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LDGSUPH N97/N150

LDGSUPH N97/N150 NAS DDR5 Motherboard Instruction Manual

Model: N97/N150

Introduction

This instruction manual provides detailed guidance for the installation, operation, and maintenance of your LDGSUPH N97/N150 NAS DDR5 Motherboard. Designed for applications such as Network Attached Storage (NAS) and soft routers, this compact ITX board offers robust connectivity and performance. Please read this manual thoroughly before proceeding with installation to ensure proper setup and optimal performance.

Safety Information

Always observe the following safety precautions when handling computer components:

- **Electrostatic Discharge (ESD) Protection:** Always wear an anti-static wrist strap or frequently touch a grounded metal object before handling the motherboard or any components.
- **Power Disconnection:** Ensure the power supply is disconnected from the wall outlet before installing or removing any components.
- **Component Handling:** Handle the motherboard by its edges. Avoid touching integrated circuits or connectors directly.
- **Ventilation:** Ensure adequate ventilation in your system enclosure to prevent overheating.
- **Professional Installation:** If you are unfamiliar with computer hardware installation, seek assistance from a qualified technician.

Package Contents

Verify that your package contains the following items:

- LDGSUPH N97/N150 NAS DDR5 Motherboard
- I/O Shield
- SATA Cables (quantity may vary)
- User Manual (this document)
- Driver CD/USB (or download instructions)

If any items are missing or damaged, please contact your retailer.

Product Overview

The LDGSUPH N97/N150 NAS DDR5 Motherboard is a compact ITX solution designed for specialized server and networking applications. It features an onboard N97/N150 series processor, DDR5 memory support, multiple SATA 3.0 ports, and 2.5G Ethernet for high-speed data transfer.

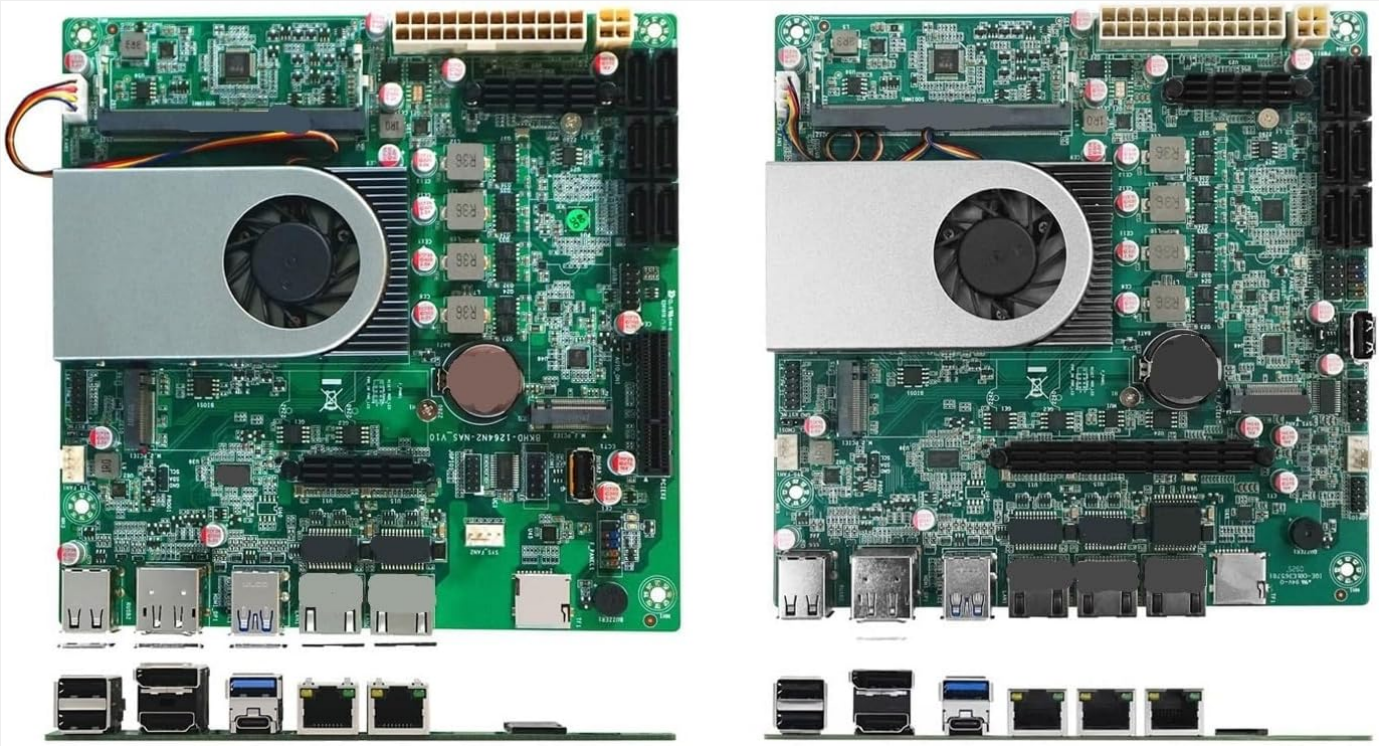


Figure 1: Top-down view of the motherboard, highlighting the integrated CPU and cooling solution.

The compact motherboard is custom-designed for portable devices, precisely matching the fuselage structure of the corresponding model, ensuring high installation adaptability. It features a stable power supply circuit design, supporting the efficient operation of the original specification processor and meeting the needs for mobile office and learning.

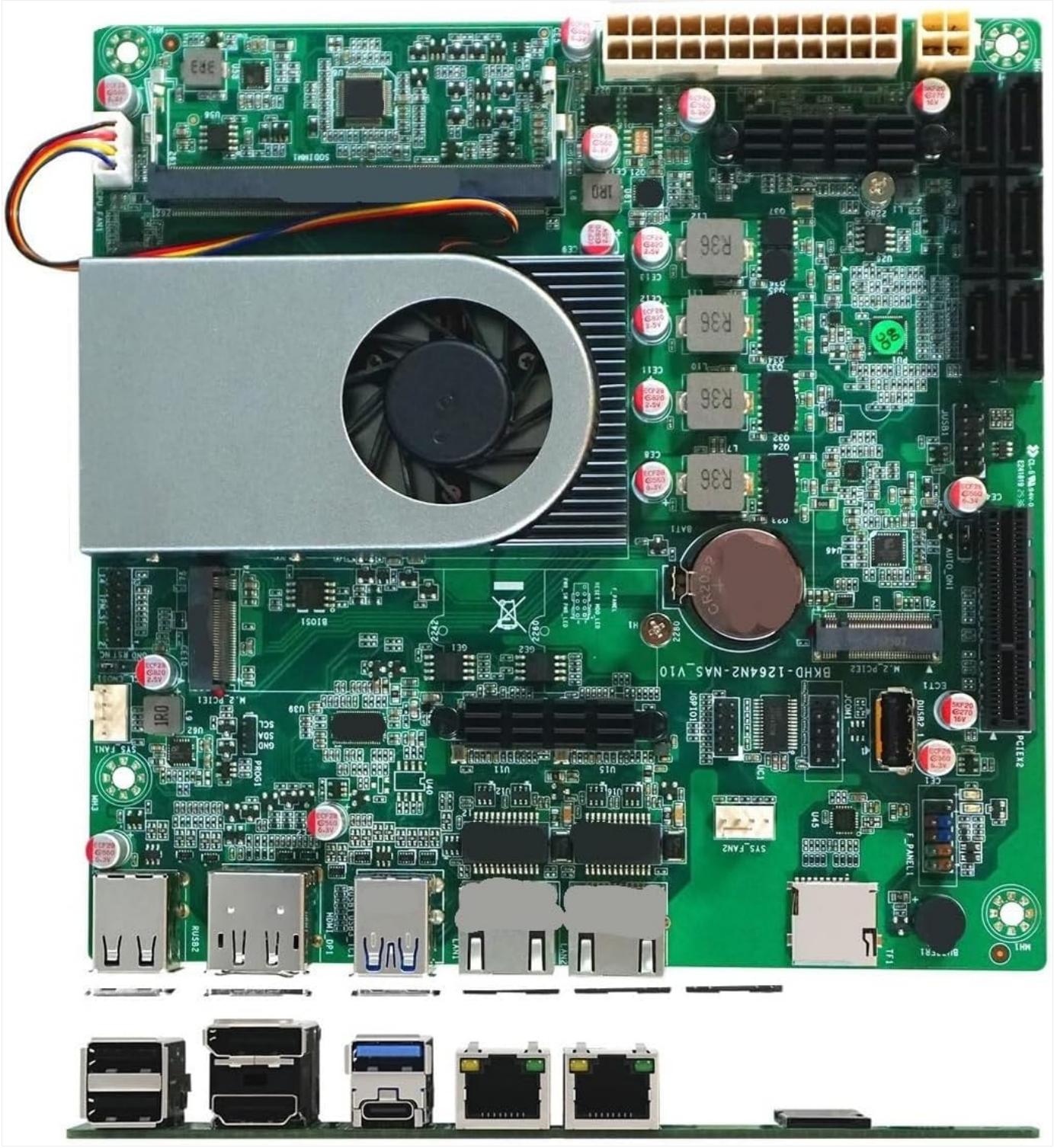


Figure 2: Detailed view of the motherboard's layout, including storage interfaces.

The integrated high-definition display output module supports the native display unit of the notebook, providing stable and lag-free image transmission. The low-power consumption circuit design, combined with efficient heat dissipation, effectively reduces heat and power consumption during notebook operation.



Figure 3: Side view illustrating the extensive I/O panel and SATA ports.

It uses high-quality electronic components and undergoes strict functional testing before leaving the factory to ensure stable and reliable motherboard operation.

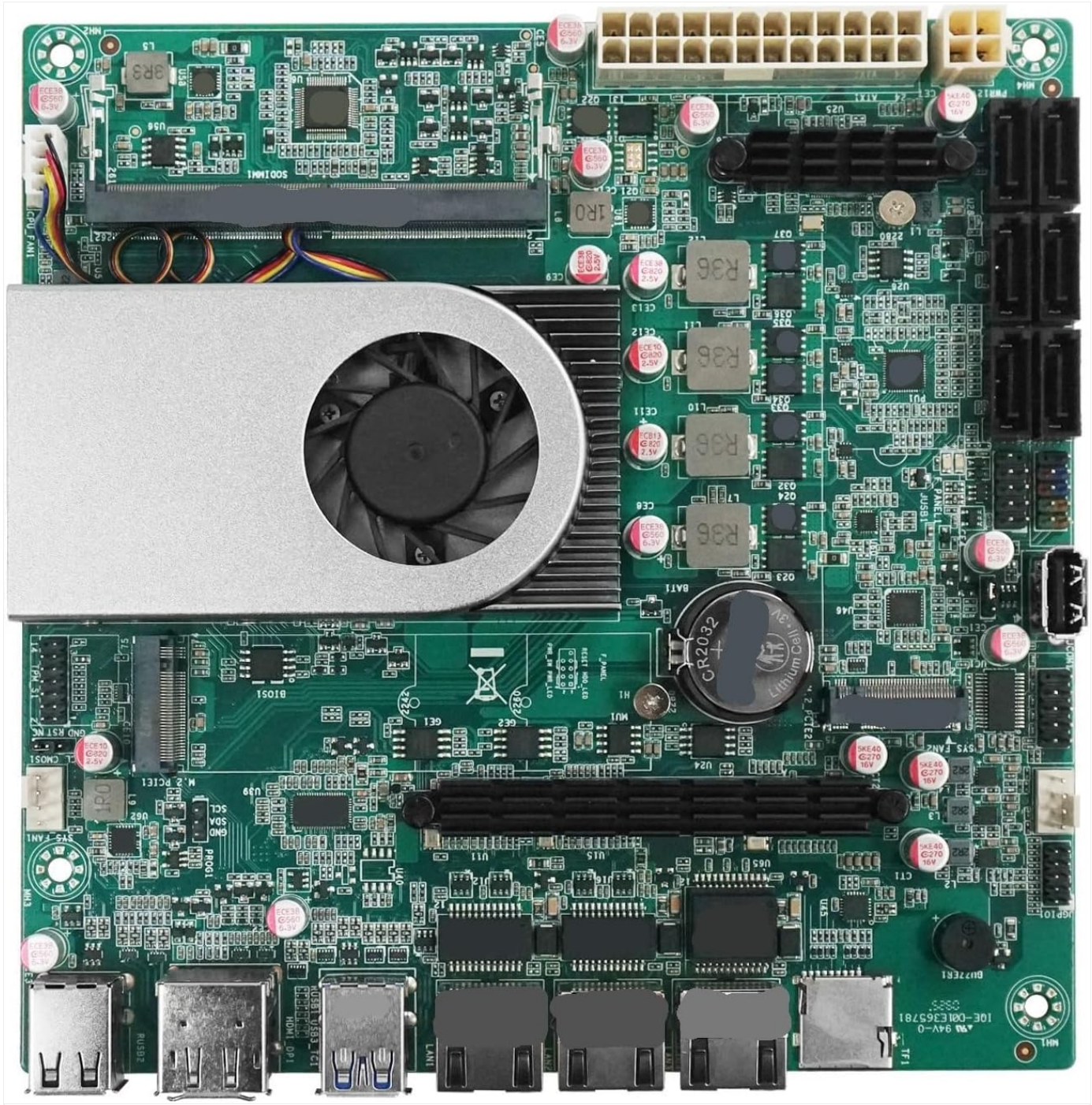


Figure 4: Close-up of the CPU and power delivery components.

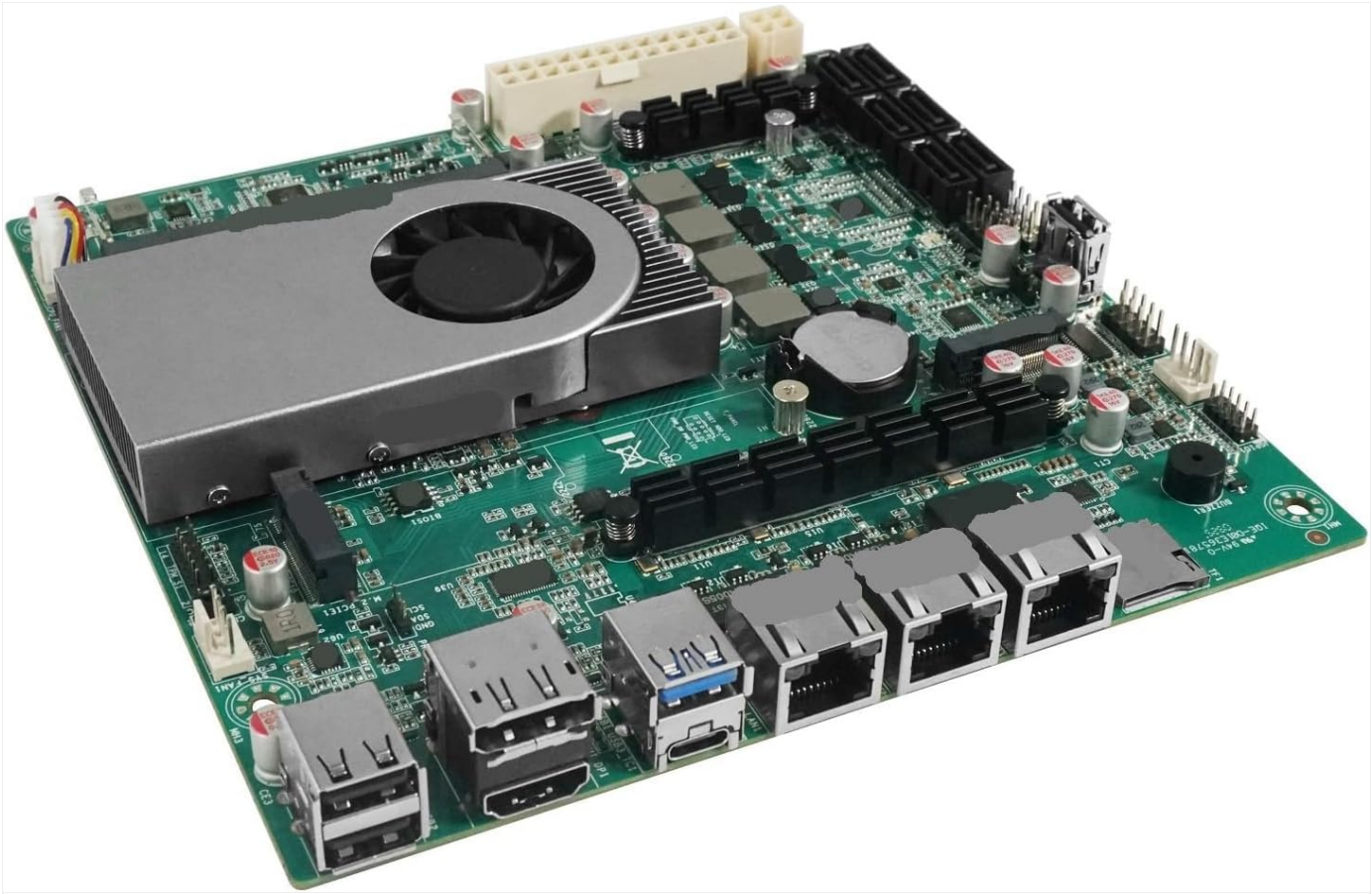


Figure 5: Overall perspective view of the motherboard.

Setup

1. Preparing for Installation

- Ensure you are working in a clean, well-lit area.
- Gather all necessary tools: Phillips head screwdriver, anti-static wrist strap, thermal paste (if applicable).
- Place the motherboard on an anti-static mat or in its anti-static bag until ready for installation.

2. RAM Installation

This motherboard supports DDR5 SO-DIMM memory modules.

1. Locate the single DDR5 SO-DIMM slot on the motherboard.
2. Gently push open the clips at both ends of the memory slot.
3. Align the notch on the DDR5 module with the key in the memory slot.
4. Insert the module at a 45-degree angle and press down firmly on both ends until the clips snap into place.

3. Storage Device Installation

The motherboard supports both SATA 3.0 drives and M.2 NVMe SSDs.

SATA Drives:

1. Connect one end of a SATA data cable to a SATA 3.0 port on the motherboard.
2. Connect the other end of the SATA data cable to your SATA hard drive or SSD.
3. Connect a SATA power cable from your power supply to the drive.

M.2 NVMe SSDs:

1. Locate the M.2 slots on the motherboard.

2. Remove the M.2 standoff screw.
3. Insert the M.2 SSD into the slot at an angle.
4. Gently push down the SSD and secure it with the standoff screw.

4. Connecting Peripherals

Connect your peripherals to the appropriate ports on the rear I/O panel and internal headers:

- **LAN Ports:** Connect Ethernet cables to the 2.5G RJ45 ports for network connectivity.
- **USB Ports:** Connect USB devices (keyboard, mouse, external storage) to the available USB 2.0, USB 3.0, or USB 4.0 ports.
- **Display Output:** Connect your monitor to the HDMI port.
- **COM Port:** For serial communication devices.
- **Front Panel Connectors:** Connect power button, reset button, HDD LED, and front USB/audio headers from your chassis.

5. Power Connection

Connect the main ATX power connector from your power supply unit (PSU) to the corresponding socket on the motherboard. Ensure all power cables are securely seated.

6. Initial Boot

After all components are installed and connected:

1. Connect the power supply to a wall outlet.
2. Press the power button on your chassis.
3. The system should power on and display the BIOS/UEFI splash screen.

Operating

1. BIOS/UEFI Configuration

To access the BIOS/UEFI setup utility, press the designated key (usually**DEL** or **F2**) repeatedly during system startup. Here you can configure boot order, system time, and various hardware settings.

2. Operating System Installation

Insert your operating system installation media (USB drive or DVD) and follow the on-screen instructions. Ensure the boot order in BIOS/UEFI is set to prioritize your installation media.

3. Driver Installation

After installing the operating system, install the necessary drivers for the motherboard's components (chipset, LAN, audio, etc.). Drivers can typically be found on the included driver media or downloaded from the manufacturer's website.

4. NAS/Soft Router Setup

For NAS or soft router applications, install your preferred operating system (e.g., FreeNAS, OPNsense, pfSense, OpenWrt) and configure network interfaces, storage arrays (RAID), and services according to the specific software's documentation.

Maintenance

1. Cleaning

Regularly clean your system to prevent dust buildup, which can lead to overheating and component failure.

- Disconnect power before cleaning.

- Use compressed air to remove dust from fans, heatsinks, and other components.
- Use a soft, lint-free cloth to wipe surfaces. Avoid using liquid cleaners directly on components.

2. Firmware Updates

Periodically check the manufacturer's website for BIOS/UEFI firmware updates. Updates can provide improved stability, performance, and compatibility. Follow the provided instructions carefully when performing a firmware update.

Troubleshooting

If you encounter issues, refer to the following common troubleshooting steps:

- **No Power:** Ensure all power cables (ATX 24-pin) are securely connected. Check the power supply unit (PSU) and wall outlet.
- **No Display:** Verify that the monitor is connected to the correct display output on the motherboard and is powered on. Reseat the RAM module.
- **System Instability/Crashes:** Check RAM seating. Ensure adequate cooling. Update drivers and BIOS/UEFI.
- **Storage Not Detected:** Verify SATA data and power cable connections. Check M.2 SSD seating. Ensure drives are enabled in BIOS/UEFI.
- **Network Issues:** Check Ethernet cable connections. Verify LAN drivers are installed. Check network settings in the operating system.

For further assistance, consult the manufacturer's support resources.

Specifications

Feature	Specification
Brand	LDGSUPH
Model	N97/N150
CPU	Onboard (N97/N150 series)
CPU Socket	BGA 1023
Memory Type	DDR5
Memory Slots	1 (SO-DIMM)
Storage Interfaces	6x SATA 3.0, 2x M.2 (NVMe)
LAN	3x 2.5G RJ45 (Intel I226)
USB Ports	USB 2.0, USB 3.0, USB 4.0 (Back I/O)
Other Back I/O Ports	COM Port
PCI-E Slots	1x PCI-E 3.0 x4
Form Factor	ITX (17x17CM)
Application	NAS, Soft Router, Storage Server, Desktop, Server, Workstation, Industrial Computer
Origin	China

Warranty and Support

This product comes with a standard manufacturer's warranty. For specific warranty terms and conditions, please refer to the documentation provided with your purchase or contact your retailer. For technical support, driver downloads, or further assistance, please visit the official LDGSUPH website or contact their customer service department.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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