LASERDRIVE 4100

LASER MAGNETIC STORAGE
INTERNATIONAL COMPANY

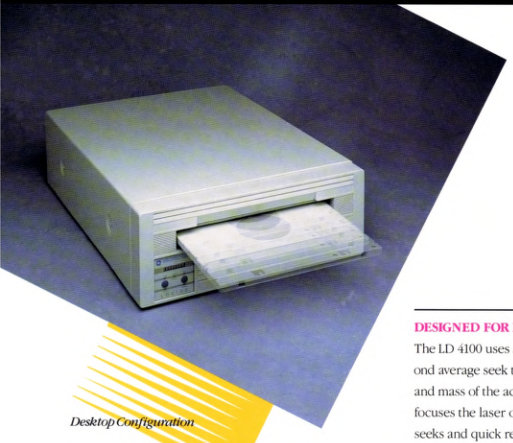
Dual-Head 12-Inch Optical Disk Drive

- 5.6 GB On-Line
- Designed for high performance
- Compact pedestal configuration for office environments

A NORTH AMERICAN PHILIPS COMPANY

PHILIPS

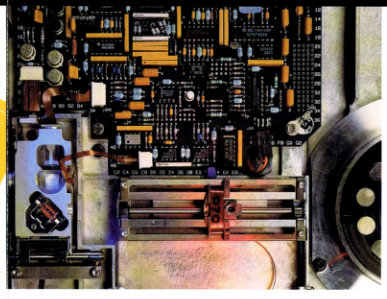
LD 4100



Desktop Configuration

The LaserDrive® 4100 is the first optical disk drive that eliminates the need to flip cartridges by using heads on each side of the disk. Users can now access both sides of the disk simultaneously. Numerous LD 4100 performance innovations multiply user productivity.

The LD 4100 is part of the 4000 Series from LMS, a complete product line including 12-inch drives in stand-alone and jukebox configurations, and the LF 4500 RapidChanger,™ a multiple-cartridge drive with integral high-speed disk autochanger. Jukeboxes and high capacity media from multiple vendors complete the 4000 Series product line. The 4000 Series offers faster response times and higher transaction rates than are currently available from competitive optical storage products. Media can be freely moved among drives, RapidChangers and jukeboxes to meet the full range of user access requirements.



Split Optics System

DESIGNED FOR HIGH PERFORMANCE

The LD 4100 uses split optics to achieve an 80 millisecond average seek time. Split optics minimizes the size and mass of the actuator, the moving component that focuses the laser on the disk. This results in rapid track seeks and quick response times.

Performance in a jukebox is determined predominantly by the disk exchange rate and the disk spin up/down times. In the LD 4100, the hub of the disk and the spindle motor are mechanically interlocked to achieve a spin up time of 2.5 seconds. Spin down time is 1.5 seconds.

The LD 4100 transfers user data to and from the disk at 700 KB/second sustained using Direct-Read-During-Write.™ DRDW combines overwrite protection, write and verification in a single disk rotation. Competitive drives are slower because additional disk rotations are needed to perform these essential operations.

HIGH CAPACITY WITHOUT COMPROMISING PERFORMANCE

The LD 4100 provides more on-line capacity than any other optical drive, 5.6 GB. Using VTP (Variable Track Pitch), high capacity is achieved without performance penalties. Track spacing is compressed at the outer radius of the disk to obtain high capacity without constantly varying the disk rotation rate. Competitive drives often require different disk rotation rates to achieve high capacity. This increases the time required to perform seeks.

A 16-mm thin cartridge further expands total jukebox capacity by making room for more cartridges.

up/down times provide new levels of performance for high productivity. Multiple configurations offer the flexibility to operate in any system environment. The 4000 Series anticipates the rapidly changing needs of the marketplace.

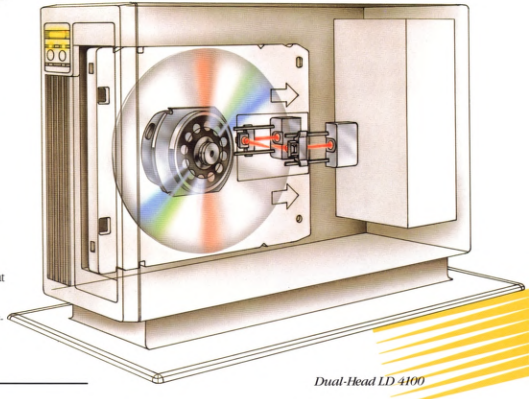
THE INDUSTRY LEADER

Laser Magnetic Storage International Company has been producing optical disk storage products for over a decade. LMS is dedicated to mass storage technology and produces a full line of CD-ROM, 5¼-inch and 12-inch optical drives.

CONFIGURATIONS FOR MULTIPLE ENVIRONMENTS

Used as a stand-alone drive, the LD 4100 is available in desktop, rack mount and pedestal configurations. The compact and attractive pedestal model fits conveniently in office environments.

The LD 4100 is supported in jukeboxes from Cygnet Systems, Inc. and FileNet Corporation. The LD 4100 is designed to withstand 2.5 million cartridge-insertion cycles, a realistic requirement for automated libraries that has not been achieved by competitive drive manufacturers. Disks can be interchanged among stand-alone LD 4100s, RapidChangers and jukeboxes.



Dual-Head LD 4100

THE 4000 SERIES - A COMPLETE PRODUCT LINE FROM LMS

Innovative features designed into the 4000 Series will become the foundation for tomorrow's advanced optical storage systems. Disk and jukebox capacities have been expanded without sacrificing performance. Fast seek times, single-pass write operations and quick spin

innovative product development, state-of-the-art manufacturing operations, unmatched OEM product support, and its heritage in Philips optical storage technology. All of these capabilities have been focused on setting a new direction in optical storage with the 4000 Series.

SPECIFICATIONS

LaserDrive 4100 — Dual-Head 12-Inch Optical Disk Drive

Capacity

On-Line User Capacity	5.6 GB
User Capacity per Side	2.8 GB
Sector Size	1024 Bytes
Sectors per Track	48

Performance

Sustained User Data Transfer Rate	
– Write with Verify	700 KB/sec
– Read	700 KB/sec
Average Access Time*	130 msec
Average Seek Time	80 msec
Half Rotation Latency	35 msec
Data Buffer	1 MB
Spin Up Time to Ready	2.5 sec
Spin Down Time to Media Removal	1.5 sec

Interface

Controller	Embedded
SCSI	ANSI X3.131-1990 (SCSI-2)
SCSI Data Transfer Rate	
– Asynchronous	1.8 MB/sec
– Synchronous	4.0 MB/sec
Line Drivers	Single-Ended or Differential
Connectors	AMPMODU™ or D-Style
Termination	External

Reliability

MTBF	15,000 Hours
MTTR	40 Minutes
Cartridge Insertion Cycles	2.5 Million
Nonrecoverable Read Errors	<1 Error in 10^{12} bytes

Environmental

Temperature	
– Operating	10° – 50°C (50 – 122°F)
– Non-Operating	-40° – 66°C (-40 – 151°F)
Humidity	
– Operating (non-condensing)	10% – 90%
– Non-Operating	5 – 95%
Altitude	-300 – 3,000 m (-984 – 9,843 ft)

Electrical

Input Voltage	86.7 to128 V and 173.4 to 268 V
Line Frequency	47 Hz to 63 Hz
Power Dissipation	170 watts

Configurations

19-Inch Rack Mount	17.7 x 47.5 x 65.3 cm (H x W x D) (7.0 x 18.7 x 25.7 in)
Desktop	18.7 x 47.5 x 65.5 cm (H x W x D) (7.4 x 18.7 x 25.8 in)
Pedestal	59.0 x 17.7 x 65.5 cm (H x W x D) (23.2 x 7.0 x 25.8 in)
Jukebox	Cygnet and FileNet Compatible
Weight	25 kg (55 lbs)

Regulatory Compliance

UL, CSA, FCC Class B, VDE, TUV

* Including Seek, Latency, and Command Overhead

Specifications Subject to Change Without Notice

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