

Intel BX80553920

# Intel Pentium D 920 Dual Core Processor

## USER MANUAL

### 1. Introduction and Overview

This manual provides essential information for the installation, operation, and maintenance of your Intel Pentium D 920 Dual Core Processor. The Intel Pentium D 920 is a high-performance dual-core processor designed for desktop computing, offering enhanced multitasking capabilities and efficient power management.

This boxed processor includes an unattached fan heatsink, ensuring optimal thermal performance when properly installed. It supports key Intel technologies such as Intel Extended Memory 64 Technology (EM64T) for 64-bit computing, Execute Disable Bit Feature (NX) for enhanced security, and Virtualization Technology (VT) for improved virtualization capabilities.



Figure 1.1: Retail packaging for the Intel Pentium D 920 Processor, showing key features and branding.

### 2. Product Features

The Intel Pentium D 920 processor is engineered with several features to enhance your computing experience:

- **Dual-Core Architecture:** Two independent processing cores on a single chip for improved multitasking and performance in multi-threaded applications.

- **Intel Extended Memory 64 Technology (EM64T):** Enables the processor to access larger amounts of memory and run 64-bit applications.
- **Execute Disable Bit Feature (NX):** Provides hardware-based protection against certain types of malicious software attacks.
- **Virtualization Technology (VT):** Enhances the performance and reliability of virtualization solutions, allowing multiple operating systems to run concurrently on a single platform.
- **Platform Compatibility Guide 05A:** Ensures compatibility with motherboards designed to support this specific platform.



*Figure 2.1: The Intel Pentium D processor chip, showcasing its integrated heat spreader.*

### 3. Package Contents

Upon opening your Intel Pentium D 920 processor package, please verify that all the following components are present:

- Intel Pentium D 920 Dual Core Processor
- Intel-approved Fan Heatsink (unattached)
- Installation Guide / Documentation (if included in physical package)

### 4. Setup and Installation

Proper installation is crucial for the optimal performance and longevity of your processor. Always handle the processor by its edges to avoid touching the gold contacts or the integrated heat spreader (IHS).

#### 4.1 Pre-Installation Checklist

1. Ensure your motherboard supports the Intel Pentium D 920 processor (LGA775 socket and compatible chipset). Refer to your motherboard's manual for CPU compatibility.
2. Gather necessary tools: Phillips-head screwdriver, thermal paste (if not pre-applied on heatsink).

3. Ensure your system is powered off and unplugged from the wall outlet.
4. Discharge any static electricity by touching a grounded metal object before handling components.

## 4.2 Processor Installation Steps

1. **Open CPU Socket:** Locate the CPU socket on your motherboard. Lift the small metal lever on the side of the socket to open the retention frame.
2. **Insert Processor:** Carefully align the triangular arrow on the processor with the corresponding arrow on the CPU socket. Gently lower the processor into the socket. Do not force it; it should drop in easily.
3. **Secure Processor:** Close the retention frame over the processor and push the metal lever back down until it clicks into place.
4. **Apply Thermal Paste:** If your heatsink does not have pre-applied thermal paste, apply a small pea-sized dot of thermal paste to the center of the processor's IHS.
5. **Install Heatsink:** Align the heatsink with the mounting holes around the CPU socket. Press down firmly on each corner's push-pin until it clicks into place. Ensure all four pins are securely fastened.
6. **Connect Fan Cable:** Connect the heatsink fan's power cable to the CPU\_FAN header on your motherboard.

## 5. Operating Considerations

Once installed, the Intel Pentium D 920 processor operates automatically within your system. Key operating considerations include:

- **Operating System Compatibility:** This processor is compatible with various operating systems, including Microsoft Windows (as indicated by 'Platform: Windows' in specifications). Ensure your OS is up-to-date for optimal performance and security.
- **Cooling:** The included fan heatsink is designed to dissipate heat generated by the processor. Ensure proper airflow within your PC case to maintain optimal operating temperatures.
- **BIOS/UEFI Settings:** After installation, it is recommended to enter your system's BIOS/UEFI settings to confirm the processor is recognized correctly and to load optimized defaults if necessary.

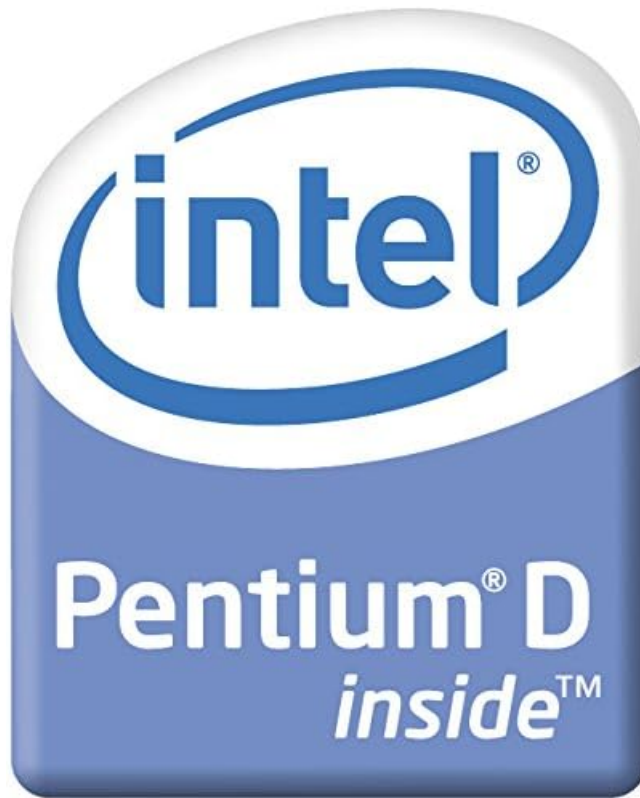


Figure 5.1: The "Intel Pentium D inside" logo, signifying the processor's presence within a system.

## 6. Maintenance

To ensure the long-term stability and performance of your Intel Pentium D 920 processor, periodic maintenance of its cooling system is recommended:

- **Dust Removal:** Over time, dust can accumulate on the heatsink fins and fan blades, reducing cooling efficiency. Periodically (e.g., every 6-12 months), use compressed air to gently clear dust from the heatsink and fan.
- **Fan Inspection:** Check the heatsink fan for any signs of wear, unusual noise, or reduced rotation speed. Replace the fan if it is failing.
- **Thermal Paste:** While thermal paste typically lasts for several years, if you notice consistently high temperatures, consider reapplying fresh thermal paste. This involves carefully removing the heatsink, cleaning off old paste, and applying new paste.

## 7. Troubleshooting

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

- **System Not Booting / No Display:**
  - Ensure the processor is seated correctly in the socket and the retention lever is fully closed.
  - Verify the heatsink is properly installed and the fan cable is connected to the CPU\_FAN header.
  - Check RAM modules are correctly seated.

- Ensure all power cables (24-pin ATX, 4/8-pin CPU) are securely connected to the motherboard.

- **Overheating / System Shutdowns:**

- Confirm the heatsink is making good contact with the processor's IHS.
- Verify thermal paste was applied correctly and is not dried out.
- Ensure the heatsink fan is spinning.
- Check for adequate airflow within the PC case; clear any obstructions or dust.

- **System Instability / Blue Screens:**

- Ensure your motherboard BIOS/UEFI is updated to the latest version that supports the Pentium D 920.
- Run memory diagnostic tools to rule out RAM issues.
- Check for driver updates for your motherboard chipset.

If issues persist, consult your motherboard's manual or Intel's official support resources.

## 8. Specifications

Detailed specifications for the Intel Pentium D 920 Dual Core Processor:

Attribute	Value
Brand	Intel
CPU Manufacturer	Intel
CPU Model	Pentium D
CPU Speed	2.8 GHz
Item Model Number	BX80553920
Product Dimensions	1 x 1 x 1 inches
Item Weight	2.89 ounces
Platform	Windows
Language	English
Date First Available	December 8, 2005

## 9. Warranty and Support

This Intel processor is manufactured by Intel. For specific warranty terms and conditions, please refer to the documentation included with your product or visit the official Intel website. Intel provides comprehensive support resources, including drivers, software, and technical assistance.

For further assistance, please visit the official Intel support page or contact their customer service. Keep your proof of purchase for warranty claims.

Intel Official Website: [www.intel.com](http://www.intel.com)

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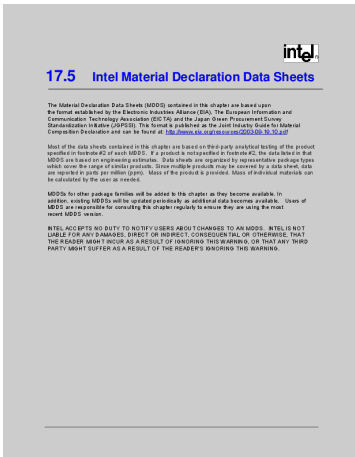


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