CDL - CD-ROM jukebox Frequently Asked Questions

What is Jukebox / Library?

In data storage terms, a jukebox or library is a collection of data storage drives along with a large number of removable storage media and a mechanical robotic mechanism for loading the media into the drives. The storage medium is removable and can be optical storage disks such as Magneto Optical, CD-ROM or CD-R, Write Once, or tape storage.

The robotic mechanism, along with some form of jukebox management software, allows for the automated loading of media into drives without the intervention of the user. The jukebox mechanism takes commands from the host system and retrieves files as requested by the users on the system.

When would a CD-ROM jukebox be the storage device of choice?

When data storage requirements are large, typically hundreds of gigabytes or even terabytes, where the data needs to be accessed by a large number of users, and/or the users share data storage over a network.

What are the advantages of CD-ROM or CD-R technology in a jukebox?

Compatibility
Because of the large installed base of CD-ROM readers in the consumer and business market, CD-ROM technology provides a high level of compatibility between systems and allows for easy sharing of data.

Low Cost Per Megabyte
CD-R, as a recordable storage medium, has a low cost per megabyte - about half that of 5.25" Magneto Optical or 12" Write Once disks.

Compact Size
Because of the small form factor of CD-ROM and CD-R discs, the jukeboxes can be very compact. The CDL-2200 model holds about 146 GB of data in the same space as 52 GB of data in a comparably sized Magneto Optical jukebox

Archival Recording

CD-R recording is a write once technology. When data is written, it cannot be erased or altered. This feature is particularly applicable to data which must be kept for long periods and will not be modified or changed, including such applications a medical records, law enforcement, and financial records. Also, CD-R media has a long archival storage, with media manufacturers quoting figures ranging between 10 and 100 years of data integrity.

Aren't jukeboxes slow compared to other storage devices?

Because data stored in a jukebox us only in the disc drive when it is requested, it is not instantly available as it would be if stored on a hard disk drive or hard disk array. For this reason, jukeboxes are referred to as "near-line" storage. However, because jukeboxes are typically used to store data which is required on a less frequent basis, the extra delay in retrieving data is compensated for by the lower storage costs.

Additionally, since jukeboxes or libraries are usually used on a network and shared by a number of users, the network transmission speed lessens the impact of the slower response time of jukeboxes.

How fast is the CDL CD-ROM jukebox?

Although there are no set standards for judging performance of a jukebox, the disc exchange time is one method of determining the speed of an optical jukebox. The CDL jukeboxes have a disc exchange time of less than 4 seconds making it one of the fastest CD-ROM jukeboxes on the market.

This measures the time to remove a disc from a drive, return it to a storage slot, pick a new disc and insert in into a drive. This time does not include the time required for the drive to spin down before removing a disc or the time to spin up and read a disc once it is inserted into a drive.

What type of drives are in the Fyla™ CD-ROM jukeboxes?
The CDL-2000 series jukeboxes are currently delivered with 4X CDU-76S CD-ROM drives and 2X(Write)2X(Read) CDU-920S CD-R drives. Standard configurations are 4 or 6 drives - 4 or 6 CD-ROM, 2 CD-ROM and 2 CD-R, or 4 CD-R. The CDL-2100 and 2200 models can accommodate up to 6 drives maximum (200 discs maximum in a CDL-2200-60)

As of June, the Fyla will be available with the new 8X - 12X CD-ROM drives and 4X Write - 6 X Read CD-R drives. These drives are made by Yamaha, which you can reveal to the customer IF THEY ASK.

Why are there different drive configurations and numbers of drives?
Depending on the user's requirements the number of discs and drives can be varied to accomplish specific performance goals. If a network is large and many users need access to data frequently, a larger number of drives would improve performance. This can also be expressed in a disc to drive ratio. In the CDL2100-60 with 125 discs and 6 drives, the disc to drive ratio is about 20:1.

If maximum capacity is required and access to data is less frequently, the CDL jukebox can be configured with more discs and fewer drives. A CDL2200-20 can store a maximum of 250 discs (162 GB) with 2 CD-ROM drives, for a disc to drive ratio of 125:1.

The Fyla CD-ROM / CD-R jukeboxes provide the greatest level of configurability in the 100-250 disc jukebox category, allow users to tailor the jukebox to meet their specific system needs.

With which operating systems are the CDL jukeboxes compatible?
Sony is working with a large number of CD-ROM jukebox software providers to ensure functionality on a variety of operating systems, including:

Novell Netware®, Windows® NT, Mac® OS, and a large selection of UNIX® based systems.

A complete list of certified software providers will be available through Sony.

What interface is used on the Fyla jukeboxes?
The CDL-2000 series utilizes a standard SCSI-2 interface. Each drive in the jukebox utilizes one SCSI ID and the robotics is assigned a SCSI ID. For example, the CDL-2200-40 with 4 CD-ROM drives requires the assignment of 5 SCSI Ids. This can be done through the LCD control panel on the jukebox - no DIP switches need to be set manually.

The Fyla can also accommodate up to 3 independent SCSI buses, allowing CD-R drives to be put on their own separate bus for better performance.

Will the Fyla jukeboxes be upgradeable?
Fyla jukeboxes are expandable in both the number of drives and number of discs stored. For example, a CDL-2100-40 with 125 discs and 4 drives can expand in capacity to hold up to 225 discs, or can expand in the number of drives to a maximum of 6.

Because of the standardization of CD-ROM technology, as new drives are developed, it will be possible to replace the drives in the current jukebox with faster CD-ROM and CD-R drives as they become available.

Does the Fyla jukebox use caddy type or tray type drives?
Because of the requirement to store the maximum of discs in a minimum of space, and also to provide a fast robotic mechanism to pick up discs and insert them into drives, Sony modifies the drives used in the jukebox to utilize a special low profile carrier. This carrier is only about 3.6mm thick and allows the robot picker to safely and quickly handle the disc.

Can you purchase any CD-ROM drive us use in the Fyla CD-ROM / CD-R jukebox?
No, because the drives are modified for the special carriers and are also ruggedized for use in a jukebox application, upgrade or replacement drives must be purchased specifically for the jukebox through a Sony reseller.

CDL1100 Desktop Library

How much is the CDL1100?
Prices is $2995 Suggested Retail Price. This includes the 2 drive, 100 disc Desktop Library SCSI terminator, AC power cord, manual and software to connect to single user systems running Windows 95 and Windows NT. The included software is developed by Smart Storage of Andover MA.

What about network connectivity?
The CDL1100 is designed as a network storage device. It may be use on small networks of 2 to 5 people where access is less frequent and access time less critical. There will be upgrade software offered by the software developer to allow network connectivity to Windows NT and Novell Netware at an additional cost.

What other platforms are supported. At this time, only the operating systems listed above are supported, but many companies have indicated interest in developing jukebox management software for this product, including for the Mac OS through MacPeak.

How many discs can the CDL1100 hold?
The CDL1100 has a capacity of 100 discs for a total of 65 GB.

Does the CDL1100 use removable disc magazines?
No. Loading is accomplished through the mailslot where each disc is inserted and loaded into each slot by the robotics mechanism. Loading of all 100 discs take about 20 minutes.

How many drives in the CDL1100
2 CD-ROM drives, 8X-12X speed.

Can the CDL1100 be upgraded to newer drives in the future?
Not at this time. New drive technology will be offered in new version of the library in the future.

What about CD-R in the CDL1100?
There is no specific plan at this time.