

WHITE PAPER

SONY LIB-81 AUTOLOADER

Achieving an Industry First:

3.2TB Native, 8.3TB Compressed¹ Capacity in a “1U” Form Factor

Presented By

SONY

NOVEMBER 2006

1. GB means one billion bytes. TB means one trillion bytes. Compressed capacity and transfer rate using 2.6:1 ADLC. Actual capacity and transfer rate may vary.

Sony has a long history of providing state-of-the-art archival products and solutions in small form factor, space efficient designs. The LIB autoloader family and AIT tape drive and media technology have demonstrated this capability over the years and continue to be extended and improved to meet evolving customer needs for high capacity, extreme density and easy to use archival solutions. For example, the latest configuration of the LIB-81 autoloader (1 drive, 8 tape cartridges) incorporating the new AIT-5 tape drive, provides an unparalleled 8.3TB of compressed (or 3.2TB native) capacity¹ in a 1U rack-mount form factor. The LIB-81 itself has been in customer service for several years and provides a feature-rich, field-proven product line. Some of the distinctive features of the LIB-81 are:

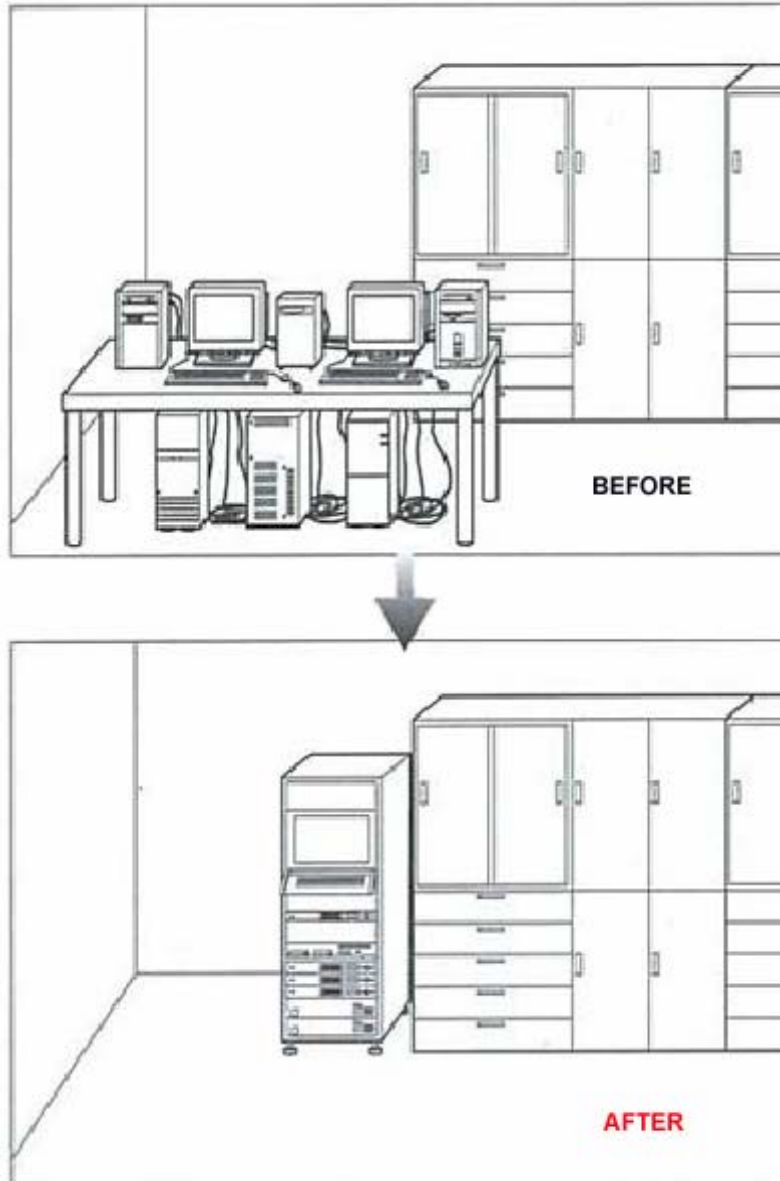
- 19" rack-mount, 1U high for the ultimate in data density.
- 1 drive X 8 tape cartridges
- 8.3TB compressed (3.2TB native) capacity¹ (with AIT-5).
- Supports AIT-5, AIT-4, AIT-3Ex, AIT-3 or AIT-2 for added flexibility.
- 225GB/hr compressed (86GB/hr native)¹ data transfer (with AIT-4 or AIT-5).
- Fast media load saves time and complexity.
- Supports multiple media sensors: Barcode and Remote MIC (Memory-in-Cassette) for positive identification and media management.
- Robust media carousel with multiple sensors and tape guides for added reliability.
- LCD backlit screen and keypad for ease of use.
- Web browser based graphic user interface for remote monitoring and control.
- Reliable (> 1M media swaps) for long service life.
- Surpasses international (RoHS) environmental standards.
- Warranted and serviced by Sony.



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THE NEED FOR SPACE-EFFICIENT BACK-UP SOLUTIONS

As the trend to much smaller, space-efficient computing environments continues, there is an increasing need for back-up and archival solutions to better fit into this customer application. In particular, servers, storage and network devices continue to be designed for low-profile, 1U rack-mount installations in order to accommodate space constraints, better flexibility, greater scalability and lower cost of ownership. In this environment, small to medium businesses and workgroup customers are looking for archiving solutions that meet these needs, while offering the best possible capacity, performance and operating simplicity.

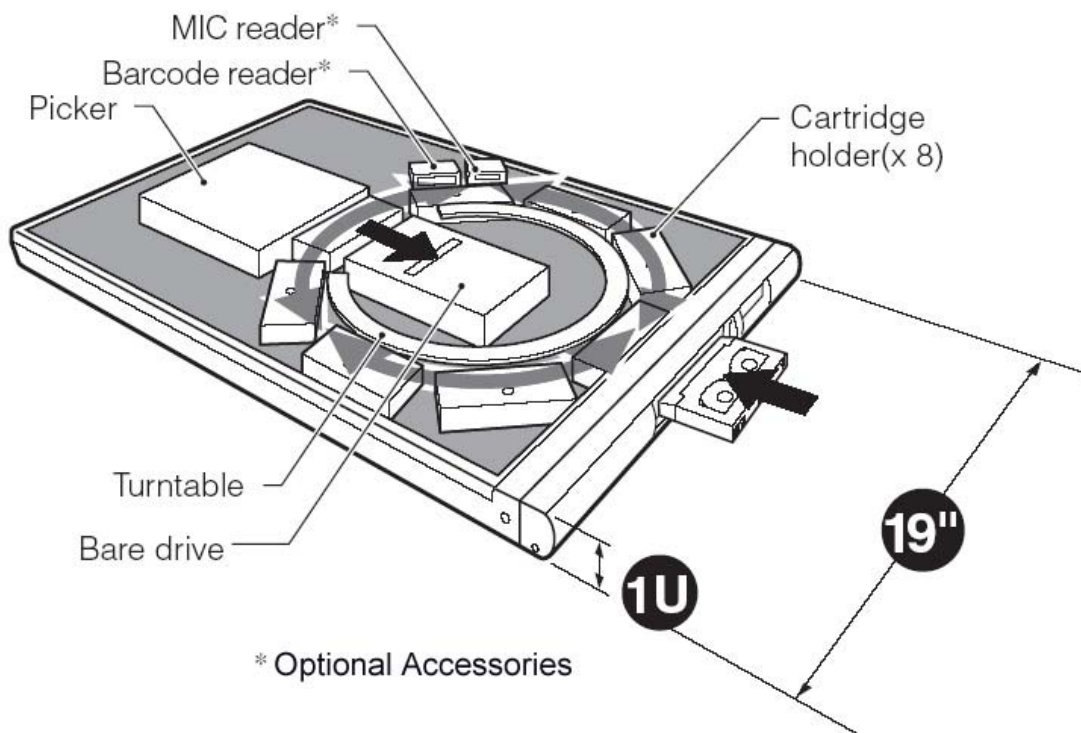


ACHIEVING AN AMAZING 8.3TB COMPRESSED CAPACITY

To accommodate the customer demand for low-profile, rack-mount solutions, Sony introduced the industry's first 1U, LIB-81 autoloader (8-cartridge, 1 drive) several years ago and has now updated it with its fifth generation of AIT (AIT-5) to deliver an unprecedented 8.3TB compressed, 3.2TB native¹ of unattended capacity. Designed for simple and reliable archiving applications, the LIB-81 provides a feature-rich, entry level unattended back-up solution that can keep pace with the explosive data growth in the industry. While others promise a high-capacity, 1U autoloader, none can come close to the data density of Sony's LIB-81, AIT-5 combination².

AN UNCOMPROMISED, FIELD PROVEN SOLUTION

Since the back-up, archiving and recovery of mission-critical data is too important for compromises, the LIB-81 family of solutions is designed with key features, such as enhanced media identification and tracking, a full LCD display with keypad, remote network access, and fast media load/unload. The major sub-assemblies, such as the carousel, power supply, motors and cartridge robotics were designed for rugged operation and have been in service, and application-proven, over the past several years.



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2. Based on manufacturer published specifications as of October 2006

DESIGNED FOR RELIABILITY AND INTEGRITY

- Carousel Media Guide prevents media misalignment and ensures positive retention.
- Dual Carousel position sensors improve media access reliability and performance.
- LCD/Panel Lockout improves security and integrity.
- Rugged, all-metal chassis provides greater reliability and longevity.
- Optional dual-cartridge sensing (Barcode, R-MIC) improves media positioning accuracy and integrity.
- Robust and proven robotic picker ensures gentle and reliable cartridge handling.

DESIGNED FOR EASE OF USE

- Cartridges can be inserted and ejected from the front panel one by one. An alternative “Multiple-Mode” method allows fast, sequential insertion of the media.
- Chassis dimensions are “undersized” to permit easy user installation and alignment.
- 128x32 pixel LCD backlit screen provides clear and easy-to-read status. A 5-button keypad provides simple operator access to key autoloader functions.
- The library robotics continuously communicates with the drive and displays real-time operational information on the LCD screen.
- The web-based browser interface provides remote library status and cartridge information, diagnostic initiating, as well as a firmware upgrade capability for the autoloader.
- Barcode Reader available as an optional accessory.

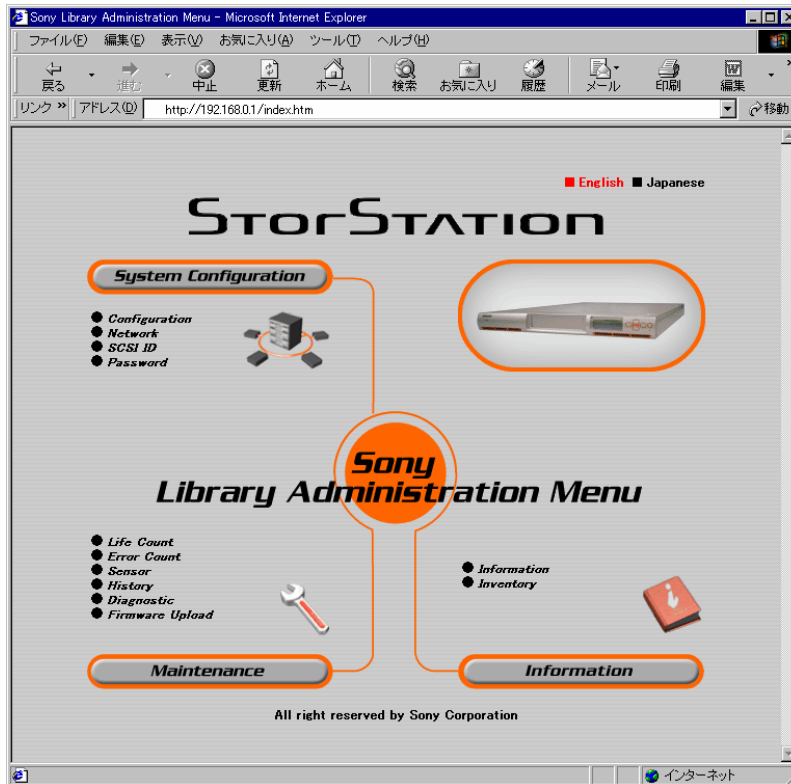
REMOTE MANAGEMENT AND CONFIGURATION SUPPORT

The LIB-81 offers web-based browser access to the LIB-81 through a standard ethernet connection. This permits remote configuration and management of the autoloader as well as self-diagnosis, and firmware upgrades. In many cases, servers, tape autoloaders and libraries are “back office” appliances and not easily accessible to users. To overcome this, Sony has included a full-feature, web-browser based, remote user interface available over a 100 Base-T Ethernet connection. This capability allows authorized users to remotely:

- Manage media, including inventory status.
- Monitor library operational status including media and drive usage history and initiate diagnostics to identify future maintenance requirements.
- Identify LIB-81 firmware revision status and upgrade firmware as needed.

Having these features available through remote access reduces potentially costly service interruptions and maintains the integrity of the archival process without manual user intervention.

Following is a representation of the Library Administration menu for remote autoloader management and control.



Sony Library Administration Menu Screen

WARRANTY, SERVICE AND SUPPORT

In order to support various customer needs and capabilities, Sony offers a range of service offerings for the LIB-81, beyond the basic 3 year, Return-to-Service Center warranty. These expanded offerings include:

Equipment Exchange – for up to 5 years

- Standard Exchange – replacement unit shipped next business day when requested by 12:00PM any business day.
- Advance Exchange – replacement unit shipped next business day when requested between 8:30AM and 5:00PM any business day.

On-Site Service – for up to 5 years

- Basic Service – 8:30AM through 5:00PM any business day (next business day response).
- 24/7 Service – 24 hours per day, 7 days per week (4 hour response).

PRODUCT DESCRIPTION AND SPECIFICATIONS

General

Form Factor	1U / 19 inch rack
No. of Drives	1
No. of Cartridges	8
Supporting Drives	AIT-2, AIT-3, AIT-3EX, AIT-4 and AIT-5
Max Capacity	3.2TB (native), 8.3TB (compressed) ¹ (AIT-5)
Max Transfer Rate	86.4GB/hr (native), 224.4GB/hr (compressed) ¹ (AIT-4, AIT-5)
Interface	Drive: Ultra 160 SCSI/LVD Robotics: Wide Ultra SCSI/LVD HD 68pin(2)

User Interface

LCD/Keypad
Browser-based/Ethernet remote access

Media Management

Barcode Reader
R-MIC Reader

Dimensions/Weight

Dimension 16.0 x 1.7 x 26.8 inches
Weight 29 lbs.

Reliability

MSBF more than 1, 000,000 media swaps
Air Filter Standard

Operating Conditions

Temperature Operating: 10°C to 35 °C
Non-operating: -40°C to 60°C
Humidity Operating: 20% - 80 % (non-condensing)
Non-operating: 10% - 90%

Power Requirements

Power Supply AC100-240V ±10%, 50/60Hz
Power Consumption Max 55W (AIT-5)

Safety/Regulatory/Environmental

- Safety - UL/cUL60950 3rd Edition/CSA C22.2 No. 60950-00, TUV EN60950, CB IEC 60950.
- EMI - FCC part 15 Class B, EMC Directive 89/336/EEC, 92/31/EEC, VCCI Class B, EMC Framework AS/NZS 3548 Class B, Korea EMC, Taiwan EMC.
- LIB-81, AIT drives and media all meet or exceed international (RoHS) environmental standards.

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SUMMARY

Sony understands that many customers have significant space and operational constraints within their computing environments and Sony has risen to the challenge by providing an ultra-slim, 1U tape autoloader without compromising capacity, reliability and operational simplicity. The combination of the AIT-5 and LIB-81 delivers an incredible 8.3TB compressed / 3.2TB native capacity¹ in a field-proven, feature rich, 1U autoloader mechanism, making it the ideal back-up and archiving companion for small to medium businesses and workgroup applications.

For more information visit:

www.sony.com/storagebysony

www.sony.com/storagemedia

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