3. Role of different motherboard parts/component.

Motherboard is the main printed circuit board in a computer. It’s correct to say that it’s the central piece of a computer, since all pc components are connected or installed on it. The role of the motherboard is to allow computer components to communicate with each other. The motherboard has the following components with their respective functions;

Basic input output system (BIOS).It’s function is to store information and settings for the motherboard.

Complementary metal oxide semi- conductor random access memory (CMOS RAM).it responsible for keeping basic information of a computer intact when the entire system is shut down thus preventing reconfiguration when the computer is powered on. It’s powered by (CMOS) battery.

Cache memory. It’s responsible for enhancing computer performance by first loading data from main memory and passing it to the processor on demand.

The expansion buses. They are responsible for carrying signals like data, information, power and memory addresses from one computer component to another and they also enable a computer to enhance its capability by allowing users to add missing features by putting adapter cards into expansion slots.

The computer chipsets .They are responsible for controlling data flow to and from hard disks and other devices connected to the integrated drive electronics (IDE) channel. We got two main types of computer chipsets;

-Northbridge responsible for controlling transfers between processor and the pc Random Access memory

-Southbridge it’s responsible for handling communication happening between slow peripheral devices.

The central processing clock. It’s responsible for synchronizing at the same time operations of all parts of the pc and provides basic timing signals for the central processing unit.

The switches jumpers. They are two main jumpers;

-Jumper caps which are used to change board’s parameters example by placing a jumping plug over a different set of pins

-jumper pins the are responsible for ensuring that a certain level of configuration is achieved when the circuit is complete ,on a bridge connecting two pins via a shorting link.

Reference: www.turbofuture.com /computers/the - motherboard -components

4. Different output devices for a computer based system.

An output device is a piece of a computer hardware that receives data and transforms it into another form. The following are the computer output devices.

Monitor.it presents data from a computer on a screen (visually) making it easy for user to interact with a data using a digital interface.

Printer.it receives data from a computer and presents it on a paper or on a three dimension item (transforms electronic data into hard copy).

Headphones.it receives output data from a computer in form of sound on a single two sided headphone for a single listener.

Computer speakers. The speaker receives data from a computer in form of computer vibrations cues and it transforms it into sound.

Projectors. It projects computer visual data (images and videos) on a surface example a wall or a screen.

Global positioning system .it gives the user of a computer the exact location of the user computer in form of longitude and latitude.

Sound card. It controls output of sound signals, enabling devices like speakers and headphones to operate.

Video card. Enables visuals such as image and videos to be seen on a display device by processing them.

Braille reader. It’s a peripheral device that helps and enables a visually impaired person to read text displayed on the computer through sense of touch by a computer sending data to it where it is translated into a braille format and made readable by the device pushing round pins up on a surface that was flat.

Speech generating device.it is a device that generates speech from a computer data (text) when a user types anything on the computer.

Plotter .it is a device that interprets computer graphic data and draws lines between points.

Computer output microfilm.it creates a file image from data of a page sent from the computer.

Reference;www.turbofuture.com/computers/

5. The procedure of assembling components of a base unit of a pc.

Assembling the parts of the base unit. They include; processor, computer case, optical drive memory (RAM), power supply, SATA cables, motherboard, processor fan, assortments of case and drive screws.

Gathering tools and supplies needed for the project. They include; utility knife, grounding strap, small flashlight, wire cutters and strippers, screw driver and heat sink.

Opening of the case. It’s opened by removing the side panels by removing the screws that hold them.

Preparing the case for assembling. It’s done by;

-removing any foreign material that may have fallen in the case.

-removing the cover for the optical drive.

-making note of the cables preinstalled in the case.

Grounding yourself. It’s done by putting a grounding wrap on your wrist and connecting it to one end of the computer case. It’s done to prevent buildup of static electricity in your body that can damage the computer components.

Installation of the motherboard. It’s done by;

- installing i/o bezel plate into the opening in the back of the case.

- installing standoffs in the computer case.

-lower the motherboard into the case and align and install the screws

Install the hard drive .its installed by using a 3.5”drive bay by sliding it into place until the holes in the case are aligned with the drive bay and the you install the screws.

Install the optical drive. it’s 5.25” wide and its installed on the drive bay by sliding it into the bay until all holes are lined up and you install the screws.

Install the central processing unit (CPU).its installed on the motherboard in the socket, you look for corresponding marking on the CPU socket and you install the CPU in a way that the markings are lined up.

Install the Random access memory .Check to see if the notch is in the correct location is in the correct location if not turn it around 180° and the set the ram board into the socket and press on both ends of the board to set it well on the socket.

Install the Central processor fan. You connect the fans assembly power connector to the motherboard.

Install fan case. You install it on the back panel of the case on the mount front.

Install power supply .Align the mounting holes in the case and the power supply and install screws and tighten.

Connect the cables. They include the power cables for SATA drives and for fans and other non SATA drives and also data cables to connect drives and font panel on their respective areas.

Wrap the case up. You install back the side panels on the case and install the screws and tighten them. And the computer is now ready to be turned on and be used.

Reference: www.Instractubles .com/How to assemble A Basic-Desktop-pc/

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