MSI 7C52-001R

MSI B450M-A Pro Max Motherboard User Manual

Model: 7C52-001R

1. Introduction

The MSI B450M-A Pro Max is an AMD B450 AM4 Micro ATX DDR4-SDRAM Motherboard designed for reliable performance and user-friendly assembly. It features convenient pin-header keep out zones, friendly SATA & USB locations, and robust cooling capabilities with solid and heavy heatsinks and ample fan headers for comprehensive system cooling.



Figure 1: MSI B450M-A Pro Max Motherboard and its retail packaging.

2. Package Contents

Verify that all items are present in the package:

- MSI B450M-A Pro Max Motherboard
- SATA Cables (2x)
- I/O Shield
- Driver DVD
- Case Standoff Notification
- Quick Installation Guide
- MSI Product Registration/Shout Out Flyer
- MSI Gaming Product Brochure
- M.2 Screw



Figure 2: Contents included with the MSI B450M-A Pro Max Motherboard.

3. Key Features

- **AMD B450 Chipset:** Supports 1st, 2nd and 3rd Gen AMD Ryzen™ / Ryzen™ with Radeon™ Vega Graphics and 2nd Gen AMD Ryzen™ with Radeon™ Graphics / Athlon™ with Radeon™ Vega Graphics Desktop Processors for Socket AM4.
- **DDR4 Boost:** Optimized circuit design for stable and high-speed DDR4 memory up to 3466+(OC) MHz.
- **Core Boost:** Premium layout and fully digital power design for multi-core processor support and enhanced stability.
- **Turbo M.2:** Delivers speeds up to 32 Gbps for NVMe SSDs, providing fast system boot-up and application loading.
- **Steel Slot:** Reinforced PCIe slots to protect against damage from heavy graphics cards during transport and use, offering 4x strength.
- **CrossFire Support:** Optimized for multi-GPU setups with AMD CrossFire Technology.
- **Audio Boost:** Isolated audio PCB with high-quality audio capacitors for crystal clear 7.1 HD audio output (192kHz 24-bit).
- **I/O Overview:** Features a comprehensive set of ports including Mouse/Keyboard (PS/2), USB 2.0, VGA, DVI-D, HDMI, USB 3.2 Gen1, USB 3.2 Gen2, LAN (Realtek 8111H Gigabit), and 8-Channel (7.1) HD Audio jacks.

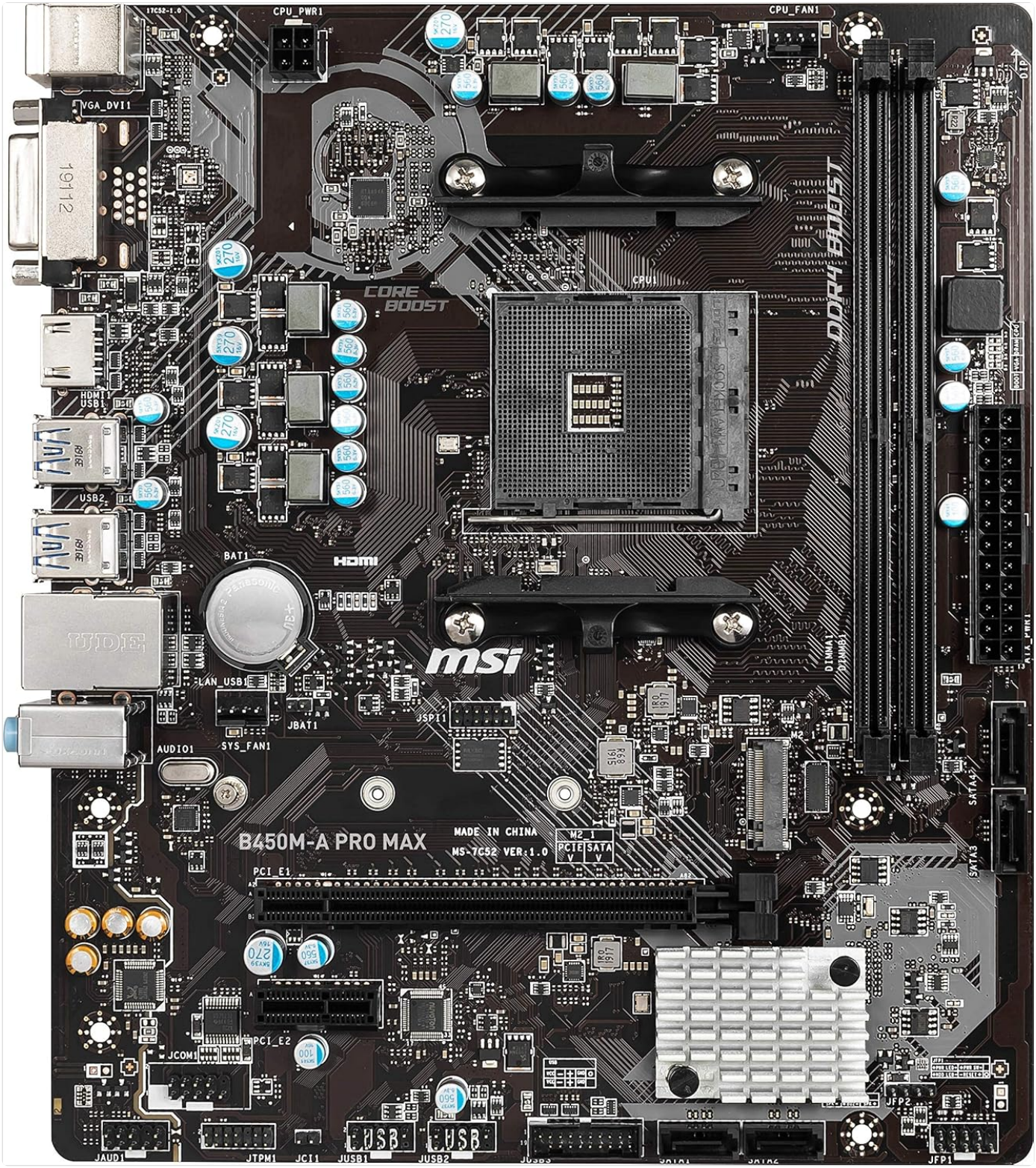


Figure 3: Detailed top-down view of the MSI B450M-A Pro Max Motherboard highlighting key components.

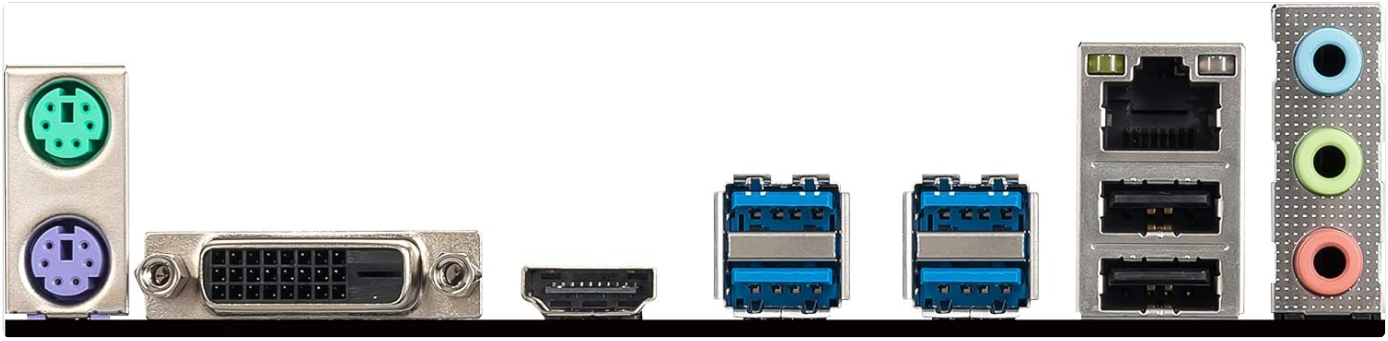


Figure 4: Rear I/O panel of the MSI B450M-A Pro Max Motherboard, showing various connectivity options.

4. Setup Guide

4.1. Pre-Installation Checklist

- Ensure you have a compatible CPU (AMD Ryzen AM4 series).
- Verify RAM compatibility (DDR4, Dual Channel, up to 3466+(OC) MHz).
- Prepare your computer case with necessary stand-offs.
- Gather essential tools: screwdriver, anti-static wrist strap (recommended).

4.2. Motherboard Installation

1. **Prepare the Case:** Install the I/O shield into the case's rear panel opening. Ensure the necessary mounting stand-offs are correctly aligned on the motherboard tray. Avoid unnecessary stand-offs to prevent damage.
2. **Install the CPU:** Carefully open the CPU socket lever, align the CPU with the triangle marker on the socket, and gently place it into the socket. Close the lever to secure the CPU.
3. **Install the CPU Cooler:** Follow the instructions provided with your CPU cooler to install it onto the motherboard.
4. **Install RAM:** Open the clips on the DDR4 DIMM slots. Align the RAM modules with the key in the slot and press firmly until the clips snap into place. For dual-channel performance, install modules in matching colored slots.
5. **Mount the Motherboard:** Carefully place the motherboard into the case, aligning the screw holes with the stand-offs. Secure the motherboard with screws.
6. **Connect Power:** Connect the 24-pin ATX main power connector and the 8-pin CPU power connector from your power supply to the motherboard.
7. **Connect Storage Devices:** Connect SATA drives to the SATA 6Gb/s ports. If using an M.2 SSD, install it into the Turbo M.2 slot and secure it with the provided screw.
8. **Install Graphics Card (Optional):** If using a dedicated graphics card, install it into the PCI-E x16 slot. Ensure it is properly seated and secured.
9. **Connect Front Panel Cables:** Connect the case's front panel connectors (power button, reset button, USB, audio) to the corresponding headers on the motherboard. Refer to the motherboard manual for exact pin layouts.
10. **Connect Case Fans:** Connect case fans to the SYS_FAN headers on the motherboard.

5. Operating Principles

The MSI B450M-A Pro Max motherboard operates as the central hub for your computer system. It facilitates communication between the CPU, RAM, storage devices, and expansion cards. Upon power-on, the BIOS (Basic Input/Output System) initializes hardware components and loads the operating system from your storage drive. Users can access the BIOS/UEFI setup utility during boot-up (typically by pressing DEL or F2) to configure system settings, boot order, and monitor hardware status.

6. Maintenance

- **Keep Clean:** Regularly clean dust from the motherboard and case using compressed air. Ensure proper airflow within the case.
- **BIOS Updates:** Periodically check the MSI website for BIOS/UEFI updates. Updates can improve compatibility, stability, and performance. Follow update instructions carefully.
- **Driver Updates:** Keep all device drivers (chipset, audio, LAN, etc.) updated to ensure optimal performance and stability.
- **Component Checks:** Ensure all cables are securely connected and no components are loose.

7. Troubleshooting

- **No Power/No Boot:**
  - Check all power connections (24-pin ATX, 8-pin CPU).
  - Ensure the power supply is switched on.
  - Verify front panel power button connection.
- **No Display:**
  - Ensure monitor cable is securely connected to the correct port (motherboard or graphics card).
  - Reseat the graphics card and RAM modules.
  - If using an AMD Ryzen CPU without integrated graphics, a dedicated graphics card is required.
- **System Instability/Crashes:**
  - Check CPU and RAM temperatures.
  - Ensure RAM is correctly installed and compatible.
  - Update BIOS and drivers.
  - Run memory diagnostic tools.
- **Peripheral Issues:**
  - Ensure USB and other peripheral headers are correctly connected.
  - Install latest drivers for the respective peripherals.

8. Specifications

Feature	Specification
Brand	MSI
Model Number	7C52-001R
CPU Socket	Socket AM4
Chipset Type	AMD B450
RAM Memory Technology	DDR4
Memory Clock Speed	4133 MHz
RAM Memory Maximum Size	32 GB
Expansion Slots	1 x PCI-E 3.0 x16 slot + 1 x PCI-E 2.0 x16 slot, 4 x PCI-E x1 slots
Storage	1 x Turbo M.2 slot, supports 6 x SATA 6Gb/s
USB Ports	2 x USB 3.2 (Gen2) + 4 x USB 3.2 (Gen1) + 6 x USB 2.0
LAN	Realtek® 8111H Gigabit LAN
Audio	8-Channel (7.1) HD Audio with Audio Boost
Product Dimensions	12.01 x 9.61 x 1.57 inches
Item Weight	0.035 ounces

9. Warranty and Support

For detailed warranty information and technical support, please refer to the official MSI website or contact MSI customer service. Product registration may be required for warranty claims.

- Official MSI Support: https://www.msi.com/support
- Product Registration: http://register.msi.com

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Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

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Email

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

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.

Submit question