



**Embedded  
PCIe 4.0 x4 slot  
4 Independent Displays**

## Key Features

- 12th Gen Intel® Core™ processors, Intel® Celeron® processors, SoC, Single Socket LGA-1700 supported, CPU TDP supports Up to 65W TDP
- Up to 64GB Unbuffered non-ECC SODIMM, DDR5-4800MHz, in 2 SODIMM slots
- 1 PCIe 4.0 x4 slot
- 1 M.2 M-Key 2280 (PCIe 4.0 x4)
- 1 M.2 E-Key 2230 (PCIe 3.0 x1/USB2.0)
- 1 M.2 B-Key 3052 (PCIe 3.0 x2/USB3.0/USB2.0)
- Dual 2.5 Gigabit LAN with Intel® Ethernet i225LM LAN controller [AMT/vPro]
- 4 Independent Displays (1 DP ports, 1 HDMI port, 2 TYPE C support DP/USB3.0)
- Supports 12V DC power input
- Onboard TPM2.0

## Optimized Servers

[SYS-E302-13AD](#)

## Specifications

### Product SKUs

MBD-X13SAV-PS

### Physical Stats

#### Form Factor

Mini-ITX

#### Dimension

6.7" x 6.7" (17.02cm x 17.02cm)

### Processor

#### CPU

12th Generation Intel ADL-PS CPU model  
i7-xxxxxUL (or HL), i5-xxxxxUL (or HL), i3-xxxxxUL (or HL), Celeron 7305L Processor  
Single Socket LGA-1700 supported

#### Core

Up to 14 cores

### System Memory

#### Memory Capacity

2 DIMM slots  
Up to 64GB Unbuffered non-ECC SODIMM,  
DDR5-4800MHz

#### Memory Type

4800 MT/s non-ECC DDR5 SODIMM  
Unbuffered

#### DIMM Sizes

8GB, 16GB, 32GB

#### Memory Voltage

1.1V

### On-Board Devices

#### Chipset

System on Chip

#### SATA

System on Chip controller for 2 SATA3 (6 Gbps) ports

#### Graphics

4 Independent Displays thru  
DP/HDMI/eDP/TYPE C

#### Network Controllers

Dual LAN with Intel® Ethernet i225LM

### Input / Output

#### SATA

2 SATA3 (6Gbps) port(s)

#### USB

2 USB 3.2 Gen2 port(s) (2 rear type C)  
8 USB port(s) (4 via header; 4 rear type A)

#### Video Output

1 HDMI port(s), 1 DP (DisplayPort) port(s)

#### Serial Port

2 COM Port(s) (2 header RS232/422/485)

### Expansion Slots

#### PCIe

1 PCIe 4.0 x4

#### M.2

M.2 Interface: 1 PCIe x1/USB2; 1 PCIe  
x2/USB3/USB2; 1 PCIe 4.0 x4  
Form Factor: 2230, 3052, 2280  
Key: E-Key, B-Key, M-Key

### System BIOS

#### BIOS Type

AMI UEFI

#### BIOS Features

ACPI 6.1  
SMBIOS 3.0 or later  
PCI FW 3.0  
UEFI 2.7  
RTC (Real Time Clock) Wakeup

### Management

#### System Management Software

Wake-on-LAN, Watchdog

#### Power Configurations

Power-on mode for AC power recovery,  
ACPI Power Management, ATX Power  
connector, CPU thermal trip support for  
processor protection, +12V DC Power  
Input

### Security

#### Hardware

Trusted Platform Module (TPM) 2.0

### PC Health Monitoring

#### Voltage

VBAT, System temperature, PCH  
temperature, CPU temperature, Chipset  
Voltage, 3-fan status, +5V, +3.3V, +12V,  
Monitors CPU Core Voltages

#### FAN

3x 4-pin fan headers (up to 3 fans)  
PWM fan speed control  
Thermal Control for 3 Fan Connectors

### Other Features

#### WOL

ATX Power connector  
ACPI power management  
8-pin 12V DC power connector  
12V DC or ATX Power Source

### Operating Environment

#### Operating Temperature Range

0°C - 60°C (32°F - 140°F)

#### Non-Operating Temperature Range

-40°C - 85°C (-40°F - 185°F)

#### Operating Relative Humidity Range

10% - 85% (non-condensing)

#### Non Operating Relative Humidity Range

10% - 95% (non-condensing)

## Parts List

### Standard Parts (Bulk Package)

#### I/O Cables

Part Number	CBL-PWEX-1066	CBL-0044L • <a href="#">eStore</a>
Qty	1	2
Description	4-pin ATX Power Signal Cable	57.5CM SATA FLAT S-SPBF

#### I/O Shield

Part Number	MCP-260-00184-0N
Qty	1
Description	Standard I/O Shield

### Standard Parts (Retail Package)

#### I/O Cables

Part Number	CBL-PWEX-1066	CBL-0044L • <a href="#">eStore</a>
Qty	1	2
Description	4-pin ATX Power Signal Cable	57.5CM SATA FLAT S-SPBF

#### I/O Shield

Part Number	MCP-260-00184-0N
Qty	1
Description	Standard I/O Shield

#### QRG

Part Number	MNL-2563-QRG
Qty	1
Description	Motherboard Quick Reference Guide

### Optional Parts

#### Active Heatsink

Part Number	SNK-P0085A4	SNK-P0092AP4
Qty	-	-
Description	1U Active CPU Heat Sink for Intel Socket LGA1700 Platform	2U Active CPU Heat Sink for Intel Socket LGA1700 Platform

#### I/O Cables

Part Number	CBL-CUSB-0983	CBL-CUSB-0984 • <a href="#">eStore</a>
Qty	-	-
Description	USB2.0 cable 20cm	Dual Serial Port Breakout Cable 20cm

#### I/O Shield

Part Number	MCP-260-00188-0B	MCP-260-00187-0B
Qty	-	-
Description	1U I/O Shield For E302	1U I/O Shield For E300

#### TPM security module

Part Number	AOM-TPM-9670V-C-O
Qty	-
Description	SPI capable TPM 2.0 with Infineon 9670 controller with vertical form factor