Manuals+ — User Manuals Simplified.

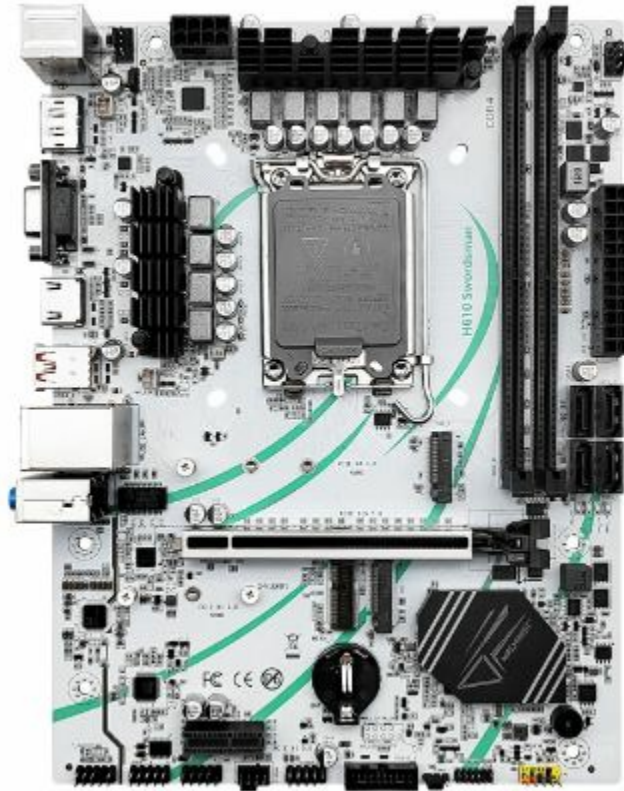# MACHINIST H610 Swordsman Computer Motherboards User Manual

Contents

MACHINIST®

MACHINIST H610 Swordsman Computer Motherboards

Specifications

H610 Swordsman		
Processor	Supports 12th/13th Generation Intel Core/Pentium/Celeron series processors	
Southbridge	H610 Chipset	
RAM	Technology	Dual Channel DDR4
	Maximum Capacity	64GB (32GB*2)
	Memory Slot	2*DDR4
Rear I/O	PS/2	1
	Display Interface	HDMI/DP/VGA
	USB	4*USB2.0, 2*USB3.2
	Ethernet	1*2.5GbE LAN
	AUDIO	1 (Mic-in, Line-out Line-in)
	CFAN	1*4PIN

Internal connector	SFAN	2*4PIN	
	PWR Interface	2*PWR FAN; 1*USB PWR	
	ATXPWR Interface	1*8PIN Power Socket; 1*24PIN Power Socket	
	USB2.0(front)	1	
	USB3.0(front)	1	
	M.2	1*NVME M.2; 1*WiFi M.2	
	SATA Interface	4*SATA3.0	
	JAUDIO(front)	1	
	JDBG	1	
	JCOM1	1	
	JCMOS Port	1	
	JTPM	1	
	PCIe	1*PCIe x16; 1*PCIe x1	
Environment	Temperature Range	Working Environment	Storage Environment
		Temperature 0 50°C Humidity 5%~95%	Temperature: -20~70°C Humidity: 5%~95%
Physical Size	Size	240*180mm	

Overview of Components

Package List

- H610 Motherboard * 1
- SATA Cable * 1
- I/O Blocking * 1

Install CPU & Fan
Please install the CPU into the CPU socket as shown below.
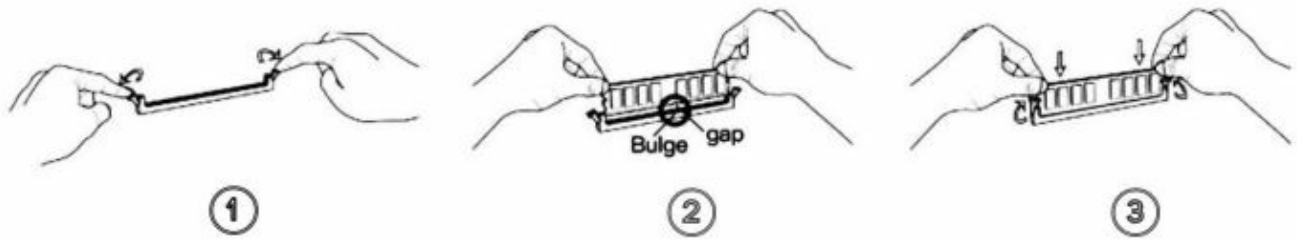
Notice
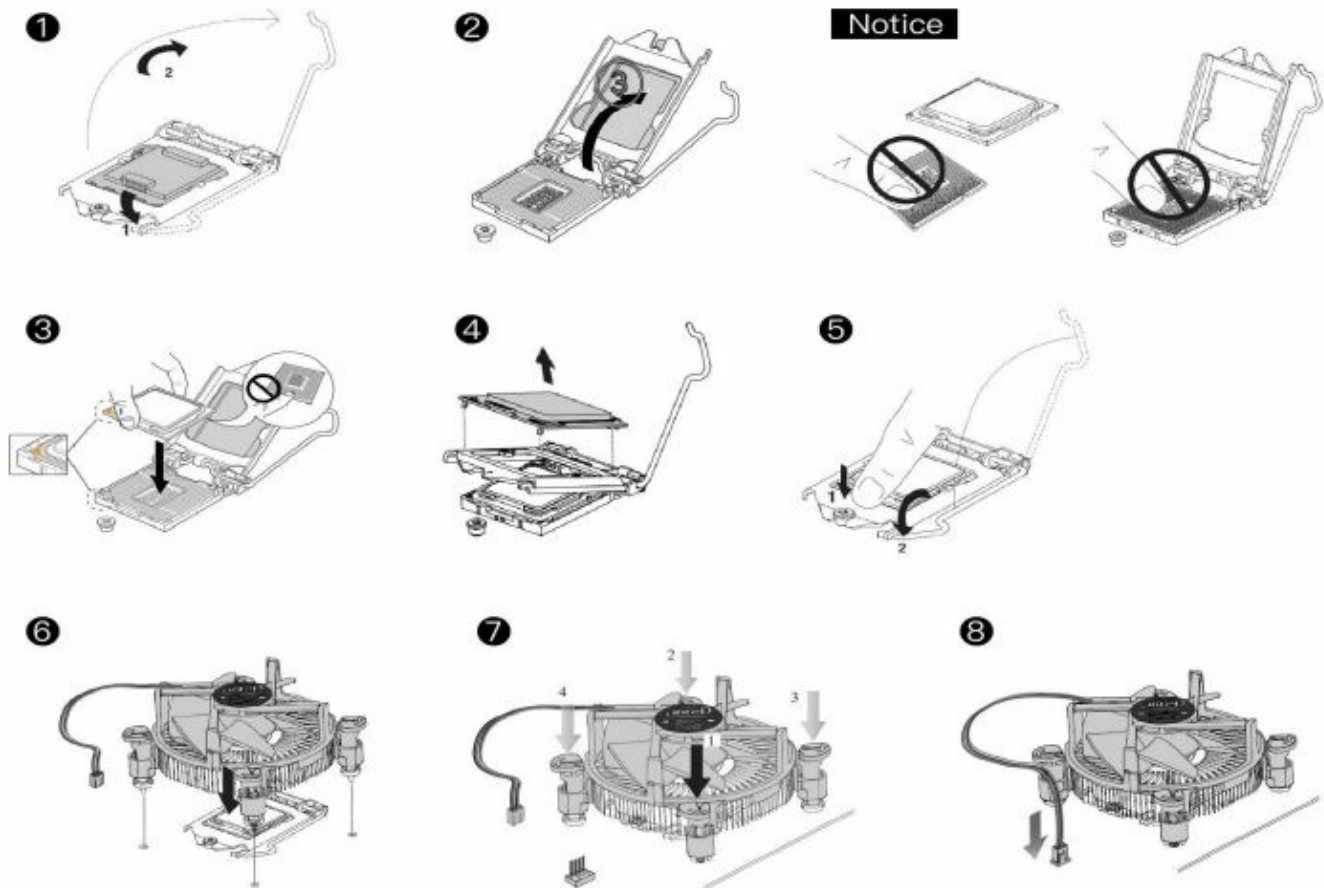
Important

- Make sure that the motherboard supports the CPU.
- Always unplug the power cord from the power outlet before installing or removing the CPU to prevent hardware damage.
- Please retain the CPU protective cap after installing the processor.
- Do not turn on the computer if the CPU cooler is not installed, otherwise overheating and damage to the CPU may occur.
- Confirm that the CPU heatsink has formed a tight seal with the CPU before booting your system.
- Apply an even layer of thermal paste (or thermal tape) between the CPU and the heatsink to enhance heat dissipation.
- Whenever the CPU is not installed, always protect the CPU socket pins by covering the socket with a plastic cap.
- Locate the pin one of the CPU socket and the CPU. Once the CPU is positioned into its socket, place one finger down on the middle of the CPU, lowering the locking lever and latching it into the fully locked position.
- Do not force the CPU into the CPU socket before the CPU socket locking lever is lifted up, or damage to the CPU and CPU socket may occur.
- Connect the CPU heatsink's 4pin fan power connector to the 4pin CPU fan header on the motherboard.

Install Memory
The motherboard provides 2 DDR4 DIMM slots with a maximum capacity of 64GB.

1. Wrench the latches on both sides of the memory slot outwards.
2. Insert the memory into the slot by aligning it with the notch in the slot.

3. Flip the latches on both sides of the slot to lock the memory.

Important

- Make sure that the motherboard supports the memory. It is recommended that memory of the same capacity, brand, speed, and chips be used.
- Always turn off the computer and unplug the power cord from the power outlet before installing the memory to prevent hardware damage.
- Memory modules have a foolproof design. A memory module can be installed in only one direction. If you are unable to insert the memory, switch the direction.
- The stability and compatibility of the installed memory module depend on the installed CPU and devices when overclocking.
- This motherboard provides two memory sockets and supports dual channel technology. Dual Channel mode cannot be enabled if only one memory module is installed.
  (Note: Server memory and desktop memory cannot be used together.)

Install Expansion Card
The motherboard provides a PCI Express 5.0 X16 expansion slot. Place the expansion card in an available PCI Express slot and press the expansion card until it is fully inserted into the slot.
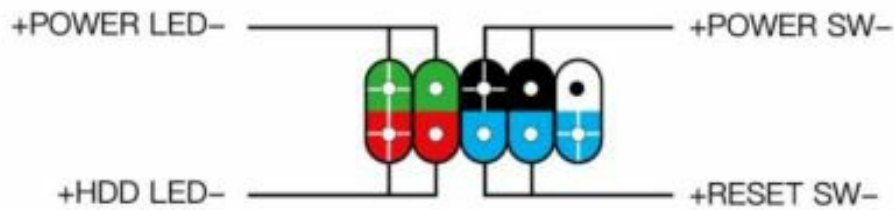

Important

- When adding or removing expansion cards, always turn off the power supply and unplug the power supply power cable from the power outlet to prevent hardware damage.
- If the expansion card is not installed correctly, it may cause a short circuit throughout the metal pins, which could burn out the expansion card or the motherboard.
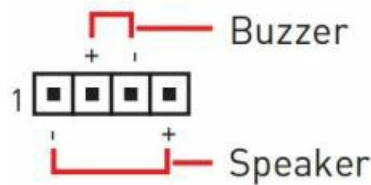
Back Panel Connectors

USB 2.0 Port
The USB port supports the USB 2.0 specification. Use this port for USB devices.

USB 3.2 Port
USB 3.2 supports the USB 3.2 specification and is compatible with the USB 2.0 and 3.0 specifications. USB 3.2 transmission speed can reach up to 10Gbps.

DP Port
As a higher-definition interface than HDMI, the DP interface has higher image quality, can easily support 2560×1600 ultra-high resolution, and can transmit signals with a bandwidth of 10.8gbps.

VGA Port
VGA (Video Graphics Array) supports analog video signal transmission, high resolution, fast display rate and rich colors.

HDMI Port
The HDMI port supports 4K and 1080px. You can use this port to connect your HDMI-supported monitor.

2.5GbE LAN Port
The 2.5GbE LAN port provides Internet connection at up to 2.5Gbps data rate. The following describes the states of the LAN port LEDs.

Link/ Activity LED			Speed LED	
Status	**Description**		**Status**	**Description**
Off	No link		Off	10 Mbps connection
Yellow	Linked		Green	100/1000 Mbps connection
Blinking	Data activity		Orange	2.5 Gbps connection

USB 3.2 Port
USB 3.2 supports the USB 3.2 specification and is compatible with the USB 2.0 and 3.0 specifications. USB 3.2 transmission speed can reach up to 10Gbps.

DP Port
As a higher-definition interface than HDMI, the DP interface has higher image quality, can easily support 2560×1600 ultra-high resolution, and can transmit signals with a bandwidth of 10.8 gbps.

VGA Port
Any problem, please feel free to contact us.

Internal Connectors

F_PANEL1 Connector
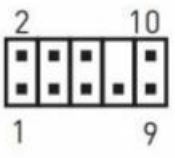
SPEAK1 Connector

JAUDIO1 Connector
This connector allows you to connect audio jacks on the front panel.

1	MIC L	2	Ground
3	MIC R	4	NC
5	Head Phone R	6	MIC Detection
7	SENSE_SEND	8	No Pin
9	Head Phone L	10	Head Phone Detection

Important

- An incorrect connection between the module connector and the motherboard header will make the device unable to work or even damage it.
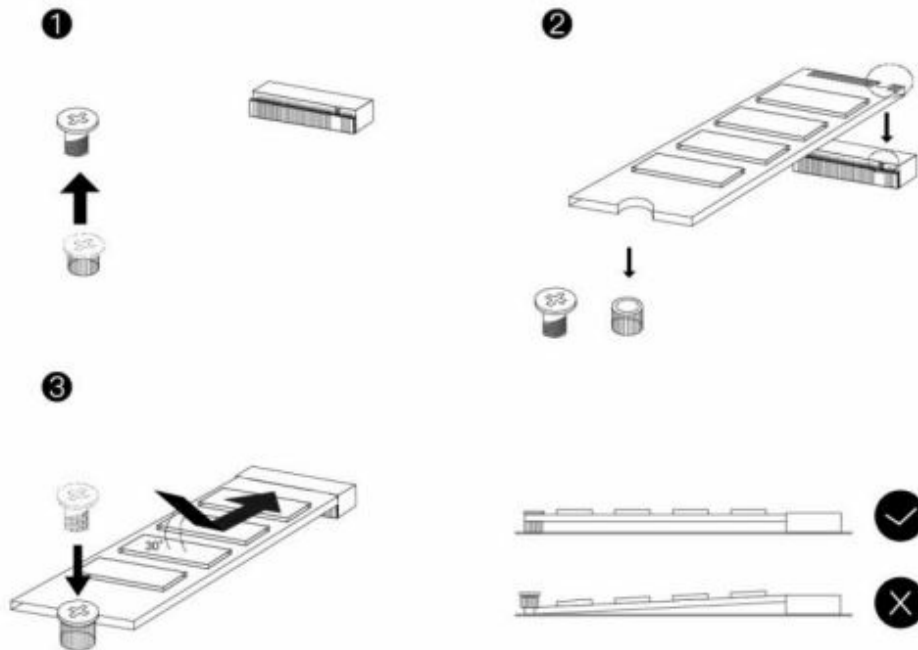
4* SATA 3.0 Connectors
These SATA 3.0 connectors are SATA 6Gb/s interface ports. Each SATA connector supports a single SATA device.
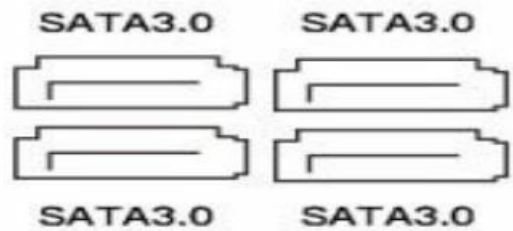
M.2 Slot
Insert your M.2 SSD into the M.2 slot at a 30-degree angle. Secure the M.2 SSD in place with the screw.

JCMOS1: CMOS Discharge

1.JCOMS1(Initial state)
The initial state covers "1" and "2".
If you want to discharge, please go
to the next step.

2.JCOMS1(Discharge)
Pull out the cap to cover "2" and
"3", and wait for about 3 minutes f
or the discharge to complete.

3.JCOMS1(restitute)
After the discharge is completed,
restore the initial state of the
first step

Important

- Always turn off the computer and unplug the power cord from the power outlet before discharging.

JCOM1: Serial Port Connector
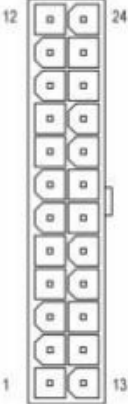The COM connector can provide one serial port via an optional COM port cable.

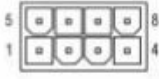| 1	DCD	2	SIN
3	SOUT	4	DTR
5	Ground	6	DSR
7	RST	8	CTS
9	RI	10	NC

ATXPWR1, JATXPWR1: Power Connectors
With the use of the power connector, the power supply can provide enough stable power to all the components on the motherboard. Before connecting the power connector, make sure the power supply is turned off and all devices are properly installed.

Important

- It is recommended that a power supply that can withstand high power consumption be used (at least 500W). If a power supply is used that does not provide the required power, the result can lead to an unstable or unbootable system.
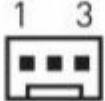
ATXPWR1	1	+3.3V	13	+3.3V
	2	+3.3V	14	-12V
	3	Ground	15	Ground
	4	+5V	16	PS-ON
	5	Ground	17	Ground
	6	+5V	18	Ground
	7	Ground	19	Ground
	8	Power OK	20	NC
	9	5VSB	21	+5V
	10	+12V	22	+5V
	11	+12V	23	+5V
	12	+3.3V	24	Ground

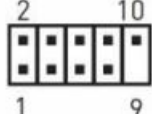|				
JATXPWR1	1	Ground	5	+12V
	2	Ground	6	+12V
	3	Ground	7	+12V
	4	Ground	8	+12V

CPU_FAN1, SYS_FAN1~2: Fan Connectors

- CPU_FAN is an interface for the CPU radiator. The 4pin fan has PWM intelligent speed regulation function, which can intelligently control the fan speed based on load and temperature changes.
- SYS_FAN is the system cooling fan interface, which is generally connected to the case fan. The 3pin fan has no PWM adjustment capability.

CPU_FAN		
1	Ground	
2	+12V	
3	Sense	
4	Speed Control	

SYS_FAN		
1	Ground	
2	+12V	
3	Sense	

JUSB2: USB 2.0 Connectors
The headers conform to USB 2.0 specifications. This connector allows you to connect USB 2.0 ports on the front panel.

1	VCC	2	VCC
3	USB0-	4	USB1-
5	USB0+	6	USB1+
7	Ground	8	Ground
9	No Pin	10	NC

FUSB3: USB 3.0 Connector
The header conforms to USB 3.0 and USB 2.0 specification. This connector allows you to connect USB 3.0 ports on the front panel.

1	VBUS	11	D2+	
2	SSRX1-	12	D2-	
3	SSRX1+	13	Ground	
4	Ground	14	SSTX2+	
5	SSTX1-	15	SSTX2-	
6	SSTX1+	16	Ground	
7	Ground	17	SST2+	
8	D-	18	SST2-	
9	D+	19	VBUS	
10	NC	20	No Pin	

BIOS Setup

BIOS (Basic Input and Output System) records hardware parameters of the system in the CMOS on the motherboard. BIOS identifies, configures, tests and connects computer hardware to the OS immediately after a computer is turned on. Its major functions include conducting the Power-On Self-Test (POST) during system startup, saving system parameters and loading the operating system, etc. BIOS includes a BIOS Setup program that allows the user to modify basic system configuration settings or to activate certain system features. When the power is turned off, the battery on the motherboard supplies the necessary power to the CMOS to keep the configuration values in the CMOS.

Important

- Because BIOS flashing is potentially risky if you do not encounter problems using the current version of BIOS, it is recommended that you not flash the BIOS. To flash the BIOS, do it with caution. Inadequate BIOS flashing may result in system malfunction.

BIOS Setup
The default settings offer the optimal performance for system stability in normal conditions. It is recommended that you not alter the default settings (unless you need to) to prevent system instability or other unexpected results. Inadequately altering the settings may result in the system's failure to boot.

Important

- BIOS items are regularly updated for better system performance. The items may be slightly different from the latest BIOS; therefore, the description is for reference only.

Enter BIOS Setup
Entering BIOS Setup When the computer starts up, BIOS enters the self-test process. When the self-test is completed, the following message is displayed: Press DEL key to enter Setup Menu. At this time, Press <Delete> key to enter the BIOS setup. If this message disappears before you press <DEL> key, you can turn it off and then turn on your computer or press <Reset> on the case to restart your computer. You can also press <Ctrl>+<Alt>+ <Delete> at the same time to restart your computer. It is recommended to repeatedly press the "Del" key immediately after starting the computer to ensure that the computer can enter BIOS mode.

Important

- Functions may vary depending on the product you have.

Reset BIOS

When you need to restore the default BIOS settings to resolve certain issues, there are several ways to reset the BIOS:
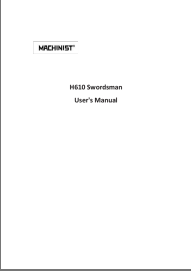
- Go to BIOS and press F6 to load optimized defaults.
- Short the Clear CMOS jumper on the motherboard.

Important

- Be sure the computer is off before clearing CMOS data. Please refer to the Clear CMOS jumper section for resetting BIOS.

Documents / Resources

MACHINIST H610 Swordsman User's Manual	**MACHINIST H610 Swordsman Computer Motherboards** [pdf] User Manual H610 Swordsman Computer Motherboards, H610 Swordsman, Computer Motherboards, Motherboards

References

- **User Manual**