ASRock Z370 TAICHI

ASRock Z370 TAICHI Motherboard User Manual

Model: Z370 TAICHI

1. Introduction

This manual provides detailed instructions for the installation, configuration, and operation of the ASRock Z370 TAICHI motherboard. This motherboard is designed to support 8th Generation Intel Core Processors (Socket 1151) and DDR4 memory, offering a robust platform for personal computing.

2. Safety Guidelines

Observe the following safety precautions during installation and operation to prevent damage to the motherboard or injury:

- Always disconnect the power cord from the wall outlet before handling any components.
- Wear an anti-static wrist strap or frequently touch a grounded object to discharge static electricity.
- Handle the motherboard by its edges to avoid touching sensitive components.
- Ensure proper ventilation within the computer case to prevent overheating.
- Keep the motherboard away from moisture and extreme temperatures.

3. Package Contents

Verify that all items are present in the package:

- ASRock Z370 TAICHI Motherboard
- SLI Bridge
- SATA Cables (quantity may vary)
- Instruction Manual
- Support DVD Disk
- Wi-Fi Antenna (for integrated Intel 802.11ac WiFi)

4. Motherboard Layout

Familiarize yourself with the key components and connectors on the motherboard before installation.

Figure 4.1: Top-down view of the ASRock Z370 TAICHI motherboard, showing the CPU socket, RAM slots, PCIe slots, and M.2 slots.

Figure 4.2: Angled view of the ASRock Z370 TAICHI motherboard, highlighting the heatsinks and overall component placement.

Figure 4.3: Side view of the ASRock Z370 TAICHI motherboard, illustrating the rear I/O panel and its various ports.

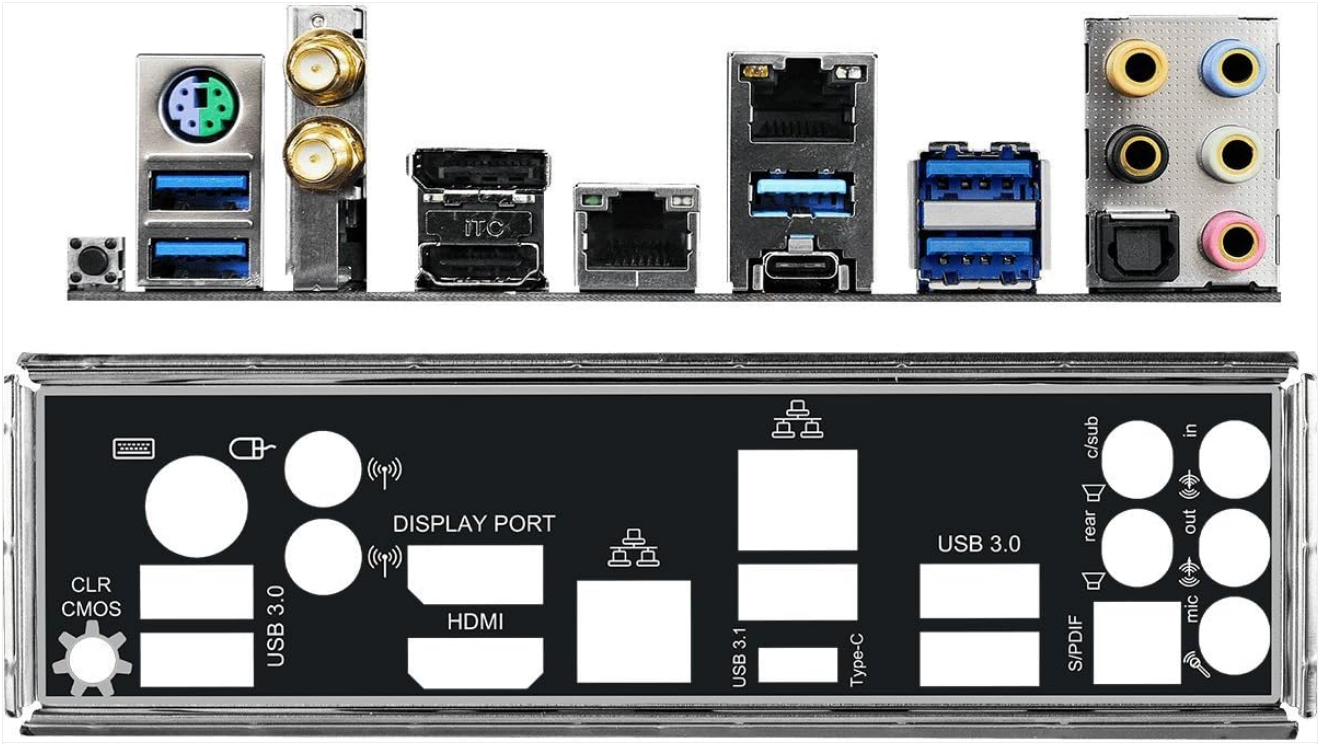

Figure 4.4: Detailed diagram of the ASRock Z370 TAICHI motherboard's rear I/O panel, showing USB ports, display outputs, audio jacks, and network ports.

5. Installation Guide

Follow these steps for proper installation of components onto the motherboard.

5.1. CPU Installation

1. Locate the LGA 1151 CPU socket.
2. Open the CPU socket lever and lift the load plate.
3. Carefully align the CPU with the socket, ensuring the gold triangle on the CPU matches 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.
6. Install the CPU cooler according to its manufacturer's instructions.

5.2. RAM (DDR4) Installation

1. Identify the DDR4 DIMM slots. For dual-channel operation, refer to the motherboard manual for recommended slot pairing.
2. Open the clips at both ends of the DIMM slot.
3. Align the notch on the DDR4 module with the key in the DIMM slot.
4. Press down firmly on both ends of the memory module until the clips snap into place.

5.3. Storage Device Installation (SATA & M.2)

5.3.1. SATA Drives

- Connect SATA data cables to the SATA3 ports on the motherboard and to your SATA hard drives or SSDs.
- Connect SATA power cables from your power supply to the drives.

5.3.2. Ultra M.2 SSDs

- Locate the Ultra M.2 slots on the motherboard. The Z370 TAICHI features three Ultra M.2 slots (PCIe Gen3 x4 & SATA3).
- Remove the M.2 standoff screw.
- Insert the M.2 SSD into the slot at a 30-degree angle.
- Gently push the M.2 SSD down and secure it with the standoff screw.

5.4. PCIe Card Installation

- Identify the PCIe 3.0 x16 and x1 slots.
- Remove the corresponding expansion slot cover from your computer case.
- Align the PCIe card with the slot and press down firmly until it is seated correctly.
- Secure the card with a screw to the case.

5.5. Power Connections

- Connect the 24-pin ATX power connector from your power supply to the motherboard.
- Connect the 8-pin (or 4+4-pin) ATX 12V power connector to the motherboard.

5.6. Front Panel and Rear I/O Connections

- Connect the front panel headers (power switch, reset switch, HDD LED, power LED) to the corresponding pins on the motherboard. Refer to the motherboard manual for pin assignments.
- Connect USB 2.0, USB 3.1 Gen1, and USB 3.1 Gen2 Type-C front panel connectors if your case supports them.
- Connect audio cables from the front panel to the motherboard's audio header.
- Install the Wi-Fi antennas to the rear I/O panel connectors for Intel 802.11ac WiFi functionality.
- Connect peripherals (monitor, keyboard, mouse, network cable) to the rear I/O ports.

6. BIOS Setup and Software

After hardware installation, configure the system through the BIOS/UEFI and install necessary software.

6.1. Accessing the BIOS/UEFI

- Power on your computer.
- During the boot process, repeatedly press the **Del** or **F2** key to enter the BIOS/UEFI setup utility.

6.2. Initial BIOS Configuration

- Set the correct system date and time.
- Configure boot order to prioritize your operating system installation media (USB drive or DVD).
- Review and adjust SATA mode (AHCI is generally recommended for SSDs).
- Save changes and exit the BIOS.

6.3. Driver and Software Installation

- After installing your operating system, install the necessary drivers from the provided support DVD or download the latest versions from the ASRock website. Key drivers include chipset, audio, LAN, Wi-Fi, and graphics drivers.
- Install ASRock utility software for features like RGB LED control and system monitoring.

6.4. BIOS Updates

Regularly check the ASRock website for BIOS updates. BIOS updates can improve system stability, compatibility, and performance. Refer to the ASRock website for specific instructions on how to update the BIOS, typically involving a utility or flashing from within the BIOS itself.

7. Troubleshooting

This section addresses common issues you might encounter.

7.1. No Power / No Boot

- Ensure all power cables (24-pin ATX, 8-pin ATX 12V) are securely connected to the motherboard and power supply.
- Verify the power supply switch is in the "ON" position.
- Check front panel power switch connection to the motherboard.
- Try booting with minimal components (CPU, one RAM stick, graphics card if no integrated graphics) to isolate the issue.

7.2. No Display Output

- Confirm the monitor is connected to the correct graphics output (either dedicated GPU or motherboard's integrated graphics port).
- Reseat the graphics card and ensure its power connectors are attached.
- Test with a different monitor or display cable.

7.3. System Instability / Crashes

- Check CPU and RAM temperatures. Ensure CPU cooler is properly installed.
- Verify RAM modules are correctly seated and compatible. Run a memory diagnostic tool.
- If overclocking, revert to default BIOS settings to check for stability.
- Ensure all drivers are up to date.

7.4. Peripheral Not Detected

- Try connecting the peripheral to a different port.
- Check device manager in your operating system for driver issues.
- Ensure the peripheral is powered on and functioning correctly.

8. Specifications

Detailed technical specifications for the ASRock Z370 TAICHI motherboard.

Feature	Detail
Brand	ASRock
Model Name	TAICHI
CPU Socket	LGA 1151
Compatible Processors	8th Generation Intel Core Processors
Chipset Type	Intel Z370

Feature	Detail
RAM Memory Technology	DDR4
Memory Speed	2400 MHz (Supports DDR4 4333+(OC))
Max Memory Capacity	64 GB
PCIe Slots	3 PCIe 3.0 x16, 2 PCIe 3.0 x1
Multi-GPU Support	NVIDIA Quad SLI, AMD 3-Way CrossFireX
Graphics Output Options	HDMI, DisplayPort
Audio	7.1 CH HD Audio (Realtek ALC1220 Audio Codec), Purity Sound 4 & DTS Connect
SATA Ports	8 SATA3
M.2 Slots	3 Ultra M.2 (PCIe Gen3 x4 & SATA3)
USB 3.1 Gen2	3 (1 Front Type-C, 1 Rear Type-C, 1 Rear Type-A)
USB 3.1 Gen1	8 (4 Front, 4 Rear)
USB 2.0 Ports	3
LAN	Dual Intel Gigabit LAN
Wireless Connectivity	Intel 802.11ac WiFi + BT 4.2
Special Features	ASRock RGB LED, Hyper BCLK Engine II, Intel Optane Memory Ready
Dimensions (LxWxH)	12.2 x 13.7 x 3.6 inches
Item Weight	3.3 pounds
First Available Date	October 7, 2017

9. Warranty Information

ASRock provides a limited warranty for its motherboards. The specific terms and duration of the warranty may vary by region and retailer. Please retain your proof of purchase for warranty claims. For detailed warranty information, refer to the official ASRock website or contact your local retailer.

10. Technical Support

For further assistance, driver downloads, BIOS updates, or troubleshooting not covered in this manual, please visit the official ASRock support website:
ASRock Support Website
You can also find additional resources and FAQs on the ASRock product page for the Z370 TAICHI model.