PRESENTATION ON THE TOPIC: **DIGITAL VERSATILE DISC**

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HISTORY OF CREATED

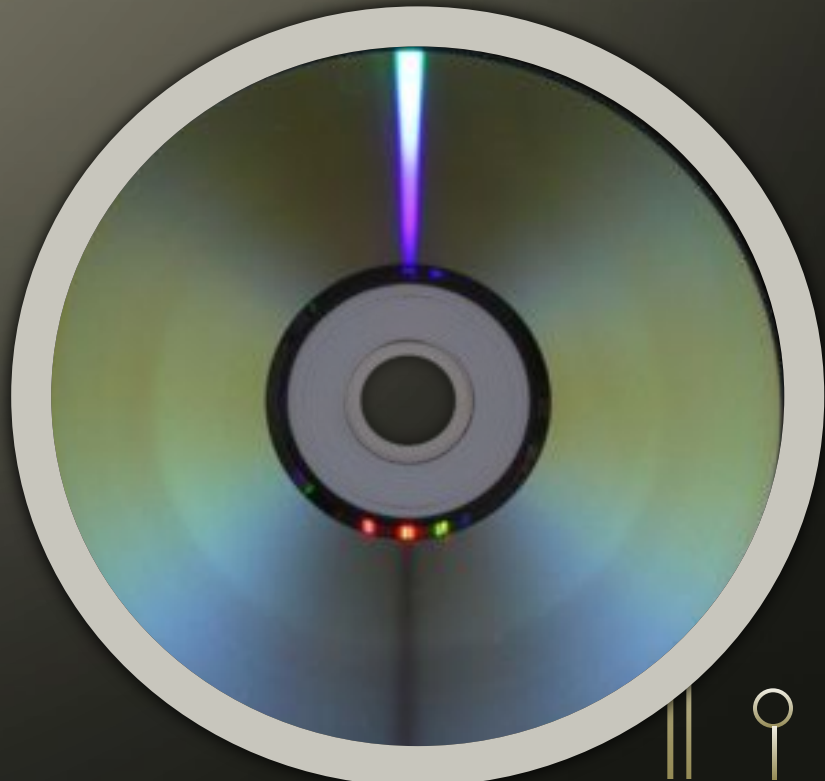
David Paul

- There were several formats developed for recording video on optical discs before the DVD. Optical recording technology was invented by David Paul Gregg and James Russell in 1963 and first patented in 1968.
- The DVD was officially announced in September 1995, when the first version of the DVD specifications was published. DVD Forum (formerly called the DVD Consortium), which brings together 10 founding companies and more than 220 individuals. DVD has become the fastest growing consumer electronics category in human history

James Russell

TECHNICAL INFORMATION

- DVDs are used to record and store data in the following formats:
  - DVD-Video - Contains Movies
  - DVD-Audio - Contains high-resolution audio



DATA STRUCTURE

- Unlike compact discs, in which the structure of an audio disc is fundamentally different from a data disc, a DVD always uses the UDF file systemфайловая система UDF
- UDF (universal disk format) - specification of the operating system-independent file system format for storing files on optical media

CAPACITY

THE BASIC TYPES OF DVD (12 CM DIAMETER, SINGLE-SIDED OR HOMOGENEOUS DOUBLE-SIDED) ARE REFERRED TO BY A ROUGH APPROXIMATION OF THEIR CAPACITY IN GIGABYTES. IN DRAFT VERSIONS OF THE SPECIFICATION, DVD-5 INDEED HELD FIVE GIGABYTES, BUT SOME PARAMETERS WERE CHANGED LATER ON AS EXPLAINED ABOVE, SO THE CAPACITY DECREASED. OTHER FORMATS, THOSE WITH 8 CM DIAMETER AND HYBRID VARIANTS, ACQUIRED SIMILAR NUMERIC NAMES WITH EVEN LARGER DEVIATION.

Capacity and nomenclature

SS = single-sided, DS = double-sided, SL = single-layer, DL = dual-layer

Designation		Sides	Layers (total)	Diameter (cm)	Capacity (GB)
DVD-1	SS SL	1	1	8	1.46
DVD-2	SS DL	1	2	8	2.65
DVD-3	DS SL	2	2	8	2.92
DVD-4	DS DL	2	4	8	5.31
DVD-5	SS SL	1	1	12	4.70
DVD-9	SS DL	1	2	12	8.54
DVD-10	DS SL	2	2	12	9.40
DVD-14	DS SL+DL	2	3	12	13.24
DVD-18	DS DL	2	4	12	17.08

Capacity and nomenclature of (re)writable discs

Designation		Sides	Layers (total)	Diameter (cm)	Capacity (GB)
DVD-R	SS SL (1.0)	1	1	12	3.95
DVD-R	SS SL (2.0)	1	1	12	4.70
DVD-RW	SS SL	1	1	12	4.70
DVD+R	SS SL	1	1	12	4.70
DVD+RW	SS SL	1	1	12	4.70
DVD-R	SS DL	1	2	12	8.50
DVD-RW	SS DL	1	2	12	8.54
DVD+R	SS DL	1	2	12	8.54
DVD+RW	SS DL	1	2	12	8.54
DVD-RAM	SS SL	1	1	8	1.46*
DVD-RAM	DS SL	2	1	8	2.47*

RECORDABLE DVD

- HP originally developed recordable DVD media for backing up and transferring data.
- Recordable DVDs are now also used in household audio and video players or recorders. There are three formats of recordable and rewritable DVD-R / RW, DVD + R / RW (plus) and DVD-RAM (minus, dash).

DVD-R AND DVD + R FORMATS

DVD-R

- DVD-RW-based DVD-R discs initially had a nuisance related to the incompatibility of old drives with these new discs (the problem was the difference between the optical layer responsible for “storing” information that was smaller (compared to write-once and stamped discs) reflectivity). In the future, this problem was almost completely resolved, although earlier it was because of this that the old DVD-drives could not normally play new rewritable discs.

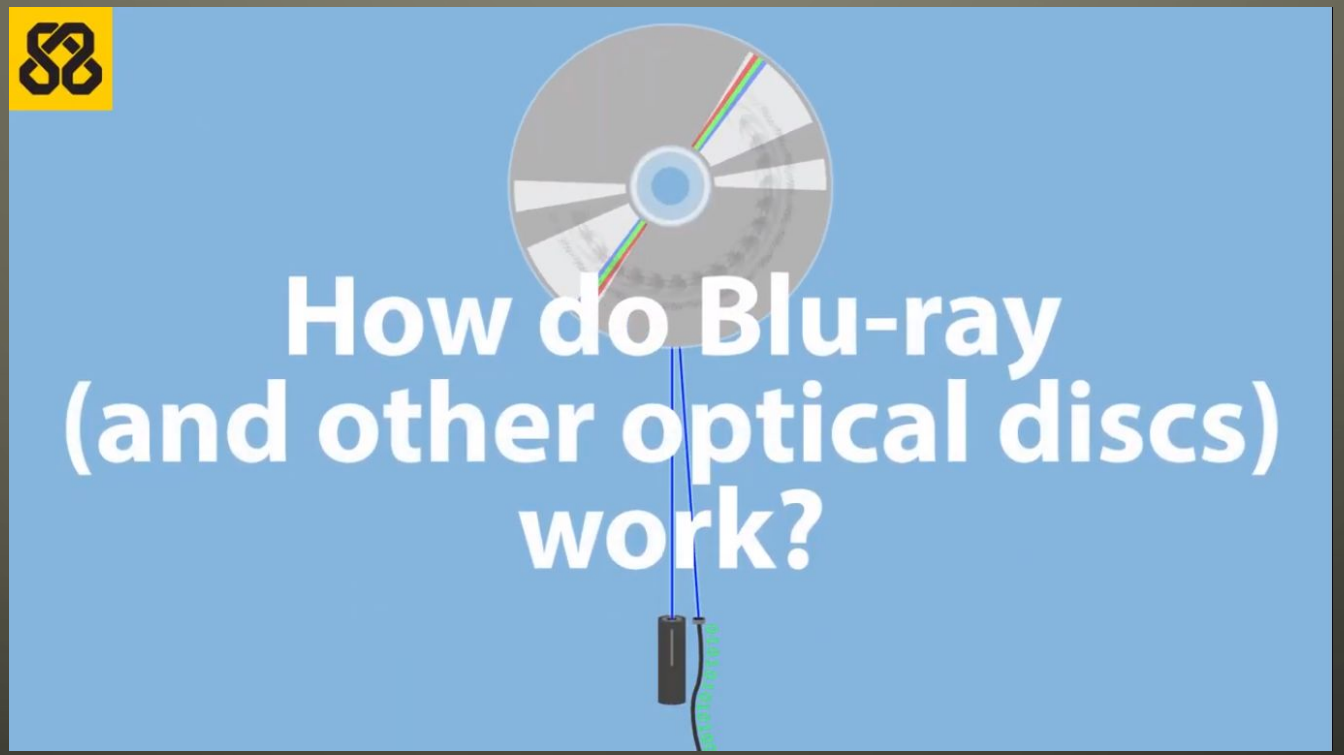
DVD+R

The created alternative format, called DVD + R and DVD + RW, had a different reflective layer material and special marking that facilitates head positioning (LPP, Land pre-pits - pre-recorded pits between tracks containing addressing data and other service information)- the main difference between these "plus" discs from "minus". With this, DVD + RW discs are capable of recording in several steps (over the existing one) as in a conventional video cassette recorder, excluding the preliminary erasure of all contents.

DVD VIDEO AND DVD AUDIO

- IFOs are disk information files, they contain information about what is in the VOB files and support the order in which they are run.
- BUP - file backup file IFO. Each IFO file corresponds to a BUP file of the same size.
- VOB - the main DVD files that contain information about video, audio, titles.
- The audio data in a DVD movie can be in PCM, DTS, MPEG, or Dolby Digital (AC-3) format.

PRINCIPLE OF OPERATION



https://www.youtube.com/watch?v=H-jxTzFrnpg

THANKS FOR WATCHING!!!