# **MSI MAG X670E TOMAHAWK WIFI motherboard**



Artikel Herstellernummer EAN MSI 241742 MAG X670E TOMAHAWK WIFI 4711377076562

# MAG UNITE AS ONE

The MAG series fights alongside gamers in pursuit of honor. With added military-inspired elements in these gaming products, they were reborn as the symbol of sturdiness and durability.

# **EXCLUSIVE FEATURE**

- Core Boost Technology
- 8 Layer PCB with 2oz Thickened Copper
- Digital PWM
- Steel Armor

# PREMIUM THERMAL SOLUTION

- Extented Heatsink
- M.2 Shield Frozr
- Pump Fan Support
- Heatsink with 7W/mK Thermal Pad

#### **HIGH-SPEED TRANSMISSION**

- 2.5G Network Solution
- Wi-Fi 6E
- Memory Boost
- Lightning Gen 5

# HARDWARE

# COOLING

# **COOLING OVERVIEW**

Extended Heatsink Extended Heatsink enlarges the surface of heat dissipation, ensuring even high- end processors to run in full speed.

M.2 Shield Frozr Keeps M.2 SSDs safe while preventing throttling, making them run faster.

#### Heavy Plated VRM Heatsink

The VRM heatsink covers the upper MOS and helps dissipate the heat.

7W/mK Thermal Pad & Additional Choke Pad

High quality 7W/mK MOSFET thermal pads and extra choke thermal pads ensure all cores running in high performcance.

# FULLY FAN CONTROL

# CONTROL IN ONE CLICK

MSI motherboards let you manage speeds and temperatures for all your system and CPU fans in BIOS and software with a simplified graphical interface. You can also set up to 4 temperature targets, which will adjust the fan speeds automatically.

### FROZR AI COOLING

Detecting CPU & GPU temperatures and automatically adjusting fan duty of system fans to a proper value by adopting MSI AI ENGINE.

#### AUTO DETECT YOUR FAN

MSI fan headers automatically detect fans running in DC or PWM mode for optimal tuning of fan speeds and silence. Hysteresis also makes your fans spin up fluently to make sure your system stays silent, no matter what.

#### WATER COOLING

#### OPTIMIZED FOR WATER COOLING

Designed to support the most popular All-In-One & customized water cooling solutions on the market. A dedicated water pump PIN header supports up to 3 amp, giving you full control of the water pump speed. A clearly marked 'keep-out-zone' allows for easy and safe installation and a perfect fit.

#### SYSTEM COOLING

#### DIY 2.0 - INTEGRATING WITH THE SYSTEM ENVIRONMENT

Connect and synchronize with MSI coolers and cases with strategically positioned pin-header locations including a dedicated pumpfan header.

#### POWER SOLUTION

# STRUCTURE

#### 14+2+1 DUET RAIL POWER SYSTEM

Unleash and sustain maximum performance with an aggressive VRM design built with digital CPU power system. Combining 8 + 8-pin power connectors and exclusive Core Boost technology, MAG series motherboard is ready to sustain heavy gaming loadings.

#### DIGITALL POWER DESIGN

A fully digital power design allows for faster and undistorted current delivery to the CPU at pin-point precision.

#### DOUBLE POWER CONNECTORS

Two 8-pin connectors deliver adequate power even for an overclocked multi-core CPU.

CORE BOOST

Premium layout not only support the multi-core CPU, also create the perfect conditions for your CPU overclocking.

# PCB DESIGN

#### OPTIMIZED PCB SOLUTION

The PCB design has been optimized for higher bandwidth and faster transfer speeds, which is also beneficial for reliable circuit transmission.

- 8 PCB layers

- IT-170GR PCB material

- 2oz Thickened Copper

# EZ OC TUNING

#### PERFORMANCE SWITCH

Performance Switch combines the benefits of AMD default PBO(Precision Boost Overdrive) and MSI's own OC settings, provides higher CPU performance in both status of single-core and multi-core. This is for users who dare for the maximum performance.

PBO THERMAL POINT

MSI PBO Thermal profiles are setting maximum CPU temperature at 85°C, 75°C and 65°C levels. With the thermal profiles, the CPU operates at lower voltage and temperature but remaining the same performance.

# CONFIG TDP

Config TDP is designed to provide ECO Mode (65W) or different TDP (PPT/TDC/EDC) settings for advanced users. By offering several profiles for different TDP settings in Click BIOS 5, Config TDP makes setting TDP profiles easier and don't need to modify settings manually for each TDP.

# MORE FOR PERFORMANCE

#### 1-SECOND OVERCLOCKING!

MSI Game Boost enables one-second overclocking, giving you the performance boost you need to get more FPS.

#### LOAD-LINE CALIBRATION

What you set, is what you get. LLC makes sure your CPU voltage remains 100% stable under any load. This greatly improves stability when demanding more CPU performance.

### OVERVOLTAGE PROTECTION

Prevents potential short-circuit damage to the CPU and other critical components.

#### DIY FRIENDLY

EZ M.2 CLIP

Have trouble turning screws? MSI innovative EZ M.2 clip assist you install an M.2 SSD quickly and effortlessly.

#### MSI DRIVER UTILITY INSTALLER

Once connected to the internet, MSI Driver Utility Installer will detect and present suitable drivers and utilities automatically, you can download and install with just a few clicks.

#### FLASH BIOS BUTTON

Run into trouble when updating your BIOS or somehow corrupted it? Don't worry, MSI motherboards offer multiple options to successfully boot your system again.

Flash the BIOS with only a connected power supply by following a few steps. CPU and memory not required.

# MORE FOR DIY FRIENDLY

#### WINDOWS 11 CERTIFIED

With MSI you benefit from great compatibility and a worry-free user experience when using Microsoft Windows 11. With a true dedication to performance, our R&D team has made sure everything works as intended when using the latest version of Microsoft Windows on any MSI product.

#### PRE-INSTALLED I/O SHIELD

The design protect your IO ports and makes your installation process easier and safer.

XL CLIP

The enlarged PCI-E clip helps you swap or remove your devices easier. Keep the PCI-E slot stronger and safer.

#### EZ DEBUG LED

Onboard LEDs will indicate the source of the problem so you know exactly where to look to get up and running again.

#### KEEP OUT ZONE

MSI motherboards circuitry ensure the case standoff keep out zones are pure and clean. Moreover, the protective paint is printed around each screw hole to prevent parts from being scratched or damaged to the motherboard.

#### PERFORMANCE

# EXPANSION

# LIGHTNING GEN 5 PCI-E

LIGHTNING GEN 5 PCI-E WITH STEEL ARMOR LIGHTNING GEN 5 PCI-E Doubling over the previous generation, the bandwidth of a x16 interface can reach 128GB/s.

SMT PCIE 5.0 SLOT

The advanced SMT(Surface Mount Technology) PCIE slot diminish interference and electrical noise, fully support the PCI-E 5.0 signal.

# REINFORCED, HEAVY SOLDERED CONNECTIONS

Secure to the motherboard with extra solder points and support the weight of heavy graphics cards.

#### STORAGE

#### FAST AND FUTURE-READY STORAGE

MSI MAG series motherboards support all the latest storage standards, which allows users to connect any ultra-fast storage device. Start games faster, load levels faster and have a real advantage over your enemies.

#### USB

#### **LIGHTNING USB 20G**

#### DOUBLE BANDWIDTH WITH LIGHTNING USB 3.2 GEN 2x2 20G

Using USB 3.2 devices has never been faster! MAG X670 series motherboards offer a wide variety of options to connect and boost your USB devices, offering never before seen USB speeds up to 20Gb/s when connecting the Rear USB Type-C.

# FRONT USB TYPE-C

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MSI gaming motherboards support USB Front Type-C that allows gamers to connect with the latest USB devices. Built up a system with MSI PC case to have the most convenient experience.

#### MEMORY

#### DDR5

#### LATEST DDR5 MEMORY WITH SMT SLOT

A huge step of DDR performance enhancement with the latest DDR5 memory. Combines with dedicated SMT welding process and MSI Memory Boost technology, MAG X670E TOMAHAWK WIFI is ready to deliver the world class memory performance.

The advanced SMT(Surface Mount Technology) welding process reduces the defect rate of slot solder joints, electromagnetism, and interference. Combining with exclusive Memory Boost technology allows MSI motherboards to deliver the clean and pure high-frequency DDR5 signal.

### EXPO

# EASY OVERCLOCKING WITH EXPO PROFILE

MSI conducts thorough memory testing with the most popular memory brands under extreme conditions to ensure your system runs stable no matter what. Easy to enable EXPO profile with auto power settings to get the best memory speed and stability.

# **BIOS & SOFTWARE**

#### **CLICK BIOS 5**

Get more from a loaded BIOS designed for ease of use. Fine-tune the motherboard for gaming performance, efficiency, or overclocking world records!

EXPO (EXTENDED PROFILES FOR OVERCLOCKING) Choose from a preset EXPO profile and automatically overclock compatible DDR memory.

GAME BOOST Quickly overclock your CPU with a single button for more performance.

M-FLASH

Conveniently flash or upgrade the BIOS in a few minutes from the CMOS Setup Utility.

# HARDWARE MONITOR

Get immediate access to your critical hardware information in real-time including temperature, memory capacity, clock speed, and voltage.

# MEMORY TRY IT

Get extreme speed out of your system memory and get more performance.

### SEARCH & FAVORITES

A permanent search & favorite option in the top right corner moves you through the BIOS menus quickly.

#### **MSI CENTER**

MSI brand new MSI Center unifies a suite of MSI software utilities into a single centralized application. Take control of advanced motherboards features and unleash endless possibilities.

#### Mystic Light

Create your own colorful masterpiece with ease. Splash any color you want with just a few clicks!

#### True Color

Optimized monitor's brightness and color in several modes for different situation, you can also customize by yourself.

# User Scenario

One click for setting your computer, even customize own profile as your preference.

#### Hardware Monitoring

Get immediate access to your critical hardware information in real-time.

#### **Profile Setting**

Tune select motherboard settings in the OC Setting menu, where options to boost core performance and optimize system cooling are presented in an intuitive interface.

#### Fan Center

Assume complete control of your fans with Fan Center. Set up to four CPU temperature targets and the motherboard will adjust fan speeds automatically.

#### System Diagnosis

Restore and backup your MSI storage devices in one click to provide stable system usage, you can even monitor the storage status to prevent system crash or data missing.

#### AIDA64

# EXCLUSIVE UI OF AIDA64 EXTREME

MSI motherboards provide 60 days free trial of AIDA64 Extreme - MSI edition. AIDA64 Extreme is an almighty application for system information, diagnostics and benchmarks. With the application, you can monitor the detailed hardware and software information on PC and save it to file in multiple formats such as CSV and HTML.

# NORTON 360

# OPT-IN TO CYBER SAFETY WITH NORTON 360 DELUXE

Multiple layers of protection for your devices, online privacy features including our Secure VPN, plus Dark Web Monitoring - all in a single solution. With MSI motherboards, you can enjoy a 60-day free trial of Norton 360 Deluxe.

- Up to 50 GB PC cloud backup

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# **RESIZABLE BAR**

Resizable BAR (Re-Size BAR) is an advanced PCI Express feature that enables the CPU to access the entire GPU frame buffer at once and improve performance.

# CONNECTIVITY

# AUDIO

# AUDIO BOOST

- HIGH DEFINITION ALC1200 AUDIO PROCESSOR
- HIGH QUALITY AUDIO CAPACITORS
- HIGH QUALITY AUDIO JACKS WITH S/PDIF
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#### EXTEND YOUR RGB EXPERIENCE WITH EASE

Add more color if you want! Mystic Light Extension pin header provides an intuitive way to control additional RGB strips and other RGB peripherals added to a system, without needing a separate RGB controller.

A-RAINBOW V2

Supports 5V Addressable RGB devices. Compatible with ARGB Gen2 / Gen1 devices.

RGB Supports 12V RGB devices.

AMBIENT LINK Synchronize lighting theme with compatible lighting devices.

#### NETWORKING

# 2.5G LAN & WI-FI 6E

HIGH-BANDWIDTH AND LOW-LATENCY NETWORK MSI's premium network solution provides incredible data transfer speed for demanding users.

- Wi-Fi 6E
- Bluetooth 5.3
- 2.5G LAN

# Zusammenfassung

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- Wi-Fi 6E
- Bluetooth 5.3
- 2.5G LAN

MSI MAG X670E TOMAHAWK WIFI, AMD, Socket AM5, AMD Ryzen™ 7, Socket AM5, DDR5-SDRAM, 128 GB

MSI MAG X670E TOMAHAWK WIFI. Processor manufacturer: AMD, Processor socket: Socket AM5, Compatible processor series: AMD Ryzen™ 7. Supported memory types: DDR5-SDRAM, Maximum internal memory: 128 GB, Memory channels: Dual-channel. Supported storage drive interfaces: M.2, SATA, RAID levels: 0, 1, 10. Ethernet interface type: 2.5 Gigabit Ethernet, LAN controller: Realtek RTL8125-BG, Top Wi-Fi standard: Wi-Fi 6E (802.11ax). Component for: PC, Motherboard form factor: ATX, Motherboard chipset family: AMD

# Merkmale

		Network	
Weight & dimensions		Ethernet LAN	Yes
Width	243.8 mm	Ethernet interface type	2.5 Gigabit Ethernet Realtek RTL8125-BG
Depth	304.8 mm	Wi-Fi	Yes
		Top Wi-Fi standard	Wi-Fi 6E (802.11ax)
Storage controllers		Wi-Fi standards	802.11a, 802.11b, 802.11g, Wi-Fi 4 (802.11n), Wi-Fi 5 (802.11ac), Wi-Fi 6 (802.11ax), Wi-Fi 6E
Supported storage drive	M.2, SATA		(802.11ax)
interfaces		Bluetooth	Yes
RAID support	Yes	Bluetooth version	5.3
RAID levels	0, 1, 10		

Features

# **Expansion slots**

PCI Express x1 (Gen 3.x) slots	1
PCI Express x16 (Gen 4.x) slots	2
PCI Express x16 (Gen 5.x) slots	1
Number of M.2 (M) slots	4

# Processor

Processor manufacturerAMDProcessor socketSocket AM5Compatible processor seriesAMD Ryzen™7AMD Opteron series7000Maximum number of SMP1processorsSupported processor socketsSupported processor socketsSocket AM5

# Memory

Supported memory types DDR5-SDRAM Number of memory slots 4 Memory channels Dual-channel ECC ?ompatibility Non-ECC Supported memory clock 4800,5000,5200,5400,5600,5 speeds 800,6000,6200,6400,6600 MHz Supported memory clock 6600 MHz speed (max) Maximum internal memory 128 GB

Motherboard chipset AMD X670 Audio chip Realtek ALC1200 Audio output channels 7.1 channels Product colour Black Component for PC Motherboard form factor ATX Motherboard chipset family AMD Power source type ATX Windows operating systems Windows 10, Windows 11 supported

# Internal I/O

USB 2.0 connectors	4
USB 3.2 Gen 1 (3.1 Gen 1)	4
connectors	
USB 3.2 Gen 2 (3.1 Gen 2)	1
connectors	
Number of SATA III connectors	4
Front panel audio connector	Yes
Front panel connector	Yes
ATX Power connector (24-pin)	Yes
CPU fan connector	Yes
Chassis intrusion connector	Yes
TPM connector	Yes
RGB LED pin header	Yes

# Rear panel I/O ports

USB 2.0 ports quantity	4			
USB 3.2 Gen 1 (3.1 Gen 1) Type	-4			
A ports quantity				
USB 3.2 Gen 2 (3.1 Gen 2) Type	-2			
A ports quantity				
USB 3.2 Gen 2 (3.1 Gen 2) Type	-1			
C ports quantity				
USB 3.2 Gen 2x2 Type-C ports	1			
quantity				
Ethernet LAN (RJ-45) ports	1			
HDMI ports quantity	1			
HDMI version	2.1			
DisplayPorts quantity	1			
DisplayPort version	1.4			
Microphone in	Yes			
S/PDIF out port	Yes			

Preisänderungen und Irrtümer vorbehalten. Alle Produkte solange der Vorrat reicht.