

GAO RESEARCH GUIDE

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OLS-83-3

Electronic Data Processing

SCOPE: The purpose of this guide is to provide a starting place for the individual who wishes to do research in the area of electronic data processing. Sources were selected to indicate the range of materials available on the subjects of software, hardware, telecommunications, and EDP management. EDP auditing is not covered because it is the subject of a separate publication. (See OLS-83-01.) Types of material included are basic reference works which explain concepts and terms, indexes, abstracting services, and bibliographies which provide references to other publications, and basic texts which discuss the subject at greater length. Sources for standards and conferences are also included. All items are available in the Technical Library unless otherwise designated.

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SUBJECT HEADINGS under which books on electronic data processing can be located in the GAO card catalog include:

BASIC
COBOL
Computer Crimes
Computer Industry
Computer Programming Management
Computer Programs
Computers
Electronic Data Processing
Electronic Data Processing Departments
Electronic Digital Computers
FORTRAN
Microcomputers
Minicomputers
Programming (Electronic computers)
Programming Languages (Electronic languages)

BASIC TEXTS for the novice:

Brooks, F. The Mythical Man-Month. Reading, Mass.: Addison-Wesley, 1975.

QA76.B75

Covvey, H. Dominic. Computer Consciousness; Surviving the Automated 80's. Reading, Mass.: Addison-Wesley, 1980.

QA76.C69

Martin, James. Wired Society. Englewood Cliffs, N.J.: Prentice-Hall, 1978.

TK5101.M327

Shelly, G., and T. Cashman. Introduction to Computers and Data Processing. Fullerton, Calif.: Anaheim Publ. Co., 1980.

QA76.S512

ADDITIONAL TEXTS:

Awad, Elias M. Systems Analysis and Design. Homewood, Ill.: Irwin, 1979.

QA76.A93

Bernard, Dan, et al. Charging for Computer Services; Principles and Guidelines. New York: PBI Books, 1977.

HF5548.2.B394

Boehm, Barry W. Software Engineering Economics. Englewood Cliffs, N.J.: Prentice-Hall, 1981.

QA76.6.B64

Burch, John G., and Felix R. Strater. Information Systems; Theory and Practice. Santa Barbara, Calif.: Hamilton Pub. Co., 1974.

T58.6.B87

Cougar, J. Daniel, and Robert W. Knapp. System Analysis Techniques. New York: Wiley, 1974.

T57.6.C68

Dearden, John, F. Warren McFarlan, and William M. Zani. Managing Computer-Based Information Systems. Homewood, Ill.: Irwin, 1971.

HF5548.2.D423

Doll, Dixon R. Data Communications; Facilities, Networks and System Design. New York: Wiley, 1978.

TK5105.D64

Martin, James. Computer Networks and Distributed Processing; Software, Techniques, and Architecture. Englewood Cliffs, N.J.: Prentice-Hall, 1981.

QA76.9.D5M36

----- . Design and Strategy for Distributed Data Processing. Englewood Cliffs, N.J.: Prentice-Hall, 1981.

QA76.9.D5M37

----- . An End-User's Guide to Data Base. Englewood Cliffs, N.J.: Prentice-Hall, 1981.

QA76.9.D3M37

----- . Principles of Data Base Management. Englewood Cliffs, N.J.: Prentice-Hall, 1976.

QA76.9.D3.M376

----- . Telematic Society; a Challenge for Tomorrow. Englewood Cliffs, N.J.: Prentice-Hall, 1981.

TK5101.M327 1981

McLean, Ephraim R., and John V. Soden. Strategic Planning for MIS. New York: Wiley, 1977.

T58.6.S76

Meyers, Glenford J. Advances in Computer Architecture. New York: Wiley 1978.

Shaw, John Clark, and William Adkins. Managing Computer System Projects. New York: McGraw-Hill, 1970.

T58.64.S45

Sollenberger, Harold M. Management Control of Information Systems Development. New York, National Association of Accountants, 1971.

Yourdon, Edward, and Larry L. Constantine. Structured Design; Fundamentals of Discipline of Computer Program and System Design. Englewood Cliffs, N.J.: Prentice-Hall, 1979

QA76.6.Y67 1979

Zelkowitz, Marvin V., et al. Principles of Software Engineering and Design. Englewood Cliffs, N.J.: Prentice-Hall, 1979.

QA76.6.243

DICTIONARIES which contain information on electronic data processing include:

Chandor, Anthony. A Dictionary of Computers. Harmondsworth, Middlesex, England: Penguin Books, 1970.

REF QA76.15.C46

-----, Penguin Dictionary of Microprocessors. Harmondsworth, Middlesex, England: Penguin Books, 1981.

REF QA76.5.C43

DCSSA, Dictionary of Computer and Control Systems Abbreviations, Signs, and Symbols. New York: Odyssey Press, 1965.

REF TK7885.D5

IEEE Standard Dictionary of Electrical and Electronics Terms. 2d ed. New York: Institute of Electrical and Electronics Engineers, Inc., 1977.

REF TK9.1478 1977

Maynard, Jeff. Dictionary of Data Processing. 2d ed. London: Butterworths, 1981.

REF QA76.15.M39

Sipl, Charles J. and Roger Sippl. Computer Dictionary. 3d ed.
Indianapolis, Ind.: Howard W. Sams and Co., Inc, 1980.

REF QA76.15.S57 1980

Sipl, Charles. Data Communications Dictionary. New York: Van Nostrand
1976.

REF TK5105.S56 1976

-----Microcomputer Dictionary. 2d ed. Indianapolis, Ind.:
Howard W. Sams and Co., Inc, 1981.

REF TK7885.A2556

ENCYCLOPEDIAS which contain short articles on electronic data processing are:

Condensed Computer Encyclopedia. St. Louis, Mo.: McGraw-Hill, 1969.

REF QA76.15.J65

Encyclopedia of Computer Science. First edition. New York: Petrocelli/
Charter, 1976.

REF QA76.15.E48

Encyclopedia of Computer Science and Technology. 16 vols. New York:
Marcel Dekker, 1975 - 1980.

REF QA76.15.E5

DIRECTORIES:

Computer-Readable Bibliographic Data Bases. Washington, D.C: American
Society for Information Science, 1982.

REF Z699.22.C635

Computer Programming Management. Philadelphia: Auerbach Publishers,
1983.

REF QA76.6.C66

Data Sources. New York: Ziff-Davis Publishing Company, 1982 - .

REF QA76.6.D38

Datapro Automated Office Solutions. 2 vols. Delran, N.J.: Datapro
Research Corporation, 1980 - .

REF HF5548.2.A85

Datapro Directory of Online Services. 2 vols. Delran, N.J.: Datapro Research Corporation, 1982 - .

REF QA76.55.D38

Datapro Directory of Small Computers. 2 vols. Delran, N.J.: Datapro Research Corporation, 1980 - .

REF QA76.D25

Datapro Reports on Data Communication. 3 vols. Delran, N.J.: Datapro Research Corporation, 1982 - .

REF TK5105.D264

Datapro Reports on Minicomputers. 3 vols. Delran, N.J.: Datapro Research Corporation, 1982 - .

REF TK7888.3.D3

Datapro Reports on Telecommunications. 2 vols. Delran, N.J.: Datapro Research Corporation, 1983 - .

REF HE7621.D37

Datapro Reports on Word Processing. 2 vols. Delran, N.J.: Datapro Research Corporation, 1983 - .

REF QA76.D29

Datapro 70; the EDP Buyer's Bible. 3 vols. Delran, N.J.: Datapro Research Corporation, 1982 - .

REF QA76.D3

Directory of Computerized Data Files, 1982. Washington, D.C.: National Technical Information Service, 1982.

REF QA76.D565 1982

Directory of Online Data Bases. Santa Monica, Calif.: Cuadra Associates 1981.

REF QA76.D57

EDP Solutions. 2 vols. Delran, N.J.: Datapro Research Corporation, 1982 - .

REF QA76.D33

Federal Information Sources and Systems. (PAD 80-50). Washington, D.C.: U.S. General Accounting Office, 1980.

REF Z1223.A1U53

Kruzas, Anthony T., and John Schmittroth. Encyclopedia of Information Systems and Services. 4th ed. Detroit: Gale Research Co., 1981.

REF Z674.3.E52

National Directory of Computing and Consulting Services. St. Louis, Mo.: Independent Computer Consultants Association, 1982.

REF HD9696.C63.U53 1982

SOFTWARE DIRECTORIES:

Computer Program Abstracts. Washington, D.C.: U.S. National Aeronautics and Space Administration, 1978 - .

REF QA76.C57

Datapro Directory of Microcomputer Software. 2 vols. Delran, N.J.: Datapro Research Corporation, 1983.

REF QA76.5.D38

Datapro Directory of Software. 2 vols. Delran, N.J.: Datapro Research Corporation, 1982 - .

REF QA76.D37

Federal Software Exchange Catalog. Washington, D.C.: General Services Administration, Automated Data and Telecommunications Service, 1977 - .

REF QA76.5.F29

International Directory of Software, 1982-83. Bournemouth, England: Computing Publications, Ltd., 1982.

REF QA76.6.I565

BIBLIOGRAPHIES:

Agajanian, A.H. Computer Technology; Logic, Memory, and Microprocessors. New York: IFI/Plenum, 1978.

REF Z564.2.A35

Carter, Ciel. Guide to Reference Sources in the Computer Sciences. New York: Macmillan, 1974.

REF QA 76.C3617

Myers, Darlene. Computer Science Resources; a Guide to Professional Literature. White Plains, N.Y.: Knowledge Industry Publications, Inc. 1981.

REF QA76.M94

NTIS published searches: (The Library has several of these in the Reference Collection. The following titles are a sampling.)

Computer Software Maintenance; a Bibliography with Abstracts.
Springfield, Va: U.S. National Technical Information Service, 1979

REF Z5642.3.C37

Directory of Computer Software Applications; Minicomputer and Microcomputers. Springfield, Va.: U.S. National Technical Information Service, 1980.

REF Z5640.U5

JOURNALS that often contain relevant articles to electronic data processing are:

ACM Transactions on Database Systems

Bulletin of the American Society for Information Science

BYTE

CAD/CAM Digest

Communications News

Communications of the ACM

Computer Age: EDP Weekly

Computer Age: EFTS

Computer Age: Government Computer Procurement

Computer Age: Software Digest

Computer Decisions

Computer Design

Computer Economics Report

Computer Graphics News

Computer Law and Tax Report (available in the Law Library)

Computer Networks

Computer Security Journal

Computers and Operations Research

Computers and People

Computers and Security

Computers, Control and Information Theory

Computerworld

Computerworld OA

Computing Surveys

Creative Computing

Data Base

Data Processing Digest

Database

Datamation (May issue: application software survey; June issue: top 10 U.S. DP companies; Oct. issue: salary survey; Nov. issue: mini, micro survey; Dec. issue: systems softwares survey.)

Desktop Computing

DM: Data Management

EDP Analyzer

EDP In-Depth Reports

EDP Industry Report

EDP Performance Review

EDPACS

Electronic News

Electronics

Government Computer News

Government Data Systems

IBM Systems Journal

IEEE Spectrum (January issue: a state of the art review of hardware)
Information and Word Processing Report
Information Intelligence Online Newsletter
Information Management; Systems, Technology, Software, Media
Information Retrieval and Library Automation
Information Services and Use
Information Systems
Infosystems (April issue: micrographics and salary survey; June issue:
word processing and data processing and salaries survey.)
Infoworld
Journal of Library Automation
Journal of Systems Management
Journal of the Association for Computing Machinery
Law and Computer Technology (available in the Law Library)
Micro
Microcomputing
Mini-Micro Systems
Modern Office Procedures
Office
Office Administration and Automation
Personal Computing
Popular Computing
Telecom Insider
Telecommunications
Words

ABSTRACTING AND INDEXING SERVICES which index relevant journal articles and other literature on electronic data processing are:

Computer Literature Index. Phoenix, Ariz.: Applied Computer Research, 1975 - .

REF QA76.Q3

Computer Contents .

Available in the periodical collection.

Computers, Control and Information Theory. Springfield, Va.: National Technical Information Center, 1982-1983.

Available in the periodical collection.

Computing Reviews. New York: Association for Computing Machinery, 1976 - .

REF QA76.C5854

Computing Technology; a Bibliography of Selected Rand Publications. Santa Monica, Calif.: Rand Corporation, 1977.

REF Z1217.R3 no 1036

Data Processing Digest. Los Angeles, Calif.: Data Processing Digest, Inc., 1976 - .

Available in the periodical collection.

Microcomputer index. Santa Clara, Calif.: Microcomputer Information Services, 1973 - .

REF QA76.M55

Selected Computer Articles. Washington, D.C.: U.S. Department of Defense Computer Institute, 1976 - .

QA76.U53

DATA BASES which provide references to articles about EDP or descriptions of software include:

COMPENDEX
International Software Database
INSPEC
ISMEC
Microcomputer Index
NTIS

STANDARDS AND REGULATIONS applicable to electronic data processing:

Code of Federal Regulations. Washington, D.C.: General Services Administration, Office of the Federal Register, (Especially 41 C.F.R. and 15 C.F.R. 6).

Available in the Law Library.

Federal Information Processing Standards Publication. Washington, D.C.: U.S. National Bureau of Standards, 1968 - . (IMTEC also maintains and distributes an updated listing of these standards.)

JK468.A8A3

National Fire Codes. Boston: National Fire Protection Association, 1980.

REF TH9111.N3 1980

Standards and Specifications. This is a data base accumulated by National Standards Association, Inc. It is updated monthly and available through the GAO Technical Library. Includes citations to standards developed by DOD, GSA, ASTM, ANSI, and UL, among others.

CONFERENCE AND MEETINGS are announced in these publications:

World Meetings: United States and Canada. New York: Macmillan, 1982 - .

REF Q11.T2

The following journals list meetings:

BYTE

Communications News

Communications of the ACM

Computer Decisions

Computer Design

Computer Networks

Computerworld CA

Creative Computing

Datamation
Desktop Computing
DM, Data Management
Electronic News
Electronics
Government Computer News
IEEE Spectrum
Information Intelligence Online Newsletter
Information Management; Systems, Technology, Software and Media
Information Retrieval and Library Automation
Information Services and Use
Information Systems
Infosystems
Microcomputing
Mini-Micro Systems
Office
Office Administration and Automation
Popular Computing
Telecommunications

GAO PUBLICATIONS (These publications are also available directly from IMTEC):

ADP Related Documents. Washington, D.C.: U.S. General Accounting Office, 1980.

Computer Performance Evaluation (CPE). Washington, D.C.: U.S. General Accounting Office, 1979.

QA76.5.U5

Provisional Checklist for Software Conversion Projects. Washington, D.C.:
U.S. General Accounting Office, n.d.

Questions designed to aid Managers and Auditors in Assessing the ADP
Planning Process. Washington, D.C.: U.S. General Accounting Office, n.d.

A Selected Bibliography on Computer Software Terms. Washington, D.C.:
U.S. General Accounting Office, n.d.

A Working Glossary of Computer Software Terms. Washington, D.C.: U.S.
General Accounting Office, n.d.