VIDEO CARD AS A PART OF A COMPUTER SYSTEM

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A video card, also referred to as a graphics accelerator card, display adapter, graphics card, and numerous other terms, is an item of personal computer hardware whose function is to generate and output images to a display. It operates on similar principles as a sound card or other peripheral devices.

The term is usually used to refer to a separate card that is plugged into a slot on the computer's motherboard, as opposed to a graphics controller integrated into the motherboard chipset. An integrated graphics controller may be referred to as an "integrated graphics processor" (IGP).

Video cards' history starts in the 1960s, when printers were replaced with screens as visualization element. Video cards were needed to create the first images.

The first video card, which was released with the first IBM PC, was developed by IBM in 1981. The MDA (*Monochrome Display Adapter*) could only work in text mode representing 25x80 lines in the screen. It had a 4KB video memory and just one color.

A video card consists of a printed circuit board on which the components are mounted. These include:

Graphics processing unit (GPU). A GPU is a dedicated graphics microprocessor optimized for floating point calculations which are fundamental to 3D graphics rendering.

Video memory. If the video card is integrated in the motherboard, it will use the computer RAM memory (lower throughput). If it is not integrated, the video card will have its own video memory which is called Video RAM or VRAM.

Video BIOS. The video BIOS or firmware chip is a chip that contains the basic program that governs the video card's operations and provides the instructions that allow the computer and software to interface with the card.

Outputs. The most common connection systems between the video card and the computer display are SVGA, DVI, S-Video.

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