

## AMD FX™ 9000 SERIES INSTALLATION GUIDE

### AMD FX™ 9000 Series Processor System Requirements:

#### AMD FX 9000 series processors feature a 220W TDP and have three unique requirements:

1. A robust CPU liquid cooling system. The Antec Kuhler H2O 925, Cooler Master Nepton 120XL, and Corsair H80i are examples of products with sufficient cooling capacity.
2. A socket AM3+ motherboard that supports processors with a 220W TDP.  
*As of September 15, 2015, the compatible motherboard list is as follows:*
  - Asus Crosshair V Formula-Z
  - Asus SABERTOOTH 990FX R2.0
  - Asus M5A99FX PRO R2.0
  - Gigabyte 990FXA-UD3/Gigabyte 990FXA-UD3 R5
  - Gigabyte 990FXA-UD5/Gigabyte 990FXA-UD5 R5
  - Gigabyte 990FXA-UD7
  - MSI 990FXA-Gaming
  - Asrock 990FX Extreme9
  - Asrock 990FX Extreme6
  - Asrock Fatal1ty 990FX Professional
3. Chassis exhaust fan mounted near the motherboard VRM components with at least 35CFM of air flow capacity.

### Recommended Components for AMD FX 9000 Series:

#### MEMORY

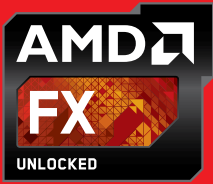
At least 8GB of DDR3-1866 MHz memory in a dual-channel configuration is recommended. The optimal choice is AMD Radeon Memory as it is equipped with A.M.P. (AMD Memory Profiles) to facilitate the best possible performance.

#### GRAPHICS CARD

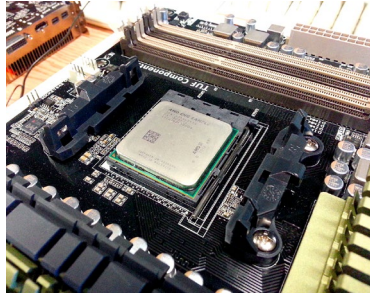
For maximum gaming performance, AMD recommends pairing an FX 9000 series processor with an AMD Radeon R9 series graphics card or comparable Nvidia graphics card.

#### POWER SUPPLY

A 600W or higher high-quality power supply is recommended at minimum. A higher wattage power supply may be required based on the power draw of other components, specifically the graphics card.



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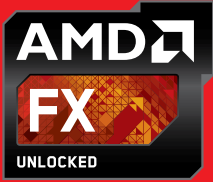
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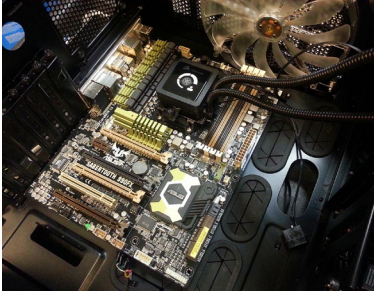
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### Installation:

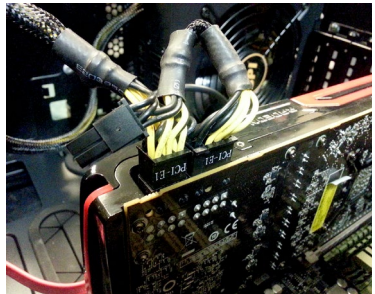
1. Prepare the chassis by pre-installing the power supply and any hard disks, SSDs, and optical drives as desired.
2. Install the processor into the AM3+ socket of an AMD FX™ 9000 series-compatible AMD 990FX™ motherboard and ensure it is securely locked down.
3. Install memory modules into the correct slots on the motherboard. For the best possible memory performance, they should be configured in dual channel mode. Refer to your motherboard manual for more information.
4. Check the bottom of the liquid cooler cooling block: if thermal compound comes pre-applied from the factory, you do not need to apply any to the CPU. If you notice hairs or fingerprints on the surface of the processor, you can clean it by lightly wiping the surface of the processor with a 10% IPA cotton swab.
5. If the cooling block does not have thermal compound pre-applied, squeeze a pea-sized amount onto the center of the CPU. This should be evenly spread over the entire processor surface area, and you can use a credit card as a tool to help accomplish this task. Keep in mind that the purpose of thermal compound is to compensate for imperfections between the CPU and cooling block, not to add a barrier between them. A proper application should result in a very thin layer without any visible streaks or clumps.
6. Examine your chassis. If it does not allow for access to the back of the motherboard under the AM3+ socket, and your liquid cooling system requires a bracket to be attached under the motherboard, you may have to install the liquid cooling system water block on the CPU per manufacturer's instructions before installing the motherboard into the chassis. If the chassis *does allow* for rear access, install the liquid cooling system *after* the motherboard is installed as it will be easier to manage the attached cooling hardware.



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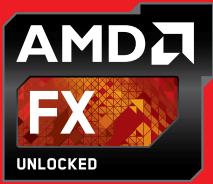
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- 7. Carefully place the motherboard into the chassis, such that its rear I/O ports line up with the cut-outs in the I/O shield. Secure the motherboard with the supplied screws. The holes should line up directly with the standoffs underneath.
- 8. After the motherboard is secure, ensure that all chassis, disk drive, and system power cables are connected properly.
- 9. If the chassis allows access to the back of the motherboard under the AM3+ socket, now is the time to install the CPU liquid cooling system per manufacturer's instructions.
- 10. If the chassis doesn't already have one, install a case fan with at least 35CFM of airflow capacity as close to the motherboard VRMs as possible. Ensure that the direction of fan airflow pulls hot air from the VRMs out of the enclosure.
- 11. Install the graphics card into the motherboard x16 PCI Express® slot and ensure the appropriate power connectors are used.
- 12. After attaching a monitor, keyboard, mouse, and power cables, turn the system on.
- 13. The POST screen should now appear. Now enter the system BIOS setup screen as documented by motherboard manufacturer. Typically this is accomplished by pressing and holding down the DEL key on the keyboard until the BIOS screen appears. Verify that the motherboard model, CPU type, and total memory are correctly shown.
- 14. Enable A.M.P. Memory Profiles to set Memory Frequencies. For installations without AMD Radeon™ Memory, enable XMP in the BIOS (if available) to help ensure the best possible memory settings.





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15. Install the Operating System.
16. Download the latest chipset, network, and audio drivers at the motherboard manufacturer website. For Microsoft® Windows® users, enable automatic updates for access to the latest hotfixes and patches.
17. Download the latest graphics driver available. For AMD Radeon™ graphics cards, go to [www.support.amd.com](http://www.support.amd.com)  
For Nvidia GeForce graphics cards, go to [www.nvidia.com](http://www.nvidia.com)
18. Congratulations, you have successfully set up your optimized AMD FX™ 9000 processor-powered system.

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