



MS-C918
MS-C918S

Personal Computer

User Guide

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Revision

V1.0, 2025/05

Regulatory Notices

CE Conformity

Hereby, Micro-Star International CO., LTD declares that this device is in compliance with the essential safety requirements and other relevant provisions set out in the European Directive.



FCC-B Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the measures listed below:



- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

Notice 1

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Notice 2

Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

WEEE Statement

Under the European Union ("EU") Directive on Waste Electrical and Electronic Equipment, Directive 2012/19/EU, products of "electrical and electronic equipment" cannot be discarded as municipal waste anymore and manufacturers of covered electronic equipment will be obligated to take back such products at the end of their useful life.



Chemical Substances Information

In compliance with chemical substances regulations, such as the EU REACH Regulation (Regulation EC No. 1907/2006 of the European Parliament and the Council), MSI provides the information of chemical substances in products at:

<https://csr.msi.com/global/index>

Battery Information

Please take special precautions if this product comes with a battery.

- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.
- Avoid disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, which can result in an explosion.
- Avoid leaving a battery in an extremely high temperature or extremely low air pressure environment that can result in an explosion or the leakage of flammable liquid or gas.
- Do not ingest battery. If the coin/button cell battery is swallowed, it can cause severe internal burns and can lead to death. Keep new and used batteries away from children.

European Union:



Batteries, battery packs, and accumulators should not be disposed of as unsorted household waste. Please use the public collection system to return, recycle, or treat them in compliance with the local regulations.

BSMI:



廢電池請回收

For better environmental protection, waste batteries should be collected separately for recycling or special disposal.

California, USA:



The button cell battery may contain perchlorate material and requires special handling when recycled or disposed of in California.

For further information please visit:

<http://www.dtsc.ca.gov/hazardouswaste/perchlorate/>

Environmental Policy

- The product has been designed to enable proper reuse of parts and recycling and should not be thrown away at its end of life.
- Users should contact the local authorized point of collection for recycling and disposing of their end-of-life products.
- Visit the MSI website and locate a nearby distributor for further recycling information.
- Users may also reach us at gpcontdev@msi.com for information regarding proper disposal, take-back, recycling, and disassembly of MSI products.
- Please visit <https://us.msi.com/page/recycling> for information regarding the recycling of your product in the US.



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The terms HDMI™, HDMI™ High-Definition Multimedia Interface, HDMI™ Trade dress and the HDMI™ Logos are trademarks or registered trademarks of HDMI™ Licensing Administrator, Inc.

Technical Support

If a problem arises with your product and no solution can be obtained from the user's manual, please contact your place of purchase or local distributor. Alternatively, please visit <https://www.msi.com/support/> for further guidance.

Safety Information



Please read and follow these safety instructions carefully before installing, operating or performing maintenance on the equipment.

General Safety Instructions

- Always read the safety instructions carefully.
- Keep this User's Manual for future reference.
- Keep this equipment in a dry, humidity-free environment.
- Ensure that all components are securely connected to prevent issues during operation.
- Do not cover the air openings to prevent overheating.
- Avoid spilling liquids into the equipment to prevent damage or electrical shock.
- Do not leave the equipment in an unconditioned environment. Storage temperatures above 60°C (140°F) may cause damage.

Electrostatic Discharge (ESD) Precautions

The components included in this package are sensitive to electrostatic discharge. Follow these guidelines to prevent ESD-related damage:

- Hold the motherboard by the edges to avoid touching sensitive components.
- Wear an ESD wrist strap. If not available, discharge static electricity by touching a metal object before handling.
- When not installed, store the motherboard in an electrostatic shielding container or place it on an anti-static pad.

Power Safety

- Always turn off the power supply and unplug the power cord from the outlet before installing or removing any component.
- Ensure the electrical outlet provides the same voltage as indicated on the PSU before connecting.
- Arrange the power cord to avoid tripping hazards or damage. Do not place objects over the power cord.

Installation Instructions

- Lay the equipment on a stable, flat surface before setting it up.
- Before turning on the system, ensure there are no loose screws or metal components on the motherboard or within the system case.
- Do not boot the computer before completing all installations. Premature booting can cause permanent damage to components and pose safety risks.

When to Contact Service Personnel

Immediately consult service personnel if any of the following situations arise:

- The power cord or plug is damaged.
- Liquid has entered the equipment.
- The equipment has been exposed to moisture.
- The equipment does not function as described in the User Guide.
- The equipment has been dropped or physically damaged.
- The equipment shows visible signs of breakage.

Specifications

Model	MS-C918		MS-C918S	
SKU	MS-C918-ADL-N1	MS-C918-TWL1	MS-C918S-ADL-N1	MS-C918S-TWL1
	SKU1	SKU3	SKU2	SKU4
Processor	<ul style="list-style-type: none"> • Intel® Alder Lake, <ul style="list-style-type: none"> - Intel® Processor N100 (CCG), TDP 6W 	<ul style="list-style-type: none"> • Intel® Twin Lake, <ul style="list-style-type: none"> - Intel® Processor N150 (CCG), TDP 6W 	<ul style="list-style-type: none"> • Intel® Alder Lake, <ul style="list-style-type: none"> - Intel® Processor N100 (CCG), TDP 6W 	<ul style="list-style-type: none"> • Intel® Twin Lake, <ul style="list-style-type: none"> - Intel® Processor N150 (CCG), TDP 6W
Memory	<ul style="list-style-type: none"> • LPDDR5 onboard <ul style="list-style-type: none"> - Single channel - Up to 4800 MT/s - Up to 4GB (2 x 2GB) 			
Network (Wireless)	<ul style="list-style-type: none"> • Intel® Wi-Fi 6E AX210.D2WG.NV onboard <ul style="list-style-type: none"> - Supports dual Band 2x2 - Supports BT 5.2 			
Network	1 x Realtek® RTL8111H-CG, 1Gbps RJ45 LAN			
Antenna	<ul style="list-style-type: none"> • 2 x Internal Antenna (optional) <ul style="list-style-type: none"> - Supports Wi-Fi 6E, BT 5.2 			
Storage	<ul style="list-style-type: none"> • 1 x eMMC (up to 128GB) • 1 x MicroSD card slot (up to 2TB) 			
Graphics	<ul style="list-style-type: none"> • 2 x HDMI™ 2.0b <ul style="list-style-type: none"> - up to 4096x2160 @60Hz - Supports HDMI™ CEC power On/Off (Right side) 			
Front I/O	<ul style="list-style-type: none"> • 2 x USB 10Gbps Type-A ports • 1 x USB 2.0 Type-A port (480Mbps) • 1 x Power button/ LED 			
Rear I/O	<ul style="list-style-type: none"> • 1 x 1Gbps RJ-45 LAN port • 2 x HDMI™ connector (2.0b) 			
TPM	fTPM 2.0			
Thermal Solution	<ul style="list-style-type: none"> • 1 x Fan • 1 x Heatsink 		<ul style="list-style-type: none"> • 1 x Heatsink 	
Power Solution	1 x 12V DC-in power jack			
Power Option	12V $\overline{\text{---}}$ 2A, 24W wall mount power adaptor (US+EU+UK plug)			
Power Consumption	<ul style="list-style-type: none"> • Power On < 24W • Standby < 0.5W • Power Off < 0.5W 			
Dimensions	80 (W) x 80 (D) x 39.5 (H) mm		80 (W) x 78.5 (D) x 48 (H) mm	
Weight	0.22 kg		0.35 kg	

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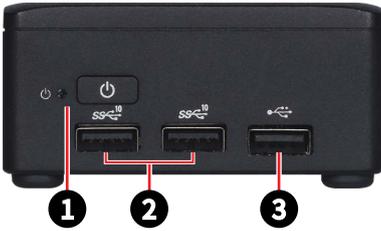
Model	MS-C918		MS-C918S	
SKU	MS-C918-ADL-N1	MS-C918-TWL1	MS-C918S-ADL-N1	MS-C918S-TWL1
	SKU1	SKU3	SKU2	SKU4
Mounting	VESA mount <ul style="list-style-type: none"> • Plate Type: 120 x 120 mm • Screw Type: M3 x 8.5 mm (2pcs) <ul style="list-style-type: none"> - Thread Diameter: 3 mm - Thread Pitch: 0.5 mm - Thread Length: 8.5 mm 		VESA mount <ul style="list-style-type: none"> • Plate Type: 120 x 120 mm • Screw Type: M3 x 6.8 mm (2pcs) <ul style="list-style-type: none"> - Thread Diameter: 3 mm - Thread Pitch: 0.5 mm - Thread Length: 6.8 mm 	
Kensington Lock	Yes			
OS Support	Windows 11 IoT Enterprise LTSC			
Regulatory Compliance	FCC Class B, CE, BSMI, VCCI, RoHS Compliant			
Environment	<ul style="list-style-type: none"> • Operation Temperature: 0 ~ 40°C 		<ul style="list-style-type: none"> • Operation Temperature: 0 ~ 55°C - Thermal w/ Airflow: 0.7m/s 	
	<ul style="list-style-type: none"> • Storage Temperature: 0 ~ 60°C • Operation Humidity: 0 ~ 90%, non-condensing • Storage Humidity: 0~ 90%, non-condensing • Vibration : Operating, 0.25 Grms, 5-300Hz, 3axes • Shock : Operating, 3G, half sine, 11ms duration 			

Package Contents

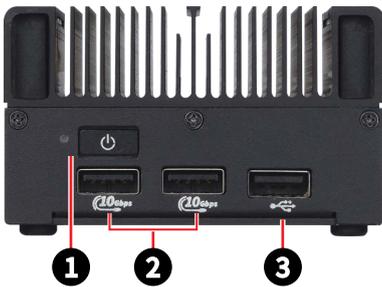
Accessories	Adapter with plug
	VESA Mounting Plate
	VESA Mount Screws

System Overview

MS-C918



MS-C918S



<p>1</p>	<p> Power Button/ LED</p> <p>Press the button to turn the system on or off.</p> <table border="1" data-bbox="207 220 923 352"> <thead> <tr> <th>LED Status</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td> Off</td> <td>ACPI S4/ S5/ Deep S5, Power Off</td> </tr> <tr> <td> Blinking</td> <td>ACPI S3</td> </tr> <tr> <td> White</td> <td>ACPI S0</td> </tr> </tbody> </table>	LED Status	Description	 Off	ACPI S4/ S5/ Deep S5, Power Off	 Blinking	ACPI S3	 White	ACPI S0									
LED Status	Description																	
 Off	ACPI S4/ S5/ Deep S5, Power Off																	
 Blinking	ACPI S3																	
 White	ACPI S0																	
<p>2</p>	<p>USB 10Gbps Type-A Port</p> <p>This connector is provided for USB peripheral devices. (Speed up to 10 Gbps)</p>																	
<p>3</p>	<p>USB 2.0 Type-A Port</p> <p>This connector is provided for USB peripheral devices. (Speed up to 480 Mbps)</p>																	
<p>4</p>	<p>HDMI™ Connector  <small>HIGH-DEFINITION MULTIMEDIA INTERFACE</small></p> <p>Supports 4096x2160@60Hz as specified in HDMI™ 2.0b.</p>																	
<p>5</p>	<p>HDMI™ Connector  <small>HIGH-DEFINITION MULTIMEDIA INTERFACE</small></p> <p>Supports 4096x2160@60Hz, HDMI™ CEC as specified in HDMI™ 2.0b.</p> <p> Important</p> <ul style="list-style-type: none"> • <i>HDMI™ CEC (Consumer Electronics Control) allows communication with and control of other CEC-enabled devices.</i> • <i>When system power is on and HDMI™ CEC is enabled in the BIOS, the display automatically powers on when a connected CEC device is turned on.</i> 																	
<p>6</p>	<p>1 Gbps LAN Jack</p> <p>The standard RJ-45 LAN jack is provided for connection to the Local Area Network (LAN). You can connect a network cable to it.</p> <table border="1" data-bbox="202 1037 925 1260"> <thead> <tr> <th>LED</th> <th>Status</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Link/ Activity LED</td> <td> Off</td> <td>No link</td> </tr> <tr> <td> Yellow</td> <td>Linked</td> </tr> <tr> <td> Blinking</td> <td>Data activity</td> </tr> <tr> <td rowspan="3">Speed LED</td> <td> Off</td> <td>10 Mbps</td> </tr> <tr> <td> Green</td> <td>100 Mbps</td> </tr> <tr> <td> Orange</td> <td>1 Gbps</td> </tr> </tbody> </table>	LED	Status	Description	Link/ Activity LED	 Off	No link	 Yellow	Linked	 Blinking	Data activity	Speed LED	 Off	10 Mbps	 Green	100 Mbps	 Orange	1 Gbps
LED	Status	Description																
Link/ Activity LED	 Off	No link																
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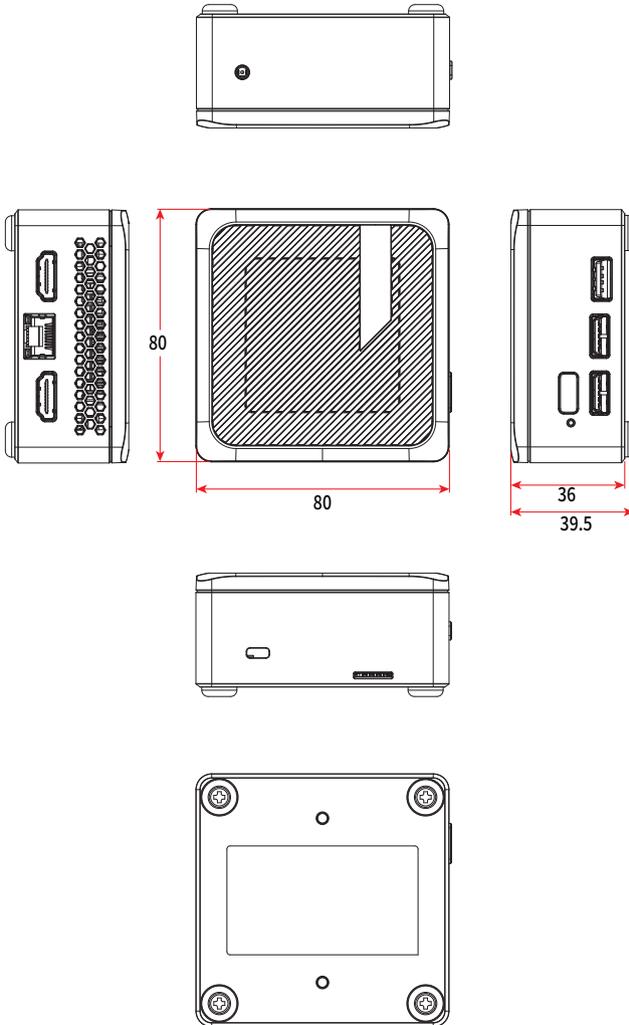
7	12V DC Power Jack Power supplied through this jack supplies power to the system.
8	Kensington Lock Port The Kensington lock port allows users to secure the PC in place with a key or mechanical PIN device by attaching a rubberized metal cable.
9	MicroSD Card Slot The microSD card slot provides a compact and removable storage solution for your system, supporting storage capacities up to 2TB .

ME Overview

System Dimensions

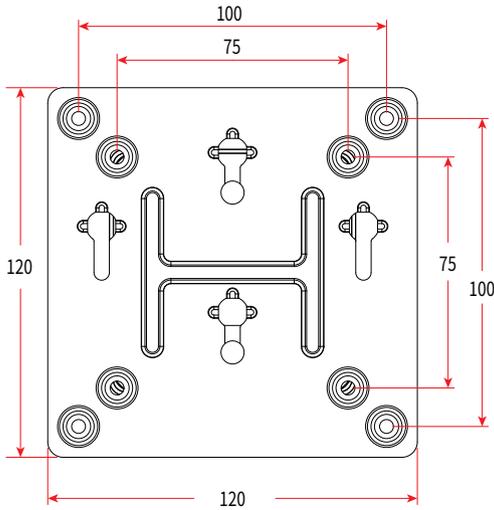
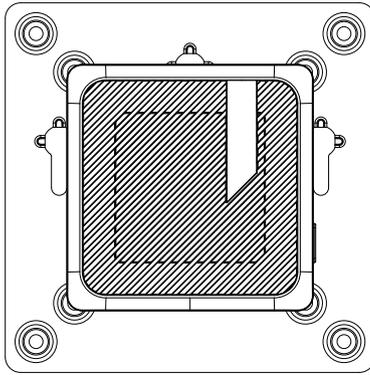
MS-C918: SKU1/3 (Fan SKU,)

Unit of measurement: mm



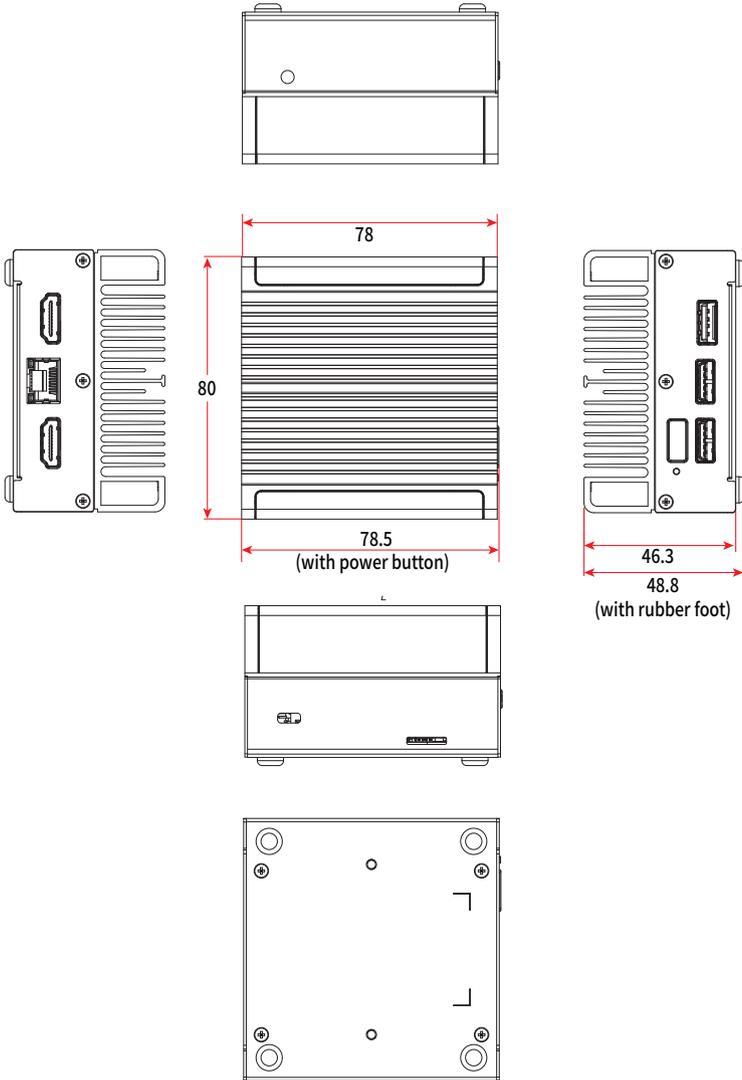
MS-C918: SKU1/3 (Fan SKU, with Mounting Plate)

Unit of measurement: mm



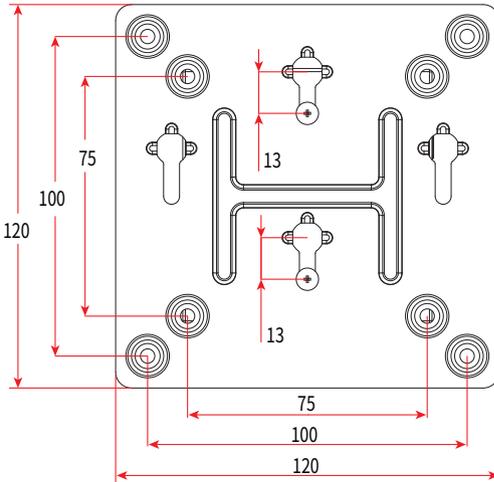
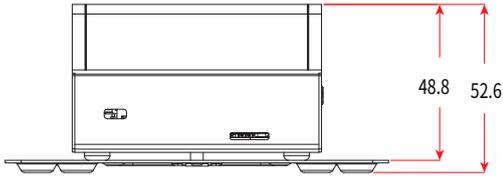
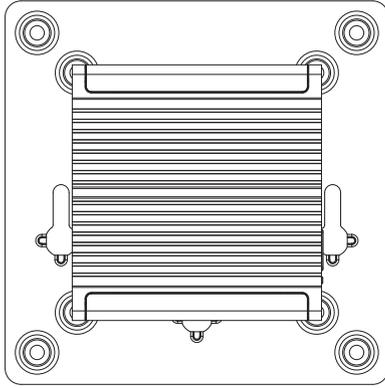
MS-C918S: SKU2/4 (Fanless SKU)

Unit of measurement: mm



C918S: SKU2/4 (Fanless SKU, with Mounting Plate)

Unit of measurement: mm



Getting Started

Important

- All information is subject to change without prior notice.
- Before you remove or install any components, make sure the system is not turned on or connected to the power.
- The illustrations are provided for **demonstrative purposes only**. The appearance and internal view of your system may differ based on the model you have purchased.

Necessary Tools



Screwdriver



Pliers



Tweezers



Anti-Static Gloves

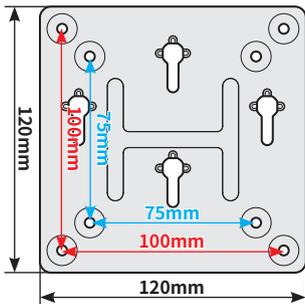
Safety Precautions

The following precautions should be observed while handling the system:

- Place the system on a flat and stable surface.
- Do not place the system in environments subject to mist, smoke, vibration, excessive dust, salty or greasy air, or other corrosive gases and fumes.
- Do not drop or jolt the system.
- Do not use another power adapter other than the one enclosed with the system.
- Disconnect the power cord before performing any installation procedures on the system.
- Do not perform any maintenance with wet hands.
- Prevent foreign substances, such as water, other liquids or chemicals, from entering the system while performing installation procedures on the system.
- Use a grounded wrist strap before handling system components such as CPU, Memory, HDD, expansion cards, etc.
- Place system components on a grounded antistatic pad or on the bed that came with the components whenever the components are separated from the system.

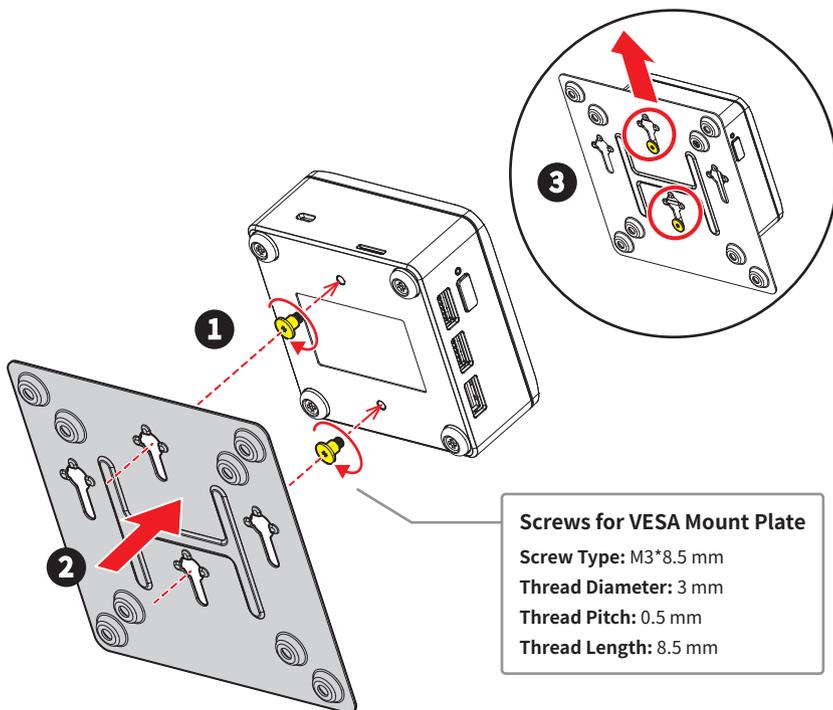
VESA Mount Plate

VESA Mount Plate Dimensions

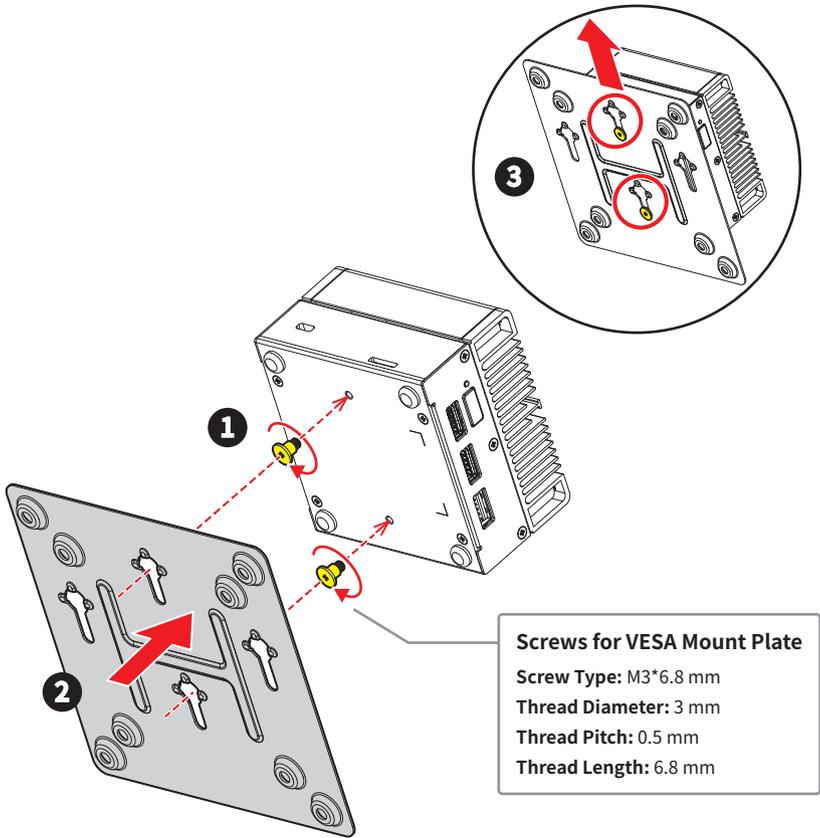


Installing VESA Mount Plate

MS-C918



MS-C918S



BIOS Setup

This chapter provides information on the BIOS Setup program and allows users to configure the system for optimal use.

Users may need to run the Setup program when:

- An error message appears on the screen at system startup and requests users to run SETUP.
- Users want to change the default settings for customized features.



Important

- *Please note that BIOS update assumes technician-level experience.*
- *As the system BIOS is under continuous update for better system performance, the illustrations in this chapter should be held for reference only.*

Entering Setup

Power on the computer and the system will start POST (Power On Self Test) process. When the message below appears on the screen, press or <F2> key to enter Setup, <F11> key to Boot Menu, <F12> key to PXE Boot .

Press or <F2> to enter SETUP

If the message disappears before you respond and you still wish to enter Setup, restart the system by turning it **OFF** and **On** or pressing the **RESET** button. You may also restart the system by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys.



Important

The items under each BIOS category described in this chapter are under continuous update for better system performance. Therefore, the description may be slightly different from the latest BIOS and should be held for reference only.

Control Keys

← →	Select Screen
↑ ↓	Select Item
Enter	Select
+ -	Change Value
Esc	Exit
F1	General Help
F7	Previous Values
F9	Optimized Defaults
F10	Save & Reset*
F12	Screenshot capture
<K>	Scroll help area upwards
<M>	Scroll help area downwards

* When you press <F10>, a confirmation window appears and it provides the modification information. Select between **Yes** or **No** to confirm your choice.

Getting Help

Upon entering setup, you will see the Main Menu.

Main Menu

The main menu lists the setup functions you can make changes to. You can use the **arrow keys** (↑ ↓) to select the item. The on-line description of the highlighted setup function is displayed at the bottom of the screen.

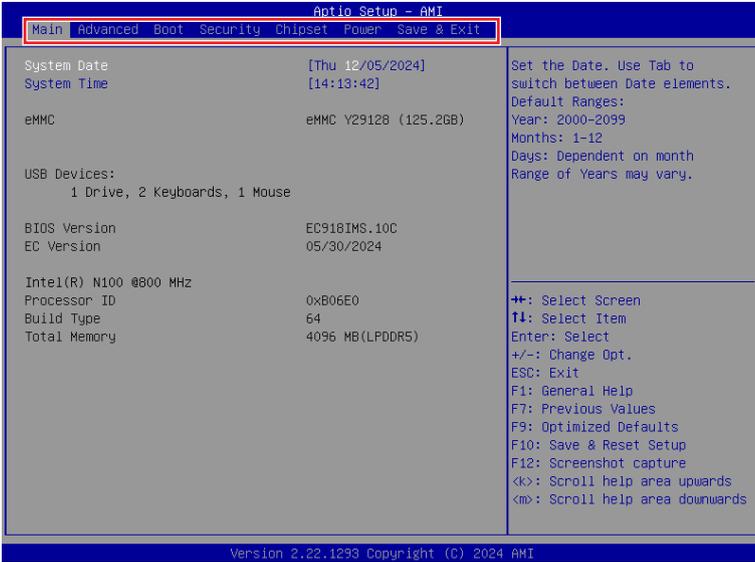
Sub-Menu

If you find a right pointer symbol appears to the left of certain fields that means a sub-menu can be launched from this field. A sub-menu contains additional options for a field parameter. You can use **arrow keys** (↑ ↓) to highlight the field and press <Enter> to call up the sub-menu. Then you can use the **control keys** to enter values and move from field to field within a sub-menu. If you want to return to the main menu, just press the <Esc>.

General Help <F1>

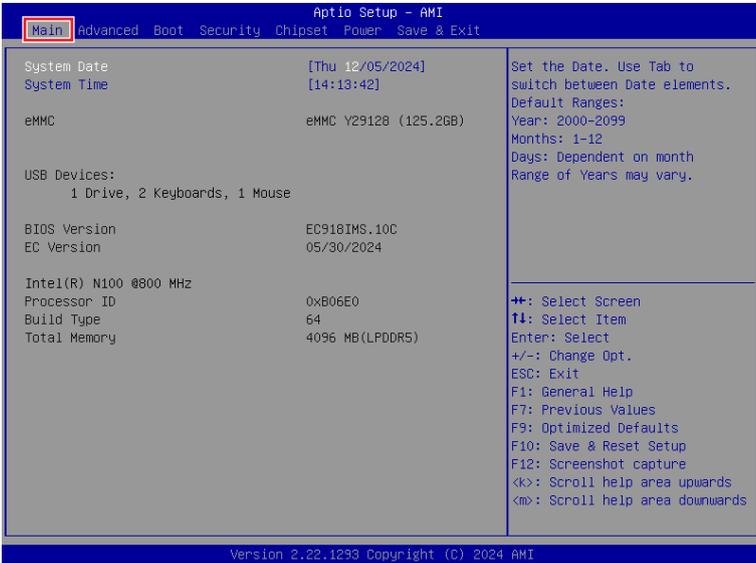
The BIOS setup program provides a General Help screen. You can call up this screen from any menu by simply pressing <F1>. The Help screen lists the appropriate keys to use and the possible selections for the highlighted item. Press <Esc> to exit the Help screen.

The Menu Bar



- ▶ **Main**
Use this menu for basic system configurations, such as time, date, etc.
- ▶ **Advanced**
Use this menu to set up the items of special enhanced features.
- ▶ **Boot**
Use this menu to specify the priority of boot devices.
- ▶ **Security**
Use this menu to set supervisor and user passwords.
- ▶ **Chipset**
This menu controls the advanced features of the on-board chipsets.
- ▶ **Power**
Use this menu to specify your settings for power management.
- ▶ **Save & Exit**
This menu allows you to load the BIOS default values or factory default settings into the BIOS and exit the BIOS setup utility with or without changes.

Main



► System Date

This setting allows you to set the system date. Use <Tab> key to switch between date elements.

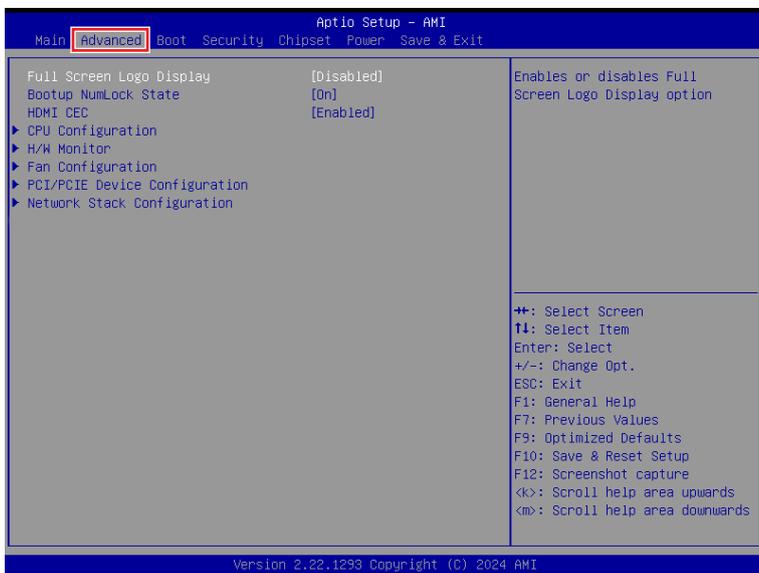
Format: <Day> <Month> <Date> <Year>.

► System Time

This setting allows you to set the system time. Use <Tab> key to switch between time elements.

Format: <Hour> <Minute> <Second>.

Advanced



▶ Full Screen Logo Display

This BIOS feature determines if the BIOS should hide the normal POST messages with the motherboard or system manufacturer's full-screen logo.

[Enabled] BIOS will display the full-screen logo during the boot-up sequence, hiding normal POST messages.

[Disabled] BIOS will display the normal POST messages, instead of the full-screen logo.

Please note that enabling this BIOS feature often adds 2-3 seconds to the booting sequence. This delay ensures that the logo is displayed for a sufficient amount of time. Therefore, it is recommended to disable this BIOS feature for faster boot-up.

▶ Bootup NumLock State

This setting is to set the state of the Num Lock key on the keyboard when the system is powered on.

[On] Turn on the Num Lock key when the system is powered on.

[Off] Allow users to use the arrow keys on the numeric keypad.

▶ HDMI CEC

This setting allows you to enable or disable the HDMI™ CEC (Consumer Electronics Control) to control all connected devices via HDMI™ connector with one remote control.

► CPU Configuration

Advanced		
CPU Configuration		VT-d capability
Intel(R) N100		
Processor ID	0xB06E0	
Processor Speed	800 MHz	
E-core Information		
L1 Data Cache	32 KB x 4	
L1 Instruction Cache	64 KB x 4	
L2 Cache	2048 KB	
L3 Cache	6 MB	
VT-d	[Enabled]	
Intel Virtualization Technology	[Enabled]	++: Select Screen
Active Efficient-cores	[All]	T4: Select Item
Intel(R) SpeedStep(tm)	[Enabled]	Enter: Select
Intel(R) Speed Shift Technology	[Enabled]	+/-: Change Opt.
C states	[Enabled]	ESC: Exit
		F1: General Help
		F7: Previous Values
		F9: Optimized Defaults
		F10: Save & Reset Setup
		F12: Screenshot capture
		<k>: Scroll help area upwards
		<m>: Scroll help area downwards

► VT-d

Enables or disables Intel VT-D (Intel Virtualization for Directed I/O) technology.

► Intel Virtualization Technology

Enables or disables Intel Virtualization technology.

[Enabled] Enables Intel Virtualization technology and allows a platform to run multiple operating systems in independent partitions. The system can function as multiple systems virtually.

[Disabled] Disables this function.

► Active Efficient-cores

Select the number of active Efficient-cores (E-cores).

► Intel (R) SpeedStep (TM)

Enhanced Intel SpeedStep® Technology enables the OS to control and activate performance states (P-States) of the processor.

[Enabled] When enabled, Intel SpeedStep® technology is activated. This technology allows the processor to manage its power consumption via performance state (P-State) transitions.

[Disabled] Disables this function

► **Intel (R) Speed Shift Technology**

Intel® Speed Shift Technology is an energy-efficient method that allows frequency control by hardware rather than the OS.

[Enabled] When enabled, Intel® Speed Shift Technology is activated. The technology enables the management of processor power consumption via hardware performance state (P-State) transitions.

[Disabled] Disable this function.

► **C States**

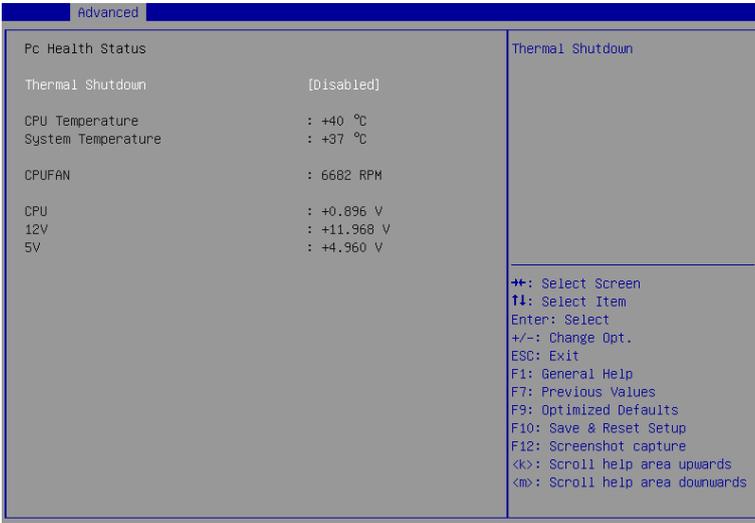
This setting controls the C-States (CPU Power states).

[Enabled] Detects the idle state of system and reduce CPU power consumption accordingly.

[Disabled] Disable this function.

► **H/W Monitor (PC Health Status)**

These items display the current status of all monitored hardware devices/ components such as voltages, temperatures and all fans' speeds.



► **Thermal Shutdown**

This setting determines the behavior of the system when the CPU temperature reaches a predefined threshold.

[Enabled] Initiate an automatic shutdown of the system to protect from potential damage due to overheating.

[Disabled] Disable this function.

► Fan Configuration

Advanced		
Fan Mode Select	[Auto Mode]	Select Fan mode Manual/Auto
Temperature 1	30	
Temperature 2	40	
Temperature 3	50	
Temperature 4	60	
Temperature 5	70	
Temperature 6	80	
Temperature 7	80	
PWM Duty 1(%)	40	
PWM Duty 2(%)	50	
PWM Duty 3(%)	60	
PWM Duty 4(%)	70	
PWM Duty 5(%)	85	
PWM Duty 6(%)	100	
PWM Duty 7(%)	100	
THYS	0	
TOFF	0	
TCNT	0	
		++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. ESC: Exit F1: General Help F7: Previous Values F9: Optimized Defaults F10: Save & Reset Setup F12: Screenshot capture <k>: Scroll help area upwards <m>: Scroll help area downwards

► Fan Mode Select

Select [Manual Mode] or [Auto Mode] to control the fan operation.

[Manual Mode]

This mode allows you to set a **fixed Duty (%) value**, which directly determines the fan speed. The fan will run continuously at the speed corresponding to the set Duty (%).

» Duty (%)

Adjust the Duty (%) value to increase or decrease the fan speed.

[Auto Mode]

This mode allows you to define a **fan curve**, which is a **set of segment that map temperature values to corresponding PWM Duty (%) values**. This allows the fan speed to automatically adjust based on the monitored temperature (CPU or System).

» Temperature 1~7

Set the temperature thresholds for each segment on your fan curve. Each segment represents a temperature threshold at which the fan speed will adjust.

» PWM Duty 1~7 (%)

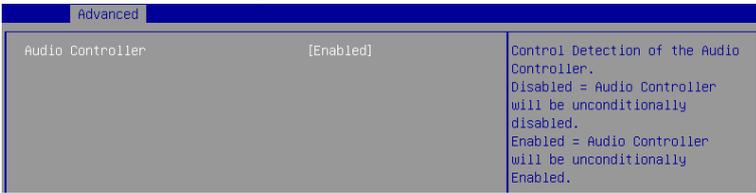
Set the PWM Duty (%) value for each segment on your fan curve.



Important

It's recommended to create a fan curve that gradually increases fan speed as the temperature rises.

► PCI/PCIE Device Configuration

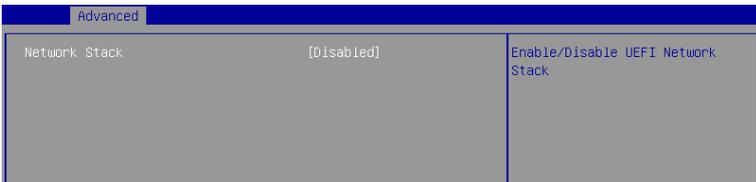


► Audio Controller

This setting enables or disables the detection of the onboard audio controller.

► Network Stack Configuration

This menu provides Network Stack settings for users to enable network boot (PXE) from BIOS.



► Network Stack

This menu provides Network Stack settings for users to enable network boot (PXE) from BIOS. The following items will display when **Network Stack** is enabled.

» IPV4 HTTP Support

Enables or disables Ipv4 HTTP Support.

» IPV6 PXE Support

Enables or disables Ipv6 PXE Support.

» IPV6 HTTP Support

Enables or disables Ipv6 HTTP Support.

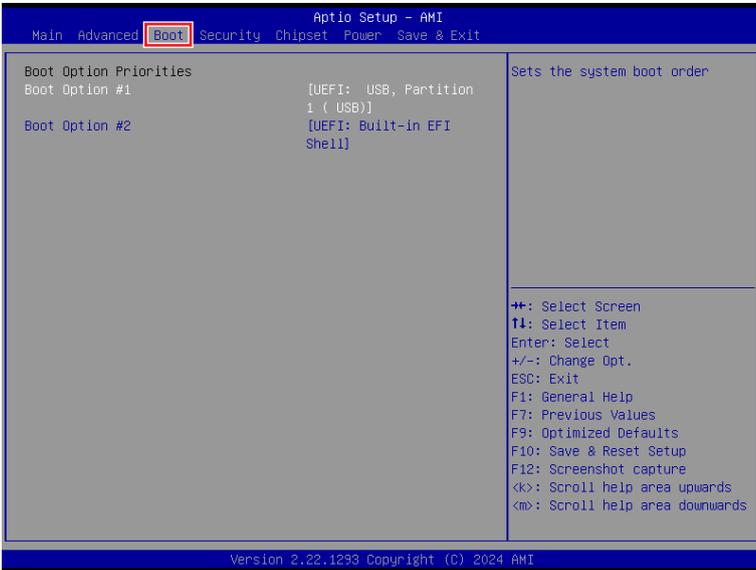
» PXE boot wait time

Use this option to specify the wait time to press the ESC key to abort the PXE boot. Press “+” or “-” on your keyboard to change the value. The default setting is 0.

» Media detect count

Use this option to specify the number of times media will be checked. Press “+” or “-” on your keyboard to change the value. The default setting is 1.

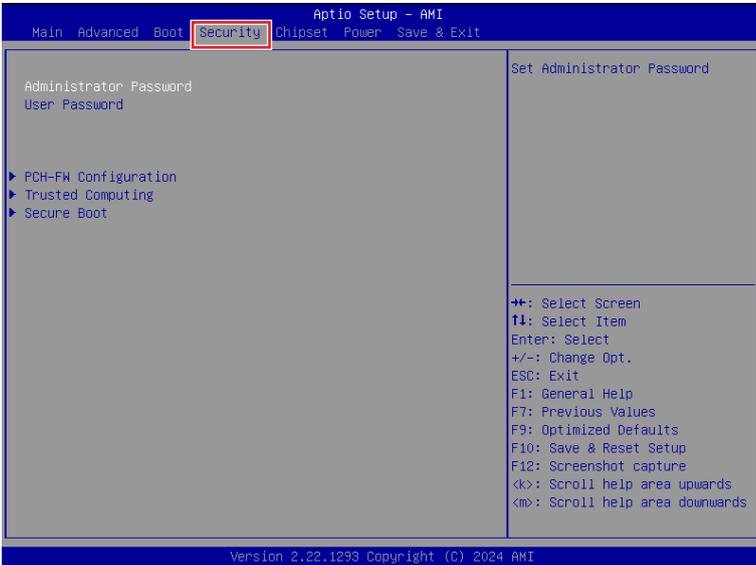
Boot



► Boot Option #1-2

This setting allows users to set the sequence of boot devices where BIOS attempts to load the disk operating system.

Security



- ▶ **Administrator Password**

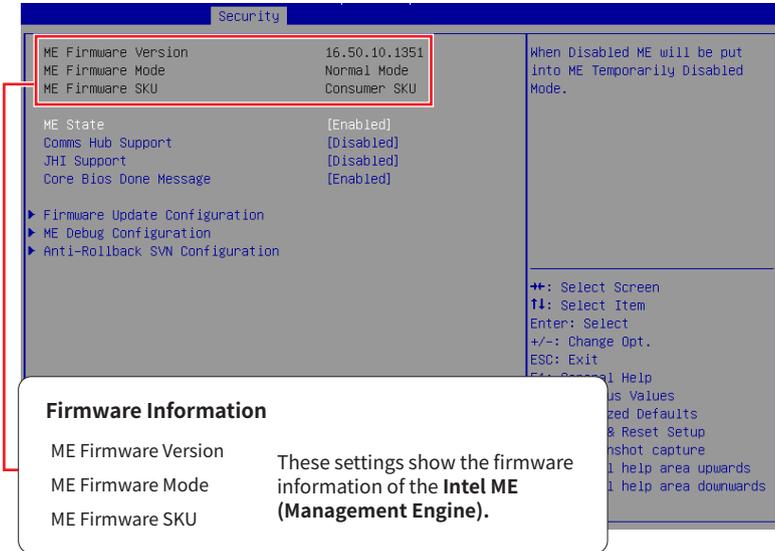
Administrator Password controls access to the BIOS Setup utility.

- ▶ **User Password**

User Password controls access to the system at boot and to the BIOS Setup utility.

► PCH-FW Configuration

This menu allows you to configure settings related to the PCH firmware.



The screenshot shows the BIOS Security menu with the following settings:

Setting	Value
ME Firmware Version	16.50.10.1351
ME Firmware Mode	Normal Mode
ME Firmware SKU	Consumer SKU
ME State	[Enabled]
Comms Hub Support	[Disabled]
JHI Support	[Disabled]
Core Bios Done Message	[Enabled]

Below the settings are expandable sections:

- Firmware Update Configuration
- ME Debug Configuration
- Anti-Rollback SVN Configuration

On the right side, there is a description: "When Disabled ME will be put into ME Temporarily Disabled Mode." and a list of navigation keys: ++: Select Screen, f1: Select Item, Enter: Select, +/-: Change Opt., ESC: Exit.

Firmware Information

ME Firmware Version These settings show the firmware information of the **Intel ME (Management Engine)**.

ME Firmware Mode

ME Firmware SKU

► ME State

This menu controls the Intel® Management Engine State (ME state) parameters, which provides various management and security capabilities. The following items will display when **ME State** is enabled.

► Comms Hub Support

Enables or disables the communications hub support.

► JHI Support

Enables or disables JHI Support. JHI stands for Intel® Dynamic Application Loader Host Interface Service (Intel® DAL HIS) and is the engineering name for this feature. Enabling JHI Support in the BIOS settings allows the system to utilize this interface for communication between trusted applications and host-based applications.

► Core BIOS Done Message

Enables or disables Core BIOS Done Message sent to ME.

► **Firmware Update Configuration**

This menu will display when **ME State** is enabled.

Security		
Me FW Image Re-Flash	[Disabled]	Enable/Disable Me FW Image Re-Flash function.
FW Update	[Enabled]	

» **ME FW Image Re-Flash**

Enables or disables the ME Firmware Image Re-flashing.

» **Local FW Update**

Enables or disables the capability to perform a firmware update.

► **ME Debug Configuration**

This menu allows you to configure debug-related options for the Intel® Management Engine (ME). This menu will display when **ME State** is enabled.

Security		
HECI Timeouts	[Enabled]	Enable/Disable HECI Send/Receive Timeouts.
Force ME DID Init Status	[Disabled]	
CPU Replaced Polling Disable	[Disabled]	
HECI Message check Disable	[Disabled]	
MBP HOB Skip	[Disabled]	
HECI2 Interface Communication	[Disabled]	
KT Device	[Enabled]	
End Of Post Message	[Send in DXE]	
DOI3 Setting for HECI Disable	[Disabled]	
MCTP Broadcast Cycle	[Disabled]	

» **HECI Timeouts**

This setting enables/ disables the HECI (Host Embedded Controller Interface) send/ receive timeouts.

» **Force ME DID Init Status**

Forces the ME Device ID (DID) initialization status value.

» **CPU Replaced Polling Disable**

Setting this option disables the CPU replacement polling loop.

» **HECI Message Check Disable**

This setting disables message check for BIOS boot path when sending messages.

» **MBP HOB Skip**

Setting this option will skip ME's Memory-Based Protection (MBP) HOB region.

» **HECI2 Interface Communication**

This setting Adds/ Removes HECI2 device from PCI space.

» **KT Device**

Enables or disables Key Transfer (KT) Device.

» **End of Post Message**

Enables or disables End of Post Message sent to ME.

» **DOI3 Setting for HECI Disable**

Setting this option disables setting DOI3 bit for all HECI devices.

» **MCTP Broadcast Cycle**

Enables or disables Management Component Transport Protocol (MCTP) Broadcast Cycle.

► **Anti-Rollback SVN Configuration**

Security		
Minimal Allowed Anti-Rollback SVN	0	When enabled, hardware-enforced Anti-Rollback mechanism is automatically activated: once ME FW was successfully run on a platform, FW with lower ARB-SVN will be blocked from execution
Executing Anti-Rollback SVN	1	
Automatic HW-Enforced Anti-Rollback SVN	[Disabled]	
Set HW-Enforced Anti-Rollback for Current SVN	[Disabled]	

» **Automatic HW-Enforced Anti-Rollback SVN**

Setting this item enables will automatically activate the hardware-enforced anti-rollback protection based on the Secure Version Number (SVN). Once enabled, the hardware will enforce that only firmware updates with an SVN equal to or higher than the current SVN can be installed.

» **Set HW-Enforced Anti-Rollback for Current SVN**

Enable HW ERB mechanism for current ARB SVN value. FW with lower ARB-SVN will be blocked from execution. The value will be restored to disable after the command is sent. This item will display when **Automatic HW-Enforced Anti-Rollback SVN** is enabled.

► Trusted Computing

Security		
TPM 2.0 Device Found		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.
Firmware Version:	600.18	
Vendor:	INTC	
Security Device Support	[Enable]	
Active PCR banks	SHA256	
Available PCR banks	SHA256,SHA384,SM3	
SHA256 PCR Bank	[Enabled]	
SHA384 PCR Bank	[Disabled]	
SM3_256 PCR Bank	[Disabled]	
Pending operation	[None]	
Platform Hierarchy	[Enabled]	++: Select Screen
Storage Hierarchy	[Enabled]	T4: Select Item
Endorsement Hierarchy	[Enabled]	Enter: Select
Physical Presence Spec Version	[1.3]	+/-: Change Opt.
TPM 2.0 InterfaceType	[CRB]	ESC: Exit
PH Randomization	[Enabled]	F1: General Help
Device Select	[TPM 2.0]	F7: Previous Values
		F9: Optimized Defaults
		F10: Save & Reset Setup
		F12: Screenshot capture
		<>: Scroll help area upwards
		<M>: Scroll help area downwards

► Security Device Support

This item enables or disables BIOS support for security device. When set to [Disable], the OS will not show security device.

► SHA256/ SHA384/ SM3_256 PCR Bank

These settings enables or disables the SHA256 PCR Bank, SHA384 PCR Bank and SM3_256 PCR Bank.

► Pending Operation

When **Security Device Support** is set to [Enable], **Pending Operation** will appear. It is advised that users should routinely back up their TPM secured data.

[TPM Clear] Clear all data secured by TPM.

[None] Discard the selection.

► Platform Hierarchy, Storage Hierarchy, Endorsement Hierarchy

These settings enables or disables the Platform Hierarchy, Storage Hierarchy and Endorsement Hierarchy.

► Physical Presence Spec Version

This settings show the Physical Presence Spec Version.

► TPM 2.0 Interface Type

This setting shows the TPM 2.0 Interface Type.

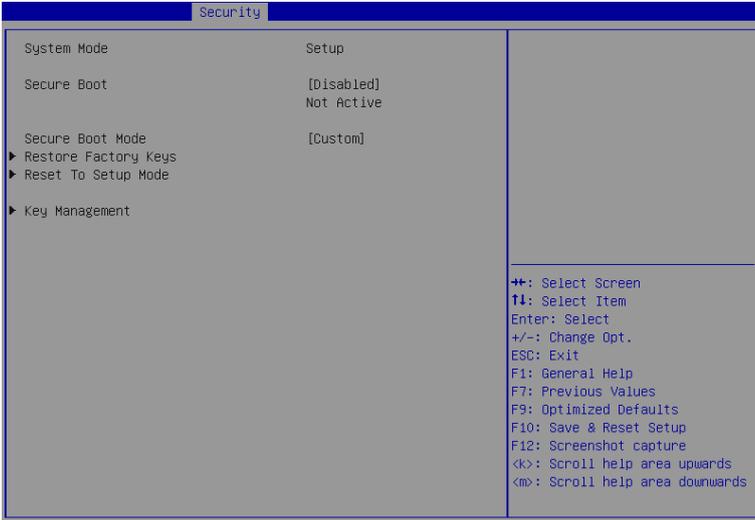
► PH Randomization

Enables or disables Platform Hierarchy (PH) Randomization.

► Device Select

Select your TPM device through this setting.

► Secure Boot



► Secure Boot

Secure Boot function can be enabled only when the **Platform Key (PK)** is enrolled and running accordingly.

► Secure Boot Mode

Selects the secure boot mode. This item appears when **Secure Boot** is enabled.

[Standard] The system will automatically load the secure keys from BIOS.

[Custom] Allows user to configure the secure boot settings and manually load the secure keys.

► Restore Factory Keys

Allows you to restore all factory default keys. The settings will be applied after reboot or at the next reboot. This item appears when "**Secure Boot Mode**" sets to [Custom].

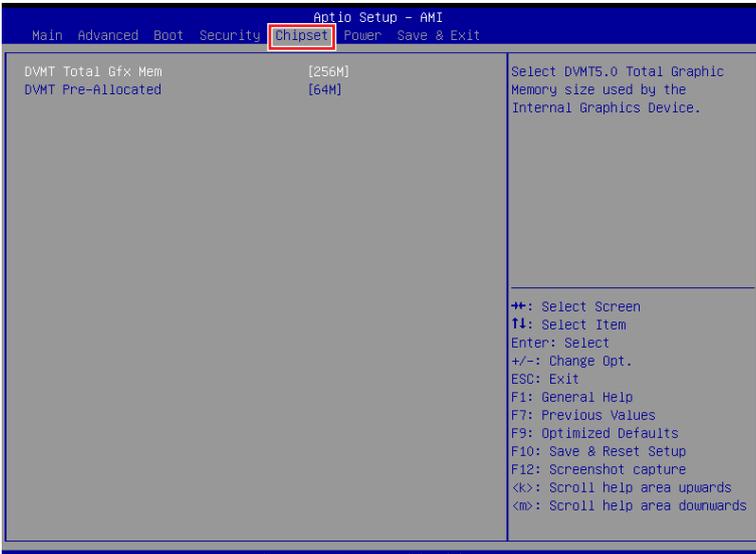
► Reset to setup Mode

Allows you to delete all the Secure Boot keys (PK,KEK,db,dbt,dbx). The settings will be applied after reboot or at the next reboot. This item appears when "**Secure Boot Mode**" sets to [Custom].

► Key Management

Press **Enter** key to enter the sub-menu. Manage the secure boot keys. This item appears when "**Secure Boot Mode**" sets to [Custom].

Chipset



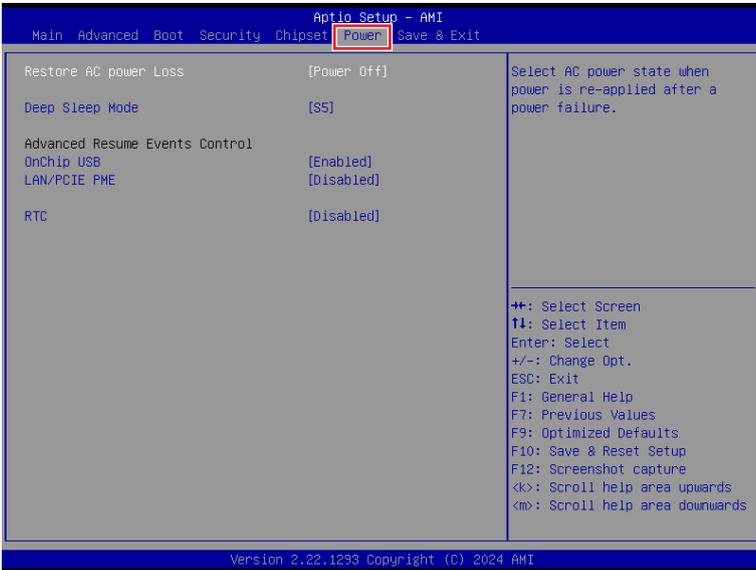
- ▶ **DVMT Total Gfx Mem**

This setting specifies the total graphics memory size for Dynamic Video Memory Technology (DVMT).

- ▶ **DVMT Pre-Allocated**

This setting defines the DVMT pre-allocated memory. Pre-allocated memory is the small amount of system memory made available at boot time by the system BIOS for video. Pre-allocated memory is also known as locked memory. This is because it is “locked” for video use only and as such, is invisible and unable to be used by the operating system.

Power



► Restore AC Power Loss

This setting specifies whether your system will reboot after a power failure or interrupt occurs. Available settings are:

- [Power Off] Leaves the computer in the power off state.
- [Power On] Leaves the computer in the power on state.
- [Last State] Restores the system to the previous status before power failure or interrupt occurred.

► Deep Sleep Mode

This setting enables or disables the **Deep S5 power-saving mode**. S5 is similar to the G3 Mechanical Off state, except the PSU continues to supply minimal power, allowing a return to the S0 state via power button. A full reboot is required, and no previous session data is retained. Other components remain unpowered, so the system cannot wake from inputs like the keyboard, clock, modem, LAN, or USB devices.

► OnChip USB

The item allows the activity of the USB device to wake up the system from S4/ S5 sleep state.

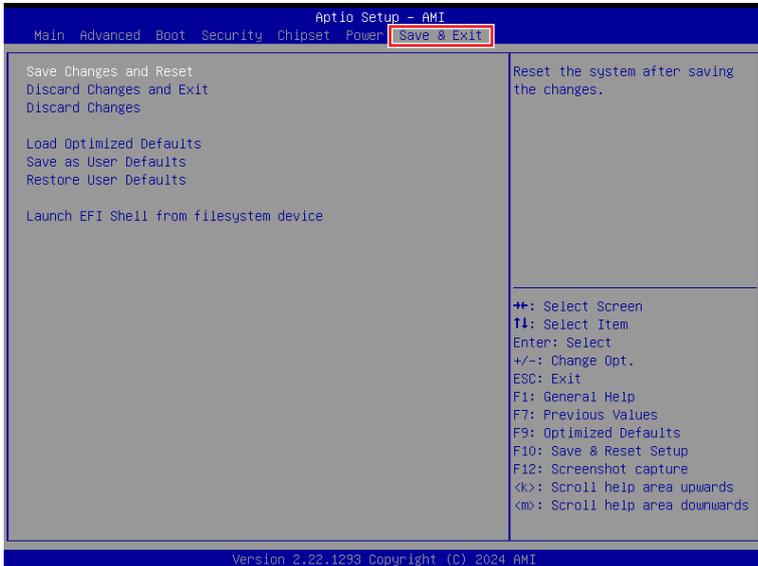
► **LAN/ PCIE PME**

Enables or disables the system to be awakened from the power saving modes when activity or input signal of Intel LAN device and onboard PCIE PME is detected.

► **RTC**

When [Enabled], you can set the date and time at which the RTC (real-time clock) alarm awakens the system from suspend mode.

Save & Exit



- ▶ **Save Changes and Reset**
Save changes to CMOS and reset the system.
- ▶ **Discard Changes and Exit**
Abandon all changes and exit the Setup Utility.
- ▶ **Discard Changes**
Abandon all changes.
- ▶ **Load Optimized Defaults**
Use this menu to load the default values set by the motherboard manufacturer specifically for optimal performance of the motherboard.
- ▶ **Save as User Defaults**
Save changes as the user's default profile.
- ▶ **Restore User Defaults**
Restore the user's default profile.
- ▶ **Launch EFI Shell from filesystem device**
This setting helps to launch the EFI Shell application from one of the available file system devices.