

## **Types of RAM Memory - Random Access Memory**



**If you are just seeking information on how to install RAM memory, click [here!](#) to go to Page 2 of this article. If you are seeking information on RAM memory itself, read on...**

**The image above shows two DDR4 RAM memory modules, with heat spreaders fitted, installed in two of four DIMM memory slots of a desktop PC motherboard.**

**RAM is an acronym for Random Access Memory that is also known as volatile memory, because the data it holds is lost when the desktop PC or laptop/notebook computer using it is switched off. Briefly, RAM memory is used by the system to store data in the form of files for processing by a computer's central processing unit (CPU), also known as the processor.**

**That said, computers can make use of technology called DMA (Direct Memory Access) to bypass the processor: "Direct memory access (DMA) is a feature of modern computers and microprocessors that allows certain hardware subsystems within the computer to access system memory for reading and/or writing independently of the central processing unit. Many hardware systems use DMA including disk drive controllers, graphics cards, network cards and sound cards."**

**The processors used in most PCs are made by Intel and AMD. The processor runs the program and data files according to instructions given to it by the operating system, which, on PCs, is usually a version of Windows, or, to a much lesser extent, a version of Linux.**

**The amount of RAM memory used in modern desktop and laptop computers is expressed in megabytes (MB) and gigabytes (GB). A gigabyte (1GB) is 1024MB. Most desktop and laptop computers that came with Windows XP preinstalled came with 512MB. However, this increased to gigabytes when Windows Vista was released in January 2007. A computer with Windows Vista preinstalled should have a minimum of 2GB or RAM memory to run comfortably, however, 1GB of RAM memory in computers running a 32-bit version of Windows 7 should suffice, because the 32-bit versions of Windows 7 can run on a comparatively low-spec netbook computer, most of which currently only have 1GB of memory (January 2010).**

**32-bit versions of Windows cannot use more than about 3.0GB of memory; 64-bit versions of Windows can support far more memory than most home users require. However, up to 8GB of memory, the 64-bit versions require twice as much memory as the 32-bit versions, so the minimum a 64-bit version should have is 2GB for Windows 7 and 4GB for Windows Vista. Most computers in use currently use a 32-bit version of Windows.**