SONY

SCALABLE. RELIABLE. FOREVER.

Sony Optical Archive, Inc. Fundamentally Redefines Archive With Optical Technology

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EVERSPAN

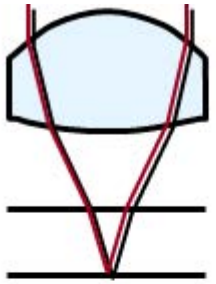
Agenda

- **Everspan Technology**
  - Media
  - Drive
- **Everspan Library**
  - Row level design
- **Connectivity Options**
  - S3 Object store
  - Tape interface

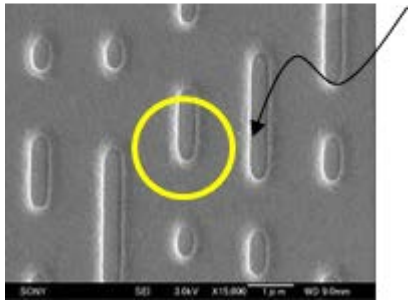
Optical technology for professional archiving

Consumer

CD(1982)

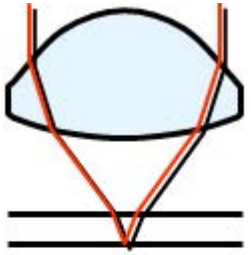


780nm

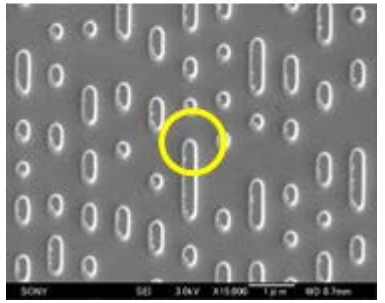


650MB

DVD(1996)

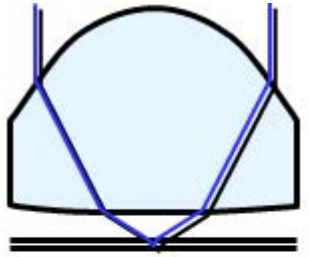


650nm

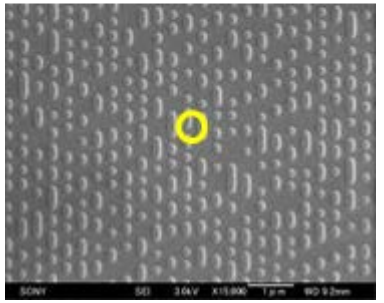


4.7GB

Blu-ray™(2003)



400nm



50/100GB

Professional

Archival Disc (2015)

Archival Disc

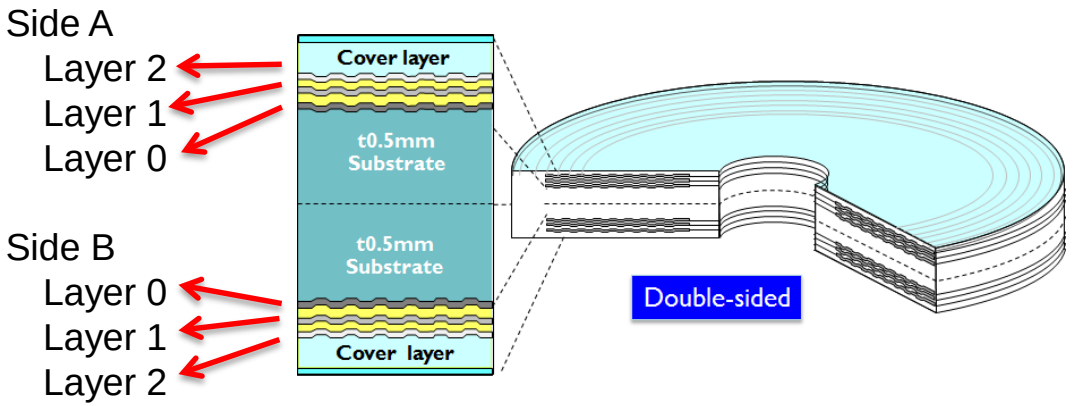
300GB

Archival Disc

Disc structure

- 3 layers /side & Double-sided structure
- Inorganic recording layer structure
- Protective cover layer

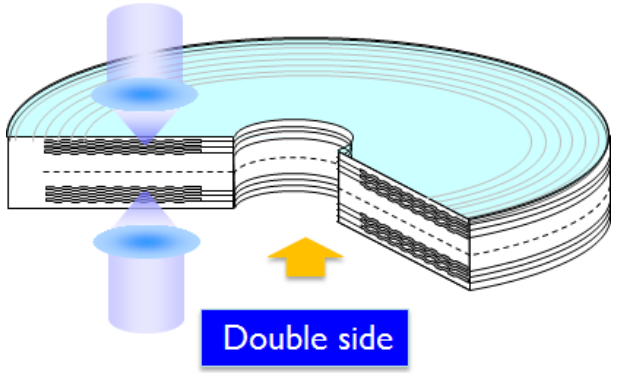
Recording Layer



Drive

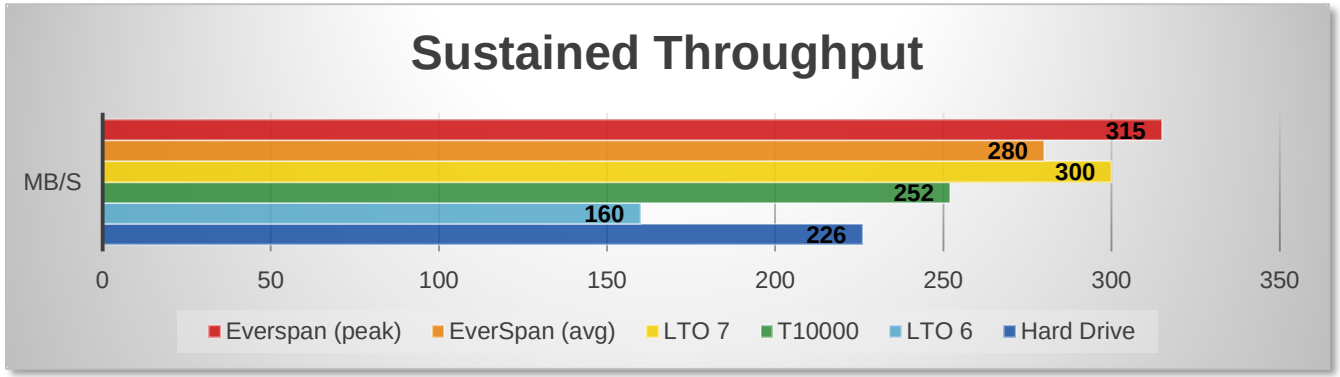
Key technologies

- Simultaneous recording on both sides
- 45MB/s Head



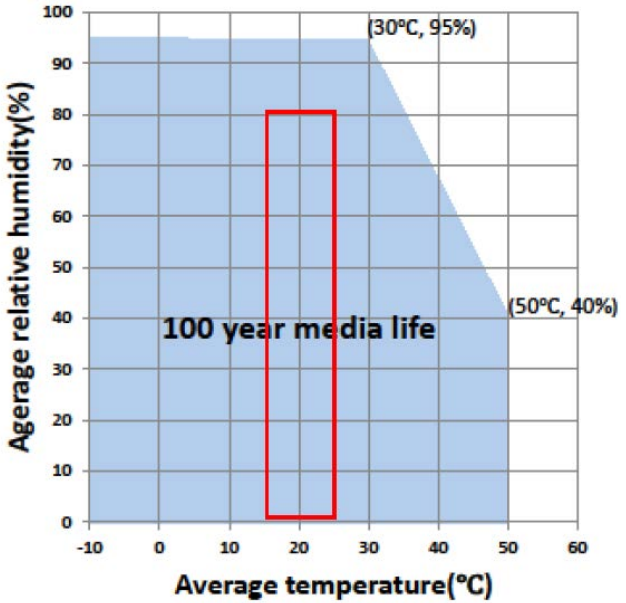
Performance

- Array head drive
- Restore 1.3PB/day (64 drives)
- Multi row options



Reliability

- Non contact recording technology
- Erasure coding option
  - Within library
  - Across 1,2 or 4 libraries
- 100 year media warranty

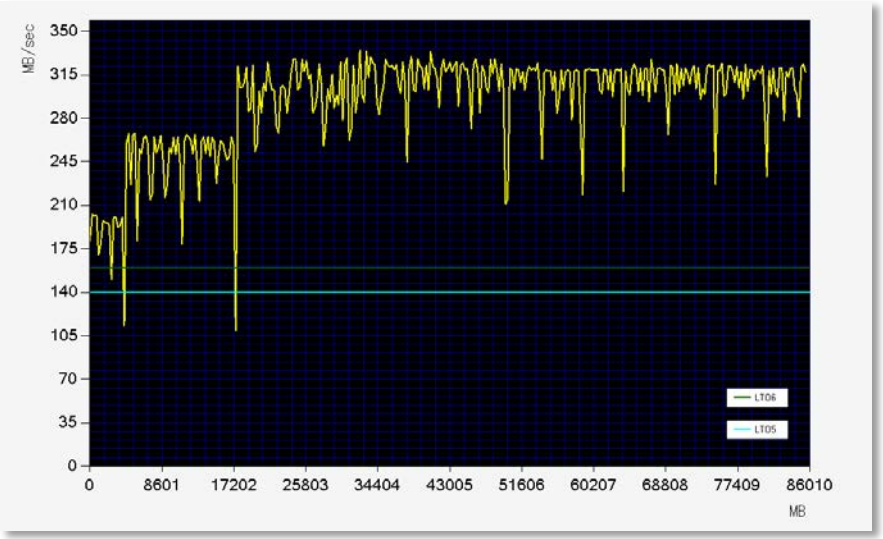


LTO-7 Archival Spec.

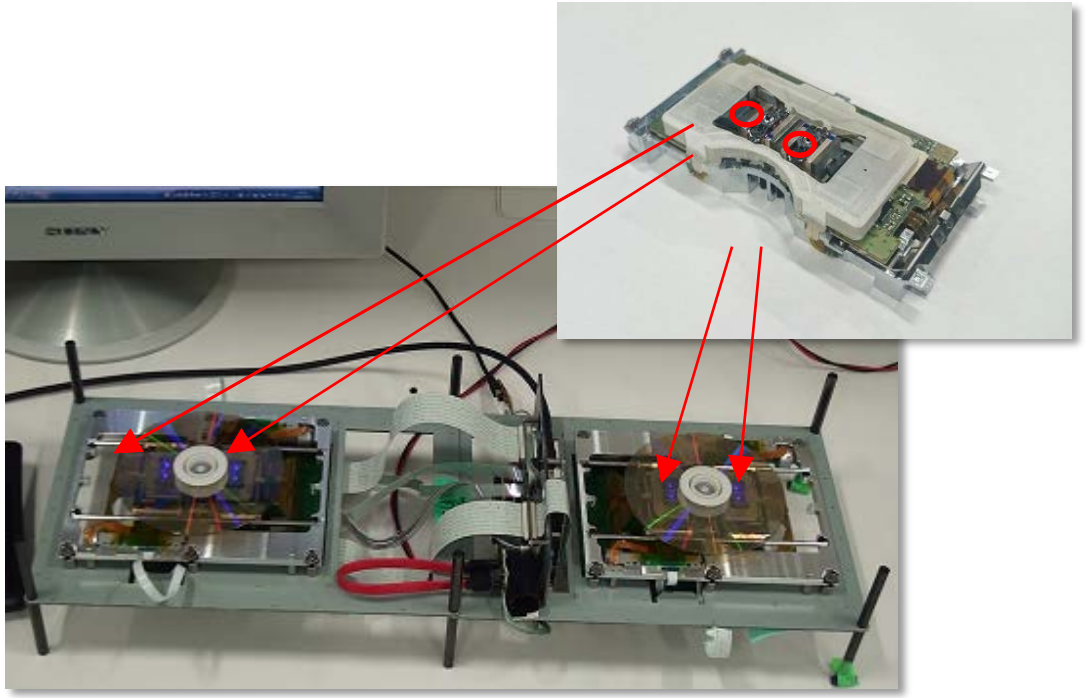
High performance drive

- The worlds 1st 8-CH dual-side drive for highly efficient operation
- Drive transfer rate:
  - Average write 140MB/s (with verification)
  - Average read 280MB/s (peak 315MB/s)
- SATA interface
- High reliability laser

Read transfer rate



Optical head with 2 CH laser

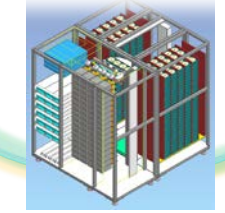


Optical Technology is Optimized for Data Archival

Archival Disc

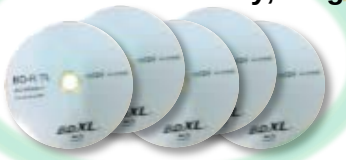
Scalable library for lowest cost / GB

Scalable library architecture



Reliable media

Environmental durability, long life



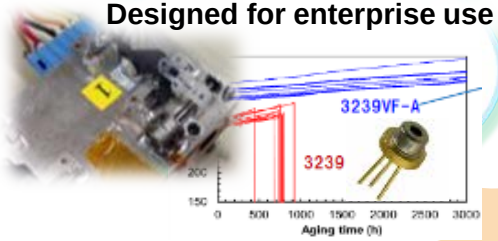
High performance

High-speed rotation, Multiple channel

Scalable
Reliable
Forever

Enterprise-class drive

Designed for enterprise use



High data density

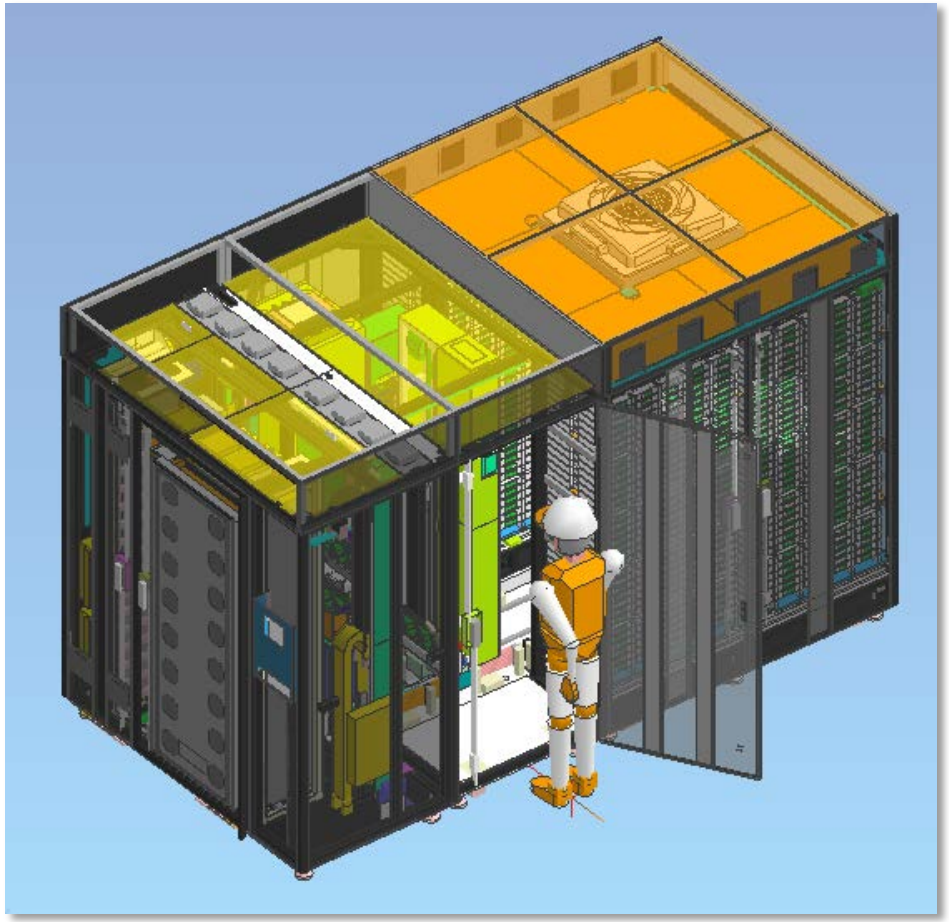
Land & groove technology

Everspan brings Optical to Archiving

- S*calability* across expansion units: 13PB increments
- R*eliability* independent of read frequency
- *Performance: 18GB/s restore*
- C*ompatibility* through drive/media generations
- *Lowest cost/GB* acquisition cost
- *Lowest power consumption (typical 9kW/183PB)*

Everspan Base Unit

- Configurable system components
  - Up to 64 drives
  - Highly efficient 4 drive loading mechanism
  - Up to 14 expansion units
- Complies with OCP standard dimensions



Everspan System

- Expansion units are media racks
  - 64 drives, total bandwidth 18GB/s
  - Each tray has 64x 300GB media (19.2TB per tray)
  - Each Expansion Unit holds 680 trays (13PB capacity)
- Expansion units require nominal power only
  - Scale storage capacity without scaling operational cost
- Scalable to 14 expansion units = 183PB

Connectivity Options & Software Integration

Library interfaces

- Robotic = SMC
- Optical drive = MMC-6 (iSCSI target)
- Optical drive with Tape Interface = T10 (iSCSI target)

Storage Interface Support at GA July/2016

S3 Object Store (>80% market share)

- Erasure code implementation
- Active/Passive Gateway- and Metadata Servers

HPSS implementation

- Utilizing HPSS connectivity options

HDS HCP implementation (Hitachi Content Platform)

- will be supported in 2016

Availability and Roadmap

- Product launch on March 8, 2016
  - Customers in beta now
- Production units ship in July 2016
- Everspan has a roadmap for both media and system enhancements
  - 500GB and 1000GB media announcements in line with previous Sony statements

Visit us at

- info@everspan.com

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