

*There are a confusing number of memory cards in the marketplace today. So what are they and how do they differ?

Portable memory cards are based on solid state flash memory technology. Flash memory is non-volatile; this means that when data is saved to the card it is retained even when the power is removed. Because the memory is solid state and has no moving parts it has proven to be very rugged and reliable, making it ideal for use in portable devices such as digital cameras, PDA's and MP3 players and portable storage devices.

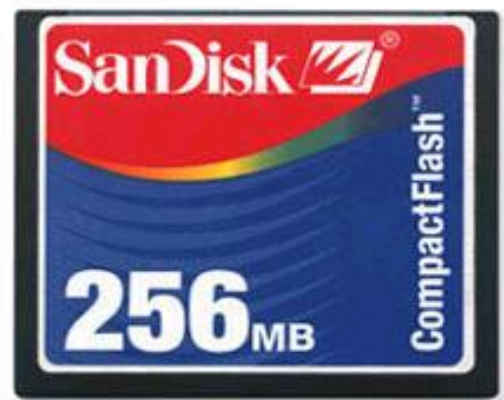
Here we provide a breakdown of the different memory cards available.

CompactFlash

First introduced in 1994 by SanDisk Corporation CompactFlash memory cards are cheap and reliable and used in a wide variety of devices.

CompactFlash cards use an integrated ATA (Advanced Technology Attachment) controller which makes it compatible with operating systems and applications that support industry standard IDE disk drives.

The controller provides power and file management, error correction and I/O functionality so no special files or drivers are required.



SmartMedia

This is the thinnest of all memory cards, sometimes known as 'Solid State Floppy Disk Card' (SSFDC). It has no on board controller, and is simply an 'electrically erasable programmable read only memory' (EEPROM) chip in a thin plastic card.

As it has no controller, the I/O and file management features have to be handled by the device in which it is used.

This can cause problems with older devices which may not be compatible with newer high capacity SmartMedia cards. SmartMedia is an affordable type of memory card, with fast read and write access.

MultiMediaCard

Introduced in 1997 the MultiMediaCard (or MMC card) was a joint development between Siemens and SanDisk. Initially developed for the mobile phone and pager market it was quickly adopted for use in other technologies.

The size of a postage stamp, the MultiMediaCard is smaller than CompactFlash and offers easy integration into various different devices via its seven pad serial interface. Like CompactFlash, the MMC cards have an on board controller and, because of their size and low power consumption are frequently used in small consumer electronic products such as MP3 players, digital cameras and camcorders.



SD Card



Physically the same as an MMC card, the SD (Secure Digital) Card was developed by Matsushita, SanDisk and Toshiba. One of the interesting features of SD cards is the inclusion of built-in copyright protection. They also feature a write protect switch on the exterior of the card, a high data transfer rate and high storage capacity. Furthermore new SD slots are compatible with existing MultiMediaCards.

The built-in copyright protection and high capacity make SD cards popular with manufacturers of MP3 and audio players

xD Cards

Introduced by Fuji and Olympus, the xD card is even smaller than the MMC and SD type. Generally more expensive than SD and SmartMedia cards, they have no on board controller, but have a high storage capacity.



Memory Stick

Memory Stick is Sony's proprietary type of memory card. It is the size and shape of a stick of chewing gum, and comes in several varieties with different features. The standard Memory Stick has a capacity limit of 128MB while there is a copyright protection version known as MagicGate Memory Stick, which is used in Sony audio players.



Other versions are Memory Stick Select, which features two separate, selectable memory chips with a total capacity of 256MB. Memory Stick Pro is an advanced version with a capacity of up to 1GB.

Memory Stick Duo and Pro Duo are smaller, high-speed transfer variants which are compatible with standard Memory Stick slots when used with a special adaptor.

Memory Sticks are used in many different Sony digital devices such as cameras, audio players, voice recorders and the Clie range of PDA's.