H610A PRO SERIES

MOTHERBOARD

USER MANUAL

HYUNDAI
TECHNOLOGY

H610A PRO SERIES
User Manual

WARRANTY NOTICE

Limited Warranty does NOT cover:

Any costs associated with the repair or replacement of the Product incluiding labor, installation or other costs incurred by you, and in particular, any costs relating to the removal or replacement of any Product that is soldered or otherwise permanently affixed to any printed circuit board; OR

Damage to the Product due to external causes, including accident, problems with electrical power, abnormal electrical, mechanical or environmental conditions, usage not in accordance with product instructions, misuse, neglect, alteration, repair, improper installation, or improper testing; OR

Any Product which has been modified or operated outside of specifications or where the original identification markings (trademark or serial number) has been removed, altered or obliterated from the Product, or where the label or screw on the exterior of the Product is removed or broken.

Thanks for purchasing the H610A PRO Series Motherboard. This series of motherboards provide excellent performance and quality assurance.
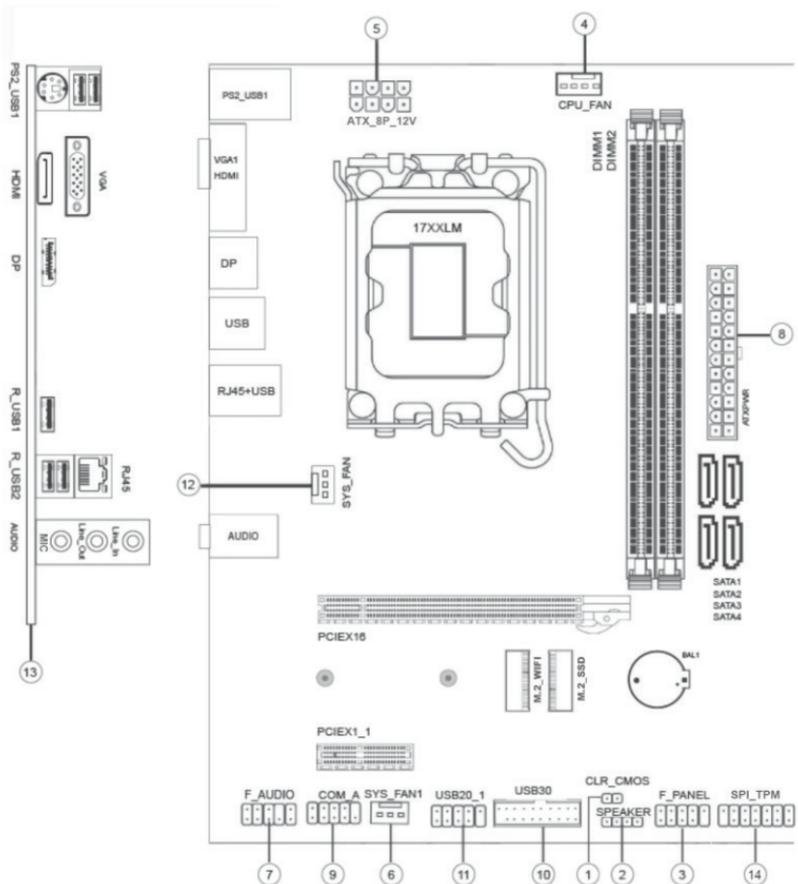
Accessories

- Motherboard x1
- SATA Cable x1
- I/O Shield x1
- Product Information Card x1

Specifications

Model Name	H610A PRO
Processor	Intel® H610
CPU	Supports Intel 12th & 13th Generation Core i7 & i5 & i3, Pentium, Celeron Processor in 1700pin
CPU Socket	LGA 1700
Memory Interface	2 x DDR4 UDIMM, 3200MHz / 64GB Max.
Memory Capacity	Up to 64GB
Storage Type	4 x SATA 3.0 6Gb/s Interface
GPU	Graphics with Intel® UHD Graphics
Display interface	1 x HDMI1.4b Max 3840 × 2160 @30Hz 1 x VGA Max 1920 × 1080 @60Hz 1 x Display Port
LAN	1 x RJ45 1000Mbs Wired Network
Internal Interface	1 x M.2 Socket 1 with E key Type 2230 Connector 1 x M.2 Socket 3 with M key Type 2280 Connector
Expansion Slots	1 * PCIE x16 1 * PCIE x1
Display Ports	1 x HDMI + 1 x VGA port + 1 x DP
Form Factor	M-ATX
Power Supply (Input)	500W
OS	Supports Windows 10 &11

Motherboard Layout

The terms HDMI, HDMI High Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrador, Inc.

Note: This picture is for reference only, please refer to the actual product!

Interface Definition

1-JBAT (Clear CMOS jumper) :

If (a) the CMOS data is damaged, (b) you forget the administrator or user password in the BIOS menu, (c) Unable to boot due to incorrect CPU frequency setting in the BIOS menu, (d) When the CPU or memory module has changed, it is time to clear the CMOS settings. This header uses a jumper cap to clear the CMOS settings and reset the BIOS to default values.

- **Pin 1 and 2 open circuit (Default value):** Normal state
- **Pin 1 and 2 shorted:** Clear CMOS settings

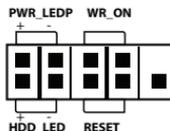| Pin	Pin Definition
1-2	Clear CMOS

Clear CMOS setting and load default:

1. Turn off the system power.
2. Short-circuit pin 1 and pin 2 and wait for a few seconds.
3. Turn on the system power.
4. If the BIOS CPU frequency setting is incorrect, please press the <Del> key immediately after rebooting to enter the BIOS setting menu.
5. Set the CPU speed back to default or to an appropriate value.
6. Save and leave the BIOS setup menu.

2/3 SPEAKER / FPANEL (PC speaker pin / front control panel connector pin):

The power button on the front panel of the computer case, the system restart button, the speaker, the system indicator light, etc. can be connected to this pin. Please refer to the following definitions and pay attention to the positive and negative (+/-) poles of the pins when connecting.

Pin	Pin Definition
1	SPK +
2	NC
3	NC
4	SPK -

```
PWR_LEDP   WR_ON
  +   -
 [■ ■] [■ ■] [■]
  +   -
HDD_LED   RESET
```

PWR-LED (Power LED) - Connect to the power LED wire.

PWR-ON (Power button) - Connect to the power button wire.

HDD_LED (Hard disk indicator) - Connect to the hard disk indicator cable.

RESET (Reset button) - Connect to the restart button cable.

SPEAK (PC speaker port) - Connect to the system speaker cable.

4, 6, 12,CPU FAN / SYS header:

CPU_FAN

Pin	Definition
1	GND
2	+12V
3	Speed detector
4	Speed Control

SYS_FAN

Pin	Definition
1	GND
2	+12V
3	Speed detector
4	Speed Control

SYS_FAN1
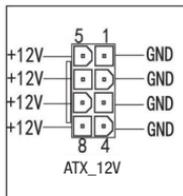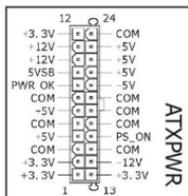
Pin	Definition
1	GND
2	+12V
3	NC
4	NC

Remark: SYS_FAN1 only support full speed mode

5, 8-ATX_12V/ATX (8-pin 12V power socket / 24-pin ATX main power socket):

These connectors are for an ATX power supply. The plugs from the power supply are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors are completely fitin. The ATX_12V power socket mainly provides CPU power. If it is not plugged in, the computer will not start.

Note: If you use a 20-pin ATX power supply socket, please insert it near pin 1 & pin 13.

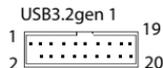

7-F_AUDIO (Front Audio Output Socket):

Pin	Silkscreen	Definition	Pin	Silkscreen	Definition
1	PROT1L	Mic left channel	6	SENSE1-RETURN	Detect mic signal
2	AGND	AGND Ground pin	7	SENSE-SEND	Detect signal return from HD, HD encoder
3	PROT1R	Mic right channel	8	NC	Null
4	PRESENCE#	Inductive cable of front panel	9	PORT2L	Pin of port 2 left
5	PORT2R	Pin of port 2 right	10	SENSE2-RETURN	detect front left & right signal

10/11-F_USB30 / F_USB20 (USB external interface socket):

Pin	Definition	Pin	Definition
1	VCC	2	VCC
3	Data 0-	4	Data 1-
5	Data 0+	6	Data 1+
7	Ground	8	Ground
		10	NC

USB2.0

2 [grid] 10
1 [grid] 9

This socket supports USB 2.0/1.1 specifications, and through the USB extension baffle, one socket can connect two USB ports. The USB expension shield is an optional accessory, you can contac your local agent to purchase it.

USB3.2gen 1

1 [grid] 19
2 [grid] 20

This socket supports USB 3.0/2.0/1.1 specifications, and through the USB extension baffle, one socket can connect two USB ports. The USB expension shield is an optional accessory, you can contac your local agent to purchase it.

14SPI_TPM connector socket/9-COM-A (COM connector socket):

This is a SPI_TPM & COM-A socket, and a set of serial ports can be connected through the serial port expanded baffle.

SPI_TPM

	Definition	Pin	Definition
1	VCC 33	2	TPM_IRQ
3	RST	4	TPM_CS2#
5	NC	6	SPI_WP#
7	VCC33	8	GND
9	SPI_CS0#	10	SPI_CLK
11	SPI_MISO	12	SPI_MOSI
13	SPI_HOLD		

COM- A

	Definition	Pin	Definition
1	DCD	6	DSR
2	RXD	7	RT S
3	TX D	8	CTS
4	DTR	9	RI
5	GND	10	NC

13-I/O (Back Panel IO Connector):

- **PS/2 Keyboard:** PS/2 mouse/keyboard port.
- **HDMI:** Onboard HDMI port, connect to HDMI Monitor.
- **USB:** 2x USB 3.2 gen1 connectors, 4x USB2.0 connectors.
- **VGA:** Onboard VGA port, connect to Monitor.
- **DP:** Digital video connector.
- **LAN:** The standard RJ-45 jack is for connection to single Local Area Network (LAN).
  You can connect a network by cable.
- **AUDIO:** Line-In (Blue): Used for external CD player, tape player or other audio devices.
- **Line-Out (Green):** This connector for speakers or headphones.
- **Mic (Pink):** Plug to connect external microphone.
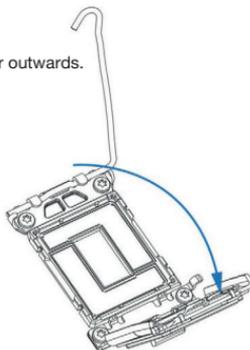
CPU Installation

Step 1
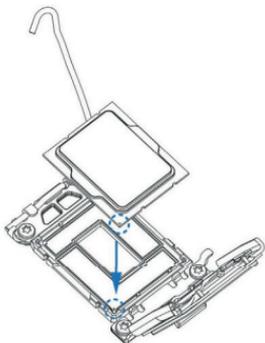Please do not remove the protective cover before installing the CPU.
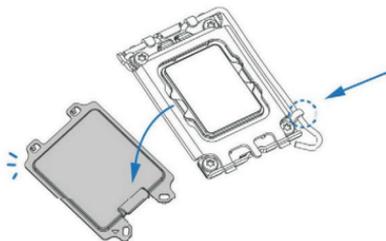
Step 2
Push the lever outwards.

Step 3
Please install the CPU in the correct direction.

Step 4
Buckle down the lever to secure the CPU.
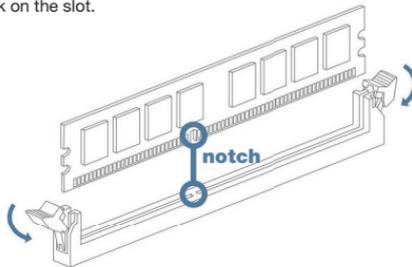
⚠ Warning

1. Before you install the radiator, please evenly coat the surface of the CPU with thermal grease.

2. Please keep the CPU protective cover for future use.

3. If the CPU socket pins of the motherboard are damaged due to improper operation, the warranty will not be granted.

Memory Module Installation

- **The motherboard support 2 memory module slot.**

- **Dual-channel introduction.**

- Dual-channel operation will improve system performance.

- Dual-channel operation requires the following conditions: Both channels must have the same capacity of memory and have the same type

- Dual-channel memory slots are the same color to help you identify pairs of slots. For better performance plug the memory into the same color slot. (Based on actual object).
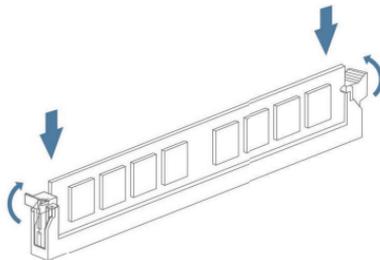
Step 1
Unlock a UDIMM slot by pressing the retaining clips outward. Align a UDIMM on the slot such that the notch the UDIMM matches the break on the slot.

Step 2
Insert the UDIMM vertically and firmly into the slot until the retaining clips snap back in place and the UDIMM is properly seated.

Ilustrate

The ilustration are for reference only and do not represent the actual product.

HYUNDAI

The information contained herein is subject to change without notice. The only warranties for Hyundai and services are set forth in the express warranty statements accompanying such products and services.

Nothing herein should be construed as constituting an additional warranty. Hyundai Technology shall not be liable for technical or editorial errors or omissions contained herein.

First Edition: March 2023

Advertencia Nota para uso en México

La operación de este equipo está sujeta a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

Contact Us

Visit us at http://www.hyundaitechnology.com

For sales inqury (U.S. Worldwide)
Email sales@hyundaitechnology.com

For technical support please contact HYUNDAI®

U.S. and Worldwide
Toll Free Number: (800) 560-0626
Monday-Friday 8:00 am - 5:00 pm PST
Email: support@hyundaitechnology.com

México (Spanish)
Toll Free Number: 81 5030-7375
Lunes-Viernes 8:00 am - 5:00pm CST
Email: soporte@hyundaitechnology.com.mx