ComX Computers
Product Specification Sheet

MB-AA320PMA

Asus Prime A320M-A A320 Chipset AMD AM4 Socket Motherboard

Product Overview

Asus A320 Prime A320M-A - 5-Way protection iii (Safeslot, LANGaurd, OVP, Stainless steel backplate, DiGi+ VRM) - for AMD AM4 Ryzen/ 7th gen A-series/ Athlon processors, AMD A320 chipset, 4x SATA6G with raid 0/1/0+1/10, 1x M.2/NGFF type2280 (PCIe or SATA) SSD socket, on-board VGA (when using A-series CPU) with DVi + d-sub +HDMi out, Realtek ALC887 7.1 audio (with dedicated audio pcb layers + LED trace path + optical s/pdif out) + Realtek RTL8111H gigabit LAN; 2x pci-e 2.0 (1x), 4x USB3.0 + 2x USB2.0, support optional serial port add-on cable, 2x PS2 - m-atx - with optional Ryzen cpu - 4x dual channel DDR4-3200(O.C)/2666 up to 64Gb, 1x pci-e 3.0x16 (@16x) - with optional A-Series/ Athlon cpu - 4x dual channel DDR4-2400/2133 up to 64Gb, Radeon R on-board multi-VGA up to 2048mb, 1x pci-e 3.0x16 (@8x)



Specifications

Features:

Prime
ASUS Prime is the next evolution of the ASUS motherboard, born of a pedigree that stretches back to 1989. Our team of world-class engineers are passionate about empowering everyone to enjoy the benefits of customization and tuning, and the driving force behind the development of Prime is to make advanced enthusiast controls easily accessible - maximizing performance, stability and compatibility for the very best DIY PC experiences. Simply stated: it's time for Prime.

Built to Last
ASUS is the world's foremost motherboard manufacturer, renowned for our unique Design Thinking approach. Our exhaustive testing exceeds industry standards, supported by high-quality components for exceptional real-world protection. Our motherboards are proven to be compatible with more than 1,000 components and devices, and each new model undergoes a minimum of 8,000 hours of strict validation. ASUS gives you the peace of mind of knowing that your motherboard is fit for all environments and applications. By choosing ASUS, you also gain the freedom to select outstanding component options, for trouble-free DIY experiences.

5X Protection III
Hardware safeguards to ensure long-term durability.

350+ DDR4 Compatibility
Industry-leading DDR4 memory compatibility for best flexibility and reassurance.

1000+ Compatible Devices

Compatibility with a range of CPUs, memory modules, graphics cards and more.

8000+ Validation Hours
Extensive testing with latest components for enhanced reliability, compatibility and safety.

5X Protection III
PRIME A320 series motherboards are engineered with industry-leading 5X Protection III, employing the finest components, excellent circuit design, and exacting standards to guarantee the quality and long-term durability of your motherboard. That means exceptional protection and stability for your build - thanks to decades of engineering experience from the world's leading motherboard brand.

Fortified PCIe slot prevents damage
SafeSlot Core is the ASUS-exclusive PCIe slot. Featuring a fortified design that's anchored to the motherboard by a special hook, Safeslot Core provides 1.6x stronger retention and 1.3x greater shearing resistance than standard expansion slots.

Pumped-up throughput. 2.5x higher surge tolerance.
ASUS LANGuard is hardware-level networking protection that employs signal-coupling technology and premium anti-EMI surface-mounted capacitors to ensure a more reliable connection and better throughput, plus electrostatically guarded and surge-protected components for greater tolerance to static electricity and improved protection against surges.

World-class circuit-protecting power design
An exclusive circuit design with built-in voltage regulators to protect your chipset, connectivity ports, and audio codecs from damage caused by unexpected high-level voltages from unstable or inferior power supplies.

Precision control for stable power
ASUS-exclusive DIGI+ VRM intelligently delivers power to the processor based on real-time demands, reducing energy waste and improving system stability.

Short-circuit damage prevention
Onboard resettable fuses prevent overcurrent and short-circuit damage. This extends beyond I/O ports to DRAM to safeguard the lifespan of your system and connected devices.

3x corrosion-resistance for greater durability
Corrosion-resistant stainless-steel back I/O panels bonded with chromium oxide have a lifespan that's three times longer than ordinary panels.

Electrostatic discharge protection
ASUS ESD Guards prevent damage from electrostatic discharge, up to +/- 10kV for air discharge and +/- 6kV for contact discharge, arranged in an active-protective-circuit design that prolongs the life of components.

LAN port
ESD TVS diode protection on the LAN circuit.

USB connectors
TVS diodes for surface-mount and dual-inline packages.

VGA connectors
Additional on-circuit ESD TVS diodes to protect D-Sub functionality.

Keyboard and mouse connectors
Additional on-circuit ESD transient-voltage-suppression.

Tested to be compatible with 1,000+ CPUs, DDR4 memory modules, graphics cards and more
Having the freedom to pick and choose the parts that go into your machine is at the heart of PC DIY. Our extensive certification program focuses on providing the very best compatibility with the widest range of components and devices, giving you the freedom to build and upgrade without frustration. Compatible today and compatible far into the future - that's the ASUS way.

View supported devices and Qualified Vendor List for compatible memory
The superior compatibility of Prime A320 series is evidenced by our extensive list of supported devices - which includes thousands of compatible components - and our Qualified Vendor List that identifies memory compatibility. That means more choices for worry-free PC-building experiences.

Great Compatibility with ASUS Products
ASUS offers a suite of proprietary components - graphics cards, sound cards, optical drives - that perfectly complement Prime A320 series, so you can complete your custom motherboard build with confidence!

Top-to-bottom Reliability
ASUS motherboards have superb endurance. We verify this by subjecting every board to more than 8,000 hours of stringent tests. A barrage of burn-in, environmental, compatibility, software and safety tests confirm that our motherboards are exceptionally robust. It also shows that ASUS reliability surpasses industry standards, ensuring that every component is designed to function flawlessly in any environment.

Temperature and Humidity Test
Ensures components withstand extreme conditions.

Thermal Measurement Test
Ensures that the system remains cool and stable under the heaviest loads.

Insertion Test
Every port and connector is put through repeated installation cycles.

Aging Test
Up to 48-hour aging test ensures reliability.

Power Consumption Test
Checked for world-class energy efficiency.

Temperature and DC Margin Test
Ensures that the motherboard is capable of coping with Voltage fluctuations caused by varying temperatures.

Thermal Shock Test
Ensures ability to survive temperature changes during transportation.

Non-Operation Shock Test
Built to withstand jolts that may occur during shipping.

Burn-In Test
Every component is checked to ensure flawless operation in any environment.

Installation Test
Connector placement is double-checked to ensure hassle-free installation.

Drop Test

Drop tests from various heights ensure durability.

Salt and Spray Test
Tested for I/O reliability, prolonged lifespan and rust-resistance.

DDR4 Support
With DDR4, you'll accelerate memory frequencies up to an incredible to 3200MHz! And ASUS works with almost every DDR4 memory vendor, so you're assured the best compatibility.

Dedicated CPU and case fan controls
Exclusive Fan Xpert ensures every fan achieves the best balance of cooling performance and low noise - and with Prime A320 series boards and their hardware-level 4-pin/3-pin PWM/DC mode for case fans, a simple BIOS adjustment lets you run your case fan in PWM/DC. Fan Xpert even includes Auto-Tuning mode to scan and detect all fan characteristics for single-click customization!

Combined onboard features deliver elevated audio
Intelligent design and premium hardware create audio quality unlike anything you've ever experienced!

Noise isolation
Audio shielding ensures precision analog/digital separation and greatly reduced multi-lateral interference.

Dedicated Audio PCB Layers
Separate layers for left and right tracks ensures both channels deliver consistent, equal quality.

Audio Enjoyment
Premium Japanese audio capacitors provide warm, natural, and immersive sound with exceptional clarity and fidelity.

EPU
With the Energy Processing Unit (EPU) you'll enjoy system power savings. EPU automatically optimizes power consumption, and maximizes savings with Away mode.

Speed Up with Onboard M.2 Up to 32Gb/s
With x4 PCI Express 3.0/2.0 bandwidth, M.2 supports up to 32Gb/s data-transfer speeds. It is the perfect choice for an operating system or application drive, making your whole PC or professional apps work as fast as possible.

Instant front-panel USB 3.0 Experience
We've put USB 3.0 right where you need it - two super-speed ports on the front panel. Experience data-transfer speeds up to 10X faster than USB 2.0 with instant plug-and-play connectivity, so no more back-breaking contortions in the hunt for hard-to-reach rear ports!

Component-free areas to minimize damage risk
Fitting your ASUS motherboard is now safer than ever. The comprehensive component-free 'safe zones' around every case-mounting hole minimizes the risk of damage and short circuits caused by contact - so you'll assemble your PC with total confidence!

Effortless PCI Express component removal
The large winged clip is easy to reach and easy to operate. Just press the Q-Slot clip lightly, and the graphics card pops out. Installing or removing even the biggest graphics cards is no sweat!

Easy memory removal
Even if you work with a smaller case, just push down on the one-sided clip and push or pull RAM modules in or out - removing memory is that simple!

Media-acclaimed UEFI BIOS
The smoothest, slickest mouse-controlled graphical BIOS has been improved to make it even more appealing. Whether you're a PC novice or a seasoned overclocker, EZ and Advanced modes help you find your way, quickly and easily.

EZ Flash 3
Update the BIOS via the internet, without leaving the BIOS interface.

S.M.A.R.T
Check your storage device Self-Monitoring, Analysis, and Reporting Technology logs to gauge reliability and possibly to determine potential failures.

Q-Fan Control
You can configure the fan's operating speed manually, or use the easy pre-configured fan profiles to select Standard, Silent, Turbo, or Full Speed modes!

My Favorite
Quickly find tuning options and add preferred tools to the list.

EZ mode

- Intuitive graphical fan control - Fine-tune individual fans simply by dragging a curve with the mouse.
- EZ XMP - Improve DRAM performance with a click.
- SATA information - Easily display SATA port details for device identification.
- Fast clock adjustment - Use mouse controls to quickly change time and date settings.

Advanced mode

- Last modified log - Track last change and save preferred profiles onto a USB drive.
- SATA port renaming - Rename SATA ports for easy identification.

One-stop access to innovative ASUS features
ASUS AI Suite 3 offers a brand-new user experience through a clearer and more attractive interface with support for larger monitors. It consolidates all exclusive ASUS features into one simple-to-use package, allowing you to supervise overclocking, energy consumption, fan speeds, voltages and more. This all-in-one app offers diverse and easy-to-use functionality, with no need to switch back and forth between different utilities.

Ready for AMD AM4-socket Ryzen, 7th Generation A-series APUs and Athlon APUs
This motherboard supports AMD® Ryzen™ processors, 7th Generation A-series accelerated processing units (APUs) and Athlon™ CPUs. The high-performance Ryzen™ processor supports up to eight cores, and is based on the innovative Zen core architecture . The 7th Generation A-series APUs feature integrated AMD Radeon R-series graphics. AMD AM4-socket processors feature dual-channel DDR4 memory, native 5Gbps USB 3.0 and 16 PCI Express® 3.0/2.0 lanes for superb performance.

AMD A320 Chipset
The AMD A320 chipset delivers outstanding capabilities for the latest AMD® AM4-socket Ryzen™ processors, 7th Generation A-series APUs and Athlon™ CPUs. It provides two USB 3.0 ports, and four 6Gbps SATA ports for faster data retrieval.

Specifications:

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Specifications

Product Code	MB-AA320PMA
CPU	AMD AM4 Socket for AMD Ryzen /7 Generation A-series/Athlon Processors
	Supports CPU up to 8 cores
	* Refer to for CPU support list
Chipset	AMD A320
Memory	AMD Ryzen Processors
	4 x DIMM, Max. 64GB, DDR4 3200(O.C.)/2933(O.C.)/2666/2400/2133 MHz ECC and non-ECC, Un-buffered Memory
	AMD 7th Generation A-series/Athlon Processors
	4 x DIMM, Max. 64GB, DDR4 2400/2133 MHz Non-ECC, Un-buffered Memory
	Dual Channel Memory Architecture
	* Hyper DIMM support is subject to the physical characteristics of individual CPUs.
	* Refer to for the Memory QVL (Qualified Vendors Lists).
Graphic	Integrated AMD Radeon R Series Graphics in the 7th Generation A-Series APU
	Multi-VGA output support : HDMI/DVI/RGB ports
	- Supports HDMI 1.4b with max. resolution 4096 x 2160 @ 24 Hz / 2560 x 1600 @ 60 Hz
	- Supports DVI-D with max. resolution 1920 x 1200 @ 60 Hz
	- Supports RGB with max. resolution 1920 x 1200 @ 60 Hz
	Maximum shared memory of 2048 MB
Expansion Slots	AMD Ryzen Processors
	1 x PCIe 3.0/2.0 x16 (x16 mode)
	AMD 7th Generation A-series/Athlon Processors
	1 x PCIe 3.0/2.0 x16 (x8 mode)
	AMD A320 chipset
	2 x PCIe 2.0 x1
Storage	AMD A320 chipset :
	4 x SATA 6Gb/s port(s), gray
	Support Raid 0, 1, 10
	AMD Ryzen /7th Generation A-series/Athlon Processors :
	2 x SATA 6Gb/s port(s), gray
	AMD Ryzen Processors :
	1 x M.2 Socket 3, with M key, type 2242/2260/2280 storage devices support (SATA & PCIE 3.0 x 4 mode)
	AMD 7th Generation A-series/Athlon Processors :
	1 x M.2 Socket 3, with M Key, type 2242/2260/2280 storage devices support (SATA & PCIE 3.0 x 2 mode)
LAN	Realtek RTL8111H, 1 x Gigabit LAN Controller(s)
Audio	Realtek ALC887 8-Channel High Definition Audio CODEC

USB Ports	AMD Ryzen /7th Generation A-series/Athlon Processors :
	4 x USB 3.1 Gen 1 port(s) (4 at back panel, blue)
	AMD A320 chipset :
	2 x USB 3.1 Gen 1 port(s) (2 at mid-board)
	AMD A320 chipset :
	6 x USB 2.0 port(s)
Special Features	ASUS 5X Protection III :
	- ASUS SafeSlot Core: Fortified PCIe Slot prevents damage
	- ASUS LANGuard: Protects against LAN surges, lightning strikes and static-electricity discharges!
	- ASUS Overvoltage Protection: World-class circuit-protecting power design
	- ASUS Stainless-Steel Back I/O: 3X corrosion-resistance for greater durability!
	- ASUS DIGI+ VRM: 6 Phase digital power design
	ASUS Exclusive Features :
	- AI Suite 3
	- Ai Charger
	- PC Cleaner
	ASUS Quiet Thermal Solution :
	- Stylish Fanless Design Heat-sink solution
	- ASUS Fan Xpert
	ASUS EZ DIY :
	- ASUS CrashFree BIOS 3
	- ASUS EZ Flash 3
	- ASUS UEFI BIOS EZ Mode
	- Multi-language BIOS
	ASUS Q-Design :
	- ASUS Q-Slot
	- ASUS Q-DIMM
Operating System Support	Windows 10, 64bit

Back I/O Ports	1 x PS/2 keyboard (purple)
	1 x PS/2 mouse (green)
	1 x DVI-D
	1 x D-Sub
	1 x HDMI
	1 x LAN (RJ45) port(s)
	4 x USB 3.1 Gen 1 (blue)
	2 x USB 2.0
	3 x Audio jack(s)
Internal I/O Ports	1 x USB 3.1 Gen 1 connector(s) support(s) additional 2 USB 3.1 Gen 1 port(s) (19-pin)
	2 x USB 2.0 connector(s) support(s) additional 4 USB 2.0 port(s)
	1 x M.2 Socket 3 with M Key, type 2242/2260/2280/22110 storage devices support (SATA mode & PCIE mode)
	1 x COM port(s) connector(s)
	6 x SATA 6Gb/s connector(s)
	1 x CPU Fan connector(s) (1 x 4 -pin)
	1 x Chassis Fan connector(s) (1 x 4 -pin)
	1 x S/PDIF out header(s)
	1 x 24-pin EATX Power connector(s)
	1 x 8-pin ATX 12V Power connector(s)
	1 x Front panel audio connector(s) (AAFP)
	1 x System panel(s)
	1 x Clear CMOS jumper(s)
	1 x Speaker connector
Accessories	User's manual
	I/O Shield
	2 x SATA 6Gb/s cable(s)
	1 x M.2 Screw Package
	1 x Supporting DVD
BIOS	128 Mb Flash ROM, UEFI AMI BIOS, PnP, WfM2.0, SM BIOS 3.0, ACPI 6.1, Multi-language BIOS, ASUS EZ Flash 3, ASUS CrashFree BIOS 3, My Favorites, Last Modified log, F12 PrintScreen, ASUS DRAM SPD (Serial Presence Detect) memory information, F6 Qfan Control
Operating System	Windows 10 64-bit
Form Factor	mATX Form Factor
	9.6 inch x 9.45 inch (24.4 cm x 24 cm)

Product Information Online

For the latest product information, availability and purchasing details, please visit the product page:

Product page:
https://www.comx-computers.co.za/MB-AA320PMA-Asus-Prime-A320M-A-A320-Chipset-AMD-AM4-Socket-Motherboard-p-174170.php

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