Practical: 2

AIM: To study various inner interfaces, components and units of a computer and prepare complete interface layout.

Procedure:

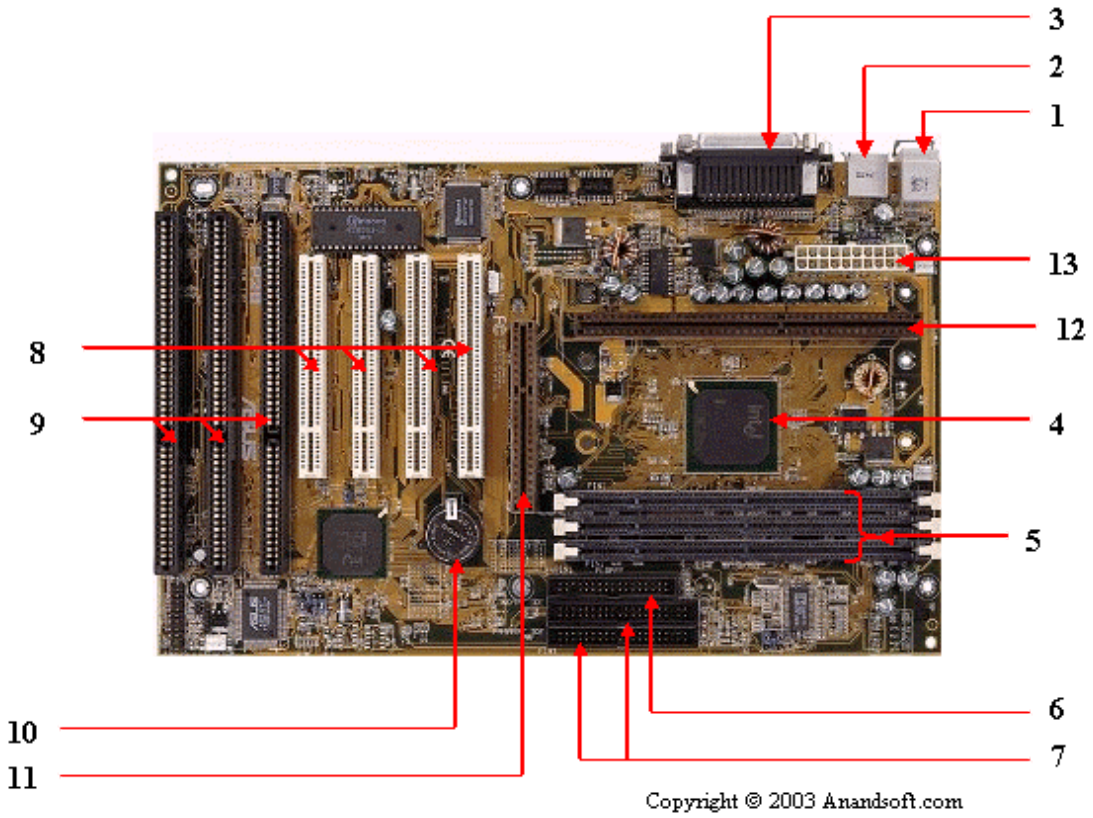

Figure 2.1: Motherboard

1. Mouse & keyboard

2. USB

3. Parallel port

4. CPU Chip

5. RAM slots

6. Floppy controller

7. IDE controller

8. PCI slot

9. ISA slot

10. CMOS Battery

11. AGP slot

12. CPU slot

13. Power supply plug in

1. Mouse & keyboard:

- Keyboard Connectors are basically two types.
- All PCs have a Keyboard port connected directly to the motherboard.
- The oldest, but still quite common type, is a special DIN, and most PCs until recently retained this style connector.
- The AT-style keyboard connector is quickly disappearing, being replaced by the smaller mini DIN PS/2-style keyboard connector.

Figure 2.2:Keyboard and Mouse

2. USB (Universal serial bus):

- USB is the General-purpose connection for PCs.

- You can find USB versions of many different devices, such as mice, keyboards, scanners, cameras, and even printers.
- A USB connector's distinctive rectangular shape makes it easily recognizable.

Figure 2.3: USB

3. Parallel port:

- Most printers use a special connector called a parallel port.
- Parallel ports carry data on more than one wire, as opposed to the serial port, which uses only one wire. Parallel ports use a 25-pin female DB connector.
- Parallel ports are directly supported by the motherboard through a direct connection or through a dangle.

Figure 2.4: Parallel Port

4. CPU Chip :

- The central processing unit, also called the microprocessor performs all the calculations that take place inside a pc. CPUs come in Variety of shapes and sizes.
- Modern CPUs generate a lot of heat and thus require a cooling fan or heat sink.
- The cooling device (such as a cooling fan) is removable, although some CPU manufacturers sell the CPU with a fan permanently attached.

Figure 2.5 : CPU Chip

5. RAM slots:

- Random-Access Memory (RAM) stores programs and data currently being used by the CPU.

- RAM is measured in units called bytes. RAM has been packaged in many different ways.
- The most current package is called a 168-pin DIMM (Dual Inline Memory module).

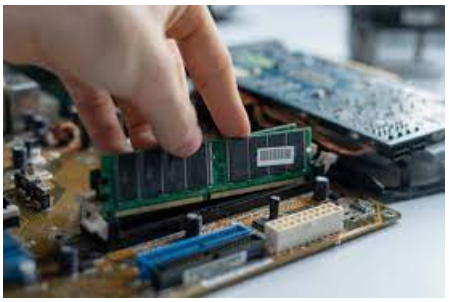

Figure 2.6 : RAM Slots

6. Floppy controller:

- The floppy drive connects to the computer via a 34-pin ribbon cable, which in turn connects to the motherboard.
- A floppy controller is one that is used to control the floppy drive.

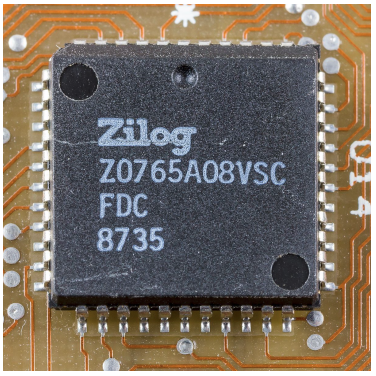

Figure 2.7: Floppy Controller

7. IDE controller:

- Industry standards define two common types of hard drives: EIDE and SCSI.
- Majority of the PCs use EIDE drives. SCSI drives show up in high end PCs such as network servers or graphical workstations.
- The EIDE drive connects to the hard drive via a 2-inch-wide, 40-pin ribbon cable, which in turn connects to the motherboard.
- The IDE controller is responsible for controlling the hard drive.

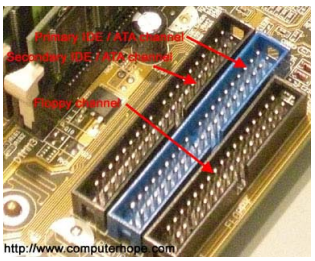

Figure 2.8: IDE Controller

8. PCI slot:

- Intel introduced the Peripheral component interconnect bus protocol.
- The PCI bus is used to connect I/O devices (such as NIC or RAID controllers) to the main logic of the computer.
- The PCI bus has replaced the ISA bus.

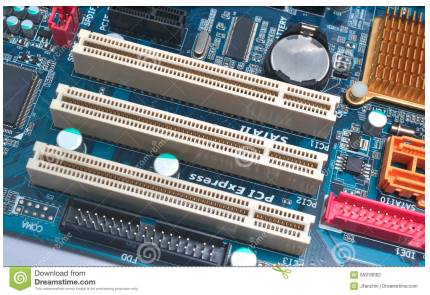

Figure 2.9: PCI Slot

9. ISA slot:

- (Industry Standard Architecture) It is the standard architecture of the Expansion bus. Motherboard may contain some slots to connect ISA compatible cards.

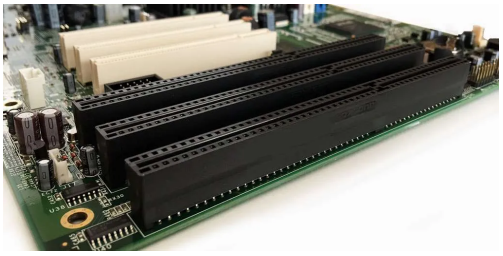

Figure 2.10 : ISA Slot

10. CMOS Battery:

- To provide CMOS with the power when the computer is turned off all motherboards come with a battery.

- These batteries mount on the motherboard in one of three ways: the obsolete external battery, the most common onboard battery, and built-in battery.

Figure 2.11: CMOS Battery

11. AGP Slot:

- If you have a modern motherboard, you will almost certainly notice a single connector that looks like a PCI slot, but is slightly shorter and usually brown.
- You also probably have a video card inserted into this slot. This is an Advanced Graphics Port (AGP) slot.

Figure 2.12: AGP Slot

12. CPU slot:

- To install the CPU, just slide it straight down into the slot.
- Special notches in the slot make it impossible to install them incorrectly.
- So remember if it does not go easily, it is probably not correct. Be sure to plug in the CPU fan's power.

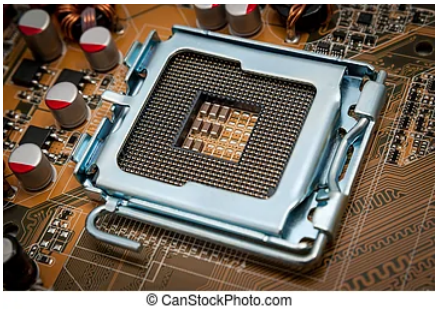

Figure 2.13: CPU Slot

13. Power supply plug in:

- The Power supply, as its name implies, provides the necessary electrical power to make the pc operate. the power supply takes standard 110-V AC power and converts it into 12-Volt, 5-Volt, and 3.3-Volt DC power.

Figure 2.14: Power Supply plug in