Intel E5500

Intel Pentium Dual Core E5500 Processor User Manual

Model: BX80571E5500

1. PRODUCT OVERVIEW

The Intel Pentium Dual Core E5500 Processor is designed for reliable performance in everyday computing tasks. Featuring two processing cores and a clock speed of 2.80 GHz, it is suitable for general use such as email, internet browsing, document processing, and managing household budgets. This processor integrates Intel Smart Cache technology for efficient data access and supports the LGA775 socket type.
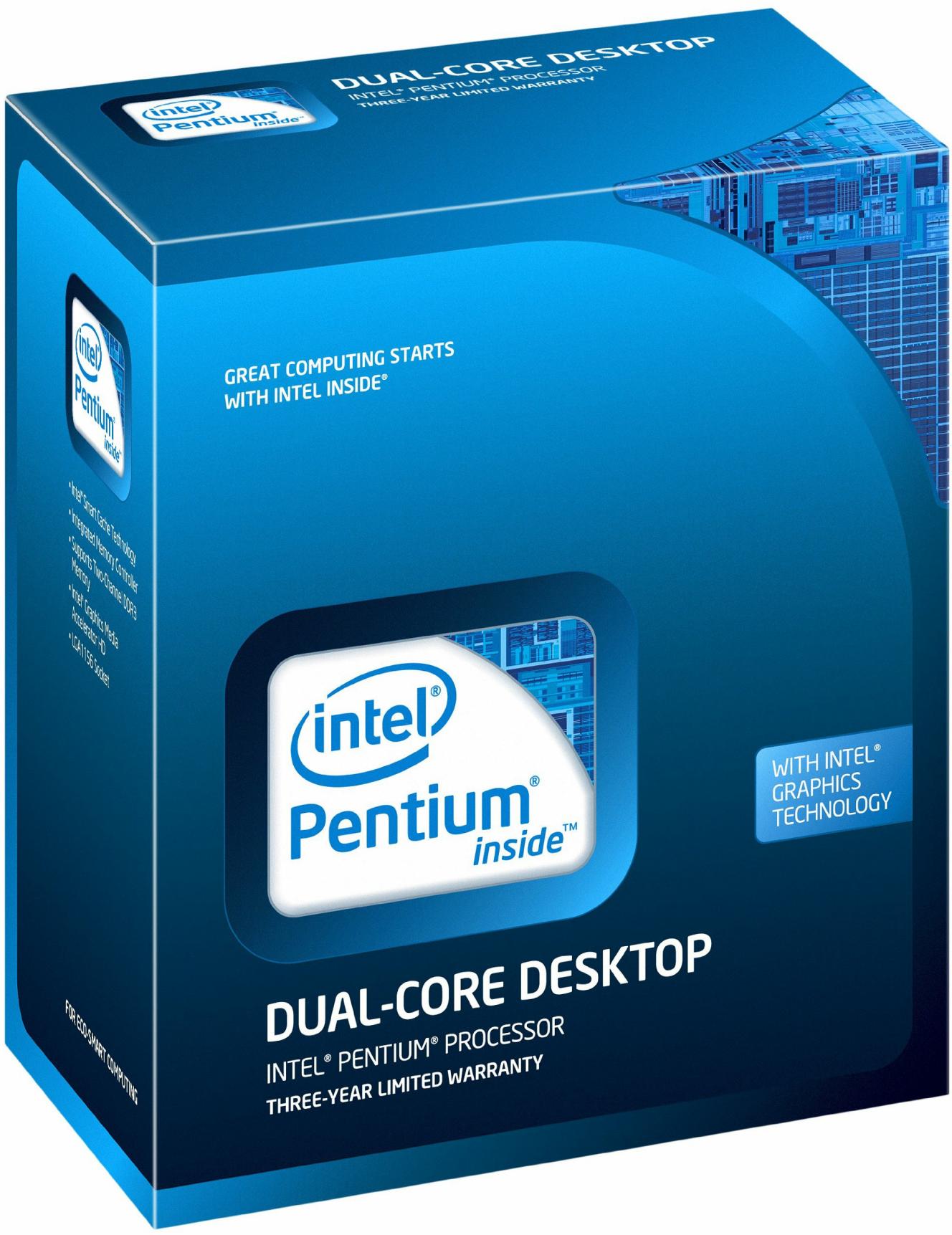
Image 1.1: The retail packaging for the Intel Pentium Dual Core E5500 Processor.

Key features include:

- **Dual Core Architecture:** Enables efficient multitasking.

- **2.80 GHz Clock Speed:** Provides responsive performance for daily applications.

- **2 MB L2 Shared Cache:** Improves data access speed for better functionality.

- **LGA775 Socket:** Compatible with motherboards designed for this socket type.
- **Intel SpeedStep Technology:** Adjusts processor voltage and frequency to conserve energy and reduce noise.
- **Execute Disable Bit Technology:** A hardware-based security feature to protect against certain types of malicious software.

2. SETUP AND INSTALLATION

Proper installation of the Intel Pentium Dual Core E5500 Processor is crucial for system stability and performance. Always handle the processor by its edges to avoid touching the gold contacts or the top surface. Ensure you are working in an environment free of static electricity or use appropriate anti-static measures.

1. **Prepare the Motherboard:** Ensure your motherboard supports the LGA775 socket and is compatible with the E5500 processor. Refer to your motherboard's manual for specific instructions on preparing the CPU socket.
2. **Open the CPU Socket:** Carefully lift the load plate lever on the LGA775 socket. This will release the load plate.
3. **Insert the Processor:** Align the triangular mark on the corner of the processor with the corresponding mark on the CPU socket. Gently place the processor into the socket. Do not force it; it should sit without significant pressure.
4. **Secure the Processor:** Close the load plate over the processor and push the load plate lever back down until it locks into place.
5. **Apply Thermal Paste:** Apply a small amount of thermal paste (typically a pea-sized dot) to the center of the processor's integrated heat spreader (IHS).
6. **Install the CPU Cooler:** Carefully place the CPU cooler onto the processor, ensuring even contact. Secure the cooler according to its manufacturer's instructions. Connect the cooler's fan cable to the designated CPU fan header on the motherboard.

After installation, connect all necessary power cables and peripherals before attempting to power on the system. It is recommended to update your motherboard's BIOS/UEFI to the latest version for optimal compatibility and performance.

3. OPERATING CONSIDERATIONS

Once installed, the Intel Pentium Dual Core E5500 Processor operates automatically within your computer system. Its dual-core design allows for efficient handling of multiple applications simultaneously, improving overall system responsiveness. The 2.80 GHz clock speed ensures that common software applications run smoothly.

- **Multitasking:** The two processing cores enable the system to manage several tasks concurrently, such as browsing the web while streaming music or working on documents.
- **Energy Efficiency:** Intel SpeedStep Technology dynamically adjusts the processor's power consumption based on workload, contributing to lower energy use and reduced heat generation.
- **Security:** The Execute Disable Bit feature provides an added layer of security by preventing certain types of malicious code from executing, enhancing system protection.

For optimal performance, ensure your operating system and drivers are up to date. Regularly monitor system temperatures, especially during intensive tasks, to ensure the cooling system is functioning effectively.

4. MAINTENANCE

The Intel Pentium Dual Core E5500 Processor itself requires no direct maintenance. However, maintaining the CPU cooling system is essential for its longevity and stable operation.

- **Dust Removal:** Periodically clean the CPU cooler's heatsink and fan to prevent dust buildup. Dust can impede airflow and reduce cooling efficiency, leading to higher operating temperatures. Use compressed air to gently remove dust from the fins and fan blades.
- **Thermal Paste:** If the CPU cooler is ever removed for any reason, it is critical to clean off the old thermal paste from both the CPU and the cooler base and apply a fresh layer of high-quality thermal paste before reattaching the cooler.

- **Temperature Monitoring:** Utilize system monitoring software to keep track of CPU temperatures. Sustained high temperatures can indicate an issue with the cooling system or improper installation.

5. TROUBLESHOOTING

If you encounter issues after installing or while using your Intel Pentium Dual Core E5500 Processor, consider the following troubleshooting steps:

- **System Not Booting/No Display:**

  - Verify that the CPU is correctly seated in its socket and the load plate is securely locked.
  - Ensure the CPU cooler is properly installed and its fan is connected to the motherboard.
  - Check all power connections to the motherboard and other components.
  - Confirm that your motherboard's BIOS/UEFI is compatible with the E5500 processor. An outdated BIOS may not recognize newer CPUs.

- **Overheating Issues:**

  - Ensure the CPU cooler is making firm, even contact with the processor.
  - Verify that thermal paste was applied correctly and is evenly spread.
  - Clean any dust from the CPU cooler's heatsink and fan.
  - Check that the CPU fan is spinning correctly.
  - Ensure adequate airflow within the computer case.

- **System Instability/Crashes:**

  - Check for loose connections of other components (RAM, graphics card).
  - Run diagnostic tools to check RAM integrity.
  - Ensure operating system drivers are up to date.
  - If overclocking, revert to default settings to rule out instability caused by excessive clock speeds or voltages.

If problems persist, consult your motherboard's manual or Intel's official support resources for further assistance.

6. SPECIFICATIONS

Feature	Specification
CPU Model	Pentium Dual Core E5500
CPU Manufacturer	Intel
Cores	2
Clock Speed	2.80 GHz
Front Side Bus (FSB)	800 MHz
L2 Cache	2 MB
CPU Socket	LGA 775
Thermal Design Power (TDP)	65 Watts
Item Model Number	BX80571E5500
Product Dimensions	5.03 x 3.17 x 5.69 inches (packaging)

Feature	Specification
Item Weight	12 ounces (packaging)

7. WARRANTY AND SUPPORT

The Intel Pentium Dual Core E5500 Processor is backed by a three-year limited warranty from Intel. This warranty covers defects in materials and workmanship under normal use.

For warranty claims, technical support, or additional product information, please visit the official Intel support website or contact Intel customer service. Keep your proof of purchase for warranty validation.

Intel Support Resources:

- Intel Processors Support
- Contact Intel Support