

FLASH MEMORY, FLASH BASED GADGETS



MINISTERSTVO ŠKOLSTVÍ,
MLÁDEŽE A TĚLOVÝCHOVY



OP Vzdělávání
pro konkurenceschopnost

INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

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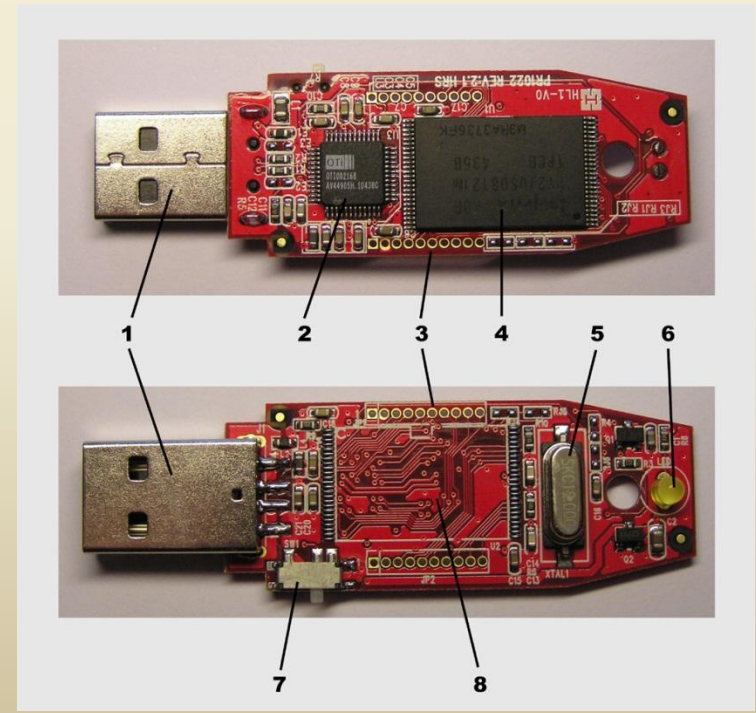
The differences between RAM memory and flash memory

- Flash memory is a type of **non-volatile** memory that can be electronically erased and reprogrammed. Its name was invented by Toshiba to express how much faster it could be erased - 'in a flash', which means 'very quickly.'

- it retains the information stored in the chip when the power is turned off
- is ideal for use in digital cameras, laptops, network switches, video game cards, mobile phones, and portable multimedia players
- it offers fast read access times (although not as fast as RAM), with transfer rates of 12MB per second
- flash memory chips are rewritable, so you can update programs via software

Cells

- Inside the chip, data is stored in several floating gate transistors, called **cells**. Each cell traditionally stores one bit of data (1=erased and 0=programmed). New devices have a multi-level cell structure so they can store more than one bit per cell.



Use of flash memory

- Many PC's have their BIOS (basic input/output system) stored on a flash memory chip so it can be updated if necessary.
- Modems use flash memory because it allows the manufacturer to support new protocols.

- USB flash drives are used to save and move MP3s and other data files between computers.
- They are more easily transported than external hard drives because they use **solid-state** technology, meaning that they do not have fragile moving parts that can break if dropped.
- USB flash drives have less storage capacity than hard drives.

New U3 smart drives

- allow users to store both applications and data
- have two drive partitions and can carry applications that run on the host computer without requiring installation

Flash memory cards

- are used to store images on cameras, to back up data on PDAs, to transfer games in video consoles, to record voice and music on MP3 players or to store movies on MP4 players

- The photos stored in a digital camera can be offloaded to a computer via cable or wirelessly. Another option is to have a **flash card reader** permanently connected to your PC; you simply eject the card from the camera and put it into the reader instead of having to plug the camera in.

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