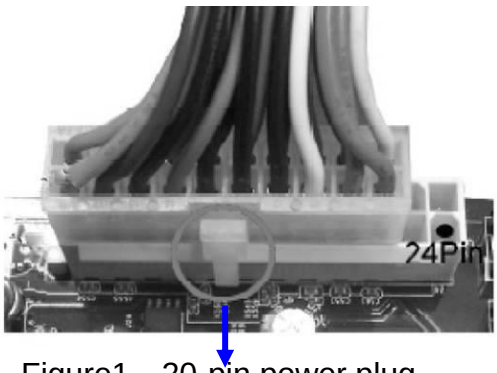


Figure1：20-pin power plug

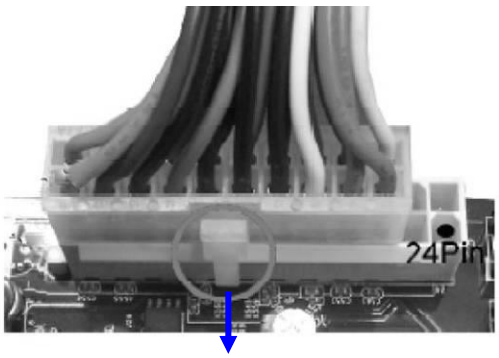
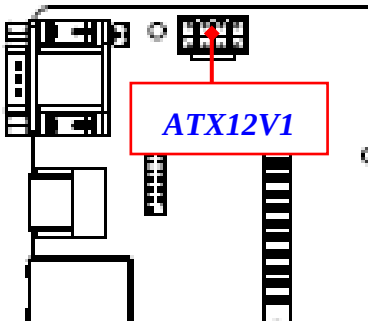
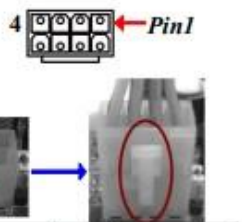


Figure 2：24-pin power plug

(2) ATX12V1(8-pin): 12V Power Connector

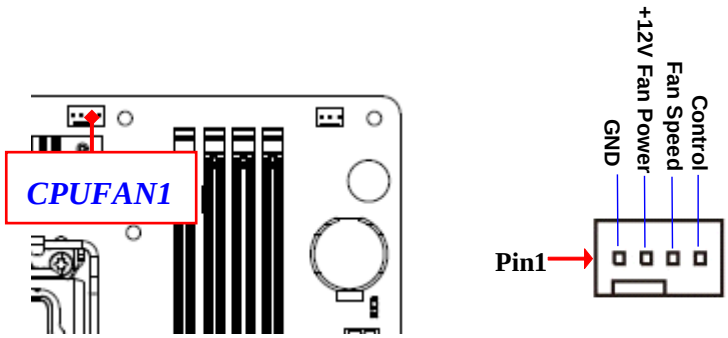
This is a new defined 8-pin connector that usually comes with ATX Power Supply. The ATX Power Supply which fully supports AMD AM3 processor must including this connector for support extra 12V voltage to maintain system power consumption. Without this connector might cause system unstable because the power supply can not provide sufficient current for system.





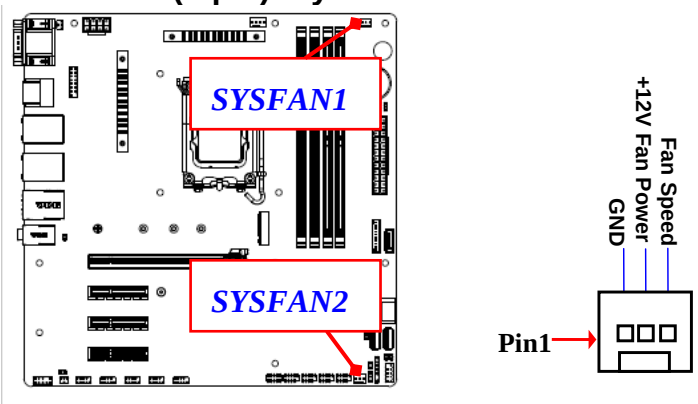
Pin	Definition	No.	Definition
1	GND	5	+12V
2	GND	6	+12V
3	GND	7	+12V
4	GND	8	+12V

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



Note:* *Maximum current limit is **0.5A while using 5V working voltage*

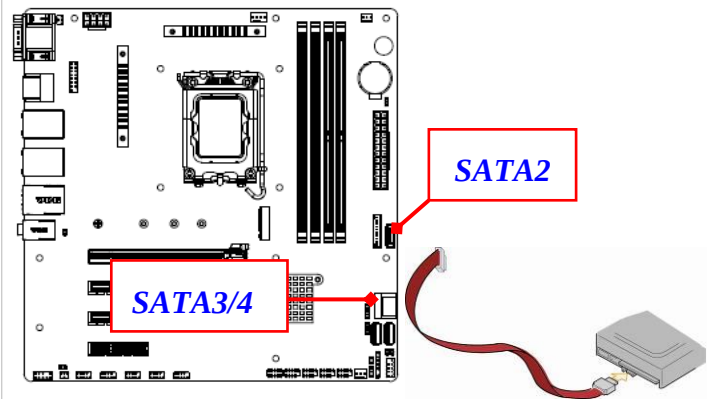
(4) SYSFAN1/2 (3-pin): System Fan 1 & 2 Connectors



Note:* *Maximum current limit is **0.5A while using 5V working voltage*

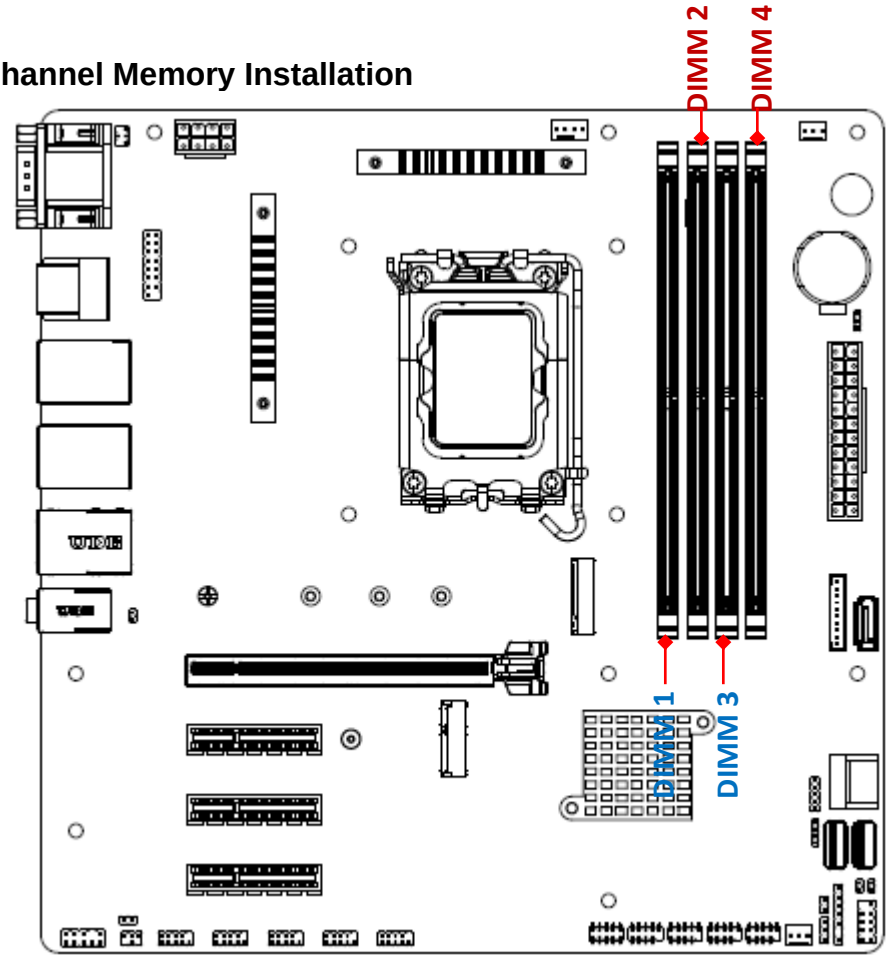
(5) SATA2/3/4 (7-pin): SATAIII Port Connectors

These are high-speed SATAIII ports that support 6GB/s transfer rate.



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

(6) Dual Channel Memory Installation



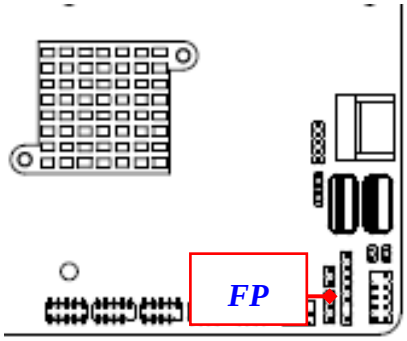
Configuration	*DIMM1*	*DIMM2*	*DIMM3*	*DIMM4*
1	--	install	--	--
2	--	install	--	install
3	install	install	install	install

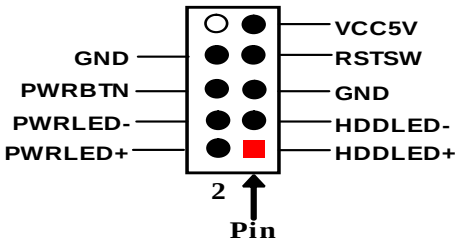
Notice!

- For dual channel installation, you need to install the same brand, speed, size and type memory module. ***Please follow the instruction above to prioritize DIMM2 slot when installing one or two memory modules.***
- It is unable to activate dual channel feature if you install one or three memory modules, or you install DIMM2 & DIMM4 / DIMM1 & DIMM3. Slot order can be from left-to-right or right-to-left, and it must be installed in pairs.
- If you install memory modules in wrong direction, it will damage the motherboard and memory module.

2-2-3 Header Pin Definition

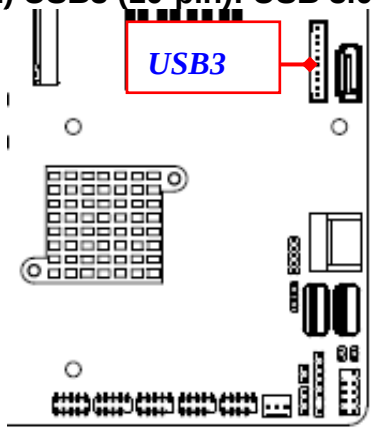
(1) FP (10-pin): Front Panel Header Pitch=2.54mm

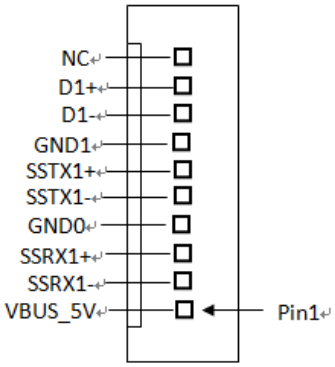




***Note:** Maximum current limit is **1A** while using 5V working voltage*

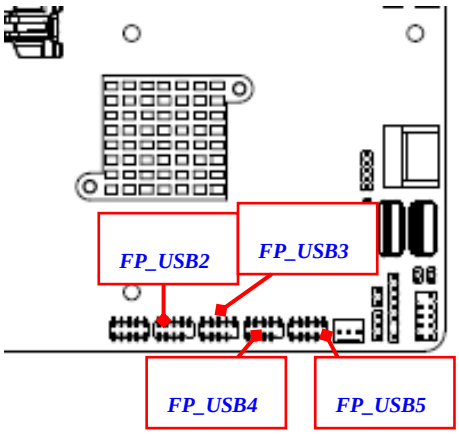
(2) USB3 (10-pin): USB 3.0 Port Header Pitch=2.0mm

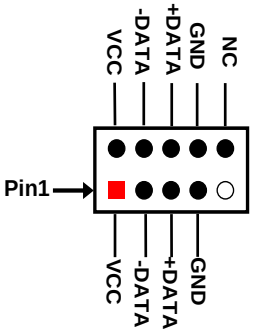




***Note:** Maximum current limit is **1.5A** while using 5V working voltage*

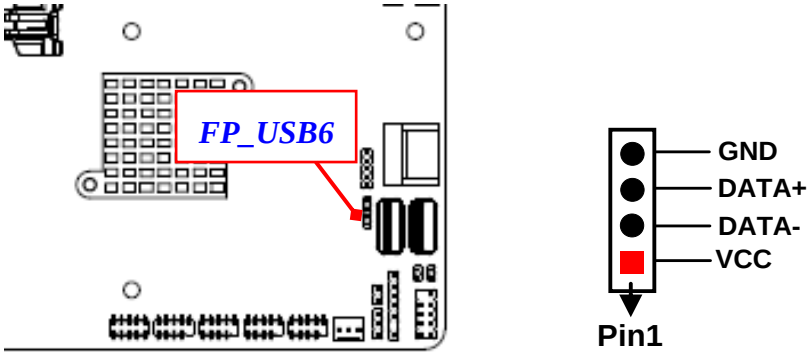
(3) FP_USB2~FP_USB5 (9-pin): USB 2.0 Port Header Pitch=2.0mm





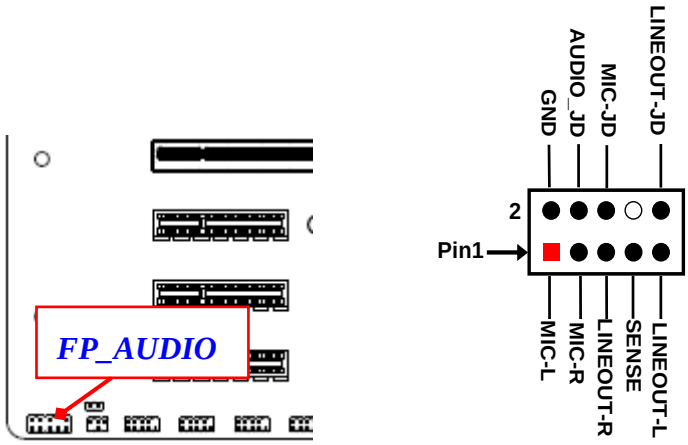
***Note:** Maximum current limit is **1.5A** while using 5V working voltage. **MM10-H6100/6102** only has FP_USB4/5.*

(4) FP_USB6 (4-pin): USB 2.0 Port Header Pitch=2.0mm



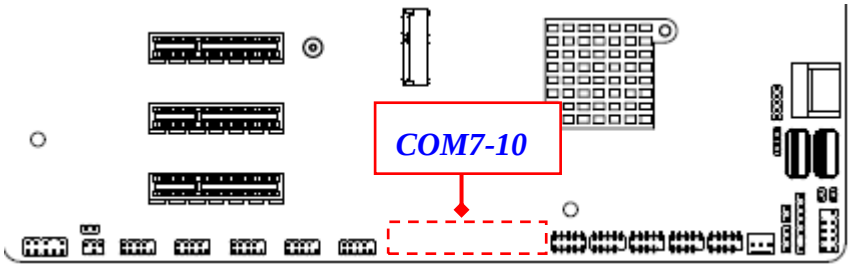
Note:* *Maximum current limit is **1.5A while using 5V working voltage*

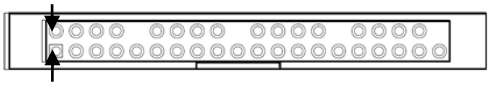
(5) FP_Audio (10-pin): Front Panel Audio Header Pitch=2.0mm



(6) COM7-10 (35-pin): Reserved Serial Port (support RS232) Pitch=2.0mm

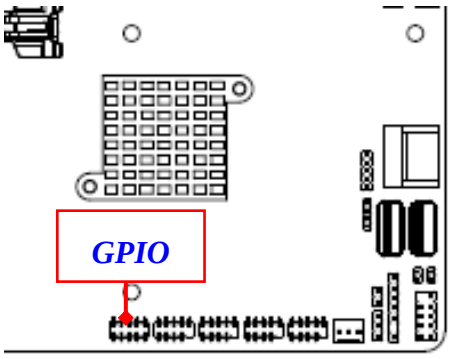
Note: **COM7-10 ports are optional and by request only*

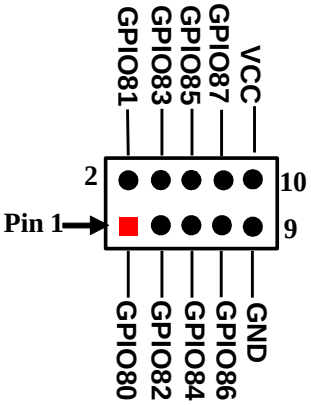




COM7-10	Pin NO	RS232	Pin NO.	RS232
COM7	Pin A1	DCD7	Pin B1	DSR7
	Pin A2	SIN7	Pin B2	RTS7
	Pin A3	SOUT7	Pin B3	CTS7
	Pin A4	DTR7	Pin B4	RI7
	Pin A5	GND	Pin B5	N/A
COM8	Pin A6	DCD8	Pin B6	DSR8
	Pin A7	SIN8	Pin B7	RTS8
	Pin A8	SOUT8	Pin B8	CTS8
	Pin A9	DTR8	Pin B9	RI8
	Pin A10	GND	Pin B10	N/A
COM9	Pin A11	DCD9	Pin B11	DSR9
	Pin A12	SIN9	Pin B12	RTS9
	Pin A13	SOUT9	Pin B13	CTS9
	Pin A14	DTR9	Pin B14	RI9
	Pin A15	GND	Pin B15	N/A
COM10	Pin A16	DCD10	Pin B16	DSR10
	Pin A17	SIN10	Pin B17	RTS10
	Pin A18	SOUT10	Pin B18	CTS10
	Pin A19	DTR10	Pin B19	RI10
	Pin A20	GND	Pin B20	N/A

(7) GPIO (10-pin): GPIO & 80 Port Header Pitch=2.0mm



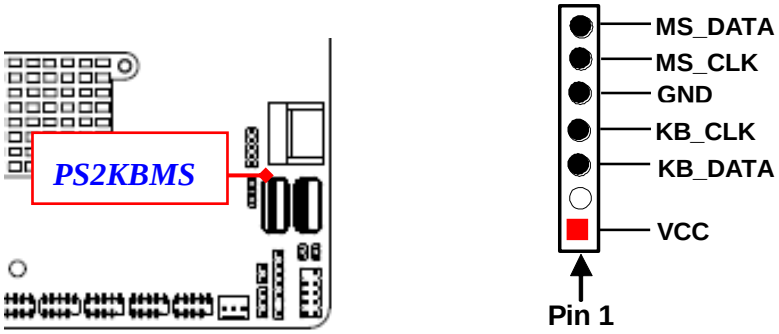


Note:* *Maximum current limit is **1.5A while using 5V working voltage.*

Note: Please refer to Page-10 JP4 jumper setting for GPIO header GPIO Port or 80 Port function select:

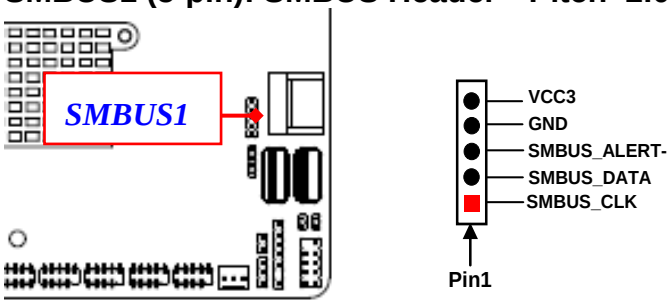
Pin 1&2 of JP4 Open: *or 80Port Function;* ***Pin 1&2 of JP4 Closed:*** *For Normal 8-bit GPIO Function*

(8) PS2KBMS (6-pin): PS/2 Keyboard & Mouse Header Pitch=2.54mm



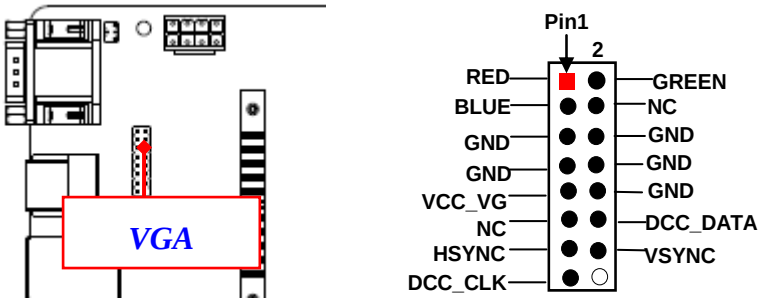
***Note:** Maximum current limit is **500mA** while using 5V working voltage*

(9) SMBUS1 (5-pin): SMBUS Header Pitch=2.0mm

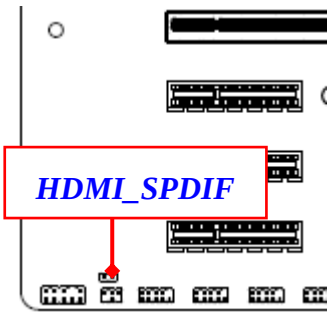


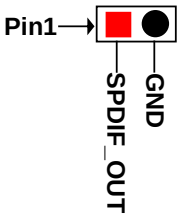
***Note:** Maximum current limit is **0.3A** while using 5V working voltage*

(10) VGA (15-pin): Video Graphic Attach Port Header Pitch=2.54mm



(11) HDMI_SPDIF (2-pin): HDMI SPDIF Out Header Pitch=2.54mm





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, wafers and headers) for setup reference:

Location	Function	Working Voltage	Current Support
JP2	COM1 Port Pin9 Function	5V/12V	500mA
JP3	COM2 Port Pin9 Function	5V/12V	500mA
CPUFAN1	CPU FAN	12V	0.5A
SYSFAN1/2	System Fan Connectors	5V	0.5A
FP	Front Panel Header	5V	1A
FP_USB2~FP_USB6	USB 2.0 Port	5V	1.5A
USB1/2	USB 2.0	5V	500mA
USB3	USB 3.0 Port	5V	1.5A
GPIO	GPIO Port Header	5V	1.5A
PS2KBMS	PS/2 Keyboard & Mouse	5V	500mA
SMBUS1	SMBUS Header	5V	0.3A

Chapter 3
Introducing BIOS

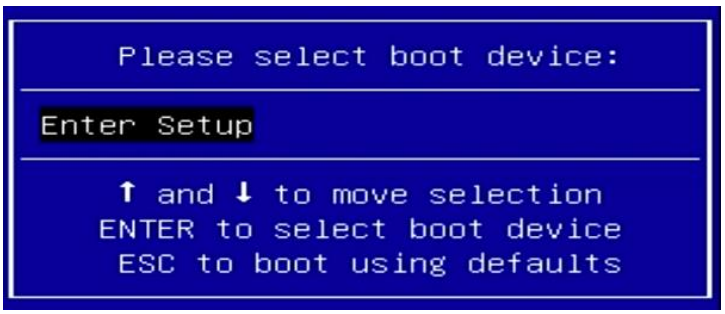
Notice!	The BIOS options in this manual are for reference only. Different configurations may lead to difference in BIOS screen and BIOS screens in manuals are usually the first BIOS version when the board is released and may be different from your purchased motherboard. Users are welcome to download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

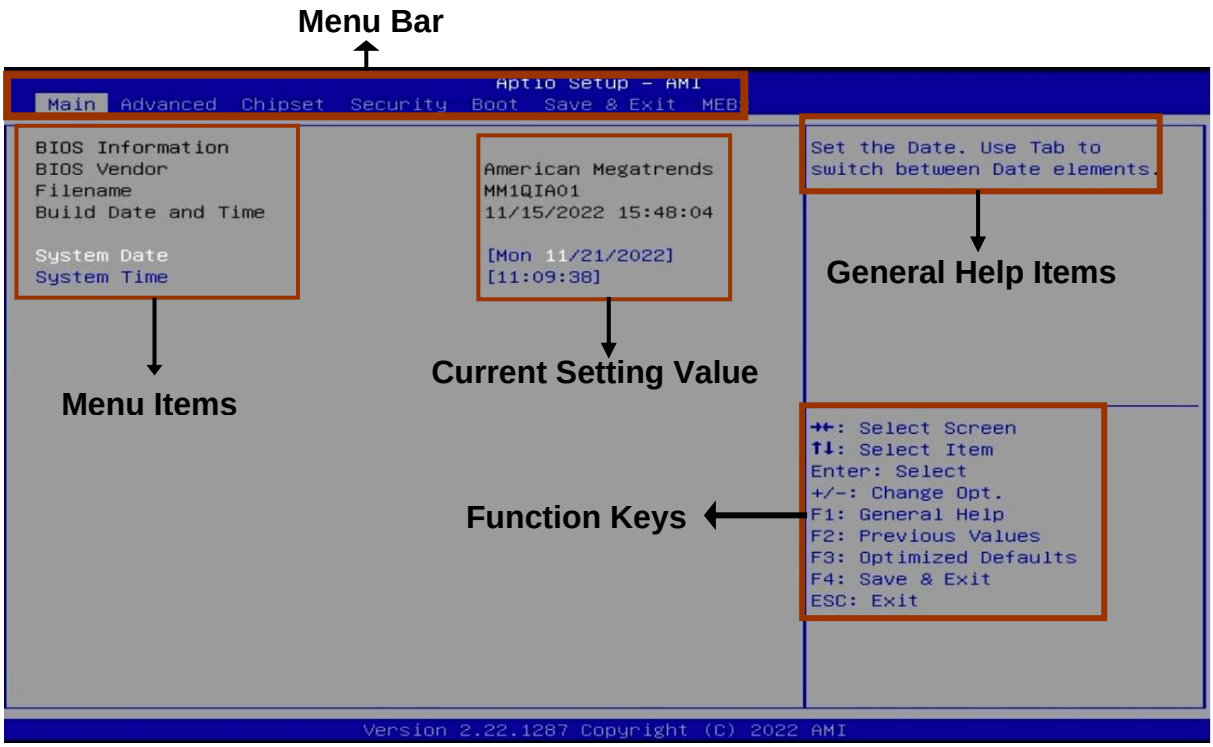
Power on the computer and by pressing <Del> immediately allows you to enter Setup. If the message disappears before your respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the “RESET” button on the system case. You may also restart by simultaneously 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→← (right, left) 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 values.
- [F3]: Optimized defaults.
- [F4]: Save & Exit.
- Press <Esc> to exit from 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

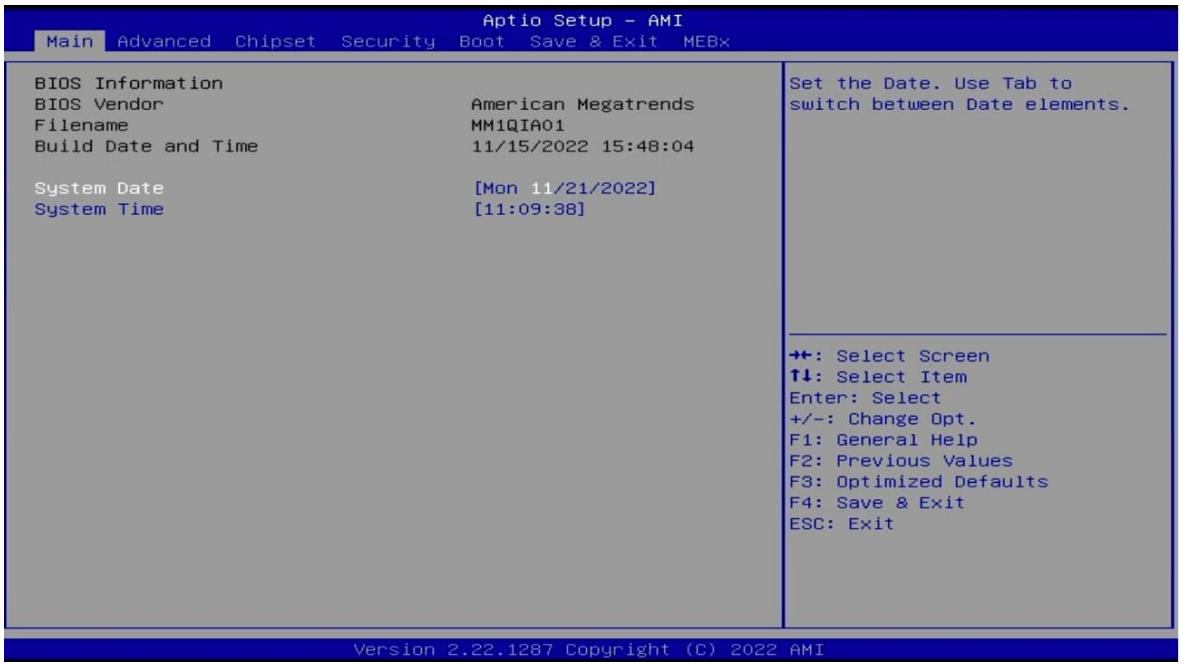
There are six menu bars on top of BIOS screen:

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.



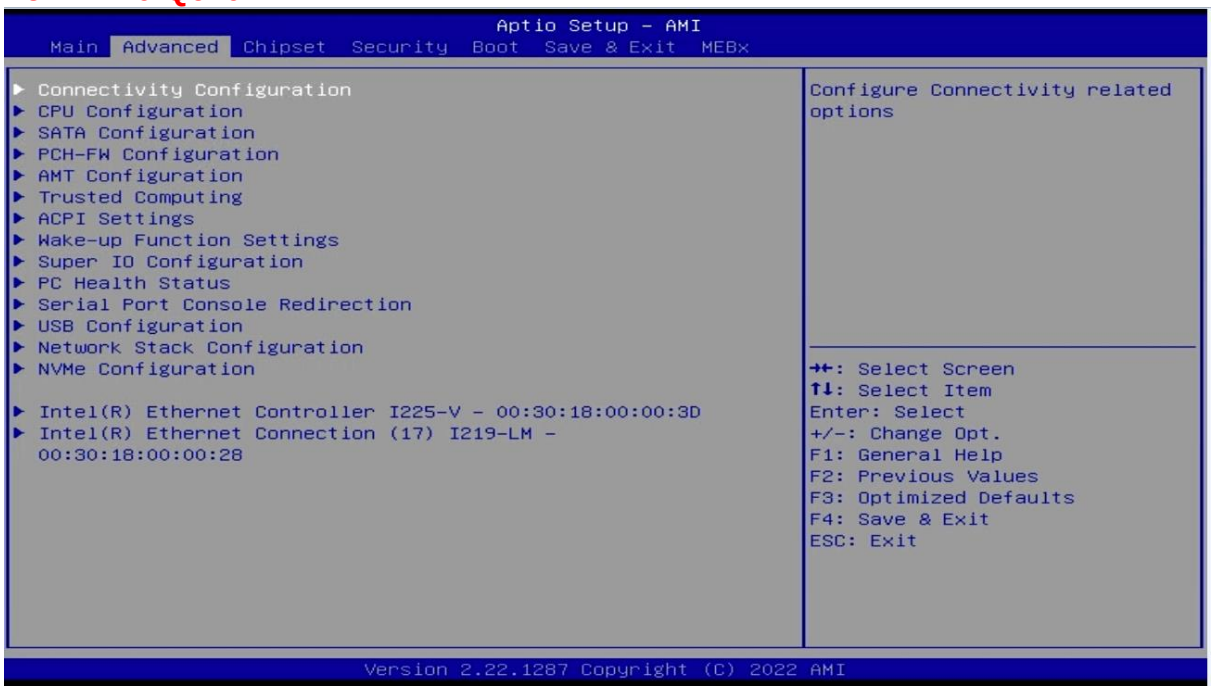
System Date

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

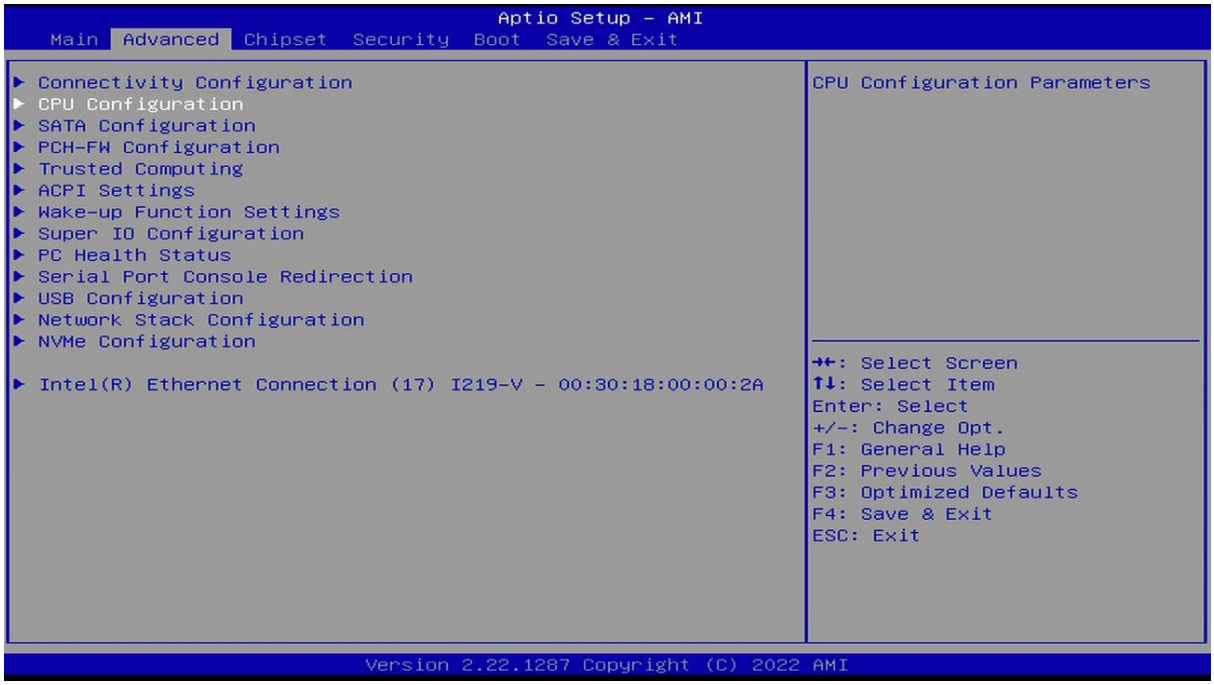
System Time
Set the time. Please use [Tab] to switch between time elements.

3-7 Advanced Menu

For MM10-Q670



For MM10-H610



- ***Connectivity Configuration***

  Use this item to configure connectivity related options

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

  CNVi Mode

  This item configures connectivity.

  The optional settings: [Disable Integrated]; [Auto Detection].

  [Disable Integrated]: it disables Integrated Solution.

  [Auto Detection]: if discrete solution is discovered it will be enabled by default. Otherwise integrated solution (CNVi) will be enabled.

- **CPU Configuration**

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

  Hyper-Threading

  Use this item to enable or disable Hyper-Threading Technology.

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

  Intel (VMX) Virtualization Technology

  Use this item to When [Enabled], a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

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

  Intel® SpeedStep(tm)

  This item allows more than two frequency ranges to be supported.

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

  C states

  Use this item to enable or disable CPU Power Management.

  When set as [Enabled], it allows CPU to go to C states when it's not 100% utilized.

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

  Turbo Mode

  Use this item to enable or disable Turbo Mode (requites Intel speed step or Intel speed shift to be available and enabled).

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

- **SATA Configuration**

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

  SATA Configuration

  SATA Controller(s)

  Use this item to enable of disable SATA device.

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

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

  M.2

  Port

  Use this item to enable or disable M.2 SATA port.

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

  SATA2

  Port

  Use this item to enable or disable SATA port.

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

Hot Plug

Use this item to designate this port as Hot Pluggable.

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

SATA3

Port

Use this item to enable or disable SATA port.

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

Hot Plug

Use this item to designate this port as Hot Pluggable.

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

SATA4

Port

Use this item to enable or disable SATA port.

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

Hot Plug

Use this item to designate this port as Hot Pluggable.

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

- **PCH-FW Configuration**

Press [Enter] to view Management Engine technology parameters and make settings in the following sub-item:

TPM Device Selection

Use this item to select TPM device. When set as [PTT], it will enable PTT in SkuMgr. When set as [dTPM], it will disable PTT in SkuMgr.

The optional settings: [dTPM]: [PTT].

Warning! *PTT/dTPM will be disabled and all data saved on it will be lost.*

I219 Lan MAC address Override

Use this item to enable for override MAC Address

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

- **Firmware Update Configuration**

Use this item to configure management engine Technology Parameter, press [Enter] to make settings for '**ME FW Image Re-Flash**'.

ME FW Image Re-Flash

Use this item to enable or disable ME FW Image Re-Flash function.

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

- ***AMT Configuration***

Note: AMT configuration used by MM10-Q670

Use this item to configure Active Management Technology parameters.

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

USB Provisioning of AMT

Use this item to enable or disable AMT USB provisioning.

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

MAC Pass Through
Use item to enable/disable MAC Pass Through. Function
The optional settings are: [Disabled]; [Enabled].
Activate Remote Assistance Process
Use this item to trigger CIRA boot.
***Note**: Network Access must be activated first from MEBx Setup.*
The optional settings are: [Disabled]; [Enabled].
Unconfigure ME
Unconfigure ME with tesetting MEBx password to defsult on next boot.
The optional settings are: [Disabled]; [Enabled].

- **ASF Configuration**

This item is for user to configure Alert Standard Format parameters.
Press [Enter] to make settings for in the following sub-items:
PET Progress
Use this item to enable or disable PET Events Progress to receive PET Events.
The optional settings are: [Disabled]; [Enabled].
WatchDog
Use this item to enable or disable WatchDog Timer. When set as [Enabled], the following sub-items shall appear:
OS Timer
Use this item to set OS watch dog timer.
BIOS Timer
Use this item to set BIOS watch dog timer.
ASF Sensors Table
Use this item to add ASF Sensor Table into ASF ! ACPI Table.
The optional settings are: [Disabled]; [Enabled].

- **Secure Erase Configuration**

Press [Enter] to make settings for in the following sub-items:
Secure Erase Mode
Use this item to change Secure Erase module behavior:
The optional settings are: [Simulated]; [Real].
[Simulated]: Performs SE flow without erasing SSD;
[Real]: Erase SSD.
*** If SATA device is used, OEM Could use SECURE_ERASE_HOOK_PROTOCOL to remove SATA power to skip G3 cycle. ***
Force Secure Erase
Use this item to Force Secure Erase on next boot
The optional settings are: [Disabled]; [Enabled]

- **Trusted Computing**

Press [Enter] to view current status information, or make further settings in the following sub-items:
Security Device Support
Use this item to enable or disable BIOS support for security device. O.S. will not show security device. TGG EFI protocol and INT1A interface will not be available.
The optional settings are: [Disabled]; [Enabled].
When set as **[Enabled], user can make further settings in the following items:*

Active PCR banks
Available PCR banks
SHA256 PCR Bank
Use this item to enable or disable SHA256 PCR Bank
The optional settings are: [Disabled]; [Enabled].
SHA384 PCR Bank
Use this item to enable or disable SHA384 PCR Bank
The optional settings are: [Disabled]; [Enabled].
SM3_256 PCR Bank
Use this item to enable or disable SM3_256 PCR Bank
The optional settings are: [Disabled]; [Enabled].
Pending operation
Use this item to schedule an operation for the security device
Note: Your computer will reboot during restart in order to change state of security device.
The optional settings are: [None]; [TPM Clear].

- **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)].

- **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 on alarm event.
The optional settings are: [Disabled]; [Enabled].
When set as [Enabled], the following items shall appear:
Wake-up Hour
Use this item to select in the range of 0 to 23. For example enter 3 for 3am and 15 for 3pm.
Wake-up Minute
Use this item to select in the range of 0 to 59.
Wake-up Second
Use this item to select in the range of 0 to 59.
When set as [Disabled], the Wake-up System With Fixed Time following items shall appear:
Wake-up System With Dynamic Time
Use this item to enable or disable system wake on alarm event.
System will wake on the current time + Increased minutes.
The optional settings are: [Disabled]; [Enabled].
When set as [Enabled], system will wake on the current time + increased minute(s)
Wake-up Minute Increase
Use this item to 1-60
PS2 KB/MS Wake-up
Use this item to enable or disable PS2 KB/MS Wake-up from (S3/S4/S5) Support

Only Disable ERP Function
The optional settings are: [Disabled]; [Enabled].

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

USB S3/S4 Wake-up
Use this item to enable or disable USB wake-up from S3/S4 state.
This function is supported when 'ERP Support'** is set as [Disabled].*
The optional settings are: [Enabled]; [Disabled].

USB S5 Power
Use this item to enable or disable USB power after power shutdown.
This function is supported when 'ERP Support**' is set as [Disabled].*
The optional settings are: [Enabled]; [Disabled].

- **Super IO Configuration**

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

Super IO Configuration

ERP Support

Use this item to Energy-Related Products function. Disable ERP to active all wake-up functions
The optional settings are: [Disabled]; [Auto].

- **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 are: [Disabled]; [Enabled].
When set as **[Enabled], user can make further settings in the following items:*

Change Settings
Use this item to select an optimal setting for super IO device.
The optional settings: [IO=3F8h; IRQ=4]; [IO=3F8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=2F8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=3E8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=2E8h; IRQ=3, 4, 5, 7, 10, 11].

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 2 Configuration**

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

Serial Port
Use this item to enable or disable serial port (COM).
The optional settings are: [Disabled]; [Enabled].
When set as **[Enabled], user can make further settings in the following items:*

Change Settings
Use this item to select an optimal setting for super IO device.
The optional settings: [IO=2F8h; IRQ=3]; [IO=3F8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=2F8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=3E8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=2E8h; IRQ=3, 4, 5, 7, 10, 11].

► **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 are: [Disabled]; [Enabled].

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

Change Settings

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

The optional settings: [IO=3E8h; IRQ=10]; [IO=3F8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=2F8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=3E8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=2E8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=3E0h; IRQ=3, 4, 5, 7, 10, 11]; [IO=2E0h; IRQ=3, 4, 5, 7, 10, 11].

► **Serial Port 4 Configuration**

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

Serial Port

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

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

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

Change Settings

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

The optional settings: [IO=2E8h; IRQ=10]; [IO=3F8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=2F8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=3E8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=2E8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=3E0h; IRQ=3, 4, 5, 7, 10, 11]; [IO=2E0h; IRQ=3, 4, 5, 7, 10, 11].

► **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 are: [Disabled]; [Enabled].

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

Change Settings

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

The optional settings: [IO=3E0h; IRQ=11]; [IO=3F8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=2F8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=3E8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=2E8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=3E0h; IRQ=3, 4, 5, 7, 10, 11]; [IO=2E0h; IRQ=3, 4, 5, 7, 10, 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 are: [Disabled]; [Enabled].

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

Change Settings

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

The optional settings: [IO=2E0h; IRQ=11]; [IO=3F8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=2F8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=3E8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=2E8h; IRQ=3, 4, 5, 7, 10, 11]; [IO=3E0h; IRQ=3, 4, 5, 7, 10, 11]; [IO=2E0h; IRQ=3, 4, 5, 7, 10, 11].

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

WatchDog Reset Timer Value
User can set a value in the range of [4] to [255].
WatchDog Reset 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 JAT_ATX jumper setting for* Pin1&2 of *ATX Mode &* Pin 2&3 of A*T Mode Select)*

Case Open Detect

Use this item to detect Case has already open or not. 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 **COPEN** jumper setting for Case Open Detection*); if Pin 1&2 of ***CASE OPEN*** are short, system will show Case Open Message during POST.

- **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

CPUFAN1 / SYSFAN1 / SYSFAN2 Smart Mode
The optional settings are: [Disabled]; [Enabled].
When set as [Enabled], the following sub-items shall appear:
CPUFAN1 / SYSFAN1 / SYSFAN2 Full-Speed Temperature
Use this item to set CPUFAN/SYSFAN1 full speed temperature. Fan will run at full speed when above this pre-set temperature.
CPUFAN1 / SYSFAN1 / SYSFAN2 Full-Speed Duty
Use this item to set CPUFAN/SYSFAN1 full-speed duty. Fan will run at full speed when above this pre-set duty.
CPUFAN1 / SYSFAN1 / SYSFAN2 Idle-Speed Temperature
Use this item to set CPUFAN/SYSFAN1 idle speed temperature. Fan will run at idle speed when below this pre-set temperature.
CPUFAN1 / SYSFAN1 / SYSFAN2 Idle-Speed Duty
Use this item to set CPUFAN/SYSFAN1 idle speed duty. Fan will run at idle speed when below this pre-set duty.

- **Serial Port Console Redirection**

COM1
Console Redirection
The optional settings are: [Disabled]; [Enabled].
When set as [Enabled], the following sub-items shall appear:

- **Console Redirection Settings**

The settings specify how the host computer and the remote computer (which the

user is using) will exchange data. Both computers should have the same or compatible settings.
Press [Enter] to make settings for the following items:

COM1

Console Redirection Settings

Terminal Type

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

Emulation: [ANSI]: Extended ASCII char set; [VT100]: ASCII char set; [VT100 Plus]: 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 are: [9600]; [19200]; [38400]; [57600]; [115200].

Data Bits

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

Parity

A parity bit can be sent with the data bits to detect some transmission errors.
The optional settings are: [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 are: [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 are: [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 are: [Disabled]; [Enabled].

Recorder Mode

With this mode enable only text will be sent. This is to capture Terminal data.
The optional settings are: [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 are: [VT100]; [Linux]; [XTERMR6]; [SCO]; [ESCN]; [VT400].

▸ **Legacy Console Redirection Settings**

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

Redirection COM Port

Use this item to select a COM port to display redirection of Legacy OS and Legacy OPROM Messages.

The optional settings are: [COM1]

Resolution

Use this item to on Legacy OS, the Number of Rows and Columns supported redirection

The optional settings: [80*24]; [80*25].

Redirect After POST

Use this item to when Bootloader is selected, then legacy console redirection is disabled before booting to legacy OS. When always enable is selected, then legacy console redirection is enabled for legacy OS. Default setting for this option is set to always.

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

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

Console Redirection EMS

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

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

▸ **Console Redirection Settings**

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

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

Terminal Type

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

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

Bits per second

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

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

Flow Control

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

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

Data Bits

The default setting is: [8].

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

Parity

The default setting is: [None].

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

Stop Bits
The default setting is: [1].
**This item may or may not show up, depending on different configuration.*

- **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 are: [Enabled]; [Disabled].
USB Mass Storage Driver Support
Use this item to enable or disable USB mass storage driver support.
The optional settings are: [Disabled]; [Enabled].
USB hardware delays and time-outs
USB Transfer time-out
Use this item to set the time-out value for control, bulk, and interrupt transfers.
The optional settings are: [1 sec]; [5 sec]; [10 sec]; [20 sec].
Device reset time-out
Use this item to set USB mass storage device start unit command time-out.
The optional settings are: [10 sec]; [20 sec]; [30 sec]; [40 sec].
Device power-up delay
Use this item to set maximum time the device will take before it properly reports itself to the host controller. '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 in from 1 to 40 seconds, in one second increments.
Use either [+] / [-] or numeric keys to set the value.

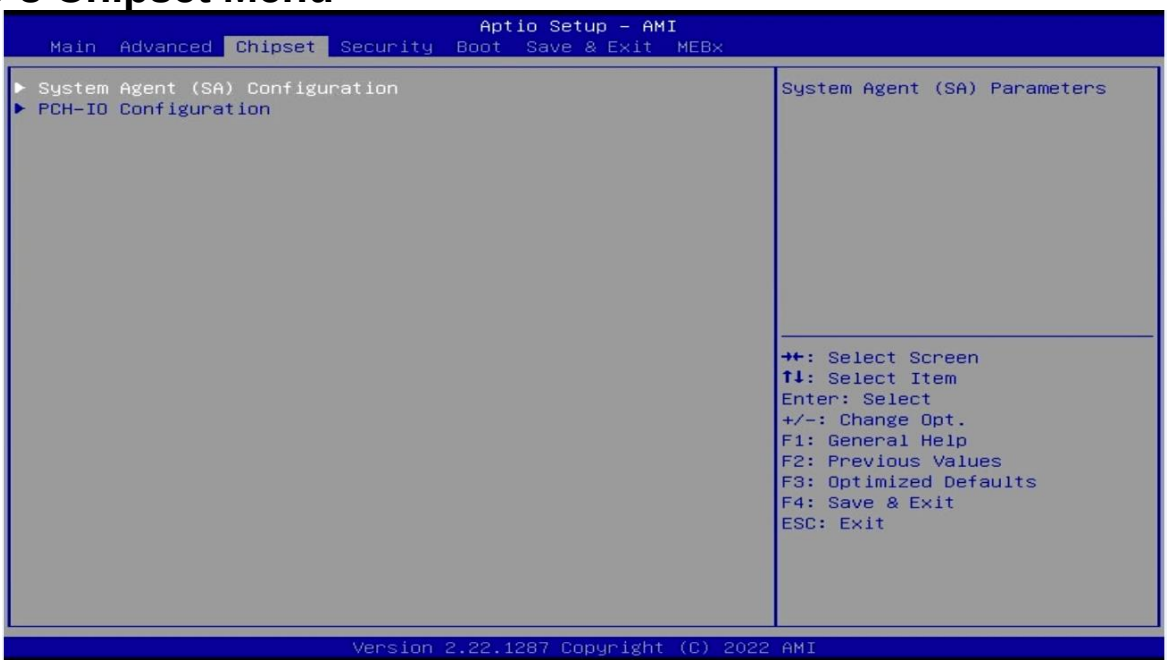
- **Network Stack Configuration**

Press [Enter] to go to '**Network Stack**' screen to make further settings.
Network Stack
Use this item to enable or disable UEFI Network Stack.
The optional settings are: [Disabled]; [Enabled].
**When set as [Enabled], the following sub-items shall appear:*
Ipv4 PXE Support
Use this item to enable IPv4 PXE boot support.
When set as [Disabled], IPv4 boot support will not be available.
The optional settings are: [Disabled]; [Enabled].
Ipv6 PXE Support
Use this item to enable IPv6 PXE boot support.
When set as [Disabled], IPv6 boot support will not be available.
The optional settings are: [Disabled]; [Enabled].
PXE boot wait time
Use this item to set wait time to press [ESC] key to abort the PXE boot.
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**
  Press [Enter] to view current NVMe Configuration.
  **Note: options only when NVME device is available.*
- **Intel® Ethernet Controller I225-V- XX:XX:XX:XX:XX:XX**
  Use this item to for MM10-Q670
- **Intel® Ethernet Connection (17)I219-LM- XX:XX:XX:XX:XX:XX**
  Use this item to for MM10-Q670
- **Intel® Ethernet Connection (17)I219-V- XX:XX:XX:XX:XX:XX**
  Use this item to for MM10-H610

3-8 Chipset Menu



- **System Agent (SA) Configuration**
  Press [Enter] to make settings for the following sub-items:
  - **Memory Configuration**

  Press [Enter] to view brief information for the working memory module.
  Maximum Memory Frequency
  Use this item to Maximum Memory frequency selections in Mhz.
  The optional settings are: [Auto]; [4000]; [4400]; [4800]; [5000]; [5200]; [5400];
  - **Graphics Configuration**

  Press [Enter] to make further settings for Graphics Configuration.
  Graphics Configuration

  PCIE1 Slot
  Use this item to control the PCI Express Root Port
  The optional settings are: [Disabled]; [Enabled]
  PCIE1 Slot Lane Select
  Use this item to select X16 or X8/X8
  The optional settings are: [X16]; [X8/X8]
  ***Note:** Use this item to for MM10-Q670*

Primary Display
Use this item to select which of graphics device should be Primary Display.
The optional settings are: [Auto]; [IGFX]; [PEG Slot]; [PCH PCIE]

Internal Graphics
Use this item to keep IGFX enabled based on the setup options.
The optional settings are: [Auto]; [Disable]; [Enable].

Aperture Size
Use this item to select the Aperture Size. Above 4GB MMIO BIOS assignment is automatically enabled when selecting 2048MB aperture. To use this feature, please disable CSM Support.
The optional settings are: [128MB]; [256MB]; [512MB]; [1024MB].

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]; [128M]

DVMT Total Gfx Mem
Use this item to select DVMT 5.0 Total Graphic Memory size used by the Internal Graphics Device.
The optional settings are: [128M]; [256M]; [MAX].

► **VMD setup menu**

Enable VMD controller
Use this item to enable/disable to VMD controller
The optional settings: [Disabled]; [Enabled].
When set as [Enabled], the following sub-items shall appear:

Enable VMD Global Mapping
Use this item to enable/disable to VMD controller
The optional settings: [Disabled]; [Enabled].
When set as [Enabled], the following sub-items shall appear

Map this Root Port under VMD
Use this item toMap/UnMapthis Root Port to VMD
The optional settings: [Disabled]; [Enabled].

► **PCH-IO Configuration**

HD Audio
This item controls detection of the HD-Audio device.
The optional settings are: [Disabled]; [Enabled].
[**Disabled**]: HDA will be unconditionally disabled.
[**Enabled**]: HAD will be unconditionally enabled.

Onboard Lan1 Controller
Use this item to enable or disable onboard NIC.
The optional settings are: [Disabled]; [Enabled].
When set as [Enabled], the following sub-items shall appear:

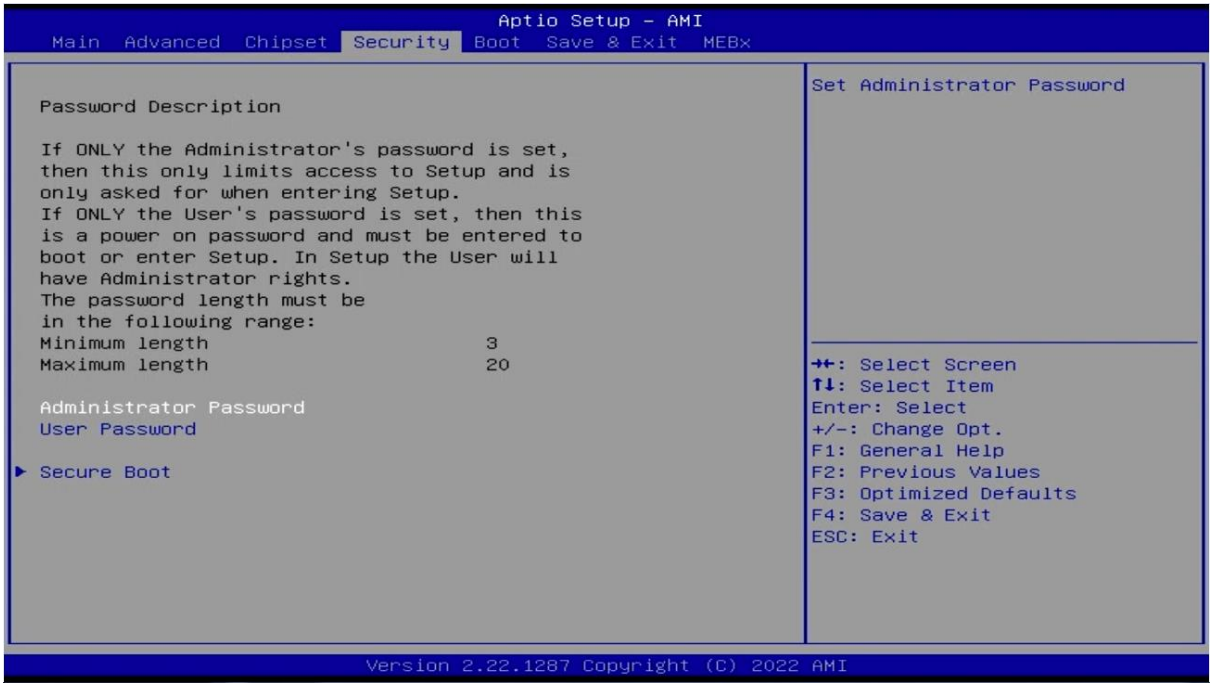
Wake on LAN Enable
Use this item to enable/disable integrated LAN to wake the system
The optional settings are: [Disabled]; [Enabled].

Onboard Lan3 Controller
Use this item to control the PCI Express Root Port.
The optional settings are: [Disabled]; [Enabled].

Note: *Use this item to for MM10-Q670*

System State After Power Failure
Use this item to select what state to go to when power is re-applied after a power failure (G3 state).
The optional settings are: [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 administrator password.

- **Secure Boot**
  Press [Enter] to make customized secure settings:
  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 are: [Disabled]; [Enabled].
  Secure Boot Mode

Set UEFI Secure Boot Mode to Standard mode or Custom mode.
In Custom mode, Secure Boot Policy variables can be configured by a physically present user without full authentication.
The optional settings are: [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, to 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 experienced users to modify Secure Boot variables, which includes the following items:
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 are: [Disabled]; [Enabled].

- **Restore Factory Keys**

Use this item to force system into 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 the image to run in Secure Boot Mode.
Enroll SHA256 Hash certificate of a PE image into Authorized Signature Database (db).

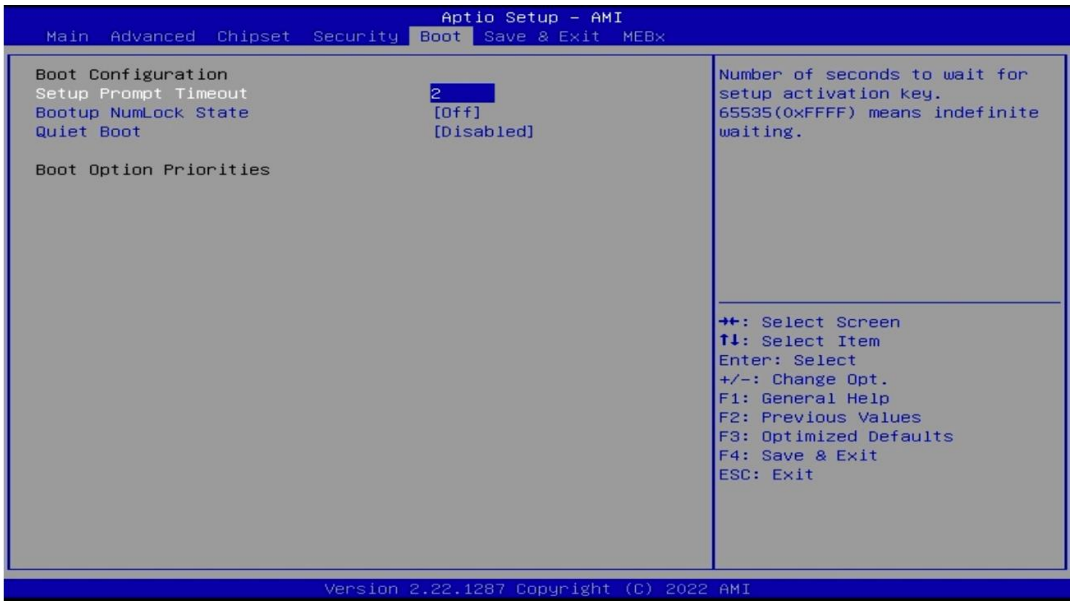
- **Export Secure Boot variables**

Use this item to copy NVRAM content of Secure Boot variables to files in a root folder on a file system device.
Secure Boot Variable/Size/Keys/Key Source

- **Platform Key (PK)/Key Exchange Keys/Authorized Signature/Forbidden Signature/ Authorized TimeStamps/OsRecovery Signatures**

Use this item to enroll Factory Defaults or load the keys from a file with:
1. Public Key Certificate in:
   a) EFI_SIGNATURE_LIST
   b) EFI_ CERT_X509 (DER encoded)
   c) EFI_ CERT_RSA2048 (bin)
   d) EFI_ CERT_SHAXXX (bin)
2. Authenticated UEFI Variable
3. EFI PE/COFF Image (SHA256)
Key Source: Factory, External, Mixed.

3-10 Boot Menu



Boot Configuration

Setup Prompt Timeout

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

Bootup Numlock State

Use this item to select keyboard numlock state.

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

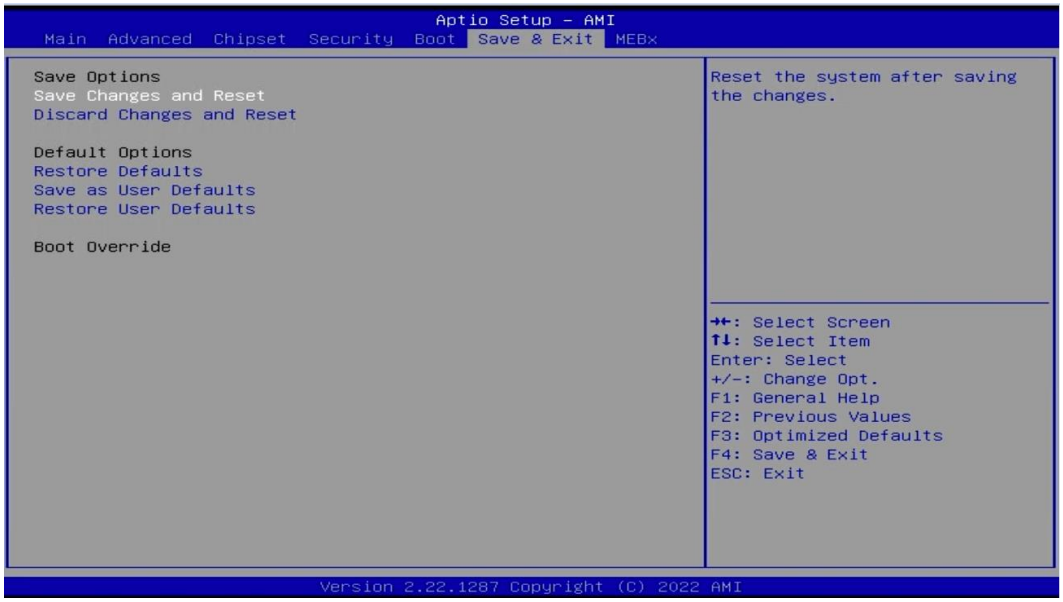
Quiet Boot

Use this item to enable or disable quiet boot option.

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

Boot Option Priorities

3-11 Save & Exit Menu



Save Options

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.
Default Options
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

3-12 MEBx

For MM10-Q670

Intel(R) ME Password
Use this item to MEBx Login