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| **1. Hard Disk Drive** | In hard drives, an electromagnet creates positive or negative charges on the disk surface. The charges create binary code read as the rotating disk and actuator arm work in conjunction. | A hard disk drive (HDD) is a non-volatile storage medium. Non-volatile data remains on a given device unless rewritten or deleted. | 500 GB to 4+ TB |
| **2. Magnetic Tape Device** | It’s possible to write data onto magnetic tape along its length or width, though. At this point, magnetic tape is used in academic fields and countless other situations such as backup storage systems. Specialized equipment is required to read magnetic tape | The Eckert-Mauchly UNIVAC I system originally used magnetic storage device tapes back in 1951. Surprisingly enough, magnetic tape is still used today and sees regular improvements. | Tape features higher storage capacities than hard drives, and they’re more reliable than HDDs. |
| **3. Floppy Disks** | In the past, floppy disks came with the benefit of being affordable and relatively fast. They supplemented a computer’s main storage device well and usually they were used to boot-up a computer (e.g older computers using MSDOS operating system could boot-up using a floppy disk). | Generally speaking, floppy disks existed as storage devices from 1971 to 1999. The disk drives required to read floppy disks are no longer included in mainstream computers. | Most floppy disks held less than two megabytes of data. Unfortunately, floppy disks maxed out at 240 MB of storage space. |
| **4. SSD (Solid State Drive)** | A computer’s operating system accesses the storage drive, and SSDs come in both internal and external configurations. Faster read/write speeds lead to better load times, a faster operating system, and other benefits. | [Solid state drives](https://www.tech21century.com/different-types-of-computer-storage-drives/) rely upon NAND flash memory to deliver blistering read/write speeds. Transistors are wired in series on a given circuit board, meaning SSDs lack moving parts. For that reason, data can be accessed immediately and without much noise or heat. | 120 GB to 1+ TB |
| **5. USB Flash Drive** | They plug into a computer’s USB port and feature fast read/write speeds. In simple terms, flash drives are best used as ultraportable storage devices. | Like SSDs, USB Flash Drives rely upon NAND flash memory. These devices are designed to be portable, pocketable storage solutions. | 8 GB to 256GB (Maximum 2 TB) |
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| **6. CD** | While running in an optical disk drive, CDs rotate at a constant speed. A laser glides over the surface of the disk to read the binary data  An optical lens reads this data and sends it to the computer or laptop being used. Depending on the disk type, CDs can be read only or read/write capable. | Compact Disks (CDs) are known as optical storage devices. The disks feature microscopic pits and bumps that disk drives read as binary data | 700 MB |
| **7. DVD** | The DVD drive utilizes a finer laser to read data due to the higher density. In essence, DVDs work exactly like CDs but with higher storage capacities. Dual layering is a process with DVDs that further increases storage capacity. | DVDs look like CDs because they’re identical in size. All DVDs feature a spiral track with more data capacity than a CD, though | 4.7 GB |
| **8. BluRay Disks** | Multiple high definition movies and other data can be loaded onto a BluRay. Based on capacity alone, BluRay disks make more sense than other optical media solutions. BluRay disk drives don’t come standard on all computers, but they’re quite affordable to buy and install | The king of optical storage is the BluRay Disk. Once again, BluRay disks look like a standard CD or DVD. Even more data is packed into the spiral tracks of the disk. | 25 GB to 128 GB |
| **9. Cloud Storage** | [Cloud Storage](https://www.tech21century.com/cloud-data-storage-pros-cons/) relies upon data stored on servers accessible at all times over the Internet | Companies like Amazon, Google, and others offer cloud storage solutions. Data is always accessible and synced from the server to individual devices. Cloud data is essentially always available via the internet. |  |
| **10. RAM (Random Access Memory)** | A computer’s CPU accesses RAM, which acts like a middleman between the CPU and non-volatile storage devices.  a computer would operate too slow for comfort by relying on non-volatile storage alone. Any data stored in RAM is available to the CPU in quick fashion, acting like the working memory for the CPU. | Unlike the previously covered storage devices, RAM is volatile data. Data stored in RAM is constantly cycled in and out and disappears after power is removed. | Most computers need 8 GB of RAM in order to function fast and smooth.  Sometimes, 16 GB or more is required for intensive use cases. RAM is quite expensive compared to other storage types but serves an invaluable purpose. |
| **11. ROM (Read Only Memory)** | ROM is usually used to store critical and essential data that helps to power-up a computer system and to perform an initial hardware test and setup. After the computer powers up, it starts using other types of storage such as hard disk, RAM etc. | As the name suggests, this type of memory can only be read from the computer but you can’t write any data to it.  Another important characteristic is that ROM does not lose its data when the power is off (i.e it is non-volatile data). |  |
| **12. Cache Memory** | In a basic summary, such memory stores program instructions and similar data a CPU needs to access immediate This particular setup allows a computer to run faster and process tasks more efficiently. The cache memory handles the minute compute instructions in nanoseconds. | CPUs feature cache memory embedded in the processing chip. Cache memory is faster than RAM but features much smaller storage capacity. |  |