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## NZXT CA-H510I-W1

# NZXT H510i Compact ATX Mid-Tower PC Gaming Case

Model: CA-H510i-W1

## 1. Product Overview

The NZXT H510i is a compact ATX mid-tower PC gaming case designed for optimal performance and aesthetic appeal. It features a patented cable management system, removable fan/radiator mounting brackets, easy-to-use drive trays, a front-panel USB-C connector, a tempered glass side panel, and an upgraded Smart Device V2 for integrated RGB lighting and fan control.



Figure 1: Fully assembled NZXT H510i PC Case with internal components and RGB lighting.

## 2. Setup and Installation

### 2.1 Unboxing and Initial Inspection

Carefully remove the NZXT H510i case from its packaging. Inspect for any signs of damage during transit. Ensure all accessories, including screws, zip ties, and the user manual, are present.

### 2.2 Removing the Tempered Glass Side Panel

The tempered glass side panel is secured with a single thumbscrew at the rear of the case. Loosen this screw and carefully slide the panel open, then lift it away from the chassis. Place it on a soft, flat surface to prevent scratches.



Figure 2: Internal view of the NZXT H510i case, showing the spacious interior for component installation.

## 2.3 Motherboard Installation

Install your ATX compatible motherboard into the chassis. The case features pre-installed standoffs for ATX motherboards. Secure the motherboard using the provided screws.

## 2.4 Component Installation

Install your CPU, RAM, and storage drives (SSDs/HDDs) into the motherboard and designated drive trays. The case supports up to 381mm GPU clearance without a front watercooler, and up to 325mm with one installed. It also features a vertical GPU mount (PCIe riser card not included).



Figure 3: Internal view of the NZXT H510i case with a CPU cooler, GPU, and other components installed.

## 2.5 Cable Management

Utilize the patented cable routing kit with pre-installed channels and straps located behind the motherboard tray. This system simplifies cable organization, ensuring a clean interior and improved airflow.

## 2.6 Front I/O Connections

Connect the front I/O cables from the case to your motherboard. The H510i includes a front-panel USB-C connector supporting high-Speed USB 3.1 Gen 2 devices, along with standard USB-A ports and audio jacks.



Figure 4: Top and front view of the NZXT H510i case, highlighting the accessible front I/O ports.

### 2.7 Power Supply Installation

Install your power supply unit (PSU) into its designated compartment, typically at the bottom rear of the case. Route the necessary power cables through the cable management channels.

### 2.8 Radiator and Fan Installation

The H510i supports various radiator configurations: up to 280mm at the front and 120mm at the rear. Removable fan/radiator mounting brackets simplify the installation process. Ensure proper airflow direction for optimal cooling.

Video 1: Official overview of the NZXT H-Series Cases, demonstrating key features and internal layout relevant to setup.

## 3. Operating the Smart Device V2

The H510i features an upgraded Smart Device V2, which includes a faster microprocessor for NZXT CAM-powered control. This device manages two HUE 2 RGB lighting channels and three fan channels, supporting both voltage-regulated and PWM fans.

### 3.1 NZXT CAM Software

Download and install the NZXT CAM software from the official NZXT website. This software allows you to:

- Customize RGB lighting effects and colors.
- Monitor fan speeds and temperatures.
- Create custom fan curves for optimized cooling and noise levels.
- Monitor system performance and component health.

## 4. Maintenance

Regular maintenance ensures the longevity and optimal performance of your NZXT H510i case and its components.

### 4.1 Dust Filter Cleaning

The H510i is equipped with removable dust filters to prevent dust buildup inside the case. Periodically remove and clean these filters using compressed air or by washing them with water (ensure they are completely dry before reinstallation).

### 4.2 Interior Cleaning

With the tempered glass side panel removed, use compressed air to clear dust from internal components such as fans, radiators, and heatsinks. Avoid touching sensitive components directly.

### 4.3 Cable Management Review

Occasionally check the cable management to ensure cables remain neatly routed and do not obstruct airflow or fan operation. Adjust as necessary.

## 5. Troubleshooting

If you encounter any issues with your NZXT H510i case or its integrated features, consider the following:

- **No Power:** Ensure all power cables (PSU to motherboard, CPU, GPU) are securely connected. Check the power button connection to the motherboard.
- **Fans Not Spinning/RGB Not Working:** Verify that the Smart Device V2 is correctly connected to the PSU and motherboard USB header. Check fan and RGB connections to the Smart Device. Use NZXT CAM software to diagnose and control.
- **Overheating:** Ensure all fans are spinning correctly and oriented for proper airflow (intake/exhaust). Clean dust filters and internal components. Verify CPU cooler and GPU cooler are properly seated.
- **USB-C Port Not Functioning:** Confirm the internal USB-C header cable is securely connected to your motherboard.

For further assistance, refer to the detailed troubleshooting guides on the official NZXT support website.

## 6. Specifications

| | |
|---|---|
| **Brand** | NZXT |

| | |
|---|---|
| **Model Number** | CA-H510I-W1 |
| **Case Type** | Mid Tower |
| **Motherboard Compatibility** | ATX |
| **Color** | White/Black |
| **Material** | SGCC Steel, Tempered Glass |
| **Item Weight** | 18 pounds |
| **Product Dimensions (LxWxH)** | 19.45 x 9.06 x 19.45 inches |
| **Number of USB 3.0 Ports** | 1 (USB-A) + 1 (USB-C) |
| **Cooling Method** | Air |
| **Recommended Uses** | Gaming |

## 6.1 Clearance Information

- **Cable Management:** 19-23mm
- **GPU Clearance:** Up to 381mm w/o front watercooler installed, up to 325mm with front watercooler installed
- **Vertical GPU Mount Clearance:** 40.64mm
- **CPU Cooler Height:** Up to 165mm
- **Front Radiator Support:** 60mm thickness
- **Rear Radiator Support:** 60mm thickness
- **Reservoir & Pump Clearance:** Up to 180mm (Along cable bar), Up to 86mm (Along bottom panel)

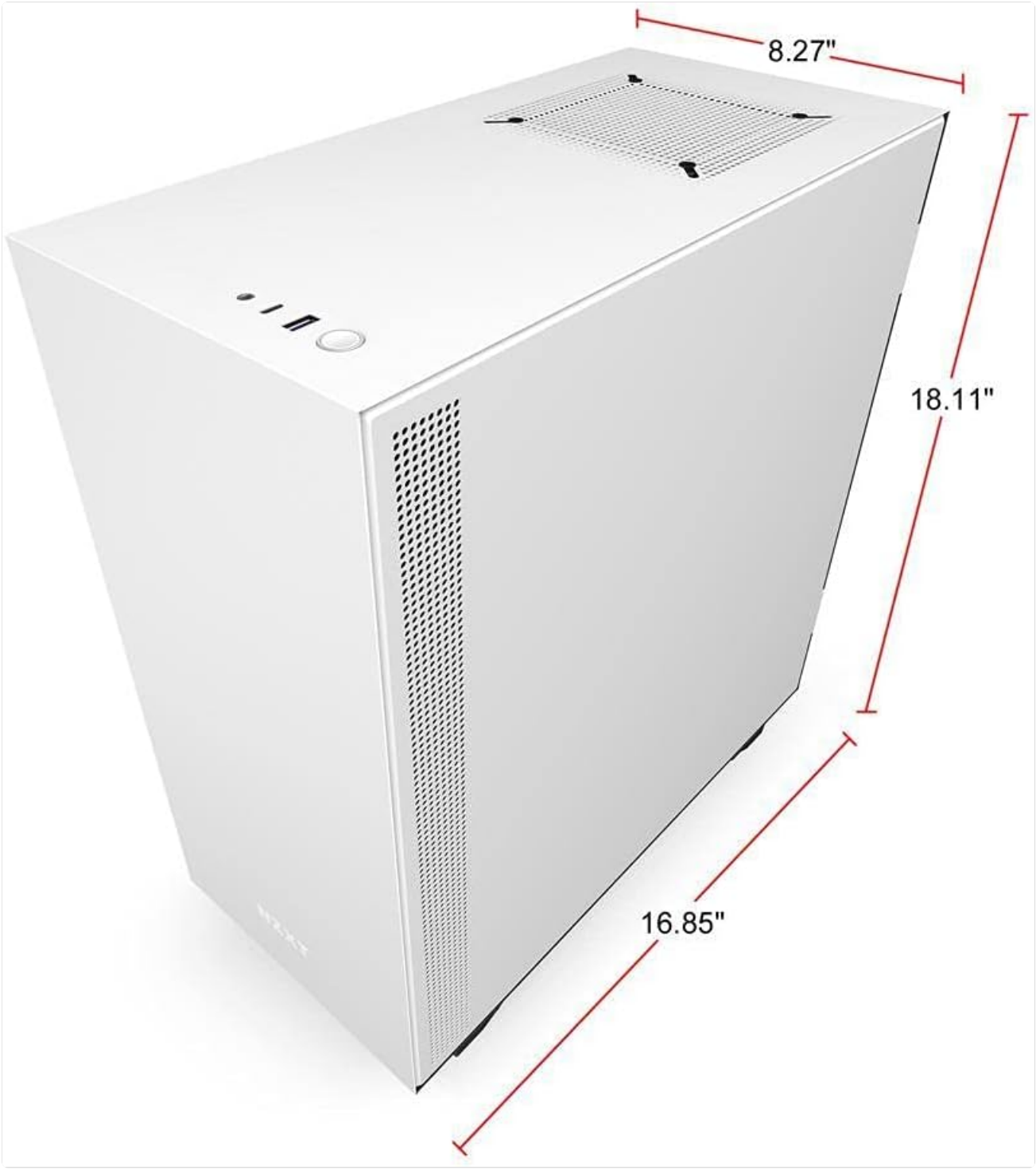



Figure 5: Dimensions of the NZXT H510i PC Case for planning component compatibility.

## 7. Warranty and Support

For warranty information, technical support, or additional product resources, please visit the official NZXT website. Keep your proof of purchase for warranty claims.

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