MSI MOTHERBOARD USER MANUAL
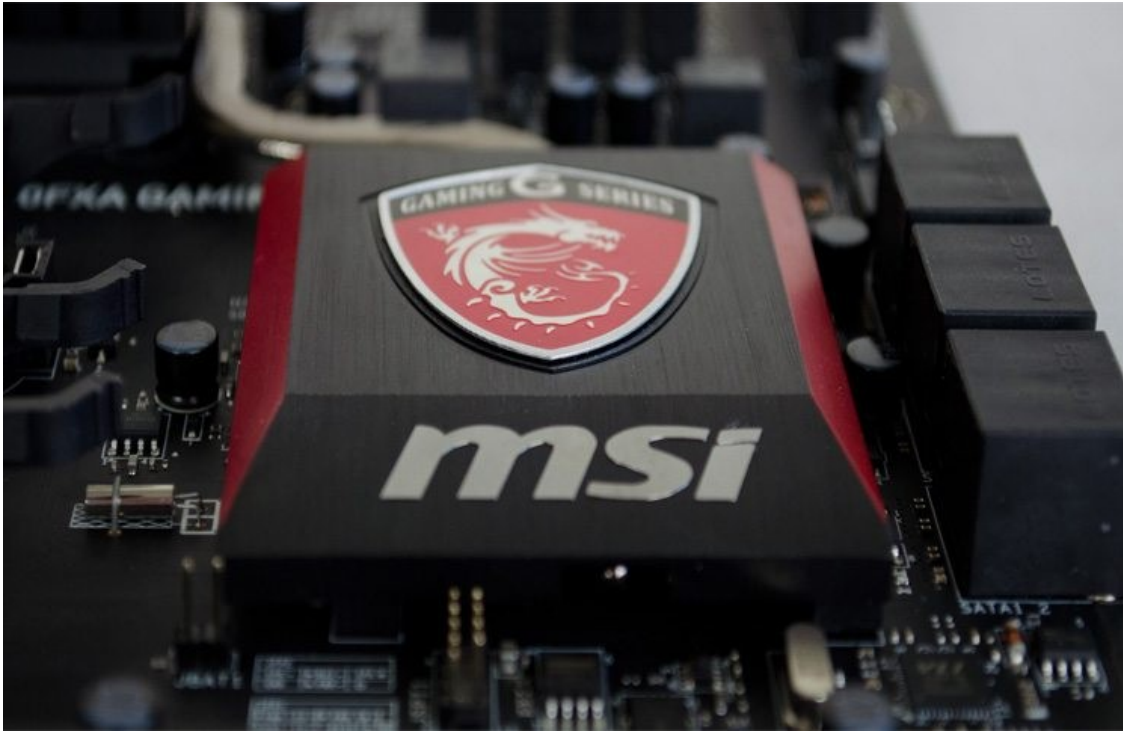
GROUP MEMBERS

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Introduction

The MSI B450 Gaming Pro Carbon AC motherboard is produced by Micro-Star international (MSI), which is a renowned computer hardware manufacturer that produces parts such as motherboards. These motherboards are well known for their innovative features performance and reliability. This motherboards caters for a wide range of uses including gaming, overclocking and for professional uses, they also come equipped with advanced technologies such as RGB lighting and Mystic light. This motherboard supports the latest graphics and processor technologies which ensure optimal performance and compatibility for concept creation, gaming and everyday computing. The hardware provided has military class durability and BIOS Flashback+ facilitating an easy BIOS update.
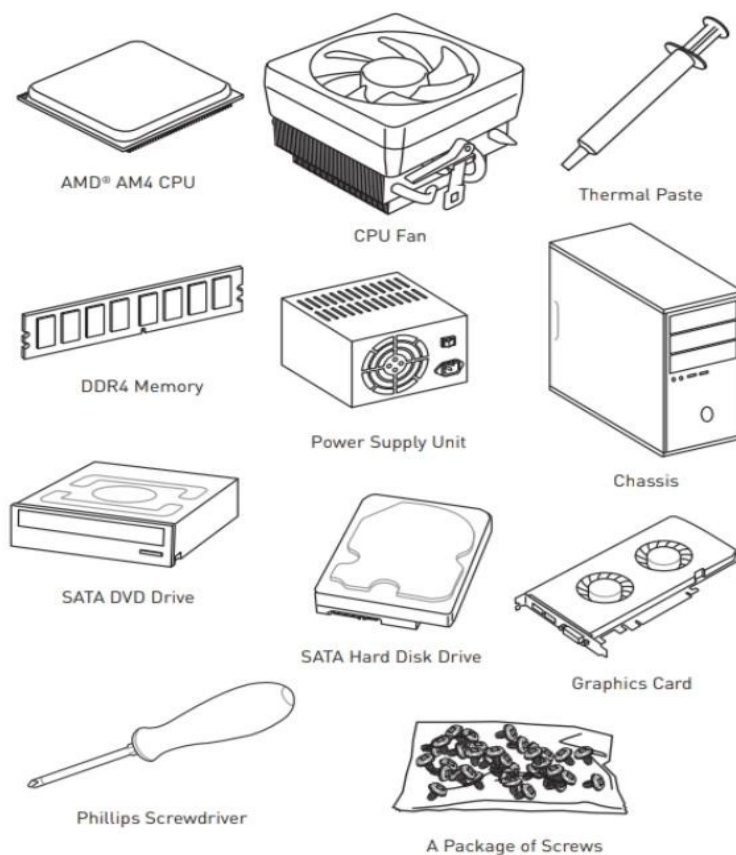
Procedural Steps

1. Preparing tools and components

Figure 1: Preparing tools and components [2]

2. Installing processor
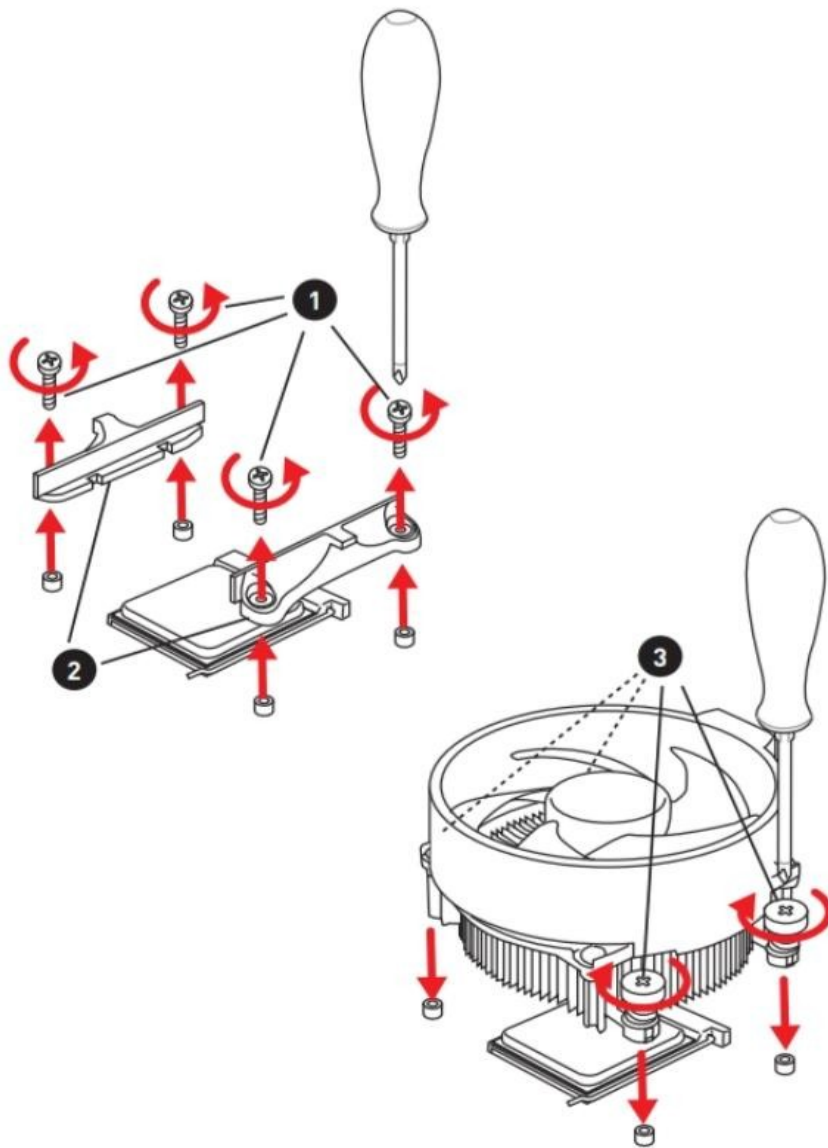
Figure 2: Installing processor [1]

3. Installing DDR4 memory
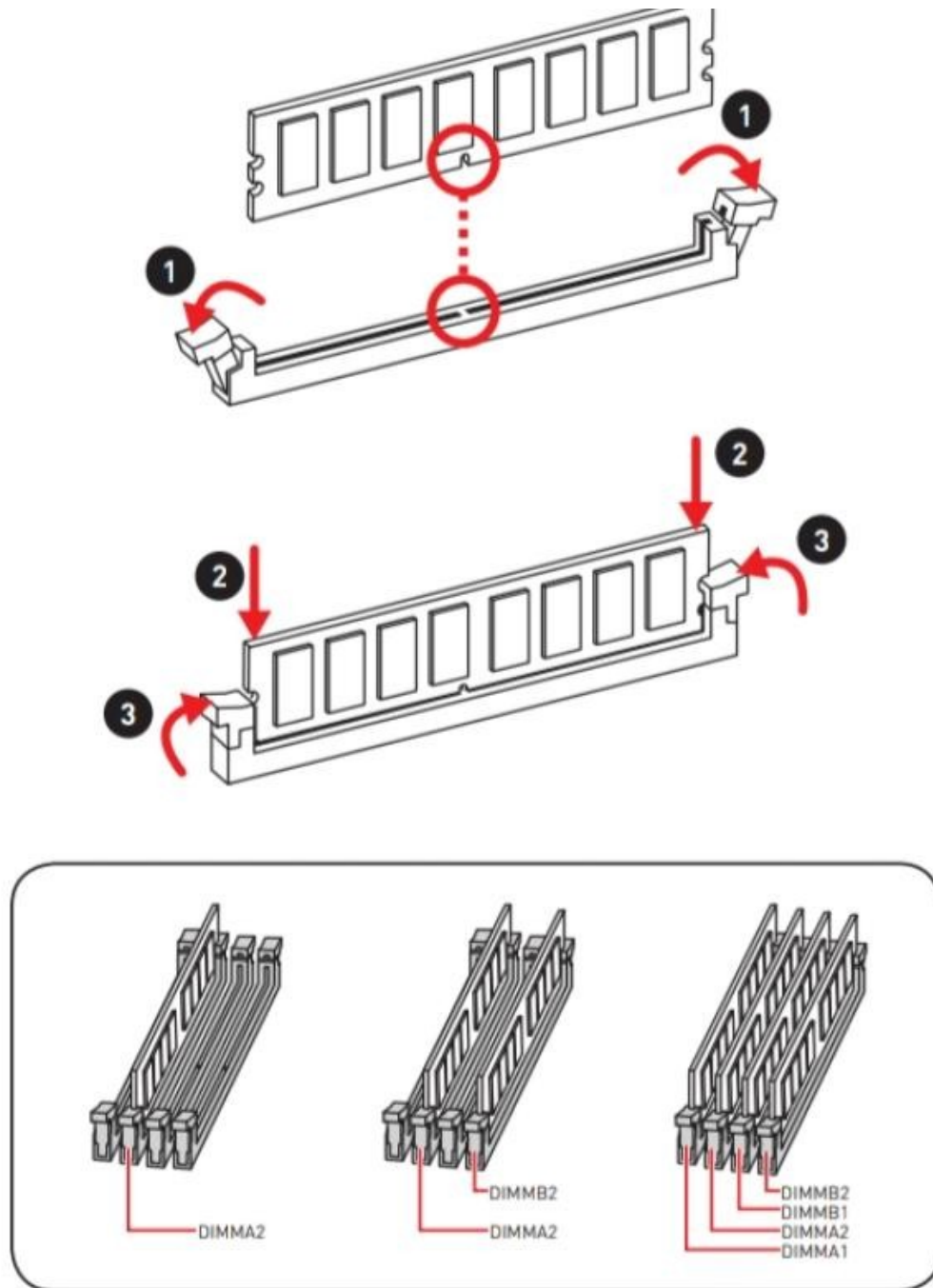
Figure 3: Installing DDR4 memory [1]

4. Connecting the front panel header

1	HDD LED +	2	Power LED +
3	HDD LED -	4	Power LED -
5	Reset Switch	6	Power Switch
7	Reset Switch	8	Power Switch
9	Reserved	10	No Pin
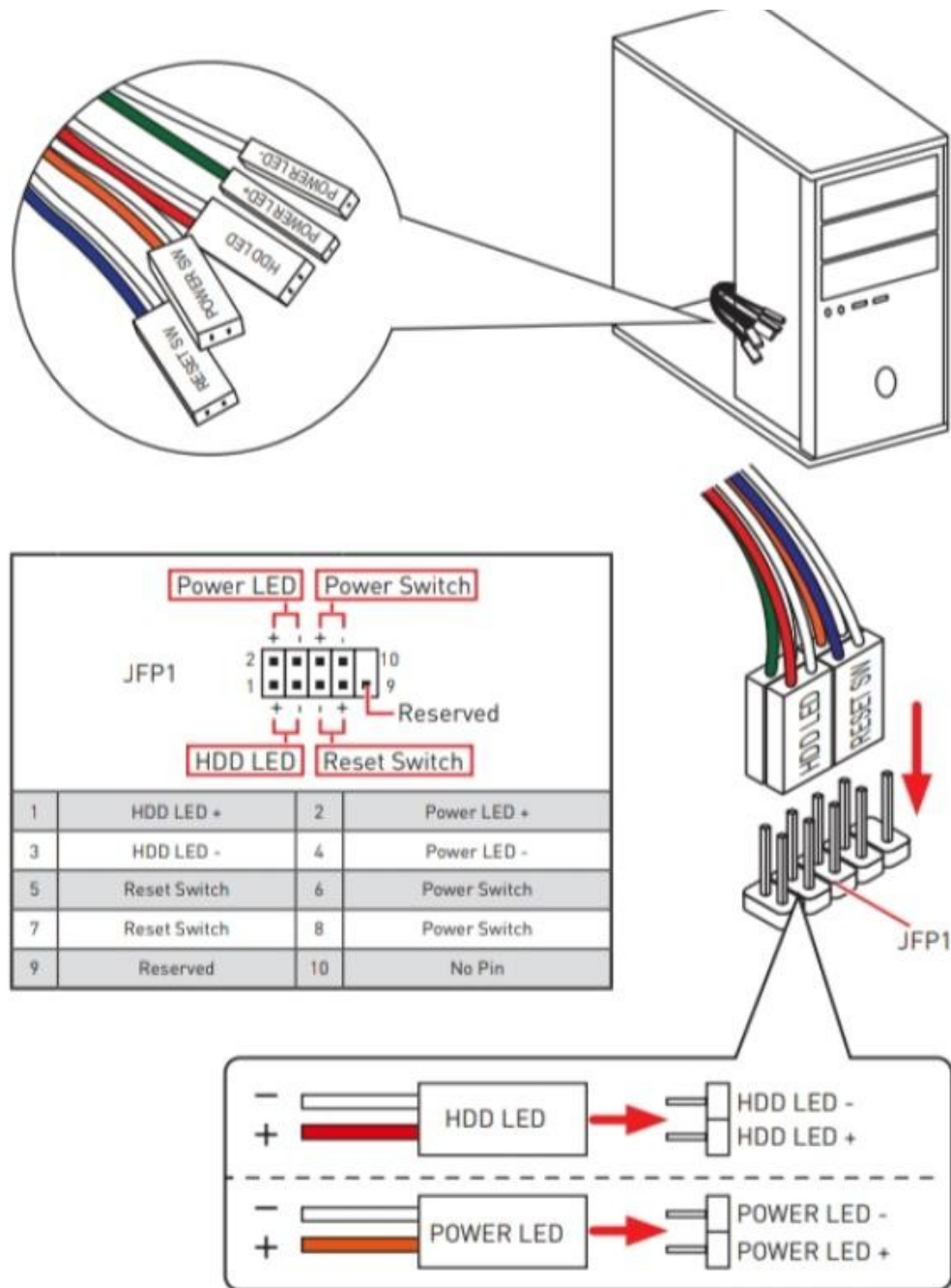
Figure 4: Connecting the front panel header [1]

5. Installing the motherboard
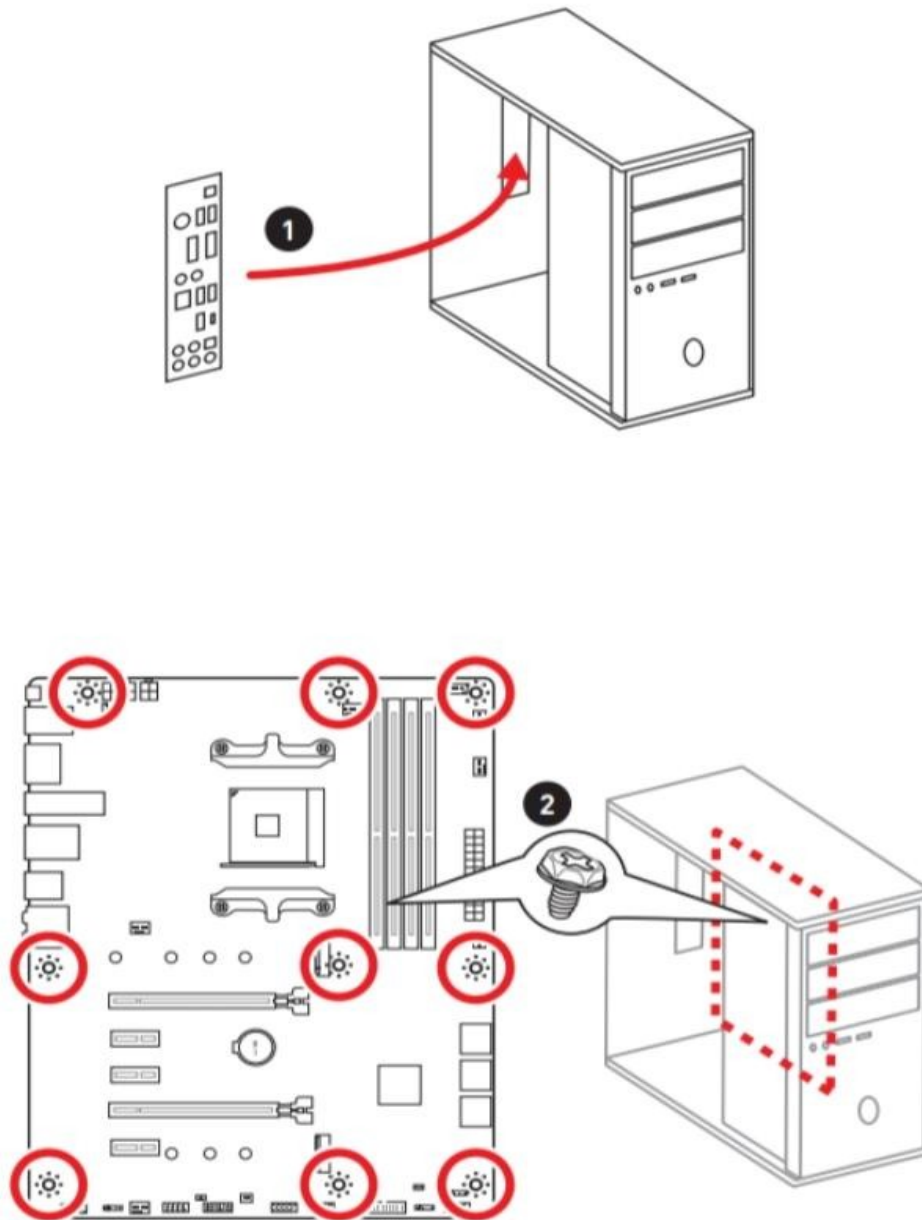
Figure 5: Installing motherboard [1]

6. Installing SATA drives

Figure 6: Installing SATA drives [1]

7. Installing a graphic card

Figure 7: Installing a graphic card [1]

8. Connecting peripheral devices

Figure 8: Connecting peripheral devices [2]

9. Connecting the power connectors

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ATX_PWR1

CPU_PWR1

CPU_PWR2

Figure 9: Connecting the power connections [1]

10. Power on

Figure 10: Powering on the computer [1]

Content Clarity

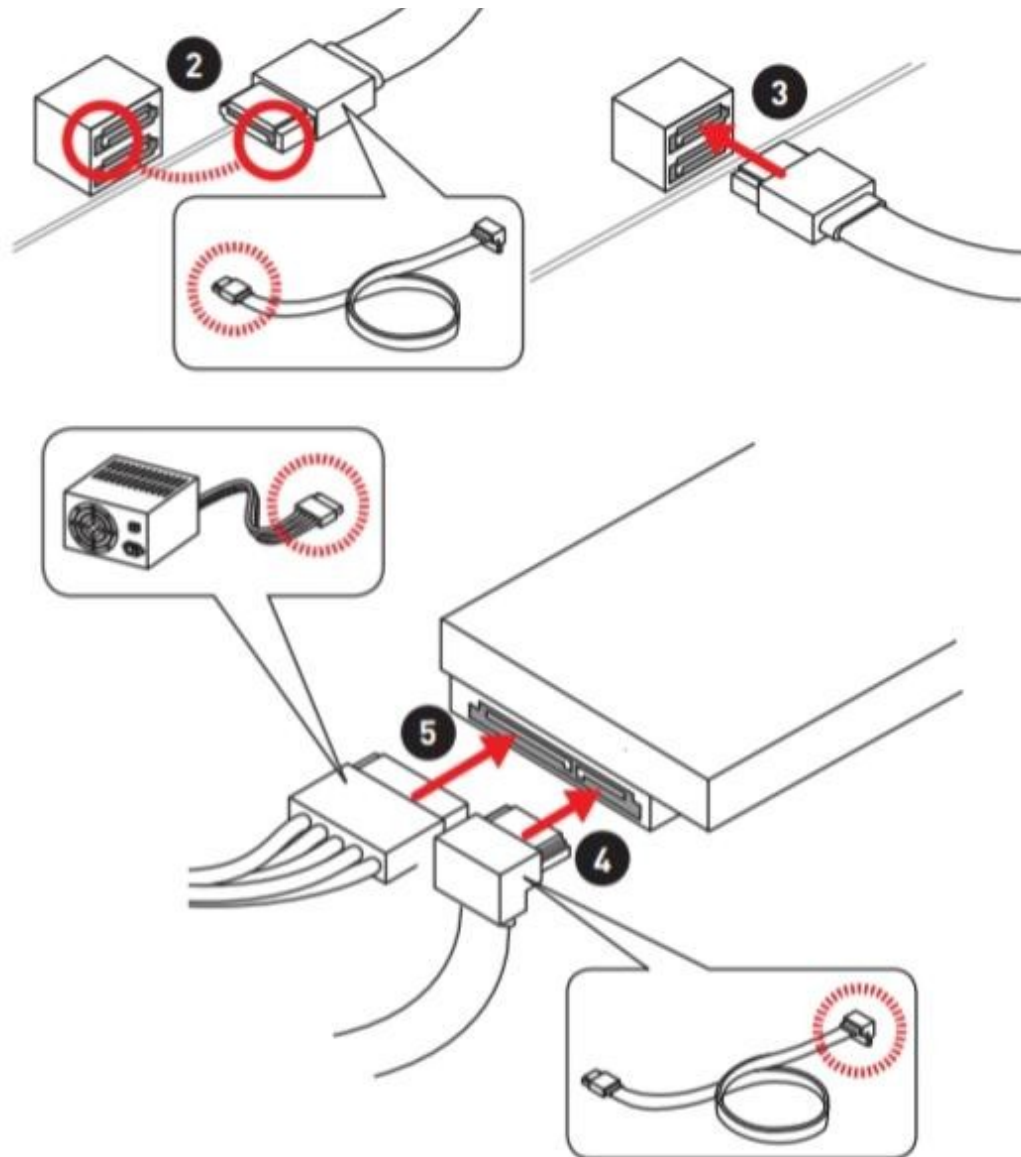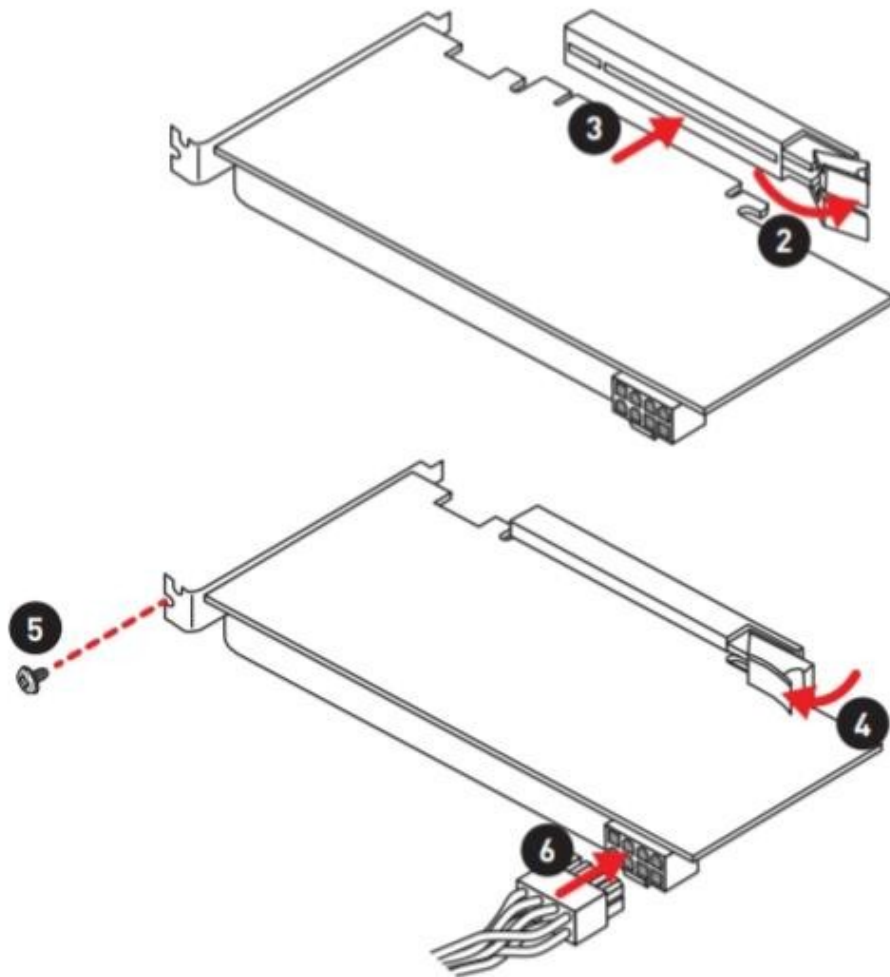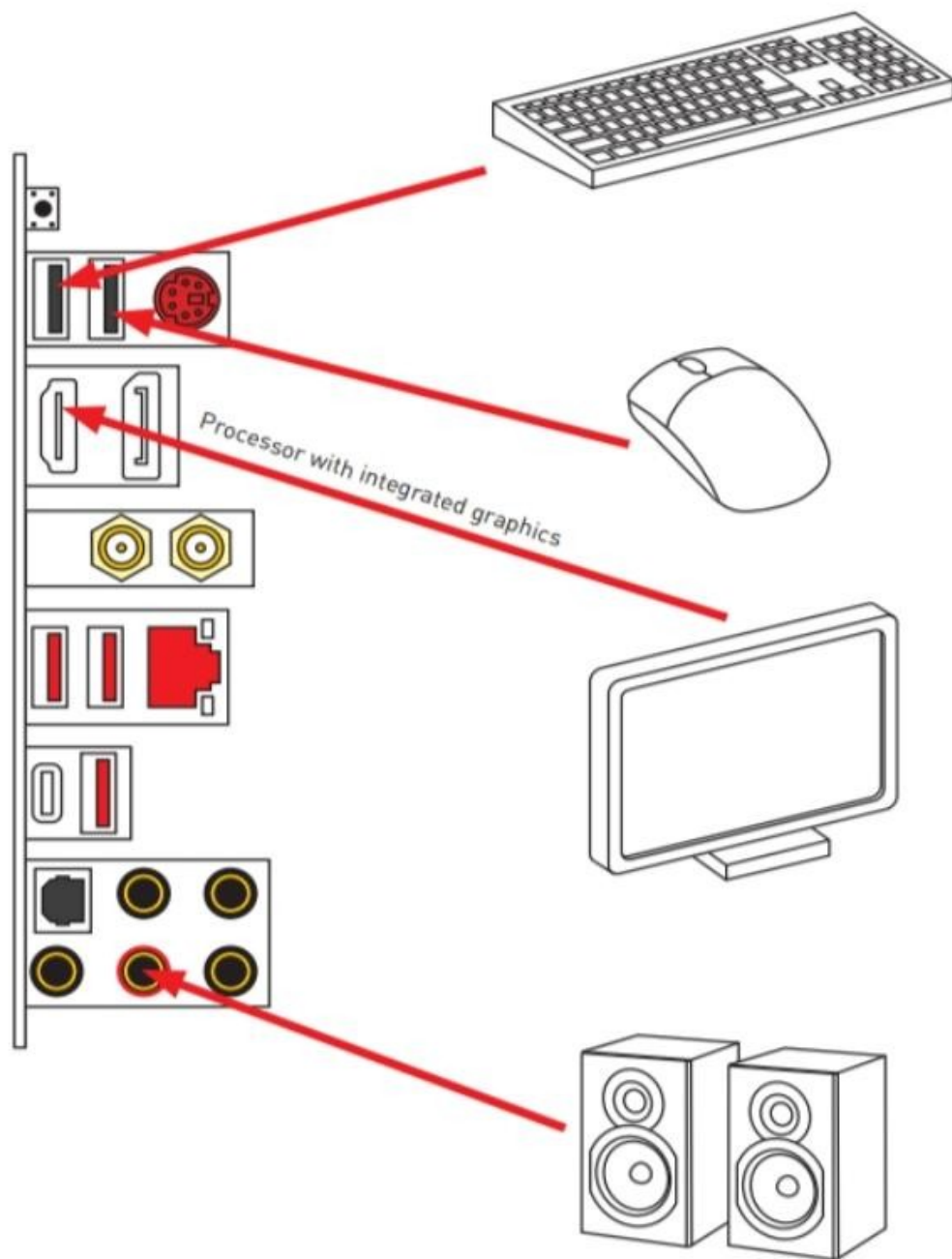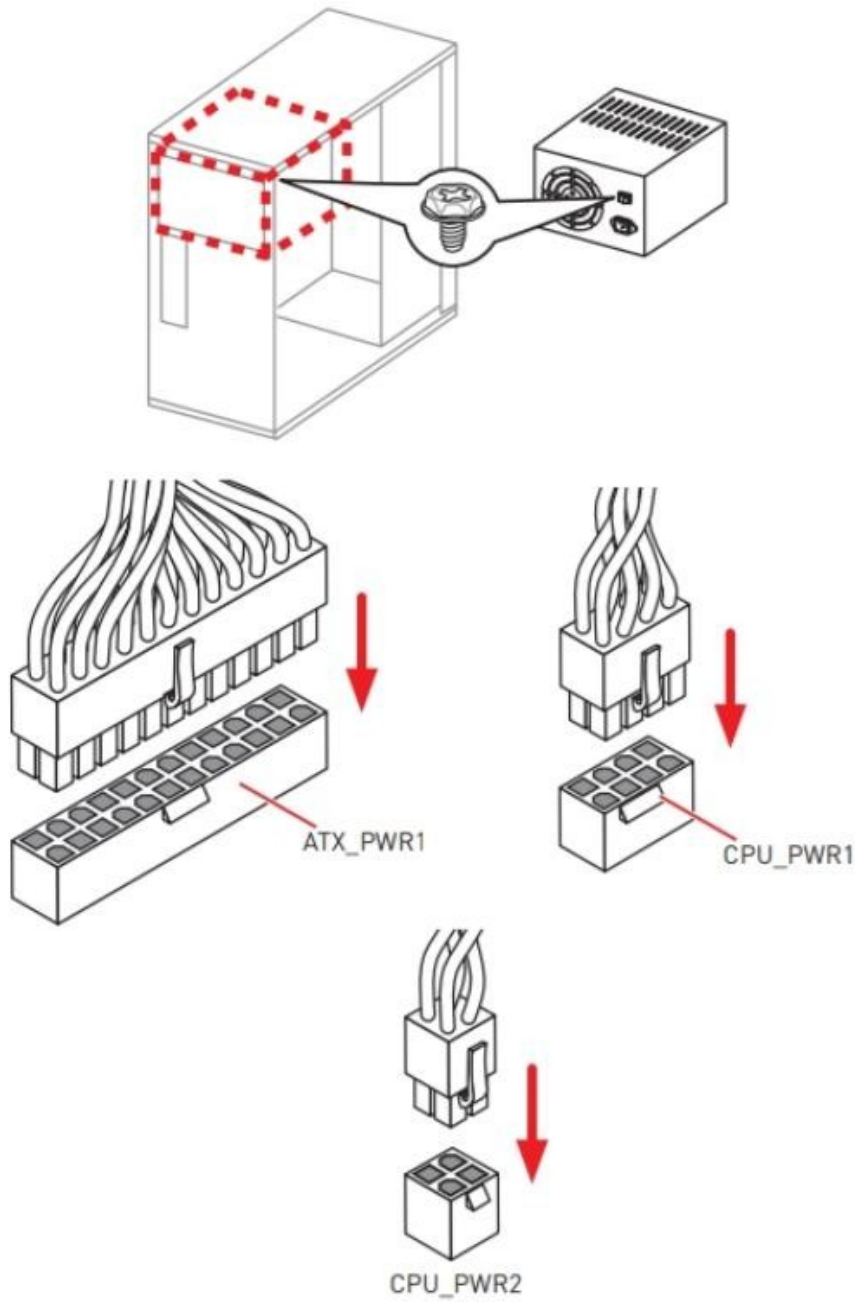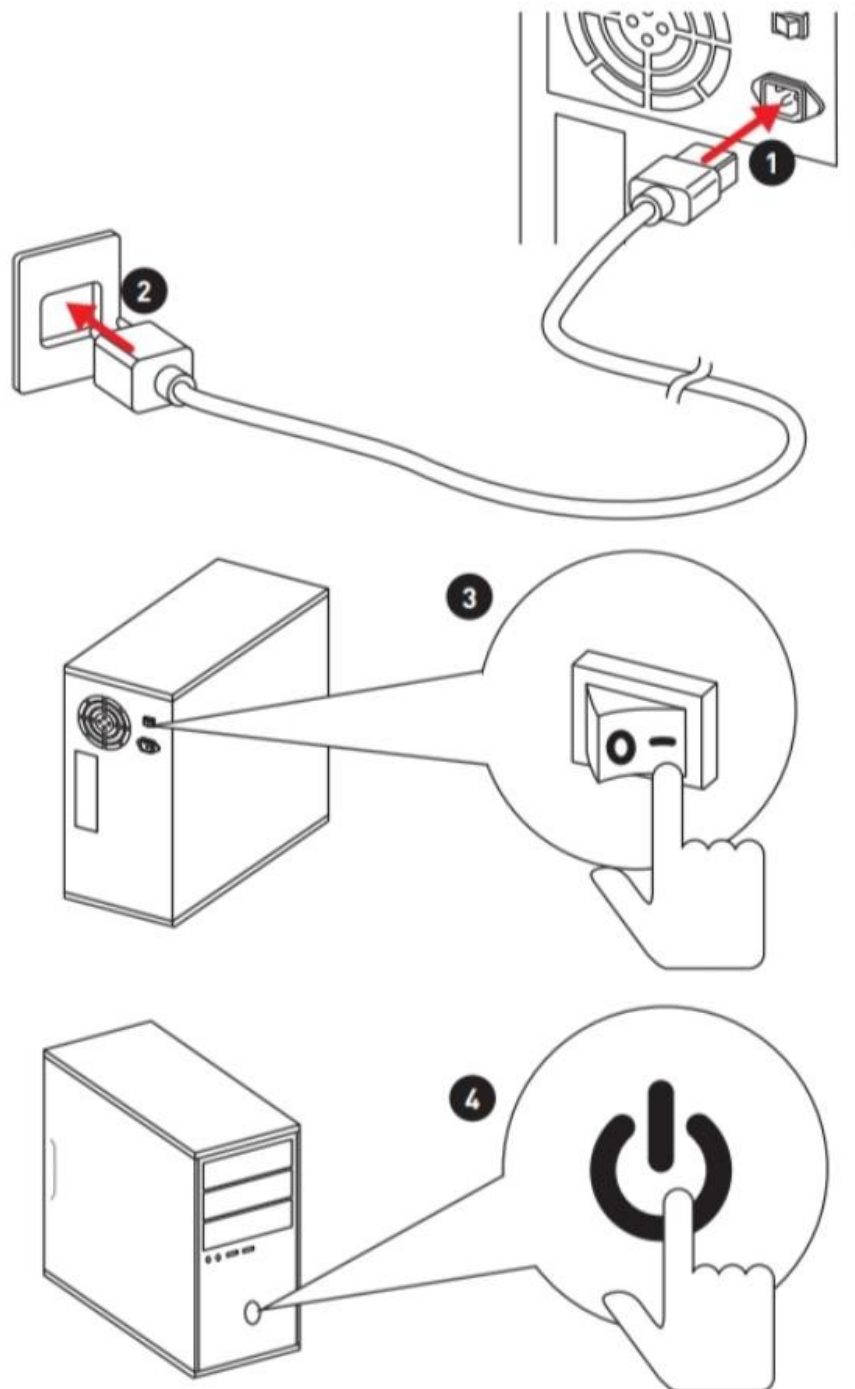The motherboard package contains the following contents:

i.   Motherboard
ii.   Driver DVD
iii.   Case Badge
iv.   User Manual
v.   VIP card
vi.   Quick Installation Guide
vii.   Case Stand-off Notification
viii.   I/O Shielding
ix.   Two antenna
x.   Two SATA 6G Cables
xi.   RGB LED Extension cable
xii.   SATA Cable Labels
xiii.   M.2 Screw

The user should contact the retailer if any items are missing or have been damaged.

Glossary of Terms

MSC; Micro-Star international

Processor; is a component of a computer system that executes instructions and performs calculations necessary for the functioning of various software applications.

Motherboard; it is the central circuit board in a computer, linking all hardware components for communication and operation.

BIOS (Basic Input/Output System); It is the firmware interface that initializes hardware during the booting process and provides settings for configuring the motherboard.

CPU; This is the central processing unit.

SATA (Serial ATA); It is the interface that is used for connection of storage devices such as SSDs and hard drives to the motherboard.

M.2; Is a small form factor interface for connecting SSDs directly to the motherboard, providing faster data transfer speeds compared to SATA.

DDR (Double Data Rate); It is a type of RAM used for system memory, with different generations such as DDR3, DDR4, and DDR5, each offering improvements in speed and efficiency.

BIOS Flashback+; It is a feature which allows users to update their BIOS firmware without the need for memory installed or CPU, it helps provide a way to update to latest version and recover from BIOS corruption.

RGB Lighting; It is a modern feature which allows users to customize their motherboard lighting effects using hardware or software controls.

Overclocking; increasing the operating voltage or frequency for higher performance such as for a RAM or CPU.

Precautionary Information

Component in this package have a risk of damage that may be caused by Electrostatic Discharge, to facilitate a successful installation adhere to the instructions provided below:

1. Ensure all the components are connected securely to avoid failure to start.
2. Handle the motherboard with care and avoid touching the sensitive parts by holding it by it's edges.
3. Always wear an electronic discharge wrist strap when handling the motherboard. Touch another metal object to facilitate discharging if the electronic discharge wrist strap is not available.
4. Store the motherboard in an anti-static pad or electrostatic shielding container when the installation has not started.
5. Ensure they are no loose metal components or screws on the motherboard before turning on the computer.
6. Ensure the installation is complete before booting the computer. This is done to avoid injury to the use or permanent damage to the components of the computer.
7. Consult a certified technician Incase you need any help during the installation process.
8. Make sure the power supply is turned off and the power cord is unplugged from the power outlet before removing or installing any components.
9. Ensure the motherboard is kept away from humidity.
10. Ensure that the power outlet provides the same voltage as that indicated in the PSU before connecting it to the power supply.
11. Always place the power cord in a position where people do not step on it.
12. Note all the warnings and cautions of the motherboard.
13. Keep the manual in a safe place for future reference.
14. Consult with service personnel in case of;
    I. Penetration of liquids into the computer.
    II. Exposure of motherboard to moisture
    III. Malfunctioning of the motherboard
    IV. Damage on the motherboard due to dropping.
    V. Signs of breakage on the motherboard.

References

[1] MSI computers motherboards users manual,
https://images.carid.com/msi-computers/computer-components/pdf/z170agamingm7-users-manual.pdf (accessed Mar. 28, 2024).

[2] "Motherboards: MSI global," MSI, https://www.msi.com/Motherboards (accessed Mar. 28, 2024).

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