Panasonic
BUSINESS

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Panasonic
BUSINESS

Data Archiver
LB-DH8 Series

Optimum Archiving for
the Next 50 Years

A Scalable
Optical Disc Library System

Data Archiver

Times May Change. Data Must Not.

Panasonic's Data Archiver uses optical discs with a storage life of 50 years or more to securely save information assets until the next generation.

TOKYO 2065

30%

GRAPH 1

Asia: expected to be attacked by torrential downpours throughout the year.

GRAPH 2

North America: remained unchanged.

GRAPH 3

Europe: due to a shortage of rainfall, worried about drought in a wide region.

40%

The strength of the optical disc is to safeguard data for up to 50 years.

Optical discs resist time-related changes by withstanding high temperatures, intense light, and high humidity. Unlike magnetic tape or HDDs, optical discs are a non-contact media so they do not physically wear due to the need for increased use. Consequently, there is virtually no risk of losing stored data. The Panasonic Blu-ray Disc™ for archive use possesses the optical disc's superior characteristics to enable data storage for 50 years or more. Unlike magnetic tape, optical discs also feature backward and forward compatibility. And the Blu-ray Disc™ is superior in terms of power consumption. Because it does not require a constant power supply or air conditioning to keep the stored data intact, electricity costs and CO_2 emissions can be reduced significantly. When discs are managed "offline," there is no power consumption at all. Overall, the Blu-ray Disc™ is a durable, reliable and environmentally sustainable media suited for long-term data storage.

Data Archiver

Evolution to a large-capacity, scalable optical disc library backed by state-of-the-art technology.

While optical discs are robust, they still impose certain limitations on storage capacity per disc and write speed. Therefore, a single optical disc cannot archive a large amount of data. Panasonic's Data Archiver treats 12 discs housed in a Magazine as one volume, thus allowing writing and reading of data as if using an HDD. It also uses RAID technology to distribute and record data on 12 discs to achieve high-speed data transfer at 216 MB/s maximum (when RAID 0 is applied). When the amount of data increases, the Data Archiver can be provided with more modules to increase its storage capacity. Using dedicated management software, the Data Archiver can be easily incorporated into an existing system or used in combination with a large-scale system. What's more, Panasonic's Data Archiver is designed for easy maintenance, so costs and downtimes can be minimized.

A module structure for large capacity, high reliability and high data transfer speed.

Using original advanced robotics technology, Panasonic has achieved a module structure with high reliability and excellent scalability. By distributing and recording data on 12 optical discs, the Data Archiver writes and reads data smoothly at a maximum data transfer speed of 216 MB/s (when RAID 0 is applied). The data storage life of 50 years eliminates the need for periodic data migration. And the low power consumption of 7 W* during standby helps to reduce operating costs.

*In the case of the minimum configuration (base module + bottom module) at 24 V DC input.

01

Drive System

Using 12 Drive Units, data can be recorded on and read from 12 discs separately at the same time.

02

Disc Carrier

Loads/unloads discs housed in a Data Archiver Magazine delivered by the Magazine Carrier into/from twelve Drive Units.

03

Magazine Carrier

Delivers/returns Data Archiver Magazines to/from the Disc Carrier section.

04

Data Archiver Magazine (sold separately)

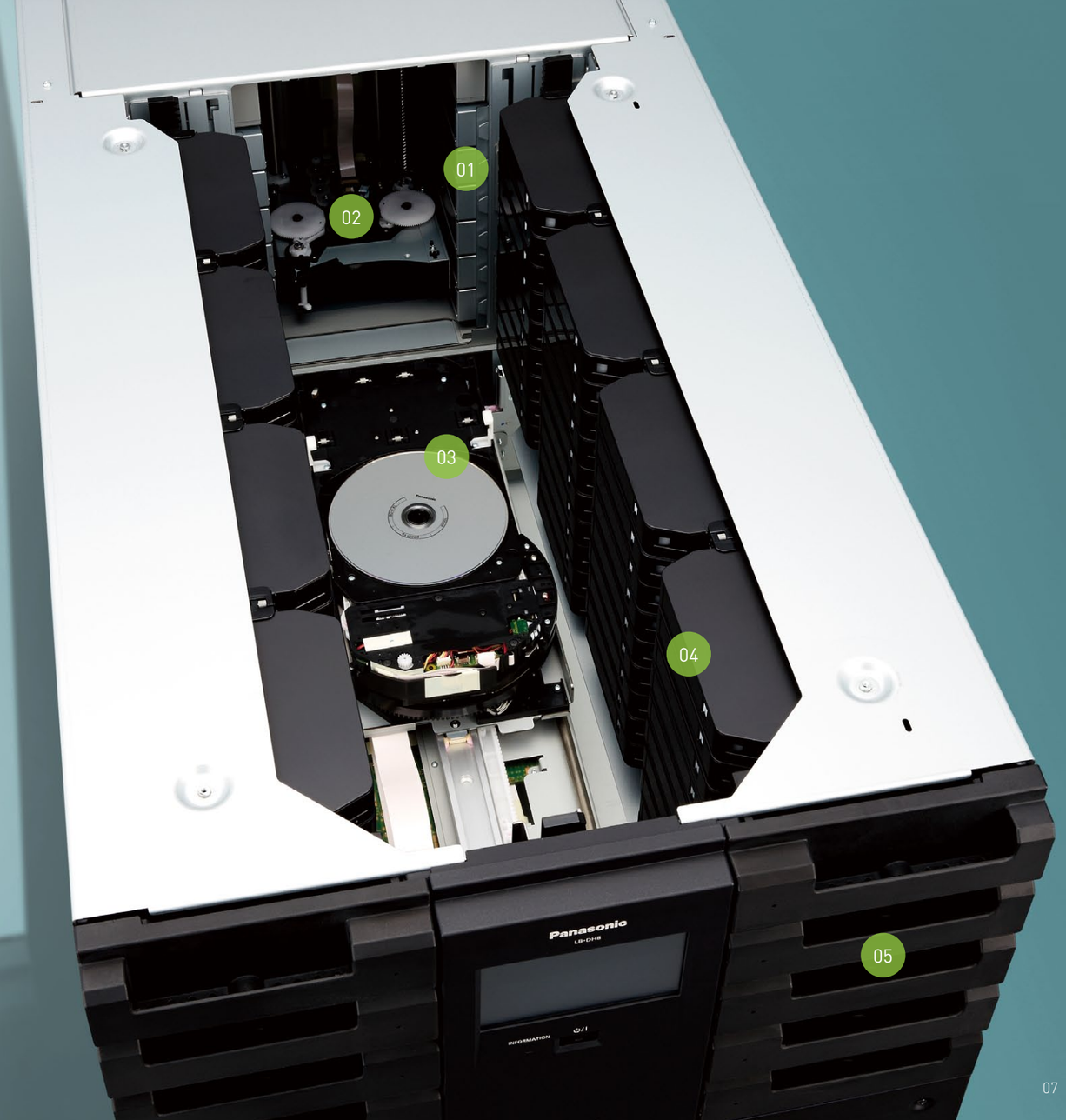
Houses 12 recordable Blu-ray Disc™ media for archive use.

*This photo is provided for explanation. Note that discs cannot be removed from the Magazine.

05

Drawer (10 pieces)

Up to eight Magazines can be installed in a detachable Drawer so that Magazines can be easily replaced in units of Drawers.

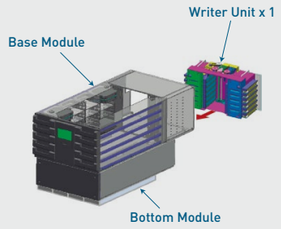


Necessary capacity can be added as needed.

Achieving flexible system usage.

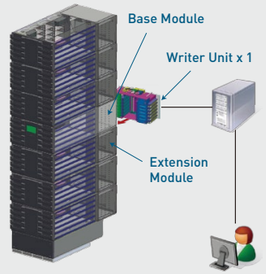
By adding a Module installed with Data Archiver Magazines, the storage capacity of the Data Archiver system can be flexibly increased to respond to growing data amounts. The basic configuration requires a minimum initial investment cost. The system can then be expanded up to the maximum configuration according to the need for increased writing/reading function. By installing up to six additional Extension Modules in the 19-inch rack, the data storage capacity can be increased up to 638.4 TB.

Minimum Configuration
(Low initial investment cost)



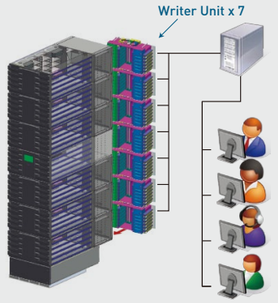
Capacity: 91.2 TB max.
(Number of Writer Units: 1)

Maximum Configuration 1
(Suitable for low-bit-cost data storage)



Capacity: 638.4 TB max.
(Number of Writer Units: 1)

Maximum Configuration 2
(Suitable for multi-access applications)



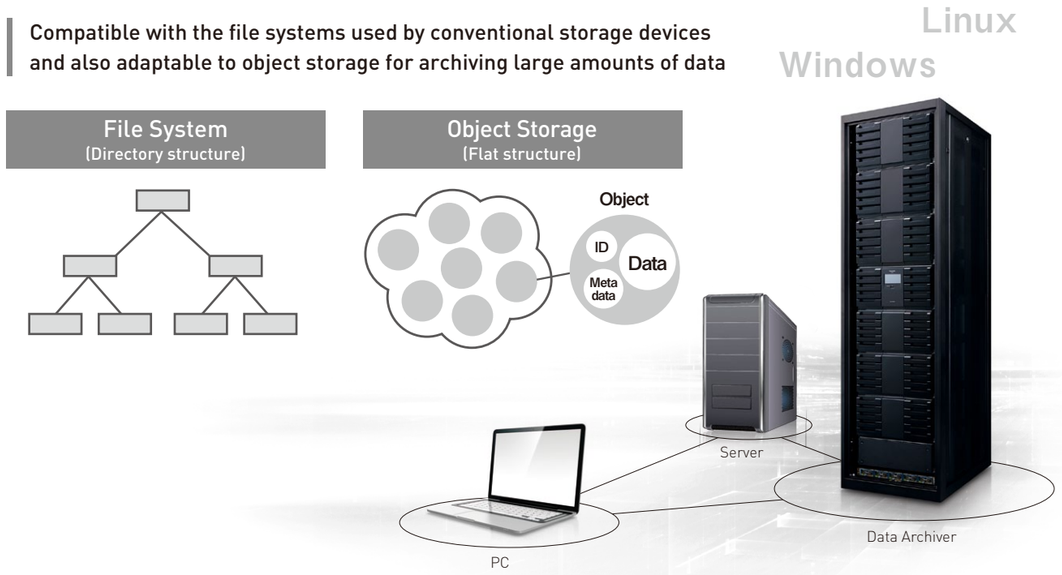
Capacity: 638.4 TB max.
(Number of Writer Units: 7)

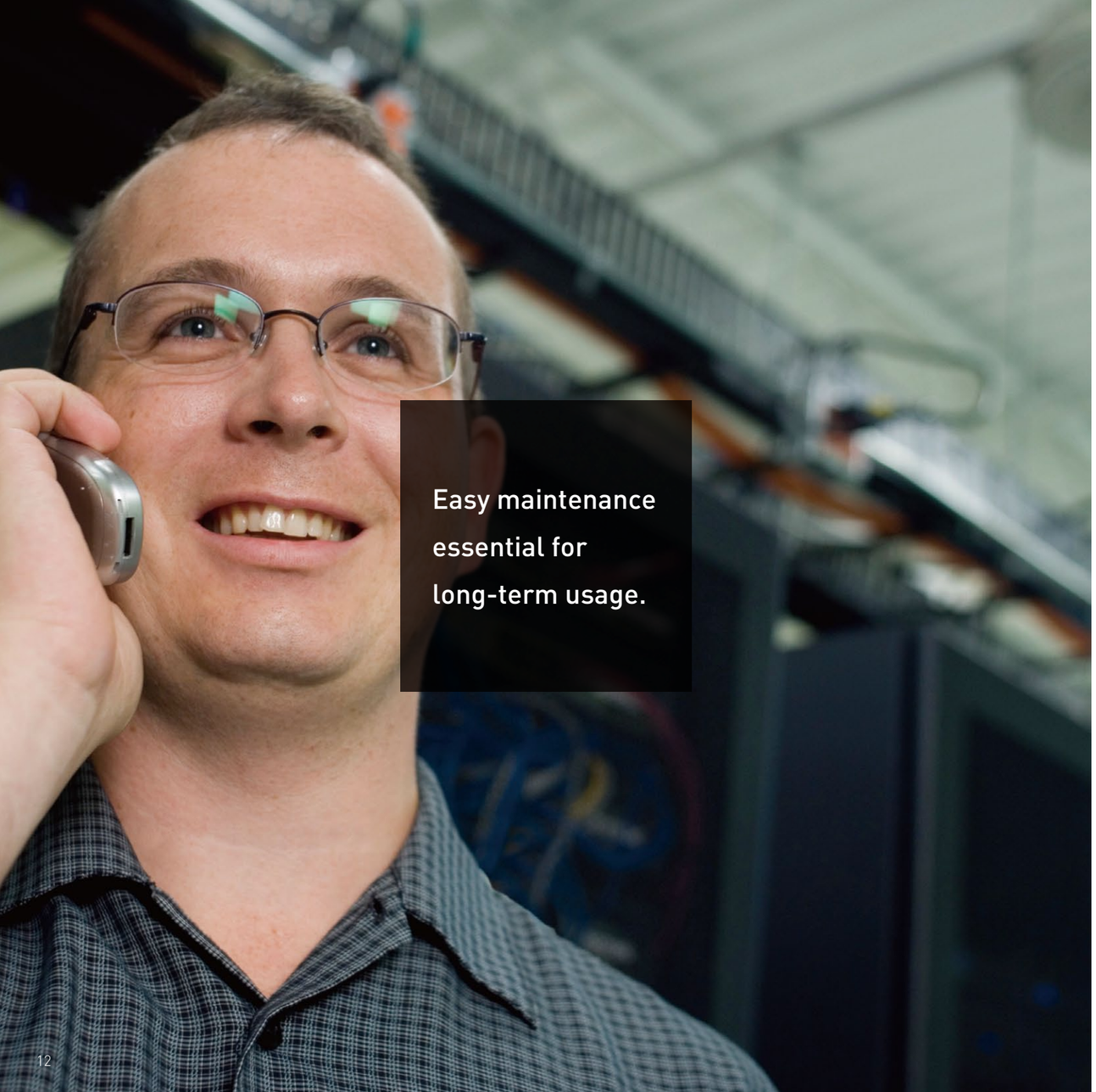
Superb
accessibility
for information
asset utilization.

Dedicated software for smart data management.

Compatibility with existing IT systems and easy operation are important considerations when installing a new system. The dedicated software, Data Archiver Manager, allows easy connection to an existing IT system via LAN. Data Archiver Manager enables management of multiple Data Archiver units and all Data Archiver Magazines as a single logical volume. This allows intuitive operation for accessing data without having to worry about data storage locations, such as which Magazine contains the necessary files. The software also supports Linux, so an object storage system can be configured for archiving large amounts of unstructured data.

Compatible with the file systems used by conventional storage devices and also adaptable to object storage for archiving large amounts of data





Easy maintenance

Replacement of consumable parts and maintenance of failed equipment are generally cumbersome and costly.
The Data Archiver is designed for easy maintenance to ensure trouble-free operation for an extended period of time.
Since parts can be easily removed and reinstalled, maintenance costs and system downtimes can be minimized.

Replacement of Magazines

Data Archiver Magazines can be replaced easily in units of Drawers. In the event of an emergency, data can be taken out and physically transferred by the Magazine and stored at room temperature, which is useful for BCPs.

Replacement of Modules and Units

Main components, including a Bottom Module, Writer Units, and a Magazine Carrier Elevator can be replaced easily without removing the system from the rack. Since this eliminates the need to disassemble the rack, periodic maintenance can be performed in a short time and at a low cost.

Reliable data archiving for a wide variety of businesses.

IT Firms	Electronics, LSI	Car Manufacturing	Aerospace	Pharmaceuticals
• Cold data • Cloud data centers	• Development and design data	• Development and design data	• Development and design data • Service and maintenance records	• Research and development data
Plant Engineering	**Construction/ Civil Engineering**	**Health Care**	**Banking/ Finance**	**Media/ Entertainment**
• Plant design data • Maintenance data	• Design data and construction data	• Medical imaging • Electronic medical records	• Transaction logs	• Movies • TV programs
Education	**Research Organizations**	**Government**	**Libraries, Museums**	**Police**
• Teaching materials • Research data • Student and faculty data	• Experimental data • Research data	• Government records, documents	• Digital content • Exhibit information, ownership record	• Videos of interviews and surveillance systems

Main Specifications

■ LB-DH8 Series Data Archiver

Model name	Data Archiver	
Series name	LB-DH8 Series	
Model number	Base Module	LB-DH80A0G (SAS model) LB-DH80S0G (iSCSI model) LB-DH80F0G (FC model)
	Bottom Module	LB-DH81Z0G
	Extension Module	LB-DH82Z0G (without Writer Unit) LB-DH82A0G (with Writer Unit, SAS model) LB-DH82S0G (with Writer Unit, iSCSI model) LB-DH82F0G (with Writer Unit, FC model)
Dimensions (Base Module)	19" rack (EIA) supported	
	Width: 447 mm (not including protruding parts), 482 mm (including protruding parts) Height: 262 mm (not including protruding parts), 264 mm (including protruding parts) Depth: 917 mm (not including protruding parts), 927 mm (including protruding parts)	
Weight (excluding Magazines in the unit)	Base Module	Approx. 45 kg
	Bottom Module	Approx. 22 kg
	Extension Module (without Writer Unit)	Approx. 29 kg
	Extension Module (with Writer Unit)	Approx. 44 kg
Power supply	24 V DC	
Host interface	SAS, iSCSI, or FC (to be selected)	
Management interface	LAN, USB 2.0, I/O port	
Number of Writer Units	1 to 7	
Number of installable Magazines per Module	Up to 76	
Storage capacity per Module	Up to 91.2 TB (when RAID 0 is applied)	
Data transfer rate per Writer Unit	Up to 216 MB/sec (when RAID 0 is applied)	
Functions	Encryption: XTS-AES256, RAID: RAID 0, RAID 5, RAID 6	
Usage environment	During operation: 10°C - 40°C, 20 % - 80 % RH (no dew condensation) During transportation: -20°C - 60°C, 10 % - 90 % RH (no dew condensation)	
Example of combination	Minimum configuration (10 U, 76 Magazines, 1 Writer Unit): LB-DH80A0G x 1 unit, LB-DH81Z0G x 1 unit	
	Maximum configuration (46 U, 532 Magazines, 7 Writer Units): LB-DH80A0G x 1 unit, LB-DH81Z0G x 1 unit, LB-DH82A0G x 6 units	

■ Data Archiver Manager

Model name	Data Archiver Manager (software)
Supported OS	Microsoft® Windows Server® 2008 R2 (64-bit) Standard Edition
	Red Hat® Enterprise Linux® 7, CentOS 7

■ Data Archiver Magazine

Model name	Data Archiver Magazine		
Model number	LM-BM12LB5 (5 Magazines)	LM-BM12LB16 (16 Magazines)	LM-BM12LB30 (30 Magazines)
Dimensions	129.5mm (W) x 20.8 mm (H) x 131.3 mm (D)		
Weight	Approx. 300 g		
Built-in disc	BD-R XL 100 GB 12 discs		
Storage capacity	1.2 TB		