

**AM3+**  
CPU Ready

Visit the GIGABYTE website for details

**9-SERIES**  
CHIPSET

AMD

AMD 990FX CHIPSET  
AM3+ SOCKET

NVIDIA  
**SLI**  
READY

**RADEON**  
GRAPHICS

AMD

AMD CrossFireX  
TECHNOLOGY



**4** Way  
CrossFireX

**4** Way SLI

Driver  
MOSFET



**8+2**  
PHASE POWER

**333**  
UNCAPACITATED

**Ultra Durable 3**  
202 Copper PCB  
Japanese 500 Capacitor  
Lower Florent  
Fermat Core

**Qualcomm**  
**3TB+**  
Hybrid EFI Technology

**108dB**

**Blu-ray**  
All Time Limited Price

**ON/OFF**  
Charge

**EASY**  
ENERGYSIST

**GIGABYTE**



# Next Generation AM3+ Black Socket

**AM3+**  
CPU Ready

Visit the GIGABYTE website for details.



1. Supports next generation of 32nm AM3+ FX series CPU
2. Faster data link between CPU and PWM – 3.4MHz from 0.4MHz
3. More efficient power load line with better power supply efficiency
4. Supports higher current – from 110A to 145A 32% increase
5. Backwards compatibility to support current AM3 PhenomII / Athlon II CPU
6. Improved heatsink/ cooler retention clips for more efficient air flow

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# Ultimate Graphics Configuration



**990FXA-UD7 offers the best 3D gaming experience ever with the ultimate multi-GPU CrossFire X and SLI support**

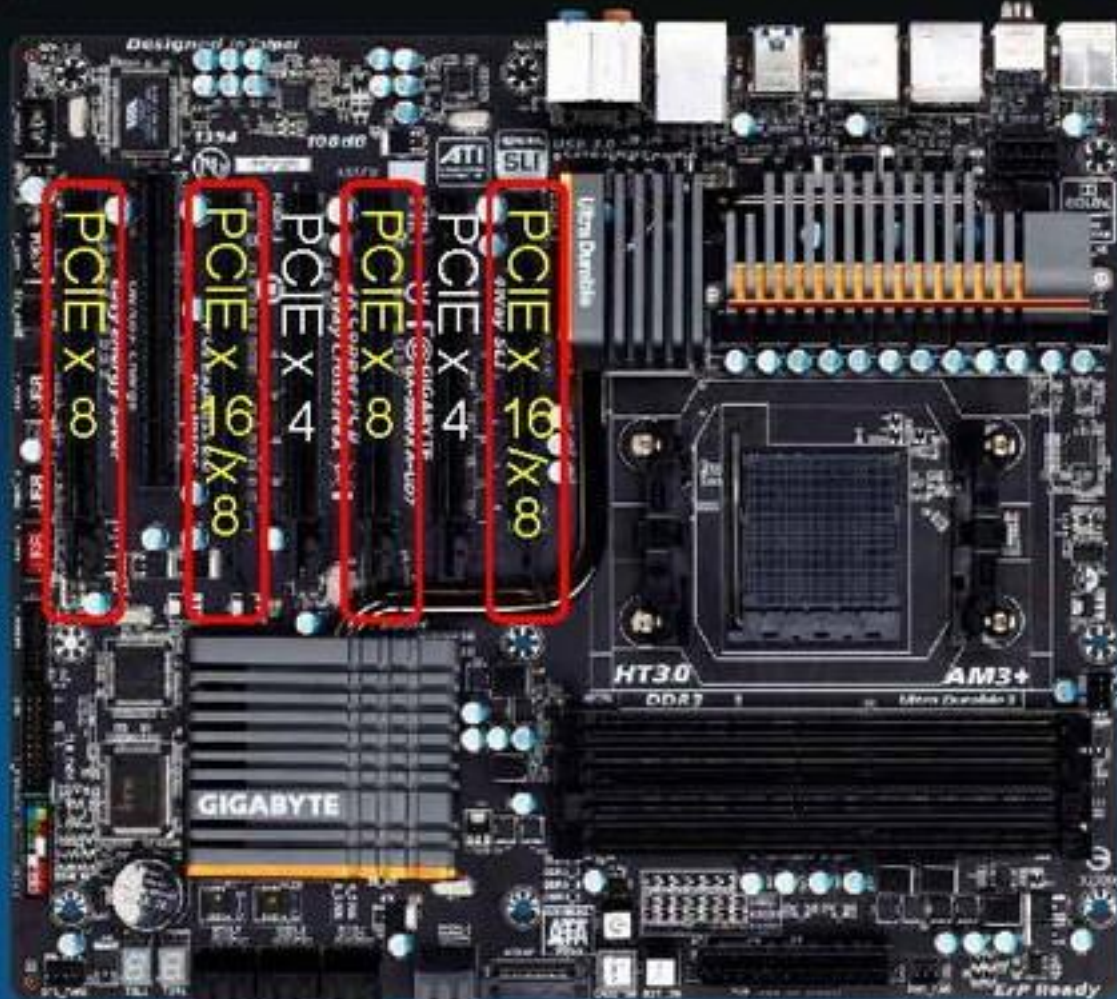
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# 6 PCI Express Gen 2.0 Slots on an ATX!

## Maximum Graphics Support

305mm



- True ATX Form Factor
- 305mm x 264mm
- 6 PCIe Gen 2.0 slots
- Fits a broad range of standard mid-tower chassis



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# Designed for Maximum Overclocking

**AM3+**  
CPU Ready

Visit the GIGABYTE website for details.

## Born to be Unlocked:

All AMD FX Series processors are 'unlocked' and designed to be overclocked straight out of the box

## Hardware Over Voltage Control ICs:

Offers more options for system overclocking compared to standard GPIO controller



## Built-in Debugging LEDs:

Helps overclockers find the absolute maximum performance configuration

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# GIGABYTE Unique Features for O. C.



- Hardware Over Voltage Control IC
- Provides more voltage control options for CPU, Chipset & memory than before
- HW linear real time voltage control, with no delay compared to previous GPIO controller
- Finer stepping of 10 mV min (0.001V)

All GIGABYTE 900series motherboards are equipped with OV control ICs



# The Ultimate AMD Gaming Motherboard

## Ultimate AMD Processing:

Supports forthcoming AMD FX-Series CPUs  
Up to 8 Unlocked "Bulldozer" cores  
Highly Overclockable



## Ultimate Discrete Graphics platform:

Supports Multi-GPU setups inc:  
2-way, 3-way and 4-way  
ATI Crossfire X™ / SLI™



CRYSIS 2



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# Driver MOSFETs



Discrete PowerMOS x 2  
Driver IC x 1



Traditional MOSFET + Driver IC

Mounting area  
reduced by  
50% !



Driver-MOSFET

**3 in 1 package  
reduces  
mounting area  
by 50%!**

## Benefits of GIGABYTE's Ultra Durable 3 with Driver-MOSFETs

	<b>GIGABYTE's Ultra Durable 3 with Driver-MOSFETs</b>	Traditional Design
Energy Efficiency	<b>Good</b>	Poor
Component Switching Power Loss	<b>Low</b>	High
Heat Generation	<b>Low</b>	High
Durability	<b>High</b>	Low

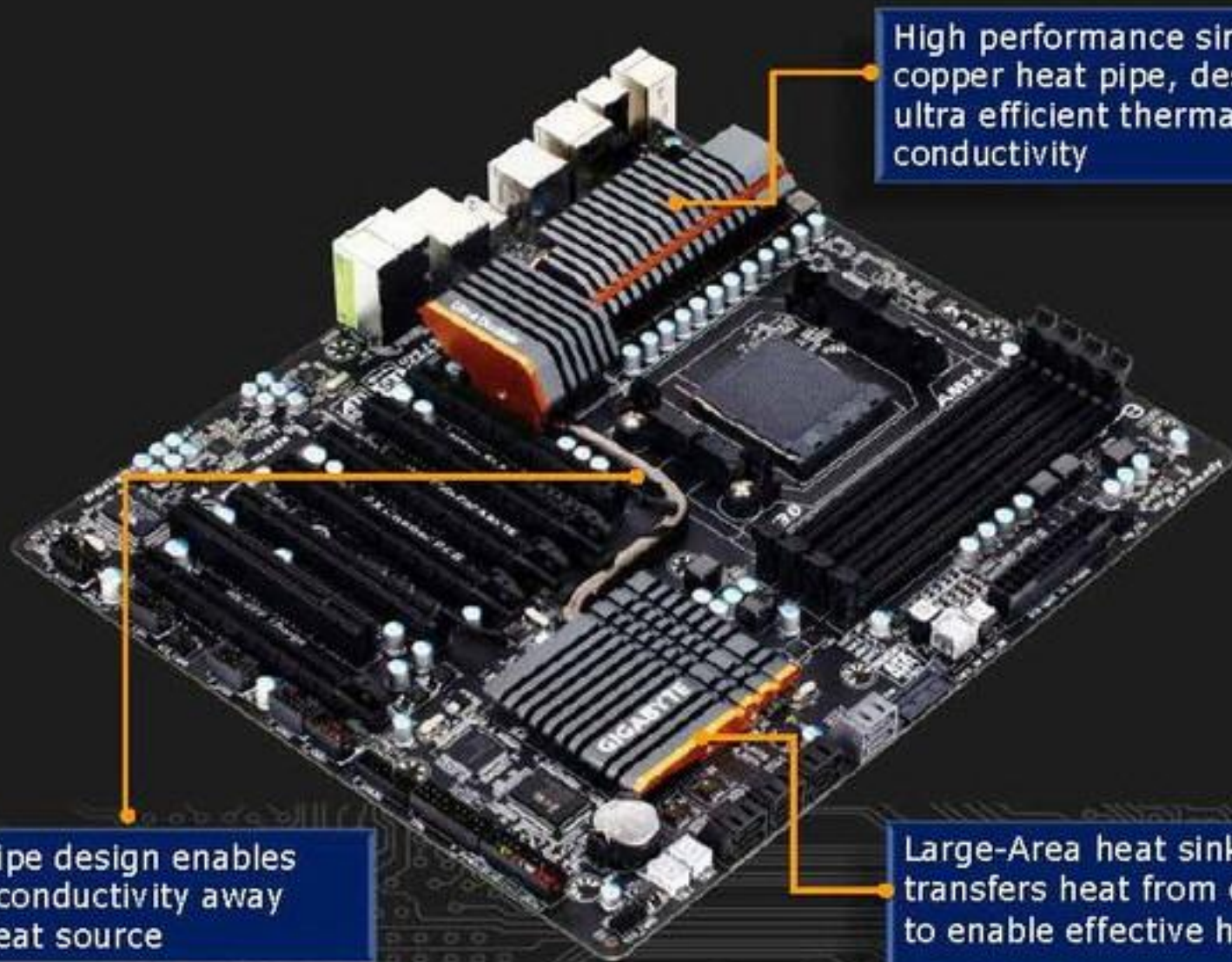
**Higher phase count enables optimum power delivery and more stable voltage**

**Delivers higher power transfer rate**

**Increased efficiency at higher switching frequencies**



# Extreme Cooling Solution



High performance sintered copper heat pipe, designed for ultra efficient thermal conductivity

Heat-pipe design enables better conductivity away from heat source

Large-Area heat sink rapidly transfers heat from components to enable effective heat removal



# DualBIOS™ 3TB+ HDD Support (Hybrid EFI Technology)



Hybrid EFI Technology combines the benefits of GIGABYTE's mature BIOS platform including stability and compatibility with 3rd party products with 3TB+ HDD support from EFI technology, allowing GIGABYTE to offer the best of both worlds through a quick and easy BIOS update using GIGABYTE's @BIOS utility that is freely available from the GIGABYTE website.

GIGABYTE DualBIOS™ is a patented technology that automatically recovers BIOS data when the main BIOS has crashed or failed. Featuring 2 physical BIOS ROMs integrated onboard, GIGABYTE DualBIOS™ allows quick and seamless recovery from BIOS damage or failure due to viruses or improper BIOS updating. In addition, GIGABYTE DualBIOS™ now supports 3TB+ (terabyte) hard drive booting without the need for partitioning, and enables more data storage on a single hard drive.



# Unprecedented Connectivity with 4 USB 3.0 Ports

990FX Chip  
PCIE Gen2 x1, 5Gb/s    PCIE Gen2 x1, 5Gb/s

USB 3.0 controller

USB 3.0 controller

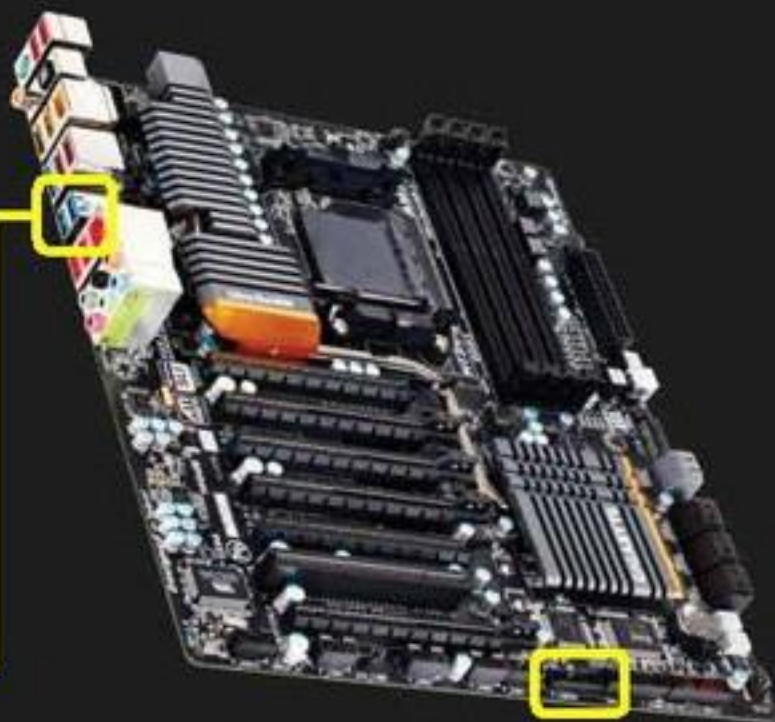
USB 3.0

① ②

③ ④



Supports 6 USB3.0 Ports  
in rear I/O panel



Additional USB 3.0 Pin Headers  
provide 2 easy access front ports



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# One Fuse per USB Port



- Each USB port has its own dedicated power fuse
- Prevents unwanted USB port failure
- Safe guards important data during transfer

## GIGABYTE USB Design



## Traditional USB Design





# 10 x SATA 3 Ports for Superfast Data Access



Marvell  
SE9172  
Chip

Marvell  
SE9172  
Chip

AMD  
SB 950  
chip

8 x SATA 3 ports  
on board for  
flexible internal  
data storage

9



**eSATA/USB  
Combo**

eSATA 3 (6Gbps) and USB in one port

10



**eSATA**

eSATA 3 (6Gbps) port

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# Turbo XHD

## No RAID setup required

### Step 1:

Automatically detects the 2 new SATA 3 HDD during boot up



### Step 2:

Select 'Yes' when power on to continue with automatic RAID configuration





# Turbo XHD

Compared with setting RAID 0 up manually...

## Turbo XHD- Full Automatic RAID 0

```
-----  
*  
* There are 2 SATA 6G hard drives installed.  
*  
* Enable XHD for these 2 drives will gain more  
* hard drives performance !!  
*  
-----  
Allow BIOS to automatically configure XHD for you?  
Y: Yes! Please enable XHD for me.  
-----  
Any key: Continue...  
Select option.... 5  
  
GIGABYTE BIOS Setup (F9):XpressRecoveryZ (F12):Boot Menu (End):QFlash  
10/23/2010-767-760710e4c-00
```

## Manual RAID 0



Just hit the "Y" to make things easy!

# 990FXA-UD7 Key Features 1

8+2 power phase with Ultra Durable 3 design for AM3+ 8core CPU support

Supports new 32nm FX™ series processors with socket AM3+

4 USB3.0 ports with superfast transfer rates of up to 5 Gbps

1 eSATA/USB combo port & 1 eSATA port for enhanced storage flexibility

6 PCIe 2.0 graphic interfaces support both 4 way ATI CrossFireX & 4 way NVIDIA SLI technology

2 1394a ports for expanding function usage (1 onboard, 1 on rear)



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# 990FXA-UD7 Key Features 2



Precision OV provides more precise voltage control for CPU, Chipset and memory

Support for dual channel DDR3 memory

Onboard Quick Switches for easy access on a testbench work

1 ATX 4pin connector for VGA card power supply

10 SATA3 6Gb/s ports with RAID (8 onboard, 2 on rear as eSATA)

GIGABYTE Patented DualBIOS™ Technology with booting support for 3TB+ (terabytes) hard drives

Onboard Debug LED

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# 990FXA-UD7 Specification

## Processor

AMD FX™ series processors  
with socket AM3+

## Chipset

AMD 990FX+SB950 Chipset  
2 x ETron USB 3.0 controller  
2 x Marvell SE9172 SATA 3 controller  
T.I IEEE 1394 controller  
RTL8111E GbE LAN controller  
8 Channel ALC889 Audio controller

## Memory

Supports 2 Channel DDR3 with 4 DIMM slots

## Expansion Slots

2 x PCI Express x16 slots (@x16,x16)  
2 x PCI Express x16 slots (@x8,x8)  
2 x PCI Express x4 slots  
1 x PCI slot

## Form Factor

ATX (305x264mm)

## Internal I/O Connectors

6 x Serial ATA 6Gb/s connectors  
(RAID 0, 1, 5, 10 by SB950)  
2 x Serial ATA 6Gb/s connectors  
(RAID 0, 1 by SE9172)  
1 x IEEE 1394a connector  
1 x USB 3.0/2.0 connectors (supports 2 ports by  
ETRON)  
3 x USB 2.0/1.1 connectors (supports 6 ports by  
SB950)  
1 x S/PDIF Out header

## Rear I/O Connectors

1 x eSATA/ USB Combo connector  
1 x eSATA connector  
2 x USB 3.0/2.0 ports  
8 x USB 2.0/1.1 ports  
1 x GbE LAN port  
1 x coaxial S/PDIF Out connector  
1 x optical S/PDIF Out connector  
1 x IEEE 1394a connector  
1 x PS/2 Keyboard/Mouse  
6 x audio jacks