INTERFACES

A boundary across which two independent systems meet and act on or communicate with each other. In computer science, an interface is the point of interaction with software, or computer hardware, or with peripheral devices such as a computer monitor or a keyboard. Some computer interface such as a touch screen can send and receive data, while others such as a mouse or microphone can only send data.

There are several types of interfaces:

1. User Interface
2. Hardware Interfaces.
3. Software Interfaces

USER INTERFACE: The keyboard, mouse, menus of a computer system. The user interface allows the user to communicate with the operating system.

HARDWARE INTERFACES: Hardware interfaces exist in computing systems between many of the component such as the various buses, storage devices, other I/O devices, the wires, plugs and sockets that hardware devices use to communicate with each other etc.

SOFTWARE INTERFACES: The language and codes that the applications use to communicate with each other and with the hardware. A software interface may refer to a range of different types of interface at different "levels": an operating systems may interface with pieces of hardware. Applications or programs running on the operating systems may need to interact via streams, and in object-oriented programs, objects within an application may need to interact via methods.

Interfaces based on data transfer-

SERIAL INTERFACE: A serial interface is a communication interface that transmits data as a single stream of bits, typically using a wire-plus-ground cable, a single wireless channel or a wire-pair. The serial interface acts as a communication interface between two digital systems that send data as a serial of voltage pulse over a wire. In contrast, a parallel interface transmits multiple bits simultaneously using different wire. Some devices that use the serial interface include the Universal Serial Bus (USB), Recommended Standard No. 232 (RS-232), I-Wire and 12C.

PARALLEL INTERFACE: A parallel interface refers to a multiline channel, with each line capable of transmitting several bits of data simultaneously. Before USB ports became common, most personal computers (PCs) had at least one parallel interface for connecting a printer using a parallel port. Computer buses like ISA,PCI ,SCSI etc. are examples Of parallel interface.

PORTS

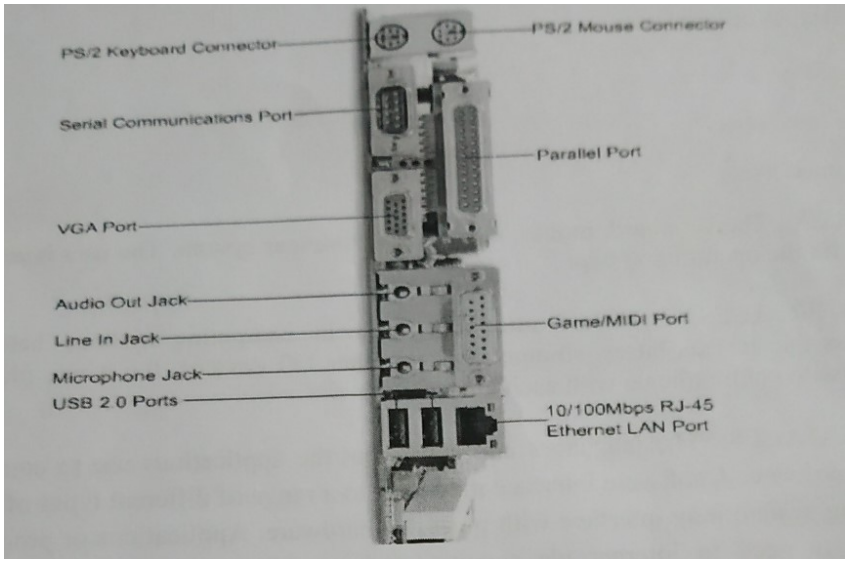
In computer hardware, a port serves as an interface between the computer and other computers or peripheral devices. Physically, a port is a specialized outlet on a piece of equipment to which a plug or cable connects. Electronically, the several conductors making up the outlet provide a signal transfer between devices.

There are two main types of computer ports:

- Physical ports.
- Virtual ports.

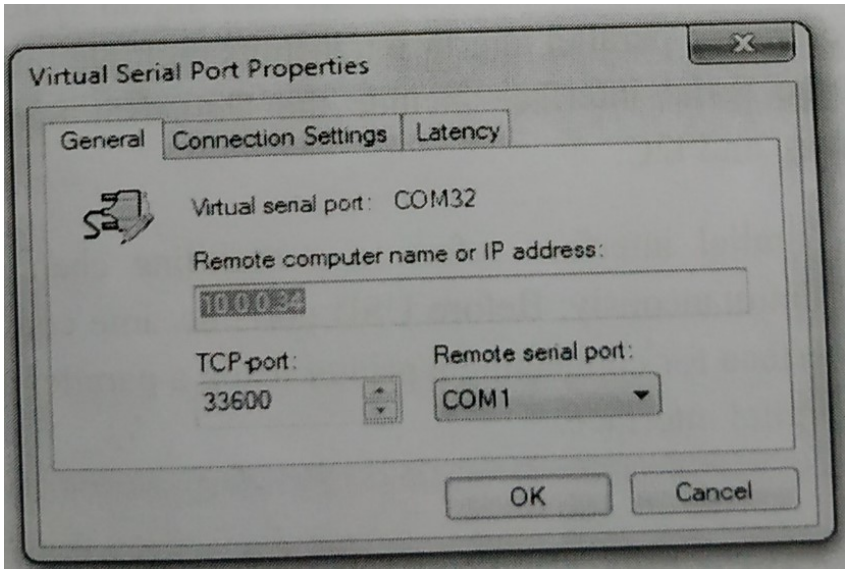
PHYSICAL PORTS

Physical ports are used for connecting a computer through a cable and a socket to a peripheral device. Physical computer ports list includes serial ports (DB9 socket), USB ports (USB 2.0 or 3.0 socket/connector), parallel ports (DB25 socket / connector), Ethernet / internet ports (RJ45 socket / connector).



VIRTUAL PORTS

Virtual ports are data gates that allow software application (network) to use hardware resources without any interfering. This computer ports (network ports) are defined by IANA (Internet Assigned Numbers Authority) and are used by TCP (Transmission Control Protocol), UDP (User Datagram Protocol), DCCP (Datagram Congestion Control Protocol) and SCTP (Stream Control Transmission Protocol).



TYPES OF PORTS

Ports are basically categorized in two categories:

- Parallel ports
- Serial ports

PARALLEL PORTS

Parallel ports send multiple bits at the same time over several sets of wires. Parallel ports can be used to connect a host of popular computer peripherals:

- Printer
- Scanners
- CD burners
- External HDD
- Network Adapters

SERIAL PORTS

Serial ports send and receive one at a time via a single wire pair. Although many of the newer systems have done away with the serial port completely in favor of USB connections, most modems still use the serial port, as do some printers, PDAs and digital cameras.

CHIPSET

A chipset is the component which routes data between the computer's buses, so that all the components which make up the computer can communicate with each other. The chipset originally was made up of many electronic chips, hence the name. It generally has two components:

- The North Bridgs (also called the memory controller) oversees controlling transfers between the processor and the RAM, which is way it is located physically near the processor. It is sometimes called the GMCH for Graphics and Memory Controller Hub.
- The South Bridge (also called the input/output controller or expansion controller) handles communications between peripheral devices. It is also called the ICH (I/O Controller Hub). The term bridge is generally used to designate a component which connect two buses.