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MSI P45Neo2-FR

MSI P45 Neo2-FR Motherboard User Manual

Model: P45Neo2-FR

Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of the MSI P45 Neo2-FR motherboard. Designed for Intel Core 2 Extreme, Core 2 Quad, and Core 2 Duo processors, this ATX motherboard features the Intel P45 chipset, supporting FSB speeds up to 1600(OC) MHz and DDR2 1066(OC) memory. It is equipped with ATI CrossFireX support for enhanced graphics performance.
Please read this manual thoroughly before proceeding with installation to ensure proper setup and optimal performance of your system.

Key Features

- **CPU Support:** LGA 775 socket compatible with Quad-core, Core 2 Extreme, and Core 2 Duo processors. Supports FSB 1600(O.C)/1333MHz.
- **Chipset:** Intel P45 North Bridge and Intel ICH10R South Bridge.
- **Memory:** Four 240-pin DDR2 memory slots supporting up to 16GB of DDR2 1066(O.C.)/800MHz in dual-channel mode.
- **Expansion Slots:** Two PCI Express 2.0 x16 slots (x16/x0 or x8/x8 configuration for CrossFireX), two PCI Express x1 slots, and two standard PCI slots.
- **Storage:** One ATA100 PATA connector (supports 2 devices) and eight SATA 3Gb/s ports with RAID 0/1/5/10 support.
- **Audio:** Realtek ALC888 8-channel audio codec.
- **LAN:** Realtek 8111C Gigabit Ethernet (10/100/1000Mbps).
- **Rear Panel Ports:** 2 x PS/2 ports, 6 x USB 2.0 ports, 6 x audio ports.
- **Onboard USB:** 3 x USB 2.0 connectors for additional front panel or internal USB ports.

Setup and Installation

Before beginning installation, ensure your system is powered off and unplugged from the wall outlet. Handle the motherboard by its edges to avoid static discharge.

1. Motherboard Overview

Familiarize yourself with the layout of the MSI P45 Neo2-FR motherboard. The image below highlights key components and connectors.



An overhead view of the MSI P45 Neo2-FR motherboard, highlighting its various components including the LGA 775 CPU socket, four DDR2 memory slots, multiple PCIe and PCI expansion slots, and the copper heat pipe cooling solution for the chipset.

2. CPU Installation

1. Locate the LGA 775 CPU socket on the motherboard.
2. Gently push down the load lever and pull it to the side to open the CPU socket retention frame.
3. Align the triangular mark on the CPU with the corresponding mark on the socket. Carefully place the CPU into the socket without forcing it.
4. Close the retention frame and secure it by pushing the load lever back into place.
5. Apply thermal paste to the CPU surface and install the CPU cooler according to its manufacturer's instructions.

3. Memory (RAM) Installation

1. Identify the four DDR2 DIMM slots. For dual-channel operation, refer to the motherboard manual for specific slot pairing (usually slots 1 & 3 or 2 & 4).
2. Open the clips at both ends of the DIMM slot.
3. Align the notch on the DDR2 memory module with the key in the DIMM slot.
4. Insert the memory module firmly into the slot until the clips snap into place. Ensure both clips are fully closed.

4. Expansion Card Installation

1. Locate the desired PCI Express x16, PCI Express x1, or PCI slot.
2. Remove the corresponding metal bracket cover from your PC case.
3. Align the expansion card with the slot and press down firmly until it is securely seated.
4. Secure the card with a screw to the case.

5. Storage Device Connections

- **SATA Devices:** Connect SATA data cables from your hard drives or SSDs to the SATA 3Gb/s ports on the motherboard. Connect SATA power cables from your power supply to the devices.
- **PATA Devices:** Connect the IDE ribbon cable from your optical drive or older hard drive to the ATA100 connector. Ensure the master/slave jumpers on the devices are set correctly.

6. Power Connections

- Connect the 24-pin ATX main power connector from your power supply to the corresponding header on the motherboard.
- Connect the 8-pin ATX 12V CPU power connector to the header near the CPU socket.
- Ensure all power connections are firmly seated.

7. Front Panel Connections

Connect the cables from your PC case's front panel (Power LED, HDD LED, Power Switch, Reset Switch, USB, Audio) to the corresponding headers on the motherboard. Refer to the motherboard's silkscreen labels for correct pin alignment.

8. Rear Panel Connections

After installing the motherboard into the case, connect your peripherals to the rear I/O panel ports:

- PS/2 Keyboard/Mouse
- USB devices
- Ethernet cable
- Audio devices (speakers, microphone)

Operating Instructions

1. First Boot and BIOS Setup

1. After all components are installed and connected, power on your system.
2. During the Power-On Self-Test (POST), press the `DEL` key (or `F2` depending on BIOS version) repeatedly to enter the BIOS Setup Utility.
3. In the BIOS, configure boot order, date/time, and other system settings as needed. Save changes and exit.

2. Operating System Installation

Insert your operating system installation media (DVD or USB drive) and follow the on-screen prompts to install the OS. Ensure your boot order is set to prioritize the installation media.

3. Driver Installation

After the operating system is installed, install the necessary drivers for the motherboard components. These typically include chipset drivers, audio drivers, LAN drivers, and any other specific utility drivers. Drivers are usually provided on a CD/DVD with the motherboard or can be downloaded from the MSI official website.

Maintenance

Regular maintenance helps ensure the longevity and stable operation of your motherboard and system.

- **Dust Removal:** Periodically clean dust from inside your PC case, especially from heatsinks and fans, using compressed air. Ensure the system is powered off and unplugged before cleaning.
- **BIOS Updates:** Check the MSI website for BIOS updates. BIOS updates can improve compatibility, stability, and performance. Follow the update instructions carefully to avoid damaging the motherboard.
- **Driver Updates:** Keep your system drivers updated. Regularly check the MSI website for the latest chipset,

audio, and LAN drivers.

- **Cable Management:** Ensure internal cables are neatly routed to improve airflow and prevent interference.

Troubleshooting

This section provides solutions to common issues you might encounter.

- **No Power/No POST:**
  - Check all power connections (24-pin ATX, 8-pin CPU).
  - Ensure the power supply is switched on.
  - Verify the front panel power switch is correctly connected.
  - Try booting with only essential components (CPU, one RAM stick, GPU if no integrated graphics).
  - Clear CMOS by removing the CMOS battery for 30 seconds or using the clear CMOS jumper.
- **System Instability/Crashes:**
  - Check CPU and GPU temperatures. Ensure cooling solutions are properly installed.
  - Run memory diagnostic tools to check for RAM errors.
  - Ensure all drivers are up to date.
  - Check for loose connections or improperly seated components.
- **Peripheral Not Detected:**
  - Ensure the device is properly connected.
  - Check device manager in your operating system for driver issues.
  - Try connecting the device to a different port.

Specifications

Feature	Detail
Brand	MSI
Model Number	P45Neo2-FR
CPU Socket Type	LGA 775
Compatible Processors	Intel Core 2 DUO, Intel Core 2 EXTREME, Intel Pentium
FSB Support	1600(O.C)/1333MHz
Chipset Type	Intel P45 (North Bridge), Intel ICH10R (South Bridge)
Number of Memory Slots	4 x 240-pin DDR2
Memory Standard	DDR2 1066(O.C.)/800
Maximum Memory Supported	16GB
Dual Channel Support	Yes

Feature	Detail
PCI Express 2.0 x16	2 (x16/x0 or x8/x8)
PCI Express x1	2
PCI Slots	2
PATA	1 x ATA100 (2 devices max)
SATA 3Gb/s	8
SATA RAID	0/1/5/10
Audio Chipset	Realtek ALC888
Audio Channels	8 Channels
LAN Chipset	Realtek 8111C
Max LAN Speed	10/100/1000Mbps
Rear Panel PS/2	2
Rear Panel USB	6 x USB 2.0
Rear Panel Audio Ports	6 Ports
Onboard USB	3 x USB 2.0 connectors
Form Factor	ATX
Package Dimensions	14 x 10.7 x 3.4 inches
Item Weight	3.25 pounds
First Available Date	July 9, 2008

Warranty and Support

For detailed warranty information, please refer to the warranty card included with your product or visit the official MSI website. MSI provides technical support for its products. If you encounter issues not covered in this manual or require further assistance, please contact MSI customer support through their official channels (website, phone, or email).
Keep your purchase receipt and product serial number handy when contacting support.

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