AMD HDX840WFGMBOX

AMD Phenom II X4 840 Processor User Manual

Model: HDX840WFGMBOX

1. Introduction

This manual provides essential information for the installation, operation, and maintenance of your AMD Phenom II X4 840 Quad-Core Processor. The AMD Phenom II X4 840 is designed to deliver robust performance for a wide range of computing tasks, including multitasking, gaming, and content creation, utilizing its quad-core architecture and 3.2 GHz clock speed.

2. Features

- **Quad-Core Architecture:** Four independent processing cores for enhanced multitasking and performance.
- **3.2 GHz Clock Speed:** High base clock frequency for responsive computing.
- **Socket AM3 Compatibility:** Designed for motherboards utilizing the AM3 socket.
- **2MB L2 Cache:** Efficient data access for improved processing speed.
- **95W Thermal Design Power (TDP):** Standard power consumption for its performance class.
- **AMD64 Technology:** Supports 64-bit computing environments.
- **HyperTransport Technology:** High-speed communication link between the CPU and the chipset.
- **3DNow! Professional:** Enhanced multimedia and 3D application performance.

3. Package Contents

The retail box version of the AMD Phenom II X4 840 Processor (HDX840WFGMBOX) typically includes the following components:

- AMD Phenom II X4 840 Processor
- AMD Certified Heatsink and Fan (CPU Cooler)
- Installation Guide / Warranty Information

Note: OEM (Original Equipment Manufacturer) versions may not include a heatsink and fan. Ensure you have an appropriate cooling solution for your processor.

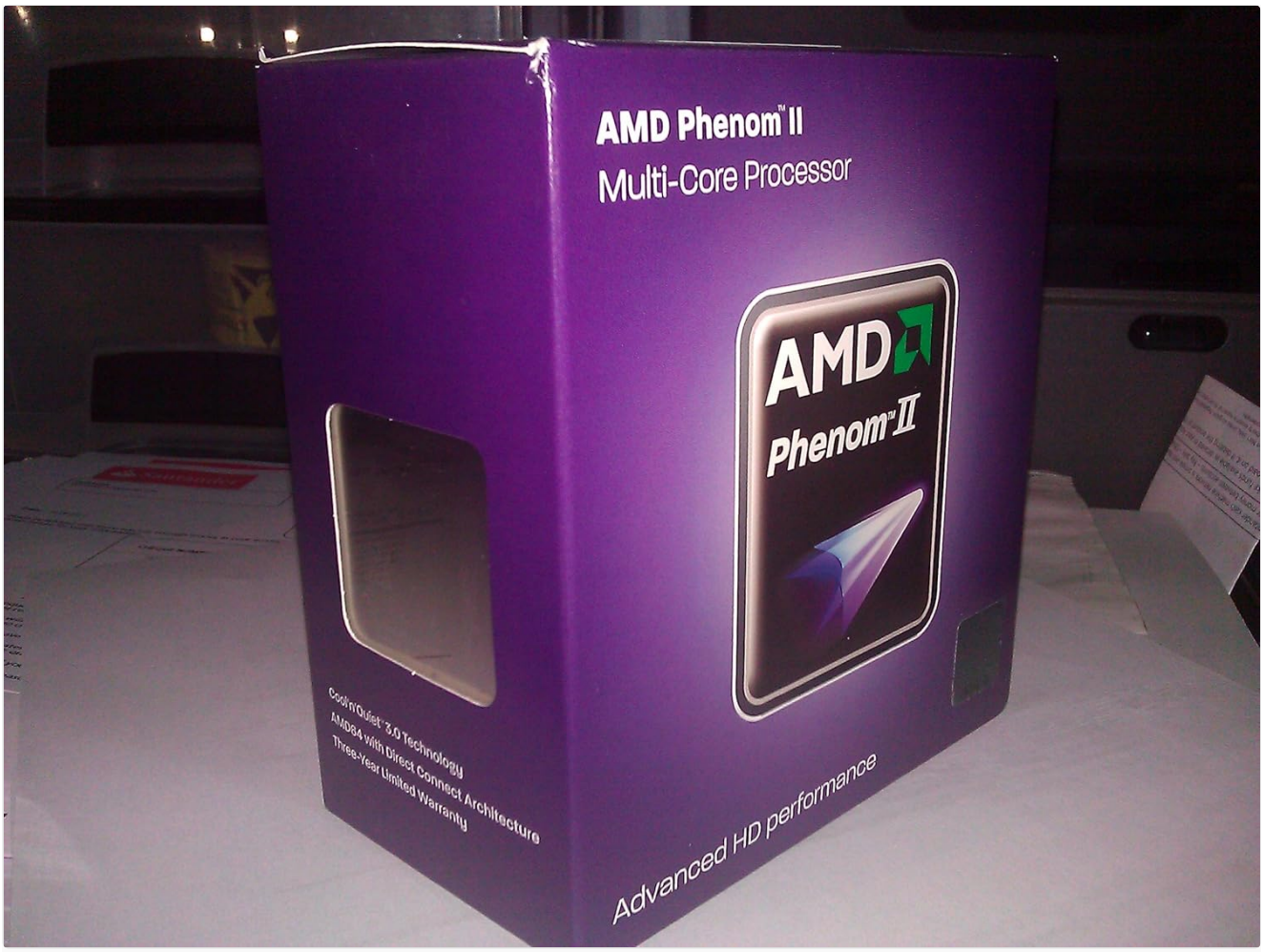


Image: Front view of the AMD Phenom II retail processor box, indicating it is a multi-core processor.

Image: Close-up of the retail box label, showing the 'X4 840' model, 3.2 GHz clock speed, 2.0 MB total cache, Socket AM3, and the OPN: HDX840WFGMBOX.

4. Setup and Installation

Proper installation is crucial for the optimal performance and longevity of your processor. Please follow these steps carefully.

4.1. Pre-Installation Checklist

- **Motherboard Compatibility:** Verify that your motherboard supports the AMD Phenom II X4 840 processor and has an AM3 socket. Check the motherboard manufacturer's CPU support list.
- **BIOS Update:** Ensure your motherboard's BIOS is updated to the latest version that supports this processor.
- **Tools:** Gather a Phillips head screwdriver, thermal paste (if not pre-applied on the cooler or if using a different cooler), and a clean, lint-free cloth.
- **Static Protection:** Work in a static-free environment. Use an anti-static wrist strap or frequently touch a grounded metal object.

4.2. Installation Steps

1. **Prepare the Motherboard:** With the computer powered off and unplugged, open your computer case. Locate the CPU socket on the motherboard.
2. **Open the Socket Lever:** Gently push down and away on the small metal lever located on the side of the CPU socket to open it.
3. **Align the Processor:** Carefully remove the processor from its packaging. Locate the golden triangle or arrow on one corner of the processor and align it with the corresponding triangle or arrow on the CPU socket.
4. **Insert the Processor:** With the processor perfectly aligned, gently lower it straight down into the socket. Do not force it. If it does not seat easily, re-check the alignment.
5. **Secure the Processor:** Once the processor is fully seated, push the socket lever back down and under the small tab to lock the processor in place.
6. **Apply Thermal Paste:** If your heatsink does not have pre-applied thermal paste, apply a small pea-sized amount of thermal paste to the center of the CPU's integrated heat spreader (IHS).
7. **Install the Heatsink and Fan:** Carefully place the heatsink onto the processor, ensuring it makes even contact. Secure the heatsink clips or screws according to the cooler's instructions.
8. **Connect Fan Power:** Connect the CPU fan's power cable to the 'CPU_FAN' header on your motherboard.

5. Operating the Processor

Once installed, the AMD Phenom II X4 840 processor operates automatically as part of your computer system. Its primary function is to execute instructions and perform calculations, managing all the tasks your computer handles.

- **Automatic Operation:** The processor's speed and power consumption are dynamically managed by the operating system and motherboard BIOS to optimize performance and energy efficiency.
- **Multitasking:** The quad-core design allows for efficient handling of multiple applications simultaneously, improving overall system responsiveness.
- **Performance Monitoring:** You can monitor CPU usage and temperature using various software utilities available for your operating system.

6. Maintenance

Regular maintenance helps ensure the longevity and stable performance of your processor and cooling system.

- **Dust Removal:** Periodically clean the CPU heatsink and fan to prevent dust buildup, which can impede airflow and lead to overheating. Use compressed air for this task.
- **Thermal Paste:** If you ever remove the heatsink, it is essential to clean off the old thermal paste from both the CPU and the heatsink and apply a fresh layer before reinstallation.
- **Temperature Monitoring:** Use software to monitor your CPU temperatures, especially under heavy load, to ensure it remains within safe operating limits. Typical safe operating temperatures are generally below 62°C (143°F) for this model.

7. Troubleshooting

If you encounter issues after installing your processor, consider the following common troubleshooting steps:

- **System Not Booting/No Display:**
  - Verify the CPU is correctly seated in the socket and the lever is locked.
  - Ensure the CPU fan is connected to the 'CPU_FAN' header and spinning.
  - Check all power connections to the motherboard and components.
  - Reseat RAM modules.
  - Clear the CMOS (refer to your motherboard manual).
- **Overheating Issues:**
  - Confirm the heatsink is properly installed and making good contact with the CPU.
  - Check if thermal paste was applied correctly and adequately.
  - Ensure the CPU fan is spinning at an appropriate speed.
  - Improve case airflow by checking case fans and cable management.
- **System Instability/Crashes:**
  - Ensure your motherboard BIOS is updated to support the processor.
  - Run memory diagnostic tools to check for RAM issues.
  - Check for driver updates for your motherboard chipset.

8. Specifications

Detailed technical specifications for the AMD Phenom II X4 840 Processor (HDX840WFGMBOX).

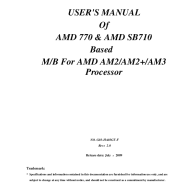
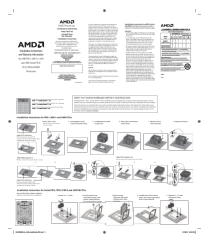
Specification	Value
CPU Manufacturer	AMD
Model Number	HDX840WFGMBOX
CPU Speed	3.2 GHz
CPU Socket	Socket AM3

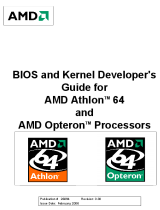
Specification	Value
Cores	Quad-Core
L2 Cache	2 MB (4 x 512 KB)
Thermal Design Power (TDP)	95W
Product Dimensions	3 x 5 x 4.5 inches
Item Weight	8 ounces
First Available Date	January 31, 2011

9. Warranty and Support

Your AMD Phenom II X4 840 processor is covered by a manufacturer's warranty. Please refer to the warranty information included in your product packaging for specific terms and conditions.
For technical support, driver downloads, and additional resources, please visit the official AMD support website. Ensure you have your processor's model number (HDX840WFGMBOX) and any relevant purchase information ready when contacting support.
AMD Official Website: www.amd.com

Related Documents - HDX840WFGMBOX

	AMD 770 & SB710 Motherboard User's Manual for AM2/AM2+/AM3 Processors Comprehensive user's manual for AMD 770 and SB710 chipset based motherboards. Covers installation, BIOS setup, driver installation, and specifications for AMD AM2, AM2+, and AM3 processors.
	AMD Processor Installation Guide and Limited Warranty Information This document provides installation instructions and detailed warranty information for AMD processors, including models for FM2+, AM3+, AM4, SocketTR4, SP3, sTRX4, and sWRX8 sockets. It covers essential pre-installation checks, step-by-step installation procedures, warranty terms, limitations, exclusions, and how to obtain service.

	[AMD Ryzen 5 5600X Processor: User Manual and Installation Guide] Comprehensive user manual and installation guide for the AMD Ryzen 5 5600X processor, covering product specifications, compatible motherboards, installation steps, optimization tips, and troubleshooting.
	[AMD Athlon 64 & Opteron Processors: BIOS and Kernel Developer's Guide] Comprehensive guide for BIOS and kernel developers on AMD Athlon 64 and AMD Opteron processors, detailing system configuration, initialization, HyperTransport technology, and advanced features for optimal performance.
	[AMD Ryzen 5 7500F Processor: Technical Specifications and Installation Guide] Detailed technical specifications, compatibility information, and installation guide for the AMD Ryzen 5 7500F processor, including performance expectations and warranty details.
	[AMD AOCL User Guide: Optimize Performance on Zen Processors] The AMD Optimizing CPU Libraries (AOCL) User Guide provides comprehensive instructions for installing, using, and tuning a suite of high-performance numerical libraries optimized for AMD 'Zen'-based processors. It covers AOCL-BLIS, AOCL-libFLAME, AOCL-FFTW, AOCL-LibM, AOCL-ScaLAPACK, AOCL-RNG, AOCL-SecureRNG, AOCL-Sparse, AOCL-LibMem, AOCL-Cryptography, and AOCL-Compression, along with integration with HPL and MUMPS, and performance tuning guidelines.