N5105I H

User's Manual

Rev. 1001

For more product details, please visit GIGABYTE's website.

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- ■ For detailed product information, carefully read the User's Manual.
- ■ For product-related information, check on our website at: https://www.gigabyte.com

Identifying Your Motherboard Revision

The revision number on your motherboard looks like this: "REV: X.X." For example, "REV: 1.0" means the revision of the motherboard is 1.0. Check your motherboard revision before updating motherboard BIOS, drivers, or when looking for technical information.
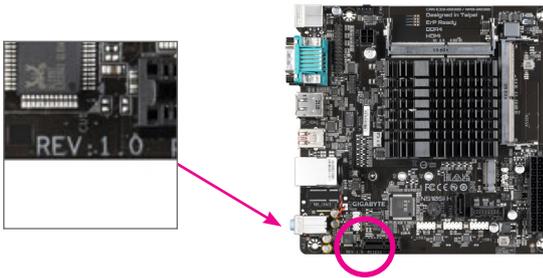
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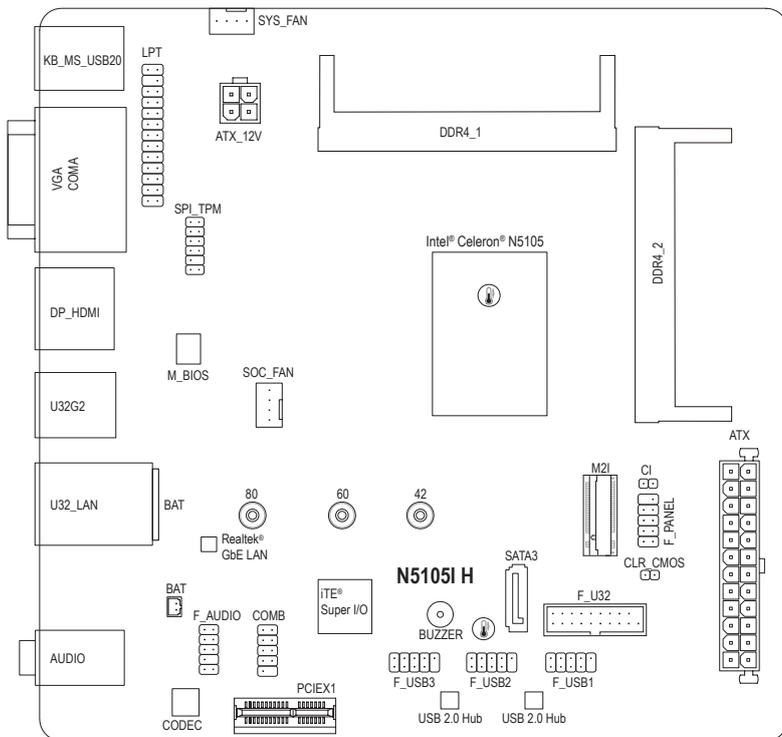
Temperature
sensor

Chapter 2 Hardware Installation

2-1 Installation Precautions

The motherboard contains numerous delicate electronic circuits and components which can become damaged as a result of electrostatic discharge (ESD). Prior to installation, carefully read the user's manual and follow these procedures:

- Prior to installation, make sure the chassis is suitable for the motherboard.
- Prior to installation, do not remove or break motherboard S/N (Serial Number) sticker or warranty sticker provided by your dealer. These stickers are required for warranty validation.
- Always remove the AC power by unplugging the power cord from the power outlet before installing or removing the motherboard or other hardware components.
- When connecting hardware components to the internal connectors on the motherboard, make sure they are connected tightly and securely.
- When handling the motherboard, avoid touching any metal leads or connectors.
- It is best to wear an electrostatic discharge (ESD) wrist strap when handling electronic components such as a motherboard, CPU or memory. If you do not have an ESD wrist strap, keep your hands dry and first touch a metal object to eliminate static electricity.
- Prior to installing the motherboard, please have it on top of an antistatic pad or within an electrostatic shielding container.
- Before connecting or unplugging the power supply cable from the motherboard, make sure the power supply has been turned off.
- Before turning on the power, make sure the power supply voltage has been set according to the local voltage standard.
- Before using the product, please verify that all cables and power connectors of your hardware components are connected.
- To prevent damage to the motherboard, do not allow screws to come in contact with the motherboard circuit or its components.
- Make sure there are no leftover screws or metal components placed on the motherboard or within the computer casing.
- Do not place the computer system on an uneven surface.
- Do not place the computer system in a high-temperature or wet environment.
- Turning on the computer power during the installation process can lead to damage to system components as well as physical harm to the user.
- If you are uncertain about any installation steps or have a problem related to the use of the product, please consult a certified computer technician.
- If you use an adapter, extension power cable, or power strip, ensure to consult with its installation and/or grounding instructions.

2-2   Product Specifications

CPU	◆	Built in with an Intel® Quad-Core Celeron® N5105 SoC (2.0 GHz)
		* Do not disassemble the onboard SoC and the heatsinks by yourself to avoid damage to these components.
	◆	4 MB L3 Cache
Memory	◆	2 x DDR4 SO-DIMM sockets supporting up to 16 GB of system memory
		* If only one memory module is to be installed, be sure to install it in the DDR4_1 socket.
	◆	Dual channel memory architecture
	◆	Support for DDR4 2933/2666/2400/2133 MHz memory modules
	◆	Support for non-ECC memory modules
Onboard Graphics	◆	Integrated Graphics Processor-Intel® HD Graphics support:
	-	1 x D-Sub port, supporting a maximum resolution of 1920x1200@60 Hz
	-	1 x HDMI port, supporting a maximum resolution of 4096x2160@60 Hz
		* Support for HDMI 2.0 version and HDCP 2.3.
	-	1 x DisplayPort, supporting a maximum resolution of 4096x2160@60 Hz
		* Support for DisplayPort 1.2 version and HDCP 2.3
		(Graphics specifications may vary depending on CPU support.)
Audio	◆	Realtek® Audio CODEC
	◆	High Definition Audio
	◆	2/4/5.1/7.1-channel
		* To configure 7.1-channel audio, you need to open the audio software and select Device advanced settings > Playback Device to change the default setting first. Please visit GIGABYTE's website for details on configuring the audio software.
LAN	◆	Realtek® GbE LAN chip (1 Gbps/100 Mbps)
Expansion Slots	◆	1 x PCI Express x1 slot
		(The PCI Express x1 slot conforms to PCI Express 3.0 standard.)
Storage Interface	◆	Integrated in the SoC:
	-	1 x SATA 6Gb/s connector
	-	1 x M.2 connector (Socket 3, M key, type 2242/2260/2280 PCIe 3.0 x2 SSD support)
USB	◆	Integrated in the SoC:
	-	1 x USB 3.2 Gen 2 Type-A port (red) on the back panel
	-	4 x USB 3.2 Gen 1 ports (2 ports on the back panel, 2 ports available through the internal USB header)
	◆	Chipset+2 USB 2.0 Hubs:
	-	8 x USB 2.0/1.1 ports (2 ports on the back panel, 6 ports available through the internal USB headers)

Internal Connectors	◆	1 x 24-pin ATX main power connector
	◆	1 x 4-pin ATX 12V power connector
	◆	1 x SOC fan header
	◆	1 x system fan header
	◆	1 x SATA 6Gb/s connector
	◆	1 x front panel header
	◆	1 x front panel audio header
	◆	1 x USB 3.2 Gen 1 header
	◆	3 x USB 2.0/1.1 headers
	◆	1 x serial port header
	◆	1 x parallel port header
	◆	1 x Trusted Platform Module header (For the GC-TPM2.0 SPI/GC-TPM2.0 SPI 2.0 module only)
	◆	1 x chassis intrusion header
	◆	1 x Clear CMOS jumper
	◆	1 x buzzer
Back Panel Connectors	◆	1 x PS/2 keyboard/mouse port
	◆	1 x serial port header
	◆	1 x D-Sub port
	◆	1 x HDMI 2.0 port
	◆	1 x DisplayPort
	◆	2 x USB 3.2 Gen 1 ports
	◆	1 x USB 3.2 Gen 2 Type-A port (red)
	◆	2 x USB 2.0/1.1 ports
	◆	1 x RJ-45 port
	◆	3 x audio jacks
I/O Controller	◆	iTE® I/O Controller Chip
Hardware Monitor	◆	Voltage detection
	◆	Temperature detection
	◆	Fan speed detection
	◆	Fan speed control
		* Whether the fan speed control function is supported will depend on the cooler you install.
BIOS	◆	1 x 256 Mbit flash
	◆	Use of licensed AMI UEFI BIOS
	◆	PnP 1.0a, DMI 2.7, WfM 2.0, SM BIOS 2.7, ACPI 5.0

	Unique Features	◆	Support for Xpress Install
		◆	Support for @BIOS
		◆	Support for APP Center
			* Available applications in APP Center may vary by motherboard model. Supported functions of each application may also vary depending on motherboard specifications.
	Bundled Software	◆	Norton® Internet Security (OEM version)
	Operating System	◆	Support for Windows 11 64-bit
		◆	Support for Windows 10 64-bit
	Form Factor	◆	Mini-ITX Form Factor; 17.0cm x 17.0cm

* GIGABYTE reserves the right to make any changes to the product specifications and product-related information without prior notice.

Please visit GIGABYTE's website for support lists memory modules, SSDs, and M.2 devices.

Please visit the **SERVICE/SUPPORT\Utility** page on GIGABYTE's website to download the latest version of apps.

2-3 Installing the Memory

Read the following guidelines before you begin to install the memory:
• Make sure that the motherboard supports the memory. It is recommended that memory of the same capacity, brand, speed, and chips be used.
  (Go to GIGABYTE's website for the latest supported memory speeds and memory modules.)
• 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.

Dual Channel Memory Configuration

This motherboard provides two memory sockets and supports Dual Channel Technology. After the memory is installed, the BIOS will automatically detect the specifications and capacity of the memory.
The two memory sockets are divided into two channels and each channel has one memory socket as following:
▶▶ Channel A: DDR4_1
▶▶ Channel B: DDR4_2

Due to SoC limitations, read the following guidelines before installing the memory in Dual Channel mode.
1. If only one memory module is to be installed, be sure to install it in the DDR4_1 socket, and Dual Channel mode cannot be enabled if only one memory module is installed.
2. When enabling Dual Channel mode with two memory modules, it is recommended that memory of the same capacity, brand, speed, and chips be used for optimum performance.

2-4 Installing an Expansion Card

Read the following guidelines before you begin to install an expansion card:
• Make sure the motherboard supports the expansion card. Carefully read the manual that came with your expansion card.
• Always turn off the computer and unplug the power cord from the power outlet before installing an expansion card to prevent hardware damage.

2-5 Back Panel Connectors
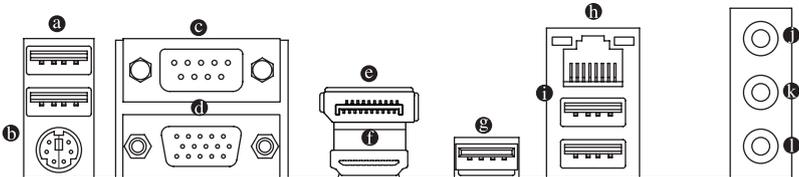
ⓐ **USB 2.0/1.1 Port**

The USB port supports the USB 2.0/1.1 specification. Use this port for USB devices.

ⓑ **PS/2 Keyboard/Mouse Port**

Use this port to connect a PS/2 mouse or keyboard.

ⓒ **Serial Port**

Use the serial port to connect devices such as a mouse, modem or other peripherals.

ⓓ **D-Sub Port**

The D-Sub port supports a 15-pin D-Sub connector and supports a maximum resolution of 1920x1200@60 Hz (the actual resolutions supported depend on the monitor being used). Connect a monitor that supports D-Sub connection to this port.

⑨ **DisplayPort**

DisplayPort delivers high quality digital imaging and audio, supporting bi-directional audio transmission. DisplayPort can support HDCP 2.3 content protection mechanisms. You can use this port to connect your DisplayPort-supported monitor. Note: The DisplayPort Technology can support a maximum resolution of 4096x2160@60 Hz but the actual resolutions supported depend on the monitor being used.

⑩ **HDMI 2.0 Port**

The HDMI port supports HDCP 2.3 and Dolby TrueHD and DTS HD Master Audio formats. It also supports up to 192KHz/24bit 7.1-channel LPCM audio output. You can use this port to connect your HDMI-supported monitor. The maximum supported resolution is 4096x2160@60 Hz, but the actual resolutions supported are dependent on the monitor being used.

> After installing the DisplayPort/HDMI device, make sure to set the default sound playback device to DisplayPort/HDMI. (The item name may differ depending on your operating system.)

⑪ **USB 3.2 Gen 2 Type-A Port (Red)**

The USB 3.2 Gen 2 port supports the USB 3.2 Gen 2 specification and is compatible to the USB 3.2 Gen 1 and USB 2.0 specification. Use this port for USB devices.

⑫ **RJ-45 LAN Port**

The Gigabit Ethernet LAN port provides Internet connection at up to 1 Gbps data rate. The following describes the states of the LAN port LEDs.

Speed LED   Activity LED

LAN Port
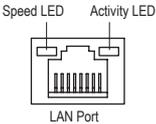
Speed LED:

State	Description
Orange	1 Gbps data rate
Green	100 Mbps data rate
Off	10 Mbps data rate

Activity LED:

State	Description
Blinking	Data transmission or receiving is occurring
Off	No data transmission or receiving is occurring

⑬ **USB 3.2 Gen 1 Port**

The USB 3.2 Gen 1 port supports the USB 3.2 Gen 1 specification and is compatible to the USB 2.0 specification. Use this port for USB devices.

⑭ **Line In/Rear Speaker Out (Blue)**

The line in jack. Use this audio jack for line in devices such as an optical drive, walkman, etc.

⑮ **Line Out/Front Speaker Out (Green)**

The line out jack.

⑯ **Mic In/Center/Subwoofer Speaker Out (Pink)**

The Mic in jack.

⚠ • When removing the cable connected to a back panel connector, first remove the cable from your device and then remove it from the motherboard.
• When removing the cable, pull it straight out from the connector. Do not rock it side to side to prevent an electrical short inside the cable connector.

Audio Jack Configurations:

Jack	Headphone/ 2-channel	4-channel	5.1-channel	7.1-channel
❶ Line In/Rear Speaker Out		✔	✔	✔
❷ Line Out/Front Speaker Out	✔	✔	✔	✔
❸ Mic In/Center/Subwoofer Speaker Out			✔	✔
Front Panel Line Out/Side Speaker Out				✔

- You can change the functionality of an audio jack using the audio software.
- To configure 7.1-channel audio, you need to open the audio software and select Device advanced settings > Playback Device to change the default setting first.

Please visit GIGABYTE's website for details on configuring the audio software.

2-6   Internal Connectors
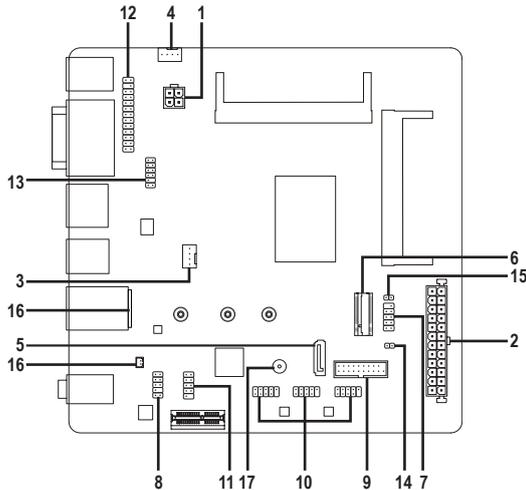
1)	**ATX_12V**		**10)**	**F_USB1/F_USB2/F_USB3**
2)	**ATX**		**11)**	**COMB**
3)	**SOC_FAN**		**12)**	**LPT**
4)	**SYS_FAN**		**13)**	**SPI_TPM**
5)	**SATA3**		**14)**	**CLR_CMOS**
6)	**M2I**		**15)**	**CI**
7)	**F_PANEL**		**16)**	**BAT**
8)	**F_AUDIO**		**17)**	**BUZZER**
9)	**F_U32**			

Read the following guidelines before connecting external devices:
- First make sure your devices are compliant with the connectors you wish to connect.
- Before installing the devices, be sure to turn off the devices and your computer. Unplug the power cord from the power outlet to prevent damage to the devices.
- After installing the device and before turning on the computer, make sure the device cable has been securely attached to the connector on the motherboard.

1/2) ATX_12V/ATX (2x2 12V Power Connector and 2x12 Main Power Connector)

With the use of the power connector, the power supply can supply enough stable power to all the components on the motherboard. Before connecting the power connector, first make sure the power supply is turned off and all devices are properly installed. The power connector possesses a foolproof design. Connect the power supply cable to the power connector in the correct orientation.

The 12V power connector mainly supplies power to the CPU. If the 12V power connector is not connected, the computer will not start.

To meet expansion requirements, it is recommended that a power supply that can withstand high power consumption be used (500W or greater). If a power supply is used that does not provide the required power, the result can lead to an unstable or unbootable system.
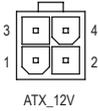
ATX_12V:

Pin No.	Definition
1	GND
2	GND
3	+12V
4	+12V

ATX_12V
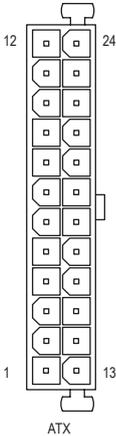
ATX:

Pin No.	Definition	Pin No.	Definition
1	3.3V	13	3.3V
2	3.3V	14	-12V
3	GND	15	GND
4	+5V	16	PS_ON (soft On/Off)
5	GND	17	GND
6	+5V	18	GND
7	GND	19	GND
8	Power Good	20	NC
9	5VSB (stand by +5V)	21	+5V
10	+12V	22	+5V
11	+12V (Only for 2x12-pin ATX)	23	+5V (Only for 2x12-pin ATX)
12	3.3V (Only for 2x12-pin ATX)	24	GND (Only for 2x12-pin ATX)

ATX

3/4) SOC_FAN/SYS_FAN (Fan Headers)

All fan headers on this motherboard are 4-pin. Most fan headers possess a foolproof insertion design. When connecting a fan cable, be sure to connect it in the correct orientation (the black connector wire is the ground wire). The speed control function requires the use of a fan with fan speed control design. For optimum heat dissipation, it is recommended that a system fan be installed inside the chassis.

Pin No.	Definition
1	GND
2	Voltage Speed Control
3	Sense
4	PWM Speed Control

Connector	SOC_FAN	SYS_FAN
Maximum Current	2A	2A
Maximum Power	24W	24W

> • Be sure to connect fan cables to the fan headers to prevent your SOC and system from overheating. Overheating may result in damage to the SOC or the system may hang.
> • These fan headers are not configuration jumper blocks. Do not place a jumper cap on the headers.

5) SATA3 (SATA 6Gb/s Connector)

The SATA connector conforms to SATA 6Gb/s standard and are compatible with SATA 3Gb/s and SATA 1.5Gb/s standard. The SATA connector supports a single SATA device.

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

To enable hot-plugging for the SATA ports, refer to Chapter 3, "BIOS Setup," "Advanced\SATA And RST Configuration," for more information.

6)   M2I (M.2 Socket 3 Connector)
The M.2 connector supports only M.2 PCIe SSDs.

Follow the steps below to correctly install an M.2 SSD in the M.2 connector.
Step 1:
Use a screw driver to unfasten the screw from the motherboard.
Step 2:
Slide the M.2 SSD into the connector at an angle.
Step 3:
Press the M.2 SSD down and then secure it with the screw.

7) F_PANEL (Front Panel Header)

Connect the power switch, reset switch, and system status indicator on the chassis to this header according to the pin assignments below. Note the positive and negative pins before connecting the cables.
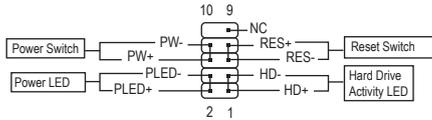
• **PLED** (Power LED):

System Status	LED
S0	On
S3/S4/S5	Off

Connects to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED is off when the system is in S3/S4 sleep state or powered off (S5).

• **PW** (Power Switch):
Connects to the power switch on the chassis front panel. You may configure the way to turn off your system using the power switch (refer to Chapter 3, "BIOS Setup," "Advanced," for more information).
• **HD** (Hard Drive Activity LED):
Connects to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.
• **RES** (Reset Switch):
Connects to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.
• **NC** : No connection.

The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assignments are matched correctly.

8) F_AUDIO (Front Panel Audio Header)

The front panel audio header supports High Definition audio (HD). You may connect your chassis front panel audio module to this header. Make sure the wire assignments of the module connector match the pin assignments of the motherboard header. Incorrect connection between the module connector and the motherboard header will make the device unable to work or even damage it.

Pin No.	Definition
1	MIC L
2	GND
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

Some chassis provide a front panel audio module that has separated connectors on each wire instead of a single plug. For information about connecting the front panel audio module that has different wire assignments, please contact the chassis manufacturer.

9) F_U32 (USB 3.2 Gen 1 Header)

The header conforms to USB 3.2 Gen 1 and USB 2.0 specification and can provide two USB ports. For purchasing the optional 3.5" front panel that provides two USB 3.2 Gen 1 ports, please contact the local dealer.
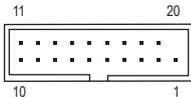
Pin No.	Definition	Pin No.	Definition
1	VBUS	11	D2+
2	SSRX1-	12	D2-
3	SSRX1+	13	GND
4	GND	14	SSTX2+
5	SSTX1-	15	SSTX2-
6	SSTX1+	16	GND
7	GND	17	SSRX2+
8	D1-	18	SSRX2-
9	D1+	19	VBUS
10	NC	20	No Pin

10) F_USB1/F_USB2/F_USB3 (USB 2.0/1.1 Headers)

The headers conform to USB 2.0/1.1 specification. Each USB header can provide two USB ports via an optional USB bracket. For purchasing the optional USB bracket, please contact the local dealer.

Pin No.	Definition	Pin No.	Definition
1	Power (5V)	6	USB DY+
2	Power (5V)	7	GND
3	USB DX-	8	GND
4	USB DY-	9	No Pin
5	USB DX+	10	NC

- Do not plug the IEEE 1394 bracket (2x5-pin) cable into the USB 2.0/1.1 header.
- Prior to installing the USB bracket, be sure to turn off your computer and unplug the power cord from the power outlet to prevent damage to the USB bracket.

**11) COMB (Serial Port Header)**

The COM header can provide one serial port via an optional COM port cable. For purchasing the optional COM port cable, please contact the local dealer.

Pin No.	Definition	Pin No.	Definition
1	NDCD-	6	NDSR-
2	NSIN	7	NRTS-
3	NSOUT	8	NCTS-
4	NDTR-	9	NRI-
5	GND	10	No Pin

12) LPT (Parallel Port Header)

The LPT header can provide one parallel port via an optional LPT port cable. For purchasing the optional LPT port cable, please contact the local dealer.
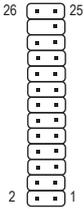
Pin No.	Definition	Pin No.	Definition	Pin No.	Definition
1	STB-	10	GND	19	ACK-
2	AFD-	11	PD4	20	GND
3	PD0	12	GND	21	BUSY
4	ERR-	13	PD5	22	GND
5	PD1	14	GND	23	PE
6	INIT-	15	PD6	24	No Pin
7	PD2	16	GND	25	SLCT
8	SLIN-	17	PD7	26	GND
9	PD3	18	GND		

13) SPI_TPM (Trusted Platform Module Header)

You may connect an SPI TPM (Trusted Platform Module) to this header.
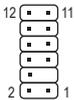
Pin No.	Definition
1	Data Output
2	Power (3.3V)
3	No Pin
4	NC
5	Data Input
6	CLK
7	Chip Select
8	GND
9	IRQ
10	NC
11	NC
12	RST

14) CLR_CMOS (Clear CMOS Jumper)

Use this jumper to clear the BIOS configuration and reset the CMOS values to factory defaults. To clear the CMOS values, use a metal object like a screwdriver to touch the two pins for a few seconds.

Open: Normal

Short: Clear CMOS Values

⚠️   • Always turn off your computer and unplug the power cord from the power outlet before clearing the CMOS values.
    • After system restart, go to BIOS Setup to load factory defaults (select Restore Defaults) or manually configure the BIOS settings (refer to Chapter 3, "BIOS Setup," for BIOS configurations).

15) CI (Chassis Intrusion Header)

This motherboard provides a chassis detection feature that detects if the chassis cover has been removed. This function requires a chassis with chassis intrusion detection design.

Pin No.	Definition
1	Signal
2	GND

1

16) BAT (Battery)

The battery provides power to keep the values (such as BIOS configurations, date, and time information) in the CMOS when the computer is turned off. Replace the battery when the battery voltage drops to a low level, or the CMOS values may not be accurate or may be lost.
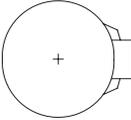
You may clear the CMOS values by removing the battery:
1. Turn off your computer and unplug the power cord.
2. Unplug the the battery cable from the battery cable header and wait for one minute.
3. Plug in the battery cable.
4. Plug in the power cord and restart your computer.

Pin No.	Definition
1 (+)	RTC Power
2 (-)	GND

2 (-)
1 (+)

• Always turn off your computer and unplug the power cord before replacing the battery.
• Replace the battery with an equivalent one. Damage to your devices may occur if the battery is replaced with an incorrect model.
• Contact the place of purchase or local dealer if you are not able to replace the battery by yourself or uncertain about the battery model.
• Used batteries must be handled in accordance with local environmental regulations.

17) BUZZER

The system reports system startup status by issuing a beep code. One single short beep will be heard if no problem is detected at system startup.

Chapter 3 BIOS Setup

BIOS (Basic Input and Output System) records hardware parameters of the system in the CMOS on the motherboard. Its major functions include conducting the Power-On Self-Test (POST) during system startup, saving system parameters and loading 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.

To access the BIOS Setup program, press the <Delete> key during the POST when the power is turned on.

To upgrade the BIOS, use the GIGABYTE @BIOS utility, which is a Windows-based utility that searches and downloads the latest version of BIOS from the Internet and updates the BIOS.

- 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.
- 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 system's failure to boot. If this occurs, try to clear the CMOS values and reset the board to default values. (Refer to the "Restore Defaults" section in this chapter or introductions of the battery/clear CMOS jumper in Chapter 2 for how to clear the CMOS values.)

3-1   Main

Once you enter the BIOS Setup program, the Main Menu (as shown below) appears on the screen. Use arrow keys to move among the items and press <Enter> to accept or enter a sub-menu.

Main Menu Help
The on-screen description of a highlighted setup option is displayed on the bottom line of the Main Menu.
Submenu Help
While in a submenu, press <F1> to display a help screen (General Help) of function keys available for the menu. Press <Esc> to exit the help screen. Help for each item is in the Item Help block on the right side of the submenu.
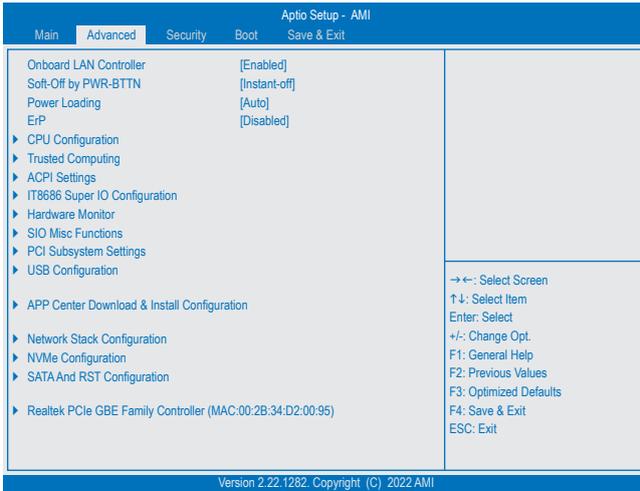**(Sample BIOS Version: T0d)**

- When the system is not stable as usual, select the **Restore Defaults** item to set your system to its defaults.
- The BIOS Setup menus described in this chapter are for reference only and may differ by BIOS version.

Aptio Setup - AMI				
Main	Advanced	Security	Boot	Save & Exit

BIOS Information		
Access Level		
BIOS Version	Tod	
Build Date and Time	02/23/2022 11:05:12	
Project Name	N5105IH	
BIOS ID	8AJSL001	
Processor Information		
Name	JasperLake ULX	
Type	Intel(R) Celeron(R) N5105 @ 2.00GHz	
Speed	2000 MHz	
ID	0x906C0	
Stepping	A0	→←: Select Screen
Microcode Revision	2400001F	↑↓: Select Item
		Enter: Select
IGFX GOP Version	18.0.1037	+/-: Change Opt.
Total Memory	8192 MB	F1: General Help
Memory Speed	2133 MT/s	F2: Previous Values
		F3: Optimized Defaults
ME FW Version	13.50.15.1436	F4: Save & Exit
ME Firware SKU	Consumer SKU	ESC: Exit
System Language	[English]	

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This section provides information on your motherboard model, BIOS version, and memory. You can also select the default language used by the BIOS and manually set the system time.

- **System Language**
  Selects the default language used by the BIOS.
- **System Date**
  Sets the system date. The date format is week (read-only), month, date, and year. Use <Tab> to switch between the Month, Date, and Year fields and use the <+> or <-> key to set the desired value.
- **System Time**
  Sets the system time. The time format is hour, minute, and second. For example, 1 p.m. is 13:00:00. Use <Tab> to switch between the Hour, Minute, and Second fields and use the <+> or <-> key to set the desired value.

3-2 Advanced

```
                                    Aptio Setup - AMI
    Main    Advanced    Security    Boot    Save & Exit

Onboard LAN Controller              [Enabled]
Soft-Off by PWR-BTTN                [Instant-off]
Power Loading                       [Auto]
ErP                                 [Disabled]
▶ CPU Configuration
▶ Trusted Computing
▶ ACPI Settings
▶ IT8686 Super IO Configuration
▶ Hardware Monitor
▶ SIO Misc Functions
▶ PCI Subsystem Settings
▶ USB Configuration                              →←: Select Screen
                                                 ↑↓: Select Item
▶ APP Center Download & Install Configuration    Enter: Select
                                                 +/-: Change Opt.
▶ Network Stack Configuration                    F1: General Help
▶ NVMe Configuration                             F2: Previous Values
▶ SATA And RST Configuration                     F3: Optimized Defaults
                                                 F4: Save & Exit
▶ Realtek PCIe GBE Family Controller (MAC:00:2B:34:D2:00:95)    ESC: Exit

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```

☞ **OnBoard LAN Controller**

Enables or disables the onboard LAN function. (Default: Enabled)

If you wish to install a 3rd party add-in network card instead of using the onboard LAN, set this item to **Disabled**.

☞ **Soft-Off by PWR-BTTN**

Configures the way to turn off the computer in MS-DOS mode using the power button.

▶ Instant-Off   Press the power button and then the system will be turned off instantly. (Default)
▶ Delay 4 Sec.   Press and hold the power button for 4 seconds to turn off the system. If the power button
                   is pressed for less than 4 seconds, the system will enter suspend mode.

☞ **Power Loading**

Enables or disables dummy load. When the power supply is at low load, a self-protection will activate causing it to shutdown or fail. If this occurs, please set to **Enabled**. **Auto** lets the BIOS automatically configure this setting. (Default: Auto)

☞ **ErP**

Determines whether to let the system consume least power in S5 (shutdown) state. (Default: Disabled)

Note: When this item is set to **Enabled**, the following functions will become unavailable: PME event wake up, power on by mouse, power on by keyboard, and wake on LAN.

▶ **CPU Configuration**

This section provides CPU information.

☞ **Intel (VMX) Virtualization Technology**

Enables or disables Intel® Virtualization Technology. Virtualization enhanced by Intel® Virtualization Technology will allow a platform to run multiple operating systems and applications in independent partitions. With virtualization, one computer system can function as multiple virtual systems. (Default: Enabled)

■ **Trusted Computing**

Enables or disables Trusted Platform Module (TPM).

▶ **IT8686 Super IO Configuration**

☞ **Serial Port 1/2**
Enables or disables the onboard serial port.

☞ **Parallel Port**
Enables or disables the onboard parallel port.

▶ **Hardware Monitor**
▶ **PC Health Status**

☞ **SOC_Fan/SYS_Fan1 mode**
▶▶ PWM   PWM mode is recommended for a 4-pin fan. (Default)
▶▶ Voltage   Voltage mode is recommended for a 3-pin fan.

☞ **CPU Temperature/System Temperature**
Displays current CPU/system temperature.

☞ **SOC_Fan/SYS_Fan Speed**
Displays current SOC/system fan speeds.

☞ **VCORE/VCC3/+12V/VCC/VCCIO_CPU/VCCIN_AUX_1V8/VDDQ**
Displays the current system voltages.

▶ **SIO Misc Functions**

☞ **AC BACK**
Determines the state of the system after the return of power from an AC power loss.
▶▶ Always Off The system stays off upon the return of the AC power. (Default)
▶▶ Always On The system is turned on upon the return of the AC power.
▶▶ Memory   The system returns to its last known awake state upon the return of the AC power.

☞ **Case Open**
Displays the detection status of the chassis intrusion detection device attached to the motherboard CI header. If the system chassis cover is removed, this field will show "Open", otherwise it will show "Close." To clear the chassis intrusion status record, set **Reset Case Open Status** to **Enabled**, save the settings to the CMOS, and then restart your system.

☞ **Reset Case Open Status**
▶▶ Disabled Keeps or clears the record of previous chassis intrusion status. (Default)
▶▶ Enabled   Clears the record of previous chassis intrusion status and the **Case Open** field will show "No" at next boot.

▶ **USB Configuration**

☞ **Onboard USB Feature**
Enables or disables the onboard USB ports. (Default: Enabled)

☞ **Legacy USB Support**
Allows USB keyboard/mouse to be used in MS-DOS. (Default: Enabled)

☞ **XHCI Hand-off**
Determines whether to enable XHCI Hand-off feature for an operating system without XHCI Hand-off support. (Default: Enabled)

☞ **USB Mass Storage Driver Support**
Enables or disables support for USB storage devices. (Default: Enabled)

☞ **Port 60/64 Emulation**
Enables or disables emulation of I/O ports 64h and 60h. This should be enabled for full legacy support for USB keyboards/mice in MS-DOS or in operating system that does not natively support USB devices. (Default: Enabled)

☞ **Mass Storage Devices**
Displays a list of connected USB mass storage devices. This item appears only when a USB storage device is installed.

■ **APP Center Download & Install Configuration**

☞ **APP Center Download & Install**
Allows you to determine whether to automatically download and install GIGABYTE APP Center after entering the operating system. Before installing APP Center, make sure the system is connected to the Internet. (Default: Enabled)

■ **Network Stack Configuration**

☞ **Network Stack**
Disables or enables booting from the network to install a GPT format OS, such as installing the OS from the Windows Deployment Services server. (Default: Disabled)

☞ **IPv4 PXE Support**
Enables or disables IPv4 PXE Support. This item is configurable only when **Network Stack** is enabled. (Default: Enabled)

☞ **IPv4 HTTP Support**
Enables or disables HTTP boot support for IPv4. This item is configurable only when **Network Stack** is enabled. (Default: Disabled)

☞ **IPv6 PXE Support**
Enables or disables IPv6 PXE Support. This item is configurable only when **Network Stack** is enabled. (Default: Enabled)

☞ **IPv6 HTTP Support**
Enables or disables HTTP boot support for IPv6. This item is configurable only when **Network Stack** is enabled. (Default: Disabled)

☞ **PXE boot wait time**
Allows you to configure how long to wait before you can press <Esc> to abort the PXE boot.

☞ **Media detect count**
Allows you to set the number of times to check the presence of media.

■ **NVMe Configuration**

Displays information on your M.2 NVME PCIe SSD if installed.

▶ **SATA And RST Configuration**

☞ **SATA Controller(s)**

Enables or disables the integrated SATA controllers. (Default: Enabled)

☞ **SATA Mode Selection**

Specifies the operating mode of the integrated SATA controllers.

▶▶ AHCI   Configures the SATA controllers to AHCI mode. Advanced Host Controller Interface (AHCI) is an interface specification that allows the storage driver to enable advanced Serial ATA features such as Native Command Queuing and hot plug. (Default)

☞ **Aggressive LPM Support**

Enables or disables the power saving feature, ALPM (Aggressive Link Power Management), for the Chipset SATA controllers. (Default: Enabled)

☞ **Port 0**

Enables or disables each SATA port. (Default: Enabled)

☞ **Hot plug**

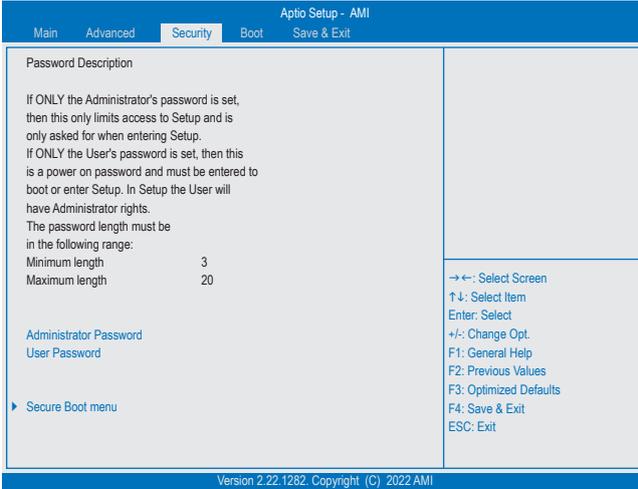Enables or disable the hot plug capability for each SATA port. (Default: Disabled)

☞ **Configured as eSATA**

Enables or disables support for external SATA devices.

▶ **Realtek PCIe GBE Family Controller**

This sub-menu provides information on LAN configuration and related configuration options.

3-3   Security

🡒 **Administrator Password**

Allows you to configure an administrator password. Press <Enter> on this item, type the password, and then press <Enter>. You will be requested to confirm the password. Type the password again and press <Enter>. You must enter the administrator password (or user password) at system startup and when entering BIOS Setup. Differing from the user password, the administrator password allows you to make changes to all BIOS settings.

🡒 **User Password**

Allows you to configure a user password. Press <Enter> on this item, type the password, and then press <Enter>. You will be requested to confirm the password. Type the password again and press <Enter>. You must enter the administrator password (or user password) at system startup and when entering BIOS Setup. However, the user password only allows you to make changes to certain BIOS settings but not all. To cancel the password, press <Enter> on the password item and when requested for the password, enter the correct one first. When prompted for a new password, press <Enter> without entering any password. Press <Enter> again when prompted to confirm.

NOTE: Before setting the User Password, be sure to set the Administrator Password first.

🡒 **HDD Security Configuration**

Displays a list of connected hard drives and allows you to set a password for a specific hard drive. This item appears only when a hard drive is installed.

▶ **Secure Boot menu**

🡒 **System Mode**

Displays the current system mode.

🡒 **Secure Boot**

Enables or disables the secure boot function. (Default: Enabled)

🡒 **Secure Boot Mode**

Allows you to configure the secure boot mode. (Default: Standard)

▶ **Restore Factory Keys**
Select **Yes** to force the system to User Mode. Install factory default Secure Boot key databases.
This item is configurable only when **Secure Boot Mode** is set to **Custom**.
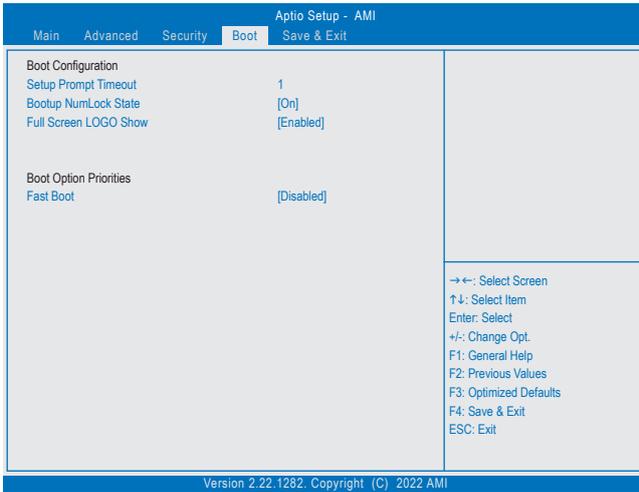
▶ **Restore to Setup Mode**
Select **Yes** to reset the system to Setup Mode. Delete all Secure Boot key databases.
This item is configurable only when the the system is in User Mode.

▶ **Key Management**
This section provides you with configuration options for secure boot key management.

3-4   Boot

☞ **Setup Prompt Timeout**
Allows you to configure the number of seconds to stay in BIOS setup prompt screen. (Default: 1)

☞ **Bootup NumLock State**
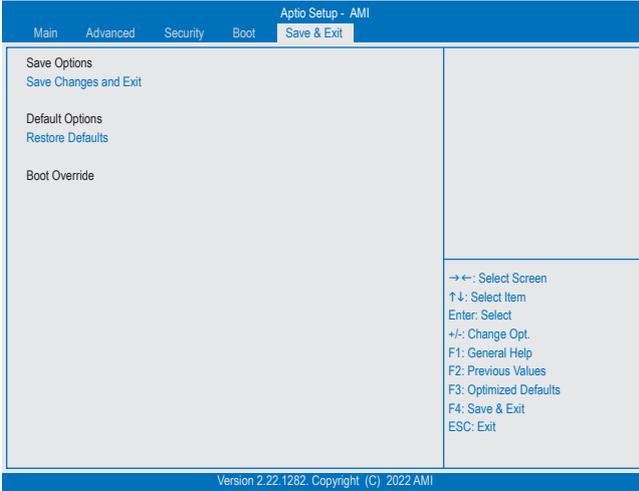Enables or disables Numlock feature on the numeric keypad of the keyboard after the POST. (Default: On)

☞ **Full Screen LOGO Show**
Allows you to determine whether to display the GIGABYTE Logo at system startup. **Disabled** skips the
GIGABYTE Logo when the system starts up. (Default: Enabled)

☞ **Fast Boot**
Enables or disables Fast Boot to shorten the OS boot process. (Default: Disabled)

3-5   Save & Exit


```
                              Aptio Setup - AMI
    Main      Advanced     Security     Boot     Save & Exit

 Save Options                                          │
 Save Changes and Exit                                 │
                                                       │
 Default Options                                       │
 Restore Defaults                                      │
                                                       │
 Boot Override                                         │
                                                       │
                                                       │
                                                       │
                                                       │  →←: Select Screen
                                                       │  ↑↓: Select Item
                                                       │  Enter: Select
                                                       │  +/-: Change Opt.
                                                       │  F1: General Help
                                                       │  F2: Previous Values
                                                       │  F3: Optimized Defaults
                                                       │  F4: Save & Exit
                                                       │  ESC: Exit

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```

☞ **Save Changes and Exit**
Press <Enter> on this item and select **Yes**. This saves the changes to the CMOS and exits the BIOS Setup program. Select **No** or press <Esc> to return to the BIOS Setup Main Menu.

☞ **Restore Defaults**
Press <Enter> on this item and select **Yes** to load the BIOS factory default settings. The BIOS defaults settings help the system to operate in optimum state. Always load the Optimized defaults after updating the BIOS or after clearing the CMOS values.

☞ **Boot Override**
Allows you to select a device to boot immediately. Press <Enter> on the device you select and select **Yes** to confirm. Your system will restart automatically and boot from that device.

Chapter 4   Installing the Operating System and Drivers

After you install the operating system, a dialog box will appear on the bottom-right corner of the desktop asking if you want to download and install the drivers and GIGABYTE applications via APP Center. Click **Install** to proceed with the installation. (In BIOS Setup, make sure **Advanced\APP Center Download & Install Configuration\ APP Center Download & Install** is set to **Enabled**.)

When the End User License Agreement dialog box appears, press <Accept> to install APP Center. On the APP Center screen, select the drivers and applications you want to install and click **Install**.
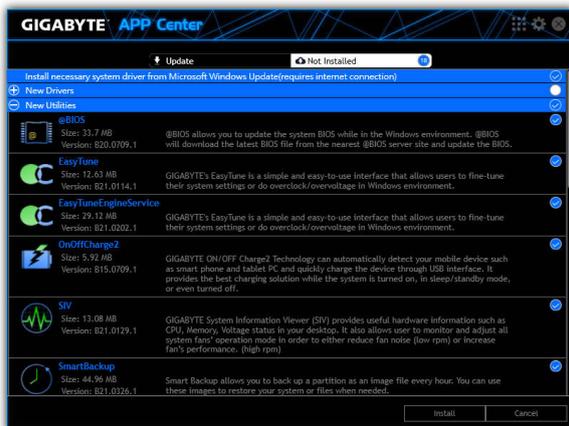
Before the installation, make sure the system is connected to the Internet.

Please visit GIGABYTE's website for more troubleshooting information.

Regulatory Notices

United States of America, Federal Communications Commission Statement

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Supplier's Declaration of Conformity
47 CFR § 2.1077 Compliance Information

Product Name: **Motherboard**
Trade Name: **GIGABYTE**
Model Number: **N5105I H**

Responsible Party – U.S. Contact Information: **G.B.T. Inc.**
Address: 17358 Railroad street, City Of Industry, CA91748
Tel.: 1-626-854-9338
Internet contact information: https://www.gigabyte.com

FCC Compliance Statement:
This device complies with Part 15 of the FCC Rules, Subpart B, Unintentional Radiators.
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.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio/TV technician for help.

Canadian Department of Communications Statement
This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications. This class B digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

European Union (EU) CE Declaration of Conformity
This device complies with the following directives: Electromagnetic Compatibility Directive 2014/30/EU, Low-voltage Directive 2014/35/EU, RoHS directive (recast) 2011/65/EU & the 2015/863 Statement. This product has been tested and found to comply with all essential requirements of the Directives.

European Union (EU) RoHS (recast) Directive 2011/65/EU & the European Commission Delegated Directive (EU) 2015/863 Statement
GIGABYTE products are not intended to add and safe from hazardous substances (Cd, Pb, Hg, Cr+6, PBDE, PBB, DEHP, BBP, DBP and DIBP). The parts and components have been carefully selected to meet RoHS requirement. Moreover, we at GIGABYTE are continuing our efforts to develop products that do not use internationally banned toxic chemicals.

European Union (EU) Community Waste Electrical & Electronic Equipment (WEEE) Directive Statement
GIGABYTE will fulfill the national laws as interpreted from the 2012/19/EU WEEE (Waste Electrical and Electronic Equipment) (recast) directive. The WEEE Directive specifies the treatment, collection, recycling and disposal of electric and electronic devices and their components. Under the Directive, used equipment must be marked, collected separately, and disposed of properly.

WEEE Symbol Statement

The symbol shown below is on the product or on its packaging, which indicates that this product must not 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.

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.

Battery Information
European Union—Disposal and recycling information
GIGABYTE Recycling Program (available in some regions)

This symbol indicates that this product and/or battery should not be disposed of with household waste. You must use the public collection system to return, recycle, or treat them in compliance with the local regulations.

End of Life Directives-Recycling
The symbol shown below is on the product or on its packaging, which indicates that this product must not 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.

Déclaration de Conformité aux Directives de l'Union européenne (UE)
Cet appareil portant la marque CE est conforme aux directives de l'UE suivantes: directive Compatibilité Electromagnétique 2014/30/UE, directive Basse Tension 2014/35/UE et directive RoHS II 2011/65/UE. La conformité à ces directives est évaluée sur la base des normes européennes harmonisées applicables.

European Union (EU) CE-Konformitätserklärung
Dieses Produkte mit CE-Kennzeichnung erfüllen folgenden EU-Richtlinien: EMV-Richtlinie 2014/30/EU, Niederspannungsrichtlinie 2014/30/EU und RoHS-Richtlinie 2011/65/EU erfüllt. Die Konformität mit diesen Richtlinien wird unter Verwendung der entsprechenden Standards zurEuropäischen Normierung beurteilt.

CE declaração de conformidade
Este produto com a marcação CE estão em conformidade com das seguintes Diretivas UE: Diretiva Baixa Tensão 2014/35/EU; Diretiva CEM 2014/30/EU; Diretiva RSP 2011/65/UE. A conformidade com estas diretivas é verificada utilizando as normas europeias harmonizadas.

CE Declaración de conformidad
Este producto que llevan la marca CE cumplen con las siguientes Directivas de la Unión Europea: Directiva EMC (2014/30/EU), Directiva de bajo voltaje (2014/35/EU), Directiva RoHS (recast) (2011/65/EU). El cumplimiento de estas directivas se evalúa mediante las normas europeas armonizadas.

Dichiarazione di conformità CE
Questo prodotto è conforme alle seguenti direttive: Direttiva sulla compatibilità elettromagnetica 2014/30/UE, Direttiva sulla bassa tensione 2014/35/UE, Direttiva RoHS (rifusione) 2011/65/UE. Questo prodotto è stato testato e trovato conforme a tutti i requisiti essenziali delle Direttive.

D33006
RoHS

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WEB address (Chinese): https://www.gigabyte.com/tw

- **GIGABYTE eSupport**

    To submit a technical or non-technical (Sales/Marketing) question, please link to:
    https://esupport.gigabyte.com