



Write Once, Read Forever!
The only solution for data retention !
2013

• What are the common used storage media ? How long will the information last ?



□ Hard Drives:

Hard drives has two disadvantages

- Mechanical failure can occur any time due to the rotation depreciation.
- Data will be vanished due to the earth magnetic field. In most cases the data corruption starts when data is not re-written within 5 years.



□ Flash Memory:

Flash memory has problem for data retention

- Over time, the cells will lose their charge state. Approximately 5-7 years.



□ Magnetic Tape:

This is the most common long-term archiving technology

- Very sensitive to the storage environment, humidity and temperature must be well-controlled or the tape will fail
- Standard practice is to re-build the archive every 3 years to ensure the archive

• What are the common use storage media ? How long will the information last ?



□ Solid State Disk (SSD) :

- SSD is working on the same technology as Flash memory, hence not suitable as data retention media.



□ Optical Media (CD-R/DVD±R/Blu-Ray):

- Optical drive is the most common use data carrier system
- The lifetime of optical media is highly depended on the storage environment
- Very sensitive for the UV.

**Non of the mentioned media can hold the data
longer than 8 years !**

**Is there any reliable way to store the important
data ?**

- ***Till recently : NO !***
- **The M-DISC can hold the
data for 1000 Years**
- ***And now : YES !***

M-DISC

- **After R&D for a long time, the US base company Milleniata has found the solution :**
- **Replace the enviroment sensitive organic dye in the optical disc with a rock like material.**
- **Writing a disc is like put your data engrave on stones.**

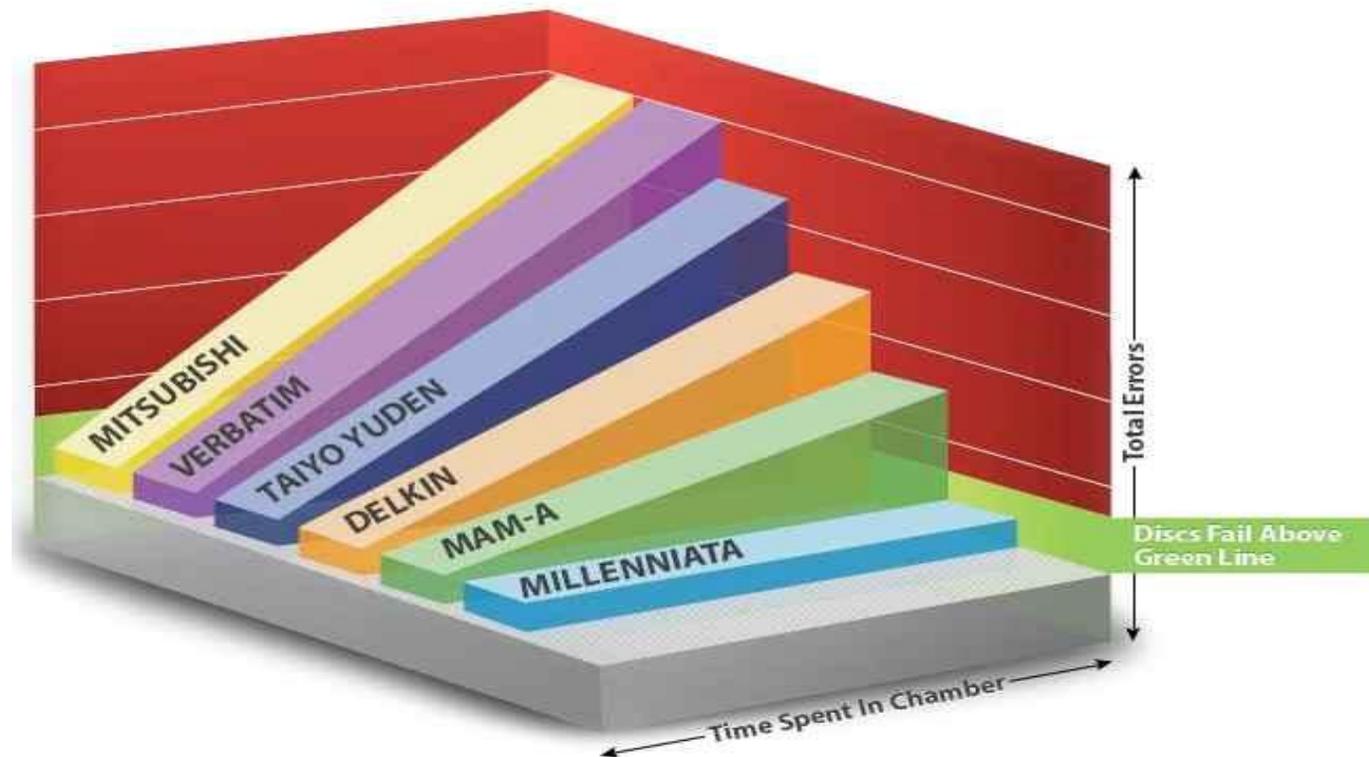
Is this true ?

- **The M-DISC has been test by one of the eight Naval Air System Command sites of the USA, China Lake (Cal.).**
- **The test was carry out according the the ISO 10995 and ISO 16963 Longevity Testing Standards.**
- **For the complete report one can download the pdf from :**
- **http://site.produplicator.com/downloads/Manuals/China_Lake_Full_Report.pdf**

What was tested ?

- **The test compared archival DVD discs from Millenniata and competitors by observing the increase in read errors due to combined temperature, humidity, and light conditions.**
- **These are the well-known factors which have effects on the data degradation of the optical discs.**

Result of the China Lake test

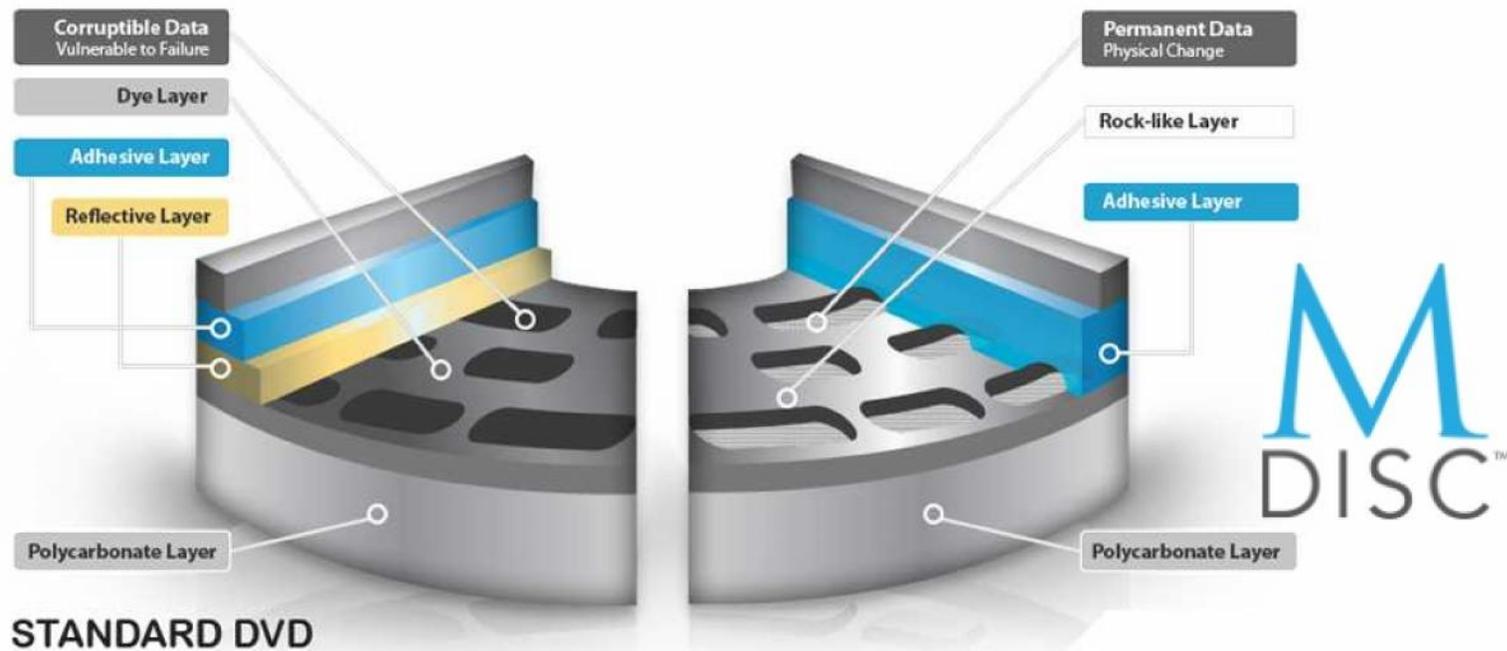


M-DISC is the only type of disc with zero-defect.

Why an Optical disc ?

- **Optical drive has a large installation base**
- **The cost of the media is low compare to other solutions and the optical media is not sensitive for the magnetic fields.**

How does M-DISC work?





How does M-DISC work?

The M-DISC™ is composed of chemically stable and heat-resistant materials that are not used in any other DVD or optical disc. Data is engraved into the M-DISC™ by physically altering the recording layer and creating permanent pits or voids in the disc, preserving your files forever. Because of its permanent makeup, M-DISC™ is not affected by temperature, humidity, or sunlight. Contrarily, DVDs and optical drives use organic dyes that begin to fade and decay the moment you record your information, resulting in corrupt and unreadable data over time.

Summation of the facts

HOW LONG WILL
YOUR FILES LAST?



	 M-DISC	 DVD
Engrave With M-DISC READY™ Compatible Drives		
Readable on Current DVD Drives	Yes	Yes
4.7 GB of Storage	Yes	Yes
Permanent Storage	Yes	No
Data Engraved in Stone	Yes	No
Endures Exposure in Heat, Humidity & Light	Yes	No
Eliminates Data Recording in Unstable Dye	Yes	No

DVD+R format, 4x burning speed.

Does it cost a lot ?

- **No, currently LG has launched their M-DISC READY™ series of DVD burners. The price of these type of burners is the same as the regular burners.**
- **Currently a M-DISC READY™ internal DVD Burner is about € 20-25,- and an external one cost about € 55-60.**

Look for drives with these icons:



Meet the M-DISC READY™ Drive. Compatible with both Mac and PCs. Many computer manufacturers worldwide, such as LG, Acer, and Dell, already offer the M-DISC READY™ Drive as an option within their systems. Look for M-DISC™ compatible drives with the above icons.

M-DISC Partners

M-Ready Drives: Standalone Hardware



M-Ready Drives: PCs / Laptops / Desktops



M-DISC Media: manufacture



M-DISC Media: Distribution



List for LG M-Ready Drives

Category	Model. Suffix		Remark	M-Ready Support
	Model	Suffix		
DVD-W	GH24NS95	AUAA10B	DVD-W HH Bare	Yes
	GH24NS95	AUAR10B	DVD-W HH Retail	Yes
	GH24NSB0	AUAA10B	DVD-W HH Bare	Yes
	GH24NSB0	AUAR10B	DVD-W HH Retail	Yes
	GP50NB40	AUAE10B	DVD-W Slim Portable(12.7mm)_Black	Yes
	GP50NW40	AUAE10B	DVD-W Slim Portable(12.7mm)_White	Yes
	GP60NB50	AUAE10B	DVD-W Slim Portable(9.5mm)_Black	Yes
	GP60NW50	AUAE10B	DVD-W Slim Portable(9.5mm)_White	Yes
	GT80N	AUAA10B	DVD-W Slim Bare	Yes
BD-W	BH16NS40	AUAU10B	BD-W HH Bulk	Yes
	BH16NS40	AUAR10B	BD-W HH Retail	Yes
	BE14NU40	AUAE10B	BD-W External	Yes
	BP40NS20	AUAE10B	BD-W Slim Portable_Silver	Yes
	BT30N	AUAA10B	BD-W Slim Bare	Yes
BD-C	CH12NS30	AUAU10B	BD-COMBO HH Bulk	Yes
	CH12NS30	AUAR10B	BD-COMBO HH Retail	Yes
	CP40NG10	AUAE10B	BD-COMBO Slim Portable_Gray	Yes

Products

- **1. Traxdata M-DISC DVD Printable**
 - **3 x M-DISC in “3 in 1” silver DVD box (retail pack)**
- **2. Starter-kit: LG External slim M-Ready writer + 3 x M-DISC in retail pack**
- **Target channel: retail segment**

Pricing

- **End-user price: ⇔ EUR2.9/M-DISC**