

ASMB-830 Series LGA 4094 AMD EPYC™ 7003 ATX Server Board with 8 x DDR4, 5 x PCIe x16, 9 x SATA3, 5 x USB3.2 Gen1, Dual 10GbE, IPMI

Startup Manual

Packing List

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

- 1 x ASMB-830 Startup Manual
- 1 x SATA data cables
- 1 x SATA power cables
- 2 x CPU power cables (8P)
- 1 x I/O port bracket

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)

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This manual is for the ASMB-830 series Rev. A1

Part No. 2042083001
Printed in China

2nd Edition
June 2024

Specifications

Standard M/B Functions

- **CPU:** SP3 LGA4094 AMD EPYC™ 7003 Series processors
- **BIOS:** AMI 256 Mbit SPI BIOS
- **System Memory:** 8* DDR4-2666/2933/3200 Registered ECC DIMM, Max. Capacity 512 GB
- **Note 2:** Due to the inherent limitations of the PC architecture, the system may not fully detect 512 GB RAM when 512 GB RAM is installed.
- **SATA Interface:** 8 via SFF-8643 ports and 1 SATA 6Gb/s port
- **Serial Ports:** 1 at rear IO, 1 onboard header, only supports RS-232
- **Keyboard/Mouse Header (KBMS2):** Supports the standard PS/2 keyboard and mouse via PS/2 cable
- **Watchdog Timer:** 255 level timer intervals
- **USB Port:** Supports up to 5 x USB 3.2 Gen1 ports (2 rear ports, 2 ports from onboard 20-pin header and 1*Type-A on board)

VGA Interface

- **Chipset:** ASPEED AST2500
- **Display Memory:** 64 MB
- **Resolution:** Supports VGA up to resolution 1920 x 1200 @ 60 Hz refresh rate

Ethernet Interface

- **Interface:** 10/100/1000 Mbps & 10 GbE Base-T
- **Controller:** LAN1/2: Intel I210; LAN3/4: Intel X550

Mechanical and Environment

- **Dimensions (L x W):** 244 x 304 mm (9.6" x 12")
- **Power Supply Voltage:** +3.3 V, +5 V, ±12 V, +5 Vs
- **Power Consumption (mainboard only, excluding IO device):** Max. load: +3.3 V @ 12.646 A, +5 V @ 3.004 A, +12 V @ 24.731 A, +5 Vsb @ 0.18 A, -12 V @ 0.082 A, 12V_8P @ 24.88 A
- **Weight:** 1.05 kg (weight of board)
- **Operating Temperature:** 0 ~ 60°C (depending on CPU)

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, ATX12V2	Processor power connector (for P1)
BH2	For optional battery kit
BIOS_SKT1	BIOS SPI ROM
BMC_SPI1	IPMI ROM (ASMB-830I & T2 SKUs only)
COM2	Serial port: RS-232
CPUFAN0	CPU FAN connector
DIMMA1, DIMMB1, DIMMC1, DIMMD1, DIMME1, DIMMF1, DIMMG1, DIMMH1	DDR4 slot
EX_THR1	Connector for external thermistor
GPIO1	GPIO connector
HDT1	HDT connector
JFP1, JFP1+JFP2, JFP3	Front panel header
KBMS1	External keyboard and mouse connector (6-pin)
LAN1_2, LAN3_4	RJ-45 LAN connector
LAN5	IPMI dedicated LAN connector (ASMB-830 I & T2 SKUs only)
LPC1	TPM connector
M2_22110_1	M.2 connector (SATA & PCIe x4)
M2_22110_2	M.2 connector (PCIe x4)
PMBUS1	PMBUS connector to communicate with power supply
SATA_CON1	SATA 0~7 via SFF8643 connector
SATA8	SATA Connector
SGPIO1, SGPIO2	SATA SGPIO header
PCIEX16_SLOT1	PCIe x16 slot (x16 link) (CPU)
PCIEX8_SLOT2	PCIe x8 slot (x8 link) (CPU)
PCIEX16_SLOT3	PCIe x16 slot (x16 link) (CPU)
PCIEX8_SLOT4	PCIe x8 slot (x8 link) (CPU)
PCIEX16_SLOT5	PCIe x16 slot (x16 link) (CPU)

Jumpers and Connectors (Cont.)

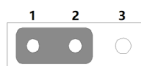
PCIEX16_SLOT6	PCIe x16 slot (x16 link) (CPU)
PCIEX16_SLOT7	PCIe x16 slot (x16 link) (CPU)
PEHP1	NVMe LED control
SLOT12V1	For PCIe slot 12V input only
SMBUS1	SMBus header
SPI_CN1	Connector for BIOS update tool
SPI_SKT1	EC EEPROM
SYSFAN0~SYSFAN6	System FAN connector
USB3_12, USB3_34, USB3_5	USB 3.2 port 1, 2; USB 3.2 port 3, 4 (20-pin header); USB 3.2 port 5 (Type A)
VGA1, COM1	VGA & COM connector

Jumper list

Label	Function
JCASE1	Chassis case open alarm
JCMOS1	CMOS clear
JTHR_SEL1	To select on board or external thermistor
JWDT1	Watch Dog Reset
PSON1	AT(1-2) / ATX(2-3)

JCMOS1: CMOS clear function

Closed pins	Result
1-2	Keep CMOS data
2-3	Clear CMOS data
*: Default	



Keep CMOS data



Clear CMOS data

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.

Installation Note

JFP1	3	6	9	12	
&	2(+)	5(-)	8	11	
JFP2	1(+)	4	7	10(-)	
JFP3	1(+)	2	3(-)	4	5

PWRSW	RESET
HDDLED	SNMP SM_BUS
SPEAKER	
PWRLD & KEYLOCK	

JCMOS1: CMOS clear function	
Closed pins	Result
1-2	Keep CMOS data
2-3	Clear CMOS data
*: Default	

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

Board Layout

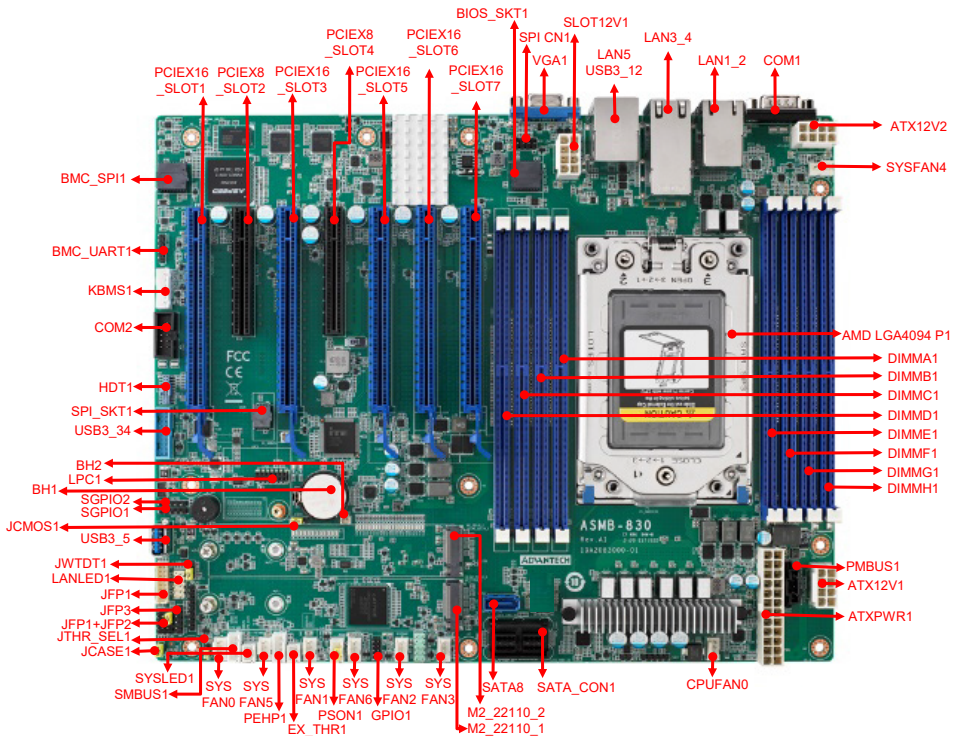


Figure 1: Board Layout: Jumper and Connector Locations