Long term data storage
Preserve Your Digital Photos for Generations

The SanDisk Memory Vault is engineered to protect your digital photos and videos for up to 100 years*. This archival storage device features SanDisk's exclusive Chronolock™ technology and a compact, durable design, ensuring your most cherished memories are safely protected.

- Chronolock technology retains data for up to a century
- Store thousands of photos with 8GB** and 16GB capacities
- Connects to your computer via USB for easy file transfer
- Durable, compact design
- Compatible with a wide range of operating systems

Available Capacities

| 16GB | 8GB |
Long term data storage – 1000 years

The inorganic rock-like data layer is one of the unique features of the M-DISC setting it apart from DVDs and CDs. The voids and holes illustrated above do not degrade over time due to the natural processes that affect organic dyes used in all other optical discs.
Long term data storage – 10000+ years

One solution:

Etch in stone – e.g. hieroglyphics
Long term data storage – 10000+ years

Another solution:

The Rosetta disk - a 3-inch nickel disk with an estimated lifespan of 2,000 -10,000 years. The disk is 3 inches in diameter, and mounted beneath a glass hemisphere.

This graphic side of the disk is pure titanium. A black oxide coating has been added to the surface. The text is etched into that, revealing the whiter titanium. This bold sign board is needed because the pages of genesis which are etched on the mirror-like opposite side of the disk are nearly invisible.

This business side of the disk is pure nickel. Picking it up you would not be aware there were 13,500 pages of linguistic gold hiding on it. The nickel is deposited on an etched silicon disk. In effect the Rosetta disk is a nickel cast of a micro-etch silicon mold. When the disk is held at the right angle the grid array of the pages form a slight diffraction rainbow. You need a 750-power optical microscope to read the pages.
The Rosetta disk is not digital. The pages are analog "human-readable" scans of scripts, text, and diagrams. Among the 13,500 scanned pages are 1,500 different language versions of Genesis 1-3, a universal list of the words common for each language, pronunciation guides and so on.

Long term data storage – 10000+ years
A team of Dutch and German physicists have developed a technology that can preserve data for up to 1 billion years. The team chose elemental tungsten because it has a very high melting point of 3,422 degrees Celsius and low thermal expansion. Basically, if you build something out of tungsten, it will remain mostly unchanged over time. Tungsten is somewhat malleable, though, so the researchers encapsulated the metal in silicon nitride. This inert solid is durable and is transparent to light, which allows the tungsten pattern to be visualized.
Tungsten optical disc can store data for 1 billion years

Simply having readable data in the finished product is only the first step, though — it also needs to last. Since waiting a million years to find out about longevity is a poor use of time, the researchers used elevated temperatures to simulate it, which is a common way to test aging. The paper claims that two hours at nearly 500 degrees Celsius resulted in a code that was damaged, but still readable. This works out to over 1 million years of potential life for the tungsten/silicon nitride disk. The team feels that with refinement, reaching 1 billion years is likely. That’s considerably longer than past experiments with sapphire-based materials.

The team admits this is just preliminary research. The tungsten discs could end up being less stable in real life than the initial testing indicates due to the elements or exposure to chemical agents. A completely different data storage mechanism could also prove to be a better choice in the long run.

From left to right: the QR codes after fabrication, after two hours at 340 C, and after two hours at 490 C.
Latest long term data storage news – crystal storage:

https://www.youtube.com/watch?v=r0f_rplpouE

DNA Storage:


Long term clock – 10,000 years:
http://www.10000yearclock.net/learnmore.html

https://en.wikipedia.org/wiki/Clock_of_the_Long_Now#Time_calculations