Tech Talk

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There are many types of storage used in a computer. We speak of machines having megabytes of cache, gigabytes of RAM, hard drive space, optical drives such as CD and DVD, flash drives, media cards, etc. What does all this mean?

First, we must classify the memory into high-level types. The memory in cache or RAM is referred to as *volatile;* when the power source is taken away, the memory is erased. In contrast, *non-volatile* memory is found in hard disks, CDs, DVDs, flash drives and media cards. In all these cases, the information is not erased when the power source is removed.

Newer computers use flash memory for storing low level hardware access programs and configuration settings. Flash memory uses components that can be easily reprogrammed. The advantage is that the memory could be rapidly updated to fix errors or provide new features. We also see flash memory in drives that plug in to USB ports on our computers. These drives are easy to transport and can store much information.

Optical storage devices such as compact discs (CDs) store large amounts of information in removable media. Traditional CD technology uses pits in a spiral pattern to encode the information. CD-R and CD-RW discs use a photosensitive dye and metallic alloy, respectively, to store information. A CD-R disc allows a single write and multiple reads. The CD-RW disc can be rewritten multiple times.

Hard drives store information by arranging magnetic material on one or more thin disks (platters) rotating at speeds greater than 5,000 RPM. Hard drives are ideal for storing very large amounts of information. Space in hard drives today is typically classified in gigabytes, often hundreds of gigabytes. A gigabyte is one thousand megabytes. A megabyte is a million characters.

Each type of storage has different purposes. For instance, cache is used to store information that the central processing unit (CPU) can access very quickly. Flash drives are compact, rewritable and relatively fast access. However, the technology is still limited capacity compared to other media. Hard drives are inexpensive and store vast amounts of information.

Compare the types of memory to the *Parable of the Four Soils* found in Mark 4:3-9. The seeds that fell by the wayside can be compared to cache memory that is used by the CPU in very short order and overwritten. So it is with some who hear the Gospel: it is retained only for a few moments before those thoughts are replaced.

The seeds of the second hearer of the Gospel fell on rocky soil. The seeds sprang up but quickly died because they did not have a firm root. RAM can be likened to these hearers because the memory is longer term than cache but still temporary; as soon as the power source is taken away, the information is erased. So it is with people: they may respond to the “feeling” or “moment” at events such as evangelistic meetings but, without a firm desire to follow Christ, soon lose interest.

Flash memory and removable media such as CDs, DVDs or memory cards represent the third hearer of the Gospel. Information on these types of memory is retained for a time then either set aside in a protective case or erased altogether. Similarly, people may hear the Gospel but set it aside when the troubles of life cause their heart to stir.

Hard disks store vast amounts of information. The information can be retained for quite some time. Certain hard drive technologies also copy data across several physical disks reducing the impact should a single drive fail. Relatively speaking hard drives store thirty, sixty and a hundred or more times the amount on other media. A firm root in Christ and the Bible allows a person to store and retrieve information to help in each area of life. This in turn results in a life, under the direction of the Holy Spirit, that increases our joy by thirty, sixty or a hundredfold. What type of memory characterizes your life?