(Be sure to create a new Table of contents each year)

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* *

USER'S GUIDE AND CATALOG

January 1, 1996

SHARE Inc.

The principal purpose of SHARE Inc. is to foster the development, free exchange, and public dissemination of research data pertaining to SHARE computers in the best scientific tradition. To achieve these ends, SHARE conducts meetings, discussion groups, forums, panels, lectures, and other similar programs concerned with the development and exchange of research and technological data.

SHARE publishes the results of its scientific research through its SHARE Secretary's Distribution (SSD) and other publications and makes such publications available to the interested public on a noncommittal and nondiscriminatory basis. SHARE attempts to establish and continually improve standards for communicating computer scientific research and programming information to interested members of the public. All inquiries and requests to SHARE, other than for programs and their associated documentation, should be directed to:

SHARE Inc.
401 North Michigan Avenue
Chicago, IL 60611-4267
Telephone: (312) 822-0932

The SHARE Program Library Agency

The SHARE Program Library is a collection of generally useful programs created and administered to promote the exchange of technical information, to lower software development costs, and to help avoid redundant effort. Programs and their documentation are made available at distribution costs. The SHARE Program Library Agency (SPLA) is operated on a non-profit basis by the University of Miami for SHARE Inc.

The University of Miami as the distribution agent for contributed programs and does not test or maintain the programs. Programs and documentation are distributed in the original form as submitted by the author.

Neither the University of Miami nor SHARE Inc. makes any warranty, expressed or implied, as to the documentation, function, or performance of contributed programs.

Neither the University of Miami nor SHARE Inc. accepts any liability should SPLA be unable to fill an order for any reason.

Organization of the Catalog

The Catalog is divided into three main parts:

- Ordering and Submittal Information
- Abstracts of Available Programs
- KWIC Index of Program Titles

The table of contents and the abstracts are listed in program number order. The KWIC index of program titles gives the program number as the reference point.

There are two appendices. Appendix A lists titles of programs that continue to be available from SPLA, but whose abstracts are no longer included in the catalog. Many of these programs are felt to be obsolete; others simply generate very few orders.

These abstracts were removed from the catalog to streamline it and make it easier to use. Individual abstracts for the programs listed in Appendix A are available on request from SPLA.

Appendix B lists sources for other SHARE-related tapes that, for whatever reason, are not available from SPLA.

New in 1996

The following is a list of programs that have been revised or submitted to SPLA during 1994:

370D-03.0.019CBT MVS Modifications Tape (revision)
370D-05.6.002SHARE JES2 Mods Tape (revision)

All currently available programs have the prefix 360D, 360E, or 370D. Programs from earlier series are not available through SPLA.

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HOW TO ORDER FROM SPLA HOW TO ORDER FROM SPLA

General Procedures

Your organization does not have to be a member of SHARE to order programs from the Library. The price for programs is the same for both SHARE and non-SHARE members.

All orders should be accompanied by either a purchase order or payment.

When ordering from SPLA, please send all materials relevant to an order (e.g., purchase orders, checks, order forms, etc.) in the same envelope. This is necessary to prevent duplication of orders.

A $5.00 handling fee is charged on all orders that are not prepaid.

All orders from outside the USA and Canada must be prepaid, with payment in U.S. dollars and checks drawn on a U.S. bank.

All shipments will be sent postpaid via UPS or first class mail in the USA; please include a street address with your shipping information. Foreign shipments will be sent airmail.

Telephone orders can be accepted from purchasing departments only. You must have a purchase order number when ordering by phone. Telephone orders can only be accepted for orders totaling $100 or less.

All orders should be written on a SPLA order form (contained in this catalog) and sent to the following address:

University of Miami-SPLA
P. O. Box 248011
Coral Gables, Florida
33124-4220
Attn : Fred Robinson
Telephone: (305) 284-6257

Program Orders

The standard distribution for each program includes one copy of all machine-readable material and one copy of the documentation (some documentation is in machine readable form only).

Only programs in the 360D, 360E, or 370D series, as indexed in this catalog, are currently available from SPLA.
The price of a standard distribution is $40.00 per program for orders from the USA and Canada, and $45.00 per

program for all others. Other applicable charges are listed below:

An additional charge is made for documentation over 20 pages. Excess documentation charges are listed with each program abstract.

Machine-readable material is available on 9-track 800, 1600, or 6250 BPI tapes. SPLA cannot currently handle 3480 cartridges. **DO NOT SEND TAPES**; SPLA will provide all required materials as part of the distribution.

If a program package requires longer than a 600-foot reel of tape, there is an additional charge of $5.00 per 600 ft. (tapes are available in 600 ft., 1200 ft., and 2400 ft. lengths only). These charges are noted in the program abstracts.

Documentation Only Orders

Hardcopy documentation for many programs can be ordered separately. The cost is listed in the program abstract under "Documentation Only." Some documentation is in machine-readable form only and is unavailable as documentation only.

Note that the availability of written documentation does not guarantee its usefulness; in some cases written documentation is extensive and may include a user's guide and source code, in other cases there may be only slightly more information than is included in the program abstract. The higher the price is, the greater the number of pages in the documentation.

SHARE Catalog Orders

Copies of the SHARE Program Library User's Guide and Catalog of Programs are available through SPLA at a cost of $10.00. Catalogs ordered from SPLA include four update mailings on a calendar year

basis. If an update has been mailed prior to a catalog order, the update will be shipped with the catalog.

Refund Policy

Please note that the programs in the SHARE Library are distributed on a use-at-your-own-risk basis, with no warranty, guarantee, or promise of function or support. Therefore, refunds cannot be given. Bad tapes -- those that are copied incorrectly or produce read errors -- will be exchanged. Such exchanges should be requested promptly (within 60 days) after receipt of a tape.

(Order FormOrder Form goes here)

SPLA FEE SCHEDULESPLA FEE SCHEDULE

Distribution Package Includes:

Magnetic tape (600')
Documentation (additional charge for over 20 pages)
Prepaid shipment

Program Distribution Fee (per program) United States and Canada	$40.00
Program Distribution Fee (per program) Foreign (must be prepaid)	$45.00
Documentation Only Fee	(see program abstract)
Catalog Subscription (annual) Current catalog and four updates	$10.00

Additional Charges:

Excess documentation fee	(see program abstract)
Handling charge per order (if not prepaid)	$ 5.00
Magnetic tape in excess of 600 ft. (per 600 ft.)	$ 5.00

Media and services not listed will be quoted upon request.

SUBMITTAL OF PROGRAMS TO THE SHARE LIBRARY SUBMITTAL OF PROGRAMS TO THE SHARE LIBRARY

SPLA endeavors to distribute well-documented, useful programs. SPLA recognizes that programs are not written for the explicit purpose of SPLA distribution. Rather, programs are developed to solve problems at our own installations. In most cases, documentation which is adequate for your local use will be adequate for submission to he library. However, you must include certain items with each submittal. A complete program package includes:

- o SPLA Submittal Form
- o Acknowledgement of Assistance
- o Statement
- o Documentation
- o Tape Key
- o Source Program

The submittal may optionally include an object program (specify system and release), flowcharts, sample programs, or anything else you deem useful.

The above items will be discussed in greater detail in the following sections. You may address questions, comments, or suggestions concerning these requirements or the SHARE Program Library to the Director of Divisions of SHARE, Inc. Submittal of programs is not restricted to SHARE member installations.

Mail completed submittal packages to SPLA at the following address:

University of Miami
SHARE Program Library Agency
P. O. Box 248011
Coral Gables, Florida 33124-4220
Attn : Fred Robinson

The availability of programs is announced via the SHARE Program Library User's Guide and Catalog, published as a special edition of the SSD ("SHARE Secretary's Distribution"). Periodic supplements and announcements are included in regular SSDs. These supplements are also sent to purchasers of the SHARE Catalog.

Submittal Bonus

Contributors are eligible for three free program packages for each new program package submitted to SPLA. SPLA imposes no time limit on the redemption of the credit, which will be honored at the time of submission or at any subsequent time. Eligible contributors need only to specify their choice of programs.

The three-for-one credit is given for submission of new programs only, not for revisions.

Submittal Requirements

Submittal Form

Each program submitted must include a completed and signed SHARE Program Library Submittal Form. Blank forms with instructions for completion are available from the Library. A copy of this form is shown at the end of this section. The form is reproduced as part of the distributed program package.

Acknowledgement of Assistance Statement

Each submittal must include, in letter form on a separate sheet, signed and dated, the following statement:

To the best of my knowledge, my program entitled "_____" is free of any proprietary, secret, or confidential information belonging to any person or organization. (Continue with a. or b. below.)

a. Where I have used the work, plans, procedures, systems, programs or names of companies or individuals, I have obtained their permission to do so.

b. I have not used the work, plans, procedures, systems, programs or names of any companies or individuals.

This statement is not reproduced as part of the distributed program package.

Documentation

Documentation is required, but almost any format is acceptable. All documentation supporting a contributed program is reproduced for distribution. Machine-readable documentation is preferred.

For documentation that is not machine-readable, please observe the following graphic guidelines.

- Submit clean copy (originals if possible).
- All hardcopy will be reproduced on 8 1/2 x 11 inch paper, so submit hardcopy in that size if possible. (SPLA will reduce larger printouts before reproducing them.)
- Provide adequate margins for all documents -- about one inch on all sides.
- Machine-generated documents should use six lines to the inch spacing and should be printed on unlined white paper. Extra comments may be Typed or handwritten in black ink.
- Illustrations should be in black ink on sheets not larger than 11 x 15 inches.
- Each page of documentation should be sequentially numbered.

The text of the document should focus on fast and expedient implementation of the program.

Program

Program submittals are accepted in magnetic tape form only. Magnetic tapes must be recorded in 9-track format at 1600 or 6250 BPI density using EBCDIC (ASCII is not acceptable). SPLA cannot currently handle 3480 tape cartridges.

Tape Key

A tape key is required. It should list the title and description of each file, followed by the data record length and block size.

Please specify whether the tape is labeled or unlabeled; if labeled, give the volume serial. If relevant, indicate the standard IBM utility program which can be used to print a listing, or load the program(s). Also specify the control card information for the utility program.

EXAMPLE: Tape Key

This volume is unlabeled and contains 3 files as follows:

```
File 1  Source Program
        RECFM=FB,LRECL=80,BLKSIZE=40
00      1160 card images
        24 blocks

File 2  Sample Data Input
        RECFM=FB,LRECL=80,BLKSIZE=40
00      524 card images
        11 blocks

File 3  User's Guide
        RECFM=FBA,LRECL=133,
                BLKSIZE=3059
        1300 lines
        57 blocks
```

NOTE: Do not specify recording track and density in the tape key, since these options may be specified when the program is ordered from SPLA. However, the submittal tape itself should be labeled with this information.

Program Package Revisions

The submittal of program revisions must always be accompanied by a new SHARE Program Library Submittal Form and identified as a REVISION in Item 8 of that submittal form. Please submit a complete, new package including documentation, tape key, and Acknowledgement of Assistance statement.

(Library Submittal Form(Library Submittal Form goes here (1st page))

(Library Submittal Form goes here (2nd page))

CLASSIFICATION CODES CLASSIFICATION CODES

00. Utility (External) Programs
- 0 Unclassified
- 1 Multiple Utility
- 2 Flowcharting
- 3 Tape Handling
- 4 Disk Handling
- 5 Drum and Direct Data Devices
- 6 Graphic Display Devices

01. Utility (Internal) Programs
- 0 Unclassified
- 1 Loading
- 2 Clear/Rest Memory
- 3 Check Sum Accumulative and Correction
- 4 Internal Housekeeping
- 5 Dump to Reload/Restore Operations
- 6 File Organization
- 7 Self Checking Digit
- 8 Packed Data Handlers

02. Diagnostics
- 0 Unclassified
- 5 Status Recorders

03. Programming Systems
- 0 Unclassified
- 1 Assemblers
- 2 Compilers
- 3 Interpretive Systems
- 4 Input/Output Control
- 5 Report Generators
- 6 Preprocessing and Editing
- 7 Macros and Macro Generators
- 8 Functions and Subroutines

04. Testing and Debugging
- 0 Unclassified
- 1 Dumping
- 2 Tracing
- 3 Test Data Preparation
- 4 Testing Systems
- 5 Break Point Printing
- 6 Memory Verification and Searching

05. Executive Routines
- 0 Unclassified
- 1 Monitor
- 2 Supervisor
- 3 Disassembly and Derelativizing
- 4 Relativizing
- 5 Relocation

06. Data Handling
- 0 Unclassified
- 1 Sorting
- 2 Merging
- 3 Data Transmission
- 4 Tape Operations
- 5 Conversion and/or Scaling
- 6 Character and Symbol Manipulation
- 7 Information Classification, Storage, and Retrieval
- 8 List Processing
- 9 Bit String

07. Input
- 0 Unclassified
- 1 Binary
- 2 Octal
- 3 Decimal
- 4 BCD
- 5 Hexadecimal
- 6 Composite

08. Output
- 0 Unclassified
- 1 Binary
- 2 Octal
- 3 Decimal
- 4 BCD
- 5 Hexadecimal
- 6 Plotting
- 7 Display
- 8 Composite

09. Service Routines; Programming Aids
- 0 Unclassified
- 1 Program Timers
- 2 Interrupt Handlers
- 3 Source Language Programming Aids

10. Systems Analysis
- 0 Unclassified
- 1 Network Design
- 2 File and Core Requirement
- 3 Systems Design
- 4 Configurator

11. Simulation of Computers and Components
- 0 Unclassified
- 1 Computers
- 2 Peripheral Equipment
- 3 System Component or Feature
- 4 Pseudo-Computer

12. Conversion of Programs and Data
- 0 Unclassified
- 1 Data Conversion
- 2 Computer Language Translators

13. Statistical
- 0 Unclassified
- 1 Descriptive
- 2 Univariate and Multivariate

Parametric
3 Non-Parametric
4 Time Series and Auto Correlation
5 Probability Distribution Sampling, and Random Number Generators
6 Correlation and Regression Analysis
7 Analysis of Variance and Covariance
8 Sequential Analysis
9 Discriminant Analysis

14. Internal Information Transfer
0 Unclassified
1 Drum
2 Disk
3 Tape
4 Relocation
5 Direct Data Devices

15. Management Science/ Operations Research
0 Unclassified
1 Simulations
2 Linear Programming
3 Non-Linear Programming/ Constrained Optimization
4 Scheduling/Critical Path/Pert/Less
5 Games, Game Like Models and Game Theory
6 General Problem Solvers
7 Inventory Control
8 Transportation and Network Codes

16. Engineering
0 Unclassified
1 Aeronautical
2 Civil
3 Chemical
4 Electrical
5 Mechanical and Hydraulic
6 Petroleum
7 Nuclear
8 General

17. Sciences
0 Unclassified
1 General
2 Nuclear Physics
3 Chemistry
4 Geology, Oceanography, and Geophysics
5 Biology
6 Social and Behavioral
7 Astronomy and Celestial Navigation

18. Nuclear Codes
0 Unclassified

19. Financial
0 Unclassified
1 Investing and Borrowing
2 Capital Stock
3 Taxes
4 Cash Custody and Forecasting
5 General Accounting
6 Auditing
7 Banking Operations

20. Cost Accounting
0 Unclassified
1 Material Only
2 Labor Only
3 Work in Progress

21. Payroll and Benefits
0 Unclassified
1 Payroll
2 Employee Benefits
3 Profit Sharing
4 Retirement
5 Insurance
6 Credit Union

22. Personnel
0 Unclassified
1 Recruiting and Hiring
2 Inventorying Employees
3 Training
4 Performance Review
5 Administering Wages and Salary

23. Manufacturing
0 Unclassified
1 Scheduling/Loading
2 Job Reporting
3 Bill of Materials Processors
4 Numerical Control
5 Control Systems

24. Quality Assurance/ Reliability
0 Unclassified
1 Testing
2 Performance Analysis

25. Inventory
0 Unclassified
1 Stocking and Issuing
2 Inventory Analysis
3 Equipment and Tool Inventory and Maintenance

26. Purchasing
0 Unclassified
1 Preparing Purchase Orders
2 Matching Invoices
3 Accounts Payable
4 Purchase Analysis

27. Marketing
0 Unclassified

1 Sales and Billings Forecasting
2 Promotion and Advertising
3 Bid or Request Analysis
4 Distribution or Territory Analysis

28. Sales Entered and Billed
0 Unclassified
1 Order Entry and Scheduling
2 Invoicing
3 Accounts Receivable
4 Sales and Billing Analysis
5 Backlog Reporting

29. General Business Services
0 Unclassified
1 Records Retention
2 Forms Management
3 Transportation
4 Printing and Reproduction

30. Demonstrations
0 Unclassified
1 Display
2 Participation

32. Graphics
0 Unclassified
1 Cathode-Ray Tube (CRT)
2 Hard Copy Devices

34. Logical and Symbolic
0 Unclassified
1 Formal Logic
2 Symbol Manipulation

40. Arithmetic Routines
0 Unclassified
1 Real Numbers
2 Complex Numbers
3 Decimal
4 Floating Point
5 Integer Arithmetic
6 Number Theory

41. Elementary Functions
0 Unclassified
1 Trigonometric
2 Hyperbolic
3 Exponential and Logarithmic
4 Roots and Powers
5 Geometry
6 Logical and Rounded
7 Higher Transcendental Functions

42. Polynomials and Special Functions
0 Unclassified
1 Evaluation of Polynomials
2 Roots of Polynomials
3 Evaluation of Special Functions
4 Simultaneous Non-Linear Algebraic Equations
5 Simultaneous Transcendental Equations
6 Summation of Series, Convergence Acceleration
7 Algebraic Operations on Polynomials and Power Series

43. Operations on Functions and Solutions of Differential Equations
0 Unclassified
1 Numerical Integration
2 Numerical Solutions of Ordinary Differential Equations
3 Numerical Solutions of Partial Differential Equations
4 Numerical Differentiation
5 Integral Equations
6 Integral Transforms and Their Discrete Analogues

44. Interpolation and Approximations
0 Unclassified
1 Table Look-Up and Interpolation
2 Curve Fitting
3 Smoothing
4 Extrema of Functions
5 Summation of Series/ Convergence Acceleration

45. Operations on Matrices, Vectors, and Simultaneous Linear Equations
0 Unclassified
1 Matrix Operations
2 Eigenvalues and Eigenvectors
3 Determinants
4 Simultaneous Linear Equations
5 Vector Analysis

50. Insurance
0 Unclassified
1 Life
2 Fire and Casualty
3 Pension and Welfare

70. Communications and Networking
0 Unclassified

75. Information Resource Management

0 Unclassified
1 Dictionary/Directory Systems

99. Unclassified
0 Miscellaneous

Note: The change to pitch (15) and font (8) must be converted manually.**370D-00.0.024** Note: The change to pitch (15) and font (8) must be converted manually.**370D-00.0.024**

COMPRESSED SOURCE LIBRARY SYSTEM

Author: P. Michael Henderson

Direct Technical Inquiries to:
P. Michael Henderson
Middle South Services
200 West Bank Expressway
Gretna, Louisiana 70053

Description - The Compressed Source Library System allows a user to easily add, replace or change and optionally compile/assemble source code on a direct access compressed library. In addition, a transportable copy of the source code in uncompressed EBCDIC form may also be produced. The system has proved to be able to produce compression factors of about 3/1 for most programming languages. The system was written for and tested on an IBM 370 machine using OS/360 MVT Release 20.6 and 21.6. There appears to be no reason why the system will not operate under MFT or VS1 but it has not been submitted to any formal testing on either system, however, the system as written will not operate on a 360 machine due to the use of 370 instructions. The 370 instructions are not irreplacable and the system could be converted to operate on a 360 machine by a user installation if desired.

The Compressed Source Library System is written in IBM OS/360 Assembler F and requires the IBM programs IEBUPDTE, IEBCOPY, and IEHMOVE to generate and operate the system.

Programming Language - OS/360 Assembler F
Minimum System Requirements - OS/360, S/370 hardware

Documentation Only: $5.25

Excess Documentation: $1.60 additional charge (with program).
Submittal/Revision Date: 2/74.

****

370D-00.0.025 370D-00.0.025

VMCMDS -- SUBMIT VM COMMANDS TO CP FROM MVS

Author: Matthew J. Miner

Direct Technical Inquiries to:
Matthew J. Miner
Polytechnic Institute of New York
Computer Center
Brooklyn, NY 11201

Description: VMCMDS allows an MVS user to submit VM commands from MVS to CP via the CP - diagnose interface. Input for VMCMDS comes from either the parm, or a sysin ddcard (which is normally set in the proc as 'DDNAME=IEFRDER'). If VMCMDS is console started (or looks console started, for example, it comes from the jesparms init member on a '$VS' command), no operator authorization is required. Under any other circumstances, the operator is required to reply 'ok' to approve VMCMDS execution. Only VM commands authorized for the logon class (A-G) may be used. VMCMDS has proven extremely useful in two situations:

1) Setting the PF keys for the MVS master console during JES2 startup ("$VS,'s vmcmds, member=pfkeys'" in the JES2 init dataset);
2) Disconnecting MVS without leaving a pending VM read when calling on an ASYNC terminal (e.g. fixing problems from home)
Programming Systems - BAL
Minimum System Requirements - MVS, VM (not release dependent)

Documentation Only: $2.50
Submittal/Revision Date: 10/83

****

370D-00.0.026 370D-00.0.026

RSUBMIT: Punch a CMS File with multiple (possibly nested) includes

Author: Matthew J. Miner

Direct Technical Inquiries to:
Matthew J. Miner
Polytechnic University
333 Jay Street
Brooklyn, NY 11201

Description - Replace CMS Punch with a utility which handles includes and nested includes. Seems most useful in an EXEC used to send jobs to a batch system.

Programming Systems - VM / BAL
Minimun System Requirements - VM

Documentation Only: Not available.
Submittal/Revision Date: 10/88

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360E-00.1.016 (See Appendix A)

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370D-00.1.017 370D-00.1.017

IMS Format Block Copy and Map Utility (RICPYFMT)

Author: Scott L. Baxter

Direct Technical Inquiries to:
Scott L. Baxter
Interactive Services Group
Rockwell International
Seal Beach Blvd., SH28
Seal Beach, CA 90740

Description - A utility program to copy and map format libraries, which was developed at Rockwell International. The copy format utility will copy related format sets, keying off of any provided portion of the DOF name. It also creates a map of the format sets showing DIF/DOF, MID/MOD relationships and the devices to which a format set is defined, including the date and time of creation of the format sets which is inserted by the IBM utility since version 1.3. It will also create scratch commands for use with the IBM message format service utility in maintaining format libraries. Up to 100 sysin lines of patterns to match can be provided.

Programming Systems - ASSEMBLER H

Minimum System Requirements - 370

Documentation Only: $2.55

Excess Documentation: $1.55 additional charge (with program)

Submittal/Revision Date: 6/89

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360D-00.2.001 (See Appendix A)

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360D-00.3.032 360D-00.3.032

TAPEMAP

Author: James L. Davis

Direct Technical Inquiries to:
James L. Davis
University of Missouri Computer Network
Math Science Annex
Columbia, MO 65201

Description - TAPEMAP's function is to provide DCB, length, etc. type information about the files on a tape. The program is written completely in S/360 Assembler language. The latest modifications to the program were made in July, 1977. The program applies to all SL, NL, DOS magnetic tapes. TAPEMAP is a main program, complete load module which has several internal subroutines. The program requires the following: (1) OS type operating system (2) 80K core - runs in problem program state (3) 1 tape drive (2400 or 3400 series) (4) printer or SYSOUT class for output.

Programming Language - S/360 Assembler
Minimum System Requirements - see description

Documentation Only: Not available.
Submittal/Revision Date: 8/77

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360D-00.4.014 (See Appendix A)

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370D-00.4.020 (See Appendix A)

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370D-00.4.021 (See Appendix A)

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370D-00.4.022 (See Appendix A)

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370D-00.4.023 D-00.4.023

3350 DASD Data Set Map

Author: David Warren, Nikki Elioff

Direct Technical Inquiries to:
Danny Raphael
Oregon Health Sciences University
3181 SW Sam Jackson Park Road
Portland, OR 97201

Description - The purpose of this utility job is to generate a report of DASD data set information in CCCHH sequence. Information reported for each data set, free space extent and VTOC: dsname, low and high CCCHH, absolute track address, number of tracks. This three-step job uses (1) an assembler program to extract information from a standard OS VTOC, (2) OS/SORT (or equivalent) and (3) a COBOL program to format and report the data.

Programming Systems - Assembler and COBOL
Minimum System Requirements - OS/370, 3350 DASD, OS/SORT MERGE or equivalent.

Documentation Only: Not available.
Submittal/Revision Date: 4/84

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370D-00.4.024 370D-00.4.024

BLOCK - 3350 DASD Block Size Analyzer

Author: David Browne

Direct Technical Inquiries to:
David Browne
First Jersey National Bank
901 Montrose Avenue
South Plainfield, NJ 07080

Description - Block is a Fortran program designed to assist programmers in picking an optimum block size for SEQ DASD files. The user must compile and link the program on a Fortran IV compiler then execute it. The program will write to units 4 and 6, and read the LRECL from unit 5. If the user wishes to set up for other device types, the constants at the start of the program must be changed.

Programming Systems - Fortran IV
Minimum System Requirements - Fortran IV

Documentation Only: Not available.
Submittal/Revision Date: 8/84

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360D-00.5.007 (See Appendix A)

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360D-00.5.008 (See Appendix A)

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360D-00.5.009 (See Appendix A)

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370D-00.5.010 370D-00.5.010

MAPDISK

Author: Harold L. Jackson

Direct Technical Inquiries to:
Harold L. Jackson
Triangle Universities Computation Center
P.O. Box 12076
Research Triangle Park, NC 27709

Description - MAPDISK may be used to list the contents of an ICF catalog, a CVOL catalog, or the VTOC of a direct access volume. It will not list VSAM catalogs. It will run under either OS or VS and supports all devices that are defined as DA in the UCB type.

The ICF catalog is exported to a temporary sequential data set. The entries are then formatted to display the catalog contents.
The program is written in the Basic Assembler Language. The catalog is read using the locate SVC's, block mode, which is supported for CVOL's only. The VTOC is read using the obtain SVC's, seek mode (absolute block).

The program uses JCL DD statements

and EXEC parm entries to control all of its usage.

Programming Systems - Basic Assembler Language (BAL)
Minimum System Requirements - 100K to 768K

Documentation Only: $2.75
Submittal/Revision Date: 3/87

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370D-00.5.011 370D-00.5.011

Stress Test for DASD Devices

Author: Mario Burkhardt

Direct Technical Inquiries to:
Mario Burkhardt
Zurcher Kantonalbank
P.O. Box
CH-8022 Zurich
Switzerland

Description - This program is designed to perform intensive testing on CKD-devices. Making use of the RPS feature the channel utilization can be kept very low.

The program is composed of two parts: 1) STDDINIT, written in Assembler, is used to write a test pattern on the disk, 2) STDDEXEC is a Fortran main-module with a Fortran and an Assembler subroutine. The stress-testing itself is done by this program.

Operation: Random seeks are generated. If the seek results in no arm movement a full track read/write operation is set up. The ratio of seeks to read/writes and so the channel utilization is a function of the allocated space and the geometry of the disk. On a 3380 with 884 cylinders allocated the channel utilization is below 5%.

Programming Systems - Assembler and Fortran
Minimum System Requirements - MVS

Documentation Only: Not available.
Submittal/Revision Date: 1/84

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360D-00.6.008 (See Appendix A)

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360D-00.6.011 (See Appendix A)

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360D-01.0.010 360D-01.0.010

One-way Enciphering Algorithm for Password Protection

Author: H. D. Knoble

Direct Technical Inquiries to:
H. D. Knoble
214 Computer Building
The Pennsylvania State University
University Park, PA 16802

Description - Subroutine PURDY is a re-enterable system utility program which evaluates a family of mathematically sound, one-way enciphering functions with known properties. The algorithm is implemented here to enable 8-character passwords to be irreversibly enciphered for security applications (computer resource authorizations). Unlike many existing methods used for several current operating system security applications (e.g. MVS passwords), this method does not rely on keeping the algorithm or list of enciphered keys secret; this is true because no known algorithm exists to invert the enciphering function, and if one were discovered, deciphering a key would still require, on the average, many years of CPU time on modern,
high-speed equipment. Because the family enciphering functions upon which this routine is based have essentially an infinite number of parameterizations, this implementation allows computer resource authorization to be independent
and unique across applications.

Programming Language - standard 360 Assembler
Minimum Systems Requirements - S/360 2K bytes memory

Documentation Only: $3.00
Submittal/Revision Date: 10/76

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360D-01.4.003 (See Appendix A)

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360D-01.4.009 (See Appendix A)

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360D-01.4.012 (See Appendix A)

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370D-01.4.013 370D-01.4.013

DYNAMASK

Author: Steven D. Smith

Direct Technical Inquiries to:
Steven D. Smith 2-98
Security Pacific National Bank
611 North Brand Blvd.
Glendale, CA 91203

Description - DYNAMASK provides the ability to dynamically change and add to the unit names defined at SYSGEN. DYNAMASK optionally can be given unit addresses or volumes, and the unit names will be assigned to the unit addresses that the volumes are currently mounted on. It can be run at any time that the system has been drained of all activity. DYNAMASK runs as an operator requested or batch submitted utility which makes the necessary control block changes and exits. It requires minimum resources and executes in a few seconds.

Programming Language - OS/VS Assembler
Minimum System Requirements - MVS

Documentation Only: $3.00
Submittal/Revision Date: 6/77

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370D-01.4.014 370D-01.4.014

Data Set Renaming VTOC Utility

Author: Mike Loos

Direct Technical Inquiries to:
Mike Loos
Attn: Systems Programming
DeLuxe Check Printers, Inc.
1080 W. County Road "F"
St. Paul, Minnesota 55119

Description - (A). Rename selected data sets by direct update to the VTOC, (B). Basic Assembler language, (C). Runs on MVS 3.8 and should work with minor modification on other VS systems, (D). Developed to "batch" rename system data sets on a target SYSRES pack to avoid onqueue conflicts during a full SYSGEN, (E). 1 main program, (F). System 370 with 33XX disk.

Programming Systems - 370 Assembler
Minimum System Requirements - 370 MVS

Documentation Only: Not available.
Submittal/Revision Date: 9/80

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370D-01.5.005 370D-01.5.005

BKPMON - A Program to Monitor Backups

Author: Matthew J. Miner

Direct Technical Inquiries to:
Matthew J. Miner
Polytechnic Institute of New York
333 Jay Street
Brooklyn, NY 10201

Description - BKPMON allows an installation to monitor backups (FDR, DASDR, etc., attached as a subtask) for successful completion and to reject future backups if a backup fails (i.e., if today's ACTPAK backup fail, you do not want tomorrow's backup to run, thereby destroying tomorrow's tapes, until the problem is fixed). A PDS member is maintain for each disk pack and updated to indicate the last success or fail date of a backup. If a backup succeeds, the time, date, and tape volumes involved are recorded.

If a backup fails, the time and date of failure are recorded and the RUN flag turned off. A notice is sent to the system administrator of the failure (if possible). If the RUN indicator is OFF when a backup is attempted, a message is sent to the system administrator and the backup terminates. A Reset facility is built in to turn the RUN flag back on after the problem (such as a disk datacheck) is manually corrected.

Programming Systems - Assembler (BAL)

Documentation Only: Not available.
Submittal/Revision Date: 12/82

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360D-01.6.005 (See Appendix A)

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360D-01.6.008 360D-01.6.008

Process Members of Partitioned Data Sets With PL/I

Author: Michael Bate

Direct Technical Inquiries to:
Technical Assistance
Currently Not Available.

Description - This Assembly language subroutine allows PL/I programmers (Optimizer or Checkout) to process any number of members of partitioned data sets, without the need of either (a) providing a DD card for each member or (b) opening and closing the data set between members. Members may be read, written, updated in place, or scratched. Record formats F, FB, FS, FBS, V, VB, or U can be used.

Programming Language - BAL (called from PL/I Optimizer or Checkout)
Minimum System Requirements - OS PL/I Optimizer or
Checkout environment.

Documentation Only: Not available.
Submittal/Revision Date: 11/75

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360D-03.0.010 (See Appendix A)

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360D-03.0.014 (See Appendix A)

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360D-03.0.015 (See Appendix A)

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370D-03.0.016 370D-03.0.016

SHARE MVS Group Modification Tape

Author: Dan Squillace

Direct Technical Inquiries to:
Dan Squillace
SAS Institute, Inc.
Box 8000, SAS Circle
Cary, NC 27511

Description - The MVS Group Modification Tape is a collection of modifications, exits, utilities, and TSO command processors submitted by SHARE MVS installations. The primary reason for the mods tape is to change or enhance the MVS installation. New MVS users or established users who wish to make changes will find the tape a useful source for both ideas and code. This tape is updated frequently.

Programming Systems - Assembly, PL1, Fortran, COBOL, TSO, etc.
Minimum System Requirements - none.

Documentation Only: Not available.
Tape at 6250 BPI: $ 5.00 additional charge.
Only available at 6250 BPI.
Submittal/Revision Date: 11/89

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360D-03.0.017 360D-03.0.017

JCL Cross-Reference

Author: James Amick

Direct Technical Inquiries to:
James Amick
Hallmark Cards, Inc.
Research 8-B
P.O. Box 437
Kansas City, MO 64141

Description - The program scans a variable number of JCL PROCLIBs and produces a cross-reference listing of dsname, procname, stepname, DISP, UNIT, and PGM parameters. The program resolves symbolic parameter defaults given in PROC cards. Procedures analyzed may be restricted to a subset of libraries scanned through prefix information specified in the parm field of the EXEC card. The list produced may be sorted as desired and printed in pages with the COBOL utility provided. The list produced is extremely useful in a multi-PROCLIB environment while making global JCL changes.

Programming Language - Fortran/BAL/COBOL
Minimum System Requirements - IBM 360/370

Documentation Only: $2.75
Submittal/Revision Date: 7/77

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370D-03.0.018 370D-03.0.018

UCB OLTEP Bit Setting Package

Author: Michael Martin (SEAS)

Direct Technical Inquiries to:
Michael Martin
Den Danske Bank af 1871 A/S
Lerso Parkalle 100
2100 Copenhagen 0,
Denmark

Description - This package is a set of programs to introduce a facility whereby specified addresses can be made unavailable to the system (by the setting of the UCB OLTEP Bit). This can be advantageous in systems where spare UCBs are generated, or where physically shareable devices are not normally shared in practice (except in cases of back-up). The operator is not irritated/confused by allocation recovery lists for addresses which he cannot use in any case.

The package was developed and has run on an MVS 3.7 system. Usage on other operating systems will almost certainly require minor modification to the supplied material and installation procedure.

Programming Systems - BAL.
Minimum System Requirements - MVS.

Documentation Only: Not available.
Submittal/Revision Date: 11/78.

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370D-03.0.019 370D-03.0.019

CBT MVS Modification Tape

Author: Sam Golob

Direct Technical Inquiries to:
Sam Golob

Description - This modification tape is a collection of modifications, exits, utilities and TSO commands submitted by various MVS installations The purpose of this tape is to add additional features to MVS as received from the vendor. MVS users old and new should find this tape a useful source of both ideas and code. This tape is frequently updated.

Programming Systems - Assembly, PLI, Fortran, COBOL, etc.
Minimum System Requirements - None

Documentation Only: Not available.
Tape at 6250 BPI: $15.00 additional charge.
Only available at 6250 BPI.
Submittal/Revision Date: 02/92

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370D-03.0.020 370D-03.0.020

Old CBT MVS Modification Tape (Version 249)

Author: Arnold Casinghino

Direct Technical Inquiries to:
Arnold Casinghino
Technical Support
Connecticut Bank and Trust Company
99 Founders Plaza
East Hartford, CT 06108

Description - This tape is a collection of tools, modifications, exits, utilities and TSO commands submitted by various MVS installations This tape is an older version of the current CBT tape, 370D-03.0.019. It contains several files that had to be deleted from the active tape due to space considerations. This tape will not be updated.

Programming Systems - Assembly, PLI, Fortran, COBOL, etc.
Minimum System Requirements - None

Documentation Only: Not available.
Tape at 6250 BPI: $15.00 additional charge.
Only available at 6250 BPI.
Submittal/Revision Date: 5/87

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370D-03.0.021370D-03.0.021

DCP: RACF Interface for IDMS/DC

Author: Jim Blalock

Direct Technical Inquiries to:
Jim Blalock
Clemson University
Information Technology Center
Rt. 3, Box 500
Anderson, South Carolina 29625

Description - In order to provide an external repository of userids and security information for CA's IDMS/DC, Clemson University developed the DC Protection, or DCP system in mid-1987. Since then,

many general-access student and employee service systems have been developed that would not have previously been possible.

The DCP system was developed as a package: installations should fit it to their environment with few or no source modifications. The package was written entirely in Assembler H, and utilizes only standard IDMS/DC and RACF exits and interfaces throughout. The package was developed for MVS/XA, but should work under MVS/370 with only minor modifications. The package includes and Installation and User"s Guide.

The use of Clemson's Structured Macros is required. They are included as part of this offering, along with the Structured Macros User's Guide.

Programming Systems - Assembler H, IDMS/DC, and RACF

Minimun System Requirements - MVS/370

Documentation Only: Not Available

Tape at 1600 BPI: $5.00 additional charge.

Submittal/Revision Date: 04/90

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370D-03.0.022 370D-03.0.022

CICS Project Software Exchange Tape

Author: Barry Brooks

Direct Technical Inquiries to:
Barry Brooks
Northeast Regional Data Center
University of Florida
Space Sciences Research Building
Gainesville, FL 32611

Description - This tape contains various CICS related software contributed for the purpose of software exchange. It includes programs, maps. etc. for use with CICS level 1.5 and above.

This tape is updated periodically with changes, updates, corrections, and new contributions.

Contributions are welcome and should be directed to:

Barry Brooks
Northeast Regional Data Center
University of Florida
Space Sciences Research Building
Gainesville, FL 32611
Phone no.: (904) 392-4601

Programming Language - Assembler, COBOL
Minimum System Requirements - MVS/SP or above and CICS 1.5 and above

Documentation Only: Not available.
Submittal/Revision Date: 12/90

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360D-03.1.014 360D-03.1.014

Fast Assembler-Interpreter for S/360 and S/370 Assembler Language (Version 5.0), SPASM

Author: John R. Ehrman

Direct Technical Inquiries to:
Dr. John R. Ehrman
Dept. J73/E30
IBM Corporation
555 Bailey Avenue
P.O. Box 50020
San Jose, CA 95150

Description - SPASM is a fast assembler-interpreter system for System/360/370 Assembler language. It provides (1) nearly full language compatibility with IBM's Assembler language, (2) extensive and detailed diagnostics, (3) numerous debugging aids, (4) the ability to interpret or execute freely the assembled code (and change modes dynamically), (5) easy-to-use I/O macros, (6) a batching monitor, (7) an extensive user guide, and (8) numerous language extensions. The few restrictions derive from the one-pass load-and-go nature of the assembler.

The system runs in about 75K of memory, and is re-entrant. It is written entirely in F-level Assembler language. An implementation guide is included in the distribution tape.

Programming Language - OS Assembler

language
Minimum System Requirements - OS/MVT, OS/VS, DOS

Documentation Only: Not available.
Submittal/Revision Date: 8/77

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360D-03.1.015 (See Appendix A). 360D-03.1.015 (See Appendix A).

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360D-03.2.008 360D-03.2.008

Kinetic Simulation Language for Chemistry and Biochemistry

Author: C.G. Roman

Direct Technical Inquiries to:
Dr. D. Garfinkel
Moore School of Electrical Engineering
University of Pennsylvania
Philadelphia, PA 19104

Description - This is a second revision of a problem oriented language for continuous simulation of the kinetics of chemical and biochemical systems. It translates chemical reactions into differential equations, solves them by numerical methods starting from specified initial conditions, and edits the results. The stiff differential equation solving method of Gear is included with modifications (Roman et al., Proc. NCC, 1976, p. 793) to speed the solution and decrease the core memory requirement for large problems. The program as submitted is batch-processor and card-input oriented, is written in Fortran and has been "structured" for ease of programmer intervention. It should run on any large batch-processing machine with Fortran Level G or above. A description of the original version has been published (Computers and Biomedical Research, 2 31, 1968); a revised description will be submitted soon.

Programming Language - Fortran
Minimum System Requirements - see abstract

Documentation Only: $8.75
Excess Documentation: $5.85 additional charge (with program).
Submittal/Revision Date: 6/76

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360D-03.2.014 (See Appendix A)

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360D-03.2.015 360D-03.2.015

The XPL Compiler Generator System

Authors: W. M. McKeeman, J. J. Horning, D. B. Wortman

Direct Technical Inquiries to:
Professor W. M. McKeeman
Information Sciences
University of California
Santa Cruz, California 95064

Description - The XPL system is a complete compiler generator, designed to facilitate the production of efficient syntax-directed compilers for the S/360. The system consists of a dialect of PL/I called XPL designed to be convenient for writing translators: a compiler (XCOM) from XPL into S/360 machine language; a small OS/360 Assembly language sub-monitor which provides the interface between XPL programs and OS/360; a program (analyzer) which builds parsing decision tables directly from BNF grammars; and a table driven parsing algorithm embedded in a proto-compiler (skeleton); and several utility programs to aid in using the system under OS/360. The XPL system was developed to run under OS/360 Release 20 MFT II. It will run under OS/360 on any S/360 with the universal instruction set, direct access storage (2311, 2314, or 2321), and at least 128K bytes of storage (although more storage enhances system performance). The system as distributed assumes 2311 disks and will run unchanged on 2314 disks. Programs and instructions are provided for adapting the system to work with other 2311 disks.

All major components of the system except a small assembly-language submonitor are written and compiled by XCOM. The system may be adapted to run under operating systems other than OS/360 by writing a new version of the submonitor. Since XCOM was written in XPL its performance (3500-6000 cards/minute compilation rate under HASP on a 360/65) is typical of compilers produced by the XPL system. A brief description is contained in

the "The XPL Compiler Generator System" by McKeeman et al., Proceedings of the 1968 Fall Joint Computer Conference. Full documentation is given by 'A Compiler Generator' by McKeeman, Horning, and Wortman (Prentice Hall, November 1970). The system was developed at Stanford University and at the University of California at Santa Cruz. It as been in use at Stanford since 1967 and at other installations since November 1967.

Programming Systems - OS, XPL
Minimum System Requirements - any S/360 with universal instruction set, direct access storage (2311, 2314, or 2321) and at least 128K bytes of storage.

Documentation Only: $3.25
Submittal/Revision Date: 01/72

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360D-03.2.016 (See Appendix A)

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360D-03.2.017 (See Appendix A)

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360D-03.2.018 360D-03.2.018

Stanford Pascal Compiler

Author: Sassan Hazeghi

Direct Technical Inquiries to:
Technical Assistance
Currently Not Available

Description - The Stanford Pascal Compiler is a modified version of the Zurich Pascal-P2 Compiler (May 1974 variant) and except for a few minor extensions processes the same language. The compiler itself is a 5000 line Pascal program that translates the source program into an intermediate form which is the machine language for an abstract stack computer (the so called "P" machine, hence the name "P" compiler). The output of the compiler is then fed to a post-processor, the P-translator, which in turn translates the P-code into the IBM/370 code, generating either an object module or a 370 Assembly language program. The P-translator is also written in Pascal (approx. 4000 source lines) and like the compiler would benefit from any improvement in the code generation/translation of the combined system.

Except for a few cases involving the movement or comparison of large structures (i.e. large records, arrays, etc., implemented by the "long" 370 "SS" type instructions), the translator generates instructions common to 370 and 360 series, and with small changes it is possible to (optionally) generate 370- or 360-only instructions. The translation from P-code to 370 code is based on a general scheme for converting Polish style expressions into "register" oriented code without actually simulating the stack machine on the stack-less computer which, due to lack of the hardware stack and appropriate instructions, tends to be quite inefficient. Furthermore, the organization of the translator is such that its modification to generate object code for other register oriented computers should be straightforward.

The interface to the operating system is through a sub-monitor which consists of a set of simple Assembly language routines for setting up the run time environment and providing the I/O related Pascal standard procedures and functions.

Using small I/O buffers, the current version of the compiler can compile moderate size programs in a 128K region but a larger area (i.e. 150K bytes) would improve the I/O efficiency. The system is intended to operate under OS/MVT, OS/VS, OS/MVS and VM but it can be adopted to other environments by some local changes to the sub-monitor.

Programming Systems - Pascal (on OS/MVT, OS/VS, OS/MVS, VM).
Minimum System Requirements - OS/MVT, VS, MVS, VM and a 128K region.

Documentation Only: Not available.
Tape at 800 BPI: $5.00 additional charge.
Submittal/Revision Date: 11/79

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370D-03.2.019 370D-03.2.019

PL/I Project Contributed Program

Library

Author: R. E. Styma

Direct Technical Inquiries to:
R. E. Styma
GTE A. E. Labs
2500 West Utopia Road
Phoenix, AZ 85027

DESCRIPTION - This tape is a collection of small to medium size contributions, written in or for the user of L/I. Current contents include: a complete TSO-PL/I interface, an OS-PL/I interface, a DASD management system, a complete SCRIPT system, a set of programs and procedures for the installation of the QUANDRY system, a PL/I Full Screen interface, and a Full Screen Online Disk Dump Facility.

These programs will operate on all S370 compatible hardware. Most programs require the availability of the PL/I optimizing compiler (product #5734-PL3). Some programs are also TSO or CMS specific.

Programming Systems - PL/I and ASM
Minimum System Requirements - N/A

Documentation Only: $2.75
Tape at 1600 BPI: $15.00 additional charge.
Tape at 800 BPI: $15.00 additional charge.
Submittal/Revision Date: 3/86

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370D-03.2.020 370D-03.2.020

PASCAL Project Contributed Program Library

Author: Bebo White

Direct Technical Inquiries to:
Bebo White
Stanford Linear Accelerator Center
P.O. Box 4349, Bin 97
Stanford, CA 94305

Description - This tape is the collection of the SHARE Pascal Project. Current contents include: the CMS version of the Stanford Pascal compiler; TeX, a typesetting system designed by Don Knuth, and rewritten in Pascal/VS for operation under CMS; PAT, a YACC-like LALR parser generator (CMS version); a modified CALL procedure, allowing calls to external programs with variable length parameter lists; and other assorted updates, improvements, etc.

Most of the current contents are VM/CMS oriented.

Programming Systems - Pascal, Assembler
Minimum System Requirements - N/A, material in CMS tape dump format

Documentation Only: $5.25
Excess Documentation: $1.60 additional charge.
Only available at 6250 BPI: $15.00 additional charge.
Submittal/Revision Date: 10/84

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370D-03.2.021 370D-03.2.021

High-Level FORTRAN (HLF)

Author: F. W. Nagle

Direct Technical Inquiries to:
F. W. Nagle
SDAB/NESDIS/NOAA
1225 W. Dayton Street
Madison, WI 53706

Description - PURPOSE: To implement vector and matrix handling capabilities using traditional FORTRAN constructs and syntax. (Note: HLF is also known as METEFOR - Meteorological FORTRAN.)
APPLICATION: Meteorology and related disciplines; statistics; hydrodynamics; satellite navigation; electronics; astronomy; mathematical sciences.
REQUIREMENTS: HLF itself runs in approximately 128K of memory, and needs one direct access disk and one sequential output disk. HLF pre-compiles a user's source into FORTRAN 77, so a compiler for the latter is needed, normally requiring 1024K of memory and various disks. GENERAL: In particular, HLF provides two new variable types (VECTOR*n and MATRIX*n, n=4,8) in addition to traditional FORTRAN variables (REAL, INTEGER, LOGICAL, etc.). Hence, vector and matrix variables are handled within ordinary arithmetic replacement statements with the same formalism used to handle reals, integers, logicals, etc. Notation is provided for the dot and cross-products of

Surcharges shown in abstract are added to base price.

3-dimensional vectors, and for sub-matrices, especially rows, columns, and main diagonals, which likewise are referenced as ordinary arithmetic variables. Functions likewise may be vector-valued or matrix-valued, returning vectors and matrices through their own functional names within arithmetic statements. The dimensions (shape) of matrices and matrix-valued functions may be assigned dynamically during execution. Logical masking and shifting is contained within the language, as well as notation for hexadecimal integers. Miscellaneous features are provided, such as the double equality sign (A = = B) which swaps or exchanges the two variables involved, including vectors, matrices, or rows and columns of matrices.
Considerable effort has been expended to use existing FORTRAN constructs and syntax, introducing as few novel features as possible, so that even an HLF program containing vector or matrix arithmetic is immediately readable to anyone familiar with an existing FORTRAN. It should be noted that HLF is not a compiler, but rather a pre-complier, accepting as input the user's source, modifying or replacing portions of it, and outputting a revised source code which accomplishes the desired manipulations, and which is acceptable on a standard FORTRAN 77 compiler.

File 8 of the tape contains a program which, with a change of data set names, may be used to install HLF on any mainframe IBM system. File 9 contains the complete Phase-1 HLF system as an object deck, requiring no assemblers or compilers for further processing, and which needs only to be link-edited for installation.

Programming Systems - FORTRAN 77, Assembler
Minimum System Requirements - FORTRAN 77

Documentation Only: $4.00
Excess Documentation: $.65 additional charge (with program).
Submittal/Revision Date: 9/88

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360D-03.3.010 (See Appendix A)

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360D-03.3.011 (See Appendix A)

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360D-03.3.013 360D-03.3.013

SHARE FORMAC/FORMAC73 Version A.77

Author: Dr. Knut A. Bahr

Direct Technical Inquiries to:
H.D. Knoble
214 Computer Building
The Pennsylvania State University
University Park, PA 16802

Description - FORMAC (formula manipulation compiler) is a symbolic algebraic manipulation system capable of taking general partial derivatives, performing exact rational arithmetic, and in general enabling many tedious algebra and calculus problems to be computerized. SHARE FORMAC/FORMAC73 is a maintenance and extension effort as published in the February 1974 issue of the SIGSAM Bulletin by Knut Bahr. The system is written in 360 Assembler language and runs on 360/370 hardware under OS or VS/370. Meaningful programs can be run in a 140K byte region.

Programming Language - Assembler, PL/I (F)
Minimum System Requirements - 360 Model 50, 140K bytes core, PL/I (F)

Documentation Only: Not available.
Submittal/Revision Date: 2/78

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370D-03.3.014 (See Appendix A)

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370D-03.3.015 (See Appendix A)

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360D-03.3.016 360D-03.3.016

PILOT

Author: Dave Gomberg

Direct Technical Inquiries to:
Dave Gomberg
U76 UCSF
San Francisco, CA 94143

Description - PILOT is a CAI language designed to be easily learned and used. This TSO version is implemented in PL/I for the Optimizing Compiler Version 2.3. It is suitable for most interactive programs whose main function is extensive conversation - such as teaching and tutoring programs. Supplied are a compiler and execution routine. The compiler requires about 200K bytes to execute; a trivial program can be run in a minimum size (92K) TSO region.

Programming Language - PL/I-Optimizer
Minimum System Requirements - TSO

Documentation Only: Not available.
Submittal/Revision Date: 03/76

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370D-03.3.020 370D-03.3.020

SQL/DS Tools Library

Author: Dick Lyko

Direct Technical Inquiries to:
Dick Lyko
Syncsort, Inc.

50 Toce Blvd., CN 18
Woodcliff Lake, NJ 07675

Description - The SQL/DS Tools Library is a collection of programs (utilities, exits, etc.) submitted by several SQL/DS installations. The programs are designed to improve the management of the SQL/DS environment and to permit the user yo more fully exploit the capabilities of SQL/DS. Included in the library are date and accounting exits, reorganization utilities, catalog reporting programs, EXPLAIN utilities, directory display routines, and interfaces between SQL/DS and other environments, such as REXX, CMS help and sorting. Several programs are provided to execute SQL/DS operator commands in various environments. Prerequisites vary by program and may include RXSQL, ISPF, and CMS PIPELINES.

Programming Language - REXX, COBOL, and Assembler.
Minimum System Requirements - IBM 370/390

Documentation Only: Not available
Submittal/Revision Date: 8/92

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360D-03.5.009 D-03.5.009

PL/I Report Writer Macros

Author: D. Karpinski, modified by S. Bonner

Direct Technical Inquiries to:
Technical Assistance
Currently Not Available.

Description - This package provides a report writer facility in PL/I, similar to that in COBOL. The package uses PL/I compile time facilities to translate the special constructions into GOTOs, calls, labels, and procedures. Normal use involves two %INCLUDE statements referring to an online library containing the two sections of code, labeled REP1 and REP2. (This is a modification of SHARE program 360D-03.5.007 for use with the PL/I Optimizing Compiler.)

Programming Language - IBM PL/I Optimizing Compiler Minimum System Requirements - N/A

Documentation Only: $3.50
Excess Documentation: $.20 additional charge (with program).
Submittal/Revision Date: 4/76

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360D-03.4.027 (See Appendix A)

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360D-03.4.033 (See Appendix A)

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360D-03.5.005 (See Appendix A)

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360D-03.5.007 (See Appendix A)

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360D-03.5.008 360D-03.5.008

NSCRIPT - Produces Text Data Sets in Manuscript Form

Author: William Dwyer, Yale University

Direct Technical Inquiries to:
Roger A. Roach
Manager of Systems

Surcharges shown in abstract are added to base price.

Programming
MIT, Room 39-564
77 Massachusetts Avenue
Cambridge, Mass. 02139

Description - The quality and accuracy of a document depends greatly on the ease with which revisions can be made to the document. This statement is particularly true of technical documentation (into which class the present manual falls), which should always accurately reflect the status of the things they describe.

It is natural, particularly at MIT, that computer software solutions to the problems of document production should be devised. CTSS's "Runoff", MULTICS's "Runoff", CMS's "SCRIPT" represent similar such solutions.

"NSCRIPT" is an outgrowth of SCRIPT intended for use under CMS on a System/360 Model 67 running under CP/67. Its set of command words encompasses most of those belonging to SCRIPT, MULTICS'S "Runoff", and TSO's FORMAT. In most cases they perform identical functions and have the same symbolic notation.

NSCRIPT running under 360/OS/TSO, which was developed by the MIT programming development office, has the same outward appearance as it did when running under CMS. Except for the fact that OS I/O conventions make it somewhat more difficult to use, it still has all the capabilities that it had with CMS.

Several powerful features are available with NSCRIPT that are not available with TSO's FORMAT:

1- The ability to enter footnotes at convenient places in the input. Footnotes are saved and printed at the bottoms of output pages.

2- The ability to use symbolic "reference names" to simplify numbering and cross-referencing.

3- The ability to define both heading and footing lines for both even and odd numbered pages.

4- The ability to specify format control information or text dynamically (during printout).

5- The ability to use Roman numerals (instead of Arabic) in page numbers and, in conjunction with the heading and footing controls, to place page numbers in a variety of places on the output page.

6- The ability to specify translation table pairs.

7- The ability to define "remote sequences", which are invoked at specified places in the output.

8- The ability to control the output conditionally.

NSCRIPT consists of 2 modules, a command processor (prompter) for use with TSO, and a program for processing NSCRIPT files which can be invoked either by the TSO prompter or by a batch job.

Since NSCRIPT can treat tab characters internally, several (optional) modifications to the TSO editor for tab processing are included. The modifications include the addition of a SCRIPT file type which is similar to a TEXT file type except for line length and tab processing.

Programming Language - Assembler.
Minimum System Requirements - OS/360

Documentation Only: Not available
Submittal/Revision Date: 1/74

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360D-03.5.009 D-03.5.009

PL/I Report Writer Macros

Author: D. Karpinski, modified by S. Bonner

Direct Technical Inquiries to:
Technical Assistance
Currently Not Available.

Description - This package provides a report writer facility in PL/I, similar to that in COBOL. The package uses PL/I compile time facilities to translate the special constructions into GOTOs, calls, labels, and procedures. Normal use involves two %INCLUDE statements referring to an online library containing the two sections of code, labeled REP1 and REP2. (This is a modification of SHARE program 360D-03.5.007 for use with the PL/I

Optimizing Compiler.)

Programming Language - IBM PL/I Optimizing Compiler Minimum System Requirements - N/A

Documentation Only: $3.50
Excess Documentation: $.20 additional charge (with program).
Submittal/Revision Date: 4/76

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360D-03.5.010 360D-03.5.010

FINDER - Formatted Inquiry Data Retrieval System

Author: Ralph S. Trigg, Jr.

Direct Technical Inquiries to:
Ralph S. Trigg, Jr.
P. O. Box 1516
Albuquerque, New Mexico 87103

Description - The Formatted Inquiry Data Retrieval System (FINDER/360) is a universal English language retrieval system that enables a user with no technical computer knowledge to obtain reports of selected records from a data base. The user codes English language control statements that define the conditions under which a record is to be selected. The user may print and/or punch any data from the selected records that is desired. Computations, summary totals, and report sequence may optionally be specified.

FINDER documentation consists of a user's guide and a programmer's guide. Both guides are contained on the distribution tape and can be printed using the JCL shown in the documentation. A TN or equivalent print train is required for printing the documentation. It is important to read both guides before installation is attempted.

Programming Language - IBM 360 Assembler language.
Minimum System Requirements - IBM 360 - 24K DOS partition or 48K OS partition

Documentation Only: Not available.
Submittal/Revision Date: 3/77

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360D-03.6.001 (See Appendix A)

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360D-03.6.007 (See Appendix A)

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360D-03.6.018 360D-03.6.018

NEATER: A PL/I Source Statement Reformatter

Authors: K. Conrow
R. G. Smith

Direct Technical Inquiries to:
Kenneth Conrow
Computing Center
Kansas State University
Manhattan, Kansas 66502

Description - The program (NEATER) accepts a syntactically correct PL/I program and operates on it to produce a reformatted version. It either prints or prints and punches the reformatted program in a logical or in a compressed format. It neatens the statements by omitting nonessential strings of blanks. Logical structure is indicated by indentation; the amount of indentation for each logical level is controlled by the user. Statement numbers are produced which correspond to those produced by the compiler. The program is extremely useful in development of complicated PL/I source programs because an unexpected indentation pattern will at once reveal logic errors. Logically formatted versions of complicated source programs are far more valuable in documentation of such programs than an unformatted source listing.

NEATER operates successfully on itself. The submitted deck is in compressed format. The submitted listing is in logical format with the default indentation of 3 and serves as an example of NEATER's output.

Programming Systems - PL/I. NEATER has been compiled and tested using OS Version 17 on a S360 Model 50.
Minimum System Requirements - 360 using full PL/I. Card reader, printer, a 2311 disk could be used with "HASP" if desired.

Documentation Only: $3.00
Submittal/Revision Date: 06/69

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Surcharges shown in abstract are added to base price.

360D-03.6.019 (See Appendix A)

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360D-03.6.020 (See Appendix A)

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360D-03.6.022 (See Appendix A)

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360D-03.6.023 (See Appendix A)

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360D-03.6.024 (See Appendix A)

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360D-03.6.025 (See Appendix A)

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360D-03.6.026 360D-03.6.026

MORTRAN2, A Portable Macro-Based Structured Fortran Extension

Author: A.J. Cook and L.J. Shustek

Direct Technical Inquiries to:
A.J. Cook or L.J. Shustek
SLAC Computation Research Group 88
P.O. Box 4349
Stanford, CA 94305

Description - MORTRAN2 is a Fortran language extension that permits a relatively easy transition from Fortran to a more convenient and structured language. The language is implemented by a macro-based pre-processor and is further extensible by user-defined macros. Its features include (1) free-field format, (2) alphanumeric statement labels, (3) flexible comment convention, (4) nested block structure, (5) FOR-BY-TO, DO, WHILE, UNTIL, LOOP, IF-THEN-ELSE, IFXIT and NEXT statements, (6) multiple assignment statements, (7) conditional compilation, and (8) automatic listing indentation. The MORTRAN2 pre-processor is written in ANSI standard Fortran, and the output is also Fortran so that transportability of both the pre-processor and its generated programs is assured. MORTRAN2 is an extension of the processor (and language) called MORTRAN.

Programming Language - Fortran IV
Minimum System Requirements - ANSI standard Fortran IV system

Documentation Only: $4.25
Excess Documentation: $.85 additional charge (with program).
Submittal/Revision Date: 7/75.

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360D-03.6.027 360D-03.6.027

Time Sharing Language/One (TL/1)

Author: Standard Oil Co. (Indiana)

Direct Technical Inquiries to:
Software Development
Standard Oil Co. (Indiana)
200 East Randolph Drive
Chicago, Illinois 60601

Description - Time Sharing Language/One is a TSO command language processor language based around PL/I. It can be used for highly specialized interactive applications. When used as a CLIST replacement, it provides the user with all of the logical power available to the PL/I programmer. Time Sharing Language/One is distributed as PL/I preprocessor macros, PL/I subprograms, Assembly language subprograms, and sample commands.

Programming Language - Assembler and PL/I (Optimizer)
Minimum System Requirements - MVS/TSO; MVS Release 3.0, SU's 4, 5, 7

Documentation Only: $8.50
Excess Documentation: $6.15 additional charge (with program).
Submittal/Revision Date: 9/80

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360D-03.6.028 (See Appendix A)

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370D-03.6.029 370D-03.6.029

GPPP R2V2 (General Purpose PreProcessor)

Authors: Howard Gilbert & Alan Beale

Direct Technical Inquiries to:
Alan Beale
Rice University - ICSA

P.O. Box 1892
Houston, Texas 77001

Description - GPPP R2V2 is a preprocessor for both PL/I and BAL, allowing the definition of language extensions with syntax similar to that of PL/1 statements. Macro-processing routines are written in full PL/I, and are dynamically loaded as required. GPPP also supports variable substitution conditional compilation and an INCLUDE statement. For equivalent tasks, outperforms the built-in PL/I preprocessor by a factor between 6 and 18.

GPPP is written in PL/I (with a few assembler subroutines), and requires Optimizing Compiler Release 3.0 or later. It has been tested under MVS and CMS; it should run successfully on any OS system.

Programming Systems - PL/I (X), 370 Assembler
Minimum System Requirements - OS, PL/I (X) Release 3.0

Documentation Only: Not available.
Submittal/Revision Date: 1/84.

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370D-03.6.030 370D-03.6.030

AERO - Generalized Data Editing System

Authors: K. Szasz, A. Szabo, & I. Varasdy

Direct Technical Inquiries to:
K. Szasz, A. Szabo, I. Varasdy
Application Development Department
of the Hungarian Central Statistical Office
Computing Centre
1525 Budapest, Buday L. Str. 1-3.,
P.O.B. 51
Hungary

Description - The AERO Generalized Data Editing System (Version 2) has been intended to serve primarily as the editing system of the 1980 Population Census in Hungary. However, it can be used to edit data collected in other surveys since the checking and correcting functions implemented in the system meet general editing requirements.

By editing we mean all kinds of checking and correction applied to data files, thus, following the checking, AERO allows both probabilistic and deterministic imputation of data fields and it also supports manual correction if required. However, its main use is conceived in the automatic correction of large surveys' data (i.e., in surveys with 100,000 or more).

The extensive documentation for the system includes a systems philosophy (a system overview), a users' guide, and a three-volume operaide. The system consists of several main programs and subroutines. The languages used are PL/I O and Assembler.

Programming Systems - PL/I O and Assembler.
Minimum System Requirements - 512 K, 3330 Disk

Documentation Only:
Systems Philosophy (a summary) - $4.00
Complete set - $22.00
Requires 2 600-foot reels, $5.00 additional charge
Excess Documentation: $19.00 additional charge
(with program).
Submittal/Revision Date: 1/83

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360D-03.7.034 (See Appendix A)

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360D-03.8.013 (See Appendix A)

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360D-03.8.016 (See Appendix A)

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370D-03.8.018 370D-03.8.018

The Online Panel Generator

Author: Joel L. Shank

Direct Technical Inquiries to:
Joel L. Shank
People's Gas, Light & Coke
122 S. Michigan Ave.
Chicago, IL 60603

Description - The On-line Panel

Surcharges shown in abstract are added to base price.

Generator consists of a set of programs invoked as a TSO command processor to create and maintain user-defined full-screen panels, and another set of programs which interface user-written application programs written in COBOL, PL/1 or Assembler with panel generator display programs. The Panel Generator is designed for IBM 3270 type terminals with 12 program function keys (we use Memorex 1377 terminals).

Application programs may supply data to be displayed and received data entered. Panels are saved on a separate library, making program development independent to panel designs, as well as allowing panel changes without program revisions. The Panel Generator allows full use of terminal features, including suppress display, high or regular intensities, protected and unprotected, numeric only and PF key recognition.

Programming Systems - Assembler
Minimum System Requirements - S/370 with TSO and full-screen option

Documentation Only: Not available
Submittal/Revision Date: 2/82

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370D-03.8.019 370D-03.8.019

VENUS (VEctor library for NUclear physics Supercomputing)

Author: J. Albinski, W. Kynast, K. Winkelmann

Direct Technical Inquiries to:

S. Gluckert
GSI Rechenzentrum
Postfach 110552
D-6100 Darmstadt, West Germany

Description - The library VENUS (VEctor library for NUclear physics Supercomputing) consists of about 60 subroutines written in Scalar and Vector 370-Assembler, covering the areas general arithmetic (add, subtract, multiply, divide vectors), data type conversions (short/long integers to/from short/long real) and event processing (check window limits, compress/expand vectors, calibration, scaling). The routines can be called from any higher programming language. Thus their use allows to exploit the vector facility of the IBM from any higher language not having native vector support, e.g., from PL/I. Each routine also includes an efficient scalar assembler code for the given problem, which will automatically be executed, if the vector facility is not available or/and, for short vector lengths, the scalar code is faster than the vector code.

The achieved speed-ups, comparing execution times of in-line PL/I with Vector Assember code, are up to 100, Scalar Assembler to PL/I up to 10. The specific speed-ups are given in the descriptions of the modules.

Programming Systems - 370 Vector Assembler

Minimum System Requirements - VM or MVS

Documentation Only: Not available.

Submittal/Revision Date: 12/88

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360D-04.0.006 (See Appendix A)

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360D-04.0.010 (See Appendix A)

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360D-04.0.011 (See Appendix A)

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370D-04.0.012 370D-04.0.012

3705 Pre-stage-one Syntax Checker

Authors: T. G. Yuckenberg and S. Meyers

Direct Technical Inquiries to:
T. G. Yuckenberg and S. Meyers
Kodak Office
343 State Street
Rochester, NY 14650

Description - Field of Application: 3705 SYSGENS. Purpose: Some 3705 SYSGEN errors are not detected during initial assembly, but rather during the second stage of the process. A significant amount of time (computer and man-hours) was

wasted in debugging and resubmitting the SYSGEN. This package contains three separate main programs that will check for coding errors.

1. Continuation Check - Insures that the programmer maintained correct continuation syntax. The program checks that the statements have a valid format, that continuation characters are in column 72, that continued statements begin in column 16, and that a continued statement ends with a comma.

2. Service Order Check - Insures that the programmer maintained correct SERVICE macro syntax. The program checks that: a. The ORDER operand for BSC lines contains all the PU's and LU's for this line. b.The ORDER operand for SDLC lines contains all the PU's for this line. c. All entries in the ORDER operand have corresponding labels of this line.

3. Duplicate Label Check - Insures that the programmer did not use the same label more than once.

Each program prints an error scroll that contains an appropriate error message, the relative statement number, and an echo of any statement found to be in error.

All programs are written in OS/VS assembler. Since the program will be shipped in source code form, an assembler and linkage editor are needed.

Programming Systems - 370 OS ASM
Minimum System Requirements - 364K

Documentation Only: $2.50
Submittal/Revision Date: 5/83

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360D-04.1.012 (See Appendix A)

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370D-04.1.013 (See Appendix A)

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370D-04.1.015 370D-04.1.015

3705 NCP Dump Analyzer

Authors: Jim Cobban

Direct Technical Inquiries to:
Jim Cobban
Datacrown Inc.
650 McNicoll Ave.
Willowdale, Ontario M2H 2E1

Description - This utility program assists the diagnosis of 3705 NCP abend by formatting the 3705 control blocks in a more detailed and more unders manner than the standard 3705 dump formatter. This should permit less need technical personnel to diagnose problems and submit APARs.

The output consists of the identification section which includes the name of the NCP as well as the date and time of the abend, the abend code with an English interpretation, the contents of the check record pool, the contents of the location counter values from all four register sets, disassembled or each reference, the channel adapter control blocks with the contents of the associated queues and the resources pointed to by the source vector table identified by resource name.

The program is written for OS/VS2 but should run unaltered under OS/VS1. Only three modules use operating system facilities so conversion to DOS should be straightforward. The program has been used with ACF/NCP R.1, R.2, 42.1 and is written to support R.3.

Programming Systems - ASM F, OS/VS2
Minimum System Requirements - 512K

Documentation Only: 2.50
Submittal/Revision Date: 5/82

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360D-04.2.008 D-04.2.008

PL/I Execution Analyzer (PLEA)

Author: I. M. Cuthill

Direct Technical Inquiries to:
I. M. Cuthill
General Resources, Coats 14P,
Statistics Canada
Tunney's Pasture
Ottawa, Ontario, Canada K1A OT6

Description - PLEA, the PL/I execution analyzer, is designed to give a PL/I programmer a

Surcharges shown in abstract are added to base price.

statistical analysis of where CPU time is being spent in his program, plus a listing of all load modules used during execution.

PLEA consists of 2 components, a monitor and tabulator. The monitor loads the PL/I program to be analyzed and then samples execution at regular intervals until the program terminates. During each sample, the monitor determines which statement was being executed if the compiler statement option was active, otherwise the sample is traced to the PL/I block. Monitor data is recorded on a sequential data set, and this data is aggregated and tabulated by the tabulator step which follows execution of the sampled program.

PLEA for both Optimizer and PL/I-F are supplied, but only the Optimizer version will be supported by the author. Both systems will run on MVT or VS2, but not MFT. The monitor is an Assembler program requiring 4K; the tabulator is a PL/I program requiring 100K. Documentation includes installation instructions, user's guide and JCL.

Documentation Only: Not available.
Submittal/Revision Date: 6/74.

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360D-04.2.009 (See Appendix A)

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360D-04.4.012 (See Appendix A)

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370D-05.0.004 (See Appendix A)

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370D-05.0.005 (See Appendix A)

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370D-05.0.006 370D-05.0.006

BW328X - JES2 Printer Support Extension

Author: Ole Reitzel Jensen

Direct Technical Inquiries to:
No Technical Support Available

Description - This modification adds 328X print support to JES2. Every 328x printer is handled as a separate remote, with all the standard JES2 services available. The modification contains small source updates to JES2 establishing an exit for the 328X support module. The support module is written in 370 assembler code. The current release is 1.3.
The modification makes it possible to use small office printers as SYSOUT devices; the printers can be shared with other VTAM application programs (IMS, CICS, ADMPRINT). The 3287 support can also be used to control output printers of the type 3289/3262 as an alternative to 3770 type remotes. The support exit program has been tested with MVS SP 1.3.2, the documentation contains suggestions for JES2 SP2 systems.

This modification replaces an earlier version (SNA3287), it adds a number of features (colour, ps loading, LUO), and all SCS codes can now be used.

Current release is 2.0.

Programming Systems - Assembler
Minimum System Requirements - MVS SP 1.3

Documentation Only: $2.50
Submittal/Revision Date: 11/84

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360D-05.1.018 (See Appendix A)

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360D-05.1.021 (See Appendix A)

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370D-05.1.022 (See Appendix A)

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360D-05.1.023 (See Appendix A)

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360D-05.1.024 (See Appendix A)

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360D-05.1.025 (See Appendix A)

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370D-05.1.026 (See Appendix A)

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370D-05.1.027 370D-05.1.027

JES2 Monitor Display System

Author: Leif Rasmussen

Direct Technical Inquiries to:
Advanced Computing Center
C/O Christian Rovsing A/S
Marienlundvej 46B, DK 2730

Herlev Denmark

Description - The program has been developed as a tool for the central operator. The system gives him a quick summary of the current activity in the MVS-JES2 system, and he therefore no longer needs all those $DN/$DA commands. The system has been tested on the Models 370/158 and 3031, with MVS Release 3.7 and JES2 Release 4.1 including APAR OZ20010. Minor changes are known to be required for MVS/SE.

Programming Systems - Assembler
Minimum System Requirements - MVS-JES2, approx. 32K in JES2 region.

Documentation Only: $5.00
Excess Documentation: $1.45 additional charge (with program).
Submittal/Revision Date: 2/80

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370D-05.1.028 (See Appendix A)

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370D-05.1.029 370D-05.1.029

MVSMON MVS/XA Monitor

Author: Donald S. Higgins

Direct Technical Inquiries to:
Donald S. Higgins
Florida Power Corporation
P.O. Box 14042, B-2-A
St. Petersburg, FL 33733

Description - MVSMON is a monitor for the IBM MVS/XA operating system. It is designed to provide users, operators, and system programmers with useful information regarding MVS/XA current processing. The same MVSMON load module will run as a system task with WTO/WTOR interface for use by operators, as a TSO command for TSO users, or as a batch program to produce hardcopy reports. MVSMON does not use any privileged instructions or SVC's and is strictly a read-only monitor, so it can be easily installed and used safely. MVSMON runs below the 16M memory line and puts itself in 31-bit addressing mode as required to access MVS/XA control blocks above the 16M line. Commands supported include active task status display, outstanding mount display, online disk and tape display, SRM averages display, domain summary display, paging data set summary, virtual storage management summary, help displays, plus others.

Note: An MVS/SP version of this program is available on 360D-99.0.009.

Programming Systems - OS/VS Assembler
Minimum System Requirements - MVS/XA operating system

Documentation Only: Not available.
Submittal/Revision Date: 1/87

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360D-05.2.015 (See Appendix A)

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360D-05.2.016 (See Appendix A)

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370D-05.2.017 (See Appendix A)

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360D-05.5.002 (See Appendix A)

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360D-05.5.003 360D-05.5.003

SLAC Modifications to the OS/VS Linkage Editor

Author: Gregory J. Mushial

Direct Technical Inquiries to:

Dr. John R. Ehrman
Dept. J73/E30
IBM Corporation
555 Bailey Avenue
P.O. Box 50020
San Jose, CA 95150

Description - The SLAC

modifications to the OS/VS linkage editor are of two types: (1) changes and additions to printed output and (2) various internal changes to help the user in program debugging.

The changes and additions to the printed output include the suppression of useless page ejects; modifications in the module map and cross reference table headings to show that either a module map or module map and cross reference table are being printed; and a change in the main heading to reflect the fact that this is the SLAC modified version of the linkage editor.

The internal changes to help the user include printing a message telling the user where the system has put the output data set (SYSLMOD); clearing the input text buffer to HEX 81's so uninitialized areas of the program may be found more easily; flagging, in the module map, all names called from the SYSLIB data set (via AUTOCALL), and the listing of these names in a concatenation number dictionary with the data set name and volume from which they were linked. The data derived from the creation of the SYSLMOD message and the concatenation number dictionary is also written out to the SMF data set using a special SVC routine. This data can be used to monitor program usage, load module library access patterns, distribute costs of subroutine libraries, etc.

In addition, the renumbering table is cleared more efficiently to improve speed.
User and systems documentation is included on the distribution tape.

Programming Language - Assembly
Minimum System Requirements - OS/MFT/MVT, OS/VS

Documentation Only: Not available.
Submittal/Revision Date: 4/78

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370D-05.6.001 (See Appendix A)

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370D-05.6.002 370D-05.6.002

SHARE JES2 Project Modification Tape - SP, XA, and ESA Mods

Author: Jack Schudel

Direct Technical Inquiries to:
Jack Schudel
Northeast Regional Data Center
233 Space Sciences Research Building University of Florida
Gainesville, FL 32611

Description - This tape is a collection of JES2 mods for the SP, XA, and ESA levels of JES2. The collection includes exits, source code changes, and utility programs submitted by a number of JES2 installations. Some of the areas that have been changed are JCL syntax, operator commands, resource routing and performance monitoring.

New JES2 users or established users who wish to make changes will find the tape a useful source for both ideas and code.

This tape is updated frequently.

Programming Systems - Assembler
Minimum System Requirements - MVS SP 1.3

Documentation Only: Not available.
Tape at 6250 BPI: $5.00 additional charge.
Only available at 6250 BPI.
Submittal/Revision Date: 03/92

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360D-06.0.007 (See Appendix A)

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360D-06.0.008 (See Appendix A)

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360D-06.0.009 360D-06.0.009

COMPARE Data Set Utility

Author: David Gomberg

Direct Technical Inquiries to:
David Gomberg
U76
University of California at San Francisco
San Francisco, CA 94143

Description - COMPARE is a PL/I main program designed to compare two data sets, reporting on and recovering from common discrepancies. It is useful for

testing output from a new version of a program against an older version of a program where discrepancies (such as additional records in the new version) are expected. By using an option which allows the program to ignore leading or trailing columns, source decks which have been resequenced can be compared for changes in code.

COMPARE requires about 100K main memory plus storage for buffers and stacks of unmatched records. It uses an Assembler language subroutine to attempt to predict insufficient main memory and terminate neatly.

Programming Language - PL/1 Optimizing compiler.
Minimum System Requirements - 360/370 OS, 100K memory.

Documentation Only: Not available.
Submittal/Revision Date: 12/74

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360D-06.1.006 (See Appendix A)

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360D-06.3.012 (See Appendix A)

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360D-06.3.017 (See Appendix A)

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370D-06.3.018 370D-06.3.018

OS/VS1 Workstation Package

Author: P. Sugerman

Direct Technical Inquiries to:
Mr. P. E. Sugerman, Manager
Major Systems Control Software
Standard Oil Company (Indiana)
200 East Randolph Drive
Mail Code 0404
Chicago, Illinois 60601

Description - The OS/VS1 Workstation Program transmits jobs to a central computer for processing. Print/punch output created by these jobs can be returned to the workstation or directed to another location. Data sets may be received at the workstation if a transmit request has been submitted to the central computer.

The S/370 Assembler language program requires real storage enough to PFIX the teleprocessing supervisor code and the TP line buffers.

The documentation includes an installation guide and a user's guide.

Programming Language - Assembler F
Minimum System Requirements - OS/VS1 with a transmission control unit (2701/3705)

Documentation Only: $4.50
Excess Documentation: $1.30 additional charge (with program).
Submittal/Revision Date: 11/77

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370D-06.3.019 D-06.3.019

DSPRINTQ

Author: Ralph Boone

Direct Technical Inquiries to:
Ralph Boone
Eastman Kodak Company
Kodak Park, Bldg. 56
Rochester, NY 14650

Description: DSPRINTQ provides the installation with the ability to interactively display print request information and display/modify individual printer attributes associated with DSPRINT (IBM FDP 5798-CPF). The program operates under TSO and manipulates the request queue dataset maintained by DSPRINT. Appropriate ENQ/DEQ processing is performed to protect the integrity of the request queue.

DSPRINTQ provides subcommands to display either ALL print requests that are currently queued, or those selected by printer id, user id, or request id. Along with each request displayed is the request number, printer name, user id, date and time of request, and name of dataset to be printed.

DSPRINTQ subcommands are available to display attributes of either ALL printers defined to DSPRINT, or a specific one. Included in the display of each printer is the printer name, buffersize, page

Surcharges shown in abstract are added to base price.

width/length, top/bottom margin, and printer type.

DSPRINTQ can also dynamically alter printer attributes, including printer name, buffersize, page width/length, and printer type. By creating a DSPRINT request queue with extra unused printer elements, and using DSPRINTQ to change the dummy printer names to valid ones, the installation can effectively add new printers to DSPRINT without re-creating the request queue each time.

DSPRINTQ has a built-in HELP subcommand, which describes the functions and parameters of all valid subcommands. The program also has an assembler subroutine, called before the execution of subcommands which modify the request queue, which can be used for authorization checking.

DSPRINTQ has also been used successfully to manipulate the ADMPRINT request queue (IBM PP 5748-XXH), instead of the DSPRINT request queue, by applying two short zaps included on the distribution tape.

Included as the distribution materials are source code, a load module, an example clist, and the JCL required for creating a DSPRINT request queue with 206 printer definitions and 155 request queue elements. DSPRINTQ will operate on an existing request queue, but re-creation may be preferred to take advantage of the capability to 'ADD' printers as earlier described.

Programming Systems - ASM H, PL/I Optimizer
Minimum System Requirements - MVS, TSO, VTAM, DSPRINT

Documentation Only: $2.50
Submittal/Revision Date: 6/83

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360D-06.5.006 (See Appendix A)

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360D-06.6.003 (See Appendix A)

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360D-06.6.004 (See Appendix A)

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360D-06.7.018 (See Appendix A)

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360D-06.7.019 (See Appendix A)

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360D-06.7.022 360D-06.7.022

OS/360 QUIC (KWIC Indexing)

Author: J. A. Starkweather
R. Karpinski

Direct Technical Inquiries to:
R. Karpinski
Computer Center, 76-U
University of California
San Francisco, CA 94143

Description - QUIC produces KWIC indexes for a variety of purposes. Many options permit modifying various aspects of the process and results. The program is run as a three step job: input-(PL/I); sort-(OS/360 sort-merge); output-(PL/I).

Programming Systems - Written in PL/1(F) for OS/360.
Minimum System Requirements - approximately 100K bytes are used but the program requires no special equipment.

Documentation Only: $3.00
Submittal/Revision Date: 12/68

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360D-06.7.026 (See Appendix A)

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360D-06.7.027 (See Appendix A)

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360D-06.7.028 (See Appendix A)

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370D-06.7.029 D-06.7.029

ADDRESS - Get Name, Phone, and Address for CMS User

Author: Richard P. Humphris

Direct Technical Inquiries to:
Richard P. Humphris
Tech Services Unit
Continental Data Center

3501 State Highway 66
Neptune, NJ 07753

Description - ADDRESS is used to get a name, office phone # and address corresponding to a specific userid on a CMS system. It provides the print room with all the normal information on the separator page along with an additional box which displays the address information last supplied by the USERID. This typically contains the user's name, office phone number and address.

ADDRESS has a user interface so users can quickly see and update their own address information. This same interface allows them display/only access to other USERID's address information; which is very useful when you need to contact a person using a particular account.

Basically, CP gets the address information via a IUCV interface to a specific virtual machine (CPAID). CMS users invoking the ADDRESS command communicate with CPAID using a VMCF interface. Therefore, only the CPAID account has to deal with the details of saving and retrieving address information.

Programming Systems - Assembler(BAL), EXEC and EXEC2
Minimum System Requirements - VM/SP system

Documentation Only: Not available.
Submittal/Revision Date: 6/85

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360D-06.8.002 (See Appendix A)

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360D-06.8.003 (See Appendix A)

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360D-06.8.004 (See Appendix A)

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360D-06.8.005 (See Appendix A)

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360D-08.0.004 360D-08.0.004

TYPESETR

Author: Not available

Direct Technical Inquiries to:
Technical Assistance
Currently Not Available

Description - Converts a document in SCRIPT photo file form into a set of instructions for a Compugraphic EditWriter 7700 Phototype-setter.

Programming Systems - PL/I
Minimum System Requirements - lowercase on print train; IBM System 360/370 compatible machine, runs under MVT, MVS, CMS

Documentation only: not available
Submittal/revision date: 9/81.

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360D-08.6.001 (See Appendix A)

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360D-08.6.002 (See Appendix A)

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360D-08.6.003 (See Appendix A)

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360D-08.6.011 (See Appendix A)

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360D-08.6.012 (See Appendix A)

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360D-08.6.013 (See Appendix A)

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360D-08.7.003 (See Appendix A)

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360D-08.7.004 (See Appendix A)

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360D-08.7.006 (See Appendix A)

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370D-08.8.001 370D-08.8.001

DMSPEEK - CMS Queue Display and Manipulation

Author: David Browne

Direct Technical Inquiries to:
David Browne

Surcharges shown in abstract are added to base price.

First Jersey National Bank
901 Montrose Avenue
South Plainfield, NJ 07080

Description - DMSPEEK is an Assembler Program that will allow the CMS use to view and manipulate the output of any CMS Reader, Punch or Printer file in the users Virtual Reader. The program requires the DMSGIO text file from IBM to execute. To install, assemble the source code, load and genmode DMSPEEK. The program has online Help screens and can be easily learned. At the end of the program are several tags that will have to be changed by each user, such as the RSCS VMID and Printer ID.

Programming Systems - Assembler
Minimum System Requirements - VM/SP Rel 2

Documentation Only: Not available.
Submittal/Revision Date: 8/84

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370D-09.1.001 370D-09.1.001

LOGTIME and MAPTIME

Author: Randolph G. Scarborough

Direct Technical Inquiries to:
Randolph G. Scarborough
IBM Scientific Center
1530 Page Mill Road
Palo Alto, CA 94304

Description -
LOGTIME and MAPTIME are programs able to discover where an object program spends its CPU time while running under VM/CMS.
LOGTIME, which executes in parallel with the user object program to be analyzed, uses the virtual interval timer to observe and record the locations in the object program where CPU time is spent during execution. MAPTIME subsequently formats the recorded information so that it may be analyzed. LOGTIME is written in assembler language and MAPTIME is written in FORTRAN. They are both complete programs which execute under control of companion EXECs.

Programming Systems - VM, FORTRAN
Minimum System Requirements - CMS and FORTRAN

Documentation Only: $2.75
Submittal/Revision Date: 6/86

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360D-09.2.001 (See Appendix A)

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360D-09.3.001 (See Appendix A)

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370D-09.3.002 370D-09.3.002

**VM/CMS Subroutine CMS for Executing CMS Commands
from within Applications Programs**

Author: George H. Kaplan

Direct Technical Inquiries to:
George H. Kaplan
U.S Naval Observatory
34th St. & Massachusetts Ave. NW
Washington, DC 20390

Description - Subroutine CMS allows for the execution of a CMS command from within a FORTRAN or other high-level applications program running within a VM/CMS system. The CMS command to be executed is specified as a character string which is an input argument to this subroutine. The command is passed to the CMS system by this subroutine and is executed before the return to the calling program. In addition to CMS commands, this subroutine allows for the execution of EXECs or CP commands.

This subroutine has a great many applications. It allows for CMS file manipulation from within applications programs, dynamic FILEDEFs, spool file control, etc. It allows FORTRAN or other high-level languages to be used as sophisticated EXEC processors: their arithmetic logical, and loop control facilities can be used to control the execution of CMS and CP commands invoked by calls to subroutine CMS. This subroutine can thus greatly expand a CMS user's capabilities.

Programming Systems - VM/CMS FORTRAN, Assembler, etc.
Programming System Requirements - VM/370 and CMS

Documentation Only: $2.50
Submittal/Revision Date: 4/82

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360D-11.3.015 (See Appendix A)

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360D-11.4.002 (See Appendix A)

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370D-11.4.004 (See Appendix A)

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360D-12.0.003 (See Appendix A)

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360D-12.1.024 (See Appendix A)

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360D-12.2.002 (See Appendix A)

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360D-12.2.010 360D-12.2.010

CONVERT - CDC To IBM Fortran Conversion

Author: George Gorsline, Jr.

Direct Technical Inquiries to:
Mr. George Gorsline, Jr.
UTLAS
130 St. George Street
Toronto, Ontario
Canada M5S 1A5

Description - CONVERT will change most CDC Fortran (3000 series, Chippewa, and 6000 series through FORTRAN 68) satements to compatible IBM Fortran IV, G level. It was designed to eliminate as much of the hand-work as possible, but not to become a full-fledged compiler. The program lists all statements changed, both the original and the modifications made and produces a file of converted source images ready for compilation. Compiling of CONVERT will produce comments listing options available while suppressing the source listing. CONVERT requires no special system features and should run on any SNOBOL4 (at least Ver 3.0) system.

Programming Language - SNOBOL4
Minimum System Requirements - any SNOBOL4 system

Documentation Only: $2.75
Submittal/Revision Date: 3/73

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360D-13.2.003 360D-13.2.003

NLIN: Least-Squares Estimation of Non-linear Parameters

Author: R. A. Usanis & J. A. Middleton

Direct Technical Inquiries to:
J. H. Fulton
Computing Center
Box 5445
N. C. State University
Raleigh, N.C. 27607

Description - NLIN is a PL/I main program which fits the model y=f(x,b) to the set of observations (yi,xi) i=1(1)n using the maximum neighborhood method developed by . W. Marquardt. X is a vector of independent variables and b is a vector of parameters estimated to minimize the um of squares of (y-y).

Any number of problems can be processed in one run. Required partial derivatives can be estimated or defined in a user supplied routine. Options are provided to control the detail of printed results, to omit parameters, to obtain nonlinear confidence limits, to allow use of values from a previous problem, to use either PL/I or Fortran external routines, and to constrain selected parameters.

Storage required is problem dependent with small problems running in 114K.

The current release is version 3.3 containing two new output control parameters, other functional enhancements, and corrected documentation.

Programming Language - PL/I, optional ALP routines. Minimum System Requirements - OS PL/I F or Optimizing compilers.

Documentation Only: $4.50
Excess Documentation: $1.25 additional charge (with program).
Submittal/Revision Date: 8/82

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Surcharges shown in abstract are added to base price.

360D-13.4.001 (See Appendix A)

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360D-13.4.002 (See Appendix A)

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360D-13.6.003 360D-13.6.003

Nonlinear Parameter Estimation and Programming

Author: Yonathan Bard

Direct Technical Inquiries to:
Yonathan Bard
IBM Cambridge Scientific Center
545 Technology Square
Cambridge, Mass. 02139

Description - The program is designed to solve the following problems:
(1) Estimate unknown parameters in nonlinear mathematical models, using any of the following techniques:
(a) least squares
(b) weighted least squares
(c) maximum likelihood
(d) Bayesian estimation
Special provisions are included for models involving solutions of ordinary differential equations, and for chemical reaction kinetics equations. Constraints may be imposed on the parameter values.

(2) Solve nonlinear programming problems.

(3) Solve simultaneous equations, two point boundary value problems, and other problems which can be cast in the form of one of the two above mentioned forms.

Programming Systems - the program is written in the lowest level Fortran IV language.
Minimum System Requirements - it can be run on the IBM System/360 under the OS or BPS monitors, on the IBM 7090 or 7094 computer under IBSYS, etc.

Documentation Only: $7.00
Excess Documentation: $3.85 additional charge (with program).
Submittal/Revision Date: 12/67

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360D-13.6.007 360D-13.6.007

NONLINWOOD, Nonlinear Least-Squares Curve-Fitting Program

Author: Fred S. Wood

Direct Technical Inquiries to:
Fred S. Wood, Consulting Statistician
Fred Wood & Associates
1414 Del Vista Drive
Valparaiso, IN 46383

Description - Examples on the use of the LINWOOD and NONLINWOOD linear and nonlinear least-squares curve-fitting programs are described in detail in the second edition of Fitting Equations to Data, Computer Analysis of Multifactor Data, by Cuthbert Daniel and Fred Wood, Wiley Publisher, 1980. Examples on the use of these programs are provided together with interpretation of results, glossary of terms, and user's manual.

The program allows the user to estimate the coefficients of a nonlinear equation such as y = a/(xb)**2 and y= 1/(ab **-cx) -- equations that are nonlinear in the coefficients. An iterative technique is used; the estimates at each iteration are obtained by Marquardt's Maximum Neighborhood Method which combines the Gauss (Taylor Series) Method and the method of steepest descent.

Since numerous forms of equations can be used, the user must specify the form by providing a subroutine to compute the values of the equation's coefficients. In addition, the user must provide a control card, a format card for reading data, and estimates of the starting values of the coefficients. Selected observations can be deleted if so desired. Information cards and coefficient name cards also can be read for display on the printout. Such displays are helpful to record the form of equation, the purpose of the run, and any additional information that may help identify the printout in the future. Identification of the coefficients by name is particularly helpful when working with large or complex equations.

The output of the program is a printed report which includes a description of the problem, the

starting values of the coefficients, the size of the incremental steps, a summary of each iteration, and a summary of the final fit.

Listings are made of the observed and fitted values of the dependent variable -- both in the sequence in which observations were given to the computer, and in the order of the magnitude of the differences between the observed and fitted values. Plots are made to indicate (1) whether these differences are normally distributed and (2) how they are distributed over all the fitted values of the dependent variable. Plots of these differences versus each of the independent variables can be used to choose the appropriate form of the equation and to visualize the distribution of the observations over the range of each independent variable.

Programming Systems - Fortran IV or Fortran 77 Compiler.
Minimum System Requirements - OS/360.

Documentation Only: $3.25
Submittal/Revision Date: 7/84

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360D-13.6.008 360D-13.6.008

LINWOOD, Linear Least-Squares Curve-Fitting Program

Author: Fred S. Wood

Direct Technical Inquiries to:
Fred S. Wood, Consulting Statistician
Fred Wood & Associates
1414 Del Vista Drive
Valparaiso, IN 46383

Description - Examples on the use of the LINWOOD and NONLINWOOD linear and nonlinear least-squares curve-fitting programs are described in detail in the second edition of Fitting Equations to Data, Computer Analysis of Multifactor Data, by Cuthbert Daniel and Fred Wood, Wiley Publisher, 1980. Examples on the use of these programs are provided together with interpretation of results, glossary of terms, and user's manual.

The LINWOOD program has many options which allow the user to transform data into an appropriate form, fits specified equations to the transformed data by linear least-squares, and provides both statistics and plots to aid in evaluating the fit. A modified leaps-and-bounds CP search technique determines rapidly if smaller sets of the variables will represent the data equally well.

In addition to the usual statistics, the program calculates the maximum and minimum value of each variable as well as its range, the relative influence of each variable, and the weighted squared standardized distance of each observation from the centroid of all observations. Near neighbors are used to estimate the standard deviation of the dependent variable. Component and component-plus-residual plots are used: (1) to choose the appropriate form of the equation, (2) to determine the distribution of the observations over the range of each independent variable, and (3) to ascertain the influence of each observation on each component of the equation. A table of functions related to the variance of the fitted value provides information on the influence of the location of each observation in x-space. Cross verification of coefficients can be made as additional observations become available.

Programming Systems - Fortran IV or Fortran 77 Compiler.
Minimum System Requirements - OS/360.

Documentation Only: $3.25.
Submittal/Revision Date: 7/84

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360D-13.7.001 (See Appendix A)

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370D-15.0.001 370D-15.0.001

CADAM - Trace and Replay for MVS

Author: Michelle Lewis

Direct Technical Inquiries to:
Michelle Lewis
CADAM, Inc.
1935 North Buena Vista

Burbank, CA 91504

Description - The tape submitted is in the operating form of MVS. This tape contains Trace and Replay (V3R1M0 and V3R2M0).

Trace and Replay is a tool that records and replays a sequence of events called a scenario. During an interactive session scope attentions are captured, recorded, and stored in an external file. The recorded scenarios can then be called from storage and replayed on the scope. The Trace and Replay program can be used on CADAM's release 21 and version 3.

The Standard Library consists of 84 CADAM models representing standard features which were primarily extracted from manufacturing applications. This library can be used on CADAM's release 21 and version 3.

Programm Systems: Not available.
Minimum System Requirements: MVS/SP

Documentation Only: Not available

Submittal/Revision Date: 06/92

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370D-15.0.002 370D-15.0.002

CADAM - Trace and Replay for VM

Author: Michelle Lewis

Direct Technical Inquiries to:
Michelle Lewis
CADAM, Inc.
1935 North Buena Vista
Burbank, CA 91504

Description - The tape submitted is in the operating form of VM. This tape contains Trace and Replay, and the Standard Library.

GM Fonts consist of 21 font tables and 1 font display page that make an enhancement to the CADAM interactive system. The GM Fonts can be used on CADAM's release 21 and version 3.

Trace and Replay is a tool that records and replays a sequence of events called a scenario. During an interactive session scope attentions are captured, recorded, and stored in an external file. The recorded scenarios can then be called from storage and replayed on the scope. The Trace and Replay program can be used on CADAM's release 21 and version 3.

The Standard Library consists of 84 CADAM models representing standard features which were primarily extracted from manufacturing applications. This library can be used on CADAM's release 21 and version 3.

Programm Systems: Not available.
Minimum System Requirements: VM/SP
Documentation Only: Not available

Submittal/Revision Date: 12/90

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360D-15.0.005 (See Appendix A)

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360D-15.1.004 (See Appendix A)

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360D-15.1.008 D-15.1.008

SOL-370 Simulation System

Author: Horst E. Ulfers

Direct Technical Inquiries to:
Horst E. Ulfers
DCEC, Code R830
1860 Wiehle Avenue
Reston, Virginia 22090

Description - The SOL-370 Simulation System is a general purpose simulator for discrete modeling and simulation. The source language is English-like and has been implemented as an extension to PL/I. The system produces object code and provides for extensive interactive post-simulation analysis.

The system is compatible with all versions of the PL/I-F, PL/I-Optimizing, and PL/I-Checkout compilers and can be used in the OS/MVT and OS/MVT-TSO environment. It can be operated in the batch or TSO mode.

Minimum system requirements for SOL-370, Release 1/76, are 200K of core and 250 tracks of 3330 disk or equivalent.

The documentation consists of the "SOL-370 Language Reference Manual

and a User's Guide", TN 25-75, and the "SOL-370 Installation and Error Tracing Guide", TN 23-76. Both documents are available also through the Defense Documentation Center (DDC).

Programming Language - OS/PL/I
Minimum System Requirements - see abstract
Documentation Only: $5.25
Excess Documentation: $1.90 additional charge (with program).
Submittal/Revision Date: 6/76

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360D-15.1.009 360D-15.1.009

NDTRN2

Authors: William I. Davisson
John J. Uhran, Jr.

Direct Technical Inquiries to:
W. I. Davisson
Economics Department
University of Notre Dame
Notre Dame, IN 46556

Description - NDTRN2 is a continuous and stochastic simulation and modeling language. NDTRN2 has three integration methods, syntax diagnostic checking,
execution time diagnostic checking as well as a wide range of print and plot options. All of these are control-card options. NDTRN2 will do a wide range of continuous and stochastic simulations including the specific system dynamics type of models.

NDTRN2 has been developed using the 1968 Version of ANSI Fortran.

A twenty page implementation guide is included describing installation on all IBM, and most Digital Equipment Corporation computers.

Programming Systems - 1968 ANSI Fortran
Minimum System Requirements - 126,000 byte partition plus 5000 X 80 direct access disk area

Documentation Only: $10.25
Excess Documentation: $6.00 additional charge (with program).
Submittal/Revision Date: 10/80

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360D-15.2.007 360D-15.2.007

MFOR 360 Linear Programming Code

Author: J. Shwimer

Direct Technical Inquiries to:
Technical Assistance
Currently Not Available.

Description - MFOR 360 is an independent routine which uses the revised simplex method with the product form of the inverse to solve the linear programming problem in standard form. MFOR 360 has been compiled and tested using OS version 11 on a S/360 Model 65.

The routine is an all-in-core routine, therefore no secondary storage is needed. Symbolic control cards direct the operation of MFOR 360.

Programming Systems - written in Fortran IV (G level) with one subroutine in 360 basic Assembler language.
Minimum System Requirements - those needed to run OS/360.

Documentation Only: $3.75
Excess Documentation: $.50 additional charge (with program).
Submittal/Revision Date: 03/68

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360D-15.2.011 360D-15.2.011

Zero-one Integer Programming With Heuristics

Author: B. D. Holcomb

Direct Technical Inquiries to:
B. D. Holcomb
Oak Ridge National Laboratory
Bldg. 4500-N, H-28
P.O. Box X
Oak Ridge, Tennessee 37830

Description - The Zero-one Integer Programming with Heuristics Program is designed to solve linear programming problems whose variables are restricted to values of zero or one. The program utilizes the well known additive algorithm of Egon Balas combined with a group of user selected heuristic test options designed to speed solution time by taking advantage of individual problem characteristics.

Programming Systems - The program

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deck consists of a main program and four subroutines written in Fortran plus a three card object deck of a clock reading function.

Minimum System Requirements - The program has been tested on the IBM 360 Model 50 using OS/360. However, the use of any IBM 360 Model 40 or larger with OS/360 should not cause difficulties.

Documentation Only: $2.75
Submittal/Revision Date: 12/68

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370D-15.2.015 370D-15.2.015

LPFREE, Linear Programming Package with Free Format Input, Version 1.0

Author: John L. Ilgen

Direct Technical Inquiries to:
John L. Ilgen
IBM Corporation
P.O. Box 390
Dept. B44, Bldg. 707
Poughkeepsie, NY 12602

Description - LPFREE is a PL/I main program to provide the student, as well as research and industrial users, with a flexible, high-speed linear programming package with free format, mathematical-style notation input. An option is provided to generate MPSX input for problems that cannot be solved in memory and for postoptimal analyses.

The program is coded entirely in PL/I for the PL/I Optimizing compiler, and was developed at Penn State University on the IBM 3033 under MVT. LPFREE's storage requirements are programmable and meaningful programs can be run in 140K bytes of memory. All documentation, including installation instructions, is machine readable.

Programming Systems - PL/I Optimizer.
Minimum System Requirements - IBM 370, PL/I Optimizer.

Documentation Only: Not available.
Submittal/Revision Date: 10/78.

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360D-15.3.003 360D-15.3.003

A Complementary Pivot Method for Solving Quadratic Programming Problems

Author: A. Ravindran

Direct Technical Inquiries to:
Professor A. Ravindran
School of Industrial Engineering
Purdue University
West Lafayette, Indiana 47907

Description - This program can solve any convex quadratic programming or linear programming problem. The entire program is written in Fortran IV so that it can be implemented easily in any computing system. The program is based on the complementary pivot method for solving complementary problems. Its main field of application is in management science/operations research for solving nonlinear programming or constrained optimization problems. The program consists of a main program and a number of subroutines written in Fortran language. In its present form, it requires 70K words in CDC 6500 machine for loading and executing and can solve quadradic or linear programming problems whose rows do not exceed 75. The problem size can be reduced to accommodate core availability of smaller machines. Larger problems can be solved by increasing the size of the dimension statements.

Programming Language - Fortran IV
Minimum System Requirements - see abstract

Documentation Only: $3.00
Submittal/Revision Date: 8/76

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360D-15.6.003 360D-15.6.003

Computerized Relative Allocation of Facilities Technique, CRAFT 4.2

Author: G.C. Armour

Direct Inquiries to:
Thomas L. Ward
Speed Scientific School, IE
University of Louisville
Louisville, KY 40292

Description - Computerized Relative

Allocation of Facilities Technique (CRAFT) accepts an initial layout pattern for a physical facility and generates improved layouts. The program is governed by heuristic rules which sequentially alter layout patterns while attempting to minimize variable material handling costs. Inputs are material handling and flow and cost data, and an initial layout of departmental areas. CRAFT generates the variable cost of material handling for the initial layout. The program then tries combinations of two department exchanges, attempting to find a less costly layout. Modifications continue until no further cost reduction is possible. CRAFT can also be applied to any movement problem that can be represented on a cost-per-foot basis. The flow of people in an office layout is an example. CRAFT was written by Armour (C.1961), revised (CRAFT IV) by Fagnani in 1967, further revised (called CRAFT 4.1 here), and submitted to SHARE in 1974. CRAFT 4.2 modifies CRAFT 4.1 for the IBM 360/370. Fortran IV with some Assembler subroutines; requires 220K to compile and link-edit and 160K to load without overlays.

Programming Language - IBM Fortran IV, OS Assembler
Minimum System Requirements - see abstract

Documentation Only: $8.75
Excess Documentation: $6.20 additional charge (with program).
Submittal/Revision Date: 4/76

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360D-15.6.004 360D-15.6.004

CRAFT-M - Computerized Allocation of Facilities Technique (Including Dept. Move Costs)

Authors: P. Hicks & T. Cowan

Direct Technical Inquiries to:
Mr. Troy Cowan
Contracts and Procurement Division
Albuquerque Operations Office
Department of Energy
Box 5400
Albuquerque, NM 87115

Description - CRAFT is a computer program for heuristically determining the relative location of activities in a plant layout in an attempt to minimize the material handling costs of all products flowing between departments per unit time.
Input consists of an initial layout of activity areas, and flow and material handling cost data. The program considers switching departments in an effort to reduce overall material handling cost.

CRAFT-M, an extension to CRAFT, requires additional inputs of 1) fixed cost, and variable cost per unit distance, to move each activity area, 2) interest rate and number of interest periods for prorating move costs over the life of the rearrangement, and 3) expected material handling cost reduction made possible by an activity area move. In CRAFT-M, departments are switched if the resulting material handling cost improvement more than covers the departmental move costs over the life of the arrangement.

Programming Language - IBM Fortran IV, OS Assembler
Minimum System Requirements - none stated

Documentation Only: $3.25
Submittal/Revision Date: 6/76

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370D-15.6.005 370D-15.6.005

EXPERT85

Author: Tom Wannemacher

Direct Technical Inquiries to:
Tom Wannemacher
AFLC/ILC/XRD
Building 89
Wright Patterson Air Force Base
Ohio 45433

Description - EXPERT85 is a prototype Expert System Shell. It contains a default Inference Engine modelled after PROLOG, software for Knowledge Base management, and a Knowledge Base library with an example knowledge base. It is written in PASCAL/VS.
Its functionality can be expanded by adding new special purpose subroutines. EXPERT85 should run on any computer with MVS and a PASCAL/VS compiler.

Surcharges shown in abstract are added to base price.

An additional module, XREF85, is provided for mapping and debugging knowledge bases.

Three libraries are included:
1. EXPERT85.SOURCE -- source for programs, clist, user's manual JCL for compiles, linkedits, and XREF85 map runs 2. EXPERT85.LOAD -- object modules
3. KBASE -- a knowledge base PDS, contains one example knowledge base.

Programming Systems - PASCAL/VS, Assembler, TSO CLIST Minimum System Requirements - MVS, PASCAL/VS

Documentation Only: Not available.
Submittal/Revision Date: 6/86

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360D-15.8.001 360D-15.8.001

Out of Kilter Routine

Author: R. J. Clasen

Direct Technical Inquiries to:
J. K. Peterson
Southern California Gas Company
M. L. 1035
810 S. Flower Street
Los Angeles, CA 90017

Description - This program uses a slight variant of the method described by D. R. Fulkerson in Journal SIAM, Vol. 9, March 1961. It was originally written by Clasen and appeared as SHARE Program SDA 3536. The program is an independent routine to solve capacitated network flow problems using a method in which a measure of optimality is not worsened on any iteration. Flows have upper and lower bounds which may be positive or negative. No initial feasible solution is needed. It has a provision for solving problems which vary slightly from previously solved problems in minimal machine time. Source language is Fortran IV.

Programming Systems - Fortran IV.
Minimum System Requirements - none stated.

Documentation Only: $4.25
Excess Documentation: $.95 additional charge (with program).
Submittal/Revision Date: 7/79

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370D-15.8.002 370D-15.8.002

The MITRE Airline Economic Model

Authors: Dr. Dana Hall & Susan Jones

Direct Technical Inquiries to:
Dr. Dana Hall, Mail Stop W665
The MITRE Corporation
1820 Dolly Madison Blvd.
McLean, Virginia 22102

Description - The MITRE Airline Economic Model is a highly user-interactive computerized tool for use on a wide range of air transportation planning and policy problems. Highlights include practical orientation, heuristic techniques, disaggregated demand response, and estimated marginal economic costs and revenues for proposed airline changes. Detailed documentation includes source code listing and explanatory flowcharts for each component. User notes discuss operation, data base construction, and example terminal sessions. The first 89 pages of the documentation provide an overview of the concepts, operation, and applications. The Model is written in PL/I. A data base describing the subject airline's routes, flights, equipment, stations, passengers, etc. and competition must be constructed into IBM's VSAM format. Source code and documentation also are provided for the data base creation programs. An example data base is provided on the source tape.

Programming Systems - PL/I
Minimum System Requirements - must support VSAM and PL/I

Documentation Only: $26.50
Excess Documentation: $26.15 additional charge (with program).
Submittal/Revision Date: 4/81

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360D-16.0.001 (See Appendix A)

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360D-16.0.002 (See Appendix A)

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360D-16.0.003 (See Appendix A)

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360D-16.1.001 (See Appendix A)

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360D-16.3.002 (See Appendix A)

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360D-17.1.001 (See Appendix A)

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360D-17.2.006 (See Appendix A)

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360D-17.4.003 (See Appendix A)

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360D-16.4.004 (See Appendix A)

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360D-16.4.005 (See Appendix A)

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360D-17.5.002 360D-17.5.002

CAPTURE -- FORTRAN IV Version

Note: A FORTRAN 77 Version is available. See 360D-17.5.004.

Author: Gary C. White

Direct Technical Inquiries to:
Gary C. White
Group LS-6, MS K495
Los Alamos National Laboratory
Los Alamos, NM 87545

Description - Program CAPTURE computes the estimates and test statistics for the various Mark-Recapture population estimators described in D.L. Otis, K.P. Burnham, G.C. White, and D.R. Anderson, 1978, Statistical Inference from CAPTURE Data on Closed Animal Populations, Wildlife Monograph. This monograph is specifically oriented to the commonly done grid trapping and removal studies where population closure can be assumed. The methods used perform best for five or more trapping occasions. Mark Recapture data (l or more sets) are read in by the program. The model selection procedure will determine which estimation model is appropriate for a data set, and then the estimate of population size can be calculated. In addition, a density estimate can also be made. The input to the program has been written in a free-form and natural style to provide ease of use by unsophisticated users.

The program is written in ANSI Fortran IV with several small exceptions so that it will function on most brands of digital computers. Statements known to cause compilation errors on IBM, CDC, Burroughs, Univac, Xerox, Honeywell, or DEC equipment have been flagged with comment statements. The CDC source is included as the last file on the tape.

The program consists of a main routine and approximately 54 subroutines, depending on which brand of computer it is set up to run on. In addition, there are seven common blocks. Included in the source code are ample comment statements to follow program flow. The total code consists of approximately 6,000 cards. Core requirements are approximately 200K on an IBM/360 without an overlay structure. Core requirements can be reduced to less than 140K with a simple overlay structure given in the user's manual.

The dimensions of the program are presently set to allow up to 2,000 individual animals and 31 trapping occasions. In addition, the product of the number of animals and the number of trapping occasions must be less than 4,000. This will allow, for example, 30 occasions and 80 animals, or 120 animals and 20 trapping occasions. These values can be easily changed by changing dimension statements in the program.

The Los Alamos Scientific Laboratory requests that this program be identified as work performed under the auspices of the U.S. Department of Energy.

Programming Systems - Fortran IV with significant extensions from

the ANSI standard marked by comment cards.
Minimum System Requirements - 200K for IBM/360 if not overlaid; 140K if overlaid.

Documentation Only: $4.50
Excess Documentation: $.75 additional charge (with program).
Submittal/Revision Date: 2/78

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360D-17.5.003 360D-17.5.003

TRANSECT

Authors: Jeffery L. Laake & Kenneth P. Burnham

Direct Technical Inquiries to:
Jeffery L. Laake
IATTC
c/o Scripps Institute of Oceanography
La Jolla, CA 92037

Description - Program TRANSECT (Version 1.1) is written in ANSI Fortran IV and is composed of a main routine and 55 subroutines. TRANSECT provides an analysis of data from line TRANSECT sampling for the purpose of estimating the density of biological populations. The analysis consists of graphical representations of the data (e.g., histograms, CDF plots and cross plots) and point and interval estimation of the model parameters and of the density. The specific estimation techniques used in TRANSECT are described thoroughly in 'Density Estimation of Biological Populations From Line TRANSECT Sampling' by Kenneth P. Burnham, David R. Anderson, and Jeffery L. Laake, Wildlife Monograph No. 72.

TRANSECT should run on any machine which has a Fortran IV compiler and at least the equivalent of 150K (OCTAL) words (on the CDC 6600) of addressable memory. This latter requirement can be reduced considerably if the program is overlaid and/or if a virtual array capability exists on the machine. An overlaid and slightly modified version has been contructed to run on a 16 bit word machine (PDP 11/34) limited to 32K words of addressable memory. As a minimum the I/O requires 2 files: 1) input-80 character record file and 2) output-132 character record file.

Programming Systems - ANSI Fortran IV
Minimum System Requirements - 150(OCTAL) K words - CDC6600 w/o overlay, peripherals for 1 input and 1 output file.

Documentation Only: $4.50
Excess Documentation: $1.10 additional charge (with program).
Submittal/Revision Date: 4/80

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360D-17.5.004 D-17.5.004

CAPTURE -- FORTRAN 77 Version
(Note: A FORTRAN IV version is also available. See 360D-17.5.002.)

Author: Gary C. White

Direct Technical Inquiries to:
Gary C. White
Group LS-6, MS K495
Los Alamos National Laboratory
Los Alamos, NM 87545

Description - Program CAPTURE computes the estimates and test statistics for the various Mark-Recapture population estimators described in D.L. Otis, K.P. Burnham, G.C. White, and D.R. Anderson, 1978, Statistical Inference from CAPTURE Data on Closed Animal Populations, Wildlife Monograph No. 62. This monograph is specifically oriented to the commonly done grid trapping and removal studies where population closure can be assumed. The methods used perform best for five or more trapping occasions.

Mark Recapture data (l or more sets) are read in by the program. The model selection procedure will determine which estimation model is appropriate for a data set, and then the estimate of population size can be calculated. In addition, a density estimate can also be made. The input to the program has been written in a free-form and natural style to provide ease of use by unsophisticated users.

The program is written in ANSI Fortran 77 so that it will function on most brands of digital computers. Statements known to cause compilation errors on IBM,

CDC, Burroughs, Univac, Xerox, Honeywell, or DEC equipment have been flagged with comment statements.

The program consists of a main routine and approximately 54 subroutines, depending on which brand of computer it is set up to run on. In addition, there are seven common blocks. Included in the source code are ample comment statements to follow program flow. The total code consists of approximately 6,000 cards. Core requirements are approximately 200K on an IBM/360 without an overlay structure. Core requirements can be reduced to less than 140K with a simple overlay structure given in the user's manual.

The dimensions of the program are presently set to allow up to 2,000 individual animals and 31 trapping occasions. In addition, the product of the number of animals and the number of trapping occasions must be less than 4,000. This will allow, for example, 30 occasions and 80 animals, or 120 animals and 20 trapping occasions. These values can be easily changed by changing parameter statements in the program.

The Los Alamos Scientific Laboratory requests that this program be identified as work performed under the auspices of the U.S. Department of Energy.

Programming Systems - Fortran 77
Minimum System Requirements - 200K for IBM/360 if not overlaid; 140K if overlaid.

Documentation Only: $3.25
Submittal/Revision Date: 4/83

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370D-19.5.001 D-19.5.001

Telephone Control System

Author: Edison Brothers Stores

Direct Technical Inquiries to:
Edison Brothers Stores
501 N. Broadway
St. Louis, Mo. 63102

Description - The Telephone Control System is an automation of posting the MCI long distance phone bill to Dunn & Bradstreet Software General Ledger package. This system will also provide the automated functions concerned with personal and departmental billing, printing and inquiry on directory listings, and provide access to authorized services, ID codes, and credit card numbers. This system will also provide a complete base of long distance information accessible for business decisions and ad hoc mechanism for special reporting requirements.

Programming Language - Cobol, CICS Cobol
Minimum System Requirements - CICS, MVS

Documentation Only: $25.00
Excess Documentation: $11.25 additional charge (with program)

Submittal/Revision Date: 11/90

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360D-23.0.001 D-23.0.001

COFAD: Computerized Facilities Design

Author: J. A. Tompkins

Direct Technical Inquiries to:
J. A. Tompkins
Box 5511
North Carolina State University
Raleigh, North Carolina 27607

Description - COFAD II (Computerized Facilities Design) is a computer program designed to determine suboptimal layout and handling systems for physical facilities. The program is governed by a set of heuristic rules which iteratively selects a layout and then a handling system so as to approach the minimal materials handling system cost. COFAD II improves layouts in a manner similar to CRAFT (see program number 360D-15.6.003) but then differs significantly in that realistic materials handling equipment costs are included so as to allow the joint determination of the layout and handling system. Input into COFAD II includes the flow data within the facility, the costs of alternative materials

Surcharges shown in abstract are added to base price.

handling equipment types and an initial layout. COFAD II differs from the original COFAD in flexibility, ease of altering the model for various problems and output format. COFAD II is written in Fortran IV and contains approximately 3,300 cards. Storage of 500K is required to implement COFAD II.

Programming Language - Fortran IV
Minimum System Requirements - OS/Fortran IV

Documentation Only: $2.75
Submittal/Revision Date: 04/76

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360D-23.0.002 360D-23.0.002

CORELAP: Computerized Relationship Layout Planning

Author: J. M. Moore and J. A. Tompkins

Direct Inquiries to:
J. A. Tompkins
Box 5511
North Carolina State University
Raleigh, NC 27607

Description - CORELAP 9.3 (Computerized Relationship Layout Planning) is a computer program designed to generate a layout for a facility based upon the relationships among the departments within the layout. CORELAP 9.3 consists of a selection routine and a placement routine. The departments are selected and placed in an effort to maximize the relationships among departments as indicated on the originally input relationship chart. CORELAP 9.3 differs from earlier versions of CORELAP in that a plotter may be utilized to plot the final layout. CORELAP 9.3 is written in Fortran IV and requires 200K of storage to be implemented.

Programming Language - Fortran IV
Minimum System Requirements - OS/Fortran IV

Documentation Only: $2.75
Submittal/Revision Date: 04/76

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360D-23.0.003 360D-23.0.003

PLANET: Plant Layout Analysis and Evaluation Technique

Author: M. Deisenroth and J. A. Tompkins

Direct Technical Inquiries to:
J. A. Tompkins
Box 5511
North Carolina State University
Raleigh, North Carolina 27607

Description - PLANET (Plant Layout Analysis and Evaluation Technique) is designed to determine suboptimal layout patterns for physical facilities. PLANET is a construction routine which consists of three selection routines and a placement routine. The selection routines determine the order in which departments are to enter the layout, and the placement routine determines where to place the departments so as to minimize handling costs. The input of flow data into PLANET may be done in any one of the three following ways: (1) extended parts matrix, (2) from-to chart, (3) penalty matrix. PLANET is written in Fortran IV and contains approximately 1,000 cards. Storage of 160K is required to implement PLANET.

Programming Language - Fortran IV
Minimum System Requirements - OS/Fortran

Documentation Only: $2.75
Submittal/Revision Date: 04/76

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360D-23.0.004 360D-23.0.004

ALDEP: Automated Layout Design Program

Author: S. M. Seehof and J. A. Tompkins

Direct Technial Inquiries to:
J. A. Tompkins
Box 5511
North Carolina State University
Raleigh, North Carolina 27607

Description - ALDEP (Automated Layout Design Program) is designed to generate and evaluate layouts based upon the relationships among departments within the layout. ALDEP constructs several layouts utilizing a random number generator

and a heuristic selection procedure. The layouts resulting from ALDEP are evaluated and assigned a rating depending upon the adherence of the layout to the originally input relationship chart. ALDEP is the only widely used routine which allows the inclusion of more than single floor facilities. The input into ALDEP is the departmental areas and relationships. ALDEP is written in Fortran IV and contains approximately 700 cards. Storage of 200K is required to implement ALDEP.

Programming Language - Fortran IV
Minimum System Requirements - OS/Fortran IV

Documentation Only: $2.75
Submittal Revision/Date: 04/76

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360D-23.1.003 (See Appendix A)

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360D-23.4.004 (See Appendix A)

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360D-23.4.005 (See Appendix A)

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370D-23.4.006 D-23.4.006

IBM Numerical Control 2671 Paper Tape I/O Routines for MVS/370 and Proposed Mods for MVS/XA

Author: IBM Corporation

Direct Technical Inquiries to:
Mr. Theodore Antonio
IBM Branch Office No. 270
2200 Whitney Avenue
Mamden, CT 06518

Description - The purpose of this tape is to support IBM paper tape read/punch (2671) under IBM MVS/XA Operating System. Other IBM devices can be supported by modifying the "IODEVICE" Macro. 13 translation routines in source and object form are included. In addition, the SYSGEN source "IODEVICE" Macro is included with proposed modifications.

Programming Systems - Assembler and Macro
Minimum System Requirements - any MVS/XA supported IBM system 30xx, 33xx and 43xx.

Documentation Only: Not available.
Submittal/Revision Date: 11/83

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370D-24.2.001 D-24.2.001

CAPMAN

Author: Loren Gordon

Direct Technical Inquiries to:
Loren Gordon
Confederation Des Caisses Populaires et
D'Economie Desjardins de Quebec
Basilaire 2
L, Complexe Desjardins
CP 7, Succursale Desjardins
Montreal PQ Canada H5B 1B2

Description - CAPMAN is a model of MVS useful for capacity planning and performance analysis. It consists of a set of programs written in PL/I (Optimizing) and Assembler. An SMF reducer and histogram facility is provided for workload trend studies. There is also an automatic reconfiguration facility that eliminates tedious "by hand" parameter calculations. An automatic "spill" of a BDAM file occurs if the matrices grow too large for the storage provided so that large configurations can be modelled in storage-constrained environments. The algorithm used is based on the multiple class queuing network central server model with multiple priorities simulated by an iterative "shadow CPU" technique.

Programming Systems - PL/I (Optimizing); Assembler
Minimum System Requirements - runs on MVS systems

Documentation Only: $2.50
Submittal/Revision Date: 2/81

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360D-32.0.001 (See Appendix A)

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360D-34.0.001 360D-34.0.001

FLIP: A Computer Program for Fuzzy Reasoning

Surcharges shown in abstract are added to base price.

Author: Robin Giles

Direct Technical Inquiries to:
Robin Giles
Mathematics Department
Queen's University
Kingston, Ontario K7l 3N6
Canada

Description - This is an interactive computer program, intended primarily for use at a screen terminal, which implements the procedure proposed in "A Formal System for Fuzzy Reasoning" (Fuzzy Sets and Systems, Vol. 2, No. 3, 1979.) The problem in question is that of deciding what conclusions may be drawn in the presence of (possibly conflicting) evidence provided, generally with associated partial degrees of belief, by several sources of differing reliability. In using the program, each piece of evidence is entered as a sentence (using the terms not, and, or, implies as necessary), with an associated "degrees of belief" and "weight"; followed by a tentative conclusion. The system returns the degree(s) of belief and weight(s) which may rationally be attached to the conclusion.

Programming Systems - Fortran IV on 360/50.
Minimum System Requirements - Fortran IV, System 360.

Documentation Only: $3.75
Excess Documentation: $.60 additional charge (with program).
Submittal/Revision Date: 9/79

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360D-40.0.001 (See Appendix A)

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360D-40.0.003 (See Appendix A)

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360D-40.4.003 360D-40.4.003

Multiple-precision Floating-point Arithmetic Package

Author: J. R. Ehrman

Direct Technical Inquiries to:
Dr. John R. Ehrman
Dept. J73/E30
IBM Corporation
555 Bailey Avenue
P.O. Box 50020
San Jose, CA 95150

Description - These routines provide facilities for arbitrary precision floating-point arithmetic, plus routines for conversions, data movement, testing, and other operations. All routines are written in Assembler language, and (while designed with a Fortran environment in mind) may be called from any language or program obeying standard linkage and parameter-passing conventions. The data format used is compatible with normal System/370 floating-point format.

The package includes (1) installation and test instructions, (2) four simple Fortran sample programs, (3) an exhaustive Fortran test program, (4) a program writeup in upper and lower case, and (5) the same writeup in upper case.

Programming Systems - See description
Minimum System Requirements - See description

Documentation Only: Not available
Submittal/Revision Date: 02/82

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360D-42.2.001 (See Appendix A)

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360D-43.2.001 (See Appendix A)

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360D-45.0.001 (See Appendix A)

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360D-70.0.001 360D-70.0.001

HASP OS/VS Workstation Program

Author: J. D. Snyder

Direct Technical Inquiries to:
J. D. Snyder
Westinghouse Tele-Computer Center
Brinton Road at Parkway East
Pittsburgh, PA 15221

Description -The HASP OS/VS Remote Workstation package allows the user to communicate as a batch terminal to the ASP Version 3.2.2 system at the Westinghouse Tele-Computer

Center. The package consists of three programs: the workstation terminal communication program, the reader utility, and the writer utility. The reader utility spools to disk all jobs to be transmitted to the ASP system.

The Terminal Communications program sends these jobs, retrieves the output, and spools it to disk. The program records all files in a disk directory. The writer utility prints or punches the output files to a hardware device. This utility enables the user to print or punch files by form or by job. The terminal program runs in one region or partition and is kept active as long as it is necessary to communicate with the ASP system. The writer utility runs in another region or partition and is kept active while the user wants to print or punch files. The reader utility may be invoked at any time from the batch card reader. The terminal program is 16K and the reader and writer utilities are 4K.

Programming Systems - Assembler
Minimum System Requirements - 116K region or partition of OS or OS/VS

Documentation Only: $3.50
Excess Documentation: $.15 additional charge (with program).
Submittal/Revision Date: 1/78

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370D-70.0.002 D-70.0.002

Network 3270ID Retrieval

Author: John Cannie

Direct Technical Inquiries to:
Bob Curtis
American Broadcasting Company
433 Hackensack Avenue
Hackensack, NJ 07601

Description - This is a VTAM application program which enables a 3270 operator to sign on and returns the NETNAME to the operator.

This enables verification of the proper network mode in problem determination and equipment installation.

The program is written in Assembly using VTAM and OS macros to run in any OS/VS environment and can easily be modified to run in a DOS environment.

Method of Operation:

The user signs onto the application and the program returns the Network name. On the next input, the program releases the terminal.

Sign on is as follows:

LOGON APPLID (ID)

Programming Systems - IBM Assembler/Macros
Minimum System Requirements - VTAM OS/VS

Documentation Only: Not available.
Submittal/Revision Date: 2/81

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370D-70.0.003 (See Appendix A)

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370D-70.1.001 370D-70.1.001

ABC NCCF Command Processors

Author: John Cannie

Direct Technical Inquiries to:
John Cannie
American Broadcasting Company
433 Hackensack Avenue
Hackensack, NJ 07601

Description - This package contains two programs:
1) Network Terminal ID Locator for NCCF
2) Cross Domain Message Interface for NCCF

Network Terminal ID Locator for NCCF

This command processor routine, for NCCF users, will make available the command 'DTSO'. If issued alone all TSO terminal users and the terminal ID they are on will be displayed. If "DTSO userid" is issued the LU, userid, and the number of users will be displayed. If "DTSO" followed by eight-character LU name is entered the userid will be displayed. A user SVC must be written to put the program into and out of authorized mode. It is not included with the program, but the location for issuing it is noted. Machine and software requirements are as

follows:

All IBM host processors that support OS/VS1 Rel 6.7 or 7.0 or OS/VS2 MVS Release 3.8. IBM Assembler, linkage editor IBM MACRO LIBRARY NCCF-Rel 1/2 ACF/VTAM Rel. 2 TCAM users will need minor modifications.

Cross Domain Message Interface for NCCF

This NCCF command processor will issue any user specified operating system command. A modification to check for unauthorized usage should be coded and placed where noted in the source code. A simple example is included in the program source code. A user SVC is required to place the command processor into and out of authorized mode. Implicit in this concept of issuing OS commands is the ability to issue system commands via the NCCF cross domain facilities. Example: ROUTE NCCF3, 'ISSUE & I28'

Programming Systems - IBM Assembler/Macros
Minimum System Requirements - all IBM host processors that support OS/VS2 MVS Release 3.8. Storage dependent upon system.

Documentation Only: Not available.
Submittal/Revision Date: 2/81

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370D-75.1.001 D-75.1.001

GUIDE/SHARE IBM DB/DC Data Dictionary User Enhancements

Author: Chris Mooney

Direct Technical Inquiries to:
not currently available

Description - This tape contains a collection of enhancements and extensions to the "IBM DB/DC Data Dictionary." These extensions take one of the following forms:

1) Extensibility prototypes and definitions (dictionary cmds) 2) Program Access Facility (PAF) routines in PL/I, COBOL and Assembler 3) Other types of programs which work with dictionary data 4) Some text concerning uses of the data dictionary. Any installation using the "IBM DB/DC Data Dictionary" should find the tape useful. Many of the routines are of a "utility" nature (e.g. export/import programs, etc.).

The enhancements have for the most part been submitted by members of the GUIDE "DB/DC Data Dictionary Project."

Programming Systems - PL/I, COBOL, Mark IV, ADF and Assembler
Minimum System Requirements - IMSVS DB, DLI VS/DOS

Documentation Only: Not available
Submittal/Revision Date: 1/87

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370D-75.1.002 D-75.1.002

IMS DB/DC Application Call Analyzer (IDACA)

370D-75.1.002 IMS DB/DC Application Call Analyzer (IDACA)

Author: Rob Young

Direct Technical Inquiries to:

Rob Young
Arkansas Blue Cross and Blue Shield
8601 Gaines
Little Rock, AK

Description - IDACA is an easily invoked design, testing, and monitoring tool for IMS DB/DC application programs. IDACA produces screen images of relevant IMS DB/DC information for each call issued by the application program. These images may be displayed on the originating 3270 display unit, sent to the installation specified printer, transferred to a sequential dataset for subsequent browsing under TSO, or routed to an alternate terminal chosen by the user. IDACA generates full screen displays of the call function, all PCB fields, all SSA's, the segment IO area, the SPA, the MID and MOD, and a database call summary. For SOC7 and SOCB abends, IDACA provides a mini-dump for immediate online debugging.

IDACA is easily invoked by the linkage-editor through execution of a proc, a TSO CLIST, or an ISPF dialogue manager panel. IDACA is not a simulator. IDACA executes as a subprogram of the application

program that processes the IMS transaction.

IDACA was developed under IMS 1.2 and migrated easily to IMS 1.3. IDACA has not been tested under more recent versions of IMS.

Programming Systems - COBOL, PL/1, and Assembler

Minimum System Requirements - IMS DB/DC 1.3

Documentation Only: $2.40

Submittal/Revision Date: 3/89

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360D-99.0.002 (See Appendix A)

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360D-99.0.009 360D-99.0.009

Program Collection - Monitors, SMF Reports, Structured Assembler Macros, Structured Fortran Translator, Utilities, TSO commands

Author: Donald S. Higgins

Direct Technical Inquiries to:
Donald S. Higgins
Director, Computer Services Division
Florida Power Corporation
P. O. Box 14042 B-2-A
St. Petersburg, Florida 33733

Description - This package consists of monitors, reports, macros, translators, subroutines, and utility programs which are useful to both application and system programmers. All of the programs are written in OS/VS macro Assembler or Fortran IV.

Major software on the tape includes:

- two MVS system monitors,
- a selective PDS directory list,
- a utility to compare two members of a PAN library,
- an SMF daily reporting system,
- a structured FORTRAN translator,
- structured ALC macros,
- full screen subroutine support for TSO,
- a general time and date utility subroutine,
- and cross memory communication subroutine support.

The package is distributed as three source libraries in sequential IEBUPDTE input format:

1. File 1 contains all macro and program source code.

2. File 2 contains all job control.
3. File 3 contains all documentation.

Note: For an MVS/XA version of MVSMON (one of the monitors on this tape), see program number 370D-05.1.029.

Programming Systems - Assembler, Fortran.
Minimum System Requirements - OS/VS

Documentation Only: $3.25
Tape at 800 BPI: $5.00 additional charge.
Submittal/Revision Date: 3/80

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Surcharges shown in abstract are added to base price.

APPENDIX A - OTHER PROGRAMS AVAILABLE FROM SPLA

APPENDIX A - OTHER PROGRAMS AVAILABLE FROM SPLA

The programs listed below are also available from SPLA. Each of these programs is either outdated or is so specialized that it is rarely ordered. Their abstracts have been removed from the catalog in an effort to streamline the catalog and make it easier to find the more current and active programs.

Each title is followed by the year the program (or its most recent revision) was submitted to SPLA. This should help you determine whether the program might still be of some use to you.

If you feel that one of these programs may be of interest to you, you may request a copy of its abstract. (A complete set of ALL these abstracts is not available; please try to limit your request to five or fewer abstracts.) Send requests for abstracts to:

University of Miami
SHARE Program Library Agency
P. O. Box 248011
Coral Gables, Florida 33124-4220
Attn: Freddie L. Robinson
(305) 284-6257

A self-addressed stamped envelope will ensure a fast response.

360E-00.1.016	IBM S/360 Model 20 Multiutility Program (1968)
360D-00.2.001	BPS/DOS/TOS FORTRAN Flowchart Program (1967)
360D-00.4.014	CHANGE1 - OS/360 DASD Expiration Date Writer (1968)
370D-00.4.020	DASD Alternate Track Analysis (ALTTRACK) (1975)
370D-00.4.021	DASD Seek Mapping Aid (SEEKER) (1975)
360D-00.4.022	DASAL (1978)
360D-00.5.007	Direct Access Volume Copy Program (1973)
360D-00.5.008	TSO Dataset Migration and Maintenance Package, FATSO (1973)
360D-00.5.009	Variable Length Record Deletion Subroutine, VBDMLET (1974)
360D-00.6.008	IO2260 Display/Attention Package (1968)
360D-00.6.011	A Hypertext Editing System for the S/360 Using the 2250 (1969)
360D-01.4.003	Operating System Accounting (1966)
360D-01.4.009	Super-scratch (SUPERSCR) (1968)
360D-01.4.012	CHGPASS Command Processor (1976)
360D-01.6.005	VTOC4MAT (1968)
360D-03.0.010	Steno To English Translation (1969)
360D-03.0.014	Multiprogramming System (MPS) (1969)
360D-03.0.015	GEMS - A Graphical Experimental Meta System (1973)
360D-03.2.014	The SIMSCRIPT II Programming Language (1972)
360D-03.2.016	*1 (Star-1) - List Processing Language (1973)
360D-03.2.017	Paper Saving Modifications to FORTRAN H and G with Nosoion (1974)
360D-03.3.010	SNAP Processor (Prototype) (1969)
360D-03.3.011	COMIT/360 (1969)
370D-03.3.014	APL/SV (OS/MVT Version) Modifications (1975)
370D-03.3.015	APL/SV ASCII Modifications (1975)
360D-03.4.027	FORTRAN Random I/O Subroutine (1968)
360D-03.4.033	A 2250 Model 1 Simulation Support Package (1969)
360D-03.5.005	A System to Process Abstract Catalogs and Related Indices (1969)
360D-03.5.007	Report Writer (1969)
360D-03.6.001	FORTRAN Cross Reference (1967)
360D-03.6.007	COBOL Source Cross-reference Listing (1968)
360D-03.6.019	SIMPLE: A Simple Precedence Translator Writing System (1973)

360D-03.6.020 MORTRAN, A FORTRAN Language Extension (1973)
360D-03.6.022 DECTALB, A Decision Table Translator Based on List Processing Techniques (1974)
360D-03.6.023 COBOL Module and Go To Checker (1974)
360D-03.6.024 COBOL Module Indexer and Loop Checker (1974)
360D-03.6.025 MAP/II Macro Pre-processor (1975)
360D-03.6.028 Time Sharing Language/One (TL/1) - MVT Version (1979)
360D-03.7.034 Macro Cross-Reference Program (1978)
360D-03.8.013 PL/I String Functions (1969)
360D-03.8.016 COBFORT - An Interface Enabling Standard Calls to FORTRAN Programs, Subprograms, and Library Subprograms from Languages (1974)
360D-04.0.006 CLOCK (1968)
360D-04.0.010 Simplified Input - Output and Debugging Macros for Assembler Language Users (1969)
360D-04.0.011 Macros for Simplified I/O and Diagnostic Printouts (1972)
360D-04.1.012 FORTRAN H Symbolic Debugging Package (1972)
360D-04.1.013 Disk File Usage Monitor and Report Program (1977)
360D-04.2.009 DUMBBELL or DEBUGGER (1975)
360D-04.4.012 TSO Analysis / System Measurement / Time-sharing Performance Simulation (1973)
370D-05.0.004 HASP V4.0 Retrofit To MFT-II (1973)
370D-05.0.005 MIFINDEX: Index for VS1 SYSGEN Stage II Output on Microfiche, SEAS S15-008 (1978)
360D-05.1.018 Baylor Executive System for Teleprocessing (BEST) (1975)
360D-05.1.021 Remote HASP to HASP (1973)
370D-05.1.022 VS1 HASP (1976)
360D-05.1.023 Texas Interactive Programming System (TIPS) (1976)
360D-05.1.024 ASP to HASP Link (1976)
360D-05.1.025 HASP Performance Improvement Modifications, SEAS S42-00 (1978)
370D-05.1.026 Real-time Monitor/Virtual Storage (RTM/VS) (1979)
370D-05.1.028 PINY HASP Mods (1982)
360D-05.2.015 Inter-system Shared Enque (1975)
360D-05.2.016 DDSS - Dynamic Data Set Security Shared DASD Enque (1976)
370D-05.2.017 SUVAROFF: 'Vary Offline' Commands for DASD Devices via the Volume Serial Number, SEAS S15-009 (1978)
360D-05.5.002 SLAC Modifications to OS/VS Loader (1976)
370D-05.6.001 SHARE JES2 Project Modification Tape
360D-06.0.007 FORMAT, A Text-Processing Program (1971)
360D-06.0.008 PRINT - A Text Formatting Program (1973)
360D-06.1.006 Simplified Interface for Invoking Sort from PL/I Optimizer Programs (A#SORT) (1976)
360D-06.3.012 A High Speed Bisynchronous Communications Access Method (1969)
1130-06.3.017 Enhanced HASP RTP1130 Workstation for Disk I/O (1974)
360D-06.5.006 UNIVAC-1108 to IBM-360 Floating Point Internal Converter ('CVFl08') (1968)
360D-06.6.003 FORTRAN Character String Package (1968)
360D-06.6.004 Character Filter PL/I (1968)
360D-06.7.018 BSEARCH - A Random Access Binary-search Technique for Sequential Files on Disk or Drum (1968)
360D-06.7.019 KWADE - Keyword as a Dictionary Entry (1968)
360D-06.7.026 The NRIMS Addressing System (1971)
360D-06.7.027 Baylor Information Analysis System (BIAS) (1975)
360D-06.7.028 Select Program (1976)
360D-06.8.002 LPI (FORTRAN List Processing) (1969)
360D-06.8.003 The Data Structures Programming System (1969)
360D-06.8.004 In-core Stack Manipulation for OS/360 Assembler Language Programs (1973)
360D-06.8.005 QUICKPRINT (1977)
360D-08.0.003 WRIMAT Matrix Writer (1969)
360D-08.6.001 PLOTS - A Subroutine for Time-series Plotting on a Priner (1967)
360D-08.6.002 Interface Between PL/I User Programs and CalComp Routine (1968)
360D-08.6.003 PLOT - A Subroutine for Plotting on a Printer (1967)

360D-08.6.011 PNRG; Perspective Plotting Routine; Arbitrary Grid (1969)
360D-08.6.012 PRG; Perspective Plotting Routine; Rectangular Grid (1969)
360D-08.6.013 PLT360; IBM 1627 Plotting Routine (1969)
360D-08.7.003 Histogram Display Subroutine (1968)
360D-08.7.004 Intersection Detection In Three Dimensions - A Tool for Computer Aided Engineering Design and Graphic Display (1967)
360D-08.7.006 SPLOT (Version 5) Subroutines (1977)
360D-09.2.001 SLAC Enhancements to the IBM FORTRAN Mod II Library
360D-09.3.001 ASSYMBOLIZE - A Program to Aid in Making IBM 360/370 Assembler Register References Symbolic, etc. (1978)
360D-11.3.015 Commercial Feature Emulator for System/360 Model 44 (1973)
360D-11.4.002 DCALC (1968)
370D-11.4.004 SIMCOMP (1981)
360D-12.0.003 Sift BCD Codes to EBC and Diagnose FORTRAN IV Conversion Problems Under OS/360 (1966)
360D-12.1.024 Interactive Hex Decimal Octal Calculator (74)
360D-12.2.002 FORTRAN IV to PL/I Translator (1967)
360D-13.4.001 Cooley-Tukey Fast Fourier Transform (1968)
360D-13.4.002 Cooley-Tukey Fast Fourier Transform (1968)
360D-13.7.001 DIALL - General Least Squares Diallel Analysis Of Variance (1969)
360D-15.0.005 Transient Solutions for Markov Chains (1974)
360D-15.1.004 360 GASP III - Generalized Academic Simulation Program (1967)
360D-16.0.001 UCARDS: Union Carbide Automatic Routine and Design for Circuit Boards (1969)
360D-16.0.002 Programs for Calculation of Microwave Interference (1975)
360D-16.0.003 FAA Integrated Noise Model Program Package (Version 2) (1976)
360D-16.1.001 ROCKET - FORTRAN 4 Version (1967)
360D-16.3.002 Pulse Testing Via the Fast Fourier Transform (1969)
360D-17.1.001 Quantitative Analysis With Electron Microprobe Analyzer (1969)
360D-17.2.006 CERN SUMX - A Data Summarization Program for the IBM/360 (1967)
360D-17.4.003 Transient One-dimensional and Simultaneous Solute and Water Flow in Soils (1974)
360D-17.4.004 CAMIVA - Cartographic Automatic Mapping System (1976)
360D-17.4.005 Numerical Solution of Nitrogen Transformations and Transport Equations During Transient Unsaturated Water Flow in Soils (1977)
360D-23.1.003 Two-stage, Two-dimensional Trim Program II (1969)
360D-23.4.004 360 APT - V4M3/SSX3A/SSIP (1974)
370D-23.4.005 370 APT-AC (PTF3), APTLFT Implementation (1974)
360D-32.0.001 FORMPLOT - A Forms Design Program (1978)
360D-40.0.001 DFACT - Double Precision Factorial (1968)
360D-40.0.003 INTFORT - Interval Arithmetic Interpreter and Subroutine (1973)
360D-42.2.001 Experimental Program for Determining Polynomial Zeros (68)
360D-43.2.001 MIDAS - An Adaptation of the Convair Pre-compiling MIDAS - III Digital Analog Simulation System to OS/360 With CalComp Plotting (1967)
360D-45.0.001 PL/I Subprocedure Collection - Release 1 (1975)
370D-70.0.003 TEXAS = TPNS Extended Automatic Scriptor (1982)
360D-99.0.002 NARGS - Number of Arguments (1968)

APPENDIX B - TAPES AVAILABLE FROM OTHER SOURCES APPENDIX B - TAPES AVAILABLE FROM OTHER SOURCES

Not all the tapes affiliated with SHARE are available from SPLA. The reasons for this vary. For example, the distributors may want to restrict its distribution to SHARE members.

Listed below is information on some of these tapes. Note that this information is subject to change; you may want to contact the person shown to make sure that procedures and proces are correct before ordering.

If you know of tapes that should be included here, please send the information to SPLA.

PROFS Project Tape

(SHARE members only)

This tape is a collection of PROFS enhancements that run under VM. To order it, send a blank tape (there is no charge) to:

Duayne DeVries
Steel Case, Inc.
MD CH-23-04
901 44th Street SE
Grand Rapids, MI 49508

VMSHARE Tape

This tape is a large collection of VM modifications, enhancements, utilities, and applications. To order it, send a check or money order for $110 (US), payable to WATCOM Products, Inc., to:

University of Waterloo
Attn: Jack Hughes, MC 2053
Dept. of Computing Services
Watreloo, Ontarion N2L 3G1
Canada
(519) 885-1211, extension 3241

Do not send tape.

This KWIC index includes programs whose abstracts are not listed in the catalog. See Appendix A for these programs.

NT INTERNAL CONVERTER (	'CVFL08')	360D-06.5.006
SUVAROFF:	'VARY OFFLINE' COMMANDS	370D-05.2.017
	ABC NCCF COMMAND PROCES	370D-70.1.001
A SYSTEM TO PROCESS	ABSTRACT CATALOGS AND R	360D-03.5.005
370 APT-	AC (PTF3), APTLFT IMPLE	370D-23.4.005
GASP III - GENERALIZED	ACADEMIC SIMULATION PRO	360D-15.1.004
BSEARCH - A RANDOM	ACCESS BINARY-SEARCH TE	360D-06.7.018
HRONOUS COMMUNICATIONS	ACCESS METHOD	360D-06.3.012
DIRECT	ACCESS VOLUME COPY PROG	360D-00.5.007
OPERATING SYSTEM	ACCOUNTING	360D-01.4.003
MIDAS - AN	ADAPTATION OF THE CONVA	360D-43.2.001
	ADDRESS	370D-06.7.029
IC, OPTIMIZING SOME RX	ADDRESSES, AND FACILITA	360D-09.3.001
THE NRIMS	ADDRESSING SYSTEM	360D-06.7.026
DASD SEEK MAPPING	AID (SEEKER)	370D-00.4.021
MBOLIZE - A PROGRAM TO	AID IN MAKING IBM 360/3	360D-09.3.001
- A TOOL FOR COMPUTER	AIDED ENGINEERING DESIG	360D-08.7.004
THE MITRE	AIRLINE ECONOMIC MODEL	370D-15.8.002
	ALDEP: AUTOMATED LAYOUT	360D-23.0.004
ONE-WAY ENCIPHERING	ALGORITHM FOR PASSWORD	360D-01.0.010
COMPUTERIZED RELATIVE	ALLOCATION OF FACILITIE	360D-15.6.003
CRAFT-M - COMPUTERIZED	ALLOCATION OF FACILITIE	360D-15.6.004
DASD	ALTERNATE TRACK ANALYSI	370D-00.4.020
ERNATE TRACK ANALYSIS (	ALTTRACK)	370D-00.4.020
LING MIDAS-III DIGITAL	ANALOG SIMULATION SYSTE	360D-43.2.001
DASD ALTERNATE TRACK	ANALYSIS (ALTTRACK)	370D-00.4.020
TSO	ANALYSIS / SYSTEM MEASU	360D-04.4.012
PLANET: PLANT LAYOUT	ANALYSIS AND EVALUATION	360D-23.0.003
LEAST SQUARES DIALLEL	ANALYSIS OF VARIANCE	360D-13.7.001
BAYLOR INFORMATION	ANALYSIS SYSTEM (BIAS)	360D-06.7.027
QUANTITATIVE	ANALYSIS WITH ELECTRON	360D-17.1.001
- 3350 DASD BLOCK SIZE	ANALYZER	370D-00.4.024
TH ELECTRON MICROPROBE	ANALYZER	360D-17.1.001
3705 NCP DUMP	ANALYZER	370D-04.1.015
PL/I EXECUTION	ANALYZER (PLEA)	360D-04.2.008
	APL/SV (OS/MVT VERSION)	370D-03.3.014
	APL/SV ASCII MODIFICATI	370D-03.3.015
360	APT - V4M3/SSX3A/SSIP	360D-23.4.004
370	APT-AC (PTF3), APTLFT I	370D-23.4.005
370 APT-AC (PTF3),	APTLFT IMPLEMENTATION	370D-23.4.005
TIVE PLOTTING ROUTINE;	ARBITRARY GRID	360D-08.6.011
NARGS - NUMBER OF	ARGUMENTS	360D-99.0.002
INTFORT - INTERVAL	ARITHMETIC INTERPRETER	360D-40.0.003
ECISION FLOATING-POINT	ARITHMETIC PACKAGE	360D-40.4.003
APL/SV	ASCII MODIFICATIONS	370D-03.3.015
	ASP TO HASP LINK	360D-05.1.024
H-LEVEL	ASSEMBLER	360D-03.1.015
ANIPULATION FOR OS/360	ASSEMBLER LANGUAGE PRO	360D-06.8.004
ER FOR S/360 AND S/370	ASSEMBLER LANGUAGE (VER	360D-03.1.014
D DEBUGGING MACROS FOR	ASSEMBLER LANGUAGE USER	360D-04.0.010
MF REPORTS, STRUCTURED	ASSEMBLER MACROS, STRUC	370D-99.0.009
IN MAKING IBM 360/370	ASSEMBLER SOURCE PROGRA	360D-09.3.001
FAST	ASSEMBLER-INTERPRETER F	360D-03.1.014
	ASSYMBOLIZE - A PROGRAM	360D-09.3.001
IO2260 DISPLAY/	ATTENTION PACKAGE	360D-00.6.008
ALDEP:	AUTOMATED LAYOUT DESIGN	360D-23.0.004
CAMIVA - CARTOGRAPHIC	AUTOMATIC MAPPING SYSTE	360D-17.4.004
UCARDS: UNION CARBIDE	AUTOMATIC ROUTINE AND D	360D-16.0.001
TEXAS - TPNS EXTENDED	AUTOMATIC SCRIPTOR	370D-70.0.003
- A PROGRAM TO MONITOR	BACKUPS	370D-01.5.005

ISION TABLE TRANSLATOR	BASED ON LIST PROCESSIN	360D-03.6.022
RAN2, A PORTABLE MACRO-	BASED STRUCTURED FORTRA	360D-03.6.026
	BAYLOR EXECUTIVE SYSTEM	360D-05.1.018
	BAYLOR INFORMATION ANAL	360D-06.7.027
SIFT	BCD CODES TO EBC AND DI	360D-12.0.003
C ENHANCEMENTS TO, AND	BEAUTIFICATIONS OF THE	360D-03.1.015
EM FOR TELEPROCESSING (	BEST)	360D-05.1.018
INTERFACE	BETWEEN PL/I USER PROGR	360D-08.6.002
ATION ANALYSIS SYSTEM (	BIAS)	360D-06.7.027
ARCH - A RANDOM ACCESS	BINARY-SEARCH TECHNIQUE	360D-06.7.018
UAGE FOR CHEMISTRY AND	BIOCHEMISTRY	360D-03.2.008
A HIGH SPEED	BISYNCHRONOUS COMMUNICA	360D-06.3.012
UCB OLTEP	BIT SETTING PACKAGE	370D-03.0.018
	BKPMON - A PROGRAM TO M	370D-01.5.005
	BLOCK - 3350 DASD BLOCK	370D-00.4.024
BLOCK - 3350 DASD	BLOCK SIZE ANALYZER	370D-00.4.024
GN FOR PRINTED CIRCUIT	BOARDS	360D-16.0.001
	BPS/DOS/TOS FORTRAN FLO	360D-00.2.001
	BSEARCH - A RANDOM ACCE	360D-06.7.018
	BW328X - PRINTER SUPPOR	370D-05.0.006
PILOT	CAI LANGUAGE	360D-03.3.016
SYSTEM TO OS/360 WITH	CALCOMP PLOTTING	360D-43.2.001
PL/I USER PROGRAMS AND	CALCOMP ROUTINES	360D-08.6.002
PROGRAMS FOR	CALCULATION OF MICROWAV	360D-16.0.002
TIVE HEX DECIMAL OCTAL	CALCULATOR	360D-12.1.024
FACE ENABLING STANDARD	CALLS TO FORTRAN PROGRA	360D-03.8.016
	CAMIVA - CARTOGRAPHIC A	360D-17.4.004
	CAPMAN	370D-24.2.001
	CAPTURE	360D-17.5.002
	CAPTURE -- FORTRAN 77 V	360D-17.5.004
UCARDS: UNION	CARBIDE AUTOMATIC ROUTI	360D-16.0.001
CAMIVA -	CARTOGRAPHIC AUTOMATIC	360D-17.4.004
EM TO PROCESS ABSTRACT	CATALOGS AND RELATED IN	360D-03.5.005
OLD	CBT MVS MODIFICATION TA	370D-03.0.020
	CBT MVS MODIFICATION TA	370D-03.0.019
	CDC TO IBM FORTRAN CONV	360D-12.2.010
	CERN SUMX - A DATA SUMM	360D-17.2.006
T SOLUTIONS FOR MARKOV	CHAINS	360D-15.0.005
	CHANGE1 - OS/360 DASD E	360D-00.4.014
	CHARACTER FILTER PL/I	360D-06.6.004
FORTRAN	CHARACTER STRING PACKAG	360D-06.6.003
ODULE INDEXER AND LOOP	CHECKER	360D-03.6.024
COBOL MODULE AND GO TO	CHECKER	360D-03.6.023
5 PRE-STAGE-ONE SYNTAX	CHECKER	370D-04.0.012
IMULATION LANGUAGE FOR	CHEMISTRY AND BIOCHEMIS	360D-03.2.008
	CHGPASS COMMAND PROCESS	360D-01.4.012
AND DESIGN FOR PRINTED	CIRCUIT BOARDS	360D-16.0.001
	CLOCK	360D-04.0.006
SUBROUTINE	CMS	370D-09.3.002
DMSPEEK -	CMS QUEUE DISPLAY AND M	370D-08.8.001
	COBFORT - AN INTERFACE	360D-03.8.016
	COBOL MODULE AND GO TO	360D-03.6.023
	COBOL MODULE INDEXER AN	360D-03.6.024
	COBOL SOURCE CROSS-REFE	360D-03.6.007
360 LINEAR PROGRAMMING	CODE	360D-15.2.007
SIFT BCD	CODES TO EBC AND DIAGNO	360D-12.0.003
	COFAD: COMPUTERIZED FAC	360D-23.0.001
PL/I SUBPROCEDURE	COLLECTION - RELEASE 1	360D-45.0.001
PROGRAM	COLLECTION: MONITORS, S	370D-99.0.009
	COMIT/360	360D-03.3.011
CHGPASS	COMMAND PROCESSOR	360D-01.4.012
ABC NCCF	COMMAND PROCESSORS	370D-70.1.001
SLATOR, UTILITIES, TSO	COMMANDS	370D-99.0.009
VAROFF: 'VARY OFFLINE'	COMMANDS FOR DASD DEVIC	370D-05.2.017
VMCMNDS -- SUBMIT VM	COMMANDS TO CP FROM MVS	370D-00.0.025
	COMMERCIAL FEATURE EMUL	360D-11.3.015
GH SPEED BISYNCHRONOUS	COMMUNICATIONS ACCESS M	360D-06.3.012

	COMPARE DATA SET UTILIT	360D-06.0.009
STANFORD PASCAL	COMPILER	360D-03.2.018
THE XPL	COMPILER GENERATOR SYST	360D-03.2.015
ION OF THE CONVAIR PRE-	COMPILING MIDAS-III DIG	360D-43.2.001
A	COMPLEMENTARY PIVOT MET	360D-15.3.003
	COMPRESSED SOURCE LIBRA	370D-00.0.024
IMENSIONS - A TOOL FOR	COMPUTER AIDED ENGINEER	360D-08.7.004
FLIP: A	COMPUTER PROGRAM FOR FU	360D-34.0.001
CRAFT-M -	COMPUTERIZED ALLOCATION	360D-15.6.004
COFAD:	COMPUTERIZED FACILITIES	360D-23.0.001
CORELAP:	COMPUTERIZED RELATIONSH	360D-23.0.002
	COMPUTERIZED RELATIVE A	360D-15.6.003
PL/I PROJECT	CONTRIBUTED PROGRAM LIB	370D-03.2.019
PASCAL PROJECT	CONTRIBUTED PROGRAM LIB	370D-03.2.020
IBM NUMERICAL	CONTROL PAPER TAPE PROG	370D-23.4.006
- AN ADAPTATION OF THE	CONVAIR PRE-COMPILING M	360D-43.2.001
CDC TO IBM FORTRAN	CONVERSION	360D-12.2.010
ND DIAGNOSE FORTRAN IV	CONVERSION PROBLEMS UND	360D-12.0.003
LOATING POINT INTERNAL	CONVERTER ('CVFL08')	360D-06.5.006
	COOLEY-TUKEY FAST FOURI	360D-13.4.001
	COOLEY-TUKEY FAST FOURI	360D-13.4.002
DIRECT ACCESS VOLUME	COPY PROGRAM	360D-00.5.007
IN-	CORE STACK MANIPULATION	360D-06.8.004
	CORELAP: COMPUTERIZED R	360D-23.0.002
(INCLUDING DEPT. MOVE	COSTS)	360D-15.6.004
SUBMIT VM COMMANDS TO	CP FROM MVS	370D-00.0.025
FACILITIES TECHNIQUE,	CRAFT	360D-15.6.003
	CRAFT-M - COMPUTERIZED	360D-15.6.004
FORTRAN	CROSS REFERENCE	360D-03.6.001
JCL	CROSS-REFERENCE	360D-03.0.017
COBOL SOURCE	CROSS-REFERENCE LISTING	360D-03.6.007
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