

AIMB-308 Proprietary Motherboard with 12th Gen Intel® Core™ i CPU Socket (LGA 1700) Startup Manual

Packing List

Before you begin installing your card, please make sure that the following items have been shipped:

- AIMB-308
- Warranty card

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

Specifications

Standard Functions

- **CPU:** LGA 1700 12th Gen Intel® Core™ i9/i7/i5/i3/Celeron/Pentium
- **BIOS:** AMI 256Mbit SPI BIOS
- **Chipset:** Intel® H610E PCH
- **System Memory:** Dual DDR4 3200 MHz, 32GB per 288-pin slot without ECC function. Max. capacity to be 64GB
- **SATA interface:** Three on-board Serial ATA 3.0 connectors support data transmission rates up to 600 MB/s. All three SATA 3.0 support Advanced Host Controller Interface (AHCI) technology
- **PCIe slot:** One PCIe x16 and one PCIe x4 expansion slot
- **USB 3.2/2.0:** Dual USB 3.2 Gen1 and dual 2.0 on both rear and front side

Graphic Interface

- **Chipset:** CPU integrated graphics controller
- **Display port:** Resolution up to 4096x2304 @60Hz refresh rate
- **HDMI:** Resolution up to 4096x2160 @30Hz refresh rate

Ethernet Interface

- **Interface:** 10/100/1000 Mbps
- **Controller:** (LAN1) Intel® I219-V; (LAN2) Intel® I226-V

Mechanical and Environmental Specs.

- **Dimensions (L x W):** 290.2 x 207.5 mm
- **Power supply Voltage:** +12V, +5Vsb
- **Operating temperature:** 0 ~ 40 °C (32 ~ 105 °F)
- **Weight of board:** 0.526 kg (1.16 lbs)

For more information on this and other Advantech products, please visit our website at:

<http://www.advantech.com>



For technical support and service, please visit our support website at:

<https://www.advantech.com/support>



This manual is for the AIMB-308 series Rev.A1.

Part No. 2041030800

1st Edition

Printed in China

July 2022

Jumpers and Connectors

The board has a number of jumpers that allow you to configure the system to suit the application. The table below lists the function of each jumper and connector.

Connector/Jumper List	
Label	Function
ATX_P1	12V main power connector (for system and CPU)
ATX_P2	12V power connector (for MB or add-on card)
ATX_P3	PW ok/on and +5Vsb for MB
CPUFAN1	CPU fan connector (4-pin)
COM1 ~ COM2	Serial port:RS-232 (9-pin header)
DIMMA1	Channel A DIMM1
DIMMB1	Channel B DIMM1
GPIO1	8 bit GPIO from super I/O
PCIE1	PCIe x16 slot (Gen4 x16 link)
PCIE2	PCIe x4 slot (Gen3 x4 link)
NVME1	M.2 2280 M-key socket (Gen3 x2 link)
mSATA1	mSATA
PSON1	AT/ATX model selector
JFP1	Power switch/reset connector
JFP2	External speaker/HDD LED connector/SMBus connector
JFP3	Suspend: fast glash (ATX/AT) System on: on (ATX/AT) System off: off (ATX/AT)
JWDT1	Watchdog timer
JOBS1	OBS alarm
ESPI1	Debug card header
JSMB1	NL (VRTT FW update pin header)
JCASE1	Instruction switch connetor
JCMOS1	CMOS clear
JME1	Intel® ME update
SPI_TPM2	TPM module header
USB2A1	USB 2.0 port (internal Type-A)
USB3C3	USB 3.2 Gen1 port
USB3C4	USB 3.2 Gen1 port
USB2C4	2 x USB 2.0 port
SATA 4 ~ 6	Serial ATA 3.0 power 1~3
SATAPWR4~6	Serial ATA power connector 1~3
SYSFAN1	System fan1

Jumpers and Connectors (Cont.)

SMB1 ~ SMB2	PCIe x4 SMBus connection selector
SMB3 ~ SMB4	PCIe x16 SMBus connection selector
AUDIO1	Audio connector (Line-out, Mic-in)
LAN2_USB3C1	2 x LAN1/USB 3.2 (Gen1)
LAN1_USB2C2	2 x LAN2/USB 2.0
HDMI1 + DP1	HDMI connector and Display connector1

JCMOS1: CMOS Clear JME1: Intel ME Update

Closed Pins	Result
1-2	*Keep CMOS data *Enable ME update
2-3	Clear CMOS data Disable ME update
* Default	



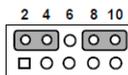
*Keep CMOS data
*Enable ME update



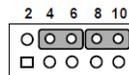
Clear CMOS data
Disable ME update

JWDT1+JOBS1: Watchdog Timer Output

Closed Pins	Result
2-4, 8-10	Watchdog timer disable (2-4) OBS beep (8-10)
4-6, 8-10	*Watchdog timer reset (4-6) OBS beep (8-10)
* Default	



Watchdog timer disable (2-4)
OBS beep (8-10)



*Watchdog timer reset (4-6)
OBS beep (8-10)

Jumpers and Connectors (Cont.)

SMB1 and SMB3 (Clock), SMB2 and SMB4 (Data): PCIe SMBus Connection Setting

Closed Pins	Result
1-2	*Enable PCIe SMBus connection
2-3	Disable PCIe SMBus connection
* Default	



*Enable PCIe SMBus connection



Disable PCIe SMBus connection

Note! Both SMB1 and SMB2 jumpers should be switched to the same setting, either 1-2 closed or 2-3 closed.

Declaration of Conformity

Caution! The computer is supplied with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to manufacturer's instructions.



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

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

Board Layout

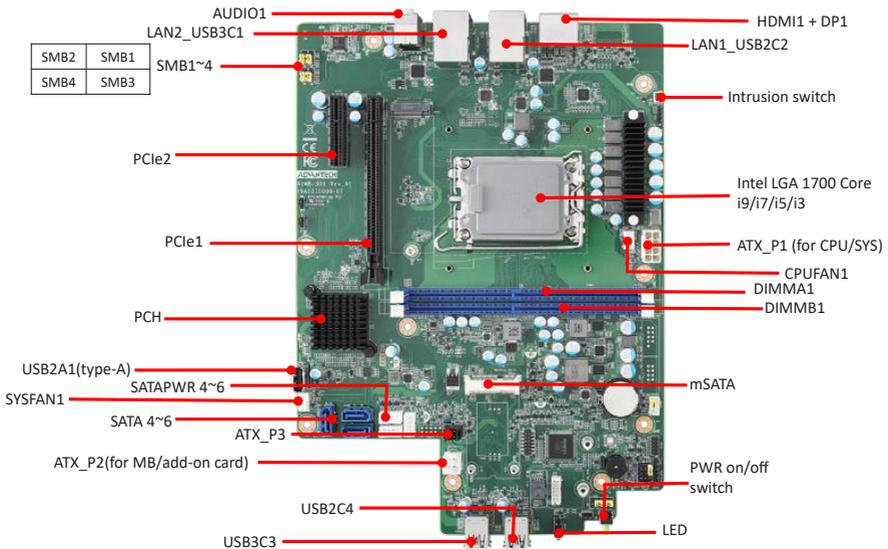


Figure 1: Board Layout: Jumper and Connector Locations