

Types of electronic memory

The human memory is the faculty which enables us to store information and recall it when required. Our memories can store information from all our senses; we can visualise past images, remember smells, imagine noises.

An electronic memory is only capable of storing either a high or low voltage level.

Electronic memories fall into two categories: volatile and non-volatile.

A volatile memory is one that requires continuous power to enable it to retain information; if the power is removed, the 'state of the memory' will be lost.

An R-S Flip-Flop will remember a voltage state on its output as long as power is applied. If power is lost, and then restored, it is uncertain to which state the Flip-Flop will return. D-type, T-type and J-K Flip-Flops, are also examples of volatile memories.

A non-volatile memory is not dependent upon continuous power to enable it to retain information. Memories in this category include, punched card, magnetic tape, magnetic disc, magnetic drum and magnetic core.

The type of memories of interest to us for television applications are (at present) semi-conductor memories.

There are two main categories of semi-conductor memories, these are: the Read Only Memory, known as a ROM and the Read and Write or Random Access Memory, known as a RAM.

The ROM is a memory the store contents of which cannot be altered. It is in the non-volatile category. The stored data can be recalled or *read*.

Stored data may also be read from the RAM, but this device has an additional facility which enables the stored data to be changed. This is called *writing*. The RAM is in the volatile category.

Fig. 2.1 Volatile memories.

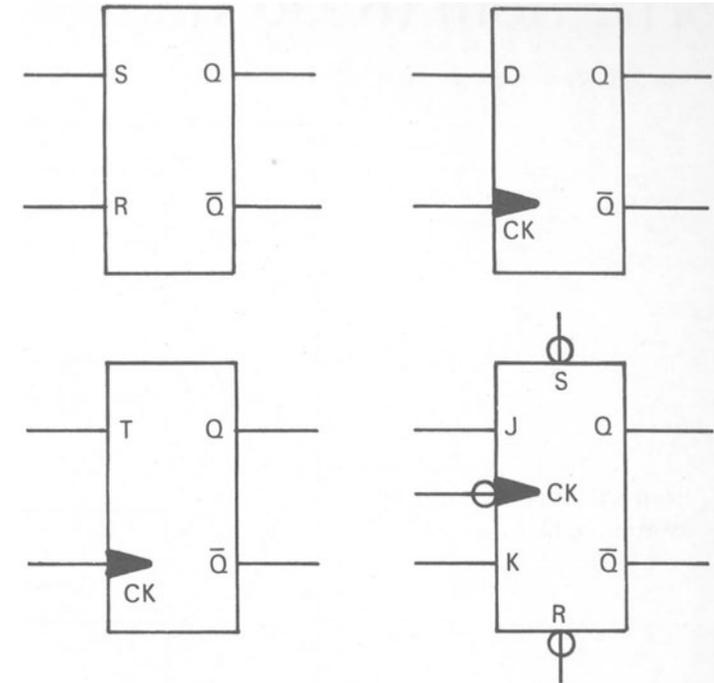
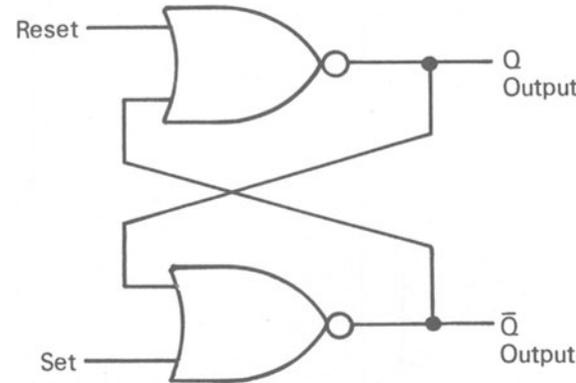
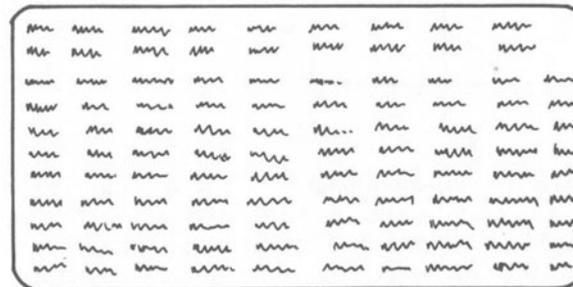
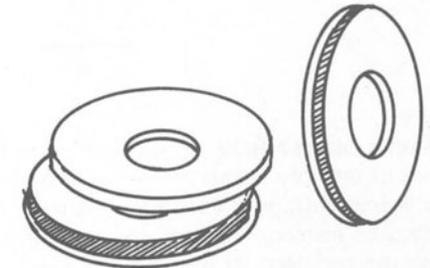


Fig. 2.2 Non-volatile memories.

Punched card



Tape



Semi-conductor memories

