

Monitors

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22303

About monitors

Monitor - a device, designed for the visual display of information.



History

Monitor history starts from 1855.

The first step is creation of a vacuum glass vessel.

The second step is addition of electrodes.



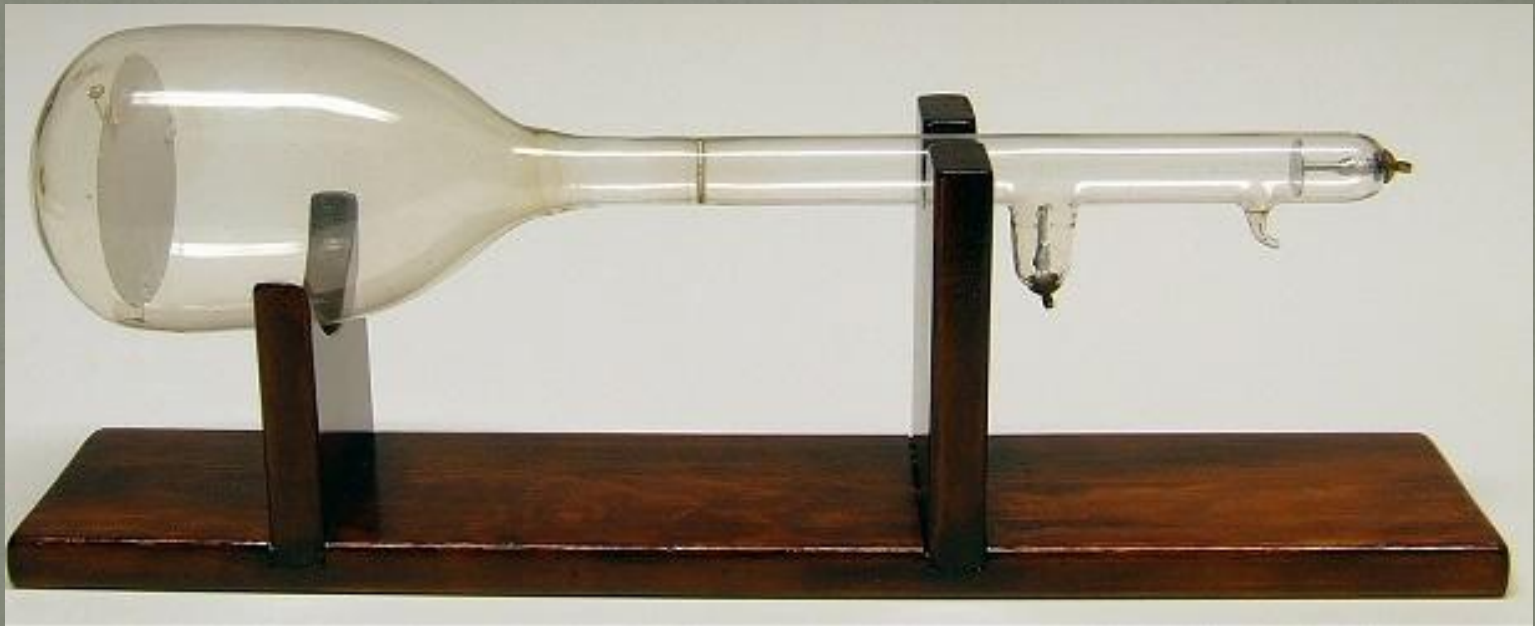
Crookes tube



Vacuum vessel of Geissler
and Plucker

Braun tube

The first image, using a cathode ray tube (CRT), was made by *Karl Ferdinand Braun*. Many scientists improved CRT afterwards.



Vector kinescope

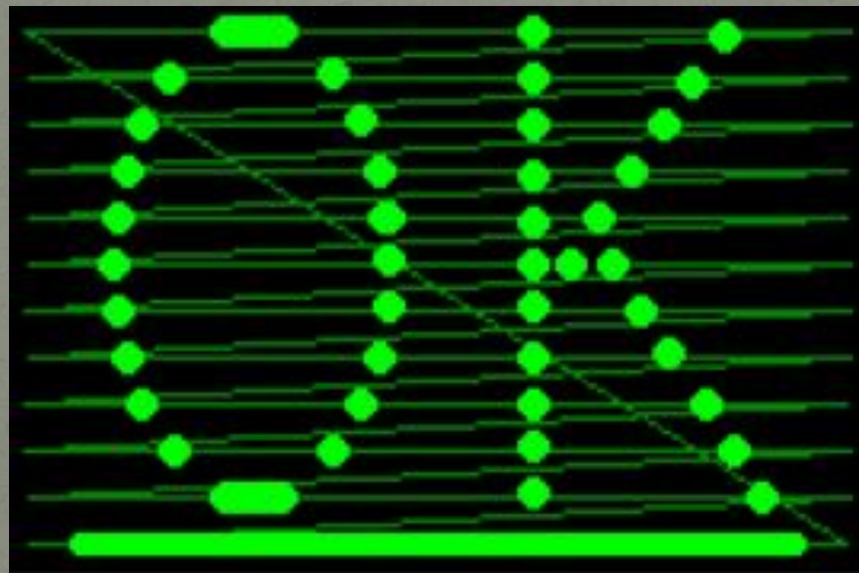
In 1907 Russian physicist Boris Rosing developed a device, based on Braun tube, capable to reproduce a moving image.



Output of vector kinescope

Raster kinescope

Raster kinescope allows to display complex images. The first electronic television kinescopes were raster, but first computer monitors used vector kinescopes.



Output of raster kinescope

Color kinescope

Color kinescope has been developed in the USA in 1950. The first color TV was released in the USA in 1954.



CRT and computer

For the first time CRT was used to display graphics on the "EDSAC" computer in 1950.



Liquid-crystal display

- + small size and weight
- + no visible flicker, interference from magnetic fields
- + no problems with image geometry and clarity
- + low power consumption
- can display a clear image only with one ("normal") resolution
- low contrast and depth of black color
- dependence of the contrast on the viewing angle
- problem of defective pixels

Plasma display

- + high contrast
- + color depth
- + stable uniformity of black and white colors
- + long life (30 years)
- high energy consumption
- large pixels

Organic light-emitting display

- + small size and weight
- + low power consumption
- + ability to create flexible screens
- + no need for backlighting
- + wide viewing angles
- + high contrast
- short life
- dearness

Laser video display

- + high refresh rate (120 - 240 Hz)
- + almost unlimited life time
- + pixels are not susceptible to degradation
- + very low power consumption
- greater thickness (in comparison with LCD)

Near future

- Three-dimensional images without special glasses
- Projector, which can create an image of high definition and contrast just a few centimeters from the surface
- Bendable tablets
- Transparent monitors

Thanks for watching!