



Workstation Key Features

1. Single socket H4 (LGA 1151) supports
Intel® Xeon® processor E3-1200 v5/v6,
Intel® 6th/7th Gen. Core™ i7/i5/i3 series,
Intel® Celeron® and Intel® Pentium®
2. Intel® C236 chipset
3. Up to 64GB Unbuffered ECC/non-ECC UDIMM DDR4 2400MHz; 4 DIMM slots
4. 3 PCI-E 3.0 x16 (run at 16/NA/16 or 16/8/8), 1 PCI-E 3.0 x1 (in x4), and 1 5V PCI 32-bit slots
5. Single GbE LAN with Intel® i210-AT,
Single GbE LAN with Intel® i219LM
6. 6 SATA3 (6Gbps) via C236; RAID 0, 1, 5, 10
7. I/O: 1 COM, TPM header
8. 6 USB 3.0 (2 rear + 4 via header(s)) ,
4 USB 2.0 (2 rear + 2 via header(s)),
1 USB 3.1 (10Gbps) Type C ports (rear, share with Thunderbolt and display port)
9. M.2 NGFF connector

Links & Resources

[Tested Memory List](#)

[Tested HDD / SSD List](#)

[Tested M.2 List](#)

[Tested AOC List](#)

[Motherboard Manual](#)

[Quick Reference Guide](#)

[Update Your BIOS](#)

[Download the Latest Drivers and Utilities](#)

[Download Drivers CD](#)

[OS Compatibility](#)

[Guide to enable Keyboard and Mouse under
Windows 7 Installation](#)

[Optimization](#)

Specifications

Product SKUs

MBD-X11SAT	■ X11SAT
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Physical Stats

Form Factor	■ ATX
Dimensions	■ 12" x 9.6" (30.48cm x 24.38cm)

Processor/Cache

CPU	■ Intel® 6th/7th Generation Core™ i3 series, Intel® 6th/7th Generation Core™ i5 series, Intel® 6th/7th Generation Core™ i7 series, Intel® Xeon® processor E3-1200 v6/v5. ■ Socket H4 (LGA 1151) supported, CPU TDP support Up to 95W TDP
Note	■ BIOS version 2.0 or above is required to support 7th Generation Intel® Core™ i3 Processors and Intel® Xeon® Processor E3-1200 v6 series

System Memory

Memory Capacity	■ Up to 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots
Memory Type	■ 2400/2133/1866/1600MHz ECC DDR4 SDRAM 72-bit, 288-pin (UDIMM) gold-plated DIMMs
DIMM Sizes	■ 4GB, 8GB, 16GB
Memory Voltage	■ 1.2V
Error Detection	■ Corrects single-bit errors ■ Detects double-bit errors (using ECC memory)

On-Board Devices

Chipset	■ Intel® C236
SATA	■ Intel® C236 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10 ■ + 1 PCI-E M.2(PCI-E x4, 2242/2260/2280)(No Raid Support)
Network Controllers	■ Single LAN with Intel® Ethernet Controller i210-AT + Single Intel Ethernet PHY i219LM
Audio	■ ALC 888S HD Audio
Graphics	■ ***Display Port is Type C connector , support up to DP1.2, HDMI support up to HDMI2.0***

Input / Output

USB	■ 4 USB 2.0 ports (2 rear + 2 headers) ■ 6 USB 3.1 Gen1 ports(2 rears, 4 headers) ■ 1 USB 3.1 Gen2 ports + 1 Rear Type C)
Video Output	■ 1 DVI- D port, 1 DP (DisplayPort) port, 1 HDMI port, ■ ***Display Port is Type C connector , support up to DP1.2, HDMI support up to HDMI2.0***
Serial Port / Header	■ 1 COM Port (1 header)
TPM	■ 1 TPM Header

Expansion Slots

PCI-E	■ 3 PCI-E 3.0 x16, ■ 1 PCI-E 3.0 x11 - 5V PCI 32bit ■ ***3 PCI-Ex16 slots are running at 16/NA/16 or 16/8/8.*** **PCI-E x1 is in x4 slot***
M.2	■ M.2 Interface: 1 PCI-E 3.0 x4 ■ Form Factor: 2242/2260/2280 ■ Key: M-Key

System BIOS

BIOS Type	■ AMI UEFI
BIOS Features	■ Plug and Play (PnP) ■ DMI 2.3 ■ PCI 3.0 ■ ACPI 5.0 ■ USB Keyboard support ■ Hardware BIOS Virus protection ■ SMBIOS 3.0 ■ UEFI 2.3.1 ■ RTC (Real Time Clock) Wakeup

Management

Software	■ AMT, SuperDoctor® 5, vPro, Watchdog
Power Configurations	■ ACPI Power Management ■ Keyboard Wakeup from Soft-Off ■ CPU Fan auto-off in sleep mode ■ Power-on mode for AC power recovery

PC Health Monitoring

Voltage	■ +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, VBAT
FAN	■ 5x 4-pin fan headers (up to 5 fans), Fan speed control, Overheat LED indication
Temperature	■ CPU thermal trip support, I2C temperature sensing logic, PECI, Thermal Monitor 2 (TM2) support
LED	■ CPU / System Overheat LED, Suspend static indicator LED, UID/Remote UID
Other Features	■ 8-pin 12v DC power connector, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Intel Smart Response Technology, WOL

Operating Environment

Operating Temperature Range	■ 0°C ~ 50°C (32°F ~ 122°F)
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Parts List

Parts List (Bulk Package)			
Name	Part Number	Qty	Description
Motherboard	MBD-X11SAT	1	X11SAT Motherboard
SATA cable	CBL-0044L	2	57.5CM SATA FLAT S-S PBF
IO shield	MCP-260-00097-0N	1	X11SAT I/O Shield

Parts List (Retail Package)			
Name	Part Number	Qty	Description
Motherboard	MBD-X11SAT	1	X11SAT Motherboard
Quick Reference Guide	MNL-1823-QRG	1	X11SAT Quick Reference Guide
SATA cable	CBL-0044L	6	57.5CM SATA FLAT S-S PBF
IO shield	MCP-260-00097-0N	1	X11SAT I/O Shield

Chassis (Optimized for X11SAT)

Embedded Compact	1U	2U	3U	Mid/Mini-Tower	4U/Tower
				SC732D4-903B SC732D4-865B 2U Heatsink:SNK-P0046A4	SC743TQ-1200B-SQ 2U Heatsink:SNK-P0046A4

= Most optimized Chassis for SuperServer Configuration
Blue color = Compatible
Green color = Global SKU & Compatible
Red dot & green color = Optimized + Global SKU