

WonderCube<sup>®</sup>

STORAGE SYSTEM



Server and Blu-ray Library archive.  
Quick and safe.  
Unlimited storage.  
File sharing over the network.

**SD/HD**

**MW-N**

**JVC**  
The Perfect Experience



# WONDERCUBE® STORAGE SYSTEM

## Professional digital archives

The WonderCube® Storage System is a professional digital archive system and advanced user-customizable databases.

Digital storage of documents, images and/or audio visual files is the key to every company's development. A digital archive system instantly changes workflow. Everything becomes easier and quicker. Each and every document can be consulted in real time, from the comfort of your own office, and just a mouse click away. The reduction in running costs, control of access and minimum spaces given over to the archives, are just some of the many, great advantages of the WonderCube® Storage System.

### Server and Library (DVD and Blu-ray) archiving.

The WonderCube® Storage System combines the flexibility of the server with the unique, innovative technology of the Library.

Archiving to DVD and Blu-ray Library guarantees:

1. reduction in storage costs;
2. unlimited storage space;
3. simultaneous multi-user access;
4. archive sharing over intranet or internet;
5. automatic copies and archiving;
6. anti break-in system logic;
7. unaltered quality of documents and audio-visual file, even after several consultations and/or downloads.

#### 1. Reduction in storage costs.

The limited cost of optic support (DVD or Blu-ray) brings about a significant reduction in storage costs. A minimum investment allows you to create back-up copies of the entire archives to be stored off-line, but that are immediately available should need be.

The use of DVDs or Blu-ray as storage media also reduces the space necessary to contain the archives and, consequently, the whole system running costs. Each Library takes up a minimum amount of space: the 600 media model (30 TB with Blu-ray 50 GB media), takes up just over 34 x 64 cm base and 1,60 m height.

Network access to all archived material reduces consultation times, with an immediate saving in staff costs.

#### 2. Unlimited storage space.

The standard version of the WonderCube® Storage System is the result of linking the server, for short-term storage, to the 600 media Blu-ray - Library, for permanent storage. Total capacity is more than 30 TB high resolution images. Each archive is expandable by simply adding a new Library, today available in the following versions:

- 100 media;
- 200 media;
- 600 media.

DVDs or Blu-ray discs are the digital storage media. Today, DVDs are available with storage capacities of 4.7 GB and 9.4 GB, as well as 25 GB and 50 GB Blu-ray discs. The 100 GB and 200 GB Blu-ray is scheduled for release in 2009, which will then increase the Library capacity to 120 TB.



#### 3. Simultaneous multi-user access.

The flexibility of the databases linked to the system makes it possible to consult the archives even in low resolution and with the simultaneous access of more than one user, via internet or intranet. Advanced cryptography identifies the accesses and allows the company to customize priority and means of access to archived data.

The number of drives in each Library can be increased in order to optimize file copy times. The central server allows for the routing of the files required.



#### 4. Archive sharing over intranet and/or internet.

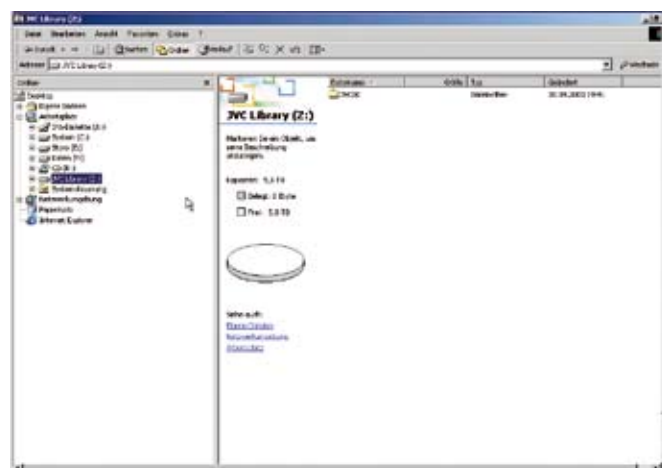
The database search is structured to facilitate remote consultation of the archives in low resolution, via intranet and internet. The chosen material is downloaded in high resolution at a later time.

#### 5. Automatic copy and archiving.

The WonderCube® Storage System has been designed to provide complete, automatic storage.

The MW-N developed software allows for managing the copying to disc directly within the Library. The user can therefore never come into contact with the media, but can easily access its contents.

The Library can be seen by the operating system also as a local drive or LAN via FTP protocol, maintaining Windows functions as "drag&drop" and "cut&paste"; The Library can be used from any application with no change in workflow and no further software.



## STORAGE



### STORAGE AND CATALOGUING OF ITEMS ARCHIVED.

1. Compilation of archive form with meta-data relating to the document to be archived.
2. Digitalization of document (audio, video or text) in high resolution.
3. Link of archive form to file/s.
4. Generation of low resolution for immediate network consultation.

### LIBRARY PERMANENT STORAGE.



### TEMPORARY STORAGE TO RAID SERVER.



1. Hierarchical organization of folders depending on users and applications.
2. Data flow management.
3. Storage and sharing of documents.

1. Automatic copy of media.
2. Automatic placement of media in the Library.
3. Storage and sharing of documents.



## SEARCH



### SIMULTANEOUS SEARCH AND CONSULTATION BY SEVERAL USERS VIA INTRANET OR INTERNET.

1. Identification through user name and password.
2. Search by field and key words.
3. Low resolution preview of documents archived.
4. Request for high resolution files.
5. Automatic file transfer over the network.

## 6. Anti break-in system logic.

A fundamental feature of each archive is the safety and impenetrability of the system.

The WonderCube® Storage System has been designed to be impenetrable to both deliberate and accidental attack and alteration. It combines the flexibility of a server storage system with the reliability and safety of Library archives.

### A. Protection from deliberate alteration.

- Each archived file is digitalized in high resolution on optic DVD or Blu-ray media. The disc is then read-only and cannot be deleted or overwritten, as it is a passive version of the source. The attacker can therefore act on the file only once it has been copied to a local source, and can never attack the 'master copy' on the disc.

- The Library is also equipped with an anti break-in system. Each access is subjected to a security system, and even the simple manual removal of media is made impossible. Given the extremely low cost of recording media (DVD and Blu-ray), a second, redundant archive can be created and, for even greater security, placed and protected at an alternative site.

### B. Protection from accidental alteration connected to support handling.

- Archived media safety is guaranteed by the innovative 'cluster' system organization. 'Clusters' are 'bins' each containing 50 discs. Each archive has a memory of all the system clusters, both those within the machine and outside it. When a cluster is replaced, the Library recognizes the change and updates automatically with the data contained within the 50 discs of the new cluster.

- Each disc is also placed on a specific 'data tray'. This small 'tray' supports the media through every robotic movement, so as to ensure that the surface can never be damaged.

## 7. Unaltered quality of archived documents and videos.

Archiving to optical disc guarantees an unaltered digital quality for an unlimited number of file consultations and copies. No more demagnetized tapes and ruined documents. The low cost of media and automatic management of archiving makes the WonderCube® Storage System the ideal solution for all types of digital storage.



## FEATURES AND FUNCTIONS OF THE WONDERCUBE® STORAGE SYSTEM

|   |
|---|
| <b>Features of digital storage:</b>                     |
| Access through identification code and password         |
| Simultaneous multi-user access                          |
| Differentiation between user profiles/application       |
| Automatic management of transfer priorities             |
| Automatic file transfer over the network                |
| Copy and MD5 correspondence control                     |
| Viewing of Library contents                             |
| Automatic management of media placement within Library  |
| Direct, user-controlled copy                            |
| Timed, programmed, automatic copy                       |
| Automatic file splitting/merging                        |
| Anti break-in system                                    |
| User operation reports                                  |
| Automatic recognition of clusters and media             |
| Automatic check of media integrity                      |
| Generation of preview of archived files for easy access |
| Free choice of storage to server or Library             |

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| <b>RAID server:</b>                     |
| 1.5 TB RAID server                      |
| (Expandable according to configuration) |

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| <b>Library configurations and options:</b> |
| 100 media version                          |
| 200 media version                          |
| 600 media version                          |
| Library version with integrated NAS unit   |
| Flip support for use of dual face media    |

|                                     |
|-------------------------------------|
| <b>Library connectivity:</b>        |
| SCSI connection                     |
| 1 Gbps (1000 Mbps) Gigabit Ethernet |
| Optic fiber                         |

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| <b>Supported drives (read + write):</b> |
| CD-DVD drives                           |
| Blu-Ray-DVD drives                      |
| Support up to 6 drives                  |

|                         |
|-------------------------|
| <b>Supported media:</b> |
| 650 MB CD-R             |
| 700 MB CD-R             |
| 700 MB CD-RW            |
| 4.7 GB DVD-R            |
| 4.7 GB DVD+R            |
| 9.4 GB DVD-R            |
| 4.7 GB DVD-RW           |
| 4.7 GB DVD+RW           |
| 25 GB SL BD-R           |
| 25 GB SL BD-RE          |
| 50 GB DL BD-R           |
| 50 GB DL BD-RE          |



# MW-N

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