



SABERTOOTH 990FX
AMD 990FX(AM3+) Military-Grade
Motherboard with Aerospace-Grade
CeraM!X Cooling Tech.

- TUF CeraM!X Heatsink Coating Tech. - 50% Larger area for heat dissipation with the revolutionary ceramics-coating technology
- TUF Thermal Radar - Real Time Temp Detection and Heat Removal
- DIGI+ VRM - Herald the Arrival of a New Digital Power Design Era
- TUF Components [Alloy Choke, Cap. & MOSFET; Certified by Military-standard] - Certified for Tough Duty
- E.S.P. [Efficient Switching Power Design] - Optimal power efficiency for key components



TUF /tʌf/, stands for The Ultimate Force.

The TUF series delivers a "tough" image. With the unique design & high quality components (military-standard), TUF series is born for pursuing the preeminent stability, all-round compatibility, and extreme durability



"Ultimate COOL!" Thermal Solution



CeraM!X - Heatsink Coating Tech.

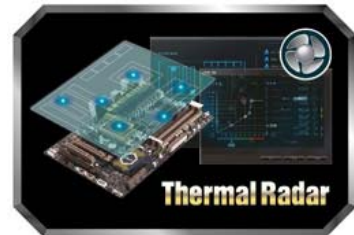
50% Larger area for heat dissipation with the revolutionary ceramics-coating technology
Innovative ceramics effectively conducts heat away from the system. It replaces traditional anti-oxidant to dissipate heat better with its microscopic irregular surface and enlarged area. Better cooling leads to overall improvement in system stability.



TUF Thermal Radar

Real Time Temp Detection and Heat Removal

The TUF Thermal Radar monitors temps in critical parts of the motherboard in real time, automatically adjusting fan speeds to make sure the system maintains high stability without overheating. It consists of multiple sensors for various components on the motherboard, giving users the ability to monitor each one individually. The Thermal Radar automatically calculates ideal fan speeds based on different parameters selected by users for each component, keeping everything cooler and longer lasting.



"TUF ENGINE!" Power Design



DIGI+ VRM

Herald the Arrival of a New Digital Power Design Era

The new ASUS DIGI+ VRM design upgrades motherboard power delivery to a digital standard. The 8+2 digital architecture provides the highest power efficiency, generating less heat to enhance longer component lifespan and ensure minimal powerloss. With ASUS DIGI+ VRM, users can easily adjust power phase performance, enabling new PWM voltage and frequency modulation controls. Digital 8+2 power phase design also expands the modulation spectrum for improved stability and lower VRM switching noise by dynamically detecting system load, empowering users with superior flexibility and perfect precision to ensure optimized performance, extreme system stability, and greater power efficiency.





UEFI BIOS

Flexible and Easy BIOS Interface

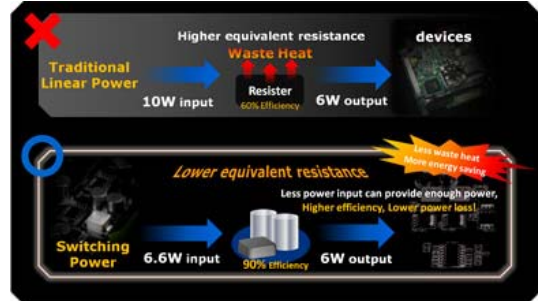
ASUS UEFI BIOS offers a user-friendly interface that goes beyond traditional keyboard-only BIOS controls to enable more flexible and convenient mouse input. Users can easily navigate the UEFI BIOS with the smoothness of their operating system. Quick and simple overclocking and setup sharing is facilitated by the F12 hotkey BIOS snapshot feature. The exclusive EZ Mode displays frequently-accessed setup info, while the Advanced Mode is for experienced performance enthusiasts that demand far more intricate system control, including detailed DRAM information.



E.S.P. Efficient Switching Power Design

Optimal power efficiency for key components

Exclusively for this motherboard, the switching power design is provided not only for the CPU and memory, but also for other key components such as graphics cards, LAN and USB 3.0. E.S.P. dramatically improves system efficiency and reduces heat generation.



TUF Components (Alloy Choke, Cap. & MOSFET; Certified by Military-standard)

Certified for Tough Duty

Get rugged performance even in the most challenging conditions with robust TUF chokes, solid capacitors, and MOSFETs—certified through third-party, military-grade testing. TUF Chokes, also known as the

"Alloy Choke", is a made of a compound of various types of metal instead standard iron, enables the support of up to a massive 40A of rated current, 25% higher than conventional component. Furthermore, the single piece packaging also eliminates the emission of vibration noise, delivering superb characteristics as well as durability under extreme conditions.



"Safe & Stable!" Guardian Angel



MemOK!

Any Memory is A-OK!

MemOK! quickly ensures memory boot compatibility. This remarkable memory rescue tool requires a mere push of a button to patch memory issues. MemOK! determines failsafe settings and dramatically improves your system boot success. Get your system up and running in no time!



ESD Guards

Unique protection of motherboard components from unexpected electrostatic discharges (ESD)

Electrostatic discharge (ESD) can happen suddenly and its damaging effects is often underestimated. Exclusive ASUS anti-static chip, a protective circuit design, and the I/O shield provides four times better protection to extend component lifespan.

Latest Transfer Technology

AI Suite II

One-stop Access to Innovative ASUS Features

With its user-friendly interface, ASUS AI Suite II consolidates all exclusive ASUS features into one simple-to-use package. It allows users to supervise overclocking, energy management, fan speed, voltage and sensor readings. This all-in-one software offers diverse and easy to use functions, with no need to switch back and forth between different utilities



Front Panel USB 3.0 Support

Convenient USB 3.0 Front Panel Compatibility

ASUS provides standardized USB 3.0 front panel support, compatible with any chassis. Enjoy faster throughput of USB 3.0 without relegating cables or devices to the hard-to-reach rear I/O.



Complete USB 3.0 Solution

Double USB access, double convenience

ASUS facilitates strategic USB 3.0 accessibility for both the front and rear panel - 4 USB 3.0 ports in total. Experience the latest plug & play connectivity at speeds up to 10 times faster than USB 2.0. The SABERTOOTH 990FX affords greater convenience to high speed connectivity.



CPU, Chipset and Graphics features

AMD® Socket AM3+ for AMD® FX Series CPU up to 8-core

This motherboard supports latest AMD® Socket AM3+ multi-core processors with up to 8-core native CPU cores and delivers better overclocking capabilities with less power consumption. It features AMD Turbo CORE Technology 2.0 and accelerates data transfer rate up to 5200MT/s via HyperTransport™ 3.0 based system bus. This motherboard also supports AMD® CPUs in the new 32nm manufacturing process.



AMD® 990FX Chipset

AMD 990FX Chipset is designed to support up to 5.2GT/s HyperTransport™ 3.0 (HT 3.0) interface speed and dual PCI Express™ 2.0 x16 graphics. It is optimized with AMD latest AM3+ and multi-core CPUs to provide excellent system performance and overclocking capabilities.



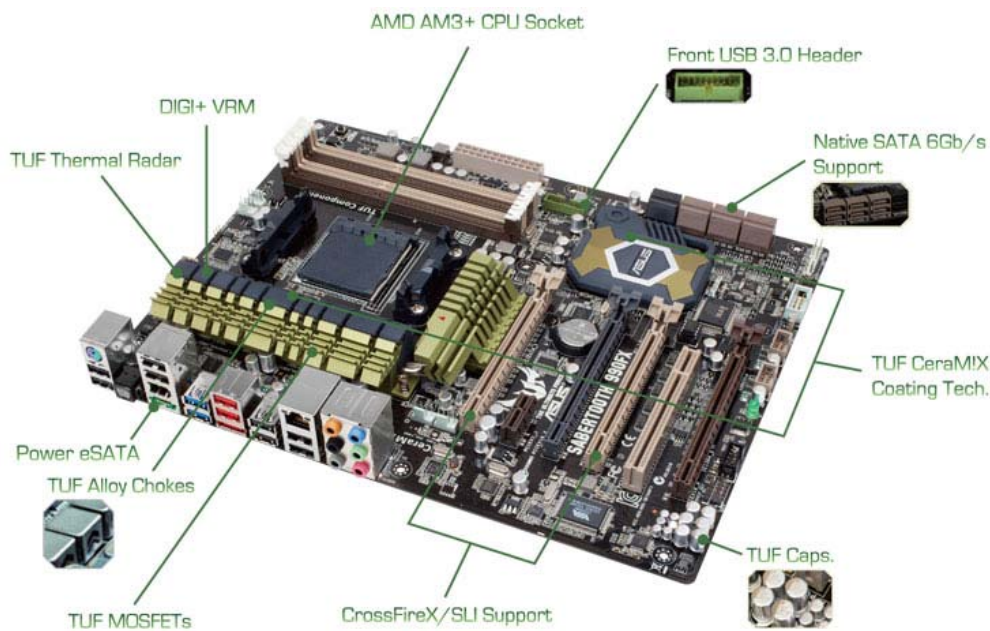
Quad-GPU SLI and Quad-GPU CrossFireX Support!

Flexible Multi-GPU solutions, Your Weapon of Choice!

SABERTOOTH 990FX brings multi-GPU configurations through both SLI™ and CrossFireX. This motherboard features the powerful AMD® 990FX/SB950 platform, optimizing PCIe allocation in multiple GPU configurations. Expect a brand new gaming style like you've never experienced before!



SABERTOOTH 990FX Product Overview



Guaranteed Service

5 Year Warranty

The ultimate reliability of TUF Series is not only based on advanced thermal design, military-standard components and strict reliability tests, but also on the 5 Years Warranty* which is proudly provided.

* This service will follow the local standard and service policy.

** This service only covers failures or malfunctions that occur during the warranty period and under normal use conditions, as well as any material or workmanship defects.



Specifications

CPU	AMD AM3+ FX™/Phenom™ II/Athlon™ II/Sempron™ 100 Series Processors Supports AM3+ 32 nm CPU Supports CPU up to 8 cores
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Chipset	Supports CPU up to 140 W AMD Cool 'n' Quiet™ Technology AMD 990FX/SB950
Memory	4 x DIMM, Max. 32GB, DDR3 1866/1600/1333/1066 Hz ECC, Non-ECC, Un-buffered Memory Dual Channel Memory Architecture * Refer to www.asus.com or user manual for the Memory QVL (Qualified Vendors Lists). * Due to OS limitation, when installing total memory of 4GB capacity or more, Windows® 32-bit operation system may only recognize less than 3GB. Install a 64-bit Windows® OS when you want to install 4GB or more memory on the motherboard. * Due to CPU spec., AMD 100 series CPUs support up to DDR3 1066MHz. With ASUS design, this motherboard can support up to DDR3 1333MHz.
Multi-GPU Support	Supports NVIDIA® Quad-GPU SLI™ Technology Supports AMD Quad-GPU CrossFireX™ Technology
Expansion Slots	3 x PCIe 2.0 x16 (dual x16 or x16, x8, x8) *1 1 x PCIe 2.0 x16 (x4 mode, black) 1 x PCIe 2.0 x1 1 x PCI
Storage	AMD SB950 controller : 6 x SATA 6Gb/s port(s), brown Support Raid 0, 1, 5, 10 JMicron® JMB362 controller : 2 x SATA 3Gb/s port(s), black 1 x Power eSATA 3Gb/s port(s), green 1 x eSATA 3Gb/s port(s), red
LAN	Realtek® 8111E , 1 x Gigabit LAN Controller(s)
Audio	Realtek® ALC 892 8-Channel High Definition Audio CODEC - Supports : Jack-detection, Multi-streaming, Front Panel Jack-retasking Audio Feature : - Absolute Pitch 192kHz/ 24-bit True BD Lossless Sound - Blu-ray audio layer Content Protection - ASUS Noise Filter - Optical S/PDIF out port(s) at back panel
IEEE 1394	VIA® 6308P controller 2 x IEEE 1394a port(s) (1 at mid-board, 1 at back panel)
USB Ports	ASMedia® USB 3.0 controller : 4 x USB 3.0 port(s) (2 at back panel, blue, 2 at mid-board) AMD SB950 controller : 14 x USB 2.0 port(s) (10 at back panel, black+red, 4 at mid-board)
Special Features	ASUS Dual Intelligent Processors 2 with DIGI+ VRM : TUF ENGINE! Power Design : - 8 +2 Digital Phase Power Design - TUF Components (Alloy choke, Cap. & MOSFET; certified by military-standard) - ASUS DIGI+ VRM Utility - E.S.P. : Efficient Switching Power Design Ultimate COOL! Thermal Solution : - TUF CeraMIX Heatsink Coating Tech. - TUF Thermal Radar ASUS Exclusive Features : - MemOK! - AI Suite II - Anti-Surge - ESD Guards - Front Panel USB 3.0 Support - ASUS UEFI BIOS EZ Mode featuring friendly graphics user interface ASUS EZ DIY : - ASUS Q-Shield - ASUS O.C. Profile - ASUS EZ Flash 2 - ASUS MyLogo 2 - Multi-language BIOS ASUS Q-Design : - ASUS Q-LED (CPU, DRAM, VGA, Boot Device LED) - ASUS Q-Slot - ASUS Q-DIMM - ASUS Q-Connector
Back I/O Ports	1 x PS/2 keyboard/mouse combo port(s) 1 x eSATA 3Gb/s 1 x Power eSATA 3Gb/s 1 x IEEE 1394a 1 x LAN (RJ45) port(s) 2 x USB 3.0 10 x USB 2.0

Internal I/O Ports	<p>1 x Optical S/PDIF out 6 x Audio jack(s)</p> <hr/> <p>1 x USB 3.0 connector(s) support(s) additional 2 USB 3.0 port(s) (19-pin, moss green) 2 x USB 2.0 connector(s) support(s) additional 4 USB 2.0 port(s) 1 x COM port(s) connector(s) 6 x SATA 6Gb/s connector(s) 2 x SATA 3Gb/s connector(s) 1 x IEEE 1394a connector(s) 1 x CPU Fan connector(s) (4 -pin) 4 x Chassis Fan connector(s) (3 x 4 -pin, 1 x 3 -pin) 1 x Optional Fan connector(s) (4 -pin) 1 x S/PDIF out header(s) 1 x 24-pin EATX Power connector(s) 1 x 8-pin ATX 12V Power connector(s) 1 x Front panel audio connector(s) (AAFP) 1 x System panel(s) (Q-Connector) 1 x MemOK! button(s) 1 x Clear CMOS jumper(s)</p>
Accessories	<p>User's manual ASUS Q-Shield 4 x SATA 6Gb/s cable(s) 1 x SLI bridge(s) 1 x Q-connector(s) (2 in 1) 1 x TUF Certification card(s) 1 x TUF 5 Year Warranty manual(s) (by region)</p>
BIOS	<p>32 Mb Flash ROM, UEFI BIOS, PnP, DMI2.0, WfM2.0, SM BIOS 2.5, ACPI 2.0a, Multi-language BIOS, ASUS EZ Flash 2,</p>
Manageability	<p>WfM 2.0, DMI 2.0, WOL by PME, WOR by PME, PXE</p>
Support Disc	<p>Drivers Anti-virus software (OEM version) ASUS Update ASUS Utilities</p>
Form Factor	<p>ATX Form Factor 12 inch x 9.6 inch (30.5 cm x 24.4 cm)</p>
Note	<p>*1: When running dual graphics cards, be sure to insert the card in the first and third PCIe16 slot to get the best performance.</p>