prices from the introductory rate of $1,750 to $650 annually for the quarterly updates, and from $2,000 to a $900 one-time charge for their backfiles).

Could libraries share disks? Probably not, but again this may differ with each publisher. When asked about their policies concerning conditions of usage, publishers gave answers ranging from "no restrictions" to "copyrighted" to "public domain" to "standard software licensing agreement" to "use restricted to workstation level."[6] Information providers expressing concern over how to maintain control over "their" data need to work on this issue with librarians.

Is this technology here to stay, or is this just a fad? Do you think the glass is half-empty or half-full? No one can predict what will happen with optical technology. New processes and applications are being discovered all the time. The new CD-I formats may influence the CD-ROM formats. Prices for CD-ROM databases may fall to reasonable levels. Omnidrives which can play CDs, video formats, and WORM formats may be invented.[7] The situation in some libraries may indicate that using certain databases on CD-ROM is less expensive than accessing them online. What do you think? ■■

[6]Helen Gordon, editor's note in Bruce Connolly, "Laserdisk Directory: Part I," *Database* 9 (June 1986):15.

[7]*Optical/Electronic Publishing Directory 1986*, p. 19.

Planning for CD-ROM in the Reference Department

By Gail T. Graves

Head, Reference Department
University of Mississippi

Laura G. Harper

Head, Online Search Services
University of Mississippi

and Beth F. King

Systems Librarian
University of Mississippi

How to select software and equipment.

The decision to purchase CD-ROM databases requires a commitment from librarians to adapt to a new technology, to approach bibliographic instruction from a new perspective, and to stay abreast of developments in a rapidly changing field. This decision cannot be made hastily. Implementing this new service requires an initial commitment of resources for equipment and a revision of the materials budget to absorb considerable ongoing expenses.

The Williams Library at the University of Mississippi has a centralized Reference Department that provides primary service to all disciplines, with the exception of law, pharmacy, chemistry, and music. The library has offered a fee-based search service for ten years and acquired InfoTrac two years ago. The head of reference and the online search coordinator had observed the development

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of CD-ROM technology and were interested in introducing this new service to our campus. Together with other reference librarians and the systems librarian we discussed the impact CD-ROM would make on reference service, online searching, bibliographic instruction, and collection development. We also considered staffing needs, space requirements, and ongoing expenses for supplies and maintenance. We attended conferences, watched demonstrations, questioned vendors and other librarians, and became more strongly convinced of the desirability of making this service available to our students and faculty.

The opportunity for implementation came with an announcement in August 1986 of a competition for equipment grants through the University of Mississippi Associates Fund. Our grant application was approved with sufficient funding to purchase five CD-ROM workstations. Database subscriptions and workstation supplies will be purchased with funds from the library budget.

Selection of databases

Grant guidelines specified that the equipment must be used for research. Therefore, our primary consideration was to purchase CD-ROM versions of the databases most heavily used by the patrons of our fee-based search service. We were eager to offer our patrons access to these databases at no charge. The choices were obvious since the most popular databases here were among the first databases available on CD-ROM: ERIC, Psychological Abstracts, and Dissertation Abstracts.

ERIC is one of the least expensive CD-ROM databases and is currently available from DIALOG, OCLC, and SilverPlatter. OCLC and SilverPlatter prices are virtually identical at $1,199 and $1,200 respectively for an introductory package of archival disks plus a current quarterly subscription. Future quarterly updates are priced at $600 for OCLC and $850 for SilverPlatter. Unlike OCLC and SilverPlatter, DIALOG does not permit a one-time purchase of the archival disks. As a consequence, DIALOG prices for the complete, 1966 to present subscription are considerably higher, with a discounted introductory price of $1,450 and future subscriptions priced at $1,650.

We were also interested in PsychLIT, which is available only from SilverPlatter. A proprietary database, it is much more expensive than ERIC. A PsychLIT subscriber cannot purchase the archival portion, but must subscribe to it each year. Subscribers to the print index qualify for a discounted introductory price of $4,495 (as compared to $4,995) for the complete 1974 to present subscription, with a continuing subscription priced at $4,225. Although we felt that PsychLIT's pricing of the archival portion is unreasonable, because of the popularity of its online version we decided to try it for a year and gauge its use. After a lengthy deliberation we chose SilverPlatter as our ERIC vendor because of its pricing and because users would not have to learn two search protocols if they wished to search both ERIC and PsychLIT.

Dissertation Abstracts Ondisc is available solely from UMI. Like the others, it comprises several disks in archival and current portions. The archival portions (1881–1984) are available as a one-time purchase of $4,995, while the current portion (1985+) is available at $995. We were interested in acquiring Dissertation Abstracts because of its wide appeal to graduate students in all disciplines.

A secondary consideration in database selection was to provide up-to-date access to information about companies for the many business students served in the library. Database prices and our users' needs became important factors in evaluating available databases: Compact Disclosure, Datext Corporate Database, and Corporate and Industry Research Reports (CIRR). We discussed database features with business faculty. Compact Disclosure ($2,700) contains business and financial information on 10,000 companies that file 10-K reports with the SEC.[1] Datext has 10-K reports and full-text investment reports plus abstracted articles from business journals, executive biographies, and stock price and trading data.[2] The full Datext Corporate Database costs $12,250, including a modified Hitachi drive as part of the subscription. CIRR offers indexing for investment research reports on microfiche. Prices for the CIRR microfiche report collection range from $995 to $28,542 depending on the number of reports chosen, the update frequency, and the retrospective coverage desired. The CIRR index on CD-ROM is $1,750 for the first year, $1,500 for subsequent years. We chose Compact Disclosure on the basis of its anticipated high use and cost effectiveness.

Yet another consideration in database selection was to compare Wilsondisc to InfoTrac, which has proved quite popular here. InfoTrac indexes approximately 1,000 business, technical, and general interest periodicals from 1983 forward. Wilsondisc consists of twelve familiar Wilson indexes available on separate disks wiih varying prices and coverage. The Wilsondisc search software offers several choices in search sophistication, from simple subject heading searches like InfoTrac to menu or command driven searches using Boolean logic. Because of its simplicity and because it is contained on one twelve-inch laser disk, InfoTrac has an advantage in ease of use. A Wilsondisc patron must choose a database, place the CD-ROM in the drive, and choose a searching level before beginning a search. On the other hand, users who are seeking substantive articles on subjects other than business

[1]James R. Fries & Jonathan R. Brown, "Datext: Using Business Information on CDROM," *Online* 10 (September 1986):28–40.

[2]Michael Halperin & Ruth A. Pagell, "Compact Disclosure: Realizing CDROM's Potential," *Online* 10 (November 1986):69–73.

are usually disappointed in InfoTrac's coverage. Wilsondisc has a decided advantage in subject coverage if multiple indexes are acquired. Wilsondisc also offers a price advantage since a subscription to the InfoTrac database without the workstation costs $8,500, while subscriptions to five of the most popular Wilson indexes on disk would cost only $8,475 per year. We are in the process of evaluating Wilsondisc for possible purchase by acquiring a demonstration disk and participating in a 90-day free trial of *Reader's Guide* on disk.

Selection of hardware

Microcomputer and Printer. The same rule of thumb that applies to choosing other computer hardware can be applied to choosing CD-ROM hardware: choose your software; then buy the hardware that will run the software. The databases we selected all require an IBM PC or compatible. We were not ready to order equipment until six months after writing the grant proposal. In the meantime, the database vendors had changed their system requirements and our IBM representative had stopped selling the basic IBM PC. We have ordered IBM PC XTs, but have learned that IBM is phasing out this model as well. We considered buying PC clones, but many vendors could not comment on the compatibility of their product with clones. As the market expands and libraries experiment with other machines, more information should be available on this issue. Vendors should be willing to cooperate with libraries that have PC clones by allowing them to test databases on a trial basis.

Because we planned to install multiple workstations, we chose a hardware configuration that would accommodate all of the databases. We determined that each workstation would consist of an IBM XT with 840K of memory and a 20MB hard disk. Our choice of monitors was based on cost. We were able to afford only one color monitor, an enhancement but not a requirement for several databases.

We discovered that computers are packaged in many ways. We had to specify the type of monitor and adapters, the kind of ports, the number of floppy disk drives, and the expansion capability. Our basic question to vendors was "does this machine include everything needed to plug in a monitor and a printer, to install an interface card, and to plug in a CD-ROM drive?"

Our choice of printers was based on three considerations: noise level, price, and experience. We had found the Hewlett-Packard ThinkJet printers to be satisfactory for use with our InfoTrac workstations because they are quiet and easy to service.

Prices for computer hardware change almost daily. Our campus computer center informed us of available discounts, and computer magazines were helpful in finding prices of printers and interface cards. The computers with monochrome monitors cost us $1,127 each; the model with a color monitor cost us $1,430. For each computer we purchased a 20-megabyte interface card at $499. Each printer cost approximately $400 including an interface cable.

CD-ROM Drives. An essential peripheral for the CD-ROM workstation is the CD-ROM drive. This unit usually takes the form of a rectangular box, smaller than a CPU unit, which loads the disk from a drawer that slides out from the front or from a slot in the top of the unit. There are also internal CD-ROM drives on the market which are installed in the CPU unit in the space usually occupied by a disk drive. Unfortunately, CD-ROM technology is too new for any performance data on CD-ROM drives to have been compiled.

While there are several competing manufacturers of CD-ROM drives,[3] Hitachi and Philips are mentioned consistently in hardware specifications for CD-ROM databases. We confined our choice to these drives for that reason. Because security of the compact disk itself was a prime consideration, our first choice was a stand-alone Philips drive with a built-in lock. Retail prices for drives range from $760 to $1,695. Several database producers offer drives at reduced prices. We bought five Philips drives from SilverPlatter for $785 each. Because CD-ROM database software may be specific to type of drive, database orders should specify ihe drive to be used. CD-ROM drives require controller cards, which must be installed inside the computer. Accordingly, orders for drives should specify the inclusion of controller cards. The CD-ROM consumer should also be aware that certain drives are incompatible with certain IBM clone models.

CD-ROM technology is currently in its infancy and potential buyers are aware that no matter how carefully they evaluate the current products, their choices may be outdated in a year or less. A major difficulty with the current state of development is that only one user can access one disk at a time. This means that a staff member will be kept busy changing disks for patrons who wish to access older portions of the database. SilverPlatter's "Multiplatter" is one prototype under development that may hold the answer to this problem. The "MultiPlatter," if attached to a single PC, allows its user a choice of four disks to access. Alternatively, it can accommodate up to four PCs, but this configuration does not allow users to switch disks. It has four modem ports, which would allow dial-up access for remote users as well as access from the workstation to remote systems such as DIALOG or BRS. Other manufacturers are also working to solve these problems and may have a solution soon.

Safety and Security Devices. We considered surge suppressors an essential component of our

[3]Wes Nihei, "CD-ROM Resource Guide," *PC World*, April 1987, p. 256; and Linda W. Helgerson, "A Buyer's Guide to CD-ROM Drives," *CD-ROM Review*, October 1986, pp. 60–61.

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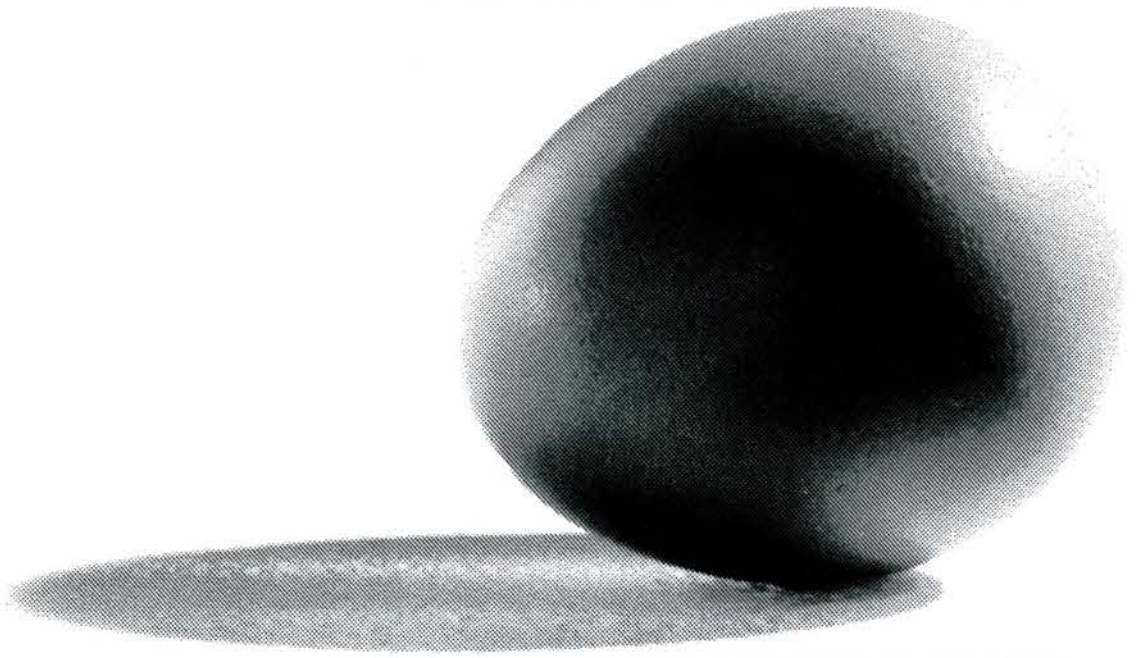

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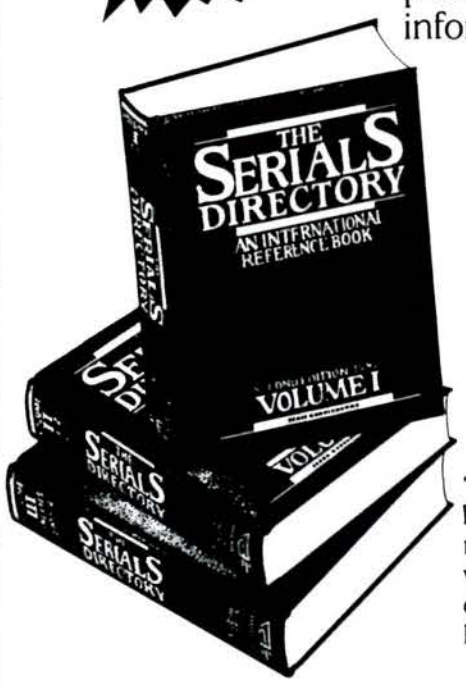

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CD-ROM workstations because our library is particularly vulnerable to power surges. We decided to follow the advice offered in two articles in the May 27, 1986, issue of *PC Magazine* and buy the DSF SurgeSentry at $119.95.[4]

Two issues to consider in choosing security devices are the security of the CD-ROM disk and the security of the hardware. After scouring computer supply catalogs and noting advertisements in library literature, it became apparent that there is nothing on the market that exactly fits the security needs of the CD-ROM workstation in a public access location. In our library, the workstations will be located beside the reference desk. There are eleven hours per week when the building is open and the reference desk is not staffed, so it is essential that the workstations be secure from theft and from unsupervised use.

The issue of security of the CD-ROM disks can be addressed in several ways. The disks might be issued to patrons in return for identification cards. Alternatively, one can purchase a locking CD-ROM drive and have a staff member load the disks. SilverPlatter's "MultiPlatter" offers the intriguing option of using a long cable to position the unit behind the reference desk or in an office some distance from the workstations.

[4]Winn L. Rosch, "Power Corrupts (But You Can Protect Your PC)," *PC Magazine*, 27 May 1986, pp. 107–13; and Phil Wiswell, "Surge Suppressors: An Ounce of Prevention," *PC Magazine*, 27 May 1986, pp. 115–46.

Computer supply catalogs offer a variety of anti-theft devices from piercing alarms to security cabinets. We liked the security cabinets and printer stands that came with our InfoTrac workstations. Upon contacting the manufacturer, Doss Industries in San Francisco, we learned that they could be purchased for $299. This system does not protect the monitor or CD-ROM drive.

An advertisement in *Small Computers in Libraries* alerted us to the existence of Armor Lock's "Datalok" ($113+) and "Flexlok" ($62+) systems.[5] The "Datalok" system consists of a bracket and tray that holds the CPU and is bolted to the table. The keyboard is secured with a cable through the coil and the monitor can be secured with a steel bracket locked into the tray. Peripherals can be attached with the "Flexlok" cable which is bolted into the casing of the peripheral. We decided to purchase this security configuration along with a PC security lock for the CPU switch ($34.95). For $5 per unit, Armor Lock agreed to a custom modification of the Datalok base to accommodate the PC security lock.

Conclusions

The total outlay for equipment for five workstations was $15,774 or approximately $3,154 per workstation. We will spend $14,385 the first year on four database subscriptions and two archival

[5]"Micro Tools," *Small Computers in Libraries* 7 (January 1987):39.

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purchases. At present rates, future subscriptions to these four databases will total $8,240 per year. Based on the present cost of supplies for our InfoTrac workstations, we estimate that a maximum of $1,300 per year will be needed for paper and ink cartridges for our five new workstations.

Choosing CD-ROM products for a Reference Department is a complex process. This rapidly developing technology has problems today that may be solved tomorrow. Vendors cannot answer every question and prices are subject to change. Several vendors offer demonstration disks that are helpful in making decisions and others send sales representatives to demonstrate their products.

Librarians who are willing to try out the new technology have the opportunity to make a major impact on product development. Librarians can provide information on making the databases more usable; vendors can provide information on obtaining hardware inexpensively. This is an opportunity for entrepreneurs to package computers especially designed for public CD-ROM use, to design security devices to protect all workstation components, and to write manuals for end-users. Most significantly, this is an opportunity for librarians to evaluate the effectiveness of CD-ROM technology in meeting the user's information needs. ■■

Charging for online search services in academic libraries

By Margaret L. Breen

Government Documents Assistant
Swarthmore College

Can you afford the high costs of free access?

Relatively recent technological advances have enabled many libraries to supplement their traditional information resources with online searching of national databases. This new service comes at great cost in terms of equipment, personnel, and access fees. Determining how these costs are paid has sparked heated controversy on a theoretical level and little concurrence on policy and procedure in actual practice.

The purpose of the traditional American library is to select, preserve and organize the records of human achievement which collectively represent society's "public knowledge."[1] The library and its services are perceived as public goods: they are funded through taxes and tuition money and exist for the good of the entire society. For these reasons, it is very difficult for people, often especially librarians, to accept the idea of charging fees to users of the new online searching services. On the surface it seems hard to justify creating two very similar end-products with two different price tags: a manually-created bibliography which is unquestionably free and an electronically-created bibliography which is rarely free and seldom cheap.

[1]National Commission on Libraries and Information Science, *The Role of Fees in Supporting Library and Information Services in Public and Academic Libraries* (Washington, D.C.: NCLIS, April 1985).