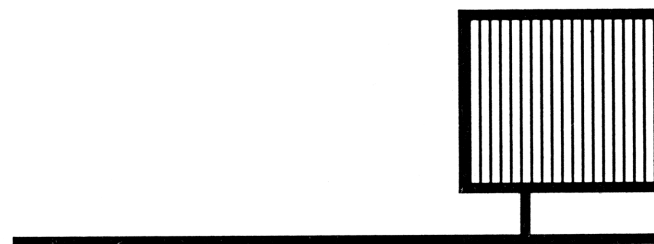


**CD - ROM**

Technology for Libraries



**TEXAS STATE LIBRARY**



**CD-ROM  
Technology for Libraries**

Participant Workbook

A Workshop Presented by

**Frank R. Bridge and C. Rebecca Garcia**

of the

Library Development Division  
TEXAS STATE LIBRARY

May 1988



## **Contents**

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## **CD-ROM Technology for Libraries**

Standards, Creation & Operation

Types of CD Products

Procurement Considerations

Vendor Demonstrations

CD-ROM vs. Other Media

Wrap-Up





## **CD-ROM Standards, Creation & Operation**

- √ Is it "Standard" ?
  
- √ How are CDs Made?
  
- √ How CD-ROM Works
  
- √ Other Products Using Related Technology



## **CD-ROM Standards, Creation & Operation**

√ Is it "Standard"?

\*Definition

Physical Level

Logical Level

Application Level

\* Red Book

\* Yellow Book

\* High Sierra Standard

\* Green Book

\* The Bottom Line

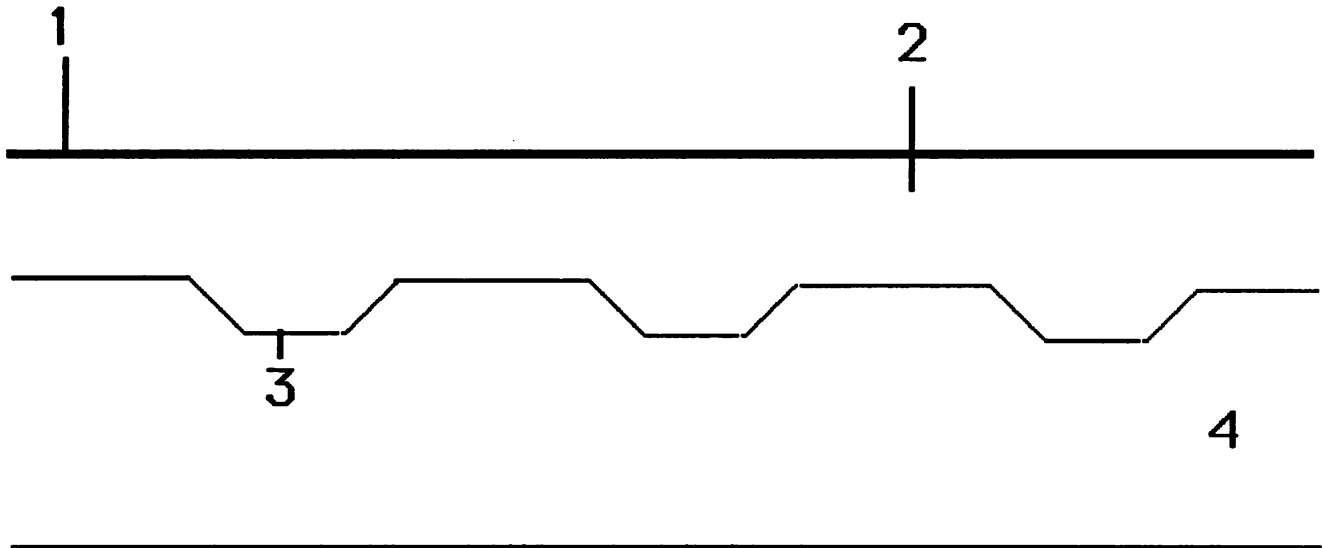


## **CD-ROM : Standards, Creation & Operation**

√How CDs are made

- \* Physical Makeup
- \* Information Encoding
- \* Cost & Time Factors
- \* Error Rate
- \* Durability





1 Label

2 Protective Coating

3 Reflective Coating --  
Recording Surface

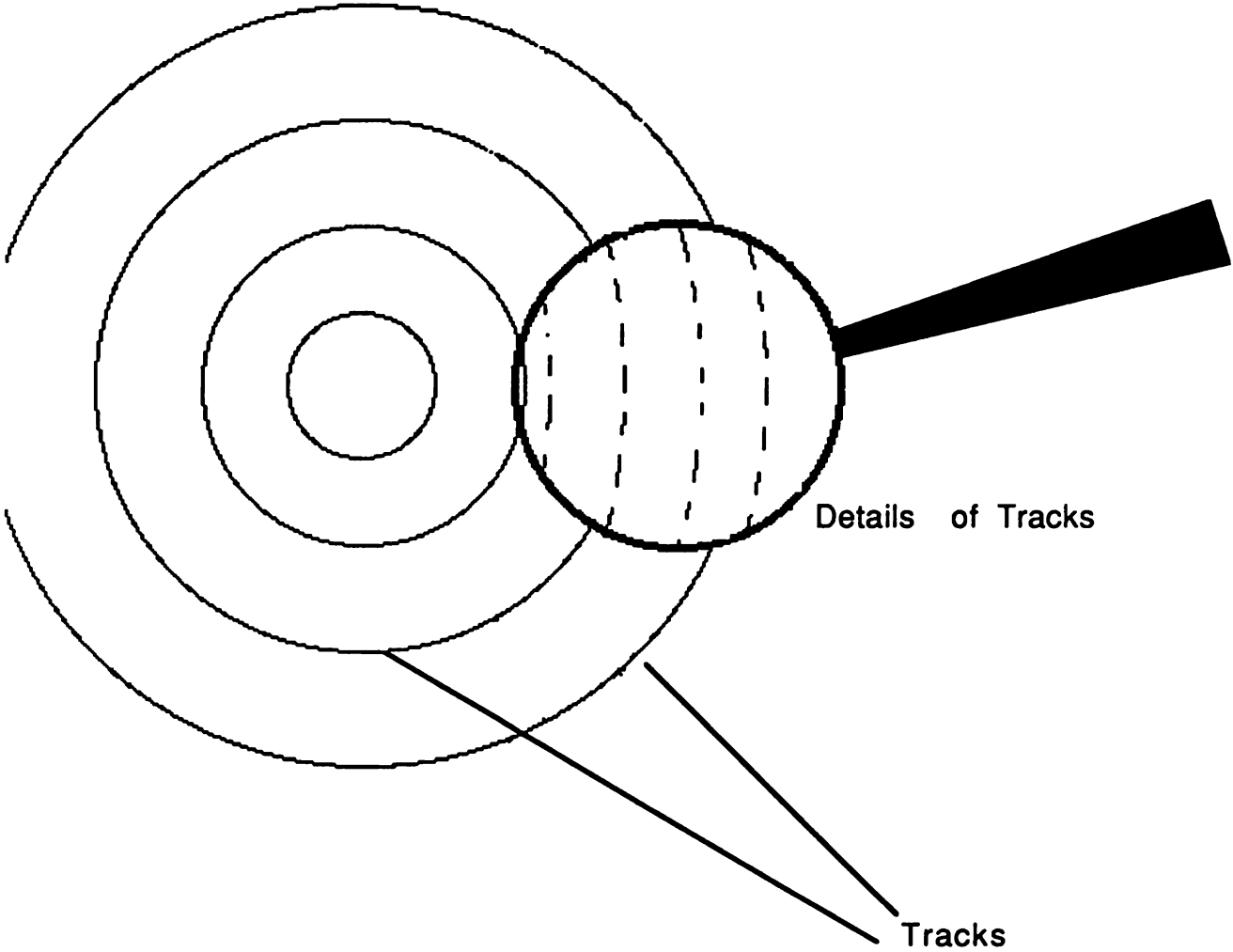
4 Plastic Core

## Cross Section of a CD-ROM Disk





# CD-ROM Track Layout Diagram





## **CD-ROM : Standards, Creation & Operation**

√ Information Encoding

\* Capacity

\* Format

Constant Angular Velocity (CAV)

Constant Linear Velocity (CLV)



## **CD-ROM : Standards, Creation & Operation**

\* Steps in the mastering process

Data Preparation

Data Indexing

Processing for CD-ROM

Compressing & Digitizing Images

Pre-mastering

Error Correction Encoding

Master Tape Creation

Master Disc Creation

Inverse Stamp Creation

Disc Replication

Disc Protection



## **CD-ROM : Standards, Creation & Operation**

### √ Cost & Time Factors

- \* Application Design
- \* Data Acquisition
- \* Data Preparation
- \* Product Testing
- \* CD-ROM Mastering





## **CD-ROM : Standards, Creation & Operation**

### √ Error Rate

- \* Acceptable Error Rate
- \* Error Correction Schemes & Reliability
- \* Steps in Error Correction Encoding

#### Layered ECC

Cross-Interleaved Reed Solomon Code

Complementary Decoding

### √ Durability

- \* Life of the media
- \* Is it invincible ?



## **CD-ROM: Standards, Creation & Operation**

### √ How CD-ROM Works

- \* Updating Information

  - Hard Disk vs. New Master

  - Accessing Updates

- \* Networking / Sharing CD-ROM Workstations

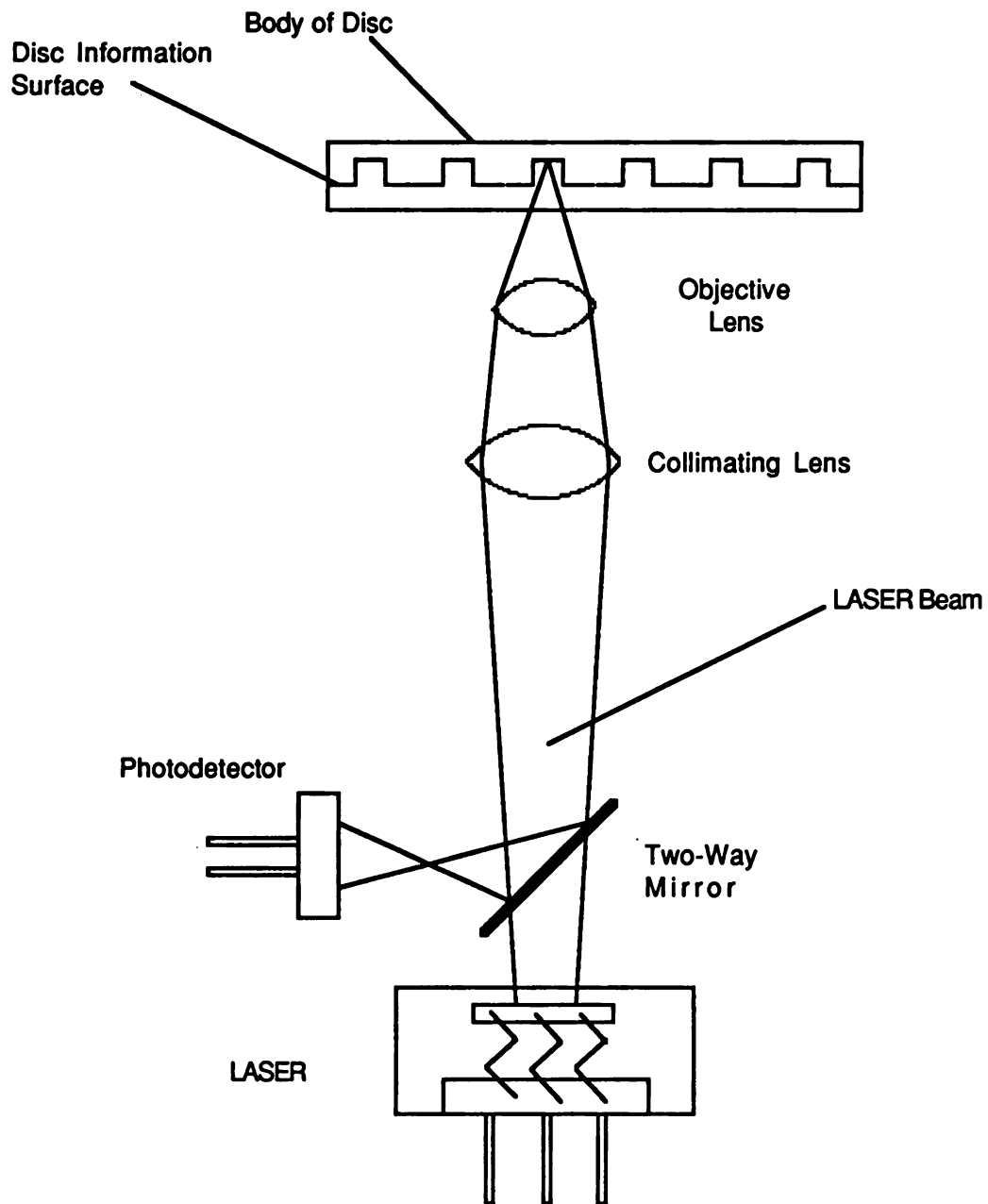


## **CD-ROM : Standards, Creation & Operation**

√How CD-ROM Works

\* Reading the Data



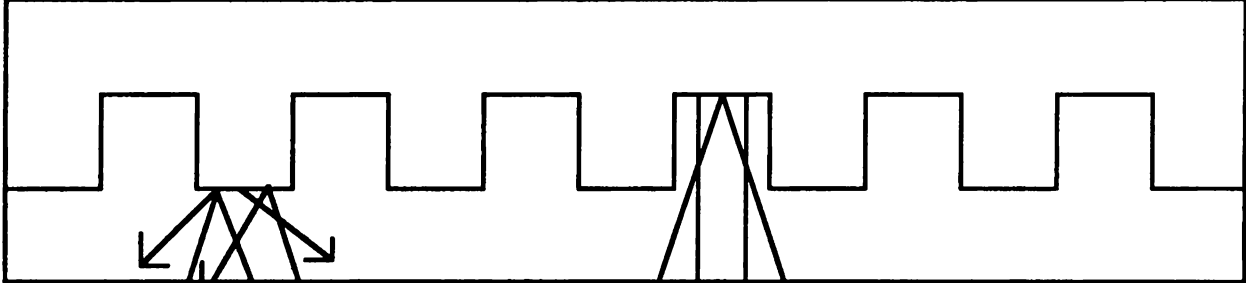


**Optical Head Diagram  
for CD-ROM Drive**





**Disk Rotational Direction**



**Beam Striking Land is  
Diffracted**

**Beam Striking Pit Is  
Reflected Into Optical Head**

**Data Transfer  
From CD-ROM Disc**



## **CD-ROM : Standards, Creation & Operation**

### √ Other Media Using Related Technology

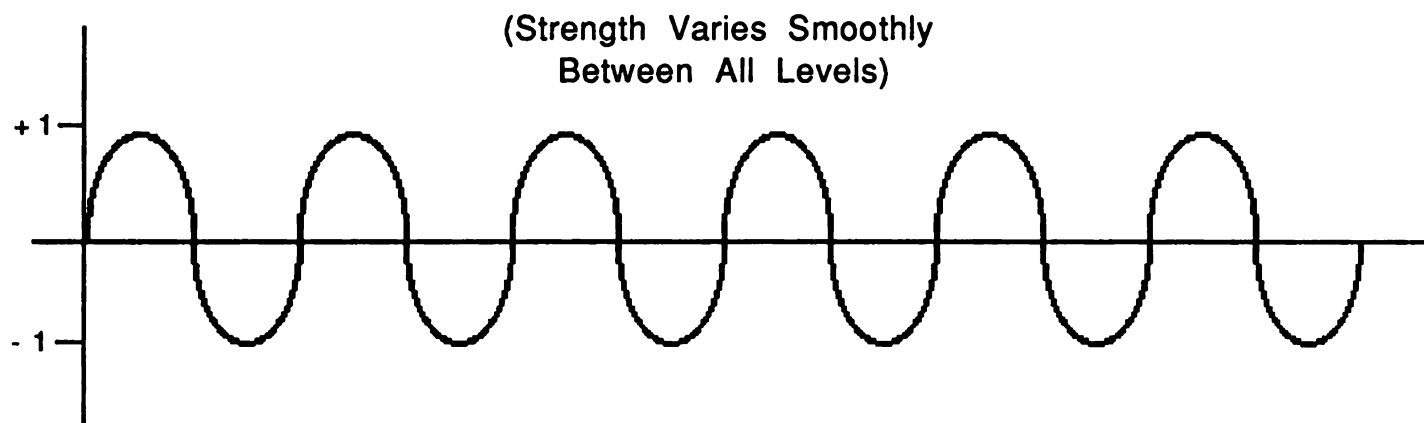
- \* Analog vs. Digital
- \* Read-Only/Analog
- \* Read-Only/Digital
- \* Write-Once
- \* Erasable Discs



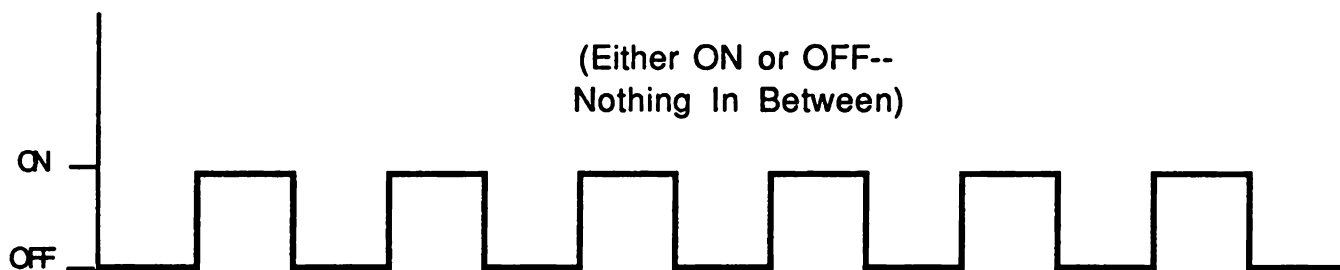
## CD-ROM : Standards, Creation & Operation

√ Other Media Using Related Technology

### Analog Signal



### Digital Signal





## **CD-ROM : Standards, Creation & Operation**

### √ Other Media Using Related Technology

#### \* Read-Only/Analog

##### Videodisc

Level 1

Level 2

Level 3

Level 4

#### \* Digital Videodisc





## **CD-ROM : Standards, Creation & Operation**

### √ Read-Only/Digital

- \* CD-Audio
- \* CD-ROM
- \* CD-I
- \* OROM/DataROM
- \* CD-V

### √ Write-Once Discs for Optical Storage

- \* WORM/DRAW/OD3
- \* CD-PROM
- \* Write-Once Cards



## **CD-ROM : Standards, Creation & Operation**

√ Erasable Discs

\* CD-EPROM



## **Types of CD-ROM Products Available**

- √ Cataloging Sources
- √ Reference Sources
- √ Acquisitions Sources
- √ Databases
- √ Public Access Catalogs
- √ Software Libraries
- √ Tutorials



## **Types of CD-ROM Products Available**

### √CD-ROM Market Players

- \* Developers
  
- \* Search Software Producers
  
- \* Marketers





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## **User Experiences with CD-ROM**

**Steps to Get Your CD-ROM Up and Running; What Others Have Already Experienced**

**Step One: Whether to Purchase**

√ **Product Appropriateness**

√ **Budgeting (Purchase Costs and Ongoing Costs)**

√ **Location (Staffing Procedures, Security Concerns, Environmental Requirements)**

√ **Product Value**

**Accuracy (compared with other similar searches)**

**Ease of Use/Comprehension**

**Content Analysis**

**Revisions/Updates**

√ **Demonstrations (General Overview vs Locally Tailored)**

**Components (Types/Expandability)**

**File Access/Software Access (Response Time, Access Types, Help Formats Manuals)**



Step Two: What To Purchase

√ License to use the system and its data

√ Search software

√ CD-ROM database

√ Hardware

IBM PC Compatible or IBM PS/2

Minimum of 512K of RAM; most systems function better with  
640K

CD-ROM Disk Controller Board (matches the CD-ROM drive) and  
cable

CD-ROM Drive



Step Three: How to Prepare the Site

√ **Electrical Improvements**

Grounded, dedicated 20-amp circuit for every two work stations

Three outlets for each work station

Electrical Surge Suppressors (these can provide the multiple outlets)

Telephone Lines for staff and for telecommunications, as needed

√ **Physical Site Improvements**

Computer Furniture (roll-top lockable desks require front-loading CD-ROM drives)

Lockable supply cabinets for paper, ribbons, diskettes



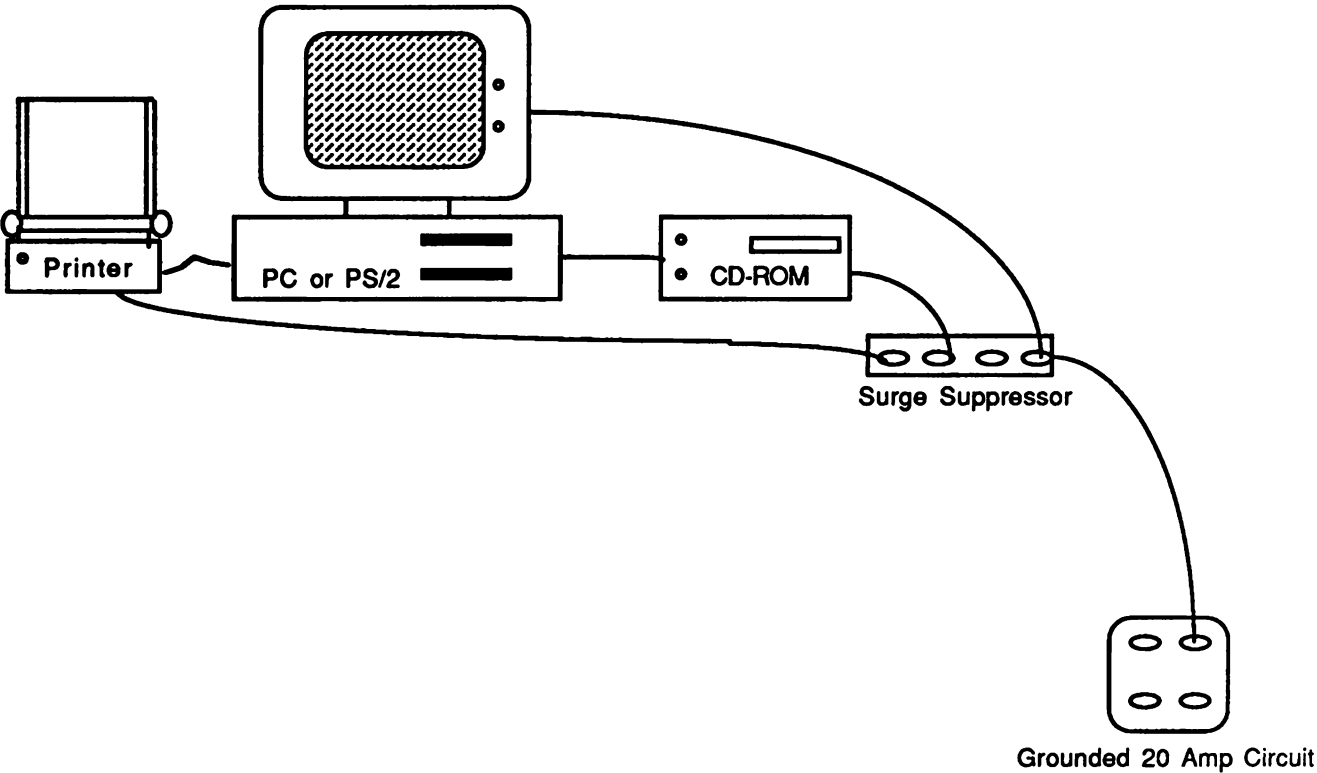
**Step 4: Operational and Support Considerations**

- √ **Hardware Location** (Reference Desk, Scattered)
- √ **Staffing/Scheduling** (User education, equipment service)
- √ **Staff Training** (CD-ROM applications, general computer usage)
- √ **User Assistance/User Scheduling**
- √ **Security** (Theft, vandalism, computer/operating system)
- √ **Vendor Support**
  - Broken equipment
  - Functional Questions
- √ **Information Updates**
  - Medium (new CD-ROM disc/tape/floppy disk; also user manuals)
  - Frequency
- √ **Supplies** (Paper, diskettes, ribbons/ink jet cartridges)





### CD-ROM Electrical Wiring Diagram





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## CD-ROM vs. Online

### Access/Availability

- √ Number and complexity of searches done in specific data bases

Some data bases have controlled vocabulary with little allowance in the file structures for incorrect search entries

Commands vary between data base products

Mainframe computers have additional functionality and speed which is not yet available on microcomputers.

It may be necessary to dedicate a single work station to one data base. Currently there is no viable multiple work station/multiple CD-ROM hardware environment.

- √ Subject Material Which is Commonly Requested

Availability and cost of the CD-ROM products (hardware, software, ongoing database/maintenance costs

Timeliness of the requested data

Search expertise required

Patron desire to perform data base searches

### Staffing Considerations

- √ Staff Comfort and Ability to Train Patrons
- √ Staff Time Required to Assist Patron Searches



√ Availability and Usefulness of Search Documentation

Costs

√ Who Pays For Search? (Can you rebudget the online costs for CD-ROM purchases?)

√ Equipment

Number of workstations required

Site Preparation

Supplies



**Customer Reactions (Current Users)**

**Company Support (Types; Turnaround Times; User Training, Updates)**





### **Vendor List for CD-ROM Products**

The CD-ROM market is a very volatile one and as such, it is difficult to track current product price & availability. The attached is meant to be an introductory look at the market. Remember that not every CD-ROM product works on every CD-ROM drive or every microcomputer. It is important to contact the vendor directly for more information before purchasing any CD-ROM product.



Company: Access Innovation  
Address: P.O. Box 40130  
City & Phone: Albuquerque, NM 87196 (505)265-3591  
Title: A-V Online  
Price: \$795/yr  
Contents: Audiovisual Material Catalog  
Classification: Database

Company: AIRS, Inc.  
Address: 335 Paint Branch Drive  
City & Phone: College Park, MD 20742  
Title: ENFLEX CD-ROM  
Price: Prototype only  
Contents: ERM Environmental Information Service  
(ENFLEX INFO)  
Compilation of Federal & State Environmental Regulations  
Classification: Database

Company: ALDE  
Address: 7840 Computer Avenue  
City & Phone: Minneapolis, MN 55435 (612)835-5240  
Title: Federal Procurement Disc  
Price: \$995  
Contents: GSA Supply Catalog  
Title 48CFR Procurement Regulations  
Title 41CFR Federal Public Contracting  
Classification: Database

Company: American Psychological Association  
Address: 1400 North Uhle St.  
City & Phone: Arlington, VA 22201 (800)336-4980  
Title: PsycLIT  
Developed by SilverPlatter  
Price: \$3,995/yr for set  
Contents: Psychology Citations  
Behaviorial Sciences Citations  
Classification: Database

Company: Auto-Graphics, Inc.  
Address: 3201 Temple Ave.  
City & Phone: Pomona, CA 91768 (800)325-7961  
Title: IMPACT  
Price: Varies according to local database  
Contents: Local Holdings  
Classification: Public Access Catalog

Company: Bowker Electronic Publishing  
Address: 245 West 17th St.  
City & Phone: New York, NY 10011 (800)323-3288  
Title: Books-in-Print Plus  
Price: \$895  
Contents: Books In Print, Books In Print Supplement  
Subject Guide to Books In Print  
Forthcoming Books  
Subject Guide to Forthcoming Books  
Classification: Acquisitions Database

Company: Bowker Electronic Publishing  
Address: 245 West 17th St.  
City & Phone: New York, NY 10011 (800) 323-3288  
Title: Out of Print Plus  
Price: \$395  
Contents: Out of Print Books  
Classification: Acquisitions Database

Company: Bowker Electronic Publishing  
Address: 245 West 17th St.  
City & Phone: New York, NY 10011 (800)323-3288  
Title: Reviews Plus  
Price: \$395  
Contents: 25,000 Book Reviews  
Classification: Acquisitions Database

Company: Bowker Electronic Publishing  
Address: 245 West 17th St.  
City & Phone: New York, NY 10011 (800)323-3288  
Title: Software Plus  
Price: \$395  
Contents: List of Software Programs  
Classification: Software Library

Company: Bowker Electronic Publishing  
Address: 245 West 17th Street  
City & Phone: New York, NY 10011 (800)323-3288  
Title: Ulrich's Plus  
Price: \$395/yr (disc only)  
Contents: Ulrich's International Periodicals Directory  
Irregular Serials and Annuals  
Classification: Acquisitions Database

Company: British Library  
Address: Boston Spa, Wetherby  
City & Phone: West Yorkshire, England LS23 7BQ  
Title: Blaise Files  
Price: Demonstration only  
Contents: UKMarc  
British Books in Print  
Conference Proceedings Index  
Classification: Cataloging Information

Company: Brodart Automation  
Address: 500 Arch St.  
City & Phone: Williamsport, PA 17705 (800)233-8467  
Title: LePac: Government Documents  
Price: \$2,500/yr  
Contents: GPO Catalog  
Classification: Acquisitions Database

Company: Brodart Automation  
Address: 500 Arch St.  
City & Phone: Williamsport, PA 17705 (800)233-8467  
Title: LePac: Local Public Access Catalog  
Price: .02-.09/Title  
Contents: Local Holdings  
Classification: Public Access Catalog

Company: BRS Information Technologies  
Address: 555 East Lancaster Ave. 4th fl.  
City & Phone: Saint David, PA 19087  
Title: BRS Colleague Disc  
Price: \$2,250 (1985-88)  
Prices of other years vary  
Contents: Medline  
Citations to Medical Literature  
Classification: Database

Company: CAB International  
Address: Farnham House; Farnham Royal  
City & Phone: Slough SL2 3BN, England; Farnham Common (02814)2662  
Title: CAB on CD-ROM  
Price: Prototype only  
Contents: Commonwealth Agricultural Bureaux Abstracts  
Records of British Public Health  
Records of Tropical Medicine  
Classification: Database

Company: Cambridge Scientific Abstracts  
Address: 5161 River Road  
City & Phone: Bethesda, MD 20816 (301)951-1400  
Title: COMPACT Cambridge/ASFA  
Price: \$2,250/yr  
Contents: Aquatic Science and Fisheries Abstracts  
Classification: Database

Company: Cambridge Scientific Abstracts  
Address: 5161 River Road  
City & Phone: Bethesda, MD 20816 (301) 951-1400  
Title: COMPACT Cambridge/Life Sciences  
Price: \$3,150/yr  
Contents: Life Sciences Abstracts  
Classification: Database

Company: Cambridge Scientific Abstracts  
Address: 5161 River Road  
City & Phone: Bethesda, MD 20816 (301) 951-11400  
Title: COMPACT Cambridge/MEDLINE  
Price: \$975  
Contents: Medline  
Medical Journal Citations  
Classification: Database

Company: CCOHS  
Address: 250 Main St. East  
City & Phone: Hamilton, Ontario L8N 1H6  
Title: Ccinfodisc  
Price: \$100(Can)/yr  
Contents: Canadian Centre for Occupational Health & Safety Database  
Classification: Database

Company: Cornell University  
Address: English Dept. Rockefeller Hall  
City & Phone: Ithaca, NY 14853 (607)255-4390  
Title: Black fiction up to 1920  
Price: Demonstration only  
Contents: Citations  
Classification: Database

Company: Data Base Products, Inc.  
Address: 12770 Colt Road #1111  
City & Phone: Dallas, TX 75251 (214)233-0593  
Title: O & D Plus, Vol. 1-3  
Price: Vol.1: \$8,000  
Vols. 2 & 3: \$8,000 ea./yr  
Contents: Department of Transportation  
Origin and Transportation Study (7 yrs)  
Classification: Database

Company: Data Times  
Address: 1400 Quail Springs Parkway #450  
City & Phone: Oklahoma City, OK 73134 (405) 751-6400  
Title: Daily Oklahoman  
Price: \$1,000/yr  
Contents: Daily Oklahoman Newspaper: 11/81-5/86  
Classification: Database

Company: DATATEK  
Address: 818 N.W. 63rd St.  
City & Phone: Oklahoma City, OK 73116 (405)843-7323  
Title: DataTimes  
Price: Contact Supplier  
Contents: Newspaper & Newswire Database  
Classification: Database

Company: Datext  
Address: 444 Washington St.  
City & Phone: Woburn, MA 01801 (617)938-6667  
Title: CD/Banking  
Price: \$16,000/yr  
Contents: Commercial Banking & Savings & Loan Information  
Classification: Database



Company: Datext  
Address: 444 Washington St.  
City & Phone: Woburn, MA 01801 (617)938-6667  
Title: CD/Banking Savings & Loans  
Price: Call for Price Information  
Contents: Data on all federally insured  
U.S. Savings & Loan Associations  
Classification: Database

Company: Datext  
Address: 444 Washington St.  
City & Phone: Woburn, MA 01801 (617)938-6667  
Title: CD/Corporate  
Price: \$17,500/yr  
Contents: Business Information Covering  
10,000 Publicly Traded Companies  
Classification: Database

Company: Datext  
Address: 444 Washington St.  
City & Phone: Woburn, MA 01801 (617)938-6667  
Title: CD/CorpTech  
Price: \$7,500/yr  
Contents: Business Information Covering  
Public & Private High-Tech Companies  
Classification: Database

Company: Datext  
Address: 444 Washington St.  
City & Phone: Woburn, MA 01801 (617) 938-6667  
Title: CD/International  
Price: \$19,500/yr  
Contents: Global Equity Screening  
4,000 International Companies  
Classification: Database

Company: Datext  
Address: 444 Washington St.  
City & Phone: Woburn, MA 01801 (617)938-6667  
Title: CD/Private+  
Price: \$6,500/yr  
Contents: Information Covering Private Firms  
and 8,500 Public Companies  
Classification: Database

Company: DDRI  
Address: 6609 Rosecroft Place  
City & Phone: Falls Church, VA 22043 (703)237-0682  
Title: CD-ROM Sourcedisc  
Price: To Be Announced  
Contents: CD-ROM Sourcebook  
Classification: Reference Source

Company: DeLorme Mapping Systems  
Address: P.O. Bos 298  
City & Phone: Freeport, ME 04032 (207) 865-4171  
Title: DeLorme's World Atlas  
Price: Call for Price Information  
Contents: Vector-based World Atlas  
Classification: Reference Source

Company: Department of Atmospheric Sciences  
Address: University of Washington  
City & Phone: Seattle, WA 98195 (206)545-0910  
Title: National Meterological Grid Point Data Set  
Price: \$35  
Contents: Meterological Study of the Northern Hemisphere  
1940-1980  
Classification: Reference Source

Company: DIALOG Information Services, Inc.  
Address: 3460 Hillview Avenue  
City & Phone: Palo Alto, CA 94304 (800)3-DIALOG  
Title: DIALOG OnDisc  
See DIALOG ON DISC ERIC,NTIS & Medline  
Price:  
Contents:  
Classification:

Company: DIALOG Information Services, Inc.  
Address: 3460 Hillview Avenue  
City & Phone: Palo Alto, CA 94304 (800)3-DIALOG  
Title: DIALOG OnDisc ERIC  
Price: \$1,650 (1966-pres) \$950 (1980 - pres)  
Also: \$950/yr on either set  
Contents: Resources in Education (RIE)  
Current Index to Journals in Education (CIJE)  
Thesaurus of ERIC descriptors  
Classification: Database

Company: DIALOG Information Services, Inc.  
Address: 3460 Hillview Avenue  
City & Phone: Palo Alto, CA 94304 (800)3-DIALOG  
Title: DIALOG OnDisc Medline  
Price: \$1,450/yr (2 yrs.: Current yr & 1 yr backfile)  
\$2,450/yr (5 yrs.: Current yr. & 4 yr backfile)  
Contents: Citations to Medical Literature  
Classification: Database

Company: DIALOG Information Services, Inc.  
Address: 3460 Hillview Avenue  
City & Phone: Palo Alto, CA 94304 (800)3-DIALOG  
Title: DIALOG OnDisc NTIS  
Price: \$2,750/yr (5 yrs: Current yr. & 4 yr backfile)  
9 yr (Current yr & 8 yr backfile) coming soon  
Contents: Citations to Technical Information  
Classification: Database

Company: Digital Decus Group  
Address: Boroughs' Plaza 219 Boston Post Road  
City & Phone: Marlboro, MA 01752 (617)480-3418  
Title: Decus Fall 1986 CD-ROM Disc #1  
Price: \$100  
Contents: Decus Software Library Catalog  
VAX SIG Symposia Collection  
Classification: Software Library

Company: Digital Decus Group  
Address: Boroughs' Plaza (BPDO) 219 Boston Post Road  
City & Phone: Marlboro, MA 01752  
Title: Decus Spring 1987 CD-ROM Disc #2  
Price: \$100  
Contents: Special VAX Library Tape #1  
Best of PC-8088 Collections 1-8, version 1  
Classification: Software Library

Company: Digital Diagnostics Inc.  
Address: 601 University Ave., Suite 255  
City & Phone: Sacramento, CA 95825 (916)921-6629  
Title: BiblioMed  
Price: \$2,900/yr  
Contents: National Library of Medicine  
Bibliographic Database  
Classification: Database

Company: Disclosure  
Address: 5161 River Road  
City & Phone: Bethesda, MD 28016 (800)843-7747  
Title: Compact Disclosure  
Price: \$4,500/yr.  
Contents: Companies on the US Stock Exchange  
Classification: Database

Company: Donnelley Marketing Service  
Address: 70 Seaview Ave.  
City & Phone: Stanford, CT 06904  
Title: Conquest  
Price: \$15,000-\$30,000 includes workstation  
Contents: Consumer Information System  
Classification: Database

Company: Dun's Marketing Service  
Address: 49 Bloomfield Road  
City & Phone: Mountain Lakes, NJ 08046 (201)299-0181  
Title: Abstracts File  
Price: Prototype  
Contents: Statistical Abstract for Dun & Bradstreet  
Classification: Reference Source

Company: Dun's Marketing Service  
Address: 49 Bloomfield Road  
City & Phone: Mountain Lakes, NJ 07046 (201)299-0181  
Title: Million Dollar Directory  
Price: Prototype  
Contents: Top 160,000 Companies by net worth  
Classification: Reference Source

Company: EBSCO Electronic Information Division  
Address: P.O. Box 13787  
City & Phone: Torrance, CA 90503  
Title: Cataloger's Tool Kit  
See: MARC-English, MARC-STM, MARC-LAW  
Price: Subscription Plan also available  
Contact EBSCO for details  
Contents:  
Classification:

Company: EBSCO Electronic Information Division  
Address: P.O. Box 13787  
City & Phone: Torrance, CA 90503 (213)530-7533  
Title: Comprehensive MEDLINE/EBSCO  
Price: \$2,700/yr  
Contents: English language subset of Index Medicus  
International Nursing Index (3 yrs)  
Index to Dental Literature (3 yrs)  
Classification: Database

Company: EBSCO Electronic Information Division  
Address: P.O. Box 13787  
City & Phone: Torrance, CA 90503 (213)530-7533  
Title: Core MEDLINE/EBSCO  
Price: \$1,600/yr  
Contents: 3 year subset of MEDLINE file  
Includes Abridged Index Medicus  
English language Nursing & Dentistry Titles  
Classification: Database

Company: EBSCO Electronic Information Division  
Address: P.O. Box 13787  
City & Phone: Torrance, CA 90503  
Title: LC-LAW  
Price: \$1,999  
Contents: English Language Law Materials in  
the LC Catalog Post-1970  
Classification: Database

Company: EBSCO Electronic Information Division  
Address: P.O. Box 13787  
City & Phone: Torrance, CA 90503  
Title: LC-STM  
Price: \$1,999  
Contents: English Language Scientific, Technological &  
Medical Materials in the LC Catalog post-1970  
Classification: Database

Company: EBSCO Electronic Information Division  
Address: P.O. Box 13787  
City & Phone: Torrance, CA 90503  
Title: MARC-English  
Price: \$3,800  
Contents: LC Cataloged English Titles  
Classification: Cataloging Support

Company: EBSCO Electronic Information Division  
Address: P.O. Box 13787  
City & Phone: Torrance, CA 90503  
Title: MARC-LAW  
Price: \$2,999  
Contents: LC English Cataloging in area of Law  
Classification: Cataloging Support

Company: EBSCO Electronic Information Division  
Address: P.O. Box 13787  
City & Phone: Torrance, CA 90503  
Title: MARC-STM  
Price: \$2,999  
Contents: LC English Cataloging in Areas  
of Science, Technology and Medicine  
Classification: Cataloging Support

Company: EBSCO Electronic Information Division  
Address: P.O. Box 13787  
City & Phone: Torrance, CA 90503  
Title: MEDLINE-CD  
Price: \$3,484  
Price Varies  
Contents: English Language Section  
of NLM MEDLINE Database  
Classification: Database

Company: EBSCO Electronic Information Division  
Address: P.O. Box 13787  
City & Phone: Torrance, CA 90503  
Title: Reference Tool Kit  
See LC-STM & LC-LAW  
Price:  
Contents:  
Classification:

Company: EBSCO Electronic Information Division  
Address: P.O. Box 13787  
City & Phone: Torrance, CA 90503  
Title: Serials Directory  
Price: \$395  
Contents: References to Periodicals, Annuals  
and Irregular Series published internationally  
Classification: Database

Company: EBSCO Electronic Information Division  
Address: P.O. Box 13787  
City & Phone: Torrance, CA 90503 (213)530-7533  
Title: The Serials Directory  
Price: To Be Announced  
Contents: Serial Publications Listing  
Classification: Acquisitions Database

Company: Elsevier Science Publications  
Address: 52 Vanderbilt Ave.  
City & Phone: New York, NY 10017 (212)370-5520  
Title: Ca-CD  
Price: \$2,500/yr  
Contents: Cancer Information  
Classification: Database



Company: Elsevier Science Publications  
Address: 52 Vanderbilt Ave.  
City & Phone: New York, NY 10017 (212) 370-5520  
Title: CD-ROM Embase  
Price: Prototype  
Contents: Biomedicine & Related Disciplines  
Classification: Database

Company: Environmental Resources Mgmt Computer Services  
Address:  
City & Phone:  
Title: ENFLEX CD-ROM  
See AIRS, Inc  
Price:  
Contents:  
Classification:

Company: Facts on File  
Address: 460 Park Ave. South  
City & Phone: New York, NY 10016 (212)683-2244  
Title: Visual Dictionary  
Price: Prototype only  
Contents: French/English Dictionary  
Classification: Reference Source

Company: Facts on File Publications  
Address: 460 Park Ave. S.  
City & Phone: New York, NY 10157 (212)683-2244  
Title: Facts on File News Digest  
Price: \$595 to print subscribers  
Contents: Headline News with short abstracts  
1980-1987  
Classification: Reference Source

Company: Faxon Company  
Address: 15 Southwest Park  
City & Phone: Westwood, MA 02090 (617)329-3350  
Title: MicroLinx Database Bldg Option  
Price: Price Varies  
Contents: MARC Serials Database  
Classification: Cataloging Support

Company: General Information Inc.  
Address: 401 Park Place, Suite 305  
City & Phone: Kirkland, WA 98033 (206)828-4777  
Title: National Directory  
Price: Prototype only  
Contents: National Directory  
Addresses & Telephone Numbers  
Classification: Reference Source

Company: General Research Corporation  
Address: 5383 Hollister Ave.  
City & Phone: Santa Barbara, CA 93111  
Title: LaserGuide Patron Access Catalog  
Price: Call for Price Quote  
Contents: Local Holdings  
Classification: Public Access Catalog

Company: General Research Corporation  
Address: 5383 Hollister Ave.  
City & Phone: Santa Barbara, CA 93111 (800)235-6788  
Title: LaserQuest  
Price: Call for Price Quote  
Contents: MARC Records  
Classification: Cataloging Support

Company: Geovision Inc.  
Address: 270 Scientific Drive, Suite 1  
City & Phone: Norcross, GA 30092 (404)448-8824  
Title: GEOdisc  
Price: \$1,500/series  
Contents: Maps (National, State, Regional or Metro)  
Classification: Reference Source

Company: Grolier Electronic Publishing Inc.  
Address: 95 Madison Ave., Suite 1100  
City & Phone: New York, NY 10016 (212)696-9750  
Title: Electronic Encyclopedia  
Price: \$299  
Contents: Academic American Encyclopedia  
Classification: Reference Source

Company: H.W. Wilson Co.  
Address: 950 University Ave.  
City & Phone: Bronx, NY 10452 (212)588-8400  
Title: Applied Science & Technology Index  
(Part of WILSONDISC series)  
Price: \$1,495/yr  
Contents: Index of Science & Technology Sources  
Possible to access Wilsonline from CD  
Classification: Database

Company: H.W. Wilson Co.  
Address: 950 University Ave.  
City & Phone: Bronx, NY 10452 (212)588-8400  
Title: Art Index  
(Part of WILSONDISC series)  
Price: \$1,495/yr  
Contents: Index of Art Periodicals  
Possible to access Wilsonline from CD  
Classification: Database

Company: H.W. Wilson Co.  
Address: 950 University Ave.  
City & Phone: Bronx, NY 10452 (212)588-8400  
Title: Biography Index  
(Part of WILSONDISC series)  
Price: \$1,095/yr  
Contents: Index of Published Biographies  
Possible to access Wilsonline from CD  
Classification: Database

Company: H.W. Wilson Co.  
Address: 950 University Ave.  
City & Phone: Bronx, NY 10452 (212)588-8400  
Title: Business Periodicals Index  
(Part of WILSONDISC series)  
Price: \$1,495/yr  
Contents: Index of Business Periodical Articles  
Possible to access Wilsonline from CD  
Classification: Database

Company: H.W. Wilson Co.  
Address: 950 University Ave.  
City & Phone: Bronx, NY 10452 (212)588-8400  
Title: Cumulative Book Index  
(Part of WILSONDISC series)  
Price: \$1,295/yr  
Contents: Index of Book Reviews  
Possible to access Wilsonline from CD  
Classification: Database

Company: H.W. Wilson Co.  
Address: 950 University Ave.  
City & Phone: Bronx, NY 10452 (212)588-8400  
Title: Education Index  
(Part of WILSONDISC series)  
Price: \$1,295/yr  
Contents: Index of Educational Materials  
Classification: Database

Company: H.W. Wilson Co.  
Address: 950 University Ave.  
City & Phone: Bronx, NY 10452 (212)588-8400  
Title: General Science Index  
(Part of WILSONDISC series)  
Price: \$1,295/yr  
Contents: Index of General Science Periodicals  
Possible to access Wilsonline from CD  
Classification: Database

Company: H.W. Wilson Co.  
Address: 950 University Ave.  
City & Phone: Bronx, NY 10452 (212)588-8400  
Title: Humanities Index  
(Part of WILSONDISC series)  
Price: \$1,295/yr  
Contents: Index of Humanities Literature  
Possible to access Wilsonline from CD  
Classification: Database

Company: H.W. Wilson Co.  
Address: 950 University Ave.  
City & Phone: Bronx, NY 10452 (212)588-8400  
Title: Index to Legal Periodicals  
(Part of WILSONDISC series)  
Price: \$1,495/yr.  
Contents: Index to Legal Materials  
Possible to access Wilsonline from CD  
Classification: Database

Company: H.W. Wilson Co.  
Address: 950 University Ave.  
City & Phone: Bronx, NY 10452 (212)588-8400  
Title: Library Literature  
(Part of WILSONDISC series)  
Price: \$1,095/yr  
Contents: Index to Library Science Periodicals  
Possible to access Wilsonline from CD  
Classification: Database

Company: H.W. Wilson Co.  
Address: 950 University Ave.  
City & Phone: Bronx, NY 10452 (212)588-8400  
Title: Modern Language Association Index  
Price: To Be Announced  
Contents: Index to Worldwide Literature  
Classification: Database

Company: H.W. Wilson Co.  
Address: 950 University Ave.  
City & Phone: Bronx, NY 10452 (212)588-8400  
Title: Reader's Guide to Periodical Literature  
(Part of WILSONDISC series)  
Price: \$1,095/yr  
Contents: Index to General Interest Periodicals  
Possible to access Wilsonline from CD  
Classification: Database

Company: H.W. Wilson Co.  
Address: 950 University Ave.  
City & Phone: Bronx, NY 10452 (212)588-8400  
Title: Social Sciences Index  
(Part of WILSONDISC series)  
Price: \$1,295/yr  
Contents: Index to Social Science Information  
Possible to access Wilsonline from CD  
Classification: Database

Company: Highlighted Data  
Address: P.O. Box 17229  
City & Phone: Washington, DC 20041 (703)241-1180  
Title: Map Cabinet  
Price: \$199.95  
Contents: US Geographics  
Classification: Reference Source

Company: Highlighted Data  
Address: P.O. Box 17229  
City & Phone: Washington, DC 20041 (703) 241-1180  
Title: Merriam Webster Ninth  
New Collegiate Dictionary  
Price: \$199.95  
Contents: Dictionary  
Classification: Reference Source

Company: I.S. Group  
Address: 948 Springer Drive  
City & Phone: Lombard, IL 60148 (312)627-0550  
Title: Oncodisc  
Price: To Be Announced  
Contents: National Cancer Institute's Physicians's Data  
Query & Cancer Literature  
Classification: Database

Company: Information Access Co.  
Address: 11 Davis Drive  
City & Phone: Belmont, CA 94002 (800)227-8431  
Title: InfoTracII  
Price: \$4,500/yr  
Contents: Magazine Index  
3 Months of the New York Times  
Classification: Database

Company: Information Design Inc.  
Address: 1300 Charleston Road, P.O. Box 7130  
City & Phone: Mountain View, CA 94039 (415)969-7990  
Title: Zip + 4  
Price: \$3,950/yr  
Contents: National Directory of Zip Codes  
Classification: Reference Source

Company: Information Technology Publishing - ALA  
Address: 50 East Huron Street  
City & Phone: Chicago, IL 60611 (312)944-6780  
Title: The Directory of Library & Information Professionals  
Price: Prototype only  
Contents: Biographical Directory of  
Information Professionals in North America  
Classification: Reference Source

Company: Ingram Book Company  
Address: 347 Reedwood Drive  
City & Phone: Nashville, TN 37217 (615)361-5000  
Title: LaserSearch  
Price: \$3,700  
Contents: "Any-Book" Titles  
Price & Publisher Information  
Classification: Acquisitions Database

Company: Innovative Technology Inc  
Address: 2927 Jones Branch Drive  
City & Phone: McLean, VA 22102 (703)734-3000  
Title: TLRN  
Price: \$5,160/yr  
Contents: Technical Logistics Reference Network  
(Federal Catalog System)  
Classification: Database

Company: Institute for Scientific Information  
Address: 3501 Market Street University City Science Ctr  
City & Phone: Philadelphia, PA 19104 (215)386-0100  
Title: Science Citation Index on CD-ROM  
Price: Not yet set  
Contents: Science Citation Index  
Permuterm Subject Index  
Classification: Database



Company: JA Micropublishing Inc  
Address: 271 Main St. Box 218  
City & Phone: Westchester, NY 10707 (914)793-2130  
Title: CIRR  
Price: \$1,750  
Contents: Corporate & Industry Reports, 1981-86  
Classification: Database

Company: JA Micropublishing, INC  
Address: 271 Main Street, Box 218  
City & Phone: Eastchester, NY 10707 (914)793-2130  
Title: Corporate and Industry Research Reports  
Price: \$1,750/1st year  
\$1,500/additional yrs  
Contents: Company & Industry Reports, 1979-86  
Classification: Database

Company: John Wiley & Sons, Inc.  
Address: 605 Third Ave.  
City & Phone: New York, NY 10158 (212)850-6000  
Title: Kirk-Othmer Encyclopedia of  
Chemical Technology  
Price: \$895  
Contents: Chemistry Reference Work  
Contains the Concise Kirk-Othmer Encyclopedia  
Classification: Reference Source

Company: John Wiley & Sons, Inc.  
Address: 605 Third Ave.  
City & Phone: New York, NY 10158 (212)850-6000  
Title: Mark's Encyclopedias of Polymer  
Science & Engineering  
Price: \$3,200  
Contents: Polymer & Plastics Encyclopedia  
Classification: Reference Source

Company: John Wiley & Sons, Inc.  
Address: 605 Third Ave.  
City & Phone: New York, NY 10158 (212)850-6000  
Title: Registry of Mass Spectral Data  
Price: \$2,895  
Contents: Mass Spectral Data  
Classification: Reference Source

Company: John Wiley & Sons, Inc.  
Address: 605 Third Ave.  
City & Phone: New York, NY 10158 (212)850-6000  
Title: The International Dictionary of  
Medicine & Biology  
Price: \$195  
Contents: Medical Dictionary  
Classification: Reference Source

Company: Knowledge Access Inc.  
Address: 2685 Marine Way, Suite 1305  
City & Phone: Mountain View, CA 94043  
Title: Your Marketing Consultant:  
Advanced Consumer  
Price: \$950  
Contents: Customer Buying Power Index  
& Formulas plus 80 variables  
Classification: Database

Company: Knowledge Access Inc.  
Address: 2685 Marine Way, Suite 1305  
City & Phone: Mountain View, CA 94043 (415)969-0606  
Title: Your Marketing Consultant:  
Business to Business  
Price: \$950  
Contents: Sales Territory Organizer  
Determines Market Share & Potential  
Classification: Database

Company: KnowledgeSet Corporation  
Address: 2511 Garden Road, Bldg C  
City & Phone: Monterey, CA 93940 (800)228-3177  
Title: Personal Information Package  
Price: \$995  
Contents: Electronic Encyclopedia  
(Academic American Encyclopedia)  
Classification: Reference Source

Company: Library Association Publishing  
Address: 7 Ridgemount St.  
City & Phone: London, England WC1E 7AE  
Title: LISA  
Price: \$995  
Contents: Library & Information Science Abstracts  
Classification: Database

Company: Library Corporation  
Address: P.O. Box 40035  
City & Phone: Washinton,DC 20016 (800)624-0559  
Title: Any-Book  
Price: \$600/yr  
Contents: Price & Publisher Information  
"Any-Book" Titles  
Classification: Acquistions Database

Company: Library Corporation  
Address: P.O. Box 40035  
City & Phone: Washington, DC 20016 (800)624-0559  
Title: Bibliofile  
Price: \$870/yr  
Contents: LC MARC Tapes  
Classification: Cataloging Information

Company: Library Corporation  
Address: P.O. Box 40035  
City & Phone: Washington, DC 20016 (800)624-0559  
Title: PC Laser Library  
Price: \$199  
Contents: Public Domain Software  
for the IBM PC  
Classification: Software Library

Company: Library Corporation  
Address: P.O. Box 40035  
City & Phone: Washington, DC 20016 (800) 624-0559  
Title: The Intelligent Catalog  
Price: Prices Vary  
Contents: Local Holdings Information  
Classification: Public Access Catalog

Company: Library Systems & Services, Inc  
Address: 1395 Piccard Drive, Suite 100 General Motors Bldg.  
City & Phone: Rockville, MD 20850  
Title: BPN, Jr.  
See also: Spectrum 200  
Price: \$2,000/yr  
Contents: MARC Database  
Classification: Cataloging Support

Company: Lotus Development Corporation  
Address: 55 Cambridge Parkway  
City & Phone: Cambridge, MA 02142 (800)544-5501  
Title: One Source  
Price: \$11,000-\$30,000/yr  
Contents: Daily Stock Price History  
Value Line, Ford Investor Services  
Disclosure II  
Classification: Database

Company: Marcive Inc.  
Address: P.O. Box 47508  
City & Phone: San Antonio, TX 78265 (800)531-7678  
Title: Marcive/PAC  
Price: Prices Vary  
Contents: Local Holdings  
Classification: Public Access Catalog

Company: McGraw-Hill Book Co.  
Address: 11 West 19th St.  
City & Phone: New York, NY 10011 (212)512-2000  
Title: Electronic Sweet's  
Price: \$115 w/catalog  
Contents: Manufacturing Product Catalog  
Classification: Reference Source

Company: McGraw-Hill Book Co.  
Address: 11 West 19th St.  
City & Phone: New York, NY 10011 (212)512-2000  
Title: McGraw-Hill CD-ROM Science  
& Technology Reference Set  
Price: \$300  
Contents: Encyclopedia of Science & Technology  
Dictionary of Scientific Terms  
Classification: Reference Source

Company: Micromedex Inc.  
Address: 6600 Bannock St. Suite 350  
City & Phone: Denver, CO 80204 (303)623-8600  
Title: Drugdex  
Incl. in Computerized Clinical Information Systems  
Price: Call for Prices  
Contents: Drug Evaluations  
Classification: Database

Company: Micromedex Inc.  
Address: 6600 Bannock St. Suite 350  
City & Phone: Denver, CO 80204 (303)623-8600  
Title: Emergindex  
Incl. in Computerized Clinical Information Systems  
Price: Call for Prices  
Contents: Critical Care Abstracts  
Classification: Database

Company: Micromedex Inc.  
Address: 6600 Bannock St. Suite 350  
City & Phone: Denver, CO 80204 (303)623-8600  
Title: Identidex  
Incl. in Computerized Clinical Information Systems  
Price: Call for Prices  
Contents: Tablet & Capsule Identification  
Classification: Database

Company: Micromedex Inc.  
Address: 6600 Bannock St. Suite 350  
City & Phone: Denver, CO 80204 (303)623-8600  
Title: Poisindex  
Incl. in Computerized Clinical Information Systems  
Price: Call for Price  
Contents: Toxicology Database  
Classification: Database

Company: Micromedex, Inc  
Address: 2750 South Shoshone Street  
City & Phone: Englewood, CO 80110 (800) 525-9083  
Title: Computerized Clinical Information Systems (CCIS)  
Price: \$6,000  
User customizing may result in higher price  
Contents: Poisindex (Toxicology)  
Drugdex (Clinical Pharmacology)  
Emergindex(Critical Care Abstracts)  
Identidex (Drug identification)  
Classification: Database

Company: Microsoft  
Address: 16011 NE 36th Way, Box 97017  
City & Phone: Redmond, WA 98073-9717 (206)882-8080  
Title: Microsoft Bookshelf  
Price: \$295  
Contents: American Heritage Dictionary, Chicago Manual of Style  
Roget's II: Electronic Thesaurus, 1987 World Almanac  
Bartlett's Familiar Quotations, Houghton Mifflin Spelling Check  
Houghton Mifflin Usage Alert, US Zip Code Directory  
Classification: Reference Source

Company: MicroTrends Inc.  
Address: 650 Woodfield Drive, Suite 730  
City & Phone: Schaumburg, IL 60195 (312)310-8928  
Title: BioLibe Series  
Price: \$199/disc  
Contents: Biology Teaching Aid  
Classification: Tutorial

Company: MicroTrends Inc.  
Address: 650 Woodfield Drive, Suite 730  
City & Phone: Schaumburg, IL 60195 (312)310-8928  
Title: FastPast  
Price: \$199  
Contents: World History Tutorial  
Classification: Tutorial

Company: MicroTrends Inc.  
Address: 650 Woodfield Drive, Suite 730  
City & Phone: Schaumburg, IL 60195 (312)310-8928  
Title: LinguaTech Bilingual Dictionaries  
Price: \$199  
Contents: English/French, English/German  
English/Spanish  
Classification: Reference Source

Company: MicroTrends Inc.  
Address: 650 Woodfield Drive, Suite 730  
City & Phone: Schaumburg, IL 60195 (312)310-8928  
Title: Menu  
Price: \$199  
Contents: Computer Applications  
Classification: Database

Company: MicroTrends Inc.  
Address: 650 Woodfield Drive, Suite 730  
City & Phone: Schaumburg, IL 60195 (312)310-8928  
Title: Nature Plus  
Price: \$199  
Contents: Animal & Landscape Photos  
Classification: Reference Source

Company: MicroTrends Inc.  
Address: 650 Woodfield Drive, Suite 730  
City & Phone: Schaumburg, IL 60195 (312)310-8928  
Title: Versa Text  
Price: \$199  
Contents: Reading Skills Teaching Aid  
Classification: Tutorial

Company: National Archives & Records Administration  
Address: NSZ,Rm 14N; 7th & Pennsylvania Ave. NW  
City & Phone: Washington, DC 20408 (202)523-1546  
Title: Optical Digital Image Storage System  
Price: Prototype only  
Contents: Military Service Archival Records  
Classification: Database



Company: National Institute of Building Sciences  
Address: 1015 15th St. Suite 700, NW  
City & Phone: Washington, DC 20005 (202)347-5710  
Title: Building Sciences Information System  
Price: Prototype only  
Contents: Construction Guides for Selected  
Government Agencies  
Classification: Reference Source

Company: National Standards Association Inc.  
Address: 5161 River Road  
City & Phone: Bethesda, MD 20816 (800)638-8094  
Title: Parts-Master  
Price: \$7,650/yr  
Contents: Parts & Products Procured  
by the US Government  
Classification: Reference Source

Company: NDS  
Address: 8618 Westwood Drive, Suite 450  
City & Phone: Vienna, VA 22180 (703)883-8900  
Title: Informark Laser PC System  
Price: Prices Vary  
Contents: Marketing Decision Support System  
Classification: Reference Source

Company: NewsBank Inc.  
Address: 58 Pine St.  
City & Phone: New Cannan, CT 06840 (800)223-4739  
Title: NewsBank Electronic Index  
Price: \$3,580  
Contents: Primary Source News Material  
Classification: Reference Source

Company: Newsreel Access Systems Inc.  
Address: 885 3rd Ave. 28th fl  
City & Phone: New York, NY 10022 (212)230-3250  
Title: News Scan  
Price: \$75,000/yr.  
Contents: Newsreel Summaries  
Classification: Reference Source

Company: OCLC, Inc  
Address: 6565 Frantz Road  
City & Phone: Dublin, OH 43017-0702  
Title: Agricola  
Price: To Be Announced  
Contents: Agricultural Abstracts  
Classification: Database

Company: OCLC, Inc  
Address: 6565 Frantz Road  
City & Phone: Dublin, OH 43017-0702 (800)848-5878  
Title: Cat CD450  
Price: Prototype Only  
Contents: Subset of OCLC Union Catalog  
Two collections divided by imprint date  
Will also include Authorities Collection  
Classification: Cataloging Support

Company: OCLC, Inc  
Address: 6565 Frantz Road  
City & Phone: Dublin, OH 43017-0702  
Title: ERIC  
Price: \$675/yr  
Contents: Current Index to Journals in Education  
Resources in Education  
Classification: Database

Company: OCLC, Inc  
Address: 6565 Frantz Road  
City & Phone: Dublin, OH 43017-0702  
Title: NTIS  
Price: To Be Announced  
Contents: National Technical Information Service  
Index & Abstracts  
Classification: Database

Company: OCLC, Inc  
Address: 6565 Frantz Rd  
City & Phone: Dublin, OH 43017 (614)764-6000  
Title: Search CD450 Agriculture  
Price: \$995/OCLC Members  
Call for non-member prices  
Contents: AGRICOLA Database (1979-pres)  
CRIS Database (Research Repts on Agriculture & Related Sciences)  
Agriculature Materials in Libraries(from OCLC Union Catalog)  
Classification: Database

Company: OCLC, Inc  
Address: 6565 Frantz Rd  
City & Phone: Dublin, OH 43017 (614)764-6000  
Title: Search CD450 Science & Technology  
Price: \$2,195/OCLC members  
Call for non-member prices  
Contents: National Technical Information Service (NTIS)  
NTIS(1986-pres & 1983-85)  
Science & Technology Materials in Libraries  
From OCLC Union Catalog  
Classification: Database

Company: OCLC, Inc  
Address: 6565 Frantz Road  
City & Phone: Dublin, OH 43017-5878 (614)764-6000  
Title: Search CD450 System  
Price: Varies with Database  
Varies with OCLC membership  
Contents: Current Index to Journals in Education(CIJE) (1982-pres)  
Resources in Education (RIE) (1982-pres)  
CIJE (1969-81) RIE (1967-76; 1977-81)  
Education Materials in Libraries (from OCLC database)  
Classification: Database

Company: Online Computer Systems  
Address: 20251 Century Blvd  
City & Phone: Germantown, MD 20874 (301)428-3700  
Title: CDMARC Subjects  
Price: Prototype only  
Contents: Subject Authority Records  
Classification: Cataloging Source

Company: Online Computer Systems  
Address: 20251 Century Blvd  
City & Phone: Germantown, MD 20874  
Title: Tax Forms on Demand  
Price: To Be Announced  
Contents: Tax Forms  
Classification: Reference Source

Company: Optical Media International  
Address: 495 Alberto Way  
City & Phone: Los Gatos, CA 95032 (408)395-4332  
Title: The Universe of Sounds  
Price: Sold on OEM basis  
Contents: Music & Sound Effects  
Classification: Reference Source

Company: ORI Ince/ERIC facility  
Address: 4350 East West Highway, Suite 1100  
City & Phone: Bethesda, MD 20814 (301)656-9273  
Title: ERIC  
Price: \$650/yr  
Contents: Current Index to Journals in Education  
Resources in Education  
Classification: Database

Company: PC-SIG Inc.  
Address: 1030-D East Duane Ave.  
City & Phone: Sunnyvale, CA 94086  
Title: CD/Biotech  
Price: \$495/yr  
Contents: Biotechnology Information  
Classification: Database

Company: PC-SIG Inc.  
Address: 1030-D East Duane Ave.  
City & Phone: Sunnyvale, CA 94086  
Title: PC-SIG CD-ROM  
Price: \$295  
Contents: Software Programs  
Classification: Software Library

Company: PC-SIG Inc.  
Address: 1030-D East Duane Ave.  
City & Phone: Sunnyvale, CA 94086  
Title: Science Helper(K-8)  
Price: \$195  
Contents: Science & Math Tutorial  
Classification: Tutorial

Company: PCI Inc.  
Address: 80 Bloor St. West, Suite 1100  
City & Phone: Toronto, Ontario M5S 2V1 (416)928-6733  
Title: Resors  
Price: \$1,100/yr  
Contents: Satellite Remote Sensitivity Information  
Classification: Database

Company: Pergamon Press  
Address: 12 Vandy St.  
City & Phone: London, England EC2A 2DE  
Title: International Encyclopedia of Information  
Price: To Be Announced  
Contents: Encyclopedia of Information  
Classification: Reference Source

Company: Post Office  
Address: 33 Grosvenor Place  
City & Phone: London, England SW1X 1PX  
Title: PAF  
Price: 3,000 Pounds  
Contents: UK Postal Codes  
Classification: Reference Source

Company: Prentice Hall Information Network  
Address: 1 Gulf & Western Plaza, 18th fl  
City & Phone: New York, NY 10023 (212)373-8600  
Title: PHINet Tax Resource  
Price: Prototype only  
Contents: Private Letter Rulings  
Tax & Revenue Rulings  
Classification: Database

Company: Public Affairs Information Service  
Address: 11 West 40th St.  
City & Phone: New York, NY 10018 (212)736-6629  
Title: PAIS International  
Price: \$11,7950/yr  
Contents: Index of Public Affairs Materials  
Classification: Database

Company: Quantum Access Inc.  
Address: 1700 W. Loop South, Suite 1460  
City & Phone: Houston, TX 77027 (713)622-3211  
Title: Attorney General Documents  
Price: \$600/yr  
Contents: Texas Attorney General's Opinions  
Open Records Act Decisions  
Classification: Reference Source

Company: Quantum Access Inc.  
Address: 1700 W. Loop South, Suite 1460  
City & Phone: Houston, TX 77027 (713)622-3211  
Title: Material Safety Data System  
Price: \$750/yr  
Contents: Hazardous Materials Information  
Classification: Reference Source

Company: Quantum Access Inc.  
Address: 1700 W. Loop South, Suite 1460  
City & Phone: Houston, TX 77027 (713)622-3211  
Title: The State Education Encyclopedia  
Price: \$2,000/yr  
Contents: Documents Necessary to Administer a Texas School District  
Classification: Reference Source

Company: Real Estate Data Inc.  
Address: 2398 NW 119th St.  
City & Phone: Miami, FL 33167 (305)685-5731 Ext.2238  
Title: Real Estate Data: Washington,DC Area  
Price: To Be Announced  
Contents: Property Descriptions  
Classification: Reference Source

Company: Reference Technology, Inc.  
Address: 5700 Flatiron Parkway  
City & Phone: Boulder, CO (303)449-4157  
Title: Software Library DataPlate  
Price: \$395  
Contents: Public Domain Software for the IBM PC  
Classification: Software Library

Company: Sansyusya Publishing Co. Ltd.  
Address: 1-5-34 Taito-ku  
City & Phone: Tokyo 110, Japan  
Title: Multilingual Dictionary of Science & Technology  
Price: To Be Announced  
Contents: Chinese, Dutch, English, French  
German, Italian, Japanese, Spanish Dictionary  
Classification: Reference Source

Company: SilverPlatter Information Services, Inc.  
Address: 37 Walnut St.  
City & Phone: Wellesley Hills, MA 02181 (617)239-0306  
Title: Chembank  
Price: \$1,950/yr  
Contents: Rtecs, Ohmtads, Chris  
Classification: Database

Company: SilverPlatter Information Services, Inc.  
Address: 37 Walnut St.  
City & Phone: Wellesley Hills, MA 02181 (617)239-0306  
Title: Compu-Info  
Price: \$1,350/yr  
Contents: Computer Product Listings  
Classification: Reference Source



Company: SilverPlatter Information Services, Inc.  
Address: 37 Walnut St.  
City & Phone: Wellesley Hills, MA 02181 (617)239-0306  
Title: Medline  
Price: \$2,500/yr  
Contents: Citations to Medical Literature  
Five Year Set  
Classification: Database

Company: SilverPlatter Information Services, Inc.  
Address: 37 Walnut St.  
City & Phone: Wellesley Hills, MA 02181 (617)239-0306  
Title: NTIS  
Price: \$3,750/yr  
Contents: National Technical Information Service  
Five Year Set  
Classification: Database

Company: SilverPlatter Information Services, Inc.  
Address: 37 Walnut St.  
City & Phone: Wellesley Hills, MA 02181 (617)239-0306  
Title: Osh-ROM  
Price: \$900/yr  
Contents: Niosh, Hseline & Cisdoc  
Classification: Database

Company: SilverPlatter Information Services, Inc.  
Address: 37 Walnut Street  
City & Phone: Wellesley Hills, MA 02181 (800)343-0064  
Title: ERIC Database on SilverPlatter  
Price: \$950/yr 1983-pres  
Archival: \$2,000  
Contents: Resources in Education (RIE)  
Current Index to Journals in Education (CIJE)  
Classification: Database

Company: SilverPlatter Information Services, Inc.  
Address: 37 Walnut St.  
City & Phone: Wellesley Hills, MA 02181 (617)239-0306  
Title: Agricola  
Price: \$1,750/yr  
Contents: Agricultural Material  
Classification: Database

Company: SilverPlatter Information Services, Inc.  
Address: 37 Walnut Street  
City & Phone: Wellesley, MA 02181 (800)343-0064  
Title: EMBASE Database on SilverPlatter  
Price: \$3,000/yr  
Contents: EMBASE (Excerpta Medica)  
Classification: Database

Company: Sirsi Corp.  
Address: 8106 South Memorial Parkway  
City & Phone: Huntsville, AL 35802 (205)881-2140  
Title: Lasertap  
Price: Call for Prices  
Contents: CD-ROM Interface for Sirsi Library System  
Classification: Cataloging Support

Company: Slater Hall Information Products  
Address: 1522 K St., Suite 1112, NW  
City & Phone: Washington, DC 20005 (202)682-1350  
Title: Business Indicators  
Price: \$2,200/yr  
Contents: GNP accounts from 1929-Present  
Economic Series Articles from Blue Pages  
Survey of Current Business 1982 Reports  
Classification: Database

Company: Slater Hall Information Products  
Address: 1522 K St., Suite 1112, NW  
City & Phone: Washington, DC 20005 (202)682-1350  
Title: Business Statistics  
Price: \$1,200  
Contents: GNP accounts: 1929-85  
Selections from Survey of Current Business  
Classification: Database

Company: Slater Hall Information Products  
Address: 1522 K St., Suite 1112, NW  
City & Phone: Washington, DC 20005 (202)682-1350  
Title: Census of Agriculture  
Price: \$1,200  
Contents: 1982 Census of Agriculture  
Classification: Reference Source

Company: Slater Hall Information Products  
Address: 1522 K St., Suite 1112, NW  
City & Phone: Washington, DC 20005 (202)682-1350  
Title: County Statistics  
Price: \$1,200  
Contents: Compendium of Information for US Counties  
Classification: Database

Company: Slater Hall Information Products  
Address: 1522 K St., Suite 1112, NW  
City & Phone: Washington, DC 20005 (202)682-1350  
Title: County-Metro Area Statistics  
Price: \$1,200  
Contents: Census Bureau's COSTAT file  
Classification: Database

Company: Slater Hall Information Products  
Address: 1522 K St., Suite 1112, NW  
City & Phone: Washington, DC 20005 (202)682-1350  
Title: Population  
Price: \$1,200  
Contents: 1980 Census  
File #STF3C Population Estimates  
Classification: Database

Company: Sociological Abstracts Inc.  
Address: P.O. Box 22206  
City & Phone: San Diego, CA 92122 (619)565-6603  
Title: Sociofile  
Price: \$1,950/yr.  
Contents: Abstracts from Journals in Sociology  
Classification: Database

Company: Standard & Poor's Compustat Services  
Address: 7400 South Alton Court  
City & Phone: Englewood, CO 90112 (303)740-4510  
Title: Compustat PC Plus  
Price: \$12,000-\$45,000/yr  
Prices Vary  
Contents: Traded Companies, Annual Reports  
Classification: Database

Company: Tax Analysts  
Address: 400 N. Washington St.  
City & Phone: Falls Church, VA 22046 (703)532-1850  
Title: Tax Library  
Price: To Be Announced  
Contents: Primary Source Material to Support a Tax Practice  
Classification: Reference Source

Company: Tesco Inc.  
Address: 461 Carlisle Drive  
City & Phone: Herndon, VA 22070 (703)435-9501  
Title: First National Item Bank &  
Test Development System  
Price: \$300-\$800/mo  
Contents: Test Questions for Elementary  
& Secondary Grade Levels  
Classification: Tutorial

Company: Tetragon  
Address: 5455 Pare St. Suite 1102-2  
City & Phone: Montreal Quebec H4P 1R1 (800)363-2372  
Title: Rainbow: The Connection Business Base  
Price: \$3,000(Can)/yr  
Contents: Canadian Business Address Database  
Classification: Database

Company: Tetragon  
Address: 5455 Pare St. Suite 1102-2  
City & Phone: Montreal Quebec H4P 1R1 (800)363-2372  
Title: Rainbow: The Connection Home Base  
Price: \$3,000(Can)/yr  
Contents: Canadian Residence Database  
Classification: Database

Company: Tri-Star Publishing  
Address: 475 Virginia Drive  
City & Phone: Fort Washington, PA 19034 (215)641-6000  
Title: Oxford English Dictionary  
Price: \$1,250  
Dist. By Bowker  
Contents: Oxford English Dictionary  
Classification: Reference Source

Company: Tri-Star Publishing  
Address: 475 Virginia Drive  
City & Phone: Fort Washington, PA 19034 (215)641-6000  
Title: Trademark Information Database  
Price: Prototype only  
Contents: Active US Trademarks With Graphics  
Classification: Reference Source

Company: University Microfilm Inc.  
Address: 300 N. Zeeb Road  
City & Phone: Ann Arbor, MI 48106 (800)521-0600  
Title: 1984 IEEE Journals  
Price: Prototype only  
Contents: Plus Inspec Database  
Classification: Database

Company: University Microfilm Inc.  
Address: 300 N. Zeeb Road  
City & Phone: Ann Arbor, MI 48106 (800)521-0600  
Title: Dissertation Abstracts on Disc  
Price: \$995/yr  
Contents: Abstract of Doctoral Dissertations and Master's Theses  
Classification: Database

Company: University Microfilms Int.  
Address: 300 N. Zeeb Rd  
City & Phone: Ann Arbor, MI 48106 (313)761-4700  
Title: ABI/Inform Ondisc  
Price: \$4,950/yr  
Contents: Business Online Database  
Most Recent Five Years  
Classification: Database

Company: University Microfilms Int.  
Address: 300 N. Zeeb Rd  
City & Phone: Ann Arbor, MI 48106 (313)761-4700  
Title: Newspaper Abstracts Ondisc  
Price: \$4,640 for 7 newspapers  
Price varies; call for more info  
Contents: Citations & Abstracts From:New York Times  
Wall Street Journal, Christian Science Monitor  
Los Angeles Times, Chicago Tribune, Boston Globe  
Atlanta Constitution  
Classification: Database

Company: University of Colorado LASP  
Address: Campus Box B10  
City & Phone: Boulder, CO 80309 (303)492-6867  
Title: Voyager II Images of Uranus  
Price: Beta Testing  
Contents: Images of Uranus  
Classification: Reference Source

Company: US Bureau of Census  
Address: Data Users Service Division  
City & Phone: Washington, DC 20233 (202)763-4100  
Title: Census Test Disc #1  
Price: Demonstration Only  
Contents: Demographic Data By Zip Code  
Classification: Reference Source

Company: US Geological Survey  
Address: 804 National Center  
City & Phone: Reston, VA 22092 (703)648-4000  
Title: CD-ROM Prototype Disc  
Price: Prototype Only  
Contents: Geological Information  
Classification: Reference Source

Company: US West Knowledge Engineering  
Address: 4380 S. Syracuse, Suite 600  
City & Phone: Denver, CO 80237 (303)694-4200  
Title: Hydrodata  
Price: Prices Vary  
Contents: USGS Daily Values by State  
Classification: Database

Company: UTLAS International  
Address: 2150 Shattuck Ave.  
City & Phone: Berkeley, CA 94704 (415)841-9442  
Title: DisCon  
Price: \$800/mo + .20/record  
Contents: MARC & REMARC Records  
Classification: Database

Company: VLS Inc.  
Address: 310 S. Reynolds Road  
City & Phone: Toledo, OH 43423 (419)536-5820  
Title: Optext  
Price: \$395/Disc  
Contents: Code of Federal Regulations  
Classification: Reference Source

Company: Western Library Network  
Address: AJ-IIW  
City & Phone: Olympia, WA 98504 (206)459-6518  
Title: LaserCat  
Price: \$1,300/yr  
Contents: MARC Records & Holdings of  
250 WLN Libraries  
Classification: Public Access Catalog



### Index to Vendor List by Title

The following is an index to the previous vendor list arranged by the title of the CD-ROM product. After locating the title you are interested in, refer to the complete entry in the preceding list by company name.



Title: 1984 IEEE Journals  
See: University Microfilm Inc.

Title: A-V Online  
See: Access Innovation

Title: ABI/Inform Ondisc  
See: University Microfilms Int.

Title: Abstracts File  
See: Dun's Marketing Service

Title: Agricola  
See: OCLC, Inc

Title: Agricola  
See: SilverPlatter Information Services, Inc.

Title: Any-Book  
See: Library Corporation

Title: Applied Science & Technology Index  
See: H.W. Wilson Co.

Title: Attorney General Documents  
See: Quantum Access Inc.

Title: Bibliofile  
See: Library Corporation

Title: BiblioMed  
See: Digital Diagnostics Inc.

Title: Biography Index  
See: H.W. Wilson Co.

Title: BioLibe Series  
See: MicroTrends Inc.

Title: Black fiction up to 1920  
See: Cornell University

Title: Blaise Files  
See: British Library

Title: BPN, Jr.  
See: Library Systems & Services, Inc

Title: BRS Colleague Disc  
See: BRS Information Technologies

Title: Building Sciences Information System  
See: National Institute of Building Sciences

Title: Business Indicators  
See: Slater Hall Information Products

Title: Business Periodicals Index  
See: H.W. Wilson Co.

Title: Business Statistics  
See: Slater Hall Information Products

Title: Ca-CD  
See: Elsevier Science Publications

Title: CAB on CD-ROM  
See: CAB International

Title: Cat CD450  
See: OCLC, Inc

Title: Cataloger's Tool Kit  
See: EBSCO Electronic Information Division

Title: Ccinfodisc  
See: CCOHS

Title: CD-ROM Embase  
See: Elsevier Science Publications

Title: CD-ROM Prototype Disc  
See: US Geological Survey

Title: CD-ROM Sourcedisc  
See: DDRI

Title: CD/Banking  
See: Datext

Title: CD/Banking Savings & Loans  
See: Datext

Title: CD/Biotech  
See: PC-SIG Inc.

Title: CD/Corporate  
See: Datext

Title: CD/CorpTech  
See: Datext

Title: CD/International  
See: Datext

Title: CD/Private+  
See: Datext

Title: CDMARC Subjects  
See: Online Computer Systems

Title: Census of Agriculture  
See: Slater Hall Information Products

Title: Census Test Disc #1  
See: US Bureau of Census

Title: CIRR  
See: JA Micropublishing Inc

Title: COMPACT Cambridge/ASFA  
See: Cambridge Scientific Abstracts

Title: COMPACT Cambridge/Life Sciences  
See: Cambridge Scientific Abstracts

Title: COMPACT Cambridge/MEDLINE  
See: Cambridge Scientific Abstracts

Title: Compact Disclosure  
See: Disclosure

Title: Comprehensive MEDLINE/EBSCO  
See: EBSCO Electronic Information Division

Title: Compu-Info  
See: SilverPlatter Information Services, Inc.



Title: Computerized Clinical Information Systems (CCIS)  
See: Micromedex, Inc

Title: Conquest  
See: Donnelley Marketing Service

Title: Core MEDLINE/EBSCO  
See: EBSCO Electronic Information Division

Title: Corporate and Industry Research Reports  
See: JA Micropublishing, INC

Title: County Statistics  
See: Slater Hall Information Products

Title: County-Metro Area Statistics  
See: Slater Hall Information Products

Title: Cumulative Book Index  
See: H.W. Wilson Co.

Title: Daily Oklahoman  
See: Data Times

Title: DataTimes  
See: DATATEK

Title: Decus Fall 1986 CD-ROM Disc #1  
See: Digital Decus Group

Title: Decus Spring 1987 CD-ROM Disc #2  
See: Digital Decus Group

Title: DeLorme's World Atlas  
See: DeLorme Mapping Systems

Title: DIALOG OnDisc  
See: DIALOG Information Services, Inc.

Title: DIALOG OnDisc ERIC  
See: DIALOG Information Services, Inc.

Title: DIALOG OnDisc Medline  
See: DIALOG Information Services, Inc.

Title: DIALOG OnDisc NTIS  
See: DIALOG Information Services, Inc.

Title: DisCon  
See: UTLAS International

Title: Dissertation Abstracts on Disc  
See: University Microfilm Inc.

Title: Drugdex  
See: Micromedex Inc.

Title: Education Index  
See: H.W. Wilson Co.

Title: Electronic Encyclopedia  
See: Grolier Electronic Publishing Inc.

Title: Electronic Sweet's  
See: McGraw-Hill Book Co.

Title: EMBASE Database on SilverPlatter  
See: SilverPlatter Information Services, Inc.

Title: Emergindex  
See: Micromedex Inc.

Title: ENFLEX CD-ROM  
See: Environmental Resources Mgmt Computer Services

Title: ERIC  
See: OCLC, Inc

Title: ERIC  
See: ORI Ince/ERIC facility

Title: ERIC Database on SilverPlatter  
See: SilverPlatter Information Services, Inc.

Title: Facts on File News Digest  
See: Facts on File Publications

Title: FastPast  
See: MicroTrends Inc.

Title: Federal Procurement Disc  
See: ALDE

Title: General Science Index  
See: H.W. Wilson Co.

Title: GEOdisc  
See: Geovision Inc.

Title: Humanities Index  
See: H.W. Wilson Co.

Title: Hydrodata  
See: US West Knowledge Engineering

Title: Identidex  
See: Micromedex Inc.

Title: IMPACT  
See: Auto-Graphics, Inc.

Title: Index to Legal Periodicals  
See: H.W. Wilson Co.

Title: Informark Laser PC System  
See: NDS

Title: InfoTracII  
See: Information Access Co.

Title: International Encyclopedia of Information  
See: Pergamon Press

Title: Kirk-Othmer Encyclopedia of  
See: John Wiley & Sons, Inc.

Title: LaserCat  
See: Western Library Network

Title: LaserGuide Patron Access Catalog  
See: General Research Corporation

Title: LaserQuest  
See: General Research Corporation

Title: LaserSearch  
See: Ingram Book Company

Title: Lasertap  
See: Sirsi Corp.

Title: LC-LAW  
See: EBSCO Electronic Information Division

Title: LC-STM  
See: EBSCO Electronic Information Division

Title: LePac: Government Documents  
See: Brodart Automation

Title: LePac: Local Public Access Catalog  
See: Brodart Automation

Title: Library Literature  
See: H.W. Wilson Co.

Title: LinguaTech Bilingual Dictionaries  
See: MicroTrends Inc.

Title: LISA  
See: Library Association Publishing

Title: Map Cabinet  
See: Highlighted Data

Title: MARC-LAW  
See: EBSCO Electronic Information Division

Title: MARC-STM  
See: EBSCO Electronic Information Division

Title: Marcive/PAC  
See: Marcive Inc.

Title: Mark's Encyclopedia of Polymer  
See: John Wiley & Sons, Inc.

Title: Material Safety Data System  
See: Quantum Access Inc.

Title: McGraw-Hill CD-ROM Science  
See: McGraw-Hill Book Co.

Title: Medline  
See: SilverPlatter Information Services, Inc.



Title: Menu  
See: MicroTrends Inc.

Title: Merriam Webster Ninth  
See: Highlighted Data

Title: MicroLinx Database Bldg Option  
See: Faxon Company

Title: Microsoft Bookshelf  
See: Microsoft

Title: Million Dollar Directory  
See: Dun's Marketing Service

Title: Modern Language Association Index  
See: H.W. Wilson Co.

Title: Multilingual Dictionary of Science & Technology  
See: Sansyusya Publishing Co. Ltd.

Title: National Directory  
See: General Information Inc.

Title: National Meteorological Grid Point Data Set  
See: Department of Atmospheric Sciences

Title: Nature Plus  
See: MicroTrends Inc.

Title: News Scan  
See: Newsreel Access Systems Inc.

Title: NewsBank Electronic Index  
See: NewsBank Inc.

Title: Newspaper Abstracts Ondisc  
See: University Microfilms Int.

Title: NTIS  
See: OCLC, Inc

Title: NTIS  
See: SilverPlatter Information Services, Inc.

Title: O & D Plus, Vol. 1-3  
See: Data Base Products, Inc.

Title: Oncodisc  
See: I.S. Group

Title: One Source  
See: Lotus Development Corporation

Title: Optext  
See: VLS Inc.

Title: Optical Digital Image Storage System  
See: National Archives & Records Administration

Title: Osh-ROM  
See: SilverPlatter Information Services, Inc.

Title: Out of Print Plus  
See: Bowker Electronic Publishing

Title: Oxford English Dictionary  
See: Tri-Star Publishing

Title: PAF  
See: Post Office

**Title: Parts-Master  
See: National Standards Association Inc.**

**Title: PC Laser Library  
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**Title: PC-SIG CD-ROM  
See: PC-SIG Inc.**

**Title: Personal Information Package  
See: KnowledgeSet Corporation**

**Title: PHINet Tax Resource  
See: Prentice Hall Information Network**

**Title: Poisindex  
See: Micromedex Inc.**

**Title: Population  
See: Slater Hall Information Products**

Title: Rainbow: The Connection Business Base  
See: Tetragon

Title: Rainbow: The Connection Home Base  
See: Tetragon

Title: Reader's Guide to Periodical Literature  
See: H.W. Wilson Co.

Title: Real Estate Data: Washington,DC Area  
See: Real Estate Data Inc.

Title: Reference Tool Kit  
See: EBSCO Electronic Information Division

Title: Registry of Mass Spectral Data  
See: John Wiley & Sons, Inc.

Title: Resors  
See: PCI Inc.

Title: Reviews Plus  
See: Bowker Electronic Publishing

Title: Science Citation Index on CD-ROM  
See: Institute for Scientific Information

Title: Science Helper(K-8)  
See: PC-SIG Inc.

Title: Search CD450 Agriculture  
See: OCLC, Inc

Title: Search CD450 Science & Technology  
See: OCLC, Inc

Title: Search CD450 System  
See: OCLC, Inc

Title: Serials Directory  
See: EBSCO Electronic Information Division

Title: Social Sciences Index  
See: H.W. Wilson Co.

Title: Sociofile  
See: Sociological Abstracts Inc.

Title: Software Library DataPlate  
See: Reference Technology, Inc.

Title: Software Plus  
See: Bowker Electronic Publishing

Title: Tax Forms on Demand  
See: Online Computer Systems

Title: Tax Library  
See: Tax Analysts

Title: The Directory of Library & Information Professionals  
See: Information Technology Publishing - ALA

Title: The Intelligent Catalog  
See: Library Corporation

Title: The International Dictionary of  
See: John Wiley & Sons, Inc.

Title: The Serials Directory  
See: EBSCO Electronic Information Division

Title: The Universe of Sounds  
See: Optical Media International

Title: TLRN  
See: Innovative Technology Inc

Title: Trademark Information Database  
See: Tri-Star Publishing

Title: Ulrich's Plus  
See: Bowker Electronic Publishing

Title: Ulrich's Plus  
See: Bowker Electronic Publishing

Title: Versa Text  
See: MicroTrends Inc.

Title: Visual Dictionary  
See: Facts on File



**Title: Your Marketing Consultant:  
See: Knowledge Access Inc.**

**Title: Your Marketing Consultant:  
See: Knowledge Access Inc.**

**Title: Zip + 4  
See: Information Design Inc.**



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GLOSSARY

CDOP & EGCD are references to sources for original definition. Complete citation is listed at the end of the glossary.

**Access Time:** A term that can be used to describe several types of activities. (1) The amount of time it takes to get an instruction or a unit of data from computer memory to the processing unit of a computer. (2) The amount of time it takes to get a unit of data from a direct access storage device to computer memory. EGCD (3) The time required to find, retrieve, and display a piece of recorded information. Access time usually refers to the longest time a storage device requires to get to a piece of information. CDOP

**Address:** (1) A coded representation of the destination of data or of their originating terminals. Multiple terminals on one communication line, for example, must have unique addresses. Messages carry an address before their text to indicate the destination of the message. (2) Either a specific location in computer memory, a specific location on a direct access storage device, or a relative location. EGCD

**ADPCM (Adaptive Differential Pulse Code Modulation):** A digital sampling method that adapts to changes in signal characteristics (such as amplitude or pitch period) by correlating successive data samples. ADPCM is used to reduce quantizing noise when compressing digitized signals. CDOP

**Algorithm:** A method of problem solving by which solutions are derived from a prescribed set of well-defined steps of a finite number. Any step-by-step procedure for arriving at a solution to a specific problem. EGCD

**Aliasing:** Distortion of digital information that occurs when the sampling rate is less than twice the maximum frequency component in the sampled signal. In images, aliasing appears as jagged edges, called "jaggies", along diagonal or curved boundaries; in sound, aliasing produces false tones. CDOP

**Amplifier:** An electronic device for boosting, or strengthening, a video or audio signal.

**Analog:** In electronics, a signal that is continuously variable (often expressed as a wave), as opposed to a digital signal, which is discretely variable (often expressed as pulses). Analog data are often graphically represented as a sine curve. Analog phenomena in nature include waves, time, temperature, and voltage. These can be expressed digitally by periodically sampling the analog components. CDOP & EGCD

**Analog-to-Digital Converter (A/D converter or ADC):** A device that samples an analog signal at regular intervals and quantizes each sample (that is, represents each sample's value with a binary number of some predetermined length expressed in bits per word). This process, called Analog-to-Digital conversion, produces a digital signal that describes the original analog signal. Setting the sampling rate and the word length high enough to resolve all useful information in the signal is important. In practice, some information will always be lost. CDOP

**Applications Software:** Programs designed to perform a user-specific task. Examples of applications software include word processing and full-text search and retrieval packages.

**Artificial Intelligence:** Computer programs that perform functions, often by imitation, which are normally associated with human reasoning and learning. EGCD

**ASCII (American Standard Code for Information Interchange):** A code established by the American Standards Association, ASCII is a standard table of even-bit digital representations of upper and lowercase Roman letters, numbers and special control characters in teletype, computer and word-processor systems. ASCII is used for alphanumeric communication by all major software manufacturers except IBM, which uses EBCDIC, a similar code it devised. Since most computer systems use a full eight bit byte to send an ASCII character, many hardware and software companies have added their own nonstandard and mutually incompatible codes to the official ASCII 128-character set, extending it to 256 characters. CDOP

**Aspect Ratio:** The width-to-height ratio of a rectangular object or figure. In computer displays, this can refer to either the screen shape or the pixel shape. Video has a screen aspect ratio of 4:3 and film an image aspect ratio of 3:2. No common standard exists for pixel aspect ratio, though the trend is toward square (1:1) pixels. CDOP

**Audio Frequencies:** Frequencies that can be heard by the human ear, usually 30 to 20,000 cycles per second. EGCD

**Authoring Language:** A high-level, plain-English computer language, often based on a computer language such as BASIC or Pascal, that enables users without formal programming skills to write computer programs. The same program generally contains both content and logic. CDOP

**Authoring System:** A collection of authoring programs and equipment that enable nonprogrammers to write interactive programs often working in everyday language, and without the painstaking detail formal programming requires. Using an authoring system, a person can develop a program without knowing its inherent commands and logic. CDOP

**Auxiliary Data Field:** In CD-ROM Mode 1, a 288-byte-long data field in a physical sector used for additional EDC/ECC, error detection and correction. In Mode 2, a 280 byte-long data field available to the user. CDOP

**Bandwidth:** The number of cycles per second expressing the difference between the lower and upper limiting frequencies of a frequency band; also, the width of a band of frequencies. This term is used, less formally, to represent the maximum number of information units (bits, characters) capable of traversing a communications path per second. EGCD

**BER (Bit Error Rate):** Expressed as the number of bits encountered before one erroneous bit is found (for instance, in CD ROM the BER is one erroneous bit in 1012 bits) or as a frequency of erroneous bits (for instance, 10-12 bits). CDOP

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**BIT:** A bit is a binary (zero and one) digit and the smallest piece of data recognizable to a computer. The term is a contraction for binary digit. Data bits are used in combination to form a character; framing bits are used for parity and transmission synchronization. EGCD

**Bit Map:** A screen display in which each pixel location corresponds to a unique main memory location accessible by the central processing unit. Also can refer to images intended for display on this type of display system. See also PIXEL. CDOP

**Bits-Per-Second (BPS):** A measure of the speed of transmission in information systems. EGCD

**Bit-Stream:** Refers to a binary signal without regard to groupings by character. EGCD

**Bit String:** A group of arbitrarily arranged binary bits. EGCD

**Block Error Correction:** During CD ROM premastering, a process in which an error correction code (ECC) consisting of a string of bits is appended to each block of data (2048 bytes) to ensure that all erroneous user data will be recovered. CDOP

**Bootstrapping (to BOOT):** Refers to a machine-level software routine, the first instructions of which are to bring either the rest of the routine or some other larger program into the CPU from an input device, such as a keyboard. Often used to facilitate system start-up. EGCD

**Browser:** An application program that lets the user meander through areas of information on a CD-ROM, viewing the contents. CDOP

**Buffer:** A temporary storage device that is used to compensate for a difference in data flow rates or in time of data flow events when transmitting data from one device to another. EGCD

**Burst Error:** Errors detected in consecutive data bits on CD-ROMs, often caused by scratches, fingerprints or other physical irritants to the disc. Burst errors cause most data loss in optical memory. Error correction codes are designed based on the anticipated frequency and duration of burst errors. CDOP

**Burst Mode:** A method of writing or reading data that does not permit an interrupt to occur. EGCD

**Byte:** A group of bits, processed or operating together. An electronic data processing term that is used to describe one position or one character of information. The most common byte is eight bits long. A byte has 256 different possible combinations of eight binary digits. EGCD

**CAV (Constant Angular Velocity):** A disk mechanism that spins a disk at a constant speed, resulting in the inner disk tracks' passing the reading mechanism more slowly than do the outer tracks. Sectors on a CAV disk radiate in uniform patterns from the disk's center, so they are smaller at the inner areas, with higher storage density. A floppy disk is a CAV disk. See also CLV. CDOP Disks with CAV format have a series of concentric rings equally divided into sectors where data resides.

**CD-I (Compact Disk Interactive):** A technical specification for a self-contained multimedia system that allows simultaneous, interactive presentation of video, audio, text and data. The standard, also known as the Green Book Standard, envisions dedicated players and discs delivering pictures, sound and text via domestic TV and audio equipment as well as computer monitors. Proposed jointly by Phillips and Sony, CD-I is expected to appear commercially in 1988. CDOP

**CD-PROM (Compact Disk as Programmable Read-Only Memory):** This type of CD can be written once by the user and therefore can be programmed. Not yet available commercially. EGCD

**CD-ROM (Compact Disk Read-Only Memory):** A 4.7 inch read-only optical memory disc based upon the Philips/Sony World Standard that stores up to 600 megabytes of computer data and audio. See also ROM. Also known as the Yellow Book Standard. EGCD

**Channel:** (1) In television, a single path or section of the electromagnetic spectrum which carries a television signal. (2) A path or circuit along which information flows. EGCD A channel for digital data carries an analog signal since digital data is encoded into voltage changes, which are analog signals. The size, or BANDWIDTH, of the channel determines how much information can flow through it. A CD-ROM drive has a channel bandwidth of 150KB per second. (3) Parallel data streams stored on CD-I, especially those the user can select. CDOP

**Chapter:** A particular sequence of consecutive frames.

**Character String:** Any group of characters acted upon in a computer system as though it were a single unit.

**Check Bit:** A single binary digit used to determine the parity status of a byte of data. Often called a parity bit. EGCD

**CIRC:** See Cross-Interleaved Reed-Solomon Code

**Circuit:** A means of two-way communication between two points. EGCD

**Chrominance:** The color information in a full color electronic image. Requires luminance, or light intensity, to make it visible. CDOP

**CLUT (Color Look-Up Table):** A selection of colors assigned a digital value and held in a table. The program decodes a color picture for display by matching the code stored on the disc at a constant linear density, but requires special tracking and sensing devices to slow down the disc as the head rotates. A CD-ROM drive's rotational rate ranges from 500 to 200 rpm. CDOP

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**CLV (Constant Linear Velocity):** A disc drive (such as CD-ROM drive) that rotates the disc at varying speeds, moving data past the optical head at a constant speed. The drive must rotate the disc more slowly as the head moves from the inner tracks toward the outer perimeter. This design allows data to be stored on the disc at a constant linear density, but requires special tracking and sensing devices to slow down the disc as the head rotates. CDOP  
Each frame of the disc cannot be addressed separately; the disc has a longer playing time per side than a CAV disc. EGCD Data is stored along one continuous spiral track.

**Coaxial Cable:** A cable capable of passing a wide range of frequencies with very low signal loss. A coaxial cable consists of a hollow metallic shield with a single wire accurately placed along the center of the shield and isolated from the shield. The cable is used as a hardwire link between receiving equipment and originating equipment for the transmission of television signals. EGCD

**Color Standard:** The way in which a color video picture is composed and transmitted. Three distinct, incompatible color standards-PAL,NTSC and SECAM and some minor variations within the PAL and SECAM systems are in use. CDOP

**Compact Disc:** The trademark name for an injection-molded aluminized disc, 12 cm in diameter, which stores high-density digital data in microscopic pits that a laser beam can read. Conceived by Philips and Sony, it was originally designed to store high-fidelity music for which Compact Disc Digital Audio is now a standard format accepted worldwide. Because of its very large data storage capacity, the Compact Disc now is used as a text/data medium in electronic publishing (CD-ROM). CDOP

**Composite Monitor:** A CRT monitor that accepts composite video input. In composite video, the luminance (brightness), chrominance (color) and synchronization information are combined into a single signal. Broadcast television uses a composite video signal. CDOP

**Compression:** 1. In the context of digital images, the process of compacting data based on the presence of large white or black areas in printed pages, engineering drawings or other images. The CCITT digital facsimile standards contain one-and two-dimensional compression/decompression algorithms. 2. Text compression refers to a technique that saves storage space by eliminating gaps, empty fields, redundancy or unnecessary data. All compressed data must be expanded by a reverse operation called decompression. CDOP 3. The reduction or gain of a signal with respect to the reduction or gain at another level of the same signal. EGCD

**Constant Linear Velocity:** See CLV

**Controller:** Any hardware or software element or group of elements through which system data are converted during input and output to a peripheral device to affect communications between the system and peripheral. EGCD

**Contouring:** A visual effect that occurs in images digitized with insufficient pixel depth. Gives the image a blotchy, flat appearance. CDOP

**Conversion:** Procedure by which a program recording on one format is transferred to another format, e.g. paper to microform, microform to electronic information. EGCD

**CPU (Central Processing Unit):** The part of the computer that controls the interpretation and execution of processing instructions. EGCD

**Cross-Interleaved Reed-Solomon Code (CIRC):** The first level of error correction used in CD-ROM and the only error correction needed for CD-Digital Audio. Use of CIRC yields an error rate of one uncorrectable error per 10 to the 9 bytes. Further error detection and correction in CD-ROM systems improve this to one error per 10 to the 15 bytes. CDOP

**CRT (Cathode Ray Tube):** Display mechanism in a television set. The sealed glass tube is filled with low-pressure gas. An electron gun (or guns, in the case of color monitors) in its neck focuses a narrow beam of electrons that scans the screen, causing its phosphor coating to glow where hit, thus creating an image. CDOP

**Cycle:** A time interval in which a characteristic or repeated event occurs. In a graphics system, most processing is said to run in machine cycles. EGCD

**DAC:** See Digital to Analog converter

**Data Preparation:** The process of converting data on media other than CD-ROM into a form suitable for delivery on CD-ROM. Involves several steps, including initial conversion of data into machine-readable form, indexing and building the files and file directories. CDOP

**Database:** 1) A collection of digitally stored data records. 2) A collection of data elements within records within files that have relationships with other records within other files. EGCD

**Database Management:** This software program can be thought of as a computerized filing cabinet full of information which comes with a superior indexing system. DBM software allows the user to create a database and store and retrieve any type of information. This kind of software program allows speed of access and the ability to automatically produce reports. A Database Management System (DBMS) is a set of programs designed to organize, store and retrieve machine-readable information from a computer-maintained database or databank. EGCD

**Data Bus:** A piece of computer hardware that transmits coded data in either parallel or serial mode between processors or other hardware components in a computer system. EGCD

**Data Compression:** See Compression

**Data File:** Set of related data in which all records are organized the same way and which can be accessed under a single name. EGCD

**DataRom:** Used by Sony as an acronym for their 5.25 inch optical read-only memory disc. Also referred to as OROM (Optical Read-Only Memory) EGCD



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**Delivery System:** In CD-ROM, the set of CD-ROM and computer equipment used to deliver the information. A delivery system can involve a CD-ROM drive only, a computer, or a monitor and a keypad or it can include several memory devices, a printer and a variety of peripherals. CDOP

**Demodulation:** Makes communication signals compatible with computer terminal signals. EGCD

**Device Drivers:** Device driver software tells the computer how to talk to the CD-ROM drive. These software programs are needed for any microcomputer to communicate with external devices, such as a CD-ROM drive. They are small programs which have to be written for each device that is connected to the microcomputer. EGCD

**Differential PCM (DPCM):** A data-compression technique for quantizing sound digitally in which the differences between each sample value and the next are recorded rather than the values themselves. Compare with ADPCM. CDOP

**Digital:** 1) A function which operates in discrete steps. 2) Digital computers manipulate numbers encoded into binary (on-off) forms, while analog computers sum continuously varying forms. 3) Digital communication is the transmission of information using discontinuous, discrete, electrical or electromagnetic signals which change in frequency, polarity or amplitude. Analog (the opposite of digital) intelligence may be encoded for transmission on digital communication systems. EGCD

**Digital-to-analog converter:** Mechanical or electronic devices used to convert discrete digital numbers to continuous analog signals. (Also referred to D-A Converter and DAC) EGCD

**Digital Videodisk:** A videodisk on which digital data has been encoded in FM format normally used to record the video signal on a videodisk. CDOP

**Digitizing:** Refers to the process of converting graphic representations into digital data that can be processed by a computer system. EGCD

**Diode:** 1) An electronic device that permits electrical current flow in one direction in order to inhibit current flow in the opposite direction. 2) A two-electrode electron tube that contains an anode and cathode. EGCD

**Disc Geography:** The layout of data on a disc. Disc geography refers to, among other things, the starting and stopping points of data segments, the interleaving factor of interleaved files, and the distribution of data that must be placed in close proximity for seamless branching and playback. CDOP

**Disc Organization:** The process of formatting the files on the disc and creating the exact disc image to be mastered for a CD-ROM. Occurs at the end of data-preparation process. CDOP

**Disk Operating System (DOS):** A microcomputer software program that controls the flow of data between the system's internal memory and external disks, e.g., VMS, MS-DOS, CP/M, and UNIX. Examples of a CD-ROM operating system include References Technology's STA/File, TMS' LaserDos, and Digital Equipment Corporation's Uni-File. Most CD-ROM operating systems work with the High Sierra Format. EGCD

**Display Adapter:** The display system component that processes the computer data into a video signal the system's display monitor can interpret. This circuitry may be built into the computer or may be supplied via a separate card. CDOP

**Dithering:** 1) A bit-mapped graphics technique that expands the number of gray levels or colors on a display at the expense of spatial resolution. Groups of pixels are treated as a composite pixel, the brightness of which is varied by altering the number of component pixels that are illuminated. 2) A technique used to prevent contouring in digital images with limited gray scales. Analogous to creating halftones in printing, in dithering, small regions of pixels are treated as a single larger pixel; the large pixel's gray scale is altered by turning on different numbers of pixels in the cell. CDOP

**Driver Software:** See Device Drivers

**DRAW (Direct Read After Write):** Describes a recording machine that reads continuously while writing to verify the quality of the written data. This allows error-free recording in a single pass, because whenever a written sector of data contains errors it is immediately rewritten. CDOP

**DRIVE:** A machine for reading from and, when possible, writing to an electronic data-storage medium (such as disk, tape or card). The medium can be optical, magnetic, etc. CDOP

**EBCDIC (Extended Binary Coded Decimal Interchange Code):** An eight bit code used to represent 256 numbers, letters and characters in a computer system. Developed by IBM and used primarily by IBM equipment. Compare with ASCII. EGCD

**ECC:** See Error Correction Code

**ECC Layers:** Several error correction schemes can be used in combination on a disc. After a data record is encoded using one scheme, you can then re-encode it using a second scheme, improving the bit-to-error ratio. Each ECC scheme is considered a different layer, with each residing on top to the previous one. CDOP

**EDC:** See Error Detection Code

**Edge Enhancement:** An image-processing technique for sharpening the edges of objects in an image, removing blur or bringing out obscured detail. CDOP

**Eight-to-Fourteen Modulation (EFM):** A process during CD-ROM mastering in which each "word" of eight data bits is turned into 14 channel bits for storage on disc. The opposite process occurs when data is read from a CD-ROM disc. CDOP

**Emulation:** Imitation of a computing function by a system not originally designed to perform that function. EGCD

**Encryption:** Encoding computer data so that reading it requires special hardware or software. CDOP

**Environment-Resistant:** General term indicating a device's or system's capability of operating in extremes of temperature, humidity, vibration, sand and dust, etc. EGCD

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**EPROM (Erasable Programmable Read-Only Memory):** Read-only memory in which data can be erased by ultraviolet light or other means and data can be reprogrammed bit by bit with appropriate voltage pulses. See also PROM. EGCD

**Error Correction:** A technique that identifies and corrects errors that occur during the recording or transfer of information. Used extensively in computer storage media such as Compact Discs. CDOP

**Error-Correction Code (ECC):** ECC is a method of data recovery that allows the full recovery of a single physical block of user data, which is 2,048 bytes. It is used by the CD-ROM drive and during CD-ROM mastering. EGCD

**Error-Detection Code (EDC):** Used in conjunction with ECC, EDC allows the detection of errors for correction. EGCD

**Error Rate:** The ratio of the amount of erroneously transmitted information to the total amount sent. EGCD

**Error Recovery:** The process of correcting erroneous data or otherwise minimizing the damage errors cause. This may consist of correcting the errors using an ECC code, masking them by interpolation or some other means of partial reconstruction, or aborting the current operation. To implement any error recovery scheme, the error first must be detected. CDOP

**ESDI:** A device interface standard proposed by Maxtor (of San Jose, CA) to enable a computer to communicate and exchange data with a mass storage device, such as a small Winchester drive. The ESDI was developed to exceed the limitation of the ST506 interface, and achieve data rates about 10MB/sec. See also IPI and SCSI. CDOP

**Facsimile (FAX):** 1) An exact copy of a document. 2) The process or result by which fixed images are scanned, transmitted electronically and reproduced either locally or remotely. EGCD

**Field:** 1) In data structures, the smallest unit stored in a database. 2) In video, a scan of one-half the lines that comprise a single, complete frame on the video screen. Two interlaced fields make up one frame. NTSC systems use a 525-line frame, so each field contains 262.5 lines. In noninterlaced systems, the field and frame are the same. CDOP

**Firmware:** Prewritten programs stored in read-only memory (ROM) circuits. Used widely as a method of implementing commonly used software in word processing and small computer systems. EGCD

**Flag:** 1) Any hardware or software indicator used to identify a byte, file or component of a graphics system. EGCD 2) In data preparation, a sequence of characters inserted in the text to convey information about a document's structure and display. The representation of these characters in the actual database is compressed. CDOP

**Focus Servo:** The mechanism in an optical drive that keeps the reading and/or writing light spot focused on the disc surface. The mechanism can adjust to avert the effects of surface imperfections and the jarring of the drive mechanism caused by external shocks or vibrations. CDOP

**Formatting:** The process of blocking user data and adding information identifying each block. The formatting information includes the data address and synchronization information and may include error correction check sums and data, as well as data type specification. The formatting process also creates the directory for all files on the disc. CDOP

**Frame:** 1) In compact disc technology, synonymous with sector. 2) In image technology, refers to one screen image in a timed sequence of images. CDOP

**Frame Buffer:** Synonymous with display buffer. A block of memory, generally part of a display adapter, that holds an image in a timed sequence of images. CDOP

**Frame Delta:** An image storage technique that stores only information that varies from one image to the next. The technique is used to minimize the space required to store and display animated or video images. CDOP

**Frame Grabber:** Synonymous with video digitizer. A device that digitizes a video signal and then places the digitized signal in a frame buffer to be stored or processed. CDOP

**Frequency Response:** The measurement of an audio unit's ability to reproduce, at equal volume, each sound frequency. EGCD

**GCR (Group Code Recording):** Group code is a block-oriented algebraic error correction code that enables recovery from burst errors. Used, for example, in the 6250 bpi half-inch nine-track magnetic tape on which computer data commonly is premastered for CD-ROM. CDOP

**Green Book:** Another name for the CD-I Standard.

**Hard Read Error:** Physical bits of data that cannot be read by the user since they are usually misplaced or absent from the data bit stream. EGCD

**Hardware:** Electrical and mechanical equipment involved in the production, storage, distribution, or reception of electronic signals. EGCD

**Hashing:** 1) A special mathematical algorithm. EGCD 2) An indexing method in which the value being searched for is used to compute the location where the data is stored. An index created in this way is called a hash table. CDOP

**Header Field:** In CD-ROM, a four-byte area of a data sector that contains the absolute sector address (three bytes) and the mode byte. CDOP

**Hertz:** A measure of frequency or bandwidth; the same as cycles per second. The frequency of an electric or electromagnetic wave in cycles per second, named after Heinrich Hertz, who detected such waves in 1883. EGCD

**High Resolution:** The degree of resolution necessary for a monitor to display clearly readable 80-column text. Computers for professional use normally employ high-resolution monitors. CDOP

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**High Sierra Group:** An ad hoc standards group set up to establish nominal data format and compatibility for CD-ROM. The group, including representatives from the hardware, software and publishing industries, is named after the Lake Tahoe hotel where it first met in the summer of 1985. CDOP

**High Sierra Group Proposal:** The informal name for the first draft of a standard format for placing files and directories on CD-ROM discs proposed by the High Sierra Group. Work on the proposal began in the 1985 at the High Sierra Hotel at Lake Tahoe (hence its title). CDOP

**Huffman Encoding:** A data-compression scheme that uses variable-length codes, choosing the shortest codes for the most frequent values. It is used for one-dimensional data compression in the CDITT Group III digital facsimile standard. CDOP

**Indexing:** The process of building data structures for an electronic database that contain the location of each word or other data item. Indexes permit the computer to rapidly locate data without searching through the full body of data. A data item is searchable only if it is indexed. CDOP

**Injection Molding:** Manufacturing process used in making CD-ROM's in which molten plastic is squirted into a mold. CDOP

**Integrated Information System:** An information system that combines two or more technologies, e.g., CD-ROM and microcomputer. EGCD

**Intelligent Player:** A Compact Disc player with extra computing facilities built in (such as a CD-I player), enabling the player and the user to interact. CDOP

**Intelligent Terminal:** 1) A microprocessor-controlled device that can function as a self-contained microcomputer 2) A terminal device that is able to do more than send and receive data. EGCD

**Interactive Media:** Information storage devices on which information is stored in such a way that, by means of an application program the user participates in its delivery. The medium also may store the application program. The opposite of interactive is linear. CDOP

**Interface:** 1) The place at which two systems (such as a microcomputer and CD-ROM) meet and interact with each other. 2) Generically, an interface is a common interconnection between two components or functions that do not normally interact. It can be a piece of hardware equipment, a common area of computer storage, or some common instructions shared by two or more programs. 3) In the realm of microcomputers, interface describes the circuit board that attaches a particular peripheral device to another microcomputer. (See also Controller) EGCD

**Interleaving:** A multiprogramming technique in which parts of one computer program are inserted into another program so that if there are processing delays in one program, parts of the other program can be processed. EGCD

**IPI (Intelligent Peripheral Interface):** An interface standard that enables communication between a CPU and a peripheral storage device. The IPI interface handles data rates up to 10MB/sec. and is gaining support among several large companies, including IBM. CDOP

**Interpolation:** The determination of a value that lies between two known values through a mathematical calculation. EGCD

**I/O (Input/Output):** 1) An acronym used to signify the transfer of data between computer storage and peripheral devices. 2) The equipment or processes which transmit data into or out of a computer's central processing unit (CPU). EGCD

**Joystick:** A remote-control device for a computer that resembles an automobile's gearstick. A joystick is often used in video and arcade games and sometimes in interactive video applications. CDOP

**Jukebox:** In CD-ROM applications, a Compact Disc player that can hold and access several Compact Discs.

**ISO:** International Standards Organization

**Keywords:** In databases, specific values stored in fields, which are indexed and can be retrieved individually. A person's last name, stored in a Name field, is an example of a keyword. CDOP

**Kilobits:** One thousand data bits. Often expressed as Kbits. EGCD

**Land:** The reflective area between two adjacent nonreflective pits on a CD-ROM disc. In CD-ROM coding, a binary one represents the transition from pit to land and from land to pit, and two or more zeros represent the distances between transitions. CDOP

**LASER (Light Amplification by Stimulated Emission of Radar):** A device which transmits an extremely narrow and coherent (separate waves in phase with one another rather than jumbled, as in normal light) beam of electromagnetic energy in the visible light spectrum. EGCD

**Local Area Network:** 1) A communications network designed to serve a limited geographic area. 2) According to the Yankee Group (Boston, MA), a LAN is "An interoffice, intrabuilding, intrafacility communications system that supports some type of communications processing and transparent information transfer between users and/or electronic devices. EGCD

**Logical Format:** Synonymous with File Format. Specifies the organization and locations of data files on a CD-ROM, defining such things as a file's size, the directory structure for all files on the disc, and the numbers of discs in the application. The High Sierra Group (HSG) Proposal is an attempt by industry leaders to standardize the logical format of CD-ROMs which have been left to the discretion of operating systems developers. CDOP

**Luminance:** The intensity, or brightness component, of an electronic image. By itself, luminance creates an image in gray, black and white. It can be combined with chrominance to create a color image. CDOP

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**Magnetics:** A form of computer memory in which data are stored in a magnetic oxide that coats a plastic or metal disk. Data are recorded (written) and played back (read) by magnetic heads which traverse the rotating disk under computer program control. EGCD

**Mass Storage:** A device which can hold very large amounts of information cheaply with automated access on demand. EGCD

**Master:** An original recording in its final format and intended for mass replication. CDOP

**Medium:** In computing, a substance or object on which information is stored; usually refers either to the sensitive coating on a writable device or to the device itself (that is, the disk, tape, card and so forth). CDOP

**Microprocessor:** 1) An integral piece of hardware, a microchip, which performs the logic functions of a digital computer. 2) It is a piece of hardware that houses the computing parts of a computer on one circuit board or in one set of integrated circuits. The microprocessor does not contain the I/O interfaces and memory unit. EGCD

**Millisecond:** One thousandth of a second. Expressed numerically as 0.001; abbreviated as ms or msec. EGCD

**Mode 1 and Mode 2:** These terms, when referring to the Compact Disc specifications, relate to the two main block or frame formats in which data is stored on the disc. Mode 1 provides for a level of error detection and correction beyond the CIRC, which the CD Digital Audio standard uses. Mode 2 makes each block's total data area available for user data. The CD-I standard also employs the Mode 2 format. CDOP

**Mouse:** A remote-control device that can be guided by hand around a smooth surface to direct a cursor on the computer screen. CDOP

**Nanometer:** Nm (an acronym) is one millionth of a millimeter. EGCD

**NISO (National Information Standards Organization):** Establishes standards for libraries, information sciences, and publishing. CDOP

**Noise:** Interference a signal picks up every time it passes through electronic circuitry. If noise is too intense, it affects the information quality. "Static" on telephone lines or "snow" on a television screen is an example of noise. CDOP

**OCR (Optical Character Recognition):** A method for converting printed characters to machine-readable character codes through an optical sensing device and pattern-recognition software. CDOP

**OEM (Original Equipment Manufacturer):** Usually refers not to the manufacturer of a device, but to the system integrator that resells the device as part of the system. Sometimes used as a verb. CDOP The term is used to describe the process of obtaining pieces of equipment from various manufacturers and configuring them as a single entity and then marketing the configuration to a third party. EGCD

**Off-The-Shelf:** Professionally produced, pre-packaged programs, usually of a generic nature. The alternative to off-the-shelf is custom-produced materials, such as software programs and specially designed and produced databases. EGCD

**OMDR (Optical Memory Disc Recorder):** A DRAW device used to write analog or digital information to an optical disc. CDOP

**Online Computer System:** A system in which input data enters the computer directly from the point of origin and/or output data is transmitted directly to where it is used. The intermediate stages, such as writing magnetic tape, punching data into cards or paper tape, or offline printing are largely avoided. EGCD

**Optical Character Recognition:** See OCR

**Optical Disc:** A disc read and/or written by light, generally a laser. Such a disc may store video, audio or digital data. CDOP

**Optical Head :** The assembly in a CD-ROM drive containing the components that bounce laser light off the data surface of a CD-ROM disc and convert the resulting reflections into electrical signals that can be interpreted as data. The head includes a laser, lenses, prisms, a focusing mechanism and a photodetector. CDOP

**Optical Scanning Device:** A device that can view text or graphic images, sense the light emitted, and thereby, the position of the images, and translate those findings into online graphic data comprehensible to a computer graphics system. EGCD

**Optical Storage:** Storage of information on optically sensitive materials. These optical media (such as the Compact Disc) have very high storage density. CDOP

**Original Equipment Manufacturer:** See OEM

**OS-9:** The real-time operating system on which the CD-I operating system is based. CDOP

**Overhead:** In computer jargon, the amount of storage or other resources required to accomplish some task. CDOP

**Palette:** In digital video, the total number of colors available for pictorial presentations. CDOP

**Parallel Processing:** Simultaneous execution of two or more process operations in a single computer system. EGCD

**Parity:** A method of error detection that uses a percentage of redundant data to verify the user's data. CDOP

**Parity Bit:** The final bit added to a series of bits and assigned the value required to make the sum of all bits in the sector odd or even. Often added to data to provide a very simple form of error detection and, sometimes, error correction. See also Check Bit. CDOP



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**Parity Check:** A test to help determine data's validity. Specifically, this test determines whether the number of zeros and ones that the binary digits of a byte of data represent is odd or even. CDOP

**PCM (Pulse Code Modulation):** The representation of continuous signals using discrete pulses (for instance, the digital representation of an analog waveform). The signal on Digital Audio discs is encoded in PCM. CDOP

**Peripheral Equipment:** Supplementary equipment that puts data into or accepts data from the computer, such as disk drives and printers. EGCD

**Photoconductive Cell:** Device for detecting or measuring electromagnetic radiation by variation of the conductivity of a substance (called a photoconductor) upon absorption of the radiation by this substance. Also referred to as a photoresistive cell. EGCD

**Photodiode:** A semiconductor diode in which the reverse electrical current varies with illumination. Also referred to as a photoconductor diode. EGCD

**Photoresist:** See Photoconductive Cell

**Pit:** 1) A microscopic depression in the reflective surface of a CD-ROM disc. The pattern of pits on the disc represents the data that is stored. The unpitted area between pits is called a land. The laser beam used to read back the data is reflected from the lands, but scattered by the pits. A typical pit is about the size of a bacterium - 0.5 by 2.0 microns (millionths of a meter). 2) Broadly used to refer to any type of data-carrying mark in optical media. CDOP

**Pitch:** The distance between tracks or pits on a disc. CDOP

**Pixel:** A picture element in a video display; the minimum raster display element, represented as a point with a specified color or intensity. CDOP

**Pixel Aspect Ratio:** The width-to-height ratio of a pixel. Aspect ratio is a function of the number of scan lines along the vertical axis and the number of scanning spots along the horizontal axis, along with the screen's physical aspect ratio. CDOP

**Pixel Depth:** The number of bits stored for each pixel in a bit-mapped image. The greater the pixel depth (the more bits per pixel), the wider the range of intensity levels or colors a bit map can represent. The number of possible pixel values is 2 to the N, where N is the pixel depth. CDOP

**Pixel Doubling:** A method of changing the aspect ratio of a display by duplicating rows or columns of pixels. CDOP

**Pixel Thinning:** A technique for reducing the bandwidth or changing the aspect ratio of an image by systematically discarding pixels. CDOP

**Port:** A connection point on a CPU through which a computer workstation or another device can communicate with the CPU directly. EGCD

**Premastering:** 1) Includes the conversion of digital code, the addition of error-correction codes, and the intelligent preprocessing of the data records. 2) In this phase of CD-ROM production, machine-readable and bit-stream data must be converted to the CD format. Premastering requires both knowledgeable computer professionals and computer processing power. During this stage, 288 bytes (called the "system data") of EDC and ECC are added to each block of user data (2,048) to ensure the full recovery of user block data. EGCD

**Presentation System:** Part of a delivery system used to process and display information received from the storage system. CDOP

**Programmable Read-Only Memory (PROM):** A memory that is not programmed during manufacturing and requires a physical or electrical process to program it. EGCD

**Quantization:** 1) Part of the process by which analog signals are encoded into digital form. 2) Also refers to the number of bits required to store the value of each digital sample. CD-Audio uses 16-bit quantization for each stereo channel, resulting in a range of about 64,000 discrete sound level values (64KB) at each sampling point. See also Sampling Rate. CDOP

**Query Language:** In database management systems, an alternative to conventional programming languages which allows users to formulate ad hoc information retrieval requests without formal training in algorithmic thought. EGCD

**Random Access Memory (RAM):** Semiconductor memory circuits used for the storage of data and programs in word processing systems and related information-processing devices. The content of these circuits is volatile. Contrast with Read-Only Memory (ROM). EGCD

**Raster:** The area that a scanning beam of a CRT illuminates. Also, the array of scan lines that cover a display area and depict images, called a raster scan. CDOP

**Raw Bit Error:** Sent to the microcomputer as a data error, raw bit error rate refers to physical data errors on the CD-ROM disc without the use of the CD-ROM drive's decoding and correction system. EGCD

**Read:** 1) To acquire or copy data from one storage device or medium to another. 2) The opposite of Write. EGCD

**Read-Only Memory (ROM):** Semiconductor memory circuits that contain prewritten programs or data. The content of ROM circuits is permanent, while the content of random access memory (RAM) circuits is volatile. EGCD

**Real Time:** An operating mode under which receiving and processing the data and returning the results occurs so quickly that it guides physical processes in question or interacts instantaneously with a user. EGCD

**Redundancy:** In error correction schemes, storing the same data more than once or in more than one way so that the additional information can be used to reconstruct any data lost because of media imperfections or transmission errors. CDOP

**Reed-Solomon:** An Algebraic code used for error correction. The Reed-Solomon code is part of the CIRC error correction code used to correct errors in Compact Discs. CDOP

**Replication:** The process of making multiple copies of a CD-ROM. CDOP

**Reseek:** Occurs when a playback device's read head must perform a series of redundant disc accesses to a file to read all of its data into a memory buffer. A reseek commonly occurs if the presentation device can't store and process incoming data fast enough. If the buffer fills up, reading stops, and the disc must make at least one full revolution before reading can continue. This time lag can interrupt presentation if the buffer is small, as the buffer may empty and the presentation device become starved for data before the seek is complete. CDOP

**RGB (Red-Green-Blue):** A computer color display output signal and image-encoding scheme comprised of separately controllable red, green and blue elements. RGB monitors typically offer higher resolution than do composite monitors. CDOP

**RTOS (Real-Time Operating System):** For effective interaction, an operating system must be able to function within the constraints of real time. The CD-I's OS-9 based operating system is an RTOS. CDOP

**Run-Length Encoding (RLE):** An encoding technique to compress the data storing a screen image. Normally used to compress high-contrast images such as black-and-white images, run-length encoding compression stores only the transitions from black to white or from white to black and the distance between transition. CDOP

**SASI (Shugart Associate Standard Interface):** Commonly pronounced "sassy". An interface protocol that enables storage devices to communicate with microcomputers. Developed by Shugart Associates, SASI has been adopted as an industry standard for small disk drives. See also SCSI.

**Scan Lines:** The parallel lines across the video screen along which the scanning spot travels from left to right when laying down the video information that makes up the picture on the TV screen or monitor. NTSC standard video systems produce 525 lines on a screen, and PAL standard video systems produce 625 scan lines. CDOP

**SCSI (Small Computer Standard Interface):** Pronounced "scuzzy". An eight bit parallel interface that connects peripherals to microcomputers. Any CD-ROM drive with a SCSI can theoretically connect to any microcomputer with a SCSI, although minor implementation incompatibilities sometimes prevent this. Because SCSI is a bus-oriented interface, as many as eight systems and peripherals can be connected on one. SCSI is derived from SASI, which was renamed SCSI when the US Government adopted it, with some alterations, as a standard. CDOP

**Sector:** The smallest addressable unit of a disc's track. EGCD Generally, a data block on storage media, usually with a predetermined length. In CD-ROM, a 2,352-byte data block. Every CD-ROM sector contains its own error detection and correction coding and has its own unique address on the disc. CDOP

**Seek:** To position the read head of a mass storage unit in the correct location to read a particular file or piece of information. On a CD-ROM drive, this generally requires also altering the rotational speed. Because seeking data on a CD-ROM is time-consuming when compared to seeking on magnetic-disk media, the number of seeks required to find the desired information is an important determinant of overall CD-ROM system performance. The High Sierra Group's proposed file format and directory structure provide for opening any file on a CD-ROM disc with only one or two seeks. CDOP

**Seek Error:** Data error that results when the drive's laser is unable to accurately locate user-requested data as a result of physical and/or mechanical problems, such as vibration, disc surface irregularities, and poor laser focusing. EGCD

**Self-Checking Code:** A method of encoding data that allows an invalid code to be detected but not corrected. EGCD

**Serial:** Refers to the arrangement of data or processing tasks in a series. Often refers to the transmission of data through a communications line. EGCD

**Servo-Mechanism:** Systems of control which read their own output (feedback) to determine the degree of further output as compared with input. Automated temperature control devices are servo-mechanisms as are the focus and tracking servos of optical disk drives. EGCD

**Shugart Associates Standard Interface:** See SASI

**Signal:** Visual or auditory information converted into electrical impulses. EGCD

**Signal-to-Noise Ratio (SNR):** The strength of a video and/or audio signal in relation to the interference, or "noise", it has picked up in passing between source and destination. The higher the SNR value, the better the quality of the signal. CDOP

**Software:** A set of programs, procedures, and documents concerned with the operation of a data processing system. EGCD

**Software Read Error:** Sometime errors occur due to reading problems which result from poor laser focusing and circuitry noise; these can be corrected by rereading the CD-ROM disc. EGCD

**Sprites:** Screen images, movable under program or manual control through an input device. Sprites may be characters, cursor shapes, or specific patterns. They normally are smaller than full-screen size, and in certain cases their size is restricted. CDOP

**Stamper:** The metal plate carrying the negative image of a glass CD-ROM master disc that is used to mold polycarbonate replicates. CDOP

**String:** A sequence of characters stored according to their numeric codes. EGCD

**Subcodes:** Display and disc control information stored along with audio data on a Compact Disc. The Compact Disc Digital Audio format specifies eight subcode bits for every 588 data bits and labels them P,Q,R,S,T,U,V,and W. CDOP

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**Substrate:** A physical material on which a microcircuit is fabricated; used primarily for mechanical support and insulating processes, e.g., ceramic, glass and plastic substrates. EGCD

**Synchronization Field:** In CD-ROM, a 12-byte area of a sector that contains synchronization information. In hexadecimal notation, all bytes in this field are FF except the first and last bytes, which are 00. Also called the sync code. CDOP

**System Software:** Programs that enable a computer to function and control its own operation as opposed to application programs which accomplish user-specific tasks. The most common example of system software is the group of programs described as the computer's operating system. EGCD

**Tracking Servo:** The servo in an optical drive that keeps the reading and/or writing light spot centered on the information track regardless of imperfections in the medium and drive mechanism or of shocks and vibrations. CDOP

**Turnkey System:** An integrated configuration of preselected hardware and prewritten software designed to accomplish a particular information-processing task. The term is most often applied to dedicated computer systems that use minicomputers or microcomputers. EGCD

**UM:** A micron, or a millionth of a meter. EGCD

**Utilities:** Programs that provide special processing functions which aid graphic activities. These functions include saving, listing, copying, initializing, etc. EGCD

**Value-added Networks:** Alternative information transmission networks designed to facilitate the communication of information among terminals and computers. Most value-added networks offer long-distance communication rates that compare very favorably with those of the conventional telephone network. Examples include Telenet and Tymnet. EGCD

**Vectorize:** To convert a bit-mapped image to structured graphics. CDOP

**Video:** Pertaining to the bandwidth and spectrum position of the signal resulting from television scanning. EGCD

**Video Digitizer:** See Frame Grabber.

**Videodisc:** A generic term describing an optical disc that stores color video pictures and two-channel sound along a spiral track. Uses the same optical readout principle as Compact Disc, but the discs are larger and double-sided, and the rotational speed and data rate are higher. The program information is analog, although the control information is digital. CDOP

**Voice-Grade Audio:** Sound information of sufficient quality for reproducing the human voice; normally voice-grade audio has a bandwidth of 4 to 8 kHz. CDOP

Volume Table of Contents (VTOC): 1) In Compact Disc, subcode information in the lead-in area of the disc identifying the number of tracks and indexes, their timing and their duration. 2) In CD-ROM, an area of the disc that includes the disc name, copyright information, pointers to datablocks, sequence numbers in a multivolume set, version numbers and so forth. CDOP

WORM (Write-Once, Read-Many): An optical disc technology in which the user may write to the disc as well as read from it. CDOP

Write: To transcribe recorded data from one place to another, or from one medium to another. (Information from a computer is written to a disk, rather than written on a disk) CDOP

Write-Once Medium: A data-storage medium to which data can be written but not erased. CDOP

Yellow Book: Another name for the CD-ROM standard. CDOP

Winchester-type Disk: A hard surface disk used as a high capacity magnetic storage alternative to floppy disks. As opposed to a removable disk, the Winchester-type disk is "fixed". EGCD

Zoom: In video and photography, the facility to enlarge (zoom in on) or diminish (zoom out from) an area of image. CDOP

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CDOP: CD-ROM 2 : Optical Publishing, Edited by Suzanne Ropiequet, Microsoft Publishing, 1987

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