



X570 PHANTOM GAMING X



METAL BACKPLATE

Strengthens the motherboard to prevent bending caused by heavy coolers or graphics cards with better airflow and enhanced stability.

UNBEATABLE HEAT ARMOR WITH HYPER M.2 (GEN4 X4)

Forged with aluminum alloy heatsink top cover that effectively improves heat dissipation. Underneath is the next generation PCI Express 4.0 Hyper M.2 Socket, with twice the transfer speed of the previous 3rd Generation.



POLYCHROME SYNC

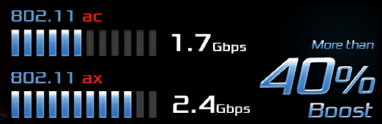
RULE YOUR OWN LIGHTING WAY - POLYCHROME SYNC

Enjoy stunning performance and superior aesthetics with your unique rig! The built-in ARGB LEDs or the connected devices can be synchronized across the Polychrome Sync-certified accessories.



Wi-Fi 6 802.11ax

The speed will be working up to 2.4Gbps and it will also natively operate with both 2.4Ghz and 5Ghz simultaneously. Significant improvement in bi-directional MU-MIMO support is another attractive feature as well.



STEEL SLOT WITH NEW-GEN PCI EXPRESS 4.0

The next generation PCI Express 4.0 is capable of performing twice the speed compared to previous 3rd generation. ASRock's exclusive Steel Slot with extra anchor points are revolutionary added to ensure signal stability and also making sure heavy graphics cards to be well-installed in the PCI-E slot safely.



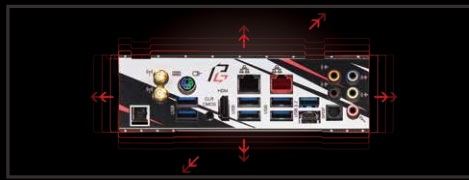
Phantom Gaming 2.5Gb/s LAN

Built for faster and uncompromised connectivity experience.



Flexible Integrated I/O Shield

Reserve more tolerance space when installing, thus fitting chassis perfectly.



Dr. MOS

Improved thermal result and superior performance.



PRODUCT BRIEF:

- Supports AMD AM4 Socket Ryzen™ 2000 and 3000 Series processors
- Intel® Wi-Fi 6 802.11ax (2.4Gbps) + BT 5.0
- Phantom Gaming 2.5 Gigabit LAN, Intel® Gigabit LAN
- Supports DDR4 4666+ (OC)
- 3 PCIe 4.0 x16, 2 PCIe 4.0 x1
- NVIDIA® NVLink™, Quad SLI™, AMD 3-Way CrossFireX™
- 7.1 CH HD Audio (Realtek ALC1220 Audio Codec)
- Supports Creative Sound Blaster Cinema 5
- 8 SATA3, 2 Hyper M.2 (PCIe Gen4 x4 & SATA3), 1 Hyper M.2 (PCIe Gen4 x4)
- 3 USB 3.2 Gen2 (Rear Type A+C, Front Type-C), 8 USB 3.2 Gen1 (2 Front, 6 Rear)
- ASRock Polychrome SYNC



The specification is subject to change without notice. The brand and product names are trademarks of their respective companies. Any configuration other than the original product specification is not guaranteed.



X570 PHANTOM GAMING X



DETAIL SPECIFICATION

Platform
- ATX Form Factor: 12.0-in x 9.6-in, 30.5 cm x 24.4 cm
- 2oz Copper PCB

Unique Feature
ASRock USB 3.2 Gen2
- ASRock Front Panel Type C USB 3.2 Gen2 Header (10 Gb/s)
- ASRock USB 3.2 Gen2 Type-A Port (10 Gb/s)
- ASRock USB 3.2 Gen2 Type-C Port (10 Gb/s)
ASRock Super Alloy
- XXL Aluminum Alloy Heatsink
- Premium 60A Power Choke
- 50A Dr.MOS
- Premium Memory Alloy Choke (Reduces 70% core loss compared to iron powder choke)
- Combo Caps (Nichicon 12K Black Caps)
- Nichicon 12K Black Caps (100% Japan made high quality conductive polymer capacitors)
- I/O Armor
- Matte Black PCB
- High Density Glass Fabric PCB
- 2oz Copper PCB
ASRock Phantom Gaming 2.5G LAN
Intel® 802.11ax WiFi
ASRock Steel Slot Gen4
ASRock Full Coverage M.2 Heatsink
ASRock Hyper M.2 (PCIe Gen4x4 & SATA3)
ASRock Ultra USB Power
ASRock Full Spike Protection (for all USB, Audio, LAN Ports)
ASRock Live Update & APP Shop

Gaming Armor
Power
- Hi-Density Power Connectors (24 pin, 8 pin and 4 pin)
Memory
- 15µ Gold Contact in DIMM Slots
VGA Card
- 15µ Gold Contact in VGA PCIe Slot (PCIe 1)
Internet
- Phantom Gaming 2.5G LAN
- Intel® LAN
Cooling
- XXL Aluminum Alloy Heatsink
- Heat Pipe Design
Audio
- Creative SoundBlaster Cinema5

CPU
- Supports AMD AM4 socket Ryzen™ 2000 and 3000 series processors
- Intersil Digital PWM
- 14 Power Phase design
- Supports ASRock Hyper BCLK Engine II

Chipset
- AMD X570

Memory
- Dual Channel DDR4 Memory Technology
- 4 x DDR4 DIMM Slots
- AMD Ryzen series CPUs (Matisse) support DDR4 4666+(OC)/4400(OC)/4300(OC)/4266(OC)/4200(OC)/4133(OC)/3466(OC)/3200/2933/2667/2400/2133 ECC & non-ECC, un-buffered memory*
- AMD Ryzen series CPUs (Pinnacle Ridge) support DDR4 3600+(OC)/3466(OC)/3200(OC)/2933/2667/2400/2133 ECC & non-ECC, un-buffered memory*
- AMD Ryzen series CPUs (Picasso) support DDR4 3466+(OC)/3200(OC)/2933/2667/2400/2133 non-ECC, un-buffered memory*
* For Ryzen Series CPUs (Picasso), ECC is only supported with PRO CPUs.
* Please refer to Memory Support List on ASRock's website for more information. (<http://www.asrock.com/>)
- Max. capacity of system memory: 64GB
- 15µ Gold Contact in DIMM Slots
* Please refer to below table for AMD non-XMP memory frequency support. For more details, please refer to the QVL on ASRock's website.
Ryzen Series CPUs (Matisse): Ryzen Series CPUs (Pinnacle Ridge): Ryzen Series CPUs (Picasso):

| Ryzen Series CPUs (Matisse) | | | | Ryzen Series CPUs (Pinnacle Ridge) | | | | Ryzen Series CPUs (Picasso) | | | |
|-----------------------------|----|-----------------|---------------|------------------------------------|----|-----------------|---------------|-----------------------------|----|-----------------|---------------|
| SR | DR | Frequency (MHz) | Max. Capacity | SR | DR | Frequency (MHz) | Max. Capacity | SR | DR | Frequency (MHz) | Max. Capacity |
| 1R | 2R | 3200 | 32GB | 1R | 2R | 3200 | 32GB | 1R | 2R | 3200 | 32GB |
| 1R | 2R | 3600 | 32GB | 1R | 2R | 3600 | 32GB | 1R | 2R | 3600 | 32GB |
| 1R | 2R | 4000 | 32GB | 1R | 2R | 4000 | 32GB | 1R | 2R | 4000 | 32GB |
| 1R | 2R | 4600 | 32GB | 1R | 2R | 4600 | 32GB | 1R | 2R | 4600 | 32GB |
| 1R | 2R | 4800 | 32GB | 1R | 2R | 4800 | 32GB | 1R | 2R | 4800 | 32GB |
| 1R | 2R | 5000 | 32GB | 1R | 2R | 5000 | 32GB | 1R | 2R | 5000 | 32GB |
| 1R | 2R | 5200 | 32GB | 1R | 2R | 5200 | 32GB | 1R | 2R | 5200 | 32GB |
| 1R | 2R | 5400 | 32GB | 1R | 2R | 5400 | 32GB | 1R | 2R | 5400 | 32GB |
| 1R | 2R | 5600 | 32GB | 1R | 2R | 5600 | 32GB | 1R | 2R | 5600 | 32GB |
| 1R | 2R | 5800 | 32GB | 1R | 2R | 5800 | 32GB | 1R | 2R | 5800 | 32GB |
| 1R | 2R | 6000 | 32GB | 1R | 2R | 6000 | 32GB | 1R | 2R | 6000 | 32GB |
| 1R | 2R | 6200 | 32GB | 1R | 2R | 6200 | 32GB | 1R | 2R | 6200 | 32GB |
| 1R | 2R | 6400 | 32GB | 1R | 2R | 6400 | 32GB | 1R | 2R | 6400 | 32GB |
| 1R | 2R | 6600 | 32GB | 1R | 2R | 6600 | 32GB | 1R | 2R | 6600 | 32GB |
| 1R | 2R | 6800 | 32GB | 1R | 2R | 6800 | 32GB | 1R | 2R | 6800 | 32GB |
| 1R | 2R | 7000 | 32GB | 1R | 2R | 7000 | 32GB | 1R | 2R | 7000 | 32GB |
| 1R | 2R | 7200 | 32GB | 1R | 2R | 7200 | 32GB | 1R | 2R | 7200 | 32GB |
| 1R | 2R | 7400 | 32GB | 1R | 2R | 7400 | 32GB | 1R | 2R | 7400 | 32GB |
| 1R | 2R | 7600 | 32GB | 1R | 2R | 7600 | 32GB | 1R | 2R | 7600 | 32GB |
| 1R | 2R | 7800 | 32GB | 1R | 2R | 7800 | 32GB | 1R | 2R | 7800 | 32GB |
| 1R | 2R | 8000 | 32GB | 1R | 2R | 8000 | 32GB | 1R | 2R | 8000 | 32GB |
| 1R | 2R | 8200 | 32GB | 1R | 2R | 8200 | 32GB | 1R | 2R | 8200 | 32GB |
| 1R | 2R | 8400 | 32GB | 1R | 2R | 8400 | 32GB | 1R | 2R | 8400 | 32GB |
| 1R | 2R | 8600 | 32GB | 1R | 2R | 8600 | 32GB | 1R | 2R | 8600 | 32GB |
| 1R | 2R | 8800 | 32GB | 1R | 2R | 8800 | 32GB | 1R | 2R | 8800 | 32GB |
| 1R | 2R | 9000 | 32GB | 1R | 2R | 9000 | 32GB | 1R | 2R | 9000 | 32GB |
| 1R | 2R | 9200 | 32GB | 1R | 2R | 9200 | 32GB | 1R | 2R | 9200 | 32GB |
| 1R | 2R | 9400 | 32GB | 1R | 2R | 9400 | 32GB | 1R | 2R | 9400 | 32GB |
| 1R | 2R | 9600 | 32GB | 1R | 2R | 9600 | 32GB | 1R | 2R | 9600 | 32GB |
| 1R | 2R | 9800 | 32GB | 1R | 2R | 9800 | 32GB | 1R | 2R | 9800 | 32GB |
| 1R | 2R | 10000 | 32GB | 1R | 2R | 10000 | 32GB | 1R | 2R | 10000 | 32GB |

SR: Single rank DIMM, 1Rx4 or 1Rx8 on DIMM module label x=1 or 2
DR: Dual rank DIMM, 2Rx4 or 2Rx8 on DIMM module label

Expansion Slot
AMD Ryzen series CPUs (Matisse)
- 3 x PCI Express 4.0 x16 Slots (PCIe 1/PCIe3/PCIe5: single at x16 (PCIe 1); dual at x8 (PCIe 1) / x8 (PCIe 3); triple at x8 (PCIe 1) / x8 (PCIe 3) / x4 (PCIe 5))*
AMD Ryzen series CPUs (Pinnacle Ridge)
- 3 x PCI Express x16 Slots (PCIe 1/PCIe3/PCIe5: single at Gen3x16 (PCIe 1); dual at Gen3x8 (PCIe 1) / Gen3x8 (PCIe 3); triple at Gen3x8 (PCIe 1) / Gen3x8 (PCIe 3) / Gen4x4 (PCIe 5))*
AMD Ryzen series CPUs (Picasso)
- 1 x PCI Express 3.0 x16 Slot (single at x8 (PCIe 1))*
- 1 x PCI Express 4.0 x16 Slot (single at x4 (PCIe 5))*
* Supports NVMe SSD as boot disks
- 2 x PCI Express 4.0 x1 Slots
- Supports AMD Quad CrossFire™, 3-Way CrossFire™ and CrossFire™
- Supports NVIDIA® Quad SLI™ and SLI™**
- Supports NVIDIA® NVLink™ with dual NVIDIA® GeForce® RTX series graphics cards**
** NVIDIA NVLink Bridge does not come with the package. Please purchase it from NVIDIA® if necessary.
** This feature is only supported with Ryzen Series CPUs (Pinnacle Ridge).
- 1 x Vertical M.2 Socket (Key E) with the bundled WiFi-802.11ax module (on the rear I/O)
- 15µ Gold Contact in VGA PCIe Slot (PCIe 1)

Graphics
- Integrated AMD Radeon™ Vega Series Graphics in Ryzen Series APU*
* Actual support may vary by CPU
- DirectX 12, Pixel Shader 5.0
- Shared memory default 2GB. Max Shared memory supports up to 16GB.
* The Max shared memory 16GB requires 32GB system memory installed.
- Supports HDMI 1.4 with max. resolution up to 4K x 2K (4096x2160) @ 30Hz
- Supports Auto Lip Sync, Deep Color (12bpc), xvYCC and HBR (High Bit Rate Audio) with HDMI 1.4 Ports (Compliant HDMI monitor is required)
- Supports HDCP 1.4 with HDMI 1.4 Port
- Supports 4K Ultra HD (UHD) playback with HDMI 1.4 Port
- Supports Microsoft PlayReady®

Audio
- 7.1 CH HD Audio with Content Protection (Realtek ALC1220 Audio Codec)
- Premium Blu-ray Audio support
- Supports Surge Protection
- Nichicon Fine Gold Series Audio Caps
- 120dB SNR DAC with Differential Amplifier
- NE5532 Premium Headset Amplifier for Front Panel Audio Connector (Supports up to 600 Ohm headsets)
- Pure Power-In
- Direct Drive Technology
- PCB Isolate Shielding
- Impedance Sensing on Rear Out port
- Individual PCB Layers for R/L Audio Channel
- Cold Audio Jacks
- 15µ Gold Audio Connector
- Supports Creative SoundBlaster Cinema5

LAN
1 x 2.5 Gigabit LAN 10/100/1000/2500 Mb/s (Dragon RTL8125AG);
- Supports Phantom Gaming LAN Software
- Smart Auto Adjust Bandwidth Control
- Visual User Friendly UI
- Visual Network Usage Statistics
- Optimized Default Setting for Game, Browser, and Streaming Modes
- User Customized Priority Control
- Supports Wake-On-LAN
- Supports Lightning/ESD Protection
- Supports Energy Efficient Ethernet 802.3az
- Supports PXE
1 x Intel Gigabit LAN 10/100/1000 Mb/s (1 x Intel® I211AT);
- Supports Wake-On-LAN
- Supports Lightning/ESD Protection
- Supports Energy Efficient Ethernet 802.3az
- Supports PXE

Wireless LAN
- Intel® 802.11ax WiFi Module
- Supports IEEE 802.11a/b/g/n/ax
- Supports Dual-Band (2.4/5 GHz)
- Supports WiFi6 802.11ax (2.4Gbps)
- 2 antennas to support 2 (Transmit) x 2 (Receive) diversity technology
- Supports Bluetooth 5.0 + High speed class II
- Supports MU-MIMO

Rear Panel I/O
- 2 x Antenna Ports
- 1 x PS/2 Mouse/Keyboard Port
- 1 x HDMI Port
- 1 x Optical SPDIF Out Port
- 1 x USB 3.2 Gen2 Type-A Port (10 Gb/s) (Supports ESD Protection)
- 1 x USB 3.2 Gen2 Type-C Port (10 Gb/s) (Supports ESD Protection)
- 6 x USB 3.2 Gen1 Ports (Supports ESD Protection)
* Ultra USB Power is supported on USB3_5_6 ports.
* ACPI wake-up function is not supported on USB3_5_6 ports.
- 2 x RJ-45 LAN Ports with LED (ACT/LINK LED and SPEED LED)
- 1 x Clear CMOS Button
- 1 x BIOS Flashback Button
- HD Audio Jacks: Rear Speaker / Central / Bass / Line in / Front Speaker / Microphone (Gold Audio Jacks)

Storage
- 8 x SATA3 6.0 Gb/s Connectors, support RAID (RAID 0, RAID 1 and RAID 10), NCQ, AHCI and Hot Plug
- 1 x Hyper M.2 Socket (M2_1), supports M Key type 2242/2260/2280 M.2 SATA3 6.0 Gb/s module and M.2 PCI Express module up to Gen4x4 (64 Gb/s) (with Matisse) or Gen3x4 (32 Gb/s) (with Pinnacle Ridge and Picasso)*
- 1 x Hyper M.2 Socket (M2_2), supports M Key type 2260/2280 M.2 PCI Express module up to Gen4x4 (64 Gb/s)*
- 1 x Hyper M.2 Socket (M2_3), supports M Key type 2230/2242/2260/2280/22110 M.2 SATA3 6.0 Gb/s module and M.2 PCI Express module up to Gen4x4 (64 Gb/s)*
* If M2_3 is occupied, PCIe5 slot will be disabled
* Supports NVMe SSD as boot disks
* Supports ASRock U.2 Kit

Connector
- 1 x TPM Header
- 1 x SPI TPM Header
- 1 x Power LED and Speaker Header
- 1 x AMD Fan LED Header
* The AMD Fan LED Header is compatible with a regular RGB LED stripe.
* The AMD Fan LED Header supports LED strips of maximum load of 3A (36W) and length up to 2.5M.
- 1 x RGB LED Header
* Supports in total up to 12V/3A, 36W LED Strip
- 1 x Addressable LED Header
* Supports in total up to 5V/3A, 15W LED Strip
- 1 x CPU Fan Connector (4-pin)
* The CPU Fan Connector supports the CPU fan of maximum 1A (12W) fan power.
- 1 x CPU/Water Pump Fan Connector (4-pin) (Smart Fan Speed Control)
* The CPU/Water Pump Fan supports the water cooler fan of maximum 2A (24W) fan power.
- 4 x Chassis/Water Pump Fan Connectors (4-pin) (Smart Fan Speed Control)
* The Chassis/Water Pump Fan supports the water cooler fan of maximum 2A (24W) fan power.
* CPU_FAN2/WP, CHA_FAN1/WP, CHA_FAN2/WP, CHA_FAN3/WP and CHA_FAN4/WP can auto detect if 3-pin or 4-pin fan is in use.

- 1 x 24 pin ATX Power Connector (Hi-Density Power Connector)
- 1 x 8 pin 12V Power Connector (Hi-Density Power Connector)
- 1 x 4 pin 12V Power Connector (Hi-Density Power Connector)
- 1 x Front Panel Audio Connector (15µ Gold Audio Connector)
- 1 x AMD LED Fan USB Header
- 1 x Thunderbolt AIC Connector (5-pin) (Supports ASRock Thunderbolt AIC Card only)
- 2 x USB 2.0 Headers (Support 4 USB 2.0 ports) (Supports ESD Protection)
- 1 x USB 3.2 Gen1 Header (Supports 2 USB 3.2 Gen1 ports) (Supports ESD Protection)
- 1 x Front Panel Type C USB 3.2 Gen2 Header (Supports ESD Protection)
- 1 x Dr. Debug with LED
- 1 x Power Button with LED
- 1 x Reset Button with LED
- 1 x Clear CMOS Button

BIOS Feature
- 256Mb AMI UEFI Legal BIOS with GUI support
- Supports "Plug and Play"
- ACPI 5.1 compliance wake up events
- Supports jumperfree
- SMBIOS 2.3 support
- CPU, CPU_VDDCR_SOC, DRAM, VPPM, PREM_VDD_CLDO, PERM_VDDCR_SOC, +1.8V, VDDP Voltage Multi-adjustment

Support CD
- Drivers, Utilities, AntiVirus Software (Trial Version), Google Chrome Browser and Toolbar

Software and UEFI
Software
- ASRock Phantom Gaming Tuning
- ASRock Phantom Gaming LAN Software
- ASRock Polychrome SYNC
- ASRock Key Master
* These utilities can be downloaded from ASRock Live Update & APP Shop.
UEFI
- ASRock Full HD UEFI
- ASRock Instant Flash
- ASRock Easy RAID Installer

Hardware Monitor
- Temperature Sensing: CPU, CPU/Water Pump, Chassis, Chassis/Water Pump Fans
- Fan Tachometer: CPU, CPU/Water Pump, Chassis, Chassis/Water Pump Fans
- Quiet Fan (Auto adjust chassis fan speed by CPU temperature): CPU, CPU/Water Pump, Chassis, Chassis/Water Pump Fans
- Fan Multi-Speed Control: CPU, CPU/Water Pump, Chassis, Chassis/Water Pump Fans
- Voltage monitoring: +12V, +5V, +3.3V, CPU Vcore, CPU_VDDCR_SOC, DRAM, VPPM, PREM_VDDCR_SOC, +1.8V, VDDP

OS
- Microsoft® Windows® 10 64-bit

Certifications
- FCC, CE
- ErP/EuP ready (ErP/EuP ready power supply is required)

Accessories
- Quick Installation Guide, Support CD
- 4 x SATA Data Cables
- 1 x ASRock SLI HB Bridge_2S Card
- 1 x ASRock WiFi 2.4/5 GHz Antenna
- 1 x ASRock Screwdriver
- 3 x Screws for M.2 Sockets
- 2 x Standoffs for M.2 Sockets