ComX Computers
Product Specification Sheet

MB-GB550AP

Gigabyte B550 Aorus Pro AMD B550 Chipset Socket Ryzen AM4 Motherboard

Product Overview

Gigabyte B550 Aorus Pro: AMD AM4 mb - with 12 2 phase digital VRM, pre-mounted I/O shield with thermal armor RGB Fusion 2.0 with on-board RGB display (multi zones), Addressable LED Strip Support, on-board Q-Flash buttons, 2x copper PCBs design, MoSFET heatsinks with 4x DTH fins-array copper heatpipe, SmartFan5 with 9x temperature sensors 8x hybrid fan headers, solid pin power connectors (ATX 24 8 4pin), PCIe armor with stainless steel shielding double locking bracket - AMD B550 chipset, 4x dual channel DDR4-5200(O.C)/3200 (ECC non-ECC) with XMP support up to 128Gb, 6x SATA6G dual Gen3x4 M.2/NGFF with thermal guards (PCIe or SATA) with raid 0/1//0 1/5/10, on-board display with HDMi output (depends on CPU) Realtek ALC1220-VB 7.1 audio realtek RTL8125 2.5Gb LAN; 2x pci-e (1x), 3x pci-e 4.0 (16x 4x 2x), no SLi/CrossfireX, with 1x USB3 type-C (Gen2 10GBPs) 2x USB3 type-A (Gen2 10GBPs) 3x USB3 type-A (Gen1 5GBPs) 6x USB2.0, bundled Norton internet security - ATX



Specifications

Features:

DESIGN CONCEPT Dominant in Darkness
In the dark, starless night, the falcon strikes fear into the heart of its prey. Even with minimal visibility, the falcon pinpoints its prey and patiently anticipates the perfect moment to swoop in for the kill. The falcon with its laser sharp gaze dominates the darkness of night in the same manner that AORUS Core Lighting illuminates the vast AORUS ecosystem.

Ultimate power design
To fully support the latest 3rd Gen AMD Ryzen™ processors, B550 motherboards equip with the ultimate power solution which is true direct, digital and multiple phases. After countless experiments and testing, GIGABYTE presents the unbeatable B550 motherboards for enthusiast. No Compromise and never stop to achieve higher.

True 12 2 Phases Digital Power Design
B550 AORUS PRO motherboard uses an 12* 2 phases digital CPU power design which includes both digital PWM Controller and DrMOS. These 100% digital controller offer incredible precision in delivering power to the motherboard's most power-hungry and energy-sensitive components, allowing enthusiasts to get the absolute maximum performance from 3rd Gen AMD Ryzen™ processors.

- Digital PWM Controller delivers appropriate voltage to the CPU.

- True 12 2 Phases DrMOS with PWM Doublers, each power phase connects directly to the CPU. With capability to handle up to 700 Amps current in total.

- All-solid capacitors to improve Transient response and minimize oscillation.
- 8pin Solid Pin CPU Power Connectors.

2X Copper PCB
GIGABYTE's exclusive 2X Copper PCBs design provides sufficient power trace paths between components to handle greater than normal power loads and to remove heat from the critical CPU power delivery area. This is essential to ensure the motherboard is able to handle the increased power loading that is necessary when overclocking.

UNPARALLELED PERFORMANCE
GIGABYTE realize that customer won't stop chasing a better computing performance. We take care of it and implement on products. Protective and optimized memory trace enhance the performance. Faster read and write are needed to save time and improve efficiency. We offer plenty of M.2 storage with thermal guards to ensure unthrottled read and write. In advance, adopting PCIe 4.0 ready components get the B550 motherboards easier to upgrade.

Support for DDR4 XMP Up to 5400MHz and Beyond*
AORUS is offering a tested and proven platform that ensures proper compatibility with profiles up to 5400MHz and beyond. All users need to do to attain this performance boost is to ensure that their memory module is XMP capable and that the XMP function is activated and enabled on their AORUS motherboard.

Shielded Memory Routing
All memory routing is under the PCB inner layer shielded by a large ground layer to protect from external interference.

Memory Layout - Daisy Chain Design
With the optimized daisy-chain routing, the B550 AORUS motherboard provides a proven speed of up to DDR4-5400 MHz with high density memory modules*. Optimized daisy-chained routing eliminates the stub effect, pushes the one DIMM per channel in dual channel interleaving mode to hit higher memory frequencies, providing professional gamers a denser and faster system memory experience.

Single 32GB Support
With populated 2 DIMMs per channel on GIGABYTE B550 motherboards, the maximum memory capacity support is 128GB. For users who always run out of memory capacity, they are able to enjoy more bandwidth now for memory-intensive application such as rendering and video editing.

PCIe 4.0 Slot
PCIe 4.0 x16 slot with faster bandwidth and lower impedance.

PCIe 4.0 Ready PCB
Low signal loss PCB.

M.2 PCIe 4.0 Slot
M.2 PCIe 4.0 x4 slot with Lower impedance.

Dual NVMe M.2 PCIe SSDs in RAID 0 Support
B550 AORUS motherboards offer the industry's best compatibility in terms of NVMe storage for users who demand high capacity and seek the best performance. AORUS' unique design can be configured in RAID for record speeds of up to 6560 MB/s (Sequential Read), making AORUS the obvious choice for the ultimate PC.

Advanced Thermal Solution
Unthrottled performance is guaranteed by the advanced thermal solution which including Fins-Array Heatsink, Direct Touch Heatpipe and Thermal Guards. B550 AORUS motherboards are cool on MOSFETs and M.2 SSDs even on full loading. It provides lower temperatures for enthusiasts, overclockers and professional gamers.

Direct Touch Heatpipe

Heatpipe directly touches the heating source VRM components that guarantee good contact between VRM and heatsink.

Fins-Array Heatsink
Fins-Array Heatsink on both TMOS side and RMOS side uses the stacked-fins design which increasing the heat dissipation area by 300% as compared to traditional heatsinks of the same size and also providing at least 30% lower temperature on MOSFETs.

LAIRD 5 W/mK Thermal Pad
By using LAIRD 5 W/mK high thermal conductivity pads, it can transfer 4x more heat as compared to traditional thermal pads in same time.

2X M.2 Thermal Guard
Built-in M.2 thermal guard heatsink helps the high-speed, large capacity of PCIe 4.0/3.0 SSDs to prevent overheat throttling and performance bottlenecks.

GIGABYTE Ultra-Efficient M.2 Thermal Guard
With durability in mind, GIGABYTE provides a thermal solution for M.2 SSD devices. The M.2 Thermal Guard prevents throttling and bottlenecks from high speed M.2 SSDs as it helps to dissipate heat before it becomes an issue.

Smart Fan 5
With Smart Fan 5 users can ensure that their gaming PC can maintain its performance while staying cool. Smart Fan 5 allows users to interchange their fan headers to reflect different thermal sensors at different locations on the motherboard. Not only that, with Smart Fan 5 more hybrid fan headers that support both PWM and Voltage mode fans have been introduced to make the motherboard more liquid cooling friendly.

Hybrid Fan Pin Headers
Assume complete control over your liquid cooling setup! Smart Fan 5 receives up-to-the-second information on flow-rate and water-temperature through the Hybrid Fan Pin Headers or external thermistor sensors-giving you absolute mastery over your PC. All Hybrid Fan Headers can automatically detect the type of cooling device whether it be fan or pump with different PWM or Voltage mode.

Fan Stop
Achieve fan silence. With Fan Stop, map any fan to stop completely when temperatures drop below a specified threshold. Which fan stops, based on readings from which sensor, and at what temperature-all of it can be customized to your liking.

New Smart Fan 5 Software
Choose from different modes, Quiet to Full Speed, to match your system usage preferences. For each fan or pump, you can use the intuitive fan curve to define trigger thresholds and corresponding fan speeds.

Next Generation Connectivity
A high-end product needs to be future-proof so your system stays up-to-date with the latest technology. B550 AORUS motherboards provide all next generation network and storage to keep you up to speed.

2X Faster than ever
Adoption of 2.5G LAN provide up to 2.5 GbE network connectivity, with at least two times faster transfer speeds compared to general 1GbE networking. It's perfectly suit for gamers and streamer with ultimate and smooth online experience. It also backward compatible with Multi-Gig(10/100/1000/2500Mbps) RJ-45 ethernet.

Connecting the Future - USB Type-C™
AMD's native USB 3.2 Gen2 provides USB 3.2 Gen2 ports with speeds up to 10Gbps. With twice the bandwidth compared to its previous generation as well as backwards compatibility with USB 2.0 and USB 3.2 Gen1, the much improved USB 3.2 Gen2 protocol is available over the new reversible USB Type-C™ and the traditional USB Type-A connector for better

compatibility over a wider range of devices.

HDMI 2.1 for 4K / 60P / 21:9 / HDCP 2.3 Support
HDMI 2.1, which is backwards compatible with HDMI 2.0/ 1.4 and offering 48 Gb/s of bandwidth - twice times more than previous generation. This unlocks the potential for users to transfer multiple video streams, as well as a native cinematic 21:9 ratio (which most movies are shot in), Full HDR and HDCP 2.3 support, to offer the best visual experience for viewers.

HI-FI AUDIO SYSTEM
For enthusiasts, sound quality is just as essential to the gaming experience. B550 AORUS motherboards are equipped with high quality audio components such as Hi-Fi grade WIMA FKP2 capacitors and Nichicon Fine Gold capacitors to provide a superb audio experience. The exclusive AORUS AMP-UP Audio technology makes for the ideal onboard sound solution for the most demanding audiophiles.

Hi-Res Audio
Hi-Res Audio certified, meaning that the product is capable of reproducing frequencies up to 40kHz or above which ensures user with the best audio quality at all times.

All New Realtek High-End HD Audio Codec
ALC1220 120dB(A) SNR HD Audio with Smart Headphone Amp automatically detects impedance of your head-worn audio device, preventing issues such as low volume and distortion.
With the new VB series audio controller, stream your voice to the world vibrantly with both front/rear microphone SNR up to 110/114dB(A).

High-End WIMA & Audio Capacitors
The AORUS motherboards boast a combination of Hi-Fi grade WIMA FKP2 capacitors and high-end Nichicon Fine Gold audio capacitors. While the high-end audio capacitors are suited for high-grade audio equipment, using state of the art technology to provide rich sound in the bass and clearer high frequencies, the WIMA FKP2 capacitors are being used widely in premium grade Hi-Fi systems. The addition of this to the exclusive AOURS AMP-UP Audio technology makes for the ideal onboard sound solution for the most demanding audiophiles.

Audio Noise Guard
AORUS motherboards feature an audio noise guard that essentially separates the board's sensitive analog audio components from potential noise pollution at the PCB level. LED trace path lighting Illuminates to show the separation of the PCB layers.

Definitive Aesthetics
B550 motherboards feature RGB FUSION 2.0 and offer the option to control onboard, external light strips, and/or AORUS devices with RGB/ Addressable RGB LEDs to make your PC unique and stylish.

Multi-Zone Light Show Design
Now offering more LED customizations than ever, users can truly adapt their PC to represent their lifestyle. With full RGB support and a redesigned RGB Fusion 2.0 application, the user has complete control over the LEDs which surround the motherboard.

RGB FUSION Software
With an integrated intuitive user interface, the RGB Fusion 2.0 provides you a better solution for customizing the lighting effects across all supported devices. From motherboards, graphics cards to the peripheral products, you can personalize your gaming rig with your own style and show off your build by sharing the profiles. In addition, the new gaming mode makes the lighting effects interactive with selected games to bring you the most immersive gaming experience.

GIGABYTE RGB Fusion APP
Don't just make your PC shine, make it a work of art that friends will envy. With the GIGABYTE RGB Fusion mobile app users can watch as they control the lighting within their gaming PC. This gives users ease of access as they try and adjust colors

and speeds for different modes, all this can be achieved away from the keyboard and monitor of their PC.

Ultra Durable
GIGABYTE is reputable for its product durability and high standard of manufactured process. Needless to say, we use the best, high quality components on B550 motherboards and reinforce each part of components to be solid and durable.

Industry Leading Ultra Durable™ PCIe Armor
The innovative one piece stainless steel shielding design from GIGABYTE reinforces the PCIe connectors to provide the extra strength required to support heavy graphics cards.

Solid Pin Power Connectors
B550 AORUS motherboards feature solid plated ATX 24pin & ATX 12V 8pin power connectors to offer a stable power supply during CPU overloading.

Solid Pin Power connector advantages

- Larger contact area for electricity
- More metal quantity to sustain higher power and generated heat
- Ultra durable and longer lifespan

Update the BIOS easily without installing the CPU, memory and graphics card.
With GIGABYTE Q-Flash Plus, you don't need to install the CPU, memory and graphics card nor enter the BIOS menu to flash the BIOS. Just download and save a new BIOS file (rename to gigabyte.bin) on the USB flash drive, then press the dedicated Q-Flash Plus button and you're good to go!

GIGABYTE BIOS & APP CENTER
Good software goes hand in hand with perfect hardware. B550 motherboards bundled several useful and intuitive software to help users to control every aspect of motherboard.

New User Interface
All new EASY MODE shows important hardware information in one page including CPU clock, Memory, Storage, Fan.

My Favorites
Add constantly used items into the favorite menu for quick access.

Storage Information
Show all kinds of storage information including SATA, PCIE and M.2 interface.

Changelog
List all changes before saving and exiting bios. Quickly review overall settings modification.

Intuitive Load Line Curve
Clearly show each loadline calibration setting in an intuitive curve graph.

APP CENTER
GIGABYTE APP CENTER is a useful portal of all GIGABYTE MB utilities and drivers, you can choose any utility you want to install from APP CENTER and keep updated with the latest utilities and drivers version.

EasyTune™
GIGABYTE's EasyTune™ is a simple and easy-to-use interface that allows users to fine-tune their system settings or adjust system and memory clocks and voltages in a Windows environment. With Smart Quick Boost, one click is all it takes to automatically overclock your system, giving an added performance boost when you need it the most.

@BIOS
The GIGABYTE @BIOS app allows you to update your system's BIOS from within Windows using a simple and slick graphical user interface. @BIOS can automatically download the latest version from the GIGABYTE servers or you can update your BIOS from a file on your computer. @BIOS also allows you to save your current BIOS to a file, recover your previous BIOS from an image and backup your BIOS to an image.

System Information Viewer
GIGABYTE System Information Viewer is a central location that gives you access to your current system status. Monitor components such as the clocks and processor, set your preferred fan speed profile, create alerts when temperatures get too high or record your system's behavior; these are the possibilities of the System Information Viewer.

XSplit Gamecaster Broadcaster: Cast Your Game Anytime, Anywhere
Now set up your stage and share the greatest gaming moments with XSplit Gamecaster Broadcaster! Fully optimized social media integration is ready for real-time chats-keeping you notified yet focused in the game. It takes just one click to stream your gameplay to Twitch. Host your game like a pro!

Specifications:

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Specifications	
Product Code	MB-GB550AP
CPU	1. AMD Socket AM4, support for: 3rd Generation AMD Ryzen processors/ New Generation AMD Ryzen with Radeon Graphics processors
Chipset	1. AMD B550
Memory	1. 4 x DDR4 DIMM sockets supporting up to 128 GB (32 GB single DIMM capacity) of system memory
	2. 3rd Gen AMD Ryzen Processors: Support for DDR4 5200(O.C.) / 5000(O.C.) / 4866(O.C.) / 4600(O.C.) / 4400(O.C.) / 4000(O.C.) / 3600(O.C.) / 3333(O.C.) /3200/2933/2667/2400/2133 MHz memory modules
	3. New Generation AMD Ryzen with Radeon Graphics processors: Support for DDR4 5400(O.C.) / 5200(O.C.) / 5000(O.C.) / 4866(O.C.) / 4600(O.C.) / 4400(O.C.) / 4000(O.C.) / 3600(O.C.) / 3333(O.C.) /3200/2933/2667/2400/2133 MHz memory modules
	4. Dual channel memory architecture
	5. Support for ECC Un-buffered DIMM 1Rx8/2Rx8 memory modules
	6. Support for non-ECC Un-buffered DIMM 1Rx8/2Rx8/1Rx16 memory modules
	7. Support for Extreme Memory Profile (XMP) memory modules
Onboard Graphics	Integrated in the New Generation AMD Ryzen with Radeon Graphics processors:
	1. 1 x HDMI port, supporting a maximum resolution of 4096x2160@60 Hz
	* Support for HDMI 2.1 version, HDCP 2.3, and HDR.
	Maximum shared memory of 16 GB

Audio	1. Realtek ALC1220-VB codec
	* The back panel line out jack supports DSD audio.
	2. High Definition Audio
	3. 2/4/5.1/7.1-channel
	4. Support for S/PDIF Out
LAN	1. Realtek 2.5GbE LAN chip (2.5 Gbit/1 Gbit/100 Mbit)
Expansion Slots	1 x PCI Express x16 slot (PCIEX16), integrated in the CPU:
	1. 3rd Generation AMD Ryzen processors support PCIe 4.0 x16 mode
	2. New Generation AMD Ryzen with Radeon Graphics processors support PCIe 3.0 x16 mode
	* For optimum performance, if only one PCI Express graphics card is to be installed, be sure to install it in the PCIEX16 slot.
	1 x PCI Express x16 slot (PCIEX4), integrated in the Chipset:
	1. Supporting PCIe 3.0 x4 mode
	* The M2B_SB connector shares bandwidth with the PCIEX4 slot. The PCIEX4 slot will become unavailable when an SSD is installed in the M2B_SB connectors.
	1 x PCI Express x16 slot (PCIEX2), integrated in the Chipset:
	1. Supporting PCIe 3.0 x2 mode
	* The PCIEX2 slot shares bandwidth with the SATA3 4, 5 connectors. The PCIEX2 slot will become unavailable when a device is installed in the SATA3 4 or SATA3 5 connector.
	2 x PCI Express x1 slots
Storage Interface	1 x M.2 connector (M2A_CPU), integrated in the CPU, supporting Socket 3, M key, type 2242/2260/2280/22110 SSDs:
	1. 3rd Generation AMD Ryzen processors support SATA and PCIe 4.0 x4/x2 SSDs
	2. New Generation AMD Ryzen with Radeon Graphics processors support SATA and PCIe 3.0 x4/x2 SSDs
	1 x M.2 connector (M2B_SB), integrated in the Chipset, supporting Socket 3, M key, type 2242/2260/2280/22110 SSDs:
	1. Support PCIe 3.0 x4/x2 SSDs
	6 x SATA 6Gb/s connectors, integrated in the Chipset:
	1. Support for RAID 0, RAID 1, and RAID 10

USB	CPU:
	1. 3 x USB 3.2 Gen 1 ports on the back panel
	2. 1 x USB 3.2 Gen 2 Type-A port (red) on the back panel
	Chipset:
	1. 1 x USB Type-C port on the back panel, with USB 3.2 Gen 2 support
	2. 1 x USB 3.2 Gen 2 Type-A port (red) on the back panel
	3. 2 x USB 3.2 Gen 1 ports available through the internal USB header
	4. 2 x USB 2.0/1.1 ports on the back panel
	Chipset 2 USB 2.0 Hubs:
	1. 8 x USB 2.0/1.1 ports (4 ports on the back panel, 4 ports available through the internal USB headers)
Internal I/O Connectors	1. 1 x 24-pin ATX main power connector
	2. 1 x 8-pin ATX 12V power connector
	3. 2 x M.2 Socket 3 connectors
	4. 6 x SATA 6Gb/s connectors
	5. 1 x CPU fan header
	6. 1 x water cooling CPU fan header
	7. 4 x system fan headers
	8. 2 x system fan/water cooling pump headers
	9. 1 x CPU cooler LED strip/RGB LED strip header
	10. 2 x addressable LED strip headers
	11. 2 x RGB LED strip headers
	12. 1 x front panel header
	13. 1 x front panel audio header
	14. 1 x USB 3.2 Gen 1 header
	15. 2 x USB 2.0/1.1 headers
	16. 1 x Trusted Platform Module (TPM) header (2x6 pin, for the GC-TPM2.0_S module only)
	17. 2 x temperature sensor headers
	18. 1 x Clear CMOS jumper

Back Panel Connectors	1. 1 x HDMI port
	2. 3 x USB 3.2 Gen 1 ports
	3. 1 x USB Type-C port, with USB 3.2 Gen 2 support
	4. 2 x USB 3.2 Gen 2 Type-A ports (red)
	5. 6 x USB 2.0/1.1 ports
	6. 1 x Q-Flash Plus button
	7. 1 x RJ-45 port
	8. 1 x optical S/PDIF Out connector
	9. 5 x audio jacks
I/O Controller	1. iTE I/O Controller Chip
H/W Monitoring	1. Voltage detection
	2. Temperature detection
	3. Fan speed detection
	4. Water cooling flow rate detection
	5. Overheating warning
	6. Fan fail warning
	7. Fan speed control
	* Whether the fan (pump) speed control function is supported will depend on the fan (pump) you install.
BIOS	1. 1 x 256 Mbit flash
	2. Use of licensed AMI UEFI BIOS
	3. PnP 1.0a, DMI 2.7, WfM 2.0, SM BIOS 2.7, ACPI 5.0
Unique Features	1. Support for APP Center
	* Available applications in APP Center may vary by motherboard model. Supported functions of each application may also vary depending on motherboard specifications.
	@BIOS
	EasyTune
	Fast Boot
	Game Boost
	ON/OFF Charge
	RGB Fusion
	Smart Backup
	System Information Viewer
	2. Support for Q-Flash Plus
	3. Support for Q-Flash
	4. Support for Xpress Install

Bundled Software	1. Norton Internet Security (OEM version)
	2. XSplit Gamecaster Broadcaster (12 months license)
	3. Realtek 8125 Gaming LAN Bandwidth Control Utility
Operating System	1. Support for Windows 10 64-bit
Form Factor	1. ATX Form Factor; 30.5cm x 24.4cm
Remark	1. Due to different Linux support condition provided by chipset vendors, please download Linux driver from chipset vendors' website or 3rd party website.
	2. Most hardware/software vendors may no longer offer drivers to support Win9X/ME/2000/XP. If drivers are available from the vendors, we will update them on the GIGABYTE website.

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-GB550AP-Gigabyte-B550-Aorus-Pro-AMD-B550-Chipset-Socket-Ryzen-AM4-Motherboard-p-243606.php

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