an Acer Group Company

Altos
工作站/Workstaion
S25E1
BrainSphere™ P150 F10
User Manual

Revision 1.0

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Altos Computing Inc. (abbr. Altos) is established in 2017 and it is a subsidiary of Acer Inc. The business model of Altos is to provide the best streamlined and cost-effective integrated solutions thru in-house R&D working with ODM/IHV/ISV on servers, workstations, thin client, network and storage. In the era of demanding speed, Altos provides leading solution included, but not limited to High Performance Computing, Virtual Desktop Infrastructure, Cloud Infrastructure and Software Defined Storage, etc.

FCC Statement: This equipment has been tested and found to comply with the limits for a Class A or Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in industrial environment for Class A device or in residential environment for Class B device. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

Manual Revision 1.0
Release Date: June 10, 2025

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Conventions

The following conventions are used in this user's guide:

	**NOTE!** Gives bits and pieces of additional information related to the current topic.
	**CAUTION!** Gives precautionary measures to avoid possible hardware or software problems.
	**WARNING!** Alerts you to any damage that might result from doing or not doing specific actions.

Warnings and Cautions

Before installing, be sure that you understand the following warnings and cautions.



WARNING!

To reduce the risk of electric shock or damage to the equipment:

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
- Plug the power cord into a grounded (earthed) electrical outlet that is always easily accessible.
- Unplug all the power cords from the power supplies to disconnect power to the equipment.
- Shock Hazard! Disconnect all power supply cords before servicing.
- Do not route the power cord where it can be walked on or pinched by items placed against it. Pay particular attention to the plug, electrical outlet, and the point where the cord extends from the server.



WARNING!

To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.



CAUTION!

- Do not operate the system for long periods with the access panel open or removed. Operating the system in this manner results in improper airflow and improper cooling that can lead to thermal damage.
- Danger of explosion if battery is incorrectly replaced.
- Replace only with the same or equivalent type recommended by the manufacturer.
- Dispose of used batteries according to the manufacturer's instructions.

Electrostatic Discharge (ESD)



CAUTION!

ESD CAN DAMAGE DRIVES, BOARDS, AND OTHER PARTS. WE RECOMMEND THAT YOU PERFORM ALL PROCEDURES AT AN ESD WORKSTATION. IF ONE IS NOT AVAILABLE, PROVIDE SOME ESD PROTECTION BY WEARING AN ANTI-STATIC WRIST STRAP ATTACHED TO CHASSIS GROUND -- ANY UNPAINTED METAL SURFACE -- ON YOUR SERVER WHEN HANDLING PARTS.

Always handle boards carefully. They can be extremely sensitive to ESD. Hold boards only by their edges without any component and pin touching. After removing a board from its protective wrapper or from the system, place the board component side up on a

grounded, static free sur- face. Use a conductive foam pad if available but not the board wrapper. Do not slide board over any surface.

System power on/off: To remove power from system, you must remove the system fromrack. Make sure the system is removed from the rack before opening the chassis, adding, or removing any non-hot plug components.

Hazardous conditions, devices and cables: Hazardous electrical conditions may be present on power, telephone, and communication cables. Turn off the system and disconnect the cables attached to the system before servicing it. Otherwise, personal injury or equipment damage can result.

Electrostatic discharge (ESD) and ESD protection: ESD can damage drives, boards, and other parts. We recommend that you perform all procedures in this chapter only at an ESD workstation. If one is not available, provide some ESD protection by wearing an antistatic wrist strap attached to chassis ground (any unpainted metal surface on the server) when handling parts.

ESD and handling boards: Always handle boards carefully. They can be extremely sensitive to electrostatic discharge (ESD). Hold boards only by their edges. After removing a board from its protective wrapper or from the system, place the board component side up on a grounded, static free surface. Use a conductive foam pad if available but not the board wrapper. Do not slide board over any surface.

Installing or removing jumpers: A jumper is a small plastic encased conductor that slips over two jumper pins. Some jumpers have a small tab on top that can be gripped with fingertips or with a pair of fine needles nosed pliers. If the jumpers do not have such a tab, take care when using needle nosed pliers to remove or install a jumper; grip the narrow sides of the jumper with the pliers, never the wide sides. Gripping the wide sides can dam-age the contacts inside the jumper, causing intermittent problems with the function con-trolled by that jumper. Take care to grip with, but not squeeze, the pliers or other tool used to remove a jumper, or the pins on the board may bend or break.



CAUTION!

Risk of explosion if battery is replaced incorrectly or with an incorrect type. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Regulatory Notices

WEEE Symbol Statement



The symbol shown below is on the product or on its packaging, which indicates that this product must be disposed of with other waste. Instead, the device should be taken to the waste collection centers for activation of the treatment, collection, recycling and disposal procedure. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.

For more information about where you can drop off your waste equipment for recycling, please contact your local government office, your household waste disposal service or where you purchased the product for details of environmentally safe recycling.

- When your electrical or electronic equipment is no longer useful to you, "take it back" to your local or regional waste collection administration for recycling.

Restriction of Hazardous Substances (RoHS) Directive Statement

Altos products have not intended to add and safe from hazardous substances (Cd, Pb, Hg, Cr+6, PBDE and PBB). The parts and components have been carefully selected to meet RoHS requirement. More- over, we at Altos are continuing our efforts to develop products that do not use internationally banned toxic chemicals.

California Proposition 65 Warning

WARNING!

This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer, and Bisphenol A (BPA), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Battery WARNING!

This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer, and Bisphenol A (BPA), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Electrical appliance specifications and operating temperature:

Rating (AC Input)	100-240Vac, 12A-6A, 50-60Hz 100-240V~, 15A-12A, 60-50Hz
Operating Temperature	10°C to 35°C
Non-operating temperature	-40°C to 60°C
Operating humidity	8%-80% (non-condensing)
Non-operating humidity	20%-95% (non-condensing)

工作站相關警告與注意事項


警告

為了避免電擊危險或損壞設備請注意:

不要切斷電源線的接地端子，接地端子是一個很重要的安全防護。
將電源線接到有接地功能的插座，此插座需位於使用者容易使用的範圍。電源線的配線要避免被踩到，被絆到或被過度彎折，重壓。


警告

本設備關機後內部仍存在電源，須拔掉電源線才能完全切掉設備內部的電源。更換零件前請確定電源已經完全切斷。
電源線,電話線，網路線可能帶電，維修前除了移除電源線外也請移除所有連接線，避免電擊傷害或是設備損壞。
維修非支援熱插拔的零件時須將工作站從機櫃取下才能維修。


警告

避免人員燙傷，觸摸磁碟機或是內部零件前請確保該零件已經冷卻。


警告

工作站中有高速風扇，維修時請遠離風扇避免受傷。


警告

本設備不能用在有兒童出現的區域。

警告

如果更換錯誤電池會產生爆炸，請以相同或同型號電池更換使用。廢電池請回收。



警告:如果更換錯誤電池會產生爆炸，請以相同或同型電池更換

廢電池請回收

注意

工作站開機時不要長時間移除蓋子，長時間移除蓋子會造成散熱功能失效造成損壞。

注意

靜電會損害電子產品，建議您在符合靜電防護的工作環境操作工作站，如果無法確定環境的靜電防護。請穿上靜電手環並且將手環接到有接地的金屬表面如機櫃或機殼。拿取電路板時僅觸碰板子的邊緣，不要觸碰連接器。板子從防靜電包裝取出後只能放置在無靜電的桌面，零件面朝上。如果可以, 請使用防靜電泡棉. 避免使用靜電袋. 避免電路板與任何表面摩擦產生靜電。

依據中華民國國家標準 CNS 15663 第 5 節「含有標示」之規定，列出安圖斯產品中可能含有之「限用物質含有情況標示」

設備名稱：工作站						
單元	限用物質及其化學符號					
	鉛 (Pb)	汞 (Hg)	鎘 (Cd)	六價鉻 (Cr^{+6})	多溴聯苯 (PBB)	多溴二苯醚 (PBDE)
金屬機構件	—	○	○	○	○	○
塑料機構件	○	○	○	○	○	○
電路板組件	—	○	○	○	○	○
電源供應器	—	○	○	○	○	○
電源線 / 其他線材	—	○	○	○	○	○
風扇	—	○	○	○	○	○
散熱模組 (金屬部分)	—	○	○	○	○	○
儲存設備	—	○	○	○	○	○
備考 1. " ○ " 係指該項限用物質之百分比含量未超出百分比含量基準值。 備考 2. " — " 係指該項限用物質為排除項目。						

報驗義務人:
安圖斯科技股份有限公司
新北市汐止區新台五路一段88號6樓

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Chapter 1
Introducing the Motherboard

Introduction

Altos P150 F10 is equipped with the latest Intel® Core™ Ultra Series 2 processor, designed for power users who demand top-tier performance. This platform supports multi-GPU configurations, AI acceleration, and heavy multitasking, offering a robust core architecture, generous PCIe bandwidth, and an integrated NPU. It's an ideal solution for game developers, video editors, 3D professionals, and AI researchers who require exceptional compute power and advanced connectivity.

Latest CPU & Dual High-End GPU Support

- Powered by the **Intel® Core™ Ultra Series 2 processor**, delivering exceptional computing performance for intensive business and creative workloads.
- Integrated with a **2000W 80+ Platinum PSU**, capable of stably supporting **dual high-performance GPUs** and multiple expansion devices.

Powerful Core Architecture + NPU for AI Workloads:

- Up to **24 cores** (8 Performance + 16 Efficient) and built-in **Neural Processing Unit (NPU)** for AI acceleration.
- Enhanced performance with **AI-powered tools** on Windows 11, such as Copilot and locally-run Stable Diffusion.

Smart Task Scheduling with Intel Thread Director:

- Designed to work seamlessly with **K-series processors**, delivering high performance across demanding workloads.
- **Intel Thread Director** intelligently distributes tasks between performance and efficiency cores, maximizing responsiveness and energy efficiency.

Next-Gen I/O and Connectivity:

- Supports **DDR5-5600** memory, **Wi-Fi 7**, **dual LAN**, TPM 2.0, **two M.2 SSDs**, and up to **9 USB ports**, including USB 3.2 Gen 2x2 (20Gbps) ports for ultra-fast data transfer.

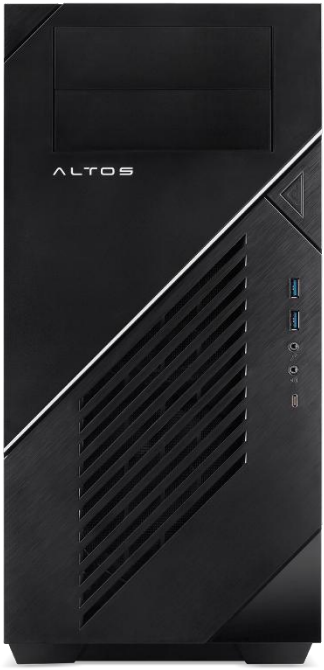
Brief Introduction

Specifications

CPU	Single Intel® Core® Ultra Series 2 (Arrow Lake-S), up to 125W.
Chipset	Intel® Z890
RAID	SATA/NVMe RAID 0,1,5,10 (Windows OS only)
Memory	• 4 DIMMs, Dual-Channel, up to 196GB DDR5 5600 MHz UDIMM
PCIe Expansion	4 PCIe Slots • 1x PCIe 5.0 x16 slot • 1x PCIe 4.0 x16 slot (x4 Lanes) • 2x PCIe 4.0 x1 slot
M.2	• 1x M.2 2280 PCIe 5.0 x4 slot • 1x M.2 2280 PCIe 4.0 x4 slot • 1x M.2 2230 slot (Key E)
Network	• 1GbE(Intel I219-V) +2.5GbE LAN (Intel I226-V)
Media/Storage bays	• [External bays] 1x 5.25“ ODD bay • [Internal bays] 4x 3.5” Hard disks
I/O Ports	Front I/O 2x USB3.2 Gen 1, USB3.2 Gen 2x1 Type C, System LED (Power/HDD) Rear I/O 2x RJ45 Ethernet LAN ports, 4x USB 3.2 Gen1, 3x USB 2.0, 1x USB 3.2 Gen2x1 (Type C) Mic-In/Line-Out Audio jacks, 2x DP 1.4, 1x HDMI 1.4, 1x VGA, 1x COM
Power supply	• 850W 80PLUS® GOLD PSU and 2000W 80PLUS® Platinum PSU
Dimensions	• 56L, 470 (D) x230 (W) x 518.5 (H) mm
Compliance	• CE, FCC, CB, BSMI, MET
OS Support	Microsoft® Windows11 Pro, Fedora 42 , Ubuntu 25.04, RHEL

System Appearance







Front View



1	5.25-inch external accessible bay
2	Power Button/Power LED/HDD LED
3	2 USB3.2 Gen1 Type-A Ports
4	HDD Activity LED
5	HD Audio

Motherboard Components

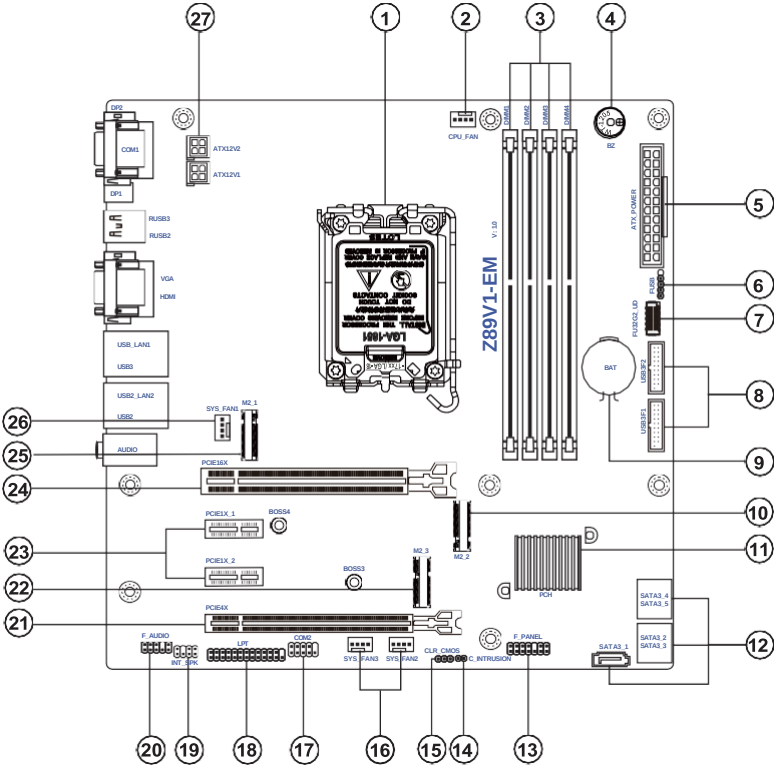
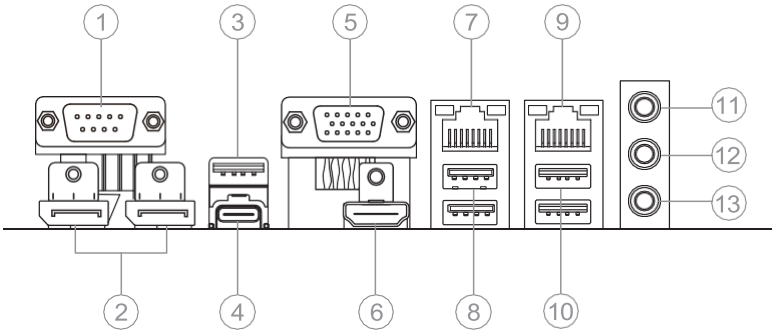


Table of Motherboard Components

LABEL	COMPONENTS
1. CPU Socket	LGA1851 socket, support Intel® Arrow Lake S processors
2. CPU_FAN	4-pin CPU cooling fan header
3. DIMM1~4	288-pin DDR5 U-DIMM slots
4. BZ	Buzzer header
5. ATX_POWER	Standard 24-pin ATX power connector
6. FUSB	5 pin Card reader header
7. FU32G2_UD	20-pin USB 3.2 Gen2 x2 header (KEY-A)
8. USB3F1~2	20-pin USB 3.2 Gen1 headers (Type A + Type C)
9. BT	Battery
10. M2_2	M.2 2280 Key M slot for SSD PCIE Gen4 x4 (from PCH)
11. PCH	Z890/W880 chipset
12. SATA3_1~5	Serial ATA 6Gb/s connectors
13. F_PANEL	Front panel switch/LED header
14. C_INTRUSION	2-pin Intrusion Alarm Pin header
15. CLR_CMOS	Clear CMOS jumper
16. SYS_FAN2~3	4-pin System cooling fan header
17. COM2	5-pin Onboard serial port header
18. LPT	26-pin Onboard parallel port header
19. INT_SPK	8-pin Internal speaker header
20. F_AUDIO	Front panel audio header
21. PCIE4X	PCI Express x16 Gen4 slot
22. M2_3	M.2 2230 Key E slot for WiFi7 (from PCH)
23. PCIE1X_1~2	PCI Express Gen4x1 slots
24. PCIE16X	PCI Express x16 Gen5 slot for graphics interface
25. M2_1	M.2 2280 Key M slot for SSD Gen5 x4 (from CPU)
26. SYS_FAN1	4-pin system cooling fan header
27. ATX_12V	8-pin +12V power connector

I/O Ports



1. COM Port
Use the COM port to connect the serial port.

2. DP Port
You can connect the display device to the display port.

3. & 10. USB 2.0 Ports
Use the USB 2.0 ports to connect USB 2.0 devices.

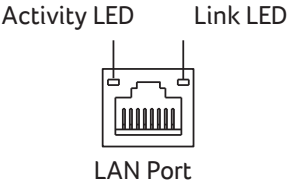
4. USB 3.2 Gen2x2 Port (type C)
Use the USB 3.2 Gen2x2 port (Type C) to connect USB 3.2 Gen2x2 device.

5. VGA Port
Connect your monitor to the VGA port.

6. HDMI™ Ports
You can connect the display device to the HDMI™ port.

7 & 9. 1G/2.5G LAN Port
Connect an RJ-45 jack to the LAN port to connect your computer to the Network.

LAN LED	Status	Description
Activity LED (Single Color)	OFF	No data
	Yellow blinking	Active
Link LED (Dual Color)	OFF	No link
	Green	Link(Giga/100/1000 port)



8. USB 3.2 Gen1x2 Ports (type A)
Use the USB 3.2 Gen1x2 ports (type A) to connect USB 3.2 Gen1x2 device.

11. Line-in (blue)
It can be connected to an external CD/DVD player, Tape player or other audio devices for audio input.

12. Line-out (lime)

It is used to connect to speakers or headphones.

13. **Microphone** (pink)
It is used to connect to a microphone.

Installing the Motherboard

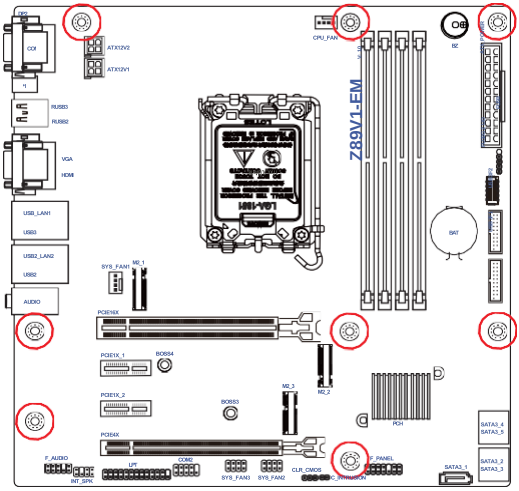
2-1. Safety Precautions

Follow these safety precautions when installing the motherboard:

- Wear a grounding strap attached to a grounded device to avoid damage from static electricity.
- Discharge static electricity by touching the metal case of a safely grounded object before working on the motherboard.
- Leave components in the static-proof bags.
- Always remove the AC power by unplugging the power cord from the power outlet before installing or removing the motherboard or other hardware components.

2-2. Installing the motherboard in a Chassis

This motherboard carries a Micro ATX form factor of 244mm x 244mm. Choose a chassis that accommodates this from factor. Make sure that the I/O template in the chassis matches the I/O ports installed on the rear edge of the motherboard. Most system chassis have mounting brackets installed in the chassis, which corresponds to the holes in the motherboard. Place the motherboard over the mounting brackets and secure the motherboard onto the mounting brackets with screws.

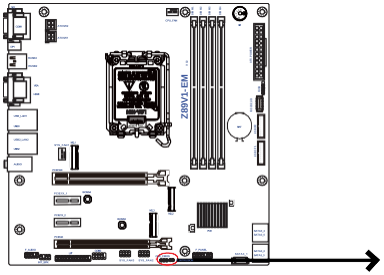


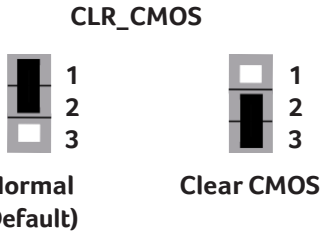


Do not over-tighten the screws as this can stress the motherboard.

2-3. Checking Jumper Settings

The following illustration shows the location of the motherboard jumpers. Pin 1 is labeled.





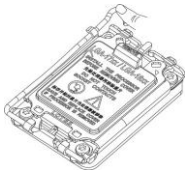
To avoid the system instability after clearing CMOS, we recommend users to enter the main BIOS setting page to "Load Default Settings" and then "Save and Exit Setup".

2-4. Installing Hardware

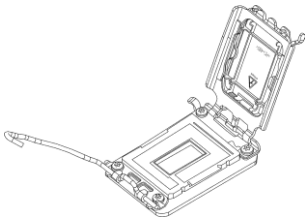
2-4-1. Installing the Processor

- This motherboard has an LGA1851 socket.
- When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.
- You may be able to change the settings in the system Setup Utility. We strongly recommend you do not over-clock processor or other components to run faster than their rated speed.
- The following illustration shows CPU installation components.

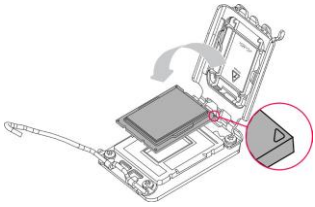
A. Press the hook of lever down with your thumb and pull it to the right side to release it from retention tab.



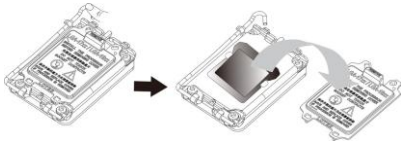
B. Lift the tail of the load lever and rotate the load plate to fully open position.



C. Grasp the edge of the package substrate. Make sure pin 1 indicator is on your bottom-left side. Aim at the socket and place the package carefully into the socket by purely vertical motion.



D. Rotate the load plate onto the package IHS (Intergraded Heat Spreader). Engage the load lever while pressing down lightly onto the load plate. Secure the load lever with the hook under retention tab. Then the cover will flick automatically.



Please save and replace the cover onto the CPU socket if processor is removed.

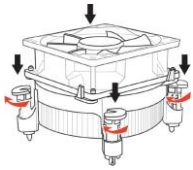
2-4-2. Installing the CPU Cooler

- Install the cooling fan in a well-lit work area so that you can clearly see the motherboard and processor socket.
- Avoid using cooling fans with sharp edges in case the fan casing and the clips cause serious damage to the motherboard or its components.
- To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 3800 rpm at least. CPU fan and heat sink installation procedures may vary with the type of CPU fan/heatsink supplied. The form and size of fan/heatsink may also vary.
- DO NOT remove the CPU cap from the socket before installing a CPU.
- Return Material Authorization (RMA) requests will be accepted only if the motherboard comes with the cap on the LGA1851 socket.
- The following illustration shows how to install CPU fan.

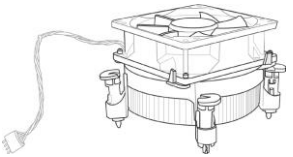
A. Apply some thermal grease onto the contacted area between the heatsink and the CPU, and make it to be a thin layer.



B. Fasten the cooling fan supporting base onto the CPU socket on the motherboard. And make sure the CPU fan is plugged to the CPU fan connector.



C. Connect the CPU cooler power connector to the CPU_FAN connector.



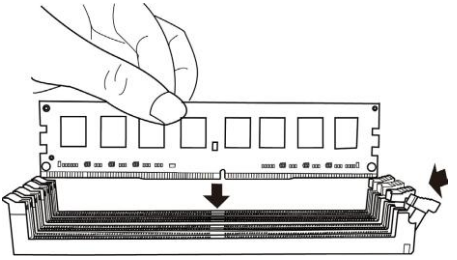
2-4-3. Installing Memory Modules

- This motherboard accommodates two memory modules. It can support two 288-pin DDR5 5600 MHz.
- Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.
- You must install at least one module in any of the two slots. Total memory capacity is 192 GB.
- Refer to the following to install the memory modules.

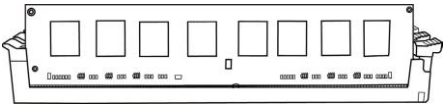
A. Push the latch on the mobilizable side of the DIMM slot down.



B. Install the DIMM module into the slot and press it firmly down until it seats correctly. Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.



c. The slot latche is levered upwards and latch on to the edges of the DIMM.

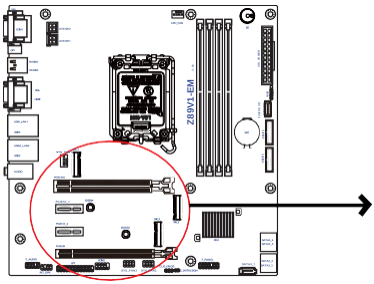


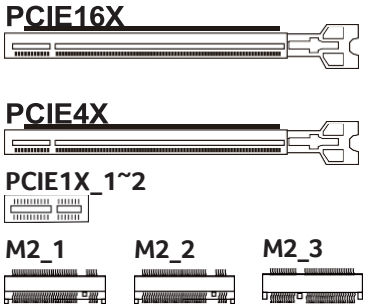
** For reference only*

We suggest users not to mix memory type. It is recommended to use the same brand and type memory on this motherboard.

2-4-4. Installing Add-on Cards

The slots on this motherboard are designed to hold expansion cards and connect them to the system bus. Expansion slots are a means of adding or enhancing the motherboard's features and capabilities. With these efficient facilities, you can increase the motherboard's capabilities by adding hardware that performs tasks that are not part of the basic system.





PCIE16X Slot The PCI Express x16 Gen5 slot is used to install an external PCI Express graphics card that is fully compliant to the PCI Express Base Specification revision 3.0.

PCIE4X Slot The PCI Express x16 Gen4 slot is used to install an external PCI Express graphics card that is fully compliant to the PCI Express Base Specification revision 3.0.

PCIE1X_1~2 Slot The PCI Express x1 Gen4 slot is fully compliant to the PCI Express Base Specification revision 3.0.

M2_1 Slot The is M.2 2280 Key M slot supports SSD Gen5 x4 (from CPU)

M2_2 Slot The is M.2 2280 Key M slot supports SSD PCIE Gen4 x4 (from PCH)

M2_3 Slot The is M.2 2230 Key E slot supports WiFi7 (from PCH)

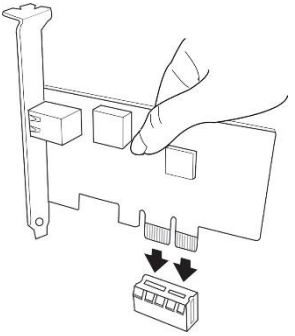
Before installing an add-on card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.

Follow these instructions to install an add-on card:

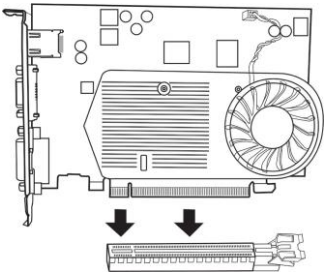
1. Remove a blanking plate from the system case corresponding to the slot you are going to use.
2. Install the edge connector of the add-on card into the expansion slot. Ensure that the edge connector is correctly seated in the slot.
3. Secure the metal bracket of the card to the system case with a screw.

For some add-on cards, for example graphics adapters and network adapters, you have to install drivers and software before you can begin using the add-on card.

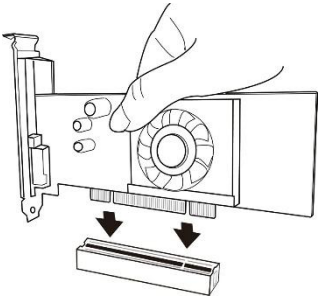
Please refer the following illustrations to install the add-on card:



Install the LAN Card in the PCIE1X slot



Install the VGA Card in the PCIE16X slot



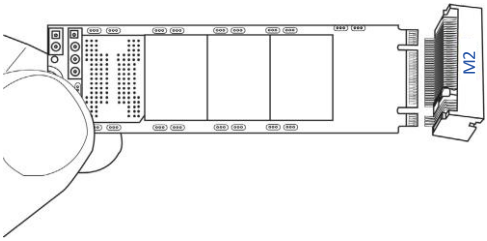
Install the VGA Card in the PCI slot

Please refer the following steps to install the M.2 SSD card:

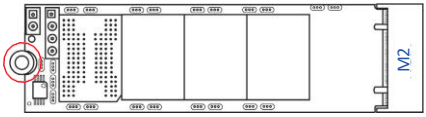
1 Demount the screw not used according to the length of your M.2 SSD card.



2 Insert the M.2 SSD card into M2 slot in the fool-proof way.

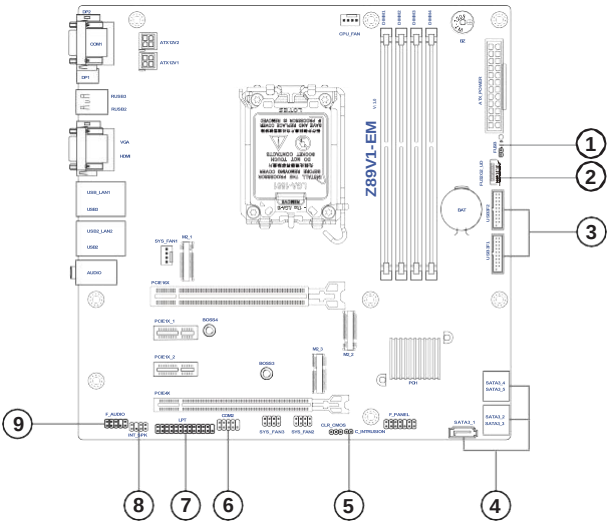


3 Lock the screw as the following picture shows to make sure the M.2 SSD card is installed in place.



2-4-5. Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:



No.	Components	No.	Components
1	FUSB	6	COM2
2	FU32G2_UD	7	LPT
3	FUSB3F_1~2	8	INT_SPK
4	SATA_1~5	9	F_AUDIO
5	C_INTRUSION		

2-4-6. Installing a SATA Hard Drive

This section describes how to install a SATA Hard Drive.

About SATA Connectors

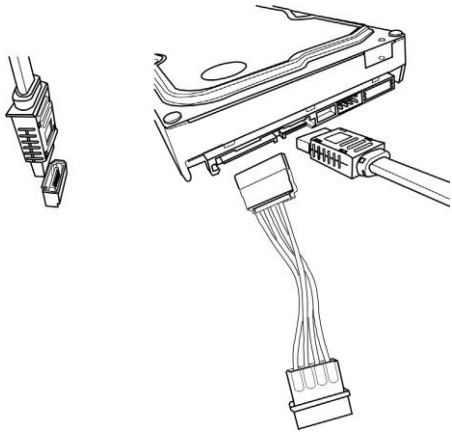
Your motherboard features four SATA connectors supporting a total of four drives. SATA refers to Serial ATA (Advanced Technology Attachment) is the standard interface for the IDE hard drives which are currently used in most PCs. These connectors are well designed and will only fit in one orientation. Locate the SATA connectors on the motherboard and follow the illustration below to install the SATA hard drives.

Installing Serial ATA Hard Drives

To install the Serial ATA (SATA) hard drives, use the SATA cable that supports the Serial ATA protocol. This SATA cable comes with a SATA power cable. You can connect either end of the SATA cable to the SATA hard drive or the connector on the motherboard.

Refer to the illustration below for proper installation:

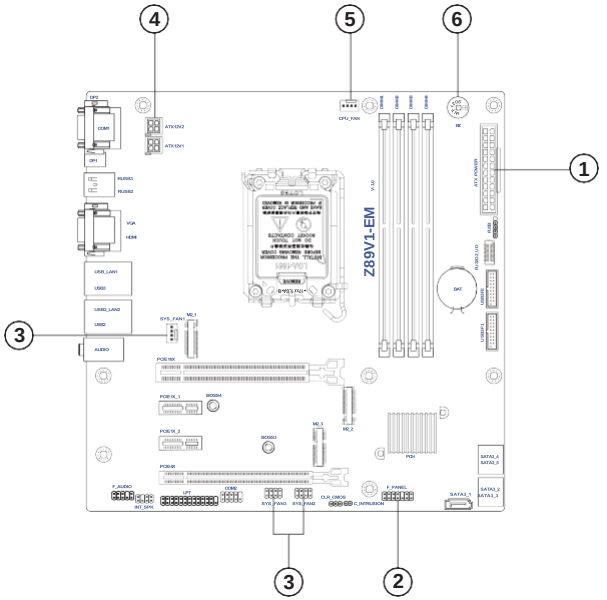
1. Attach either cable end to the connector on the motherboard.
2. Attach the other cable end to the SATA hard drive.
3. Attach the SATA power cable to the SATA hard drive and connect the other end to the power supply.



** For reference only*

2-4-7. Connecting Case Components

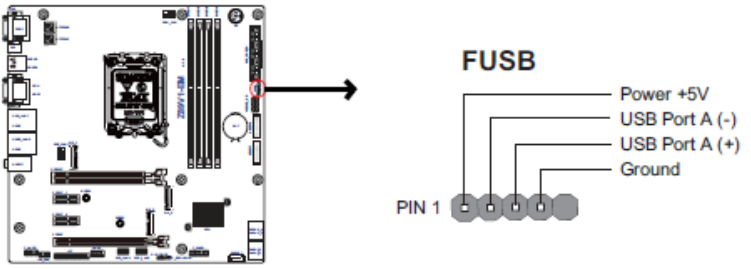
After you have installed the motherboard into a case, you can begin connecting the motherboard components. Refer to the following:



No.	Components	No.	Components
1	ATX _POWER	4	ATX 12V
2	F_PANEL	5	CPU_FAN
3	SYS_FAN	6	BZ

1. FUSB: Front Panel USB 2.0 Headers

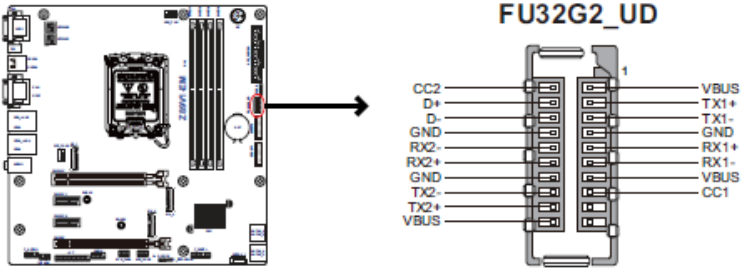
The motherboard has one USB 2.0 header supporting two USB 2.0 ports. Additionally, some computer cases have USB ports at thefront of the case. If you have this kind of case, use auxiliary USB connector to connect the front-mounted ports to the motherboard.



Please make sure that the USB cable has the same pin assignment as indicated above. A different pin assignment may cause damage or system hang-up.

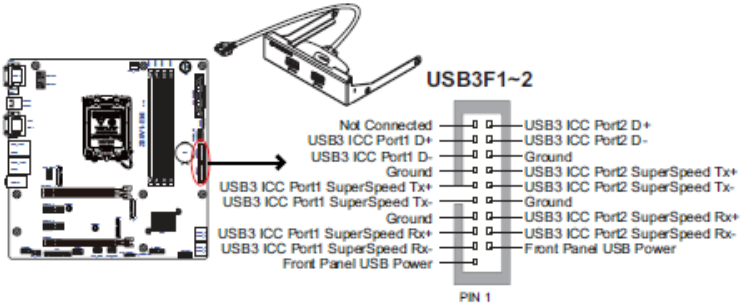
2. FU32G2_UD: Front Panel USB 3.2 Gen2 x2 Header

This Motherboard implements one USB 3.2 Gen2 x2 header (Type C) supporting 2 extra front USB 3.2 Gen2 x2 ports, which delivers 10Gb/s transfer rate.



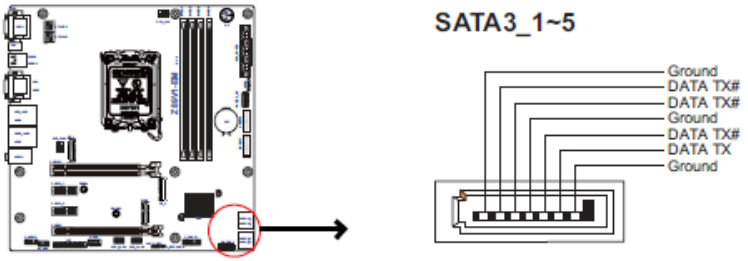
3. USB3F1~2: Front Panel USB 3.2 Gen1 Header

This Motherboard implements one USB 3.2 Gen1 header (Type A) supporting 2 extra front USB 3.2 Gen1 ports, which delivers 5Gb/s transfer rate.



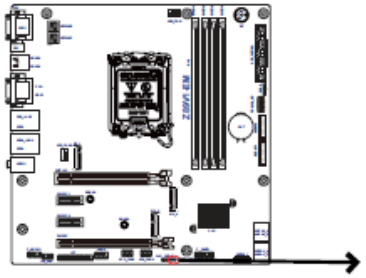
4. SATA3_1~5: Serial ATA III connectors

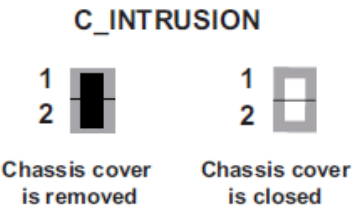
SATA3_1~3 connectors are used to support the Serial ATA 6Gb/s device. Simpler disk drive cabling and easier PC assembly. It eliminates limitations of the current Parallel ATA interface. But maintains register compatibility and software compatibility with Parallel ATA.



5. C_INTRUSION: Chassis Intrusion Detect Header

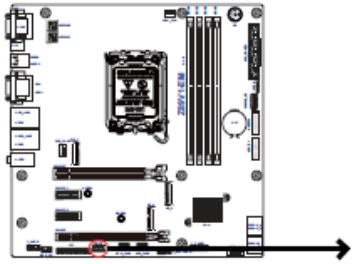
This detects if the chassis cover has been removed. This function needs a chassis equipped with instrusion detection switch and needs to be enabled in BIOS.

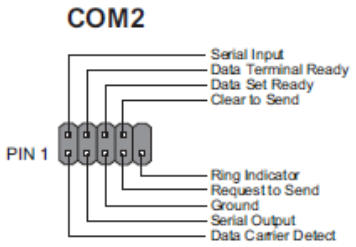




6. COM2: Onboard Serial Port Header

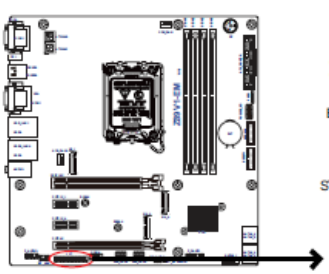
Connect a serial port extension bracket to this header to add a serial port to your system.

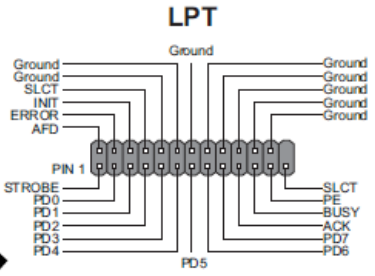




7. LPT: Onboard Parallel Port Header

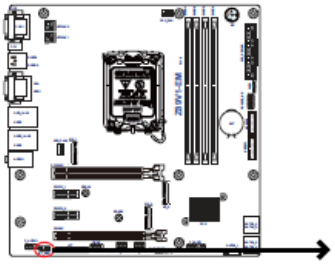
This is a header that can be used to connect to the printer, scanner or other devices.

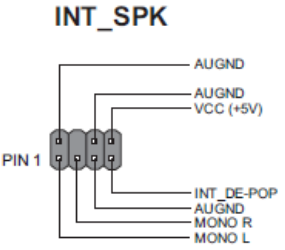




8. INT_SPK: Internal Speaker header

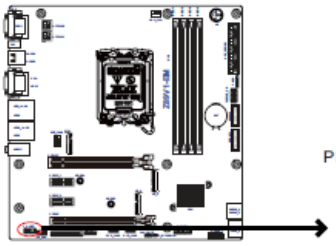
Connect the case speaker cable to NT_SPK.

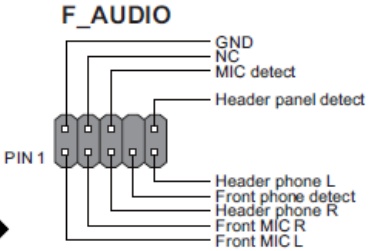




9. F_AUDIO: Front panel audio header

The front panel audio header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access. This header supports HD audio by default.





This concludes Chapter 2. The next chapter covers the BIOS.

About the Setup Utility

The computer uses the latest "American Megatrends International, LLC." BIOS with support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the motherboard BIOS.

The BIOS (Basic Input and Output System) Setup Utility displays the system's configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:

- Hard drives, diskette drives and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power Management features

The settings made in the Setup Utility affect how the computer performs. Before using the Setup Utility, ensure that you understand the Setup Utility options.

This chapter provides explanations for Setup Utility options.

The Standard Configuration

A standard configuration has already been set in the Setup Utility. However, we recommend that you read this chapter in case you need to make any changes in the future.

This Setup Utility should be used:

- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security Setup

Entering the Setup Utility

When you power on the system, BIOS enters the Power-On Self Test

(POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

Press DEL to enter SETUP

Resetting the Default CMOS Values

When powering on for the first time, the POST screen may show a "CMOS Settings Wrong" message. This standard message will appear following a clear CMOS data at factory by the manufacturer. You simply need to Load Default Settings to reset the default CMOS values.

Note: Changes to system hardware such as different CPU, memories, etc. may also trigger this message.



Using BIOS

When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with an icon ») lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.

In this manual, default values are enclosed in parenthesis. Submenu items are denoted by an icon ».



The default BIOS setting for this motherboard apply for most conditions with optimum performance. We do not suggest users change the default values in the BIOS setup and take no responsibility to any damage caused by changing the BIOS settings.

BIOS Navigation Keys

The BIOS navigation keys are listed below:

KEY	FUNCTION
ESC	Exits the current menu
□□□□	Scrolls through the items on a menu
+/-	Change Opt.
Enter	Select
F1	General Help
F2	Previous Value
F3	Optimized Defaults
F4	Save & Exit

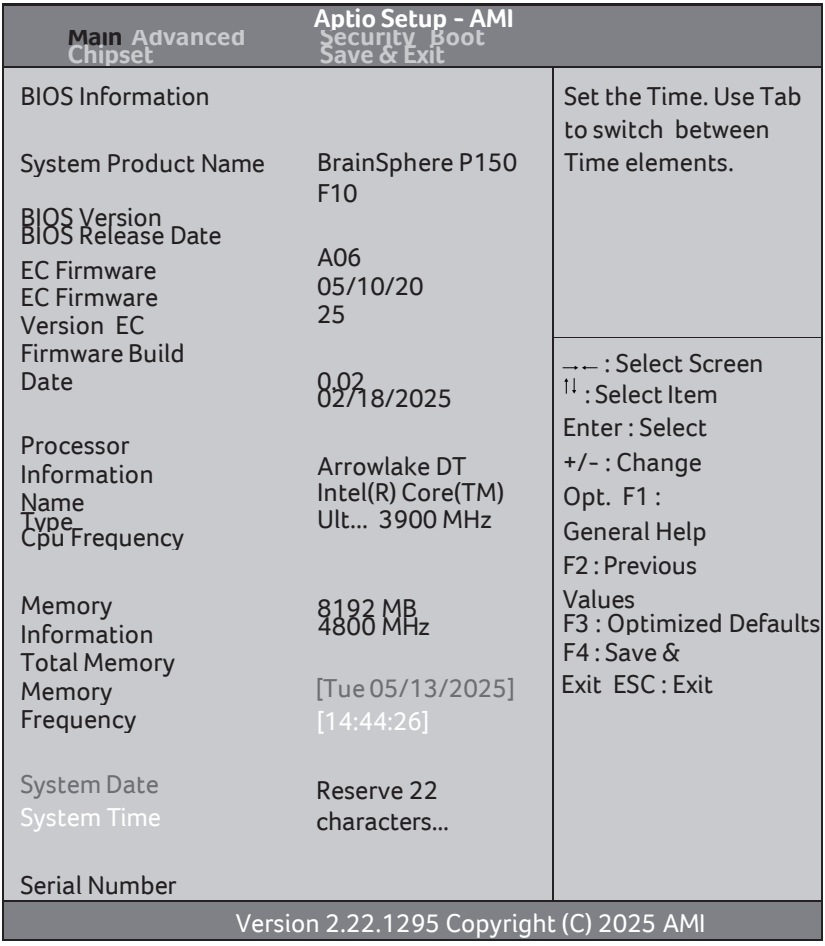


1. For the purpose of better product maintenance, the manufacture reserves the right to change the BIOS items presented in this manual. The BIOS setup screens shown in this chapter are for reference only and may differ from the actual BIOS. Please visit the manufacture's website for updated manual.

2. In this Gui BIOS, you can operate by mouse or keyboard. Click: select item; Double click: enter; Right click: exit.

Main Menu

This menu shows the information of BIOS and enables you to set the system language, date and time.



System Product Name (BrainSphere P150 F10)
This item shows the information of the System product name.

BIOS Version (A06)
This item shows the information of system BIOS version.

BIOS Release Date (05/10/2025)
This item shows the BIOS Release Date of system BIOS.

EC Firmware Version (0.02)
This item shows the information of EC firmware version.

EC Firmware Build Date (02/18/2025)

This item shows the build date of the EC firmware.

Processor Information

This item shows the information of processor.

Memory Information

This item shows the information of the memory size.

System Date & Time

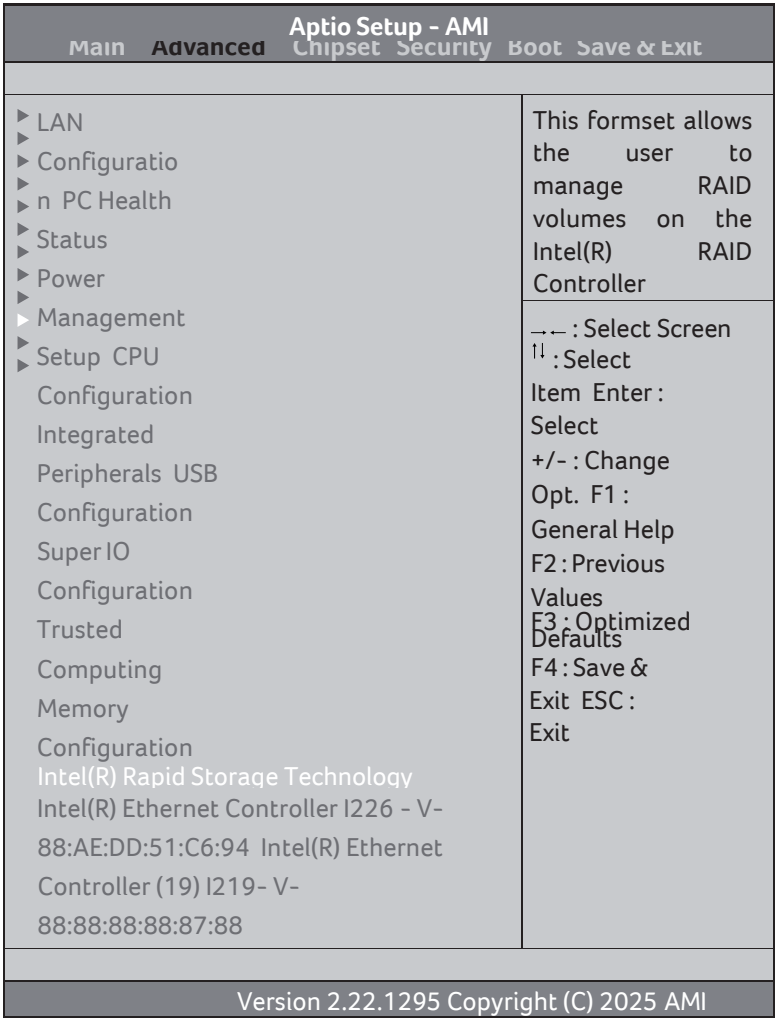
The Date and Time items show the current date and time on the computer. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

Serial Number (Reserve 22 characters...)

This item shows the information of system serial number.

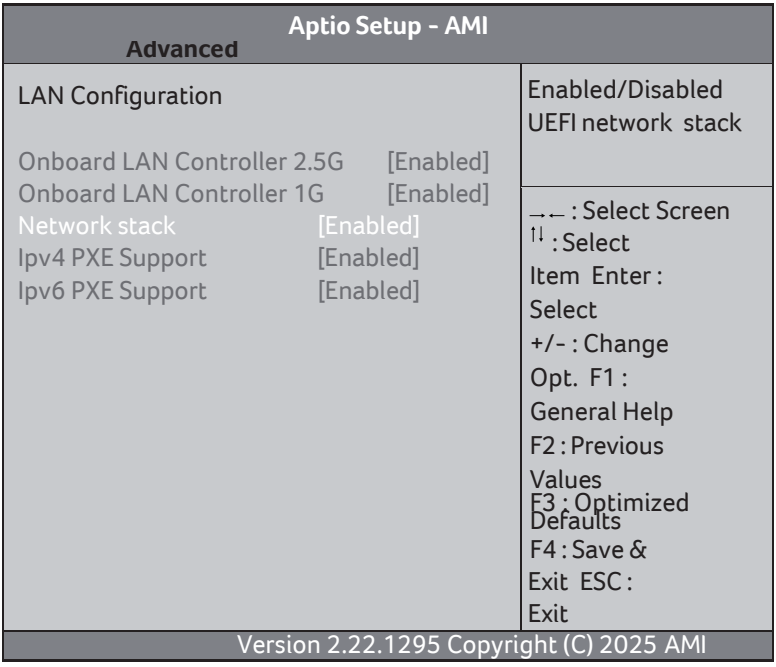
Advanced Menu

The Advanced menu items allow you to change the settings for the CPU and other system.



≫LAN Configuration

The item in the menu shows the LAN-related information that the BIOS automatically detects.



Onboard LAN Controller 2.5G (Enabled)

Use this item to enable or disable Onboard LAN controller (I219LM).

Onboard LAN Controller 1G (Enabled)

Use this item to enable or disable Onboard LAN controller (I226LM).

Network stack (Enabled)

Use this item to enable or disable Network Boot.

Ipv4 PXE Support (Enabled)

This item allows user to control IPV4 PXE function.

Ipv6 PXE Support (Enabled)

This item allows user to control IPV6 PXE function.

Press <Esc> to return to the Advanced Menu page.

≫PC Health Status

On motherboards support hardware monitoring, this item lets you monitor the parameters for critical voltages, temperatures and fan speeds.

Aptio Setup - AMI Advanced		
PC Health Status		Disable or Enable SMART Fan Control
Smart Fan	[Enabled]	
CPU Temperature (DTS)	45	
System Temperature	31°C	
CPU Fan Speed	1683 RPM	→← : Select Screen ↑↓: Select Item Enter : Select
System Fan1 Speed	0 RPM	
System Fan2 Speed	0 RPM	
System Fan3 Speed	0 RPM	+/- : Change
Core Voltage	1.441V	Opt. F1 : General Help
DIMM Voltage	1.122V	F2 : Previous Values
+12V	12.210V	F3 : Optimized Defaults F4 : Save & Exit
+5VSB	5.742V	ESC : Exit
Version 2.22.1295 Copyright (C) 2025 AMI		

Smart Fan (Enabled)

This item enables or disables the smart fan speed by changing the fan voltage.

System Component Characteristics

These items display the monitoring of the overall inboard hardware health events, such as CPU & DIMM voltage, CPU & System fan speed...etc.

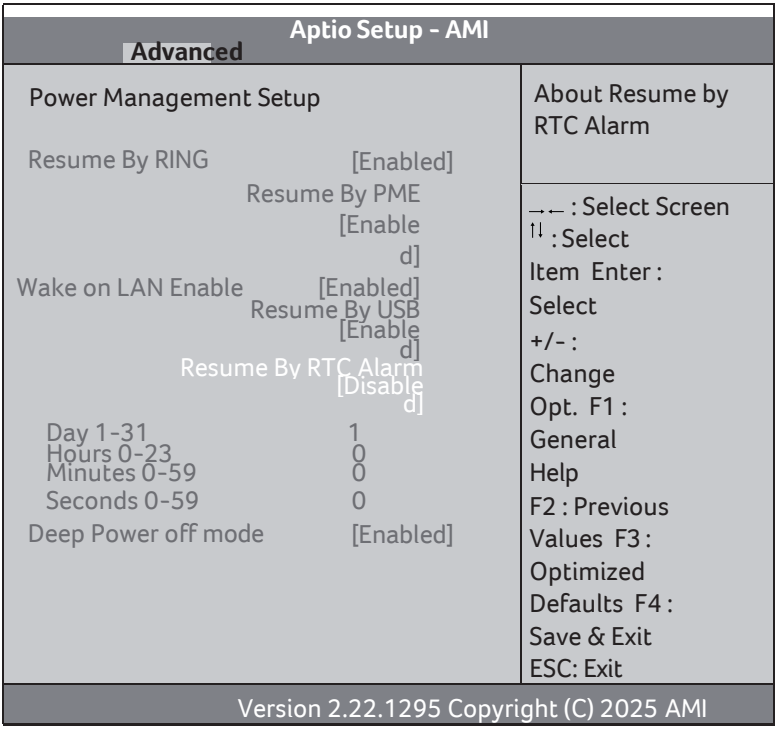
- CPU Temperature
- System Temperature
- CPU Fan Speed
- System Fan Speed

- Core Voltage
- DIMM Voltage
- +12V
- +5VSB

Press <Esc> to return to the Advanced Menu page.

» Power Management Setup

This page sets up some parameters for system power management operation.



Resume By RING (Enabled)

An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state.

Resume By PME (Enabled)

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the PCI/PCI-E Modem or PCI/PCI-E LAN card. You must use an ATX power supply in order to use this feature. Use this item to do wake-up action if inserting the PCI/PCI-E card.

Wake on LAN Enable (Enabled)

Enable/Disable integrated LAN to wake the system.

Resume By USB (Enabled)

This item allows you to enable or disable the USB device wakeup function from S3 mode.

Resume By RTC Alarm (Disabled)

The system can be turned off with a software command. If you enable this item, the system can automatically resume at a fixed time based on the system's RTC (realtime clock). Use the items below this one to set the date and time of the wake-up alarm. You must use an ATX power supply in order to use this feature.

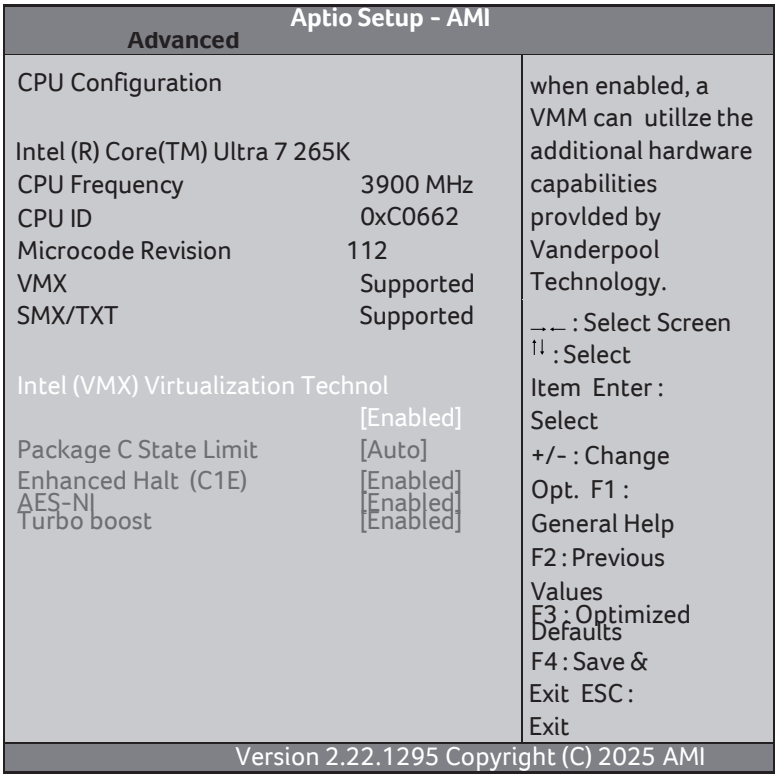
Deep Power off mode (Enabled)

This item allows users to enable or disable the Deep Power off Mode.

Press <Esc> to return to the Advanced Menu page.

» CPU Configuration

The item in the menu shows the CPU Configuration.



Intel (R) Core(TM) Ultra 7 265KF

This is display-only field and displays the information of the CPU installed in your computer.

CPU Frequency (3900 MHz)

This item shows the processor speed.

CPU ID (0xC0662)

This item shows the processor ID.

Microcode Revision (112)

This item shows the Microcode Revision.

VMX (Supported)

This item shows the computer supports the VMX or not.

SMX/TXT (Supported)

This item shows the computer supports the SMX/TXT or not.

Intel (VMX) Virtualization Technology (Enabled)
When disabled, a VMM cannot utilize the additional hardware capabilities provided by Vandor Pool Technology.

Package C State Limit (Auto)
Use this item to set the Package C State limit.

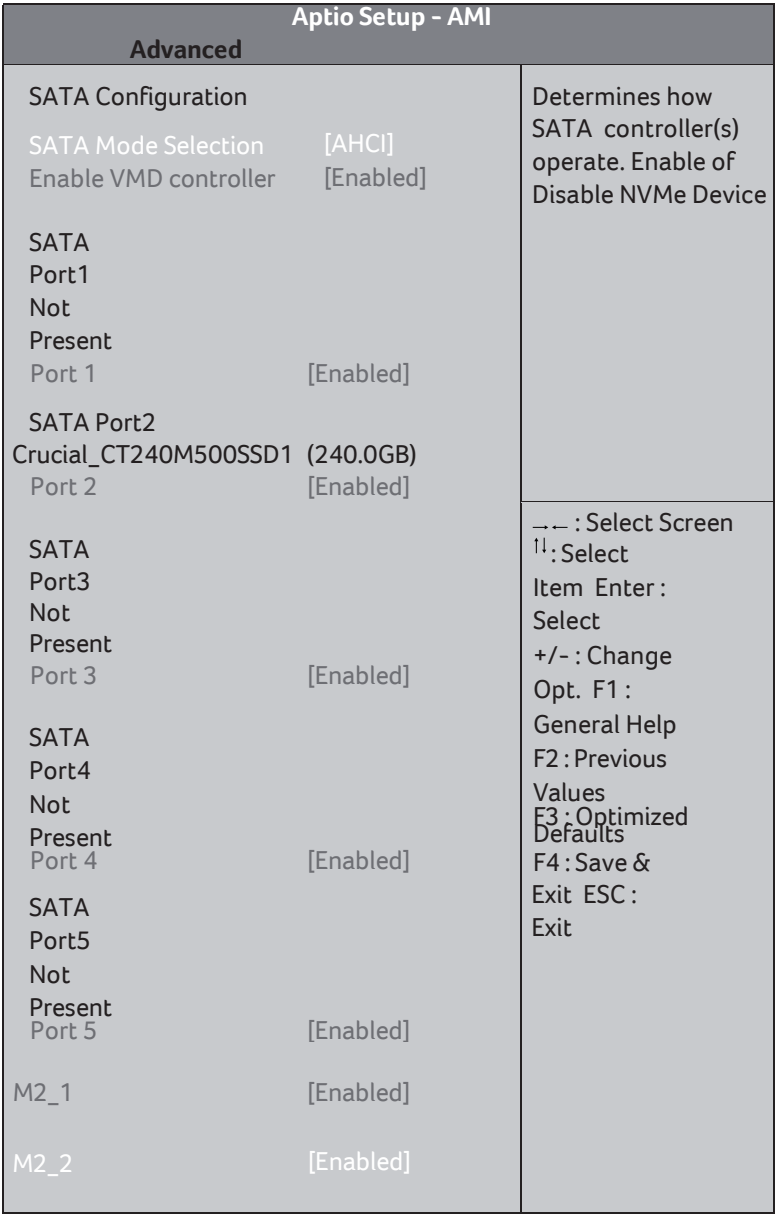
AES-NI (Enabled)
This item allows users to enable or disable the Intel AES-NI.

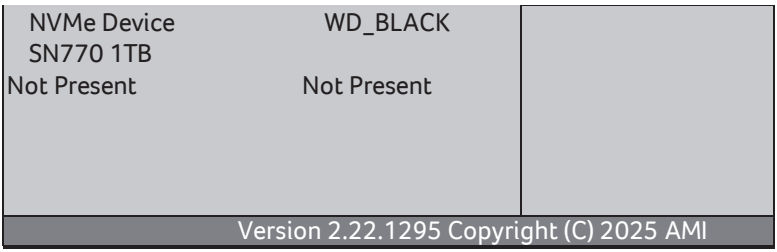
Turbo boost (Enabled)
This item enables or disables the Intel Turbo Boost function.

Press <Esc> to return to the Advanced Menu page.

» Integrated Peripherals

This page sets up some parameters for peripheral devices connected to the system.





SATA Mode Selection (AHCI)

Use this item to select SATA mode.

Enable VMD controller (Enabled)

Enable/Disable to VMD controller.

SATA Port 1/2/3/4/5 Not Present (Enabled)

This motherboard supports four SATA channels, each channel allows one SATA device to be installed. Use these items to configure each device on the SATA channel.

M2_1~2 (Enabled)

This motherboard supports two NVMe channels, each channel allows one NVMe device to be installed. Use these items to configure each device on the NVMe channel.

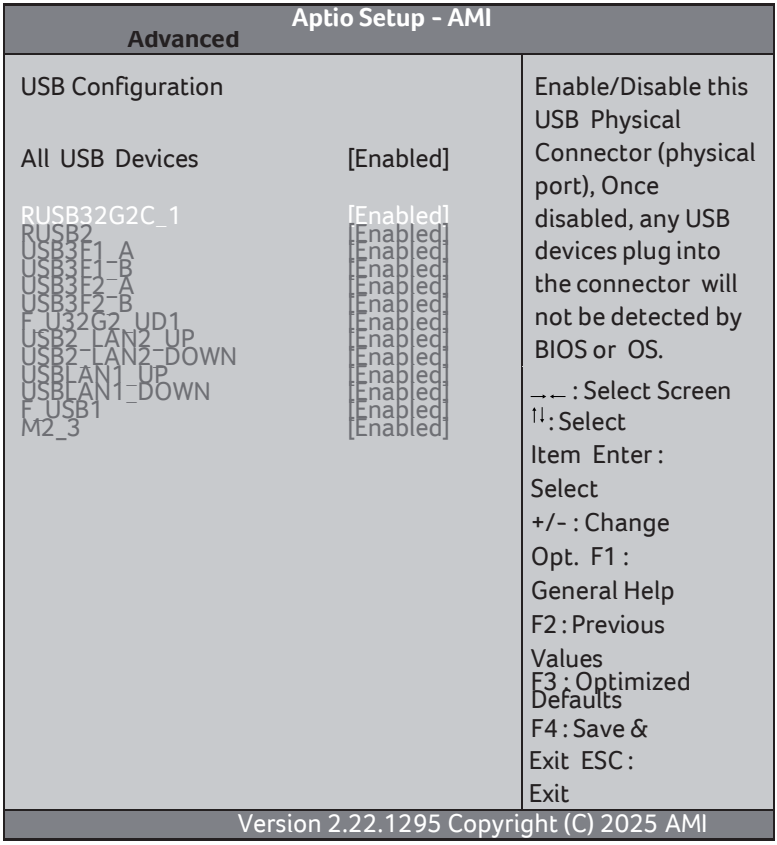
NVMe Device (WD_BLACK SN770 1TB)

This item shows the information of device type.

Press <Esc> to return to the Advanced Menu page.

≫ USB Configuration

Use this item to show the information of USB configuration.



All USB Devices (Enabled)

Use this item to enable or disable all USB devices.

RUSB32G2C_1 (Enabled)

Use these items to enable or disable per USB port.

RUSB2 (Enabled)

Use these items to enable or disable per USB port.

USB3F1_A (Enabled)

Use these items to enable or disable per USB port.

USB3F1_B (Enabled)

Use these items to enable or disable per USB port.

USB3F2_A (Enabled)

Use these items to enable or disable per USB port.

USB3F2_B (Enabled)

Use these items to enable or disable per USB port.

F_U32G2_UD1 (Enabled)

Use these items to enable or disable per USB port.

USB2_LAN2_UP (Enabled)

Use these items to enable or disable per USB port.

USB2_LAN2_DOWN (Enabled)

Use these items to enable or disable per USB port.

USBLAN1_UP (Enabled)

Use these items to enable or disable per USB port.

USBLAN1_DOWN (Enabled)

Use these items to enable or disable per USB port.

F_USB1 (Enabled)

Use these items to enable or disable per USB port.

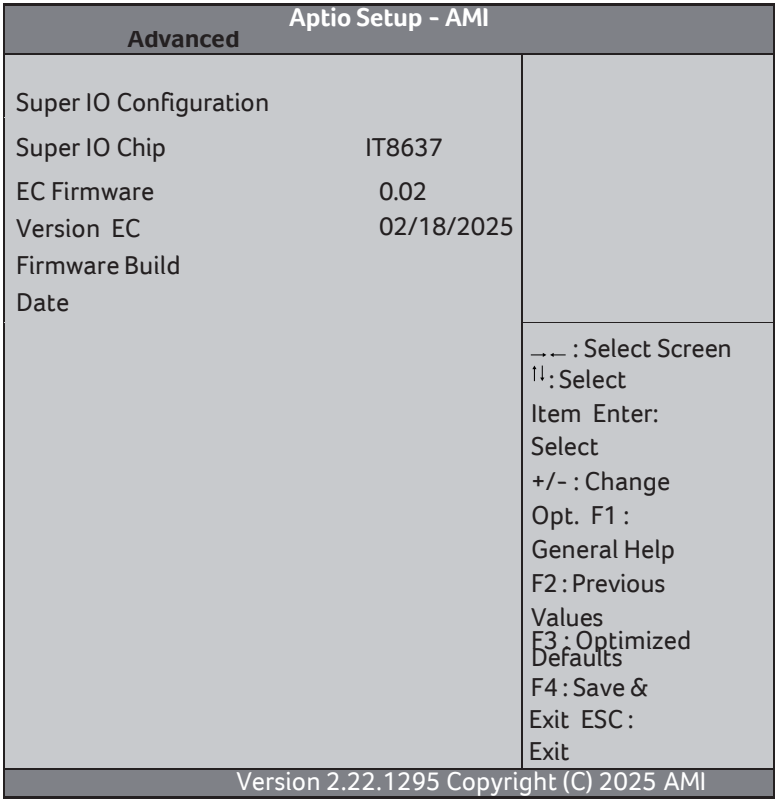
M2_3 (Enabled)

Use these items to enable or disable per USB port.

Press <Esc> to return to the Advanced Menu page.

≫Super IO Configuration

Use this item to show the information of Super IO configuration.



Super IO Chip (IT8625)

This item shows the information of the super IO chip.

EC Firmware Version (0.02)

This item shows the information of EC firmware version.

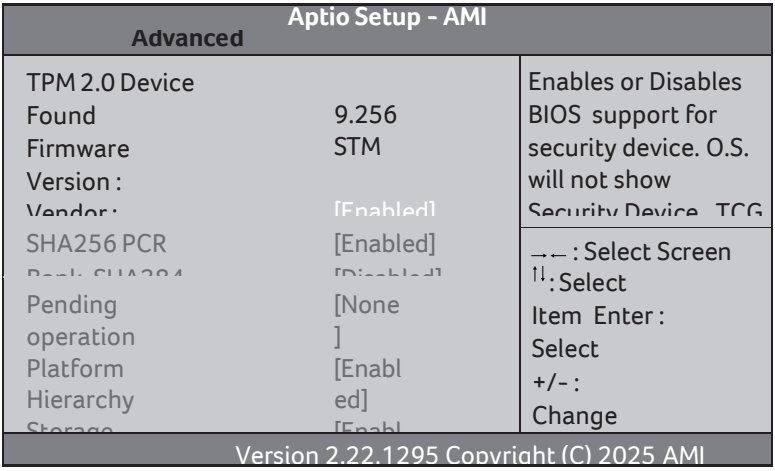
EC Firmware Build Date (02/18/2025)

This item shows the build date of the EC firmware.

Press <Esc> to return to the Advanced Menu page.

» Trusted Computing

Use this item to show the information of trusted computing configuration.



TPM Support (Enabled)

Use this item to enable or disable the TPM support. O.S. will not show TPM. Reset of platform is required.

Active PCR banks (SHA256)

Use this item to show the Active PCR banks.

Available PCR banks (SHA256, SHA384)

Use this item to show the Available PCR banks.

SHA256 PCR Bank (Enabled)

Use this item to enable or disable the SHA256 PCR bank.

SHA384 PCR Bank (Disabled)

Use this item to enable or disable the SHA384 PCR bank.

Pending operation (None)

Schedule an Operation for the Security Device. NOTE: Your Computer will reboot during restart in order to change State of Security Device.

Platform Hierarchy (Enabled)

Use this item to enable or disable the platform hierarchy.

Storage Hierarchy (Enabled)

Use this item to enable or disable the storage hierarchy.

Endorsement Hierarchy (Enabled)

Use this item to enable or disable the Endorsement hierarchy.

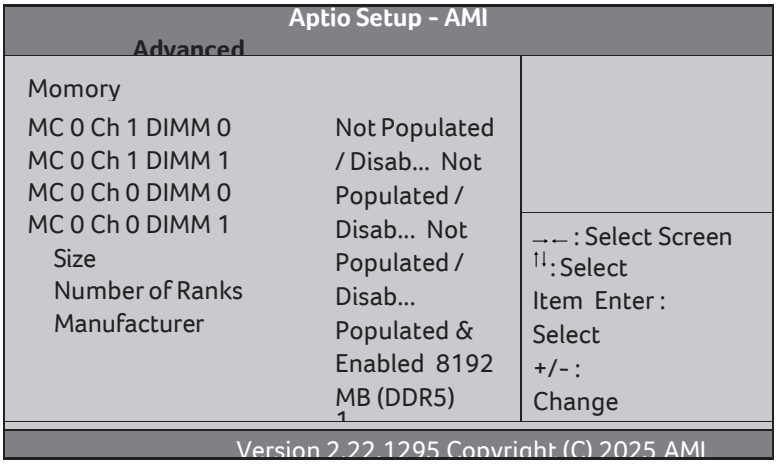
Physical Presence Spec Version (1.3)
Use this item to show the Physical Presence Spec Version.

TPM 2.0 Interface Type (TIS)
Use this item to select the communication interface to TPM 20 device.

Press <Esc> to return to the Advanced Menu page.

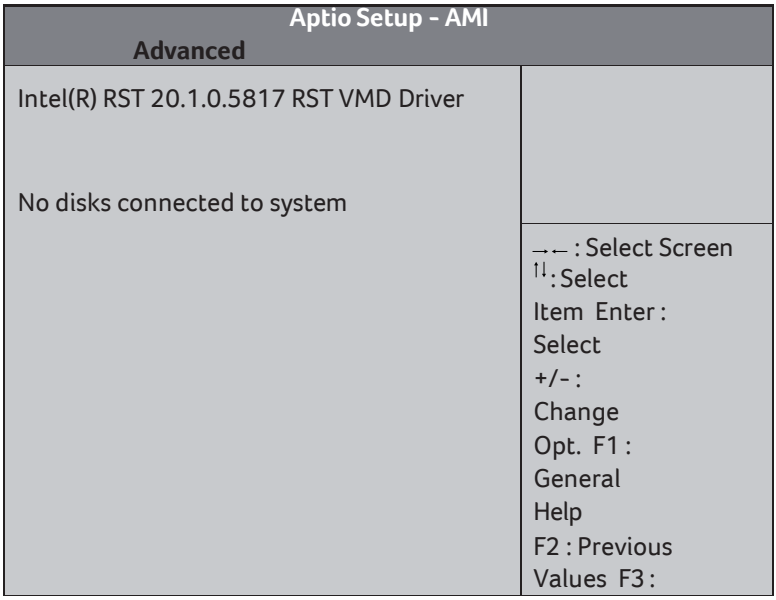
» Memory Configuration

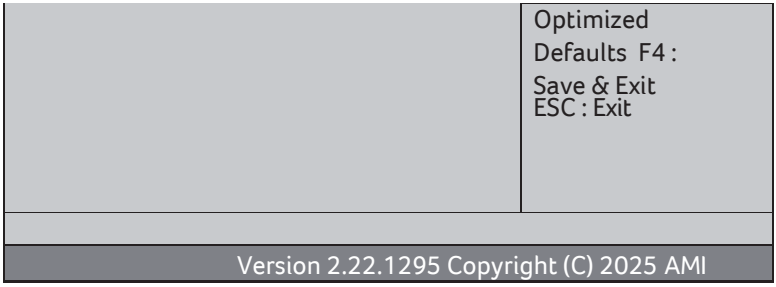
Use this item to show the information of Memory configuration.



» Intel(R) Rapid Storage Technology

Use this item to show the information of Intel(R) Rapid Storage Technology.

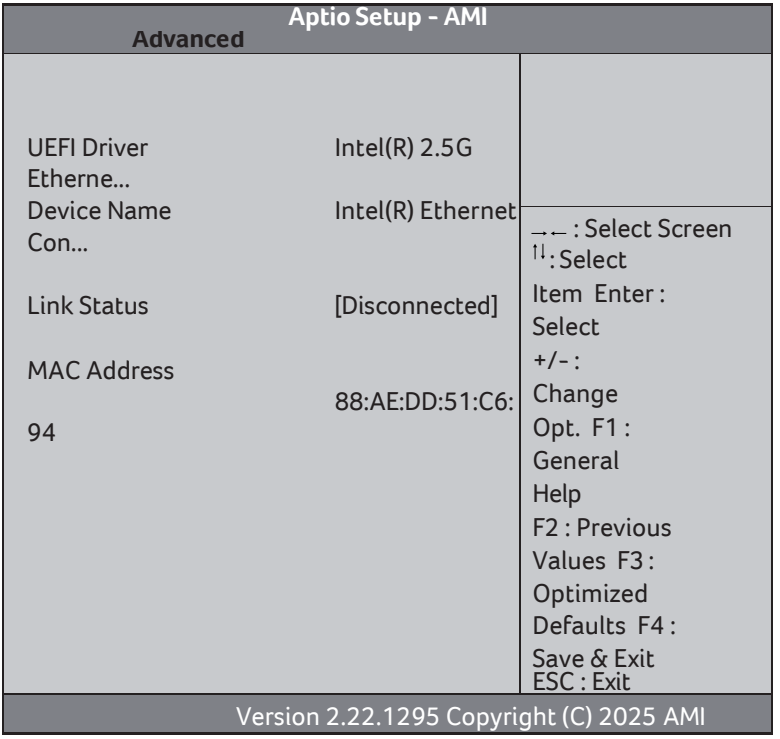




Press <Esc> to return to the Advanced Menu page.

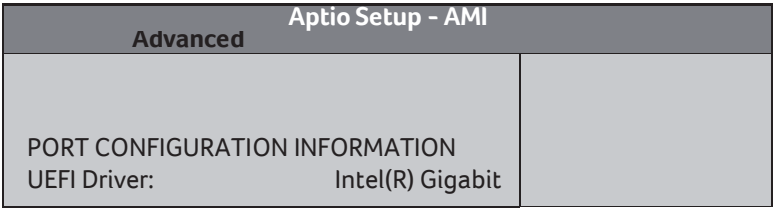
» Intel(R) Ethernet Controller I226-V-88:AE:DD:51:C6:94

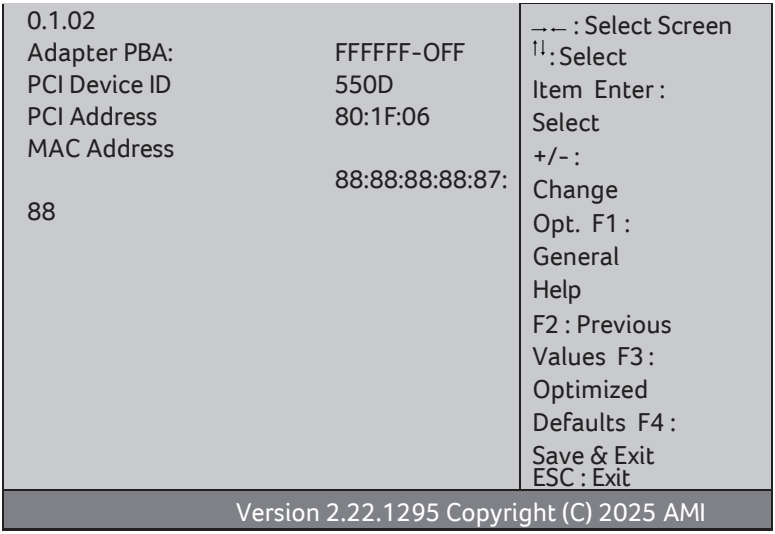
Use this item to show the information of Intel(R) Controller(2) I226-V- XX:XX:XX:XX:XX:XX.



» Intel(R) Ethernet Controller (19) I219-V-88:88:88:88:87:88

Use this item to show the information of Intel(R) Ethernet Connection (14) I219-LM- XX:XX:XX:XX:XX:XX

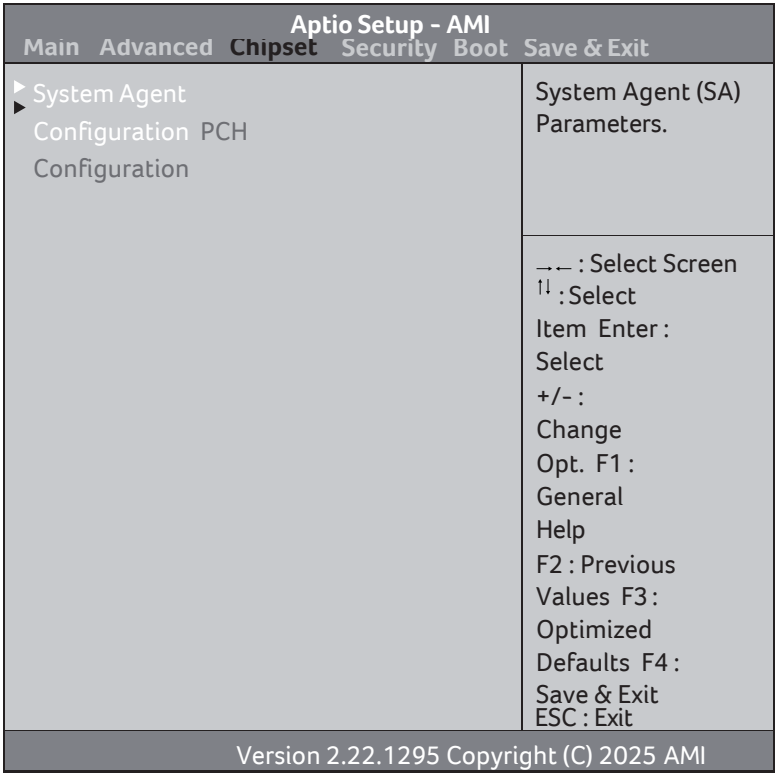




Press <Esc> to return to the Advanced Menu page.

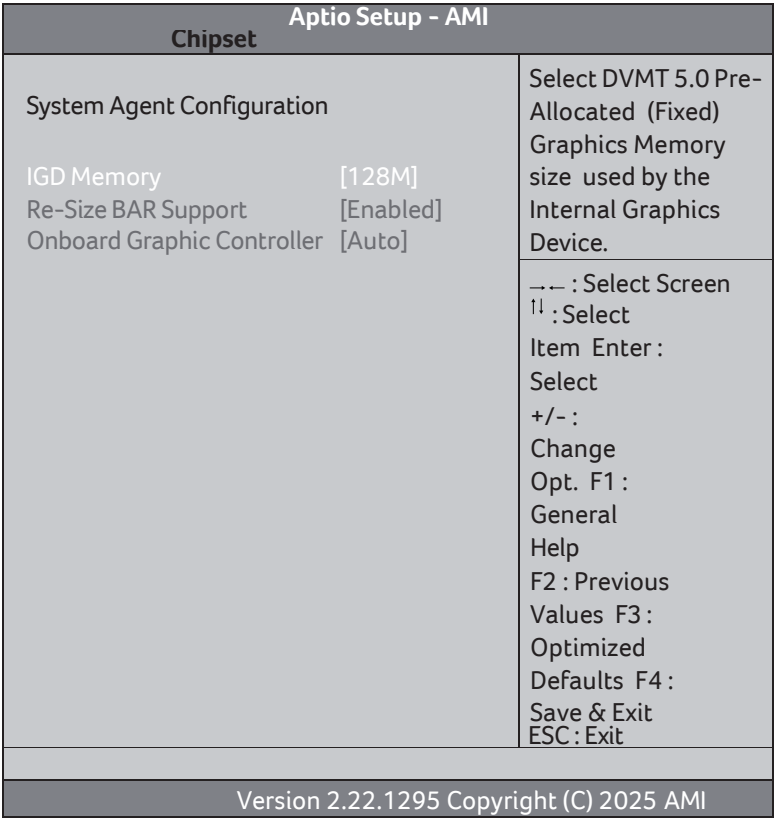
Chipset Menu

The chipset menu items allow you to change the settings for the North Bridge chipset, South Bridge chipset and other system.



» System Agent Configuration

Scroll to this item and press <Enter> to view the following screen:



IGD Memory (128M)

This item shows the information of the IGD (Internal Graphics Device) memory.

Re-Size BAR Support (Enabled)

If system has Resizable BAR capable PCIe Devices, this option Enables or Disables Resizable BAR Support.

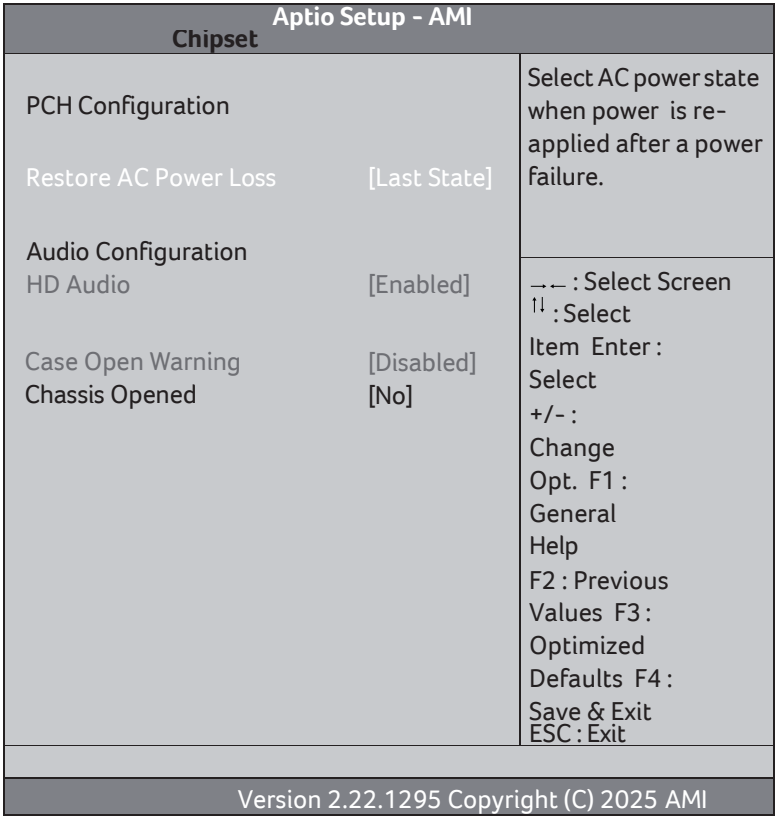
Onboard Graphic Controller (Auto)

This item indicates the status of the onboard graphic controller.

Press <Esc> to return to the Chipset Menu page.

» PCH Configuration

Scroll to this item and press <Enter> to view the following screen:



Restore AC Power Loss (Last State)

This item enables your computer to automatically restart or return to its operating status.

HD Audio (Enabled)

This item enables or disables Azalia HD audio.

Case Open Warning (Disabled)

Use this item to enable or disable the warning if the case is opened up, and the item below indicates the current status of the case.

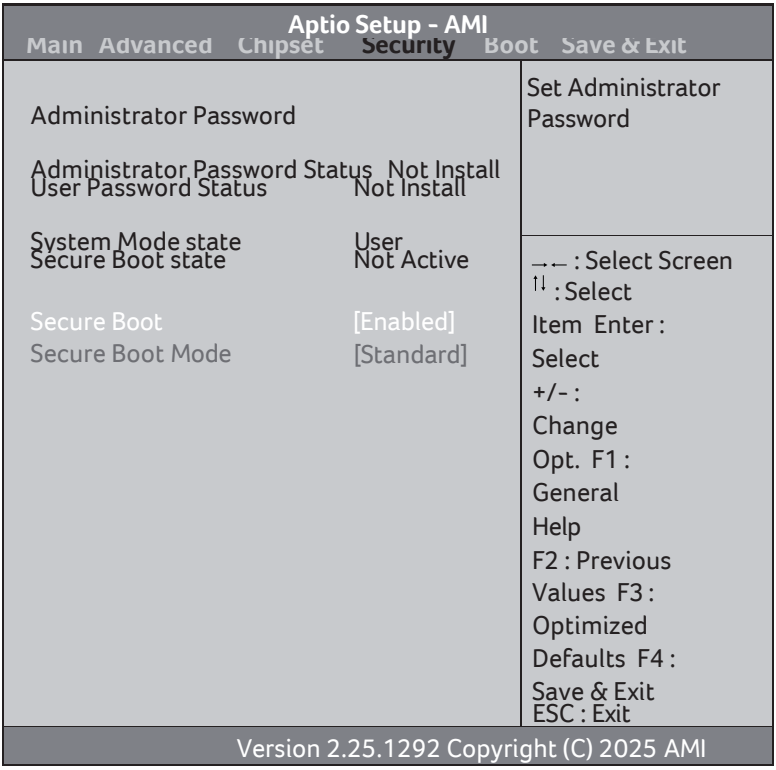
Chassis Opened (No)

This item indicates whether the case has been opened.

Press <Esc> to return to the Chipset Menu page.

Security Menu

This page enables you to set setup administrator password and user password.



Administrator Password Status (Not Install)

This item shows administrator password installed or not.

User Password Status (Not Install)

This item shows user password installed or not.

System Mode state (User)

This item shows system mode setup or not.

Secure Boot state (Not Active)

This item allows you to enable or disable the secure boot state.

Secure Boot (Enabled)

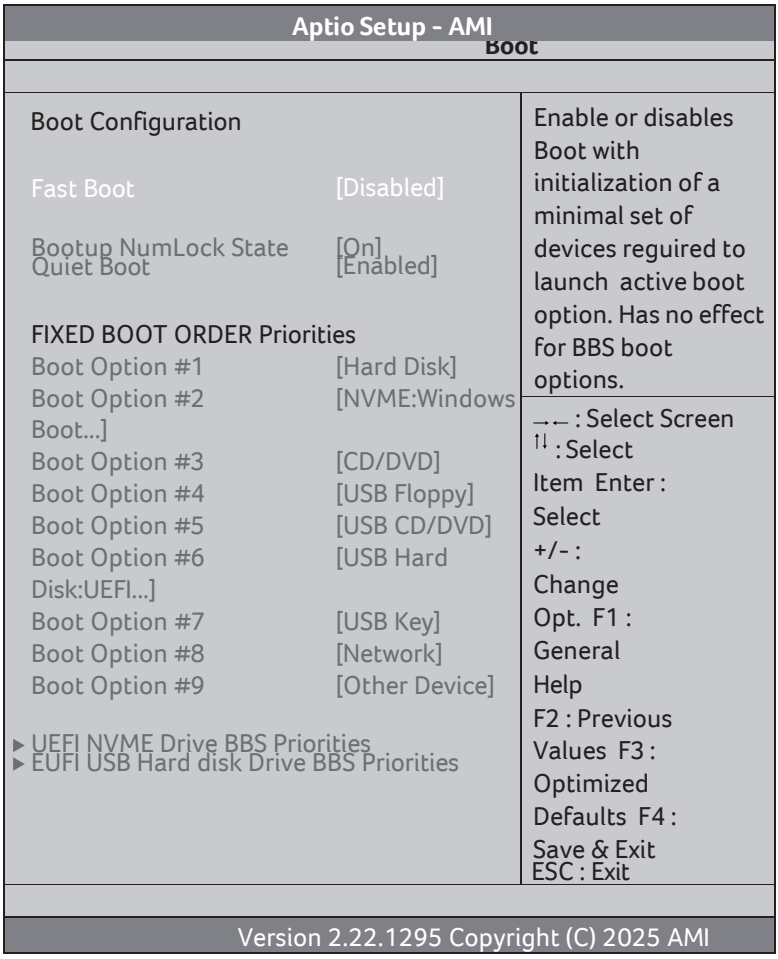
This item is used to control the secure boot flow, it is possible only if system runs in User Mode.

Secure Boot Mode (Standard)

This item is used to select the secure boot mode.

Boot Menu

This page allows you to change the system boot options. Select an item then press
<Enter> to display the sub-menu.



Fast Boot (Disabled)

This item enables or disables boot with initialization of a minimal set of device required to launch active boot option. Has no effect for BBS boot options.

Bootup NumLock State (On)

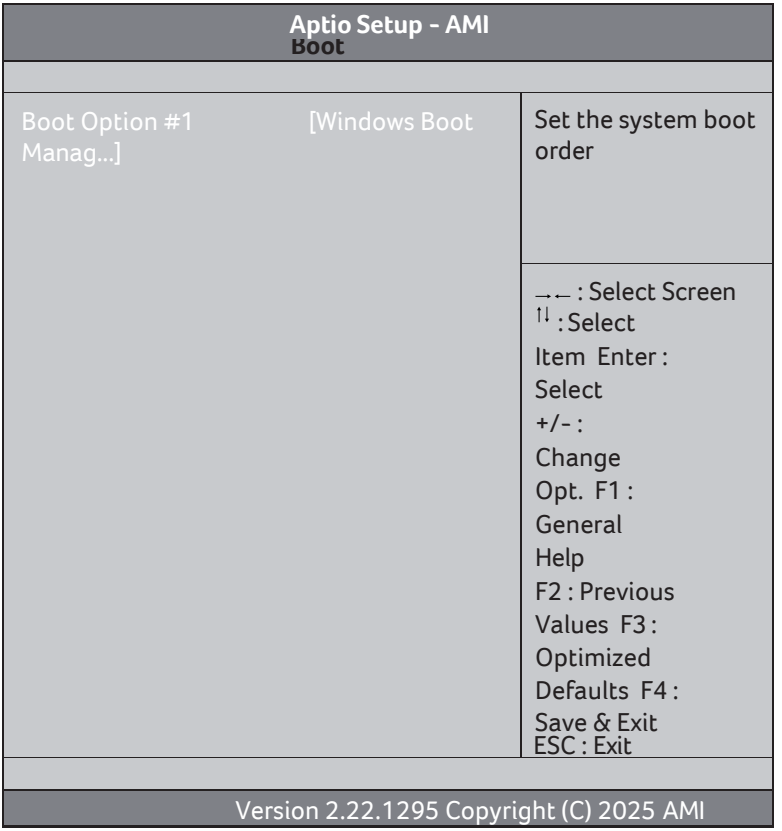
This item enables you to select NumLock state.

Quiet Boot (Enabled)

This item enables or disables quiet boot. **Boot Option #1 /2 /3 /4 /5 /6 /7 /8 /9** These items show the boot priorities.

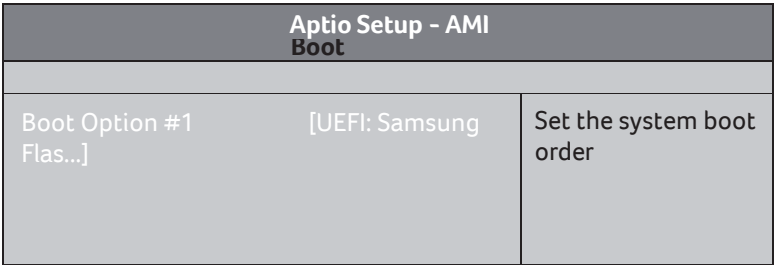
UEFI NVME Drive BBS Priorities

Press <Enter> to view the following screen:



EUFI USB Hard disk Drive BBS Priorities

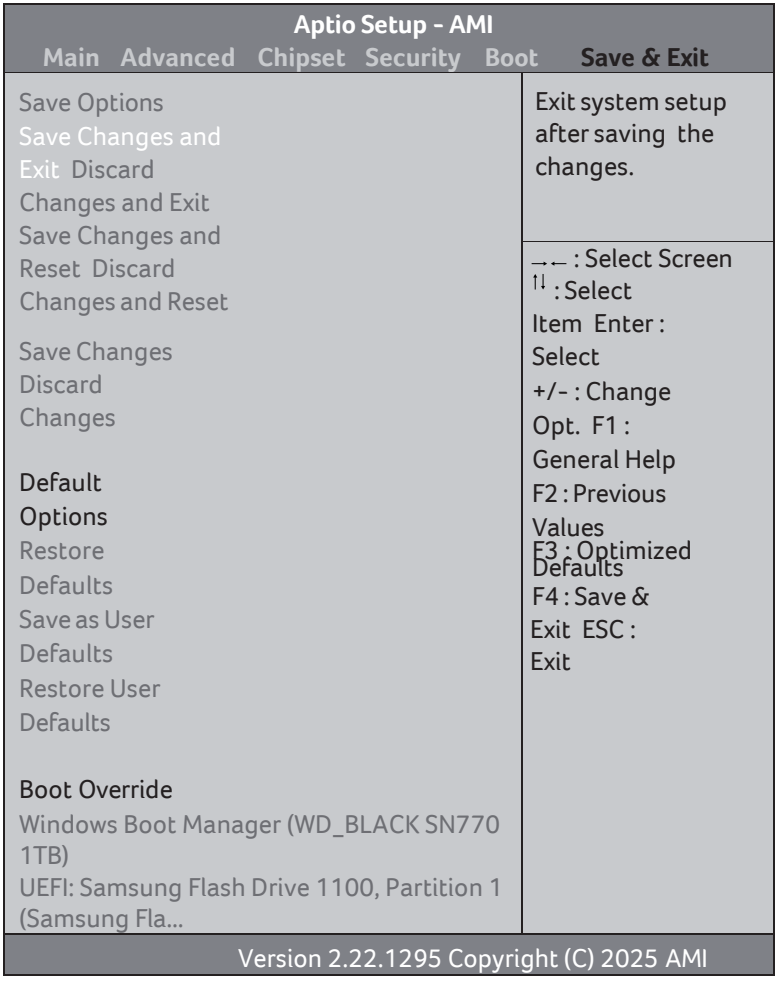
Press <Enter> to view the following screen:



	→← : Select Screen ↑↓ : Select Item Enter : Select +/- : Change Opt. F1 : General Help F2 : Previous Values F3 : Optimized Defaults F4 : Save & Exit ESC : Exit
Version 2.22.1295 Copyright (C) 2025 AMI	

Save & Exit Menu

This page enables you to exit system setup after saving or without saving the changes.



Save Options

This item enables you to save the options that you have made.

Save Changes and Exit

This item enables you to exitt the system setup after saving the changes.

Discard Changes and Exit

This item enables you to exit system setup without saving any changes.

Save Changes and Reset

This item enables you to reset system setup after saving the changes.

Discard Changes and Reset

This item enables you to reset system setup without saving any changes.

Save Changes

This item enables you to save the changes that you have made.

Discard Changes

This item enables you to discard any changes that you have made.

Default Options

Manage and customize your system's default settings with the following options.

Restore Defaults

This item enables you to restore defaults to all the setup options.

Save as User Defaults

This item enables you to save the changes that you have made as user defaults.

Restore User Defaults

This item enables you to restore the user defaults.

Boot Override

Use this item to select the boot device.

Updating the BIOS

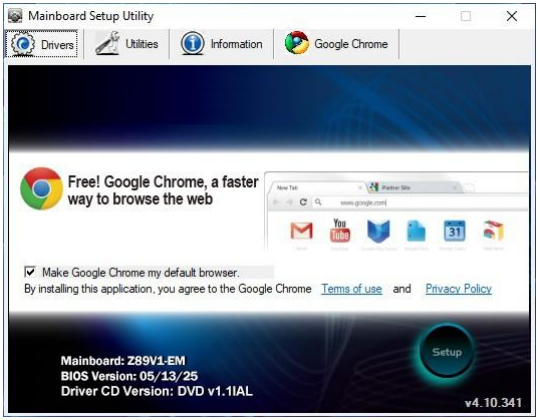
You can download and install updated BIOS for this motherboard from the manufacturer's Website. New BIOS provides support for new peripherals, improvements in performance, or fixes for known bugs. Install new BIOS as follows:

1. If your motherboard has a BIOS protection jumper, change the setting to allow BIOS flashing.
2. If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten.)
3. Prepare a bootable device or create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)
4. Download the Flash Utility and new BIOS file from the manufacturer's Web site. Copy these files to the bootable device.
5. Turn off your computer and insert the bootable device in your computer. (You might need to run the Setup Utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the bootable device first.)
6. At the fs0:\> prompt, type the Flash Utility program name and the file name of the new BIOS and then press <Enter>. Example: AFUEFIX64.EFI 040706. ROM
7. When the installation is complete, remove the bootable device from the computer and restart your computer. If your motherboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten. The computer will restart automatically.

This concludes Chapter 3. Refer to the next chapter for information on the software supplied with the motherboard.

Auto-installing under Windows 11

The auto-install DVD-ROM makes it easy for you to install the drivers and software. The support software DVD-ROM disc loads automatically under Windows 11. When you insert the DVD-ROM disc in the DVD-ROM drive, the auto-run feature will automatically bring up the installation screen. The screen has one button on it: Setup.

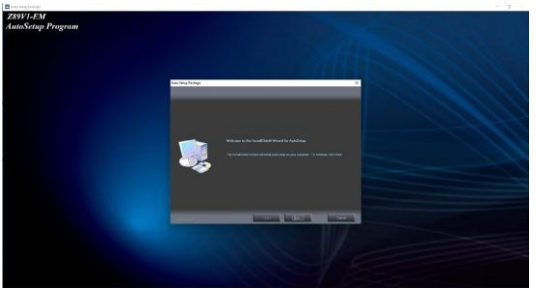


The motherboard identification is located in the lower left corner.

Running Setup

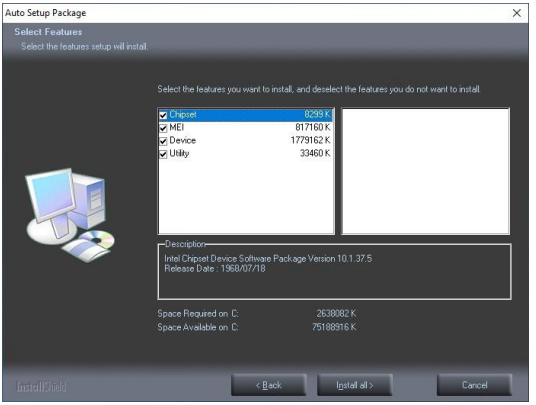
Follow these instructions to install device drivers and software for the motherboard:

1. Click **Setup**. The installation program begins:



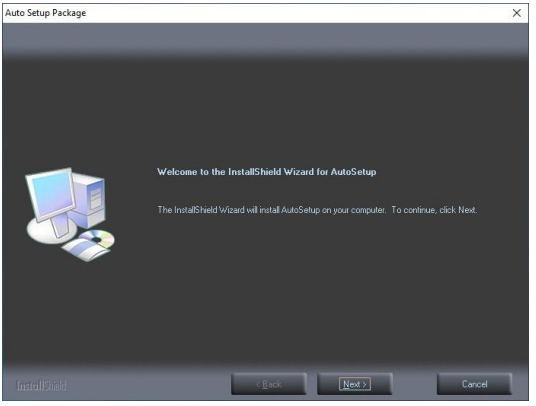
The following screens are examples only. The screens and driver lists will be different according to the motherboard you are installing.

2. Click **Next**. The following screen appears:



3. Check the box Install all to the items you want to install. The default options are recommended.

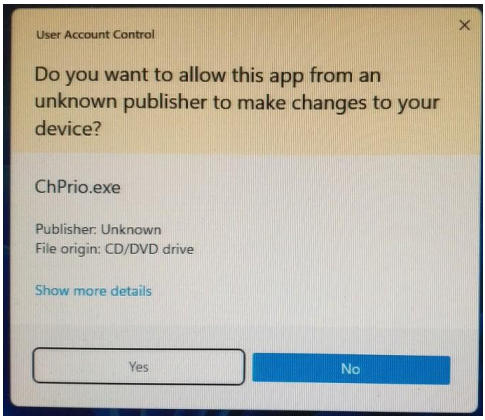
4. Click Next to run the Installation Wizard. An item installation screen appears:



5. Follow the instructions on the screen to install the items.

Drivers and software are automatically installed in sequence. Follow the onscreen instructions, confirm commands and allow the computer to restart a few times to complete the installation.

Windows 11 will appear below UAC (User Account Control) message after the system restart. You must select "Yes" to install the next driver. Continue this process to complete the drivers installation.



Manual Installation

If the auto-install DVD-ROM does not work on your system, you can still install drivers through the file manager for your OS (for example, Windows Explorer). Look for the chipset and motherboard model, and then browse to the directory and path to begin installing the drivers. Most drivers have a setup program (SETUP.EXE) that automatically detects your operating system before installation. Other drivers have the setup program located in the operating system subfolder.

If the driver you want to install does not have a setup program, browse to the operating system subfolder and locate the readme text file (README.TXT or README.DOC) for information on installing the driver or software for your operating system.

Setting up the system
Pre-installation requirements

Selecting a site

Before unpacking and installing the system, select a suitable site for the system for maximum efficiency. Consider the following factors when choosing a site for the system:

- Near a grounded power outlet.
- Clean and dust-free
- Stable surface free from vibration.
- Well-ventilated and away from sources of heat.
- Secluded from electromagnetic fields produced by electrical devices such as air conditioners, radio and TV transmitters, etc.

Checking the package contents

Check the following items from the package:

- System unit
- Accessory box

If any of the above items is damaged or missing, contact your dealer immediately.

Save the boxes and packing materials for future use.

Turning on the system

After making sure that you have properly set up the system, applied power and connected all the necessary peripherals, you can now power on the system. Follow the procedure below.

Press the power button ⏻ ◦
The system starts up and displays a welcome message on the monitor. After that, a series of power-on self-test (POST) messages appears. The POST messages indicate if the system is running well or not.



Note: If the system does not turn on or boot after pressing the power button, go to the next section for the possible causes of the boot failure

Aside from the POST messages, you can determine if the system is in good condition by checking if the following occurred.

- The power status indicator on the front panel lights up blue.
- The Num Lock, Caps Lock and Scroll Lock indicators on the keyboard light up.

Power-on problems

If the system fails to boot after you have applied power, check the following factors that might have caused the boot failure.

- The external power cord may be loosely connected.
- Check the power cord connection from the power outlet to the power cord socket on the rear panel. Make sure that the cord is properly connected to the power outlet and to the power cord socket.
  No power comes from the grounded power outlet. Have an electrician check your power outlet.
- Loose or improperly connected internal power cables.
  Check the internal cable connections. If you are not confident to perform this step, ask a qualified technician to assist you.



Warning! Make sure all power cords are disconnected from the electrical outlet before performing this task.



Note: If you have gone through the preceding actions and the system still fails to boot, ask your dealer or a qualified technician for assistance.

Turning off the system

There are two ways to turn off the Server—via software or via hardware. The software procedure below applies to a system running on a Windows OS. For other shutdown procedures, refer to the related user documentation.

To turn off the system via software:

1. Press <**Ctrl**> + <**Alt**> + <**Delete**> on the attached keyboard or click **Start** on the Windows taskbar.
2. Select **Shut Down**.
3. Select Shut Down from the drop-down menu, then click **OK**.

To turn off the system via hardware

If you cannot shut down the Server via software, press the power button for at least four seconds. Quickly pressing the button may put the Server in a Suspend mode only.

Initial system startup problems

Problems that occur at initial system startup are usually caused by an incorrect installation or configuration. Hardware failure is a less possible cause. If the problem you are experiencing is with a specific application.

Initial troubleshooting checklist

- AC power is available at the wall outlet?
- Is the power supply module properly installed?
- Is the system power cord properly plugged into the power supply module socket? and connected to a NEMA 5-15R outlet for 100-120 V or a NEMA 6-15R outlet for 200-240 V?
- Are all peripheral cables correctly connected and secured?
- Did you press the system power button to turn the Server on (power on indicator should be lit green)?
- Are all device drivers properly installed?
- Are hard disk drive(s) properly formatted and configured?
- Are the BIOS configuration settings in the BIOS Setup Utility correct?
- Is the operating system properly loaded?
  Refer to the operating system documentation.
- Are all hardware components compliant with the tested components
- lists?
- Are all internal cables correctly connected and secured?
- Is the processor properly seated in its mainboard socket?
- Are all standoffs in the proper location and not touching any components, causing a potential short?
- Are all add-in expansion cards fully seated in their mainboard slots?
- Are all system jumpers correctly set?
- Are all switch settings on add-in boards and peripheral devices correct?

  To check these settings, refer to the manufacturer's documentation that comes with them. If applicable, ensure that there are no conflicts (e.g., two add-in

boards sharing the same interrupt).

Hardware diagnostic testing

This section provides a detailed approach to identifying a hardware problem and its cause.

Checking the boot-up status



Caution: Before disconnecting any peripheral cables from the Server, turn off the system and any peripheral devices. Failure to do so can cause permanent damage to the system and/or the peripheral device.

1. Turn off the system and all external peripheral devices.
2. Disconnect all peripheral devices from the system, except for the keyboard and the display monitor.
3. Make sure the system power cord is plugged into a properly grounded AC outlet and in the power supply module cord socket.
4. Make sure the display monitor and keyboard are correctly connected to the system.
5. Turn on the display monitor.
6. Set the display brightness and contrast controls to at least two thirds of their maximum range.
   Refer the documentation that came with your display monitor.
7. If the operating system normally loads from the hard drive, make sure there is no diskette in floppy drive and no disc in the optical drive.
8. If the power indicator is lit, attempt to boot from a disc.
9. Turn on the system.

Verifying the condition of the storage devices

As POST determines the system configuration, it tests for the presence of each mass storage device installed in the system. As each device is checked, its activity indicator should turn blue briefly. Check the activity indicators for the hard drive(s), and any other 5.25" device you may have installed.

If any of these indicators fail to light up, refer to related problems listed in the Specific problems and corrective actions section.

Specific problems and corrective actions

Listed below are specific problems that may arise during the use of your Server and their possible solutions

Confirming loading of the operating system

Once the system boots up, the operating system prompt appears on the screen. The prompt varies according to the operating system. If the operating system prompt does not appear.

Specific problems and corrective actions

Listed below are specific problems that may arise during the use of your Server and their possible solutions

Specific problems and corrective actions

Listed below are specific problems that may arise during the use of your Server and their possible solutions.

Power indicator does not light.

Do the following:

- Make sure the power supply module is properly installed.
- Make sure the power cord is connected correctly.
- Make sure that the wall outlet has power. Test it by plugging in another device.
- Make sure the power indicator on the front panel is lit up.
- Remove all add-in cards and see if the system boots. If reboot is successful, install the cards back in one at a time with a reboot between each addition to determine if one of them is causing the problem.
- Make sure that you have properly installed system compliant memory modules, and that they are populated according to the system guidelines.
- Make sure that you have installed system compliant processors, and that they are populated according to the system guidelines.

Optical drive activity indicator does not light

Do the following:

- Make sure the SATA and power cables are properly connected.
- Check that relevant switches and jumpers on the drive are set correctly.
- Check that the drive is properly configured.

Optical drive tray cannot be ejected
Insert the tip of a paperclip into the small hole on the optical drive. Slowly pull the tray out from the drive until the tray is fully extended.

Optical drive cannot read a disc

Do the following:

- Make sure you are using the correct type of disc.
- Make sure the disc is properly seated in the drive.
- Make sure the disc is unscratched.
- Make sure the drive's cables are properly connected.

Newly installed memory modules are not detected.

Do the following:

- Make sure the memory modules specifications comply with the system requirements.
- Make sure the memory modules have been populated according to the system guidelines.
- Make sure the memory modules are properly installed on their mainboard slots.

Network activity indicators do not light.

Do the following:

- Make sure the correct network drivers are loaded on the system.

- Network might be idle.

Peripheral device connected to a USB port does not work.

Do the following:

- Reduce the number of external devices connected to a USB hub.
- Refer to the documentation that came with the device

There is problem with the software program.

Do the following:

- Verify that the software is properly configured for the system.
- Refer to the software installation and operation documentation for instructions on setting up and using the software. Try a different version of the software to see if the problem is with the copy you are using. If the other version runs correctly on the system, contact your vendor about the defective software.

No characters appear on the display monitor.

Do the following:

- Is the keyboard functioning? Test it by turning the Num Lock function on and off to check if the Num Lock indicator lights up.
- Is the display monitor plugged in and turned on? If you are using a switch box, is it switched to the correct system?
- Are the brightness and contrast controls on the video monitor properly adjusted?
- Is the display monitor signal cable properly connected?
- Does this display monitor work correctly if plugged into a different system?
- Remove all add-in cards and see if the system boots. If reboot is successful, install the cards back in one at a time

with a reboot between each addition to determine if one of them is causing the problem.

- Make sure that you have properly installed system-compliant memory modules, and that they are populated according to the system guidelines.
- Make sure that you have installed system compliant processors, and that they are populated according to the system guidelines.

If you are using an add-in video controller card, do the following:

1. Verify that the display monitor works using the onboard video controller.
2. Verify that the add-in video controller card is fully seated in its slot.
3. Reboot the system for the changes to take effect.
4. If there are still no characters on the screen after you reboot the system, reboot it again.
   Take note of the beep codes emitted during POST. This information may be required if you seek technical assistance.
   If POST does not emit any beep code and characters still do not appear, the display monitor or the video controller may be defective. Contact your local Altos representative or authorized dealer for technical assistance.



Note: If POST does not emit any beep code and characters still do not appear, the display monitor or the video controller may be defective. Contact your local Altos representative or authorized dealer for technical assistance.

Notices
Information for your safety and comfort

Safety instructions

Read these instructions carefully. Keep this document for future reference. Follow all warnings and instructions marked on the product.

Turning the product off before cleaning

Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

CAUTION for plug as disconnecting device

Observe the following guidelines when connecting and disconnecting power to the power supply unit:

- Install the power supply unit before connecting the power cord to the AC power outlet.
- Unplug the power cord before removing the power supply unit from the computer.
- If the system has multiple sources of power, disconnect power from the system by unplugging all power cords from the power supplies.

CAUTION for accessibility

Be sure that the power outlet you plug the power cord into is easily accessible and located as close to the equipment operator as possible. When you need to disconnect power to the equipment, be sure to unplug the power cord from the electrical outlet.

Warnings

- Do not use this product near water.

- Do not place this product on an unstable cart, stand or table. If the product falls, it could be seriously damaged.
- Slots and openings are provided for ventilation to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
- Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind onto or into the product.
- To avoid damage of internal components and to prevent battery leakage, do not place the product on a vibrating surface.
- Never use it under sporting, exercising, or any vibrating environment which will probably cause unexpected short current or damage rotor devices, HDD, Optical drive, and even exposure risk from lithium battery pack.
- This product is not suitable for use with visual display workplace devices according to §2 of the German Ordinance for Work with Visual Display Units.

Using electrical power

- This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- Do not allow anything to rest on the power cord. Do not locate this product where people will walk on the cord.
- If an extension cord is used with this product, make sure that the total ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed the fuse rating.

- Do not overload a power outlet, strip or receptacle by plugging in too many devices. The overall system load must not exceed 80% of the branch circuit rating. If power strips are used, the load should not exceed 80% of the power strip's input rating.
- This product's power supply is equipped with a three-wire grounded plug. The plug only fits in a grounded power outlet. Make sure the power outlet is properly grounded before inserting the power supply plug. Do not insert the plug into a non-grounded power outlet. Contact your electrician for details.



Warning ! The grounding pin is a safety feature. Using a power outlet that is not properly grounded may result in electric shock and/or injury.



Note: The grounding pin also provides good protection from unexpected noise produced by other nearby electrical devices that may interfere with the performance of this product.

- Use the product only with the supplied power supply cord set. If you need to replace the power cord set, make sure that the new power cord meets the following requirements: detachable type, UL listed/CSA certified, VDE approved or its equivalent, 4.6 meters (15 feet) maximum length.

Product servicing

Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel. Unplug this product from the wall outlet and refer servicing to qualified service personnel when:

- the power cord or plug is damaged, cut or frayed.
- liquid was spilled into the product.
- the product was exposed to rain or water.
- the product has been dropped or the case has been

damaged.

- the product exhibits a distinct change in performance, indicating a need for service.
- the product does not operate normally after following the operating instructions.

Notes：Adjust only those controls that are covered by the operating instructions, since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal condition.

This Server should be located in a restricted access location or an area with similar instruction.

Caution: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Disposal instructions

Do not throw this electronic device into the trash when discarding. To minimize pollution and ensure utmost protection of the global environment, please recycle.



Declaration of Conformity for EU countries

Hereby, Altos, declares that this system is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

List of applicable countries

This device must be used in strict accordance with the regulations and constraints in the country of use. For further information, please contact local office in the country of use. Please see http://ec.europa.eu/enterprise/rtte/implem.htm or the latest country list.



Note: The following sections are applicable only to Class A systems

FCC notice Class A

This device has been tested and found to comply with the limits for a Class A 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 device generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the device and receiver.
- Connect the device 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: Shielded cables
All connections to other computing devices must be made using shielded cables to maintain compliance with FCC regulations. In compliance with FCC regulations, use shielded cables to connect

to other computing devices.

Notice: Peripheral devices
Only peripherals (input/output devices, terminals, printers, etc.) certified to comply with the Class A limits may be attached to this equipment. Operation with non- certified peripherals is likely to result in interference to radio and TV reception.

Caution
Changes or modifications not expressly approved by the manufacture could void the user's authority, which is granted by the Federal Communications Commission, to operate this computer.

Operation conditions
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.

HEVC

