



**The Benefits Of
Writable
Optical
Storage**

-OSTA-
**Optical Storage
Technology Association**

WRITABLE OPTICAL TECHNOLOGY

The use of optical storage continues to grow at an incredible pace, spurred on by the flexibility and affordability the technology offers. The word optical in the computer industry refers to any storage method which uses a laser to store and retrieve data from media. This term includes such devices as CD-ROM, rewritable optical, WORM, CD-R, and optical jukeboxes or autochangers.

Most of us are familiar with CD-ROM, but other terms such as rewritable optical, WORM, and CD-R may be foreign. Rewritable optical devices use media that allows data to be written repeatedly, while WORM (standing for Write-Once-Read-Many) technology writes data permanently to disk. CD-R, (short for Compact Disc Recordable), allows up to 650 megabytes of data to be written permanently to a compact disc and read on low-cost CD-ROM drives. These devices are currently sold as single or stand-alone items, or as jukeboxes. Jukeboxes are storage units with built in robotics to automate access to hundreds of pieces of media and numerous optical drives.

The continuing development of optical technology has opened up many new avenues and created limitless possibilities. Migration software now allows unused data to be moved from its original location to an optical device where it resides until it is needed. Since the only thing that touches the media is the laser, it is the most durable way to store and archive data. Optical storage solutions are also used in a wide variety of applications such as document imaging, records retention, backup systems, desktop publishing, CAD/CAM and many more.

Writable optical, when compared to other random access removable media storage solutions, is the BEST because it has the:

- *highest capacity available!*
- *lowest cost per megabyte!*
- *longest archive life of any media!*
- *widest environmental condition tolerance!*
- *only technology that scales from laptops to enterprise solutions!*
- *most reliable media available!*

These features, and more, continue to make writable optical the foremost solution for removable media storage.

Why Buy Optical?

Protection from Mother Nature

Since nothing touches the actual disk, there is no possibility of harm from outside factors. Optical solutions are the most durable of any removable storage media.

Defend against Father Time

Optical disks last up to seven decades longer than traditional storage options. Replace cumbersome paper and microfiche with worry-free, long-life optical storage.

"Our optical library allowed us to store huge amounts of data in a device that provides permanent WORM features, ensuring data could not be changed once it is written to the device. That permanence is critical to RLI; we need to ensure that information retrieved decades after it is written is unaltered and able to be read."

Roger Buss, Vice President of MIS, RLI Insurance

From megabytes to terabytes

Unlike other forms of storage, optical gives you the option of various storage capacities, and room to grow. Single-drive capacities range from 230 megabytes to 2.6 gigabytes, and jukebox capacities range from several gigabytes to over one terabyte. When growth warrants more storage, simply add new drives, libraries or media.

Keep it in a safe place

Migrating little-used files to easily accessible optical libraries saves space on primary storage devices. Saving data on-line makes for faster access and response time.

"Previously, our student record documents had to pass through many hands when kept on paper and microfiche. The use of optical storage technology has allowed us to simplify our document management while affording us a high degree of data integrity. What used to take up to five minutes to retrieve now takes only seconds."

Danette Gracia-Moorhead, Manager of Computer Support and Training, Information Technology, Embry Riddle Aeronautical University, Daytona Beach, FL.

Approaching hard disk speeds

Optical performance is rapidly approaching hard drive speeds. Random access means no sequential searches, providing direct access to files. Optical access is more than 100 times faster than tape.

"We didn't know how fast retrieval from optical would be. It's often just as fast as from the hard disk."

Ed Miller, System Manager, McDonnell Douglas Space Station Project

Limitless storage

Since optical disks are removable, you will never run out of storage space and you can shelve older data to save even more space.

"The petroleum industry maintains huge amounts of data. By selecting writable optical, I increased the productivity and storage on my hard drive without having to purchase another one. I am pleased with the speed of optical technology and the amount of data it can store. It's the way to go."

Henry Jazdzewski, Senior Financial Representative,
Amoco Production Company

Write it your own way

Multifunction drives provide the flexibility to use rewritable or WORM media, which translates to less complicated storage. Select your choice of media to suit specific needs. Use WORM in higher security situations and rewritable in normal-use instances. WORM is also endorsed by many key organizations for legal admissibility.

"The SIA asserts that optical storage technology offers speedier and higher quality access to records thus preserved than current access to records preserved in microfilm, microfiche or physical format... Furthermore, the SIA asserts that optical disk storage of a firm's records would increase productivity and security."

Michael Udoff, Associate Director, Securities Industry Association, Inc.

High Capacity — Small Space

A single 3.5 inch optical disk holds the equivalent of approximately 500 1.44 MB floppy disks. A single 5.25 inch optical disk holds the equivalent of approximately 80 four-drawer cabinets of text data.

Have disk, will travel

Portable and secure, disks can even be transferred by mail. High capacity disks make transporting large amounts of data simple.

"Removable optical disks are a wonderful way to move large files."

Herb Pierce, U.S. Geological Survey, U.S Federal Government

International standards

Because optical storage manufacturers support universal standards, compatibility is not an issue. Newer products will always be compatible.

- ISO 13963 - 230MB 3.5 inch Rewritable
- DIS 15041 - 640MB 3.5 inch Rewritable
- ISO 13549 - 1.3GB 5.25 inch Rewritable and WORM
- DIS 14517 - 2.6GB 5.25 inch Rewritable and WORM

The buck stops here

Optical technology has the lowest cost per megabyte of any removable random access media device. Rewritable media allows re-use of media, optimizing its storage capabilities.

From laptops to mainframes

Optical storage technology is the only removable random access technology that scales from laptops to enterprise solutions. You can use it as a simple storage solution on a single workstation, or it can be used when network storage needs dictate a high-volume solution.

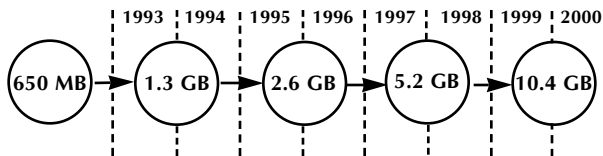
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OPTICAL CAPACITY AND PERFORMANCE ON THE MOVE

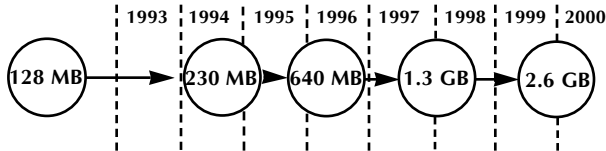
The following migration paths show writable optical's past, present and future. The migrations paths are based upon international standards which guarantee media and drive compatibility. As advances in technology are made, the media increases in capacity as well as improves in performance, with continued backwards compatibility. Detailed versions of the following migration paths are available from OSTA.

OPTICAL STORAGE MIGRATION PATHS (DISK CAPACITY)

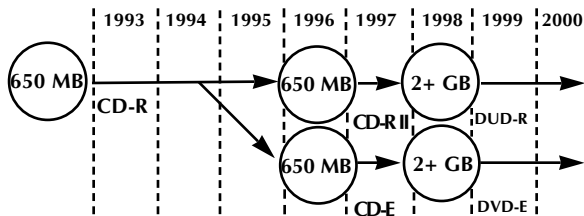
5.25-INCH



3.5-INCH



WRITABLE CD



Who is OSTA?

The Optical Storage Technology Association was incorporated as an international trade association in 1992 to promote the use of writable optical technologies and products for storage of computer data. The organization's membership includes optical product manufacturers from three continents and represents more than 70 percent of writable optical shipments worldwide. OSTA works to shape the future of the industry through regular meetings of market development, planning, CD writable and technical committees.

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Maxoptix • Micro Design International • Optics Storage • Philips Electronics • Software Architects
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PDO Media North America • Ricoh • Rimage • Samsung Electronics Silicon Systems • TDK
Electronics • TEAC Teijin America • Toray Marketing & Sales (America) Tosoh USA • Yamaha

Services and Information

Additional information on writable optical storage is available from OSTA at the following address:

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