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ASUS H81M-A

ASUS H81M-A MicroATX Motherboard User Manual

Model: H81M-A

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the ASUS H81M-A MicroATX motherboard. Please read this manual thoroughly before beginning the installation process to ensure correct setup and optimal performance. Retain this manual for future reference.

2. PRODUCT OVERVIEW

The ASUS H81M-A is a MicroATX form factor motherboard designed for Intel LGA 1150 processors. It supports DDR3 memory and features ASUS 5X Protection for enhanced durability and reliability. This motherboard provides essential connectivity options for a personal computer system.



Figure 2.1: Top view of the ASUS H81M-A MicroATX motherboard, showing CPU socket, RAM slots, PCIe slots, and various connectors.

3. FEATURES

- **ASUS 5X Protection:** Provides comprehensive protection for the motherboard, ensuring quality, reliability, and durability.
- **USB 3.0 Boost (UASP Support):** Offers faster data transfer speeds for USB 3.0 devices.
- **HDMI & DVI Outputs:** Supports high-definition visual output for integrated graphics.
- **LGA 1150 Socket:** Compatible with Intel 4th Generation Core i3, Core i5, and Core i7 processors.
- **DDR3 Memory Support:** Two DIMM slots supporting up to 1600 MHz DDR3 SDRAM.

4. PACKAGE CONTENTS

Verify that all items are present in the package before proceeding with installation:

- ASUS H81M-A Motherboard
- I/O Shield
- SATA 6Gb/s Cables (2x)
- User Manual (this document)
- Support DVD (drivers and utilities)



Figure 4.1: Included accessories: I/O shield and two SATA data cables.

5. SETUP AND INSTALLATION

5.1. Safety Precautions

- Always disconnect the power cord from the wall outlet before touching any components.
- Wear an anti-static wrist strap or frequently touch a grounded metal object to discharge static electricity.

- Handle components by their edges to avoid touching sensitive parts.

5.2. CPU Installation

1. Locate the LGA 1150 socket on the motherboard.
2. Open the CPU socket lever and lift the metal load plate.
3. Carefully align the notches on the CPU with the keys on the socket. Ensure the gold triangle on the CPU aligns with the triangle on the socket.
4. Gently place the CPU into the socket without forcing it.
5. Close the load plate and secure it with the lever.

5.3. Memory (RAM) Installation

1. Locate the two DDR3 DIMM slots.
2. Open the clips at both ends of the DIMM slot.
3. Align the notch on the DDR3 memory module with the key in the DIMM slot.
4. Insert the memory module firmly into the slot until the clips snap into place.

5.4. Motherboard Installation into Chassis

1. Install the I/O shield into the chassis's rear panel opening.
2. Align the motherboard with the standoffs inside the chassis.
3. Secure the motherboard with screws, ensuring it is firmly seated.

5.5. Connecting Peripherals and Power

Connect the necessary cables to the motherboard:

- **ATX Power Connectors:** Connect the 24-pin and 4-pin ATX power cables from the power supply to the motherboard.
- **SATA Devices:** Connect SATA data cables from storage drives (HDD/SSD) to the SATA 6Gb/s ports on the motherboard.
- **Front Panel Connectors:** Connect the power switch, reset switch, HDD LED, and power LED cables from the chassis front panel to the corresponding headers on the motherboard. Refer to the motherboard diagram for exact pin locations.
- **USB Ports:** Connect front panel USB 2.0 and USB 3.0 cables to the respective headers.
- **Audio:** Connect the front panel audio cable to the audio header.
- **Rear I/O Panel:** Connect external devices such as keyboard, mouse, monitor, and network cable to the rear I/O ports.



Figure 5.1: Rear I/O panel of the ASUS H81M-A motherboard, showing PS/2 ports, VGA, DVI, HDMI, USB 2.0, USB 3.0, LAN, and audio jacks.

6. OPERATING INSTRUCTIONS

6.1. First Power On

After completing all hardware installations, connect the power cord to the power supply and press the power button on your chassis. The system should initiate the Power-On Self-Test (POST).

6.2. BIOS Setup

To enter the BIOS setup utility, press the **Delete** key during the POST process. The BIOS allows you to configure system settings, boot order, and monitor hardware status.

6.3. Operating System Installation

Insert your operating system installation media (USB drive or DVD) and configure the boot order in the BIOS to boot from the installation media. Follow the on-screen instructions to install your operating system.

6.4. Driver Installation

After installing the operating system, install the necessary drivers from the provided support DVD or download the

latest drivers from the ASUS official website. This includes chipset drivers, audio drivers, LAN drivers, and graphics drivers (if using integrated graphics).

7. MAINTENANCE

7.1. Cleaning

Regularly clean dust from the motherboard and other components using compressed air. Ensure the system is powered off and unplugged before cleaning. Avoid using liquid cleaners directly on components.

7.2. BIOS Updates

Periodically check the ASUS support website for BIOS updates. BIOS updates can improve system stability, compatibility, and performance. Follow the instructions provided by ASUS carefully when updating the BIOS to avoid system damage.

8. TROUBLESHOOTING

This section provides solutions to common issues you might encounter.

- **No Power:** Ensure all power cables (24-pin ATX and 4-pin CPU) are securely connected to the motherboard and power supply. Verify the power supply switch is in the 'ON' position.
- **No Display:** Check that the monitor is correctly connected to the motherboard's video output (VGA, DVI, or HDMI) or to a dedicated graphics card. Ensure RAM modules are properly seated.
- **System Fails to POST:** Recheck CPU and RAM installation. Disconnect all non-essential peripherals. Note that this motherboard does not include an onboard speaker for audible POST error codes, making diagnosis more challenging.
- **USB Devices Not Working:** Ensure front panel USB headers are correctly connected. Check BIOS settings for USB controller status.
- **Operating System Not Booting:** Verify the boot order in BIOS. Ensure the storage drive containing the OS is properly connected and detected.

For more complex issues, consult the ASUS support website or contact technical support.

9. SPECIFICATIONS

Component	Specification
Brand	ASUS
Model Name	H81M-A
CPU Socket	LGA 1150
Compatible Processors	Intel 4th Generation Core i3, Core i5, Core i7
Chipset Type	Intel H81
RAM Memory Technology	DDR3
Memory Clock Speed	1600 MHz
Number of USB 2.0 Ports	2 (rear)

Product Dimensions (LxWxH)	2 x 9.8 x 9 inches
Item Weight	1.63 pounds

10. WARRANTY AND SUPPORT

For warranty information, please refer to the warranty card included with your product or visit the official ASUS website. Technical support and additional resources can be found at www.asus.com/support/. Please have your product model (H81M-A) and serial number ready when contacting support.

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