A motherboard acts as a computer's central nervous system, coordinating interactions between hardware components for seamless operation. Input/output ports on the motherboard enable devices like USB drives, monitors, and keyboards to connect to the system. The motherboard functions as a critical communication hub, facilitating data transfer, power distribution, and interaction between the CPU, memory, and various peripherals, enabling the computer to function as a cohesive unit. The motherboard manages data transfer between the CPU and RAM to ensure rapid access to information.