Influential Connections

You can't plug a square peg into a round hole, and you can't connect two computer devices together unless they have compatible interfaces

Parallel Port
This is a general-purpose parallel interface for connecting a micro to peripheral devices. All eight bits of each byte transmitted are sent together (in parallel) over eight wires. Other signals are provided for synchronising the transmission of data, ensuring that data is transmitted only when the receiving device is ready to receive it

Disk Drive Interface
Disk drives are usually connected to computers using a parallel interface. There is no standardisation and, as a general rule, it is only possible to connect disk drives specially manufactured for a particular model of computer

Cassette Interface
The cassette port or interface provided on most home computers is really a kind of serial interface. Because the data has to be recorded on ordinary audio cassette tape, using audio frequencies, high data-transfer rates are not possible. The interface circuitry takes bytes of data to be recorded from memory and converts each one into a stream of bits. 0 bits and 1 bits are rendered into two different audio tones. When tapes are loaded into memory, the tones are decoded by the interface circuitry and the resulting 1s and 0s assembled into eight-bit bytes for storage in memory. The cassette interfaces on most home micros are universal in the sense that any domestic tape recorder may be used successfully. The connector used is not standardised, but DIN sockets or mini-jacks are the most common

MIC EAR REM

USER PORT

EXPANSION P

DISK DRIVE

ANALOGUE IN

JOYSTICKS

PRINTER

Analogue Input
Usually only found on the more expensive computers that are intended for educational use, an analogue input is useful for connecting the computer to devices in a laboratory, such as electrical temperature gauges or light-sensors. The interface will merely feature one or more lines that can accept and read a voltage in a specified range. It is up to the user to ensure that he doesn't connect the computer to a voltage outside this range, which could result in serious damage

Memory Expansion Port
This usually supports most if not all of the lines that come directly from the microprocessor — i.e. the address, data and control busses. This is where any additional memory will be plugged in and, on some computers, the manufacturer's peripherals as well. The connector is usually just a PCB edge-connector, though in some cases it may be a socket that can take an edge-connector, such as that on a games cartridge (which is really a form of ROM expansion)

Joystick Ports
There is no standard interface for joysticks, though many manufacturers have adopted Atari's standard so that they don't have to manufacture their own joysticks. Most such interfaces simply have five active lines — one from each switch at the four extremities of the joystick's movement, and one for the fire button. Analogue joysticks, however, require a different interface that can accept a whole range of voltages to indicate the stick's exact position. Most computers feature more than one joystick port, though sometimes the same socket is shared by more than one device

Printer Interface
Printer interfaces are reasonably well standardised, following the system developed by the Centronics Corporation, so there is usually little difficulty in getting a printer with a Centronics interface to work with the printer interface on most computers. The signal levels, as well as signal functions are also standardised at 0 and 5 volts for binary 0 and 1 respectively. The connectors used and the assignment of the signals to the various pins are not standardised, so you may have to wire up a special connector lead to connect a printer to the computer