



The **BEST** Motherboard Brand – Best-selling | Easy to use | Stable | Trusted

REPUBLIC OF GAMERS



Z490 SERIES AI MOTHERBOARDS

AI Overclocking

AI Cooling

AI Networking



*Specifications vary by model

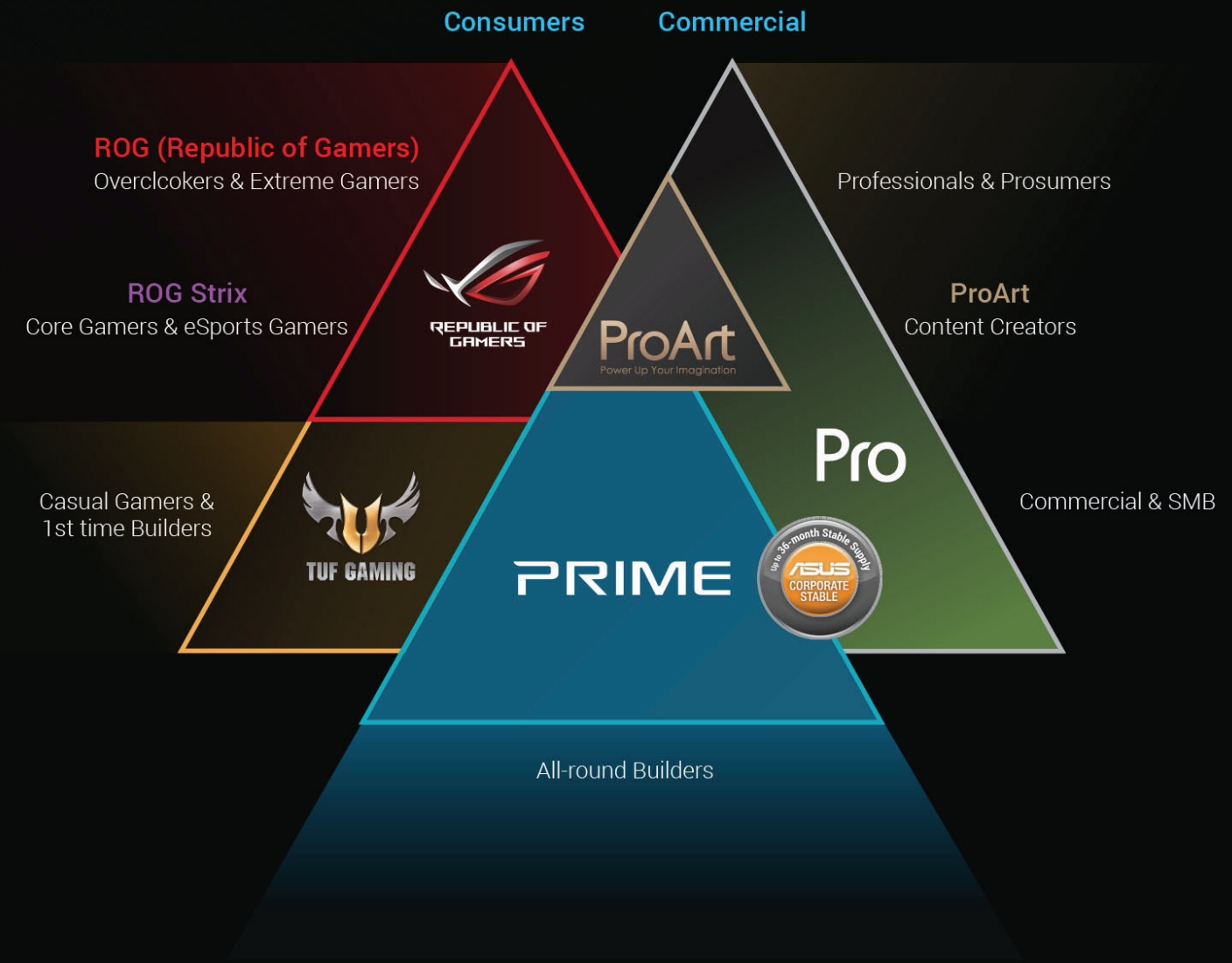


WORLD'S NO.1

MOTHERBOARD BRAND FOR OVER 10 YEARS

ASUS has sold over 550 million motherboards over the past decade, winning thousands of global awards along the way. Whether you're crafting a build for work or for gaming, a wide range of models with innovative features makes it easy to find the perfect motherboard to fit your needs. Build your next rig with ASUS, the world's best-selling motherboard brand.

ASUS Z490 Motherboards Segmentation



3+1 year
extended warranty
ASUS



REGISTER & EXTEND

your **Warranty for an Additional Year** with purchase of any
ASUS Motherboard or ASUS Graphics Card

How it works :



PURCHASE

Purchase any
ASUS Motherboard or
ASUS Graphics Card



REGISTER

Login to
<http://woobox.com/7up5z2>
complete the registration form
and click submit



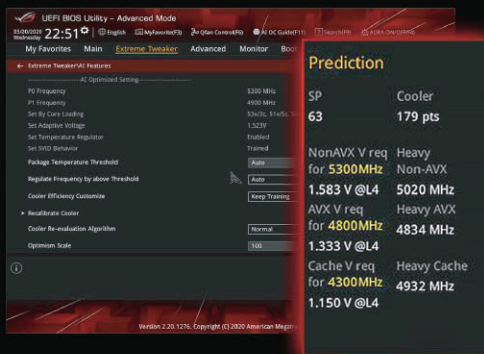
EXTEND

You will receive a confirmation
via SMS or Email on the extended
warranty status within 14 days

AI MOTHERBOARDS

AI Overclocking

AI Overclocking unleashes the full potential of your CPU by utilizing onboard intelligence to profile its characteristics and expertly tune the frequency and voltage. With quick, reliable results, AI Overclocking eliminates the painstaking, time-consuming process of manual tuning.



Designed by Experts

In developing the proprietary algorithm that drives the software, ASUS R&D engineers worked with world-renowned overclockers to create a tool for users of all levels.

Predictive Edge

The software analyzes your CPU and cooling system and, based on what it finds, predicts optimal settings. It then uses these settings to automatically guide the clocking process, balancing frequency and voltage.

Real-time Adjustments

The software monitors workload, system temperature, fan speed and power draw every minute, and makes real-time adjustments to sustain optimal performance.

AI Cooling

AI Cooling enables new recruits to effortlessly balance the thermals and acoustics of their build. With a single click, the proprietary algorithm reduces unnecessary system noise by monitoring CPU temperatures and dynamically adjusting fans to the optimal speeds.

CPU Temperature Detection

After automatically detecting CPU temperature, the software uses a proprietary algorithm to calculate the lowest fan speed required to effectively cool the system and keep fan noise down.

Automated Optimization

Under stable system loads, the software then automatically lowers fan* speed to the optimal setting, decreasing fan noise without compromising performance.

*Fans need to be connected to the following headers for AI Cooling control: CPU_FAN / CPU_OPT / CHA_FAN / M.2_FAN / H_AMP / RAD_FAN

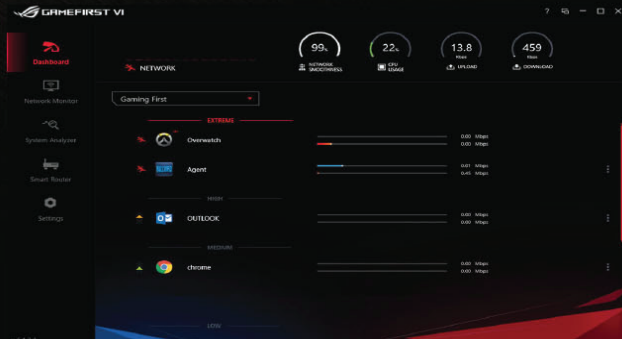
Ongoing Monitoring

The software continues to monitor the system and automatically adjusts fan speed, at intervals, based on current loads.



AI Networking

AI Networking optimizes networking performance by allocating bandwidth in real time based on application usage scenarios and corresponding learning algorithms. This smart adjustment saves you the time and effort of configuring computer and router settings to achieve the fastest networking speeds.



Adaptive Intelligence

GameFirst VI takes note of what you're currently doing and adjusts bandwidth accordingly, to ensure smoother online experiences, even when multitasking.

Gaming First Mode

Gaming First mode leverages on a massive application database and analysis of your frequently used apps to prioritize gaming network traffic. This reduces jitter and decrease ping to give you lag-free online gaming.

Network Insight

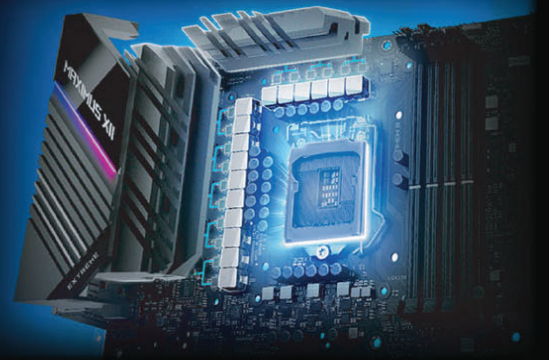
WiFi Quick Assist analyzes network information including real-time bandwidth use to generate a graph to give you a clear overview of current network status. On top of that, when paired with a ROG router, you can scan your WiFi network to find the best channel, as well as use Game Boost to prioritize gaming devices and packets on your network for ultrafast online speeds.



EXTREME PERFORMANCE

Teamed Power Stages

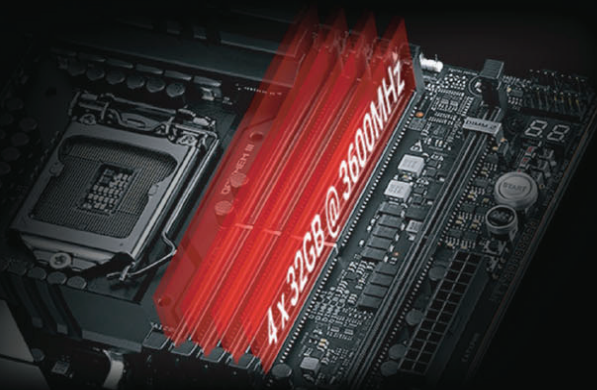
The teamed-power-stage architecture unleashes the full potential of the latest Intel® Core™ CPUs. Together with quality components, ASUS Z490 motherboard VRMs are geared for any workload in any scenario.



OptiMem III

The proprietary memory trace layout improves signal integrity and mitigates noise, enabling memory kits of 3600 MHz and above to run at higher frequencies. It allows you to run at maximum frequency with higher-capacity memory kits, whereas other motherboards trade off frequency for capacity.

*OptiMem support varies by model



GAMING IMMERSION

WiFi 6 (802.11ax)



Onboard WiFi 6 supports ultrafast wireless-networking speeds, improved capacity and better performance in dense wireless environments, providing exceptional online gaming experiences. Pair your motherboard with ASUS WiFi 6 routers to fully experience the networking potential of WiFi 6.



Intel 2.5 Gb Ethernet

Onboard Ethernet offers speeds that are 2.5-times faster than standard Ethernet connections, enabling ultra-fast file transfers, lag-free gaming, and high-res video streaming.

Personalization



Aura Sync



Aura Sync lighting offers full RGB lighting control with a variety of functional presets for built-in RGB LEDs as well as strips connected to the onboard RGB header, and it can all be synced with an ever-growing portfolio of Aura-capable ASUS hardware.

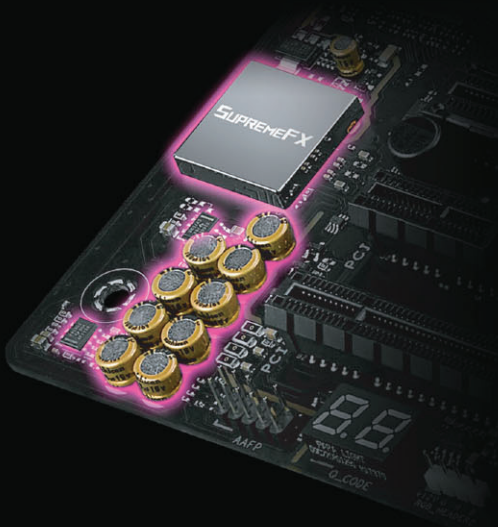
LiveDash OLED

This built-in panel displays useful information and customizable graphics.

*Exclusive to ROG Maximus XII Extreme & ROG Maximus XII Formula



Gaming Audio



SupremeFX

SupremeFX audio technology ensures pristine audio. It provides a flat frequency response for a neutral, detailed sound signature. If you're using a gaming headset, the front panel output is driven by two op amps to preserve audio quality.

Sonic Studio III

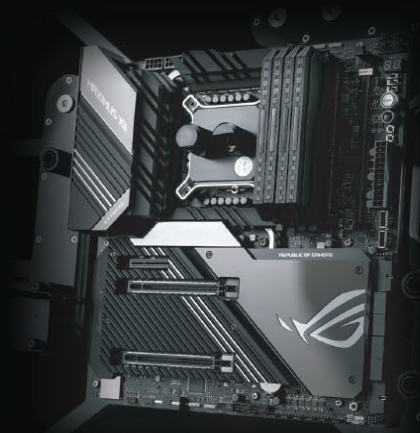
Sonic Studio III offers a range of EQ options and one-click presets that allow you to tailor audio to suit personal preferences or the characteristics of your devices. Make use of the new audio processing objects (APOs) technology to apply audio profiles to USB, HDMI and Bluetooth® devices.



ROG MAXIMUS XII SERIES

ROG MAXIMUS XII EXTREME

Maximus XII Extreme is expertly tuned to deliver ultimate performance and efficient reliability. As the name suggests, this motherboard is positioned for max performance water-cooling enthusiasts. Maximus XII Extreme effectively combines hardware and software for optimal overclocking performance, and features high-speed memory support and comprehensive water and fan cooling controls.



ROG MAXIMUS XII FORMULA

Maximus XII Formula is plumbed for custom liquid cooling and includes other enhancements essential to premium systems. The CrossChill EK III VRM block, co-developed with EK Water Blocks, helps cope with higher VRM loads associated with Intel Comet Lake CPUs.

ROG MAXIMUS XII HERO (WI-FI)

Maximus XII Hero is a gaming motherboard that packs substantial power, smart cooling and faster memory support. It's loaded with renowned ROG features and ready to perform and crafted for customization.



ROG MAXIMUS XII APEX

Maximus XII Apex is the premier overclocking platform for extreme OC enthusiasts looking to unlock the full potential of the latest-generation Intel Core processors. Its optimized layout, enhanced power delivery and control, and striking design with a myriad of customization options makes it ideal for overclockers, gamers, and PC builders.

7 World Records/10 Global First Places

6666 MHz
World Record DDR4 Frequency

7.7 GHz
All Core CPU Frequency

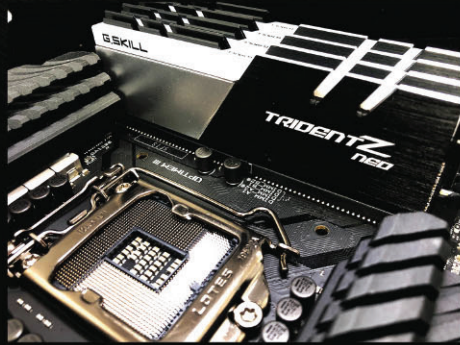
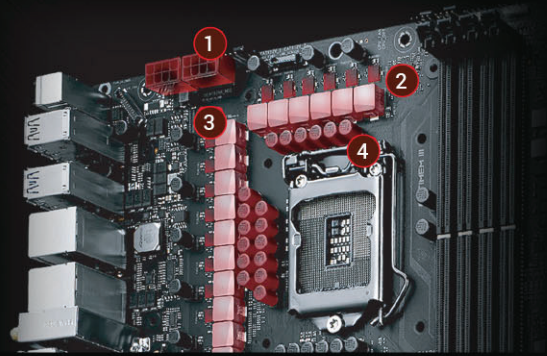
* World record and global first-place positions verified on 20th May 2020, by HWBOT.org



Power Delivery Enhancements

Modern CPU architectures up the ante for motherboard power design by transitioning from deep power-saving modes to full load almost instantaneously. The latest ROG VRM architecture rises to the challenge by utilizing teamed power stages to rapidly swing current, while maintaining exemplary thermal performance.

- ① ProCool II Power Connector
- ② 60A-90A Power Stage
- ③ MicroFine Alloy Chokes
- ④ 10K Japanese-made black metallic capacitors

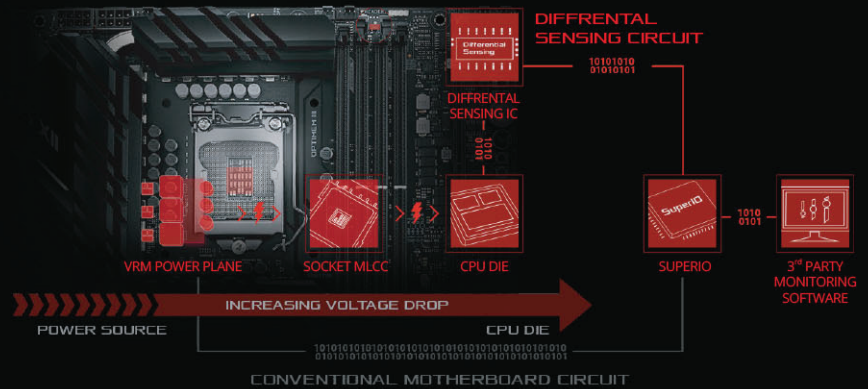


Optimum III

This proprietary memory trace layout improves signal integrity and mitigates noise, enabling memory kits of 3600 MHz and above to run at higher frequencies. It allows you to run at maximum frequency with higher-capacity memory kits, whereas other motherboards will trade off frequency for capacity.

Differential Sensing

ROG Maximus motherboards feature a differential-sensing circuit that simplifies overclocking and tuning by allowing you to track voltages more accurately.



ROG Water-Cooling Zone

Cooler by Design

Enjoy comprehensive control over fans and water pumps, via either Fan Expert 4 or the BIOS UEFI. Whether you're cooling with air or water, an Auto-Tuning mode intelligently configures all parameters with a single click.

ROG Water-Cooling Zone

Dual water-temperature headers and a flow-rate header feed information straight into the ASUS AI Suite software, allowing you to track coolant temperatures and the flow rate of the entire loop.

Connectivity

Marvell® AQtion AQC 107 10Gb	Quad M.2	USB 3.2 Gen 2 x 2

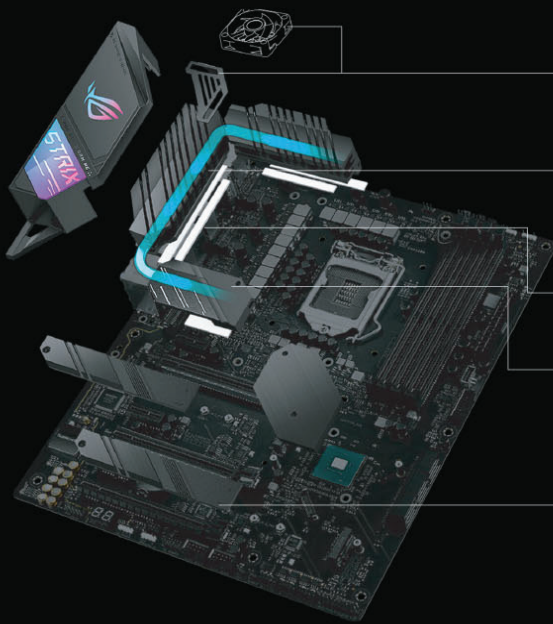
ROG STRIX

Z490 GAMING SERIES

ROG Strix Gaming motherboards pack essential ROG features in cutting-edge designs that features cyberpunk aesthetics and a wide range of form factors.



Cooling Innovation



Fan Bracket and MOS Fan

A bundled fan bracket and additional MOS fan provide additional cooling to areas around the VRM.

MOS Heatsink with U-shaped Heatpipe

The U-shaped heatpipe allows rapid and even heat transfer from the VRM to the extended MOS heatsink for better performance and wattage resistance. In addition, the MOS heatsink provides a large contact area for MOSFETs and chokes.

Thermal Pads

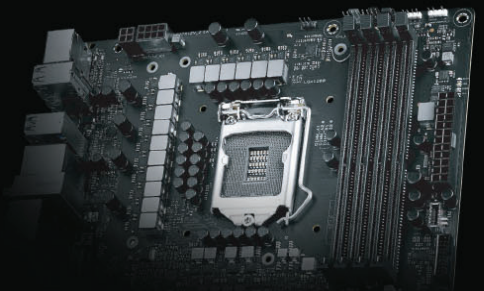
These transfer heat from the inductor and phase array to the heatsink.

Extended VRM Heatsink

The extended heatsink at the end of the heatpipe increases thermal mass to offset the additional heat generated by high voltage, lowering temperatures by up to 5°C.

Dual M.2 Heatsinks

The two heatsinks keep the M.2 SSD at the optimum operating temperature for consistent performance and reliability.



Performance

Digital power control and an array of power stages ensure ROG Strix series has the muscle to control the latest Intel CPUs.



ProCool II Power Connector

The ProCool II socket ensures flush contact with the PSU power lines and features a metal armor for improved heat dissipation. The connector's lower impedance helps prevent hotspots and improves reliability.



DIGI+ Power Control

The innovative DIGI+ Power Control voltage-regulator module (VRM) ensures ultrasmooth and clean power delivery to the CPU, and it's one of the finest in the industry.



Teamed Power Stages

Teamed-power-stage architecture combines high-side and low-side MOSFETs and drivers into a single package, delivering the power and efficiency that the latest Intel processors demand.



Alloy Choke & Capacitor

High-quality chokes and capacitors are engineered to resist extreme temperatures and provide up to 110% better performance than the industry standard.

*Actual specifications vary by model

Mini-ITX Innovation



Any mini-ITX build with an ROG Strix Z490-I Gaming motherboard is going to punch well above its weight, with boosted power delivery, innovative active cooling design, plus the all new triple-decker heatsink.

Double-Capacity DIMM support

ROG Strix Z490-I Gaming has a unique memory-trace design that supports up to 32 GB per DIMM slot to provide total memory capacity of 64 GB.



Triple-decker Heatsink

An innovative heatsink design stacks two M.2 heatsinks on top of a PCH heatsink, cleverly maximizing space while improving airflow to bring M.2 SSD temperatures down by up to 25° C for better stability and performance.



Aesthetic



Undeniable ROG Strix Looks

ROG Strix Z490 Gaming has a mirror-like stainless steel finish, complete with diagonal lines across the I/O shield and futuristic cyber-text.

Aura Sync

Aura Sync lighting offers full RGB lighting control with a variety of functional presets for built-in RGB LEDs as well as strips connected to the onboard RGB header, and it can all be synced with an ever-growing portfolio of Aura-capable ASUS hardware.



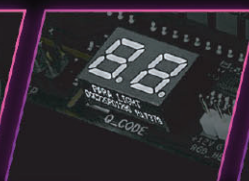
DIY-Friendly

A DIY-friendly design simplifies any PC-building experience with the ROG Strix Z490 Gaming motherboard. The pre-mounted I/O shield can be easily installed, and a Q-code gives you a quick reference for common problems. The FlexKey can be used to reset the system or to activate Aura lighting. In addition, BIOS FlashBack™ provides the simplest and safest (UEFI) BIOS update method: simply plug it into a USB port to perform the update.

*Actual specifications vary by model



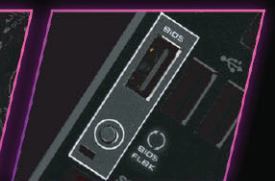
Pre-mounted I/O Shield



Q-Code



FlexKey



BIOS FlashBack™

TUF GAMING

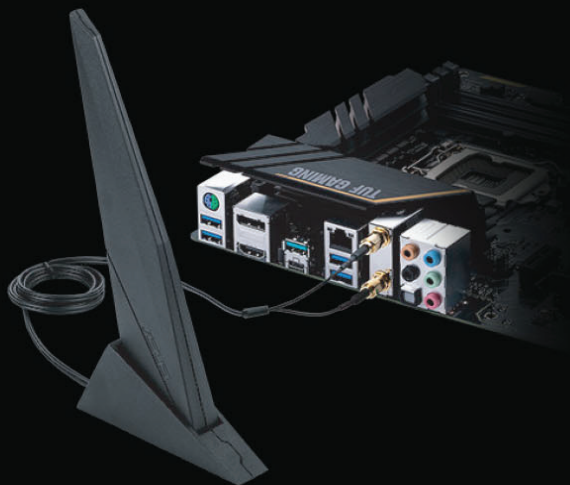
Z490 SERIES

TUF Gaming Z490-Plus (Wi-Fi) distills essential elements of the latest Intel® platform and combines them with game-ready features and proven durability. Engineered with military-grade components, an upgraded power solution and a comprehensive set of cooling options, this motherboard series delivers rock-solid performance with unwavering gaming stability.

When you build with a TUF Gaming motherboard, you also benefit from the TUF Gaming Alliance – an ASUS collaboration with trusted industry partners that ensures easier building, best compatibility, and complementary aesthetics from components to case.



Next-Gen Connectivity



Intel® WiFi 6 AX201

This WiFi 6 module is compatible with the 802.11ax standard and pushes theoretical peak bandwidth up to an incredible 2.4 Gbps. It's also optimized for more efficient operation on crowded networks with a lot of competing traffic.

Thunderbolt™ 3 support

An integrated Thunderbolt™ 3 header supports up to 40 Gbps of aggregate interface bandwidth. One Thunderbolt 3 port can support up to six devices in a daisy chain, or can provide up to 100 watts of power to fast-charge devices.

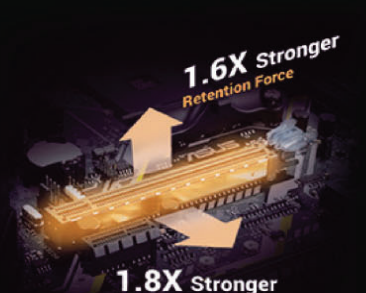
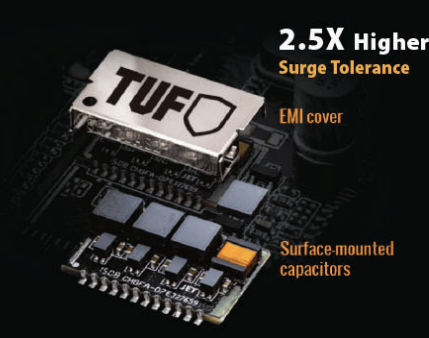

USB 3.2 Gen 2 Type-A & Type-C®

These ports are ideal for gaming rigs loaded with peripherals, including a front-panel USB Type-C connector with fast USB 3.2 Gen 2 connectivity for compatible cases.

Unrivaled Reliability and Stability

Each TUF motherboard boasts TUF Protection and military-grade TUF components to ensure reliability and stability.

TUF Protection & TUF Components

 <p>1.6X Stronger Retention Force</p> <p>1.8X Stronger Shearing Test</p> <h3>SafeSlot</h3> <p>Protect your graphics card investment.</p>	 <p>2.5X Higher Surge Tolerance</p> <p>EMI cover</p> <p>Surface-mounted capacitors</p> <h3>TUF LANGuard</h3> <p>Best surge protection.</p>	 <p>TUF MOS</p> <p>TUF CAP</p> <p>TUF CHOKES</p> <p>Improve system stability.</p>
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ProArt

Z490-CREATOR 10G

ASUS ProArt motherboards are built to deliver optimal performance, ultrafast connectivity and trusted stability that empowers content creators of all types.



Ultrafast Connectivity



Dual Thunderbolt™ 3 Type-C

These two ports deliver up to 40 Gbps of aggregate interface bandwidth, enabling ultra-fast data transfer.

HYPER 10G LAN Card

The LAN card is designed to meet the high standards of content creators and power users, delivering speed that are up to 10 times faster than standard Gigabit Ethernet.

2.5 Gigabit Intel® Ethernet

Onboard Intel I225-V Ethernet lets you take advantage of robust bandwidth that allows for easy, smooth streaming of high-resolution videos and incredibly fast file transfers.

Intelligent Optimization



CreationFirst

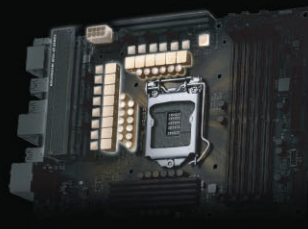
This network-optimization software allows you to prioritize applications for more efficient workflows.



ProArt Creator Hub

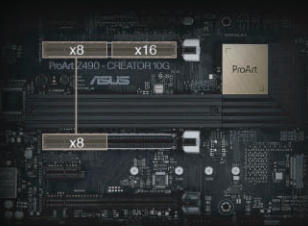
This one-stop hub offers central control of all connected ProArt series products, including motherboards and displays.

Powerful Performance



Robust Power Design

Digital power control and an array of DrMOS power stages ensure that ASUS ProArt Z490-CREATOR 10G has the strength to handle powerful Intel CPUs.



Multi-GPU Support

Three PCIe® 3.0 x16 slots for high-powered graphics cards enable enhanced performance for design, modeling, simulation and rendering applications.

PRIME Z490 SERIES

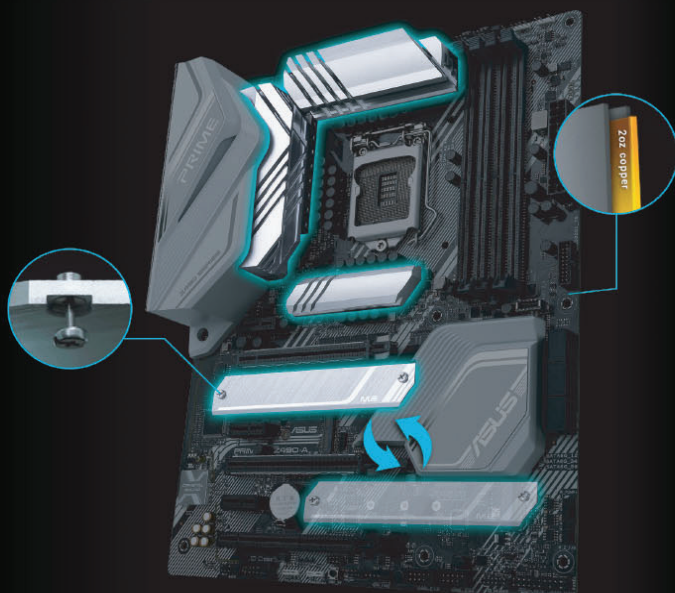


ASUS Prime Z490 series motherboards are expertly engineered to unleash the full potential of the latest Intel® Core™ processors. Along with robust power design and comprehensive cooling solutions, each motherboard offers intelligent tuning options to provide daily users and DIY PC builders with a range of options for tailoring performance.

Storage & Connectivity

Dual M.2 (up to 32 Gbps)	USB 3.2 Gen 2 Type-A & Type-C Ports	Thunderbolt™ 3 Header
<p>The two M.2 slots support data-transfer speeds of up to 32 Gbps via x4 PCI Express® 3.0 bandwidth, enabling quicker boot-up and app load times with OS or application drives.</p> <p><small>* Actual transmission speeds will be lower than the theoretical maximum speed.</small></p>	<p>These ports are ideal for PC builds loaded with peripherals, including a front-panel USB Type-C™ connector with fast USB 3.2 Gen 2 connectivity for compatible cases.</p>	<p>The integrated Thunderbolt 3 header in Prime Z490-A is compatible with ThunderboltEX3-TR, an Intel-certified Thunderbolt 3 add-on card that enables bi-directional speeds of up to 40 Gbps via a single cable. In addition, the header supports up to six devices in a daisy chain and provide up to 100 watts of power to fast-charge devices.</p>

Cooling Design



M.2 Heatsink

A thermal pad underneath the heatsink connects to the M.2 drive and serves to dissipate heat, helping to prevent the throttling that can occur with sustained transfers. The heatsink is held in place by easily removable captive screws, giving you the flexibility to move it to another M.2 slot.

VRM Heatsink and Thermal Pads

These improve heat transfer from the MOSFETs and chokes for better cooling performance. A bundled fan holder provides additional cooling options.

Stack Cool 3+

This cooling solution utilizes 2-ounce copper layers to draw heat away from critical components, to keep them operating at optimal temperatures.



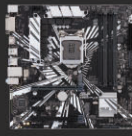
Model Name		ROG MAXIMUS XII EXTREME	ROG MAXIMUS XII FORMULA	ROG MAXIMUS XII HERO (WI-FI)	ROG STRIX Z490-E GAMING	ROG STRIX Z490-F GAMING	ROG STRIX Z490-G GAMING (WI-FI)
CPU Socket		LGA 1200	LGA 1200	LGA 1200	LGA 1200	LGA 1200	LGA 1200
Chipset		Z490	Z490	Z490	Z490	Z490	Z490
Form factor		EATX	ATX	ATX	ATX	ATX	Micro ATX
Teamed power architecture		16	16	14+2	14+2	12+2	12+2
Memory	# slots, Maximum capacity	4 x DIMM, Max. 128GB	4 x DIMM, Max. 128GB	4 x DIMM, Max. 128GB	4 x DIMM, Max. 128GB	4 x DIMM, Max. 128GB	4 x DIMM, Max. 128GB
	Memory speed(MHz)	4800+ (OC)	4800+ (OC)	4800+ (OC)	4600+ (OC)	4600+ (OC)	4600+ (OC)
	OptiMem	OptiMem III	OptiMem III	OptiMem III	OptiMem II	OptiMem II	OptiMem II
Graphics output		-	-	HDMI 1.4	DP 1.4 / HDMI 1.4	DP 1.4 / HDMI 1.4	DP 1.4 / HDMI 1.4
Multi-GPU support		2-way SLI/ 3-way CFX	2-way SLI/ 3-way CFX	2-way SLI/ 3-way CFX	2-way SLI/ 3-way CFX	2-way SLI/ 3-way CFX	2-way CFX
Expansion slots	PCIe 3.0 x16	2 x PCIe 3.0 x16 SafeSlots (@x16 or x8/x8)	2 x PCIe 3.0 x16 SafeSlots (@x16 or x8/x8) 1 x PCIe 3.0 x16 (max. @x4)	2 x PCIe 3.0 x16 SafeSlots (@x16 or x8/x8) 1 x PCIe 3.0 x16 (max. @x4)	2 x PCIe 3.0 x16 SafeSlots (@x16 or x8/x8) 1 x PCIe 3.0 x16 (max. @x4)	2 x PCIe 3.0 x16 SafeSlot (@x16 or x8/x8) 1 x PCIe 3.0 x16 (max. @x4)	1 x PCIe 3.0 x16 SafeSlot (@x16) 1 x PCIe 3.0 x16 (max. @x4)
	PCIe 3.0 x4	1	-	-	-	-	-
	PCIe x1	-	1	3	3	3	1
Thunderbolt 3 support		1*header ThunderboltEX 3-TR Card bundled	1*header	1*header	1*header	1*header	-
Storage & Connectivity	SATA 6Gb/s	8	6	6	6	6	6
	M.2	1 x 2280 (PCIe 3.0 x4 & SATA) 1 x 2280 (PCIe 3.0 x4) 2 x 22110 (PCIe 3.0 x4) @ DIMM.2	2 x 2280 (PCIe 3.0 x4) 1 x 22110 (PCIe 3.0 x4 & SATA)	2 x 22110 (PCIe 3.0 x4 & SATA) 1 x 2280 (PCIe 3.0 x4)	1*M.2 22110 (PCIe 3.0 x4 & SATA) 1*M.2 22110 (PCIe 3.0 x4)	1*M.2 22110 (PCIe 3.0 x4 & SATA) 1*M.2 22110 (PCIe 3.0 x4)	1 x 22110 (PCIe 3.0 x4) 1 x 2280 (PCIe 3.0 x4 & SATA)
	front panel TypeC™ connector	2	1	1	1	1	1
	USB 3.2 GEN 2x2	1 (1@B)	-	-	-	-	-
	USB 3.2 GEN 2	3 (2A1C)	4 (3A1C)	4 (3A1C)	4 (3A1C)	4 (3A1C)	2 (1A1C)
	USB 3.2 GEN 1	10 (6@B, 4@F)	10 (6@B, 4@F)	6 (4@B, 2@F)	4 (2@F, 2@B)	4 (2@F, 2@B)	6 (4@B, 2@F)
USB 2.0	6 (2@B, 4@F)	4 (4@F)	6 (2@B, 4@F)	8 (4@F, 4@B)	6 (4@F, 2@B)	6 (2@B, 4@F)	
Wireless		Intel® Wi-Fi 6 AX201	Intel® Wi-Fi 6 AX201	Intel® Wi-Fi 6 AX201	Intel® Wi-Fi 6 AX201	M.2 Socket (Key E) only	Intel® Wi-Fi 6 AX201
Networking		Marvell® AQtion AQC107 10Gb Intel® I225-V 2.5Gb	Marvell® AQtion AQC107 10Gb Intel® I225-V 2.5Gb	Intel® I219-V 1Gb Marvell® AQtion AQC111C 5Gb	Intel® I225-V 2.5Gb	Intel® I225-V 2.5Gb	Intel® I225-V 2.5Gb
Audio		SupremeFX S1220	SupremeFX S1220	SupremeFX S1220	SupremeFX S1220A	SupremeFX S1220A	SupremeFX S1220A
Audio AMP		ESS™ ES9023P DAC + RC4580 OP AMP	ESS™ ES9023P DAC + RC4580 OP AMP	ESS™ ES9023P DAC + RC4580 OP AMP	V	V	Dual Op AMPs
Audio effects		Sonic Studio III + Sonic Studio Virtual Mixer Sonic Radar III DTS® Sound Unbound	Sonic Studio III + Sonic Studio Virtual Mixer Sonic Radar III DTS® Sound Unbound	Sonic Studio III + Sonic Studio Virtual Mixer Sonic Radar III DTS® Sound Unbound	Sonic Studio III + Sonic Studio Virtual Mixer Sonic Radar III DTS® Sound Unbound	Sonic Studio III + Sonic Studio Virtual Mixer Sonic Radar III DTS® Sound Unbound	Sonic Studio III + Sonic Studio Virtual Mixer Sonic Radar III DTS® Sound Unbound
Cooling		Onboard Fan headers: 14 Fan ext. card bundled: FAN EXT Card II Heatsinked M.2: 4	Onboard Fan headers: 8 Fan ext. card bundled: - Heatsinked M.2: 2	Onboard Fan headers: 8 Fan ext. card bundled: - Heatsinked M.2: 3	Onboard Fan headers: 7 Fan ext. card bundled: - Heatsinked M.2: 2	Onboard Fan headers: 7 Fan ext. card bundled: - Heatsinked M.2: 2	Onboard Fan headers: 6 Fan ext. card bundled: - Heatsinked M.2: 1
Water Cooling Zone		Water flow monitoring: V Water temp detection: V	Water flow monitoring: V Water temp detection: V	Water flow monitoring: V Water temp detection: V	Water flow monitoring: - Water temp detection: -	Water flow monitoring: - Water temp detection: -	Water flow monitoring: - Water temp detection: -
AI Overclocking		V	V	V	V	V	V
AI Networking (GameFirst VI)		V	V	V	V	V	V
AI Cooling		V	V	V	V	V	V
Aura Sync		V	V	V	V	V	V
RGB header		2*ARGB, 2*RGB Headers	2*ARGB, 2*RGB Headers	2*ARGB, 2*RGB Headers	2*ARGB, 2*RGB Headers	2*ARGB, 2*RGB Headers	2*ARGB, 2*RGB Headers



Model Name		ROG STRIX Z490-I GAMING	TUF GAMING Z490-PLUS (WI-FI)	ProArt Z490-CREATOR 10G	PRIME Z490-P	PRIME Z490M-PLUS
CPU Socket		LGA 1200	LGA1200	LGA1200	LGA 1200	LGA 1200
Chipset		Z490	Z490	Z490	Z490	Z490
Form factor		Mini ITX	ATX	ATX	ATX	mATX
Teamed power architecture		8+2	12+2	12+2	10+1	8+1
Memory	# slots, Maximum capacity	2 x DIMM, Max. 64GB	4 x DIMM, Max. 128GB	4 x DIMM, Max. 128GB	4 x DIMM, Max. 128GB	4 x DIMM, Max. 128GB
	Memory speed(MHz)	4800+ (OC)	4600+ (OC)	4600+ (OC)	4600+ (OC)	4400+ (OC)
	OptiMem	OptiMem II	OptiMem II	OptiMem II	OptiMem II	OptiMem
Graphics output		DP1.4 / HDMI2.0a	DP 1.4 / HDMI 1.4	DP 1.4 / HDMI1.4	DP 1.4 /HDMI 1.4	DP 1.4/HDMI 1.4/DVI
Multi-GPU support		-	2-way CFX	3-way CFX	2-way CFX	2-way CFX
Expansion slots	PCIe 3.0 x16	1 x PCIe 3.0 x16 SafeSlot (@x16)	1 x PCIe 3.0 x16 safeslot (@x16) 1 x PCIe 3.0 x16 (max. @x4)	2 x PCIe 3.0 x16 SafeSlots (@x16, x8/x8) 1 x PCIe 3.0 x16 (max. @x4)	(@x16) 1 x PCIe 3.0 x16 (max. @x4)	(@x16) 1 x PCIe 3.0 x16 (max. @x4)
	PCIe 3.0 x4	-	-	-	-	-
	PCIe x1	-	3	2	4	2
Thunderbolt 3 support		-	1*header	(2*Type-C + 2*DP IN)	1*header	-
Storage & Connectivity	SATA 6Gb/s	4	6	6	4	5
	M.2	2*M.2 2280 (PCIe 3.0 x4 & SATA)	1 x 22110 (PCIe 3.0 x4 & SATA) 1 x 2280 (PCIe 3.0 x4 & SATA)	1 x 22110 (PCIe 3.0 x4 & SATA) 1 x 22110 (PCIe 3.0 x4)	1 x 22110 (PCIe 3.0 x4 & SATA) 1 x 2280 (PCIe 3.0 x4 & SATA)	1* 22110 (PCIe 3.0 x4) 1*2280 (PCIe 3.0 x4 & SATA)
	front panel TypeC™ connector	1	1	1	-	-
	USB 3.2 GEN 2x2	-	-	-	-	-
	USB 3.2 GEN 2	4(3A+1C)	-	6 (4A2C)	2 (2A)	2 (1A1C)
	USB 3.2 GEN 1	4(2A@B, 2A@F)	6 (4@B,2@F)	5 (3@F, 2A1C; 2@B)	6 (2@B, 4@F)	6 (2@B, 4@F)
	USB 2.0	4(2A@B, 2A@F)	3 (3@F)	4 (4@F)	6 (2@B, 4@F)	6 (2@B, 4@F)
Wireless		Intel® Wi-Fi 6 AX201	Intel® Wi-Fi 6 AX201	-	M.2 Socket (Key E) only	-
Networking	Ethernet	Intel® I225-V 2.5Gb	Intel® I219-V 1Gb	® I225-V 2.5Gb Ethernet HYPER 10G LAN CARD	Realtek RTL8111H 1Gb	Intel® I219-V 1Gb
Audio	Audio codec	SupremeFX S1220A	Realtek S1200A	Realtek S1220A	Realtek ALC887	Realtek ALC887
	Audio AMP	Dual Op AMPs	-	Internal AMP	-	-
	Audio effects	Sonic Studio III + Sonic Studio Virtual Mixer Sonic Radar III DTS® Sound Unbound	DTS Custom for GAMING Headsets	-	-	-
Cooling	Onboard Fan headers	3	6	6	5	5
	Fan ext. card bundled	-	-	-	-	-
	Heatsinked M.2	2	1	1	-	-
Water Cooling Zone	Water flow monitoring	-	-	-	-	-
	Water temp detection	-	-	-	-	-
AI Overclocking		V	-	V	-	-
AI Networking (GameFirst VI)		V	-	-	-	-
AI Cooling		V	-	V	-	-
Aura Sync		V	V	V	V	V
RGB header		1*ARGB, 1*RGB Header	1*ARGB, 2*RGB Headers	1*ARGB, 2*RGB Headers	1*ARGB, 2*RGB Headers	1*RGB Header



Model Name	PRIME X299 EDITION 30	PRIME X299 DELUXE II	ROG MAXIMUS XI HERO (WI-FI)	ROG STRIX Z390-E GAMING	ROG STRIX Z390-I GAMING
Chipset	X299	X299	Z390	Z390	Z390
Form Factor	ATX	ATX	ATX	ATX	Mini-ITX
Memory Slots / Maximum	8 / 256 GB DDR4	8 / 256 GB DDR4	4 / 64 GB DDR4	4 / 64 GB DDR4	2 / 64 GB DDR4
Memory Frequency (MHz)	4266+(OC)	4266+(OC)	4400+(OC)	4266+(OC)	4600+(OC)
Integrated Graphics Output	HDMI	HDMI	DP / HDMI	DP / HDMI	DP / HDMI 2.0
Multi-GPU Support	2-Way SLI, 3-Way CFX	2-Way SLI, 3-Way CFX	2-Way SLI, 3-Way CFX	2-Way SLI/ 3-Way CFX	N/A
PCIe 3.0 x16 Slots	3	3	3	2	1
PCIe x4 Slots	0	0	-	-	-
PCIe x1 Slots	2	2	3	3	-
Thunderbolt 3 Support	TB Header	TB Header	-	-	-
SATA 6Gb/s	8	8	6	6	4
32 Gb/s M.2	5	5	2	2	2
M.2 Cooling Solution	DIMM.2 HS	DIMM.2 HS	M.2 heatsink	M.2 heatsink	Double-decker heatsink
USB 3.1 Gen2 Front Panel Connector	5 x USB 3.2 Gen 1	5 x USB 3.2 Gen 1	1	1	1
USB 3.1 Gen2 Rear (Type-A / Type-C)	1/4	1/4	3/1	3/1	2/0
USB 3.0 (Rear / Internal)	0	0	2/2	2/2	3/2
BIOS Flashback	V	V	V	-	-
5-Way Optimization	V	V	V	V	V
USB 2.0 (Rear / Internal)	0 / 4	0 / 4	2/4	2/4	2/2
Gigabit Ethernet	Intel I219-V, Aquantia 5G Lan	Intel I219-V, Aquantia 5G Lan	Intel I219-V	Intel I219-V	Intel I219-V
Wireless	Intel® Wi-Fi 6 AX200	Intel® Wi-Fi 6 AX200	Intel® Wireless-AC 9560	Intel® Wireless-AC 9560	Intel® Wireless-AC 9560
Bluetooth	V	V	V	V	V
Networking Software	GameFirst V	GameFirst V	GameFirst V	GameFirst V	GameFirst V
Audio	Realtek® S1220A	Realtek® S1220A	SupremeFX S1220	SupremeFX S1220A	SupremeFX S1220A
Audio Amp	V	V	ESS ES9023P + TI RC4850	RC4580 + OPA1688	RC4580 + OPA1688
Optical S/PDIF Output	V	V	V	V	V
Audio Effect	DTS X®Ultra, Audio Shielding	DTS X®Ultra, Audio Shielding	Sonic Studio III+ Sonic Studio Link, Sonic Radar I	Sonic Studio III, Sonic Radar III	Sonic Studio III, Sonic Radar III
PWM/DC Fan Headers	4	4	4	4	3
Ext Fan Card Support	V	V	V	V	-
Hybrid Heatsink (CrossChill EK II)	-	-	-	-	-
Water-Cooling Zone (W_IN/OUT/FLOW)	V	V	V	-	-
Dedicated All-In-One Pump Header	-	-	V	V	V
Dedicated Water Pump+ Header	2	2	V	V	-
LED Lighting	Aura Sync RGB	Aura Sync RGB	Aura Sync RGB	Aura Sync RGB	Aura Sync RGB
4-Pin RGB Header	2	2	2	1	1
Addressable RGB Header	2	2	2	2	1
LiveDash OLED	V	V	-	-	-
Pre-Mounted I/O Shield	V	V	V	V	V
Backplate	V	V	-	-	-



Model Name	TUF Z390-PLUS GAMING (WI-FI)	PRIME Z390M-PLUS	PRIME Z390-P	TUF GAMING H470-PRO (WI-FI)	ROG STRIX H370-F GAMING
Chipset	Z390	Z390	Z390	H470	H370
Form Factor	ATX	mATX	mATX	ATX	ATX
Memory Slots / Maximum	4 / 64 GB DDR4	4 / 64 GB DDR4	4 / 64 GB DDR4	4 / 128 GB DDR4	4 / 64 GB DDR4
Memory Frequency (MHz)	4266+ MHz (OC)	4266+(OC)	4266+(OC)	2933 MHz	2666 MHz
Integrated Graphics Output	DP / HDMI	HDMI / DVI	HDMI / DP	DP 1.4 / HDMI 1.4b	DP / HDMI / D-sub
Multi-GPU Support	2-Way CFX	CFX	2-Way-CFX	2-Way CFX	2-Way CFX
PCIe 3.0 x16 Slots	1	1	1	1	1
PCIe x4 Slots	1	1	1	1	1
PCIe x1 Slots	4	2	4	4	4
Thunderbolt 3 Support	-	-	-	-	-
SATA 6Gb/s	6	4	4	5	6
32 Gb/s M.2	2	2	2	1	1
M.2 Cooling Solution	M.2 heatsink	-	-	-	-
USB 3.1 Gen2 Front Panel Connector	-	-	-	-	-
USB 3.1 Gen2 Rear (Type-A / Type-C)	2/0	2/0	2/0	2/0	2/0
USB 3.0 (Rear / Internal)	4/4	4/4	4/4	3/2	3/2
BIOS Flashback	-	-	-	-	-
5-Way Optimization	Fan Xpert 4 Only	EPU + Fan Xpert 4	-	Fan Xpert 4 Core Only	Fan Xpert 4 Core Only
USB 2.0 (Rear / Internal)	0/3	0/4	3/2	2/4	2/4
Gigabit Ethernet	Intel I219-V	Intel I219-V	Realtek® RTL8111H	Intel I219-V	Intel I219-V
Wireless	2x2 MU-MIMO 802.11ac	-	-	-	-
Bluetooth	V	-	-	V	V
Networking Software	TURBO LAN	-	-	-	-
Audio	Realtek S1200A	Realtek ALC887	Realtek ALC887	SupremeFX S1220A	SupremeFX S1220A
Audio Amp	-	-	-	-	Dual Headphone
Optical S/PDIF Output	-	-	-	-	-
Audio Effect	DTS Custom	-	-	Sonic Studio III, Sonic Radar III	Sonic Studio III, Sonic Radar III
PWM/DC Fan Headers	5	4	4	3xCHA FAN (PWM& DC mode) 1xCPU FAN (PWM mode)	3xCHA FAN (PWM& DC mode) 1xCPU FAN (PWM mode)
Ext Fan Card Support	-	-	-	-	5
Hybrid Heatsink (CrossChill EK II)	-	-	-	-	-
Water-Cooling Zone (W_IN/OUT/FLOW)	-	-	-	-	-
Dedicated All-In-One Pump Header	V	V	V	V	V
Dedicated Water Pump+ Header	-	-	-	-	-
LED Lighting	Aura Sync RGB	-	-	Aura Sync RGB	Aura Sync RGB
4-Pin RGB Header	2	-	-	2	1
Addressable RGB Header	-	-	-	V	V
LiveDash OLED	-	-	-	V	V
Pre-Mounted I/O Shield	-	-	-	V	V
Backplate	-	-	-	-	-



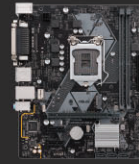
Model Name	TUF H370-PRO GAMING	PRIME H370-PLUS	ROG STRIX B460-F GAMING	ROG STRIX B460-I GAMING	TUF GAMING B460-PRO (WI-FI)
Chipset	H370	H370	B460	B460	B460
Form Factor	ATX	ATX	ATX	Mini ITX	ATX
Memory Slots / Maximum	4 / 64 GB DDR4	4 / 64 GB DDR4	4 / 128 GB DDR4	4 / 64 GB DDR4	4 / 128 GB DDR4
Memory Frequency (MHz)	2666 MHz	2666 MHz	2933+(OC)	2933+(OC)	2933+(OC)
Integrated Graphics Output	DP / HDMI / D-sub	HDMI / DVI / D-sub	HDMI 1.4b / DP 1.4	HDMI 1.4b / DP 1.4	HDMI 1.4b / DP 1.4
Multi-GPU Support	CFX	2-Way CFX	2-Way CFX	-	2-Way CFX
PCIe 3.0 x16 Slots	1	1	1	1	1
PCIe x4 Slots	0	1	1	-	1
PCIe x1 Slots	4	2	3	-	3
Thunderbolt 3 Support	-	-	1	-	-
SATA 6Gb/s	6	6	6	4	6
32 Gb/s M.2	1	2	2	2	2
M.2 Cooling Solution	-	-	-	-	-
USB 3.2/3.1 Gen2 Front Panel Connector	-	-	-	-	-
USB 3.2/3.1 Gen1 Rear (Type-A / Type-C)	2/0	2/0	6/1	6/1	4/4
USB 3.0/2.0 (Rear / Internal)	3/2	2/4	1/2	1/1	4/2
BIOS Flashback	-	-	-	-	-
5-Way Optimization	Fan Xpert 4 Core Only	Fan Xpert 2+ Only	EPU + Fan Xpert 4	EPU + Fan Xpert 4	EPU + Fan Xpert 4
USB 2.0 (Rear / Internal)	2/4	2/4	0/4	0/4	0/4
Gigabit Ethernet	Intel I219-V	Realtek 8111H	Intel I219-V	Intel I219-V	Intel I219-V
Wireless	Intel® Wireless-AC 9560	-	-	Intel® Wi-Fi 6 AX200	Intel® Wi-Fi 6 AX200
Bluetooth	V	-	-	-	Bluetooth v5.1
Networking Software	TURBO LAN	-	ASUS LANGuard	ASUS LANGuard	-
Audio	Realtek ALC887	Realtek ALC887	ROG SupremeFX 7.1	ROG SupremeFX 7.1	Realtek ALC S1200A
Audio Amp	-	-	-	-	-
Optical S/PDIF Output	-	-	-	-	-
Audio Effect	DTS Custom for GAMING headsets	-	SupremeFX Shielding™ Technology	SupremeFX Shielding™ Technology Sonic Radar III Sonic Studio III + Sonic Studio Virtual Mixer	Exclusive DTS Custom for GAMING Headsets
PWM/DC Fan Headers	4	4	4	4	4
Ext Fan Card Support	-	-	-	-	-
Hybrid Heatsink (CrossChill EK II)	-	-	-	-	-
Water-Cooling Zone (W_IN/OUT/FLOW)	-	-	-	-	-
Dedicated All-In-One Pump Header	V	V	V	V	V
Dedicated Water Pump+ Header	-	-	-	-	-
LED Lighting	Aura Sync RGB	Aura Sync RGB	Aura Sync RGB	Aura Sync RGB	Aura Sync RGB
4-Pin RGB Header	1	1	2	1	2
Addressable RGB Header	-	-	2	1	1
LiveDash OLED	-	-	-	-	-
Pre-Mounted I/O Shield	-	-	-	-	-
Backplate	-	-	-	-	-



Model Name	TUF GAMING B460M-PLUS	EX-B460M-V5	PRIME B460M-A	PRIME B460M-K
Chipset	B460	B460	B460	B460
Form Factor	ATX	mATX	mATX	mATX
Memory Slots / Maximum	4 / 128 GB DDR4	2 / 64 GB DDR4	4 / 128 GB DDR4	2 / 32 GB DDR4
Memory Frequency (MHz)	2933+(OC)	2933+(OC)	2933+(OC)	2666+(OC)
Integrated Graphics Output	HDMI 1.4b / DP 1.4	HDMI / D-Sub	HDMI 1.4b / DP 1.4 / DVI-D	DVI-D / D-Sub
Multi-GPU Support	2-Way CFX	-	CFX	CFX
PCIe 3.0 x16 Slots	1	1	1	1
PCIe x4 Slots	1	-	-	-
PCIe x1 Slots	1	2	2	2
Thunderbolt 3 Support	-	-	-	-
SATA 6Gb/s	6	4	6	6
32 Gb/s M.2	-	2	2	2
M.2 Cooling Solution	-	-	-	-
USB 3.2/3.1 Gen2 Front Panel Connector	-	-	-	2
USB 3.2/3.1 Gen1 Rear (Type-A / Type-C)	4/4	4/4	4/2	4/2
USB 3.0 (Rear / Internal)	-	-	-	-
BIOS Flashback	128 Mb	128 Mb	128 Mb	128 Mb
5-Way Optimization	EPU + Fan Xpert 4	EPU + Fan Xpert 4	EPU + Fan Xpert 4	EPU + Fan Xpert 4
USB 2.0 (Rear / Internal)	2/2	2/2	2/2	6/2
Gigabit Ethernet	Intel I219-V	Realtek® RTL8111H	Realtek® RTL8111H	Realtek® RTL8111H
Wireless	-	-	-	-
Bluetooth	-	-	-	-
Networking Software	-	-	-	-
Audio	Realtek ALC S1200A	Realtek ALC887	Realtek ALC887	Realtek ALC887
Audio Amp	-	-	-	-
Optical S/PDIF Output	-	-	-	-
Audio Effect	Exclusive DTS Custom for GAMING Headsets	-	Audio Shielding	Audio Shielding
PWM/DC Fan Headers	4	4	4	4
Ext Fan Card Support	-	-	-	-
Hybrid Heatsink (CrossChill EK II)	-	-	-	-
Water-Cooling Zone (W_IN/OUT/FLOW)	-	-	-	-
Dedicated All-In-One Pump Header	V	V	V	V
Dedicated Water Pump+ Header	-	-	-	-
LED Lighting	Aura Sync RGB	-	Aura Sync RGB	-
4-Pin RGB Header	2	-	2	-
Addressable RGB Header	1	-	1	-
LiveDash OLED	-	-	-	-
Pre-Mounted I/O Shield	-	-	-	-
Backplate	-	-	-	-



Model Name	ROG STRIX B365-F gaming	TUF B365M-PLUS GAMING (WI-FI)	PRIME B365M-A	PRIME B365M-K
Chipset	B365	B365	B365	B365
Form Factor	mATX	mATX	mATX	mATX
Memory Slots / Maximum	4 / 64 GB DDR4	4 / 64 GB DDR4	4 / 64 GB DDR4	2 / 32GB DDR4
Memory Frequency (MHz)	2666 MHz	2666 MHz	2666 MHz	2666 MHz
Integrated Graphics Output	HDMI / DVI / D-sub	HDMI / DVI-D / DisplayPort ports	HDMI / DVI / D-sub	DVI-D / D-Sub
Multi-GPU Support	-	CFX	-	-
PCIe 3.0 x16 Slots	1	1	1	1
PCIe x4 Slots	-	1	-	-
PCIe x1 Slots	2	2	2	2
Thunderbolt 3 Support	-	-	-	-
SATA 6Gb/s	6	6	6	6
32 Gb/s M.2	2	2	2	2
M.2 Cooling Solution	-	-	-	-
USB 3.1 Gen2 Front Panel Connector	-	-	-	-
USB 3.1 Gen2 Rear (Type-A / Type-C)	4/1	2/0	4/1	4/2
USB 3.0 (Rear / Internal)	1/2	2/4	1/2	2/4
BIOS Flashback	-	-	-	V
5-Way Optimization	Fan Xpert 2+ Only	Fan Xpert 2+ Only	Fan Xpert 2+ Only	Fan Xpert 2+ Only
USB 2.0 (Rear / Internal)	2/4	2/4	2/4	2/4
Gigabit Ethernet	Realtek® RTL8111H	Intel® I219V	Realtek® RTL8111H	Realtek® RTL8111H
Wireless	-	Realtek 8821CE	-	-
Bluetooth	-	-	-	-
Networking Software	-	-	-	-
Audio	Realtek ALC887	Realtek ALC1200	Realtek ALC887	Realtek ALC887
Audio Amp	-	-	-	-
Optical S/PDIF Output	-	-	-	-
Audio Effect	-	-	-	-
PWM/DC Fan Headers	2xCHA FAN (PWM& DC mode) 1xCPU FAN (PWM mode)	3xCHA FAN (PWM& DC mode) 1xCPU FAN (PWM mode)	2xCHA FAN (PWM& DC mode) 1xCPU FAN (PWM mode)	2xCHA FAN (PWM& DC mode) 1xCPU FAN (PWM mode)
Ext Fan Card Support	-	-	-	-
Hybrid Heatsink (CrossChill EK II)	-	-	-	-
Water-Cooling Zone (W_IN/OUT/FLOW)	-	-	-	-
Dedicated All-In-One Pump Header	-	-	-	-
Dedicated Water Pump+ Header	-	-	-	-
LED Lighting	Aura Sync RGB	Single Color (Yellow)	Aura Sync RGB	Aura Sync RGB
4-Pin RGB Header	1	-	1	1
Addressable RGB Header	-	-	-	-
LiveDash OLED	-	-	-	-
Pre-Mounted I/O Shield	-	-	-	-
Backplate	-	-	-	-



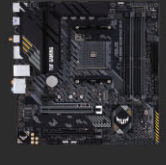
Model Name	PRIME H410M-E	PRIME H410M-K	PRIME H310M-D R2.0/CSM	PRIME H310M-K R2.0
Chipset	H410	H410	H310	H310
Form Factor	mATX	mATX	mATX	mATX
Memory Slots / Maximum	2 / 32 GB DDR4	2 / 32 GB DDR4	2 / 32 GB DDR4	2 / 32 GB DDR4
Memory Frequency (MHz)	2666 MHz	2666 MHz	2666 MHz	2666 MHz
Integrated Graphics Output	HDMI / D-sub	DVI-D/D-Sub	HDMI / D-sub	DVI-D/D-Sub
Multi-GPU Support	-	-	-	-
PCIe 3.0 x16 Slots	1	1	1	1
PCIe x4 Slots	-	-	-	-
PCIe x1 Slots	2	2	2	2
Thunderbolt 3 Support	-	-	-	-
SATA 6Gb/s	4	4	4	4
32 Gb/s M.2	1 (10Gb/s)	-	1 (10Gb/s)	-
M.2 Cooling Solution	-	-	-	-
USB 3.1 Gen2 Front Panel Connector	-	-	-	-
USB 3.1 Gen2 Rear (Type-A / Type-C)	-	-	-	-
USB 3.0 (Rear / Internal)	2/2	2/2	2/2	2/2
BIOS Flashback	-	-	-	-
5-Way Optimization	Fan Xpert Only	Fan Xpert Only	Fan Xpert Only	Fan Xpert Only
USB 2.0 (Rear / Internal)	2/4	2/4	2/4	2/4
Gigabit Ethernet	Realtek 8111H	Realtek 8111H	Realtek 8111H	Realtek 8111H
Wireless	-	-	-	-
Bluetooth	-	-	-	-
Networking Software	-	-	-	-
Audio	Realtek ALC887	Realtek ALC887	Realtek ALC887	Realtek ALC887
Audio Amp	-	-	-	-
Optical S/PDIF Output	-	-	-	-
Audio Effect	-	-	-	-
PWM/DC Fan Headers	1xCHA FAN (PWM& DC mode) 1xCPU FAN (PWM mode)	1xCHA FAN (PWM& DC mode) 1xCPU FAN (PWM mode)	1xCHA FAN (PWM& DC mode) 1xCPU FAN (PWM mode)	1xCHA FAN (PWM& DC mode) 1xCPU FAN (PWM mode)
Ext Fan Card Support	-	-	-	-
Hybrid Heatsink (CrossChill EK II)	-	-	-	-
Water-Cooling Zone (W_IN/OUT/FLOW)	-	-	-	-
Dedicated All-In-One Pump Header	-	-	-	-
Dedicated Water Pump+ Header	-	-	-	-
LED Lighting	Single Color (Yellow)	Single Color (Yellow)	Single Color (Yellow)	Single Color (Yellow)
4-Pin RGB Header	1	1	1	1
Addressable RGB Header	-	-	-	-
LiveDash OLED	-	-	-	-
Pre-Mounted I/O Shield	-	-	-	-
Backplate	-	-	-	-



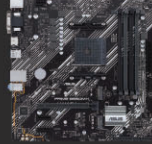
Model Name		ROG ZENITH II EXTREME ALPHA	ROG STRIX TRX40-XE GAMING	PRIME TRX40-PRO 5
CPU		AMD Socket sTRX4 for 3rd Gen AMD Ryzen™ Threadripper™ Series Desktop Processors		
Chipset		AMD TRX40 Chipset		
Socket		AMD TRX40		
Form Factor		EATX	EATX	ATX
Memory		8 x DIMM; Max. 256GB DDR4 4733+ MHz (O.C.)	8 x DIMM; Max. 256GB DDR4 4666+ MHz (O.C.)	8 x DIMM; Max. 256GB DDR4 4666+ MHz (O.C.)
Onboard VGA Output		N/A	N/A	N/A
Graphics (Expansion) Slot		4 x PCIe 4.0 (x16, x16/x16, x16/x8/x16, x16/x8/x16/x8)	3 x PCIe 4.0 x16 (x16/x16/x16) 1 x PCIe 4.0 x4	3 x PCIe 4.0 x16 (x16/x16/x16) 1 x PCIe 4.0 (x4 mode)
Multi-GPU Support		3-way SLI 3-way CFX	2-way SLI 2-way CFX	2-way SLI 2-way CFX
SATA 6Gb/s		4	4	4
M.2 32Gb/s		1 x 22110 (PCIe 4.0 x4 & SATA)	1 x 22110 (PCIe 4.0 x4 & SATA)	1 x 22110 (PCIe 4.0 x4 & SATA)
		2 x 2280 (SATA + PCIe 4.0 x4)	2 x 2280 (SATA + PCIe 4.0 x4)	2 x 2280 (SATA + PCIe 4.0 x4)
USB	3.2 / 3.1 Gen 2 front panel connector	2	2	2
	3.2 / 3.1 Gen 2	3 x Type-A at back 2 x Type-C at back	3 x Type-A at back 2 x Type-C at back	3 x Type-A at back 2 x Type-C at back
	3.2 / 3.1 Gen 1	4 x Type-A at back 4 x Type-A at front	4 x Type-A at back 4 x Type-A at front	4 x Type-A at back 4 x Type-A at front
	2.0	3	3	3
Gigabit Ethernet		Aquantia AQC-107 10G, Intel®I211AT	Aquantia AQC-107 10G, Intel®I211AT	Aquantia AQC-107 10G, Intel®I211AT
Wireless / Bluetooth		Intel® Wireless-AX200 2 x 2 Wi-Fi 6 (802.11 a/b/g/n/ac/ax-)MU-MIMO supports dual frequency band 2.4/5GHz Bluetooth v5.0	Intel® Wireless-AX200 2 x 2 Wi-Fi 6 (802.11 a/b/g/n/ac/ax-)MU-MIMO supports dual frequency band 2.4/5GHz Bluetooth v5.0	Intel® Wireless-AX200 2 x 2 Wi-Fi 6 (802.11 a/b/g/n/ac/ax-)MU-MIMO supports dual frequency band 2.4/5GHz Bluetooth v5.0
Audio Codec		SupremeFX S1220A	SupremeFX S1220A	Realtek® S1200A
Audio Effects		Sonic Studio III Sonic Studio Virtual Mixer Sonic Radar III DTS® Sound Unbound	Sonic Studio III Sonic Studio Virtual Mixer Sonic Radar III DTS® Sound Unbound	Sonic Studio III Sonic Studio Virtual Mixer Sonic Radar III DTS® Sound Unbound
PWM/DC Fan Headers		7	7	7
AIO Pump Header		V	V	V
Water Cooling Header		V	V	V
M.2 Cooling Solution		M.2 Heatsink	M.2 Heatsink	M.2 Heatsink
AURA Sync RGB Lighting		V	V	V
4-pin RGB Header		2	2	2
Addressable RGB Header		2	2	2
SafeSlot		V	V	V
Pre-mounted I/O Shield		V	V	V



Model Name	ROG CROSSHAIR VIII FORMULA	ROG CROSSHAIR VIII HERO (WI-FI)	ROG STRIX X570-E GAMING	TUF Gaming X570-PLUS (WI-FI)	PRIME X570-P/CSM	
CPU	AMD AM4 Socket 3rd and 2nd Gen AMD Ryzen™/ 2nd and 1st Gen AMD Ryzen™ with Radeon™ Vega Graphics Processors		AMD AM4 Socket 3rd and 2nd Gen AMD Ryzen™/3rd, 2nd and 1st Gen AMD Ryzen™ with Radeon™ Graphics Processors			
Chipset	AMD X570 Chipset					
Socket	Socket AM4	Socket AM4	Socket AM4	Socket AM4	Socket AM4	
Form Factor	ATX	ATX	ATX	ATX	ATX	
Memory	4 x DIMM; Max. 128GB DDR4 4800+ MHz (O.C.)	4 x DIMM; Max. 128GB DDR4 4800+ MHz (O.C.)	4 x DIMM; Max. 128GB DDR4 4400+ MHz (O.C.)	4 x DIMM; Max. 128GB DDR4 5100+ MHz (O.C.)	4 x DIMM; Max. 128GB DDR4 4400+ MHz (O.C.)	
Onboard VGA Output	N/A	N/A	HDMI 2.0 / DP 1.2	HDMI / DP	HDMI	
Graphics (Expansion) Slot	2 x PCIe 4.0 x16 (@x16 or x8/x8) 1 x PCIe 4.0 x16 (@x4)	2 x PCIe 4.0 x16 (@x16 or x8/x8) 1 x PCIe 4.0 x16 (@x4)	2 x PCIe 4.0 x16 (@x16 or x8/x8) 1 x PCIe 4.0 x16 (@x4)	1 x PCIe 4.0 x16 (@x16) 1 x PCIe 4.0 x16 (max. @x4)	1 x PCIe 4.0 x16 (@x16) 1 x PCIe 4.0 x16 (max. @x4)	
Multi-GPU Support	2-way SLI 3-way CFX	2-way SLI 3-way CFX	2-way SLI 3-way CFX	2-way SLI	2-way SLI	
SATA 6Gb/s	8	8	8	8	6	
M.2 32Gb/s	1 x 22110 (PCIe 4.0 x4 & SATA)	1 x 22110 (PCIe 4.0 x4 & SATA)	1 x 22110 (PCIe 4.0 x4 & SATA)	1x 22110 (SATA + PCIe 4.0/3.0x4)	1 x 22110 (PCIe 4.0 x4 & SATA)	
	1x 2280 (SATA + PCIe 4.0 x4)	1x 2280 (SATA + PCIe 4.0 x4)	1x 22110 (SATA + PCIe 4.0 x4)	1x 22110 (SATA + PCIe 4.0 x4)	1x 2280 (SATA + PCIe 4.0 x4)	
USB	3.2 / 3.1 Gen 2 front panel connector	1	1	0	0	
	3.2 / 3.1 Gen 2	7 x Type-A at back 1 x Type-C at back	7 x Type-A at back 1 x Type-C at back	7 x Type-A at back 1 x Type-C at back	2 x Type-A at back 1 x Type-C at back	4 x Type-A at back
	3.2 / 3.1 Gen 1	4 x Type-A at back 4 x Type-A at front	4 x Type-A at back 2 x Type-A at front	4 x Type-A at back 2 x Type-A at front	4 x Type-A at back 2 x Type-A at front	2 x Type-A at back 4 x Type-A at front
	2.0	4	4	4	4	5
Gigabit Ethernet	Aquantia®5G LAN, Intel®I211AT	Realtek® 2.5G LAN, Intel® I211AT	Realtek® 2.5G LAN, Intel® I211AT	Realtek® L8200A	Realtek® RTL8111H	
Wireless / Bluetooth	Intel® Wireless-AX200 2 x 2 Wi-Fi 6 (802.11 a/b/g/n/ac/ax-)MU-MIMO supports dual frequency band 2.4/5GHz Bluetooth v5.0	Intel® Wireless-AX200 2 x 2 Wi-Fi 6 (802.11 a/b/g/n/ac/ax-)MU-MIMO supports dual frequency band 2.4/5GHz Bluetooth v5.0	Intel® Wireless-AX200 2 x 2 Wi-Fi 6 (802.11 a/b/g/n/ac/ax-)MU-MIMO supports dual frequency band 2.4/5GHz Bluetooth v5.0	Intel® Wireless-AC 9260 2x2 Wi-Fi 5(802.11 a/b/g/n/ac) with MU-MIMO support dual frequency band 2.4/5 GHz Bluetooth v5.0	N/A	
Audio Codec	SupremeFX S1220A	SupremeFX S1220A	SupremeFX S1220A	Realtek® S1200A	Realtek® S1200A	
Audio Effects	Sonic Studio III Sonic Studio Virtual Mixer Sonic Radar III DTS® Sound Unbound	Sonic Studio III Sonic Studio Virtual Mixer Sonic Radar III DTS® Sound Unbound	Sonic Studio III Sonic Studio Virtual Mixer Sonic Radar III DTS® Sound Unbound	DTS Custom for GAMING Headsets	N/A	
PWM/DC Fan Headers	8	8	7	6	6	
AIO Pump Header	V	V	V	V	V	
Water Cooling Header	V	V	V	N/A	N/A	
M.2 Cooling Solution	M.2 Heatsink	M.2 Heatsink	M.2 Heatsink	M.2 Heatsink	M.2 Heatsink	
AURA Sync RGB Lighting	V	V	V	V	V	
4-pin RGB Header	2	2	2	2	2	
Addressable RGB Header	2	2	2	1	1	
SafeSlot	V	V	V	V	V	
Pre-mounted I/O Shield	V	V	V	N/A	N/A	



Model Name	ROG STRIX B550-E GAMING	ROG STRIX B550-F GAMING (Wi-Fi)	ROG STRIX B550-I GAMING	TUF GAMING B550-PLUS	TUF GAMING B550M-PLUS (Wi-Fi)	
CPU	AMD AM4 Socket for 3rd Gen AMD Ryzen™ and 3rd Gen AMD Ryzen™ with Radeon™ Graphics Processors					
Chipset	AMD B550 Chipset					
Socket	Socket AM4	Socket AM4	Socket AM4	Socket AM4	Socket AM4	
Form Factor	ATX	Mini ITX	ATX	ATX	Micro ATX	
Memory	4 x DIMM; Max. 128GB DDR4 4600+ MHz (O.C.)	4 x DIMM; Max. 128GB DDR4 4600+ MHz (O.C.)	4 x DIMM; Max. 128GB DDR4 5100+ MHz (O.C.)	4 x DIMM; Max. 128GB DDR4 4600+ MHz (O.C.)	4 x DIMM; Max. 128GB DDR4 4600+ MHz (O.C.)	
Onboard VGA Output	HDMI 2.1(4K@60HZ) DP 1.2	HDMI 2.1(4K@60HZ) DP 1.2	HDMI 2.1(4K@60HZ) DP 1.4	HDMI 2.1(4K@60HZ) DP 1.4	HDMI 2.1(4K@60HZ) DP 1.4	
Graphics (Expansion) Slot	2 x PCIe 4.0 x16 (@x16) 1 x PCIe 3.0 x16 (max. @x4)	1 x PCIe 4.0 x16 (@x16) 1 x PCIe 3.0 x16 (max. @x4)	1 x PCIe 4.0 x16 (@x16) 1 x PCIe 3.0 x16 (max. @x4)	1 x PCIe 4.0 x16 (@x16) 1 x PCIe 3.0 x16 (max. @x4)	1 x PCIe 4.0 x16 (@x16) 1 x PCIe 3.0 x16 (max. @x4)	
Multi-GPU Support	2-way SLI 3-way CFX	2-way CFX	N/A	2-way CFX	2-way CFX	
SATA 6Gb/s	6	6	4	6	4	
M.2 32Gb/s	1 x 22110 (PCIe 4.0 x4 & SATA)	1 x 22110 (PCIe 4.0 x4 & SATA)	1 x 2280 (PCIe 4.0 x4 & SATA)	1 x 22110 (SATA & PCIe 4.0 x4 mode)	1 x 22110 (PCIe 4.0 x4 & SATA)	
	1 x 22110 (PCIe 3.0 x4 & SATA)	1 x 22110 (PCIe 3.0 x4 & SATA)	1 x 2280 (PCIe 3.0 x4 & SATA)	1 x 22110 (SATA & PCIe 4.0 x4 mode)	1 x 2280 (SATA + PCIe 4.0 x4)	
USB	3.2 / 3.1 Gen 2 front panel connector	1	0	1	0	
	3.2 / 3.1 Gen 2	2 x Type-A at back 1 x Type-C at back 1 x Type-C at front	1 x Type-A at back 1 x Type-C at back	3 x Type-A at back 1 x Type-C at back	1 x Type-A at back 1 x Type-C at back	1 x Type-A at back 1 x Type-C at back
	3.2 / 3.1 Gen 1	2 x Type-A at front	4 x Type-A at back 2 x Type-A at front	2 x Type-A at front	4 x Type-A at back 2 x Type-A at front	4 x Type-A at back 2 x Type-A at front
	2.0	9	6	3	6	6
Gigabit Ethernet	Intel® I225-V 2.5Gb	Intel® I225-V 2.5Gb	Intel® I225-V 2.5Gb	Realtek RTL8125B 2.5Gb	Realtek RTL8125B 2.5Gb	
Wireless / Bluetooth	Intel® Wi-Fi 6 AX200 2 x 2 Wi-Fi 6 (802.11 a/b/g/n/ac/ax)MU-MIMO supports dual frequency band 2.4/5GHz Bluetooth v5.1	Bluetooth v5.1	Intel® Wi-Fi 6 AX200 2 x 2 Wi-Fi 6 (802.11 a/b/g/n/ac/ax)MU-MIMO supports dual frequency band 2.4/5GHz Bluetooth v5.1	M.2 slot only (Key E) Bluetooth v5.1	Intel® Wi-Fi 6 AX200 2 x 2 Wi-Fi 6 (802.11 a/b/g/n/ac/ax)MU-MIMO supports dual frequency band 2.4/5GHz Bluetooth v5.1	
Audio Codec	SupremeFX S1220A	SupremeFX S1220A	SupremeFX S1220A	Realtek® S1200A	Realtek® S1200A	
Audio Effects	Sonic Studio III Sonic Studio Virtual Mixer Sonic Radar III DTS® Sound Unbound	Sonic Studio III Sonic Studio Virtual Mixer Sonic Radar III DTS® Sound Unbound	Sonic Studio III Sonic Studio Virtual Mixer Sonic Radar III DTS® Sound Unbound	DTS Custom for GAMING Headsets	DTS Custom for GAMING Headsets	
Onboard Fan headers	6	6	4	6	4	
Heatsinked M.2	2	2	1	1	1	
AI Networking (GameFirst VI)	V	V	V	N/A	N/A	
Aura Sync	V	V	V	V	V	
RGB header	2 x ARGB, 2 x RGB	2 x ARGB, 2 x RGB	1 x ARGB, 1 x RGB	1 x ARGB, 2 x RGB	1 x ARGB, 2 x RGB	
CPU power connector	8-pin + 4-pin	8-pin + 4-pin	8-pin	8-pin	8-pin	
ProCool	ProCool	ProCool	ProCool	ProCool	ProCool	
COM	N/A	N/A	N/A	N/A	N/A	
SPI / TPM	N/A	N/A	N/A	N/A	N/A	



Model Name	PRIME B550M-A	PRIME B550M-K	ROG STRIX B450-F GAMING	TUF B450 PRO GAMING	PRIME B450M-K
CPU	AMD AM4 Socket for 3rd Gen AMD Ryzen™ and 3rd Gen AMD Ryzen™ with Radeon™ Graphics Processors		AM4 socket for AMD Ryzen™ 2nd Generation/Ryzen™ 1st Generation/Ryzen™ with Radeon™ Vega Graphics Processors		
Chipset	AMD B550 Chipset		AMD B450 Chipset		
Socket	Socket AM4	Socket AM4	Socket AM4	Socket AM4	Socket AM4
Form Factor	Micro ATX	Micro ATX	ATX	mATX	mATX
Memory	4 x DIMM; Max. 128GB DDR4 4800+ MHz (O.C.)	4 x DIMM; Max. 128GB DDR4 4800+ MHz (O.C.)	4 x DIMM; Max. 64GB DDR4 DDR4-3533 (O.C.) MHz	4 x DIMM; Max. 64GB DDR4-3533 (O.C.) MHz	4 x DIMM; Max. 64GB DDR4-3466 (O.C.) MHz
Onboard VGA Output	HDMI 2.1(4K@60HZ) D-Sub / DVI-D	HDMI 2.1(4K@60HZ) D-Sub / DVI-D	HDMI 2.0b/DP	HDMI 2.0b / DVI-D / D_Sub	HDMI 2.0b / DVI-D / D_Sub
Graphics (Expansion) Slot	1 x PCIe 4.0 x16 (@x16)	1 x PCIe 4.0 x16 (@x16)	2 x PCIe 3.0 x16 (@ x16/ x8/x4+x4) 1 x PCIe 2.0 x16 3 x PCIe 2.0 x1	1 x PCIe 3.0 X16(@ x16 or x8 or x4) 1 x PCIe 2.0 X16(@x4) 3 x PCIe 2.0 X1	1 x PCIe 3.0 X16 (@ x16 or x8) 2 x PCIe 2.0 X1
Multi-GPU Support	N/A	N/A	3-Way CFX	CFX	N/A
SATA 6Gb/s	4	4	6	6	6
M.2 32Gb/s	1 x 22110 (PCIe 4.0 x4 & SATA)	1 x 22110 (PCIe 4.0 x4 & SATA)	1 x 22110 (PCIe 3.0 x4 mode)	1 x M.2 2242-22110 (SATA + PCIe 3.0 x 4)	1 x M.2 22110 (SATA + PCIe 3.0 x 4)
	1x 2280 (SATA + PCIe 3.0 x4)	1x 2280 (SATA + PCIe 3.0 x4)	1x 2280 (SATA & PCIe 3.0 x4 mode)	1x M.2 2280 (PCIe 2.0 x 4 mode)	
USB	3.2 / 3.1 Gen 2 front panel connector	0	0	0	0
	3.2 / 3.1 Gen 2	2 x Type-A at back	2 x Type-A at back	2	1
	3.2 / 3.1 Gen 1	4 x Type-A at back 2 x Type-A at front	4 x Type-A at back 2 x Type-A at front	2	4
	2.0	4	4	6	6
Gigabit Ethernet	Realtek RTL8111H 1Gb	Realtek RTL8111H 1Gb	Intel® I211AT	Realtek® 8111H	Realtek® 8111H
Wireless / Bluetooth	N/A	N/A	N/A	N/A	N/A
Audio Codec	Realtek ALC 887	Realtek ALC 887	SupremeFX S1220	Realtek® S1200A	Realtek® ALC887
Audio Effects	N/A	N/A	Sonic Radar III Sonic Studio Link Sonic Studio III	Exclusive DTS Custom	N/A
Onboard Fan headers	4	3	N/A	N/A	N/A
Heatsinked M.2	N/A	N/A	N/A	N/A	N/A
AI Networking (GameFirst VI)	N/A	N/A	N/A	N/A	N/A
Aura Sync	V	N/A	V	V	N/A
RGB header	1 x ARGB, 2 x RGB	N/A	V	2 x ARGB	N/A
CPU power connector	8-pin	8-pin	1-pin	1-pin	1-pin
ProCool	N/A	N/A	N/A	N/A	N/A
COM	V	V	V	V	N/A
SPI / TPM	V	V	V	V	N/A



REPUBLIC OF GAMERS



GO SUPER!

4K UHD
3840x2160

ASUS GeForce® RTX 20 SUPER™ Series

Dual EVO

Axial-tech Fan Design

Longer fan blades and a unique barrier ring increase air pressure

2.7-slot Design

2.7-slot Design expands cooling surface area to make the most of the two powerful Axial-tech fans

Protective Backplate

A rigid backplate prevents PCB flex and trace damage

ROG Strix



Super Alloy Power II

Super Alloy Power II includes premium alloy chokes, solid polymer capacitors, and an array of high-current power stages

MaxContact Technology

The heat spreader makes up to 2x more contact with the GPU chip for improved thermal transfer

Auto-Extreme Technology

An automated manufacturing process that enhances reliability

Turbo EVO

Redesigned Shroud

A raised edge acts as a spacer, improving air intake in cramped environments

Dual Ball Fan Bearings

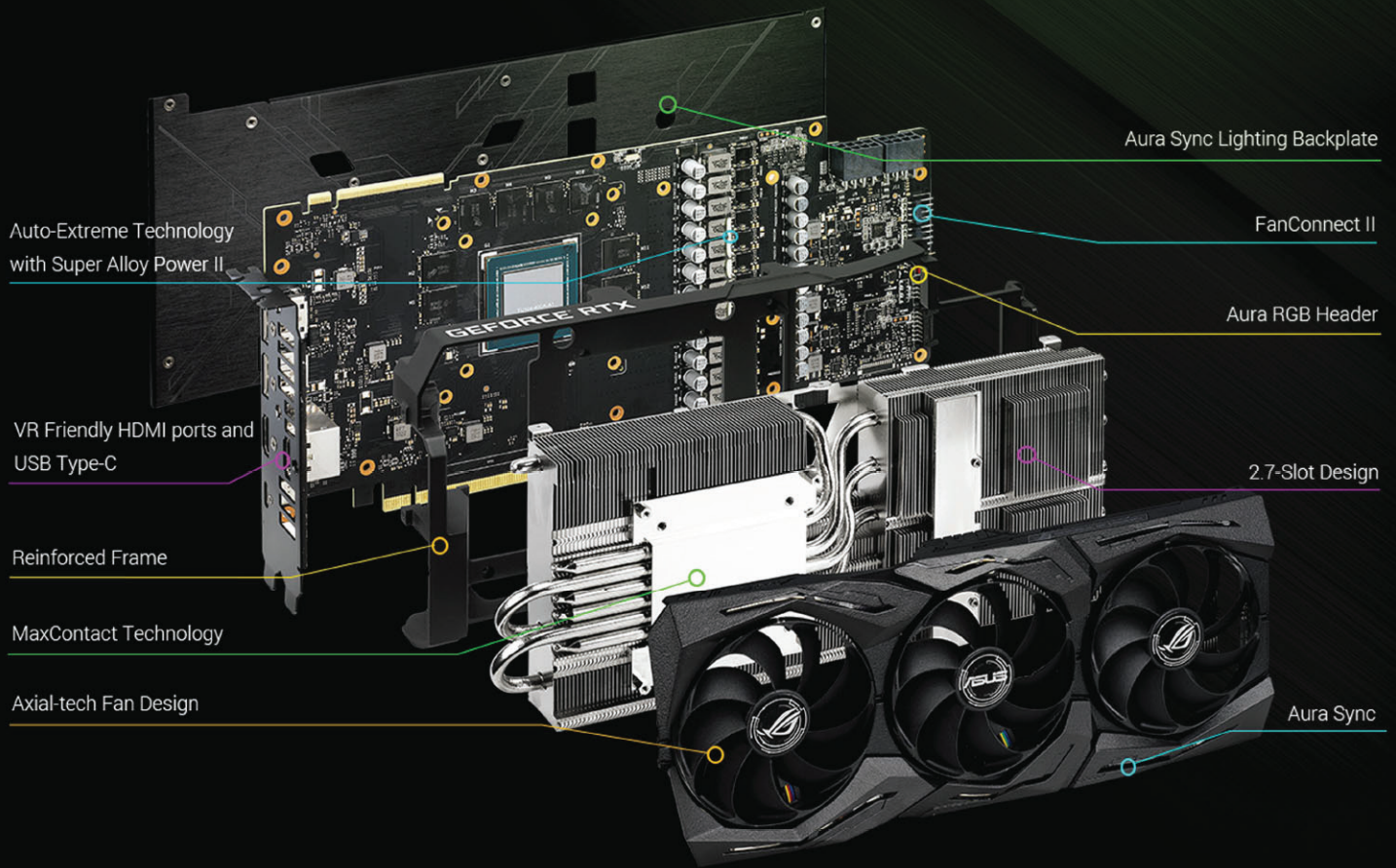
Dual ball bearings can last up to twice as long as sleeve-bearing designs.

144-hour Validation Program

A series of stringent tests ensure compatibility with the latest games

ASUS





Take Flight

ROG Strix GeForce® is stacked with more CUDA cores, higher clock speeds, and faster memory than its predecessor and paired with a host of features for a truly top-tier gaming experience. Gargantuan power delivery provides the muscle to push overclocking boundaries, while cooling that's honed to perfection keeps the spotlight squarely on Turing™'s performance. And with an arsenal of utilities that allow you to customize and tweak this extreme hardware, everything AAA gaming has to offer is yours for the taking.

BE THE LAST ONE STANDING

A faster graphics card delivers higher frame rates, and higher frame rates means quicker reaction time. That's why players with better graphics cards average higher Kill/Death (KD) ratios in Battle Royale.



Based on Fortnite and PUBG relative kill/death ratio on GTX/RTX-class cards from each series. Source: NVIDIA. Note: RTX 20xx includes 2070, 2080, 2080 Ti.



RED RISING!

ASUS RADEON™ RX 5700 SERIES

ASUS Radeon graphics cards come in three distinct flavors honed to perform as an upgrade for your current build or in an all-AMD rig.

Dual EVO

Essential performance for everyday gaming

Axial-tech fan design features longer fan blades and a unique barrier ring to increase air pressure.

IP5X dust resistance offers protection from particle ingress for better durability.

DirectCU brings copper heatpipes into direct contact with the die for better cooling.

ROG Strix



Clocked and cooled for premium builds

Axial-tech fan design features longer fan blades and a unique barrier ring to increase air.

2.7-slot Design expands cooling surface area to make the most of the three powerful Axial-tech fans.

MaxContact Technology allows 2X more contact with the GPU chip for improved thermal transfer.

TUF Gaming X3

Built for the long haul

Space-grade lubricant brings the durability of dual ball bearings to quieter sleeve bearing designs.

TUF compatibility testing ensures TUF Gaming and TUF alliance products work together flawlessly.

144-hour validation program puts cards through a series of stringent tests to ensure compatibility with the latest games.

AMD
RADEON RX

Radeon Anti-Lag

When every frame counts and every click matters, AMD Radeon Anti-Lag is the ultimate tool and a must-have feature for gamers and competitive eSports players. Radeon Anti-Lag works by minimizing the amount of time between a gamer pressing a key or moving the mouse and having that response show up on the screen.



102.9 FPS
RIS OFF

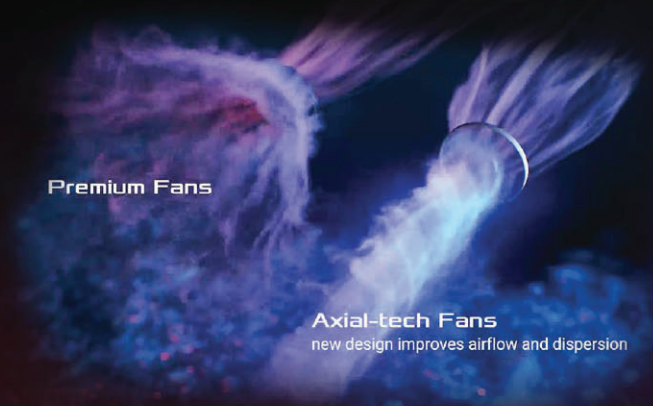
102.4 FPS
RIS ON

-0.5% change
Strange Brigade

Intelligent Sharpening Technology

Radeon Image Sharpening (RIS) is a contrast-adaptive sharpening algorithm designed to intelligently enhance details to deliver crisp-looking visuals with minimal performance impact.

ROG GRAPHICS CARD INNOVATION



Axial-tech Fan Design

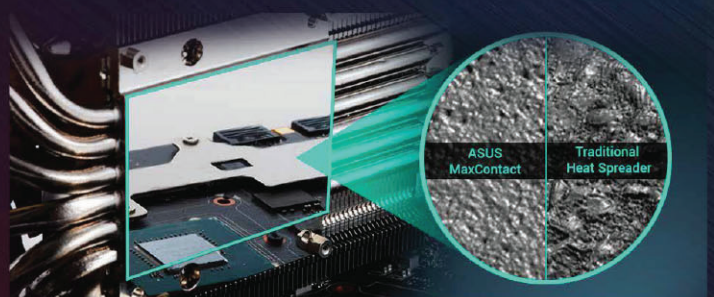
Better, faster, stronger

Newly designed for the latest generation of top-end ROG graphics cards, these fans feature a smaller hub that facilitates longer blades and a barrier ring to increase downward air pressure.

MaxContact Technology

Stay close

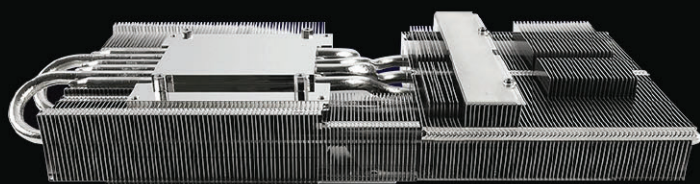
MaxContact is an industry-first technology that utilizes precision machining to create a heat spreader surface that makes up to 2X more contact with the GPU chip, resulting in improved thermal transfer.



ASUS MaxContact is **10X** flatter than the traditional heat spreader for better GPU heat dissipation

ROG GRAPHICS CARD

INNOVATION



2.7-slot Design

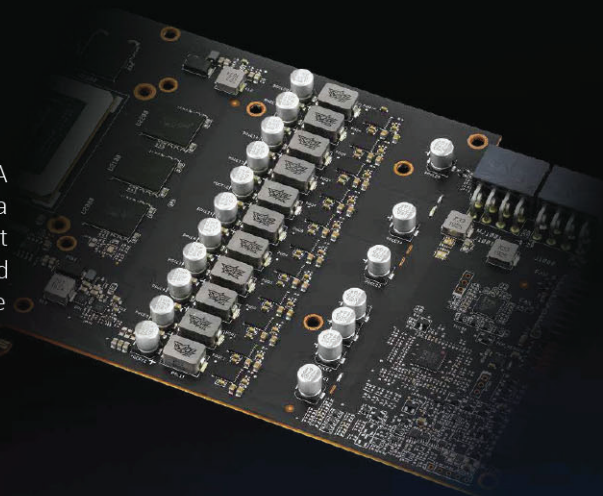
Sink your heat into this

The ROG Strix RX 5700 XT leverages a 2.7-slot design to gain more heatsink surface area. The extra thermal headroom increases overclocking potential and allows fans to run at even lower speeds in light scenarios.

Super Alloy Power II

Premium power components

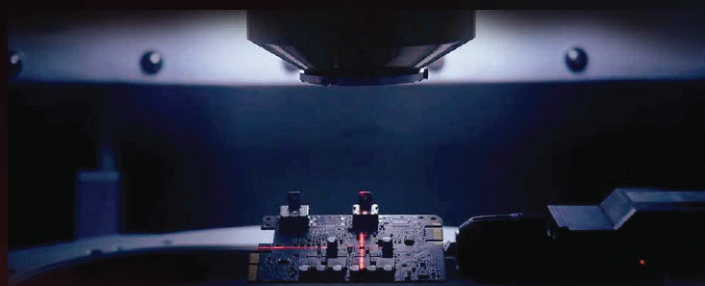
To deal with varying game and application workloads, the RDNA architecture can change speeds in an instant, necessitating a power delivery circuit with the reserves to handle the onslaught when you dial up the clock. The ROG Strix RX 5700 XT is armed with premium capacitors, DrMOS power stages, and alloy-core chokes are capable of pushing performance to the max.



Auto-Extreme Technology

Precision automated manufacturing

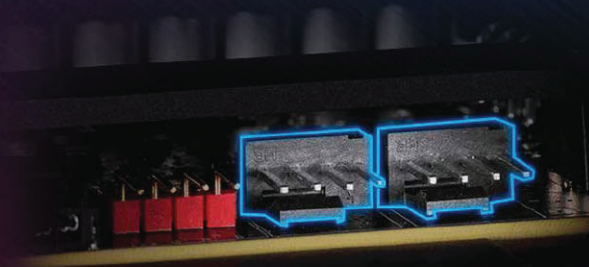
Auto-Extreme Technology is an automated manufacturing process that sets new standards in the industry by allowing all soldering to be completed in a single pass. This reduces thermal strain on components and avoids the use of harsh cleaning chemicals, resulting in less environmental impact, lower manufacturing power consumption, and a more reliable product overall.



ASUS FanConnect II

Smarter fan speed

ASUS FanConnect II features two 4-pin, hybrid-controlled headers that can be connected to both PWM and DC system fans for optimal system cooling. Connected fans react to GPU and CPU temperatures, so that your system is optimally cooled no matter what you do. A comprehensive set of tuning options allow you to tweak fan speeds for your preferred balance of cooling and acoustics."



ASUS GPU TWEAK II

Enhanced Performance Tuning

The ASUS GPU Tweak II utility takes graphics card performance tuning and monitoring to the next level. It allows you to tweak critical GPU parameters including clock frequency, graphics memory, voltage settings, and more with the option to monitor everything in real-time through a customizable on-screen display.

From fine-grain performance tuning, to advanced fan control and temperature monitoring, GPU Tweak II has all the tools you need to get the most out of your graphics card.



On Screen Display (OSD)

Being able to customize every part of the gaming experience is why we build our own PCs. To that end, we've built up a whole new On Screen Display (OSD) function that offers a lot of new ways to control what you see on-screen.

Our overlay can display frame-rates, GPU clocks, and everything you'd expect, plus we've built-in the unique capability to display memos and images.



Gaming Mode (default)



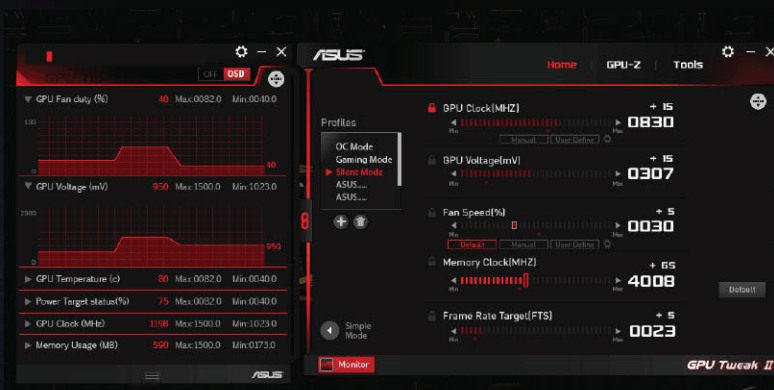
Silent Mode



OC Mode




Professional Mode

Professional Mode is for experienced enthusiasts who want full control over their graphics card. In addition to the basics, GPU Tweak II provides convenient access to frame rate control, display refresh rate, and a comprehensive monitoring suite. You can even save your application settings to a profile for easy management.





Model Name	ROG-STRIX-RTX2080TI-O11G-GAMING	ROG-STRIX-RTX2080S-ABG-GAMING	DUAL-RTX2080S-O8G-EVO	ROG-STRIX-RTX2070S-ABG-GAMING	DUAL-RTX2070S-O8G-EVO
Series	RTX 2080TI/Super Series			RTX2070 Super Series	
Core Clock(MHz)	1665 (OC)	1860 (OC)	1860 (OC)	1830 (OC)	1845 (Boost)
CUDACore	4352	3072	2944	2560	2560
MemorySize	11GB GDDR6	11GB GDDR6	8GB GDDR6	8GB GDDR6	8 GBGDDR6
Memory CLK(MHz)	14000	15500	15500	14000	8008
MemoryBus	352-bit	256-bit	256-bit	256-bit	256-bit
Cooling Solution	MaxContact	Active	MaxContact	Active	Active
Fan	3	3	2	3	2
Power Consumption	PSU: 650W	PSU: 650W	PSU: 650W	PSU: 650W	PSU: 650W
Card Bus	PCI-E 3.0	PCI-E 3.0	PCI-E 3.0	PCI-E 3.0	PCI-E 3.0
DirectXVersion	DX12	DX12	DX12	DX12	DX12
On Board I/O	HDMI 2.0b x 2 DP 1.4 x 2 USB Type-C HDCP 2.2 support	HDMI 2.0b x 1 DP 1.4 x 3 USB Type-C HDCP 2.2 support	HDMI 2.0b x 1 DP 1.4 x 3 HDCP 2.2 support	HDMI 2.0b x 1 DP 1.4 x 3 USB Type-C HDCP 2.2 support	HDMI 2.0b x 1 DP 1.4 x 3 HDCP 2.2 support
DisplaySupport	4	4	4	4	4
Card Size (inch)	12"x 5.13"x 2.13"	11.8" x 5.13" x 2.13"	10.5" x 4.7" x 2.2"	11.8" x 5.13" x 2.13"	10.5" x 4.7" x 2.28"
Asus Unique Feature	NVIDIA TURING™, DirectX 12, Axial-Tech Fans, 2.7-Slot Design, MaxContact Technology, Auto-Extreme Technology, Super Alloy Power II, ASUS FanConnect II, ASUS GPU Tweak II, Extreme 4K and VR gaming	RT Cores, Concurrent Floating Point and Integer Processing, Wing-blade fan design, Auto-Extreme Technology, Super Alloy Power II, MaxContact Technology, ASUS GPU Tweak II & Driver	RT Cores, Concurrent Floating Point and Integer Processing, Wing-blade fan design, Auto-Extreme Technology, Super Alloy Power II, MaxContact Technology, ASUS GPU Tweak II & Driver	RT Cores, Concurrent Floating Point and Integer Processing, Wing-blade fan design, Auto-Extreme Technology, Super Alloy Power II, MaxContact Technology, ASUS GPU Tweak II & Driver	ASUS GPU Tweak II & Driver, Wing-blade 0dB Fan with IP5X Dust Resistance, Protective Backplate, Auto-Extreme Technology, Axial-tech fan design, 2.7-slot Design, RT Cores
Feature	Digital Max Resolution: 7680x4320 1 x ROG Velcro Hook & Loop Power Connector : 2 x 8-pin VR Ready	Digital Max Resolution: 7680x4320 Power Connector : 2 x 8-pin	Digital Max Resolution: 7680x4320 Power Connector : 2 x 8-pin VR Ready	Digital Max Resolution: 7680x4320 Power Connector : 2 x 8-pin	Digital Max Resolution: 7680x4320 Power Connector : 1 x 6-pin, 1 x 8-pin

								
Model Name	ROG-STRIX-RTX2060S-08G-EVO-GAMING	DUAL-RTX2060S-08G-EVO	ROG-STRIX-RTX2060-A6G-GAMING	TUF-RTX2060-06G-GAMING	TUF 3-GTX 1660S-06G-GAMING	TUF-GTX 1660S-06G-GAMING	PH-GTX1660S-06G	
Series	RTX2060 Super Series		RTX 2060 Series		GTX 1660 Super Series			
Core Clock(MHz)	1710 (Boost)	1620 (Boost)	1710 (Boost)	1710 (Boost)	1860 (Boost)	1845 (Boost)	1830 (Boost)	
CUDA Core	2176	2432	1920	1920	1408	1408	1408	
Memory Size	8 GBGDDR6	8 GBGDDR6	6GBGDDR6	6GBGDDR6	6GBGDDR6	4 GBGDDR6	6GBGDDR6	
Memory CLK(MHz)	14000	8008	14000	14000	14002	14002	14002	
Memory Bus	256-bit	256-bit	192-bit	192-bit	192-bit	192-bit	192-bit	
Cooling Solution	Active	Active	Active	Active	Active	Active	Active	
Fan	3	2	3	2	3	3	1	
Power Consumption	PSU: 550W	PSU: 550W	PSU: 500W	PSU: 500W	PSU: 450W	PSU: 450W	PSU: 450W	
Card Bus	PCI-E 3.0	PCI-E 3.0	PCI-E 3.0	PCI-E 3.0	PCI-E 3.0	PCI-E 3.0	PCI-E 3.0	
DirectX Version	DX12	DX12	DX12	DX12	DX12	DX12	DX12	
On Board I/O	HDMI 2.0b x 1 DP 1.4 x 3 USB Type-C HDCP 2.2 support	HDMI 2.0b x 1 DP 1.4 x 3 USB Type-C HDCP 2.2 support	HDMI 2.0b x 1 DP 1.4 x 2 HDCP 2.2 support	HDMI 2.0b x 1 DP 1.4 x 2 HDCP 2.2 support	DVI x 1 HDMI 2.0b x 2 DP 1.4 x 2 HDCP 2.2 support	DVI x 1 HDMI 2.0b x 1 DP 1.4 x 1 HDCP 2.2 support	DVI x 1 HDMI 2.0b x 2 DP 1.4 x 2 HDCP 2.2 support	
Display Support	4	4	4	4	3	3	3	
Card Size (inch)	11.8" x 5.1" x 1.9"	10.53" x 4.47" x 2.28"	11.81" x 5.20" x 1.97"	8.03" x 4.92" x 1.81"	10.4" x 5.1" x 2.2"	8.1" x 4.9" x 1.8"	6.9" x 4.8" x 1.5"	
Asus Unique Feature	RT Cores, Concurrent Floating Point and Integer Processing, Wing-blade fan design, Auto-Extreme Technology, Super Alloy Power II, MaxContact Technology, ASUS GPU Tweak II & Driver	Asus Fan Connect 100% Auto-Extreme Technology, Super Alloy Power II, ASUS GPU Tweak II & Driver	Asus Fan Connect, Auto-Extreme Technology, Super Alloy Power II, ASUS GPU Tweak II & Driver	Dual-ball bearing fan, IP5X Dust resistance, Auto-Extreme Technology, TUF Compatibility, GPU Tweak II	Ultra-fast GDDR6 Dual-ball bearing fan, Space-grade lubricant, IP5X Dust resistance, Auto-Extreme Technology, TUF Compatibility, 144-hour validation program	Ultra-fast GDDR6, Space-grade lubricant, Auto Extreme Technology, GPU Tweak II, TUF compatibility testing, 144-hour validation program	Ultra-fast GDDR6, Wing-blade fan design, IP5X dust resistance, Dual-ball fan bearing design, Auto-Extreme Technology, GPU Tweak II	
Feature	Digital Max Resolution: 7680x4320 Power Connector : 1 x 6-pin, 2 x 8-pin	Digital Max Resolution: 7680x4320 Power Connector : 1 x 6-pin, 2 x 8-pin	Digital Max Resolution: 7680x4320 1 x ROG Velcro Hook & Loop Power Connector : 1 x 6-pin, 1 x 8-pin	Digital Max Resolution: 7680x4320 Power Connector : 1 x 8-pin	Digital Max Resolution: 7680x4320 Power Connector : 1 x 8-pin	Digital Max Resolution: 7680 x 4320	Digital Max Resolution: 7680 x 4320	Digital Max Resolution: 7680x4320 Power Connector : 1 x 8-pin



Model Name	TUF-GTX 1650S-04G-GAMING	PH-GTX 1650S-04G	TUF-GTX 1650-04GD6-GAMING	DUAL-GTX 1650-04G	PH-GTX 1650-04G
Series	GTX 1650 Super Series		GTX 1650 Series		
Core Clock(MHz)	1800 (Boost)	1770 (Boost)	1680 (Boost)	1755 (Boost)	1710 (Boost)
CUDACore	1280	1280	896	896	896
MemorySize	4 GBGDDR6	4 GBGDDR6	4 GBGDDR6	4 GBGDDR5	4 GBGDDR5
Memory CLK(MHz)	12002	12002	8002	8002	8002
MemoryBus	192-bit	192-bit	128-bit	128-bit	128-bit
Cooling Solution	Active	Active	Active	Active	Active
Fan	2	1	2	2	1
Power Consumption	PSU: 450W	PSU: 350W	PSU: 300W	PSU: 300W	PSU: 300W
Card Bus	PCI-E 3.0	PCI-E 3.0	PCI-E 3.0	PCI-E 3.0	PCI-E 3.0
DirectXVersion	DX12	DX12	DX12	DX12	DX12
On Board I/O	DVI x 1 HDMI 2.0b x 1 DP1.4 x 1 HDCP 2.2 support	DVI x 1 HDMI 2.0b x 1 DP1.4 x 1 HDCP 2.2 support	DVI Output x 1 HDMI 2.0b x 1 DP 1.4 x 1 HDCP 2.2 support	DVI Output x 1 HDMI 2.0b x 1 DP 1.4 x 1 HDCP 2.2 support	DVI Output x 1 HDMI 2.0b x 1 DP 1.4 x 1 HDCP 2.2 support
DisplaySupport	3	3	3	3	3
Card Size (inch)	8.1" x 4.9" x 1.8"	6.85" x 4.76" x 1.54"	8.1" x 4.9" x 1.8"	8.03" x 4.53" x 1.46"	7.48" x 4.33" x 1.49"
Asus Unique Feature	Ultra-fast GDDR6, Space-grade Lubricant, Auto Extreme Technology, GPU Tweak II, TUF compatibility testing, 144-hour validation program	Ultra-fast GDDR6, Wing-blade fan design, Dual-ball fan bearing design, Auto Extreme Technology, GPU Tweak II	IP5X dust resistance, Auto-Extreme Technology, GPU Tweak II, GeForce Experience, 144-Hour Validation Program	IP5X dust resistance, Auto-Extreme Technology, GPU Tweak II, GeForce Experience, 144-Hour Validation Program	Dual ball fan bearings, IP5X dust resistance, Auto-Extreme Technology, Compact design, GPU Tweak II
Feature	Digital Max Resolution: 7680 x 4320	Digital Max Resolution: 7680 x 4320	Digital Max Resolution: 7680x4320	Digital Max Resolution: 7680x4320	Digital Max Resolution: 7680x4320



Model Name	PH-GT 1030-02G	GT 1030-SL-2G-BRK	GT7 10-SL-2GD5-BRK	GT7 10-SL-1GD5-BRK
Series	Main Stream			
Core Clock(MHz)	1531 (OC)	1506 (OC)	954	954
CUDA Core	384	384	192	192
Memory Size	2 GBGDDR5	2 GBGDDR5	2 GBGDDR5	1 GBGDDR5
Memory CLK(MHz)	3004	3004	5012	5012
Memory Bus	64-bit	64-bit	64-bit	64-bit
Cooling Solution	Single Fan	Passive	Passive	Passive
Fan	1	-	-	-
Power Consumption	75W PSU: 400W	75W PSU: 400W	PSU: 300W	PSU: 300W
Card Bus	PCI-E 3.0	PCI-E 3.0	PCI-E 3.0	PCI-E 3.0
DirectX Version	DX12	DX12	DX12	DX12
On Board I/O	DVI-D HDMI HDCP Support : Yes	DVI-D HDMI HDCP Support : Yes	D-Sub DVI-D HDMI HDCP Support : Yes	D-Sub DVI-D HDMI HDCP Support : Yes
Display Support	2	2	3	3
Card Size (inch)	184 x 111 x 36	173 x 69 x 40	6.7 x 2.7 x 0.7	6.7 x 2.7 x 0.7
Asus Unique Feature	100% Auto-Extreme Technology Super Alloy Power II ASUS GPU Tweak II & Driver	100% Auto-Extreme Technology Super Alloy Power II ASUS GPU Tweak II & Driver	100% Auto-Extreme Technology Super Alloy Power II ASUS GPU Tweak II & Driver	100% Auto-Extreme Technology Super Alloy Power II ASUS GPU Tweak II & Driver
Feature	Max Resolution: DVI - 1920x1200	Max Resolution: DVI - 1920x1200	Max Resolution: DVI - 2560x1600	Max Resolution: DVI - 2560x1600



Model Name	ROG-STRIX-RX5700XT-08G-GAMING	TUF 3-RX5700XT-08G-EVO-GAMING	ROG-STRIX-RX5700-08G-GAMING	TUF 3-RX5700-08G-GAMING
Series	NAVI Series			
Core Clock(MHz)	2035 (OC)	1870 (OC)	1750(OC)	1750 (OC)
Stream Processors	2560	2560	2304	2304
MemorySize	8GB GDDR6	8GB GDDR6	8GB GDDR6	8GB GDDR6
Memory CLK	14 Gbps	14 Gbps	14 Gbps	14 Gbps
MemoryBus	256-bit	256-bit	256-bit	256-bit
Cooling Solution	MaxContact Technology	MaxContact Technology	MaxContact Technology	MaxContact Technology
Fan	3	3	3	3
Power Consumption	PSU: 600W	PSU: 600W	PSU: 600W	PSU: 600W
Card Bus	PCI-E 4.0	PCI-E 4.0	PCI-E 4.0	PCI-E 4.0
DirectXVersion	DX12	DX12	DX12	DX12
On Board I/O	HDMI 2.0b x 1 Dp1.4 x 3 HDCP Support 2.3	HDMI 2.0b x 1 Dp1.4 x 3 HDCP Support 2.3	HDMI 2.0b x 1 Dp1.4 x 3 HDCP Support 2.3	HDMI 2.0b x 1 Dp1.4 x 3 HDCP Support 2.3
DisplaySupport	6	6	6	6
Card Size (inch)	12 " x 5.1 " x 2.1 "	12 " x 5.1 " x 2.1 "	10.6 " x 4.3 " x 1.6 "	12 " x 5.1 " x 2.1 "
Asus Unique Feature	Axial-tech fan design, 2.7-slot Design, Super Alloy Power II, Auto-Extreme Technology, MaxContact Technology, ASUS FanConnect II, ASUS GPU Tweak II & Driver, Radeon Anti-Lag	Space-grade lubricant, IP5X dust resistance, 2.7-slot Design, Auto-Extreme Technology, TUF compatibility testing, 144-hour validation program, ASUS GPU Tweak II & Driver, AMD Radeon FreeSync™	Axial-tech fan design, 2.7-slot Design, Super Alloy Power II, Auto-Extreme Technology, MaxContact Technology, ASUS FanConnect II, ASUS GPU Tweak II & Driver, AMD Radeon FreeSync™	Space-grade lubricant, IP5X dust resistance, 2.7-slot Design, Auto-Extreme Technology, TUF compatibility testing, 144-hour validation program, ASUS GPU Tweak II & Driver, AMD Radeon FreeSync™
Feature	Digital Max Resolution: 7680x4320 Power Connectors: 2 x 8-pin	Digital Max Resolution: 7680x4320 Power Connectors: 1 x 6-pin, 1 x 8-pin	Digital Max Resolution: 7680x4320 Power Connectors: 1 x 6-pin, 1 x 8-pin	Digital Max Resolution: 7680x4320 Power Connectors: 1 x 6-pin, 1 x 8-pin



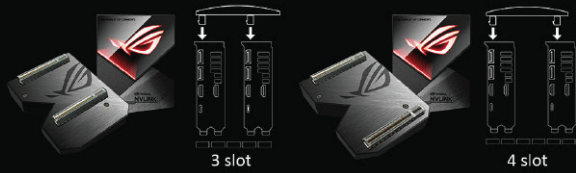
Model Name	ROG-STRIX-RX5600XT-T6G-GAMING	ROG-STRIX-RX5500XT-08G-GAMING	DUAL-RX5500XT-08G-EVO
Series	NAVI Series		
Core Clock(MHz)	1770 (OC)	1865 (OC)	1865 (OC)
CUDACore	2304	1408	1408
MemorySize	6GB GDDR6	8GB GDDR6	8GB GDDR6
Memory CLK(MHz)	14 Gbps	14 Gbps	14 Gbps
MemoryBus	192-bit	128-bit	128-bit
Cooling Solution	MaxContact Technology	MaxContact Technology	MaxContact Technology
Fan	3	3	3
Power Consumption	PSU: 450W	PSU: 450W	PSU: 450W
Card Bus	PCI-E 4.0	PCI-E 4.0	PCI-E 4.0
DirectXVersion	DX12	DX12	DX12
On Board I/O	HDMI 2.0b x 1 Dp1.4 x 3 HDCP Support 2.3	HDMI 2.0b x 1 Dp1.4 x 3 HDCP Support 2.3	HDMI 2.0b x 1 Dp1.4 x 3 HDCP Support 2.3
DisplaySupport	4	4	4
Card Size (inch)	12" x 5.1" x 2.1"	11" x 5" x 2.3"	9.5" x 5.1" x 1.9"
Asus Unique Feature	Axial-tech fan design, 2.7-slot Design, Super Alloy Power II, Auto-Extreme Technology, MaxContact Technology, ASUS FanConnect II, ASUS GPU Tweak II & Driver, Radeon Anti-Lag	Axial-tech fan design, Super Alloy Power II, A protective backplate, Auto-Extreme Technology, MaxContact Technology, ASUS FanConnect II, ASUS GPU Tweak II & Driver, Radeon Anti-Lag	Axial-tech fan design, IP5X dust resistance, A protective backplate, 144-hour validation program, Auto-Extreme Technology, MaxContact Technology, ASUS FanConnect II, ASUS GPU Tweak II & Driver, Radeon Anti-Lag
Feature	Digital Max Resolution: 7680x4320 Power Connectors: 1 x 6-pin, 1 x 8-pin	Digital Max Resolution: 7680x4320 Power Connectors: 1 x 8-pin	Digital Max Resolution: 7680x4320 Power Connectors: 1 x 8-pin

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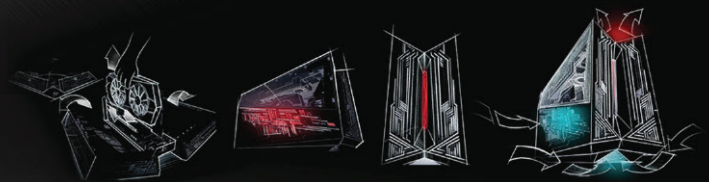
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