

Types of Computer

Learning Objectives: After reading this information sheet, the trainee is expected to:

1. Identify the different types of computer.
2. Recognize the function/use of each type of computer
3. Appreciate the important role of each type of computer in the community

When people think “computers,” usually it’s something like a laptop or your office computer that comes to mind. Computers are actually all around us, and can be broken down into separate categories depending on their size and processing power.

So what are these categories of computer types? There are four main ones: supercomputers, mainframe computers, minicomputers, and finally microcomputers.

1. Supercomputer

The most powerful computers in terms of performance and data processing are the Supercomputers. These are specialized and task specific computers used by large organizations. These computers are used for research and exploration purposes, like NASA uses supercomputers for launching space shuttles, controlling them and for space exploration purpose.

The supercomputers are very expensive and very large in size. It can be accommodated in large air-conditioned rooms; some super computers can span an entire building.



Popular Supercomputers

- IBM's Sequoia, in United States
- Fujitsu's K Computer in Japan
- IBM's Mira in United States
- IBM's SuperMUC in Germany
- NUDT Tianhe-1A in China

2. Mainframe Computer

Like supercomputers, mainframe computers are huge, towering machines with lots of processing power. Mainframe computers are mostly used by corporations, government agencies, and banks – organizations that need a way to store large quantities of information. They are not the same as supercomputers. The processing capabilities of mainframe computers are measured in MIPS, or millions of instructions per second. Mainframes are also used as e-commerce servers, handling transactions over the internet.



Popular Mainframe Computers

- Fujitsu's ICL VME
- Hitachi's Z800

3. Minicomputer

Minicomputers are used by small businesses & firms. Minicomputers are also called as “Midrange Computers”. These are small machines and can be accommodated on a disk with not as processing and data storage capabilities as super-computers & Mainframes. These computers are not designed for a single user. Individual departments of a large company or organizations use Mini-computers for specific purposes. For example, a production department can use Mini-computers for monitoring certain production process.



Popular Minicomputers

- K-202
- Texas Instrument TI-990
- IBM Midrange computers
- SDS-92

4. Microcomputer

Microcomputers are smaller computers that run on microprocessors in their central processing units. They are much, *much* cheaper than supercomputers, mainframe computers and even minicomputers, because they're meant for everyday uses that are more practical than professional. The range of capabilities for microcomputers are still vast, though.

Microcomputer can be classified as:

- **Desktops**

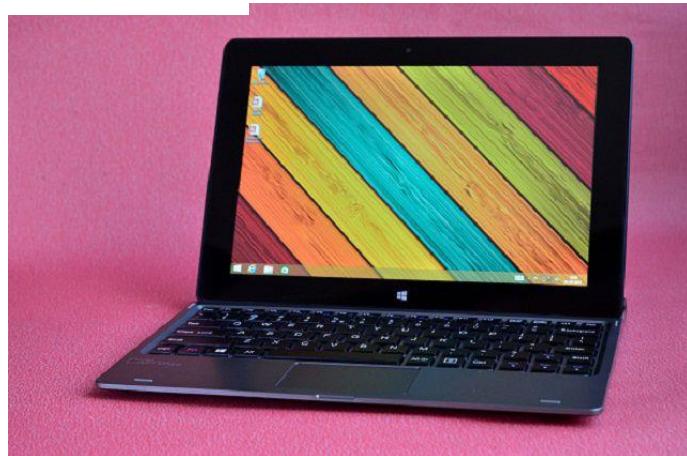
It is more convenient to be able to connect peripherals like screens and keyboard and computer mice that fit your needs. In this sense, desktop computers could be used at the office for professional tasks, or at the home. Desktop computers can be specialized for things like gaming as well, equipped with high-end graphics cards and more RAM.



DESKTOP

- **Laptop**

a small, portable personal computer designed for use on the go, typically battery-powered and featuring a screen, keyboard, and touchpad all integrated into a single, clamshell-style unit.



LAPTOP

- **Notebook**

A notebook computer is a battery- or AC-powered personal computer generally smaller than a briefcase that can easily be transported and conveniently used in temporary spaces, such as airplanes, libraries, temporary offices and meetings. A notebook computer is more often called a laptop and typically weighs less than 5 pounds and is 3 inches or less in thickness.



NOTEBOOK

- **Tablet**

A tablet is a small, flat computer that is operated by touching the screen. It is smaller than a regular laptop and larger than a cell phone. Tablets allow users to access the Internet, read and send e-mail, watch videos, listen to music, and read electronic books, or e-books.



TABLET

- **Handheld Computer**

A handheld computer is a portable device designed to fit in your hand, allowing you to carry it around easily. It typically combines the functionalities of a computer, such as browsing the internet, sending emails, and running applications, in a compact form factor.



HANDHELD COMPUTER

- **Cellphone or Smartphone**

A smartphone is a cellular telephone with an integrated computer and other features not originally associated with telephones, such as an operating system (OS), web browsing and the ability to run software applications. Smartphones are used by consumers and as part of a person's business or work.



CELLPHONE

Computer Parts and Peripherals

Learning Objectives: After reading this information sheet, the learner is expected to:

1. Know the different parts and peripherals of computer
2. Identify the use of each computer parts and peripherals
3. Value the importance of each parts and peripherals in the computer system

As an aspiring computer technician, it is very important to know the different components of a computer system. These are the hardware, software and peopleware. Each component plays an important role, without each other computer systems will not work properly.

Computer parts are the most common hardware in a desktop computer system.

System unit Case

the enclosure that houses and protects the main components of a computer, such as the motherboard, CPU, RAM, and storage drives.



SYSTEM UNIT CASE

CPU (Central Processing Unit)

is the primary component that executes instructions and processes data, effectively acting as the computer's "brain".



CENTRAL PROCESSING UNIT

Power Supply Unit

also known as a power supply, is a crucial internal computer hardware component that converts alternating current (AC) electricity from the wall outlet into the lower-voltage direct current (DC) needed by a computer's components.



POWER SUPPLY UNIT

Motherboard

is the main circuit board in a computer, connecting and enabling communication between all essential components, including the CPU, RAM, and storage drives, while also providing power distribution and peripheral connectivity.



MOTHERBOARD

Hard Disk

as a computer's primary non-volatile storage device, retaining data even when powered off, and stores operating systems, software, and user files like documents, photos, and videos.



HARD DISK

RAM (Random Access Memory)

is one of the most important parts of your computer. It provides high-speed, short-term memory for your computer's CPU. The amount of computer memory you need depends on what you use your computer for, but 12 GB of RAM is a good general minimum standard.



RANDOM ACCESS MEMORY

Computer peripherals

auxiliary hardware devices that connect to a computer to enhance its functionality, enabling input, output, storage, or communication, but are not essential to the computer's core operation.

Speaker

a piece of output gear that connects to a computer to produce sound, and as a result, we can listen to the sound like an outcome.



SPEAKER

Printer

is a device that prints documents and images onto paper or other materials. It is usually connected to a computer, allowing you to use your word processor, spreadsheets, and other programs to create documents and images that are printed out on the printer.



PRINTER

Microphone

is a device that converts sound waves into an electrical signal. It allows you to capture audio and transmit it to various devices, such as computers, amplifiers, or recording equipment.



MICROPHONE

Scanner

is a device that allows you to digitize physical documents, images, or even objects, and convert them into a digital format that can be viewed, edited, and stored on a computer. It's like a digital photocopier that captures the content of a document or image and saves it as a file.



SCANNER

Joystick

is a pointing and controlling device that is used to control the object on the screen and is widely used in controlling video games.



JOYSTICK

Modem

is a crucial device that allows computers to connect to the internet or other networks by converting digital signals from a computer into analog signals for transmission over phone lines or other media, and vice versa.



MODEM

Optical Drive

hold information in the form of pits and lands on their surfaces. The laser beam used in optical drives focuses on these surface patterns to retrieve the stored data.



OPTICAL DRIVE

Video Card

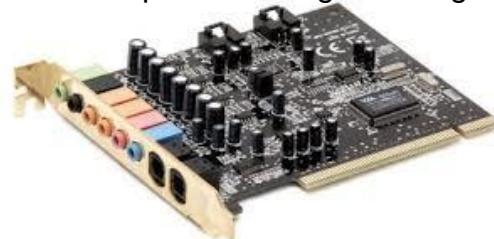
is a crucial computer component responsible for rendering and displaying images, videos, and animations on your monitor, enabling smooth and high-quality visuals.



VIDEO CARD

Sound Card

is a computer component responsible for generating and recording audio.



SOUND CARD

Network Card

enables a computer to connect to and communicate over a network, whether wired or wireless, facilitating data transmission and reception.



NETWORK CARD