

ASMB-927 Dual LGA4677 4th Gen Intel® Xeon® Scalable EATX Server Board with 16 DDR5, 4 PCIe x16, 9 SATA 3.0, 6 USB 3.2 (Gen1), Dual 10GbE, and IPMI Startup Manual

Packing List

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

- 1 x ASMB-927 Startup Manual
- 1 x SATA data cable
- 1 x SATA power cable
- 2 x CPU power cables (8P)
- 2 x CPU carriers
- 1 x I/O port bracket
- 1 x M.2 screw

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

Note 1: Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: <https://www.adobe.com/downloads.html> (Acrobat is a trademark of Adobe)

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 for ASMB-927 at:

<https://advt.ch/asmb927>



Register your products on our website and get 2 months extra warranty for free at:

<http://www.register.advantech.com>



This manual is for the ASMB-927 series Rev. A1

Part No. 2042092700
Printed in China

1st Edition
January 2023

Specifications

Standard M/B Functions

- **CPU:** Dual LGA4677 4th Gen Intel® Xeon® Scalable processors
- **BIOS:** AMI 256 Mbit SPI BIOS
- **Chipset:** Intel® C741 PCH
- **System Memory:** 16 x DDR5 3200/3600/4000/4400/4800 MT/s registered ECC DIMM, max. capacity 2 TB
- **SATA Interface:**
 - 8 x SATA 3.0 (6 Gb/s) via Mini SAS HD (SFF-8643), supports software RAID 0,1,5,10
 - 1 x SATA 3.0 (6 Gb/s)
- **Serial Ports:** One onboard header, only supports RS-232
- **Keyboard/Mouse Header:** Supports the standard PS/2 keyboard and mouse via PS/2 cable.
- **Watchdog Timer:** 255 /sec or min level timer intervals
- **USB Port:** 6 x USB 3.2 Gen1 (4 rear and 2 onboard) and 3 x USB 2.0 (2 onboard and 1 Type-A)

VGA Interface

- **Chipset:** ASPEED AST2600
- **Resolution:** Supports VGA up to a resolution of 1920 x 1200 @ 60 Hz refresh rate.

Ethernet Interface

- **Interface:** 100M/1G/10Gbps
- **Controller:** LAN1/2: Intel® X710-AT2

Mechanical and Environment

- **Dimensions (L x W):** 304.8 x 330.2 mm (12" x 13")
- **Power Supply Voltage:** +3.3 V, +5 V, ±12 V, +5 Vs
- **Power Consumption (mainboard only, excluding I/O devices):** Max. load: +3.3V@2.2A, +5V@1.9A, +12V@0.3A, +5Vsb@0.1A, -12V@0A, 12V_8P@38.53A
- **Operating Temperature:** 0 ~ 40 °C (depending on CPU)
- **Weight:** 1.5 kg

Jumpers and Connectors

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

| Connectors | |
|--|---------------------------------------|
| Label | Function |
| ATXPWR1 | ATX 24-pin main power connector |
| ATX12V1, ATX12V3 | Processor power connector (mandatory) |
| ATX12V2, ATX12V4 | Processor power connector (reserved) |
| BH2 | For optional battery kit |
| BIOS_SKT1 | BIOS SPI ROM |
| BMC_SPI1 | BMC SPI ROM |
| BMC_LAN | IPMI dedicated LAN connector |
| COM1 | RS-232 connector |
| COM2 | RS-232 header |
| CPUFAN0, CPUFAN1 | CPU FAN connector |
| DIMMA1, DIMMB1, DIMMC1, DIMMD1, DIMME1, DIMMF1, DIMMG1, DIMMH1 | DDR5 from CPU0 |
| DIMM1, DIMMJ1, DIMMK1, DIMML1, DIMMM1, DIMMN1, DIMMO1, DIMMP1 | DDR5 from CPU1 |
| DIMMA1, DIMMC1, DIMME1, DIMMG1, DIMMI1, DIMMK1, DIMMM1, DIMMO1 | DCPMM slot |
| EC_SKT1 | EC EEPROM |
| ESPI1 | eSPI connector |
| EX_THR1 | Connector for external thermistor |
| GPIO1 | GPIO connector |
| HDAUD1 | Audio header |
| JFP1, JFP2, JFP3 | Front panel header |
| KBMS2 | External keyboard and mouse connector |
| LAN1, LAN2 | 10 Gbps LAN connector |
| LANLED1 | LAN LED extension connector |
| M2_2280_2 | M.2 connector (SATA & PCIe x4) |
| PCIEX16_SLOT1 | PCIe x16 slot (CPU0) |
| PCIEX8_SLOT2 | PCIe x8 slot (CPU1) |
| PCIEX16_SLOT3 | PCIe x16 slot (CPU0) |

Jumpers and Connectors (Cont.)

| | |
|---------------------------|--|
| PCIEX8_SLOT4 | PCIe x8 slot (CPU1) |
| PCIEX16_SLOT5 | PCIe x16 slot (CPU0) |
| PCIEX16_SLOT6 | PCIe x16 slot (CPU1) |
| PMBUS1 | PMBUS connector to communicate with the power supply |
| SATA0~SATA3, SATA4~7 | SATA via SFF-8643 |
| SGPIO1 | SATA0~3 SGPIO header |
| SGPIO2 | SATA4~7 SGPIO header |
| SLOT12V1 | For PCIe slot 12V input only |
| SMBUS1 | SMBus header |
| SSATA | SATA connector |
| SYSFAN0~SYSFAN3, REAR_FAN | System FAN connector |
| SYS_LED1 | System LED connector |
| USB2H1 | USB 2.0 port (9-pin header) |
| USB2A1 | USB 2.0 port (Type-A) |
| USB3H1 | USB 3.0 port (20-pin header) |
| VGA1 | VGA connector |

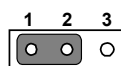
Jumper list

| Label | Function |
|-----------|--|
| JCASE1 | Chassis case open alarm |
| JCMOS1 | CMOS clear |
| JME1 | ME update |
| JTHR_SEL1 | Internal (default pins 1-2) and external (pins 2-3) thermistor selection |
| JWDT1 | Watchdog reset |
| PSON1 | AT(1-2) / ATX(2-3) |

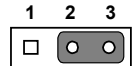
JCMOS1/JME1: CMOS Clear/ME Update Function

| Closed pins | Result |
|-------------|-----------------------------------|
| 1-2 | Keep CMOS data/Disable ME update* |
| 2-3 | Clear CMOS data/Enable ME update |

*: Default



Keep CMOS data / Disable ME update



Clear CMOS data / Enable ME update

Jumpers and Connectors (Cont.)

| | | | | | | |
|------|------|------|------|-------|---------|------------------|
| JFP1 | 3 | 6 | 9 | 12 | PWRSW | RESET |
| & | 2(+) | 5(-) | 8 | 11 | HDDLED | HWM_SMBUS |
| JFP2 | 1(+) | 4 | 7 | 10(-) | SPEAKER | |
| JFP3 | 1(+) | 2 | 3(-) | 4 | 5 | PWRLED & KEYLOCK |

JFP1, JFP2, JFP3: Front Panel

| | |
|---------------|---------------------------|
| Pin.3 | #PWR_SW |
| Pin.6 | GND |
| Pin.9 | #RST_SW |
| Pin.12 | GND |
| Pin.8, Pin.11 | HWM_SMB_DATA, HWM_SMB_CLK |

*Power button pin is located in Pin 3 & 6 of front panel connector.

Declaration of Conformity

The 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

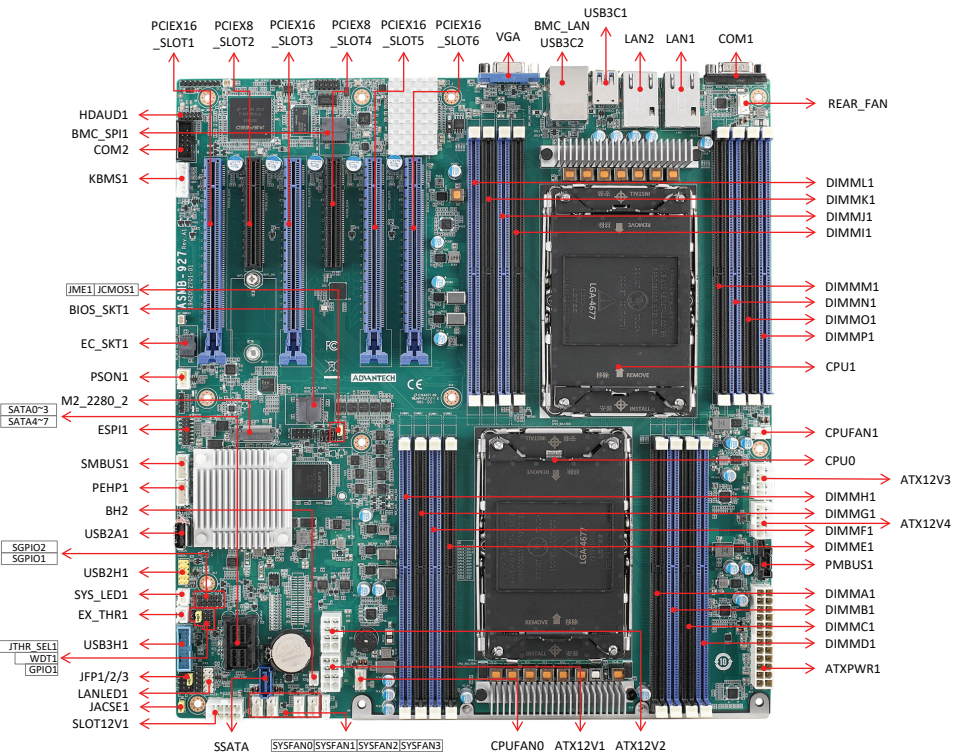


Figure 1: Board Layout: Jumper and Connector Locations