Harris Users' Exchange

Software
Library
Catalog

April, 1988

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Software Library
Policy and Procedures

1. Introduction

The Harris Users' Exchange (HUE) Library is a cooperative software library of programs, subroutines, macros, procedures, and other useful documents which have been contributed by HUE members, Harris employees, and other users of Harris equipment for the benefit of all members of the Harris Users' Exchange.

Harris acts solely as the central library depository and distribution agent and provides no technical or programming support for these programs. The software has not been tested by Harris. No responsibility is assumed by Harris, the author, contributor or his employer for any errors, mistakes, or misrepresentations that may occur when using these programs.

Installation and support of these program is the sole responsibility of the user. The programs may, or may not, be supported or maintained at the discretion of the contributor. Update information regarding revisions, or new versions of a program will be announced via HUE publications and/or revisions to this catalog.

2. Use of the Catalog

The Library Committee has attempted to include information in the catalog which will assist the user to review library programs, obtain programs from the library, and contribute programs to the library. In addition to general information on library procedures, the catalog also includes:

a. an index of all programs and program titles;
b. a brief abstract of each program;
c. a keyword cross-index of all library programs;
d. "Guidelines for Submission of Programs and Documentation;" and
e. sample forms for requesting programs from the library, submitting programs to the library, reporting program errors, and identifying program need.

Each program abstract includes:

a. the HUE program number;
b. the program title;
c. the name and address of the contributing activity;
d. a point of contact for the program;
e. the source language of the program

f. the identification of the operating system (DMS, VULCAN, VOS, UNIX);
g. documentation status
   YES- on paper
   MR - machine readable
   NO - undocumented
h. maintenance/support status
   YES
   NO
   TP - time permitting
i. submission date;
j. brief description or abstract of the program; and
k. other information relative to special program limitations or restrictions.

3. Obtaining Programs From the Library

The HUE Manager will respond to written orders for information from the HUE Library on a first-come, first served basis. Programs may only be requested by the designated HUE Representative or a Member Installation.

When ordering programs, please use the following procedures:

a. Complete a *HUE Program Library Request Form* (see sample form in back of catalog) and clearly identify the HUE Number and Title of each program to be furnished. Also, identify the desired tape format.

   Note: Please limit your request to those programs you feel are of primary interest to your installation and no more than 25 program in any single request.

b. Send the completed *Library Request Form* and one magnetic tape (most requests will fit on a 2400 foot tape) to:

   Harris Users' Exchange Library
   2101 West Cypress Creek Road
   Fort Lauderdale, Florida 33309-1892

c. The HUE Manager will make every effort to respond to all program requests within ten working days. Any questions concerning the request may be directed to the HUE Manager (Telephone: 305-977-5535).

4. Submitting Programs to the Library

The success of the HUE Library depends on the support of the HUE membership through the contribution of useful programs, macros, procedures, and other high quality submissions which may be shared by the entire membership.

A fundamental objective of the Library is to provide a convenient and economical method for HUE members to share and exchange useful programs, macros, and other documents relating to the use of Harris computer systems. Contributions from all facets of the membership are welcome as long as the application is not unique to a single installation.

There are several inherent problems in the establishments and management of a user library containing many diverse programs contributed by a broad spectrum of enthusiastic and cooperative users. One obvious problem is caused by the lack of a uniform documentation standard. The Committee recognizes it is neither practical, nor realistic, to expect contributions to the Library to conform to a rigid documentation standard. They are "self-documenting" by virtue of the use of comment interspersed among the lines of code and, in some instances, these programs may prove to be more beneficial than those which have extensive documentation. Another problem is the possible absence of a source for assistance and/or support should a problem arise in either the installation of the program or during the use of the program. A software manager once said, "let the documentation be so thorough that, once complete, the developer will never have to answer one question about the program" It is rumored that this manager was let go because he documented away his job security. The point is this, as a program contributor, we must remember that the recipient (installer and user) of our contribution will probably not have the benefit of our expertise and knowledge except what we are able to convey through our documentation.

a. Minimal Acceptable Requirements (MARs) for Program Submission

The logistics involved in the publication of a catalog, which includes a brief and informative abstract announcement of each contribution, makes it necessary for the Library Committee to impose a "Minimum Acceptable Requirement" (MAR) for all program submissions.

It is the policy of the HUE Library Committee that any submission meeting the MARs is an entirely and wholeheartedly welcome

contribution. The Committee does not want HUE members whose site practice for program documentation does not include items deemed desirable for others to be in any way deterred from making submissions, or feel they must spend time they otherwise would not in providing those items. Optional, desirable components that tend to improve submissions will still be suggested guidelines, but will not, repeat not, be a submission requirement.

Submissions (and resubmissions or revisions) to the Library must include, as a minimum, the following MARs:

1. A completely filled out submission form, including a clear and understandable abstract of the program. Resubmissions or revisions need only complete those portions of the form which changed from the original submission, clearly explaining what the revision accomplished. (Please remember that the person who will be entering your abstract into the the catalog may know little, or nothing, about your program and of the important function it performs. If your abstract is not clearly stated it may not be clearly published.)
2. Clear and accurate instructions for installing the application including:
    a. clear and accurate instructions for installing the application.
    b. written step-by-step instructions.
    c. a working JS or script file which, when executed, results in a completely generated application. (This is preferred when there is a choice.)
3. A copy of all the required files in
    a. Harris Keep/Fetch format for H-Series applications on a 9-track tape at 800 or 1600 bits per inch.
    b. CPIO format (with the -cB options enabled) for CX/Unix applications for the HCX on a 9-track tape at 1600 bits per inch.
    c. CPIO format (with the -B option enabled) for CX/Unix applications for the MCX on a dual sided high density floppy at 96 tracks per inch.

Program submissions and any questions concerning the interpretation of submission instructions should be directed to the HUE Manager (see address and telephone number in the previous section).

Submissions will not be accepted that do not contain at least these three items. Any contribution meeting these minimum acceptable requirements (MARs) is to be accepted, unless it duplicates an item already in the Library.

b. HUE Library Documentation Submission Guidelines

The Library Committee Charter calls for the development of guidelines for acceptable contributions to the library. The intent of the guidelines are:

a. to facilitate the reproduction and distribution of the library material,
b. to improve the overall quality and content of library contributions,
c. to make it easier for the recipient to install and use a library program, and
d. to minimize the need to contact (interrupt) the contributor of the program to answer questions relative to the installation and use of the program.

The guidelines have been derived from documentation techniques and procedures used by various HUE members in a number of the Library contributions and are presented here as suggestions only, for the consideration of contributors to the Library. Depending on the size and scope of the submission, not all of the items identified below are important, but consideration should be given to the effects of omitting an element.

1. **Submission**
   The HUE Program Library Submittal Form must accompany each submission to the Library. It is important that this form include a clear and informative abstract of the submission.

2. **Media**

   a. The preferred media for all the H-Series and HCX submissions is magnetic tape. The preferred media for all the MCX submissions if floppy disk.

      H-Series — One (1) magnetic tape containing all files (including libraries, if appropriate) associated with the program is desired. Files should be in KEEP/FETCH format (9-track, 800 or 1600 BPI) under one qualifier, NOT 0000SYST, owned by a user name "HUE." The

recommended account for these files is in the 9000 to 9999 range.

HCX — One (1) magnetic tape containing all files (including libraries, if appropriate) associated with the program is desired. Files should be CPIO format (with the -cB options enabled) for CX/Unix applications for the HCX on a 9-track tape at 1600 bits per inch. Files should be saved using relative path names and owned by a user name "hue."

MCX — One (1) magnetic tape containing all files (including libraries, if appropriate) associated with the program is desired. Files should be CPIO format (with the -B option enabled) for CX/Unix applications for the MCX on a dual sided high density floppy at 96 tracks per inch. Files should be saved using relative path names and owned by a user name "hue."

b. One (1) complete set of any printed documentation not in digital form (diagrams, drawings, or other pictorial material) is desired in a form suitable for reproduction. Where possible, the page size of this material should be standard letter size (8 ½" x 11").

3. **Program Naming Conventions**
Program name(s) should be unique. Please consult the HUE catalog before submitting your contribution to assure the name of your program is not a duplicate of one already in the Catalog.

4. **Revisions to Existing Contributions**
If you are submitting a revised version of a program already in the Library, show a revision level on your submission form by appending an alphabetic letter to the HUE number, i.e. the first revision to the program HUE179 would be "HUE179A", the second revision would be "HUE179B," etc.

5. **Duplicate Submissions**
Second and succeeding copies of programs, when discovered, will be returned to contributors with notification that those contributions are already in the library. If your contribution is truly different from existing programs in the library, be sure to highlight these differences when submitting your contribution.

6. **"Three Line" Programs**
   Evaluate short contributions carefully. Some have great value and would be welcome additions to the library; others possibly would not.

7. **Files**
   Please give careful consideration to the files which you include in your submission. Remember, the installer and user of your program did not have the privilege of originating the file names used by your program, so they obviously do not have the same significance to them as they do to you. The Library Committee has developed a "checklist" of files which, depending on the complexity of your program, may improve your submission.

   a. **"LOOKHERE" file**
      The purpose of the "LOOKHERE" file is to give the installer a clue as to where to begin the installation. The file should include instructions to assist in the installation of the program. It may also contain a brief description of the content of each of the files or the name of another **"INDEX"** file which has this information.

   b. **"INDEX" file**
      Sometimes an "Index File" is needed to briefly describe the content or purpose of each file.

   c. **Source Code**
      Be sure and include a file, or set of files, of all source code required by the program or system. Also, don't forget to include the source code for all "USER LIBRARY" routines called by the program(s).

   d. **Installation "JOB STREAM" or Script**
      A Job Stream (JS), Macro file, or Script, containing the Job Commands to create special output files and/or work files used by the program is generally a big help. The JS file can even be expanded, as are many of the HUE Library programs, to perform the complete installation of th program (including compilations).

   e. **"INSTALL" file**
      For complex systems it may be appropriate to include an "INSTALL" file containing special instruction for the installation of the program. This file might also contain helpful information for the systems programmer relative to some of the complex logic and/or design criteria

included in the program. If ASSEMBLER routines are part of the system, be sure to explain what these routines perform.

f. **User Manual**
A good user manual is always a welcome document. Some programs are sufficiently "user friendly" that a user manual may not be important, but it certainly helps to promote the use of a program if you can furnish the user with a well written User Manual, especially if it is in digital form and can be "tailored" to the needs of the user.

5. **Submitting HUE Library Supplements**
If your site has developed enhancements to a HUE Library program, the HUE Library Committee invites you to share them with other Harris users by submitting a supplement to an existing HUE Library package. A supplement will be attached to the existing package so that sites requesting the package will automatically receive the supplement as well. Supplements may be additional documentation, example programs or subroutines, minor revisions, tutorial software, test programs or data - in short, anything that may improve the program or assist a user of the program.

Major revisions of an existing package should be submited as a new HUE Library entry.

Use the HUE Library Supplement Form at the end of hist catalog when submitting a supplement.

Harris Users' Exchange
Software Library
H-Series Programs

HUE001: STAT - Statistics for Three-digit Integers

Harris Computer Systems Div.
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: FORTRAN 66
Opsys: VULCAN

Doc: NO
Maint: NO
01/31/78

Description:

This program reads up to 1000 three-digit integers and calculates the number of scores, maximum score, minimum score, range, mean, median, mode, variance, standard deviation, and standard error.

HUE002: Digital Clock Display on CRT

Harris Computer Systems Div.
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: Assembler/FORTRAN 66
Opsys: VULCAN

Doc: NO
Maint: NO
01/02/78

Description:

Displays time of day on CRT screen.

Restrictions:

TEC 425 CRT terminal required.

HUE003: FORTRAN NAMELIST Processor

Harris Computer Systems
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Barry Johnson
Lang: Assembler/FORTRAN 66
Opsys: VOS

Doc: YES
Maint: NO
08/01/84

Description:

This is a revision of the General Dynamics and Lockheed Namelist I/O Package for Harris computers that supports all standard namelist features of the CDC, UNIVAC and IBM FORTRAN languages along with certain extensions. It now includes a version for FORTRAN 77.

Namelist I/O is highly convenient for engineering users. The user provides input data that consists of one or more data items. Each data item specifies the alphanumeric name of the data along with the value. For example: A=4.2, I=6, B(4,2)=3.97E+10

The package consists of two components. One component contains four I/O subroutines which are in a library. The other contains the source for the pre-processor. The pre-processor allows the user to write his or her FORTRAN program using the standard Namelist program statements. The pre-processor traps out these statements and converts them to inline assembly code (on a file) which is adaptable to Harris FORTRAN.

HUE004: IBM 1130 Scientific Subroutine Package

Oregon Institute of Technology
Computer Center
Klamath Falls, OR 97601

Contact: Frank Vaskelis
Lang: FORTRAN 66
Opsys: VULCAN

Doc: NO
Maint: YES
01/02/78

Description:

The Scientific Subroutine Package (SSP) is a collection of 121 FORTRAN subroutines. Statistics subroutines include analysis of variance (factorial design), correlation analysis, multiple linear regression, polynomial regression, canonical correlation, factor analysis (principal components, varimax), discriminant analysis (many groups), time series analysis, data screening and analysis, nonparametric tests, and random number generation (uniform, normal).

Matrix manipulation subroutines include inversion, eigenvalues and eigenvectors (real symmetric case), simultaneous linear algebraic equations, transpositions, matrix arithmetic (addition, product, etc.), partitioning, tabulation and sorting of rows or columns, and elementary operations on rows or columns.

Other mathematical areas include integration of given or tabulated functions, integration of first-order differential equations, Fourier analysis of given or tabulated functions, Bessel and modified Bessel function evaluation, Gamma function evaluation, Legendre function evaluation, elliptic, exponential, sine, cosine, Fresnel integrals, finding real roots of a given function, finding real and complex roots of a real polynomial, polynomial arithmetic (addition, division, etc.), and polynomial evaluation, integration, and differentiation.

HUE006: DMS Simple Database Manager

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 77
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

DBM is a simple data base manager based on the HARRIS Index Sequential package. DBM is the foreground version and BG/DBM is the background version. DBM is a non-resident program like ACRONIM. An enhanced VULCAN version is HUE292. D. Wilson, programmer.

HUE007: DMS Data Base Sort

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

Uses the SORT/MERGE package to allow DBM, the simple data base manager, to produce output ordered by some field other than the record key. See HUE006 for documentation. B. Orchard, programmer.

HUE008: DMS Audio Manipulation Program - VOCAL

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler/FORTRAN
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

VOCAL is used to prepare sequences of verbal utterances. It uses one disc file to save the utterances (up to 1.8 sec. long) and another to store sequences. A sequence gives the order of the utterances for each ear, the delay between the utterances and the delay between outputs to the left and right ears. A much enhanced VULCAN version is HUE302. David Wilson, programmer.

HUE009: DMS Artificial Speech Generator - SPEAK

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler/FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

SPEAK is used to artificially generate speech using Klatt's model. The user must supply values for various parameters needed by the serial speech synthesizing algorithm. SPEAK will produce graphs and do linear interpolation for the parameters. D. Wilson, programmer.

HUE010: DMS Complex Wave Forms - SOUND

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler/FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

SOUND will produce complex wave forms or tones. One may specify volume levels, or the center frequency and bandwidth of the desired waveform. The VULCAN version is HUE296. D. Wilson, programmer.

HUE011: DMS Nonresident Program Documentation

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: English
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

This is a manual describing how to make an interactive DMS foreground program nonresident. Such a program exits memory whenever an input line is requested from a terminal.

HUE012: DMS PACK - Change of Removable Platters

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

Used when changing disc pack. If any programs have a file open on the removable platter, PACK notifies the operator that the pack cannot be changed. Otherwise all programs using the fixed platter are suspended, and all terminals are notified. D. Wilson, programmer.

HUE013: DMS Down Memory Declares Block Unusable

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

This program allows the operator to declare a block of memory unusable. B. Orchard, programmer.

HUE014: DMS Inactive File Handler (Get/Put)

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler/FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

Used to copy files to and from inactive storage. Inactive storage consists of one or more disc packs which DMS considers a single file. The program PUTALL is run weekly to copy all user's files to inactive storage. Each user is assigned to a particular pack. A similar utility for VULCAN is HUE285. B. Orchard, programmer.

HUE015: DMS ACRONIM Recovery From System Failure

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

After a system failure, any update records which have been entered but not inserted with a UA command may be recovered. After logging in, enter:

```
$ACREC.
```

ACREC will first ask for the name of the edited file. It will then display the commands found. If the command is to be recovered press RETURN, otherwise type N. Upon completion, enter UA. B. Orchard, programmer.

HUE016: DMS Foreground Utilities

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler/FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

NOPACK	lists packs which are mounted.
PL	lists active programs.
BM	monitors background.
BQ	prints background queues.
DIAG	decodes error messages.
FILES	lists file info.
SIZE	lists how much of a file is used.

B. Orchard/M. Mansfield, programmers.

HUE017: DMS Utility Subroutines

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

INFOS system information.
IJ input job to queue.
IOW direct input/output.
LINKME link foreground program to terminal.
RENAME rename a file.
SEARCH get unit assignment.
ASSIGN assign file.
CREATE a file.
DELETE a file.

D. Lapin, programmer.

HUE018: DMS Disc SAM Checker

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler/FORTRAN 66
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

This program checks the SAM'S on up to 6 discs at once and allows the user to replace a SAM if in error. B. Orchard, programmer.

HUE019: DMS FORTRAN Cross Reference

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

Includes two different FORTRAN cross reference programs. The VULCAN version is HUE307. Programmed at ECL.

HUE020: DMS Background Trace And Dump

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

FULLTR is a non-interactive trace and dump routine for background or foreground assembly language programs. An extended VULCAN version is HUE303. Programmed at ECL by D. Wilson.

HUE021: DMS Background Source File Edit

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

TEXTEDIT permits manipulation of source files from background. Includes a string matching feature. Programmed at ECL.

HUE022: DMS ACRONIM Macros

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: ACRONIM
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

AC.CHANGE change all occurrences of a string.
AC.DEL delete all lines containing a given string.
AC.LST list all lines containing a given string.

D. Wilson, programmer.

HUE023: RUNOFF Documentation System

Waisman Center, U. wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: DMS/VULCAN

Doc: YES
Maint: YES
11/21/81

Description:

RUNOFF is a computer-aided documentation system. Input consists of text lines intermixed with control commands. RUNOFF output is a paginated, user-formatted document produced on a terminal or line printer. Output lines may be "filled" with words without regard to input lineation, or may be copied one-for-one from input text. The main advantage of RUNOFF over simply typing the document is that it makes revision of the document very easy. The document specification needs merely to be updated and the RUNOFF job run again. With a typewriter, it is often necessary to retype whole pages just to insert or delete a sentence.

Pagination, headers and footnotes, justification, indentation, centering, line spacing, lines/page, page layout (right/left and top/bottom margins), hyphenation at line breaks, and collecting of an index can all be controlled by the user. Other features include upper/lower case from an upper-case-only terminal, bold face and underlining, paragraph tables, and a substitution list facility for the generation of form letters. Programmed by D. Wilson, D. Lapin, D. Goodwin, P. Bucklay.

HUE024: DMS Motorola 6800 Cross Assembler

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

A Motorola 6800 micro-processor cross assembler written in machine-independent FORTRAN. A VULCAN version is HUE310. G. Bonin, programmer.

HUE025: DMS PDP-11 Macro Cross Assembler

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

This cross assembler assembles PDP-11 Macro source code to Absolute Loader format. P. Pierce, programmer.

HUE026: DMS Upper Memory Converter

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

UPPER will convert a program written for a 32K machine to run above 32K. Programmed at ECL.

HUE027: DMS Minicomputer Communications

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

This package permits a HARRIS system to communicate with other minicomputers. Communications programs are available for the PDP-11, ADS 1800 and Motorola 6800. B. Orchard, programmer.

HUE028: DMS RJE Communications for UNIVAC 1100 Series

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

This is an RJE package to UNIVAC 1100 Series systems using the NTR protocol. Uses standard Harris Synchronous Interface. B. Orchard, programmer.

HUE029: DMS Plotter Output Spooling

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

Permits plotter output to be spooled without operator intervention. B. Orchard, programmer.

HUE030: DMS Printer Plotting Package

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

The following subroutines produce one-page plots on the line printer.

SPLOTT	one function auto scaling.
SPLOT2	multi-function auto scaling.
PLOTT	one function.
PLOTT2	multi-function.

Programmed at ECL.

HUE031: DMS CALCOMP/COMPLOT Plotting

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler/FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

Produces complete graphs on the plotter, including polar, logarithmic and bar graphs. Also includes primitive routines such as MOVPEN, PSYMB and CIRCLE. The VULCAN version is HUE295. Programmed at ECL.

HUE032: DMS Plotting for Printer or Plotter

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

This program will produce plots on the printer or the CALCOMP plotter. It uses HUE030 and HUE031. D. Wilson, programmer.

HUE033: DMS Digital To Analog

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

Data may come from several files and output to up to 5 digital- to-analog channels. A control file contains timing information. Used with CPI RTP digital-to-analog channels.

HUE034: DMS STARTREK Game in FORTRAN

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

Captain the Starship Enterprise to victory over its enemies.

HUE035: DMS Polynomial Curve Fit

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

ECLPOL is a program which uses subroutine POLWGT (included) for curve fitting and the printer plotting package (HUE030) to do plotting. The VULCAN version is HUE293. Programmed at ECL.

HUE036: DMS Symbolic Interpretive Matrix System (SIMS)

Byron Jackson Pumps
2300 East Vernon
Vernon, CA

Contact: Bill Deck
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

A matrix manipulation program including most matrix algebra operations, some specifically oriented to dynamic or static structural analysis. Documentation can be obtained from NISEE, University of California, Berkeley.

HUE037: DMS Update Source File

Byron Jackson Pumps	**Contact:** Bill Deck	**Doc:** YES
2300 East Vernon	**Lang:** Assembler/FORTRAN 66	**Maint:** NO
Vernon, CA	**Opsys:** DMS	01/02/78

Description:

Inserts or deletes source cards from LDN 2 to LDN 3 with commands from LDN 7. The last card inserted on deleted is listed. The date is inserted into columns 73-80 and the date, time and file size is listed.

HUE039: DMS Link Cross Reference

University of Wisconsin	**Contact:** Bill Lagerroos	**Doc:** YES
B554 Electrical Engineering	**Lang:** Assembler/FORTRAN 66	**Maint:** NO
Madison, WI 53706	**Opsys:** DMS	01/02/78

Description:

This program reads the module in the link ready file and produces a cross reference list of the links between the modules.

HUE040: PERT - Critical Path Scheduling

Harris Computer Systems Div.
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: NO
04/23/81

Description:

The Program Evaluation and Review Technique (PERT) program is composed of two main parts. Part I is used to determine the best project completion time based on critical path scheduling. After a project completion time has been selected, Part II is then used to determine the risk involved in attempting to complete a given activity, in completing a portion of a project, or in completing an entire project in a specified amount of time.

The PERT program permits the adjustment of a schedule so as to arrive at a level of risk acceptable to management. Once a management policy is established as to what constitutes a desirable level of risk in meeting scheduled times, a schedule can be developed which is based on that policy and which uses the basic PERT network data. For each activity an appropriate time would be determined and assigned having the same level of risk.

A new charting capability was added by Bill Highsmith and Jim Harshman of Harris Satellite Communications Division in Melbourne, Florida.

HUE044: DMS Analog Input to A Disc File From RTP

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler/FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

DMS foreground program ANALOG inputs events from a RTP at rates up to 10K samples per second. Events are marked by a signal going high on one input channel. Requires a programmable clock in RTP card 15, interrupt level 4. A schematic diagram of the clock can be obtained from the authors. The VULCAN version is HUE275. D. Wilson, programmer.

HUE045: DMS Clock Control System Services

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

CLKSET Set RTP clock to interrupt every "NNN" nsecs.
CLKWAT Waits for RTP clock interrupt.
CLKCLR Stops RTP clock.
CLKCNT Returns count of RTP clock interrupts.

D. Wilson, programmer.

HUE046: DMS Set Terminal Parameters

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

Allows user to change terminal speed, line-size and terminal type. B. Orchard, programmer.

HUE047: DMS Federal Inventory Practice

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler/FORTRAN 66
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

ESIP electronic shop inventory program compatible with University of Wisconsin and Federal Inventory Practices. ESIP is a non-resident program like ACRONIM. P. Anderson, programmer.

HUE048: DMS Conversational Algebraic Language

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

Conversational Algebraic Language (CAL) is a DMS interactive program which simulates a desk calculator. The VULCAN version is HUE220.

HUE056: DMS Plotting Package

University of Wisconsin
Room 83 Medical Science Building
Madison, WI 53706

Contact: Mike Mansfield
Lang: Assembler/FORTRAN 66
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

Extensive Plotting Package allows output on a Versatec printer, a Tektronix graphics terminal, or a plotter.

HUE059: Two or Three Dimensional Maze

University of Wisconsin
B554 Engineering Building
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: DOS

Doc: YES
Maint: NO
01/02/78

Description:

MAZE2D Produces a two-dimensional maze.
MAZE3D Produces a three-dimensional maze.

Output is to a printer.

HUE060: Grade Normalizing and Plotting

University of Wisconsin
B554 Engineering Building
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: DOS

Doc: YES
Maint: NO
02/09/78

Description:

Grade Normalizing and Plotting was designed to perform five basic operations used by many instructors in the course of a semester. First, the average and standard deviation for any numerically graded performance (exam, homework, lab, report, average, etc.) can be computed. Second, a weighted average of any subset of a student's grades can be made. Third, any graded performance may be normalized to an average and standard deviation specified by the user. Fourth, the output class list can be numerically ranked according to student performance on any grade or average, or sorted alphabetically. Fifth, a distribution for any graded performance or average may be plotted on the printer.

HUE061: ADS 1800 Cross Assembler

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

Assembles code for the ADS 1800 computer on a Harris machine. G. Heimann, programmer.

HUE062: LNS - Logic Network Simulator

University of Wisconsin
B554 Engineering Building
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
02/09/78

Description:

The Logic Network Simulator (LNS) simulates logical activity in networks of logic blocks. Twenty-four types of blocks are permitted - up to 750 blocks may appear in a network. An almost entirely free-form language for describing the network and controlling the simulation gives the user many options and a great deal of freedom in preparing input. LNS does extensive checking of input data and while it is simulating, it outputs messages to help the user locate errors.

AND, OR, NAND,NOR, Exclusive-OR, Equivalence, and Threshold gates of up to 99 inputs and Inverters may act instantly or introduce (inertial) delay. Six types (JK, RS, RST, GL, T, and D) of clocked, master-slave flip-flops respond instantly or with delay following a 1 to 0 transition of their clock signal. A leading-edge triggered D flip-flop may also be asynchronously preset or cleared. ZERO and ONE blocks provide logic constants. Clocks may be used with differing periods, pulse widths, and phases with respect to the beginning of simulation. Blocks that provide inertial and transport delay are available, as are blocks that read signal values from data statements and print signal values.

LNS simulates a logic network through time - it treats time as discrete. No real-time interval is associated by LNS with the time step it takes. Signals change value between these unit time steps and have a fixed logic value of 0 or 1 or are uncalculable (value of ?) throughout the step.

HUE063: MIN4 - Switching Circuit Minimizer

University of Wisconsin
B554 Engineering Building
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: DOS

Doc: YES
Maint: NO
02/15/78

Description:

MIN4 is a switching circuit minimizer program that generates the prime implicants of a Boolean function from a list of minterms and then extracts first order extremals. The algorithm employed by the program is a decimal modification of the Quinn-McCluskey procedure discussed in most textbooks on combinational switching circuits.

Minterms are expressed either as n-tuples of 0's and 1's, or as a decimal integer, or both. Minterms supplied to MIN4 need not be ordered in any way. MIN4 may be requested to print a sequenced list of input minterms sorted according to the number of ones in their binary representation. Don't care minterms will be flagged with a DC notation. As a further aid to the beginner, the program allows the option of having all intermediate lists of the Quinn-McCluskey procedure printed.

The program picks out all first order extremals, i.e. those prime implicants which are required to be in the minimum sum-of-product expression of the switching function since they alone cover some minterm. The remaining prime implicants are printed. If the extremals do not cover the complete switching function, a table of prime implicants vs. minterms is printed. This table must then be solved manually in order to complete the minimization.

HUE064: Fast Finite Fourier Transform

University of Wisconsin
B554 Engineering Building
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

FFFT will perform a fast fourier transform or an inverse fast fourier transform.

HUE065: DMS Timing Function

University of Wisconsin
B554 Engineering Building
Madison, WI 53706

Contact: Bill Lagerroos
Lang: Assembler
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

MILSEC is a FORTRAN-callable function which returns elapsed CPU time in tenths of a millisecond.

HUE066: DMS Timing Routines

University of Wisconsin
B554 Engineering Building
Madison, WI 53706

Contact: Bill Lagerroos
Lang: Assembler
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

FORTRAN-callable subroutines:

TIMEDB	Time of Day in Binary
TIMEPB	Program Time in Binary
TIMEPD	Program Time in Alpha-Numerics

HUE068: Hypothetical Computer Simulator

University of Wisconsin
B554 Engineering Building
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: DOS

Doc: YES
Maint: NO
01/02/78

Description:

The SAD (single address) computer is a hypothetical decimal, 1000 word computer which is simulated on the Harris computer.

HUE069: DMS Integer Word Bit Mover

University of Wisconsin
B554 Engineering Building
Madison, WI 53706

Contact: Bill Lagerroos
Lang: Assembler
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

DCFLD will move selected bits from one integer word to another. Bit position and field length are independently specified for both words. Other bits are left undisturbed.

HUE071: Array Sorting Routine

University of Wisconsin
B554 Engineering Building
Madison, WI 53706

Contact: Bill Lagerroos
Lang: Assembler
Opsys: DOS

Doc: YES
Maint: NO
01/02/78

Description:

The SSSORT is a FORTRAN-callable subroutine to sort a real or integer array. Several other arrays may be re-ordered in the same fashion when the array is being sorted. Real numbers have exponents moved to the top of double words during sorting to permit use of SMD instruction for compares.

HUE074: Multi-Plot Routines

University of Wisconsin
B554 Engineering Building
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

ECLPLT and METUPL are two FORTRAN-callable subroutines that produce multi-page, multi-function plots on the printer.

HUE075: Histogram Plots

University of Wisconsin
B554 Engineering Building
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

This program optionally sorts real data into bins of specified sizes, and then plots a Histogram on the printer.

HUE076: Zero-or-One Subroutine

University of Wisconsin
B554 Engineering Building
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

ZERONE is a subroutine which will choose, within given constraints, a value of either zero or one for X(J) so as to maximize C(J) X(J) where C(J) are given costs.

HUE077: LIN*STAVAR - Linear State Variable Analysis

University of Wisconsin
B554 Engineering Building
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
02/15/78

Description:

LIN*STAVAR is a package of four LINear STAte VARiable analysis programs designed for solving problems arising in linear control theory.

BASMAT computes the inverse, determinant, resolvent matrix, state transition matrix, eigenvalues, and characteristic polynomial of a matrix.

RTRESP and GTRESP determine the time response of linear systems. RTRESP gives a closed form time response while GTRESP gives a numerical tabulation and a graph of the time response. SENSIT determines the variation of the poles of a linear system.

HUE078: Eigenvalues and Eigenvectors

University of Wisconsin
B554 Electrical Engineering
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: DOS

Doc: YES
Maint: NO
01/02/78

Description:

EIGENP is a slightly modified version of Algorithm 343 communications of the ACM vol. 11, No. 12, Dec. 1968, p820.

HUE079: Hard Matrix Inversion

University of Wisconsin
B554 Electrical Engineering
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

MATSLV uses the multiple precision arithmetic package to do its matrix inversion or solve simultaneous linear equations.

HUE080: Gauss-Jordan Matrix Inversion

University of Wisconsin
B554 Electrical Engineering
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

These routines use Gauss-Jordan elimination to invert matrices or find solutions of simultaneous linear equations.

HUE081: Non-Linear Function

University of Wisconsin
B554 Electrical Engineering
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

LS will fit non-linear function to a set of points using a least squares algorithm.

HUE082: Runge-Kutta Routine

University of Wisconsin
B554 Electrical Engineering
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

These subprograms solve systems of ordinary differential equations using the Runge-Kutta method.

AUTORK Prints results.
AUTRK2 Returns results to calling program.

HUE083: Root Locus Plotter

University of Wisconsin
B554 Electrical Engineering
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: DOS

Doc: YES
Maint: NO
01/02/78

Description:

LOCUS will plot roots on the complex plane of a function of the form:

$$\frac{G(X)}{H(X)} + 1$$ where G(X), H(X) are complex polynomials.

BODE does the same but plots versus radius frequency using rectangular or polar coordinates.

HUE084: DMS Simultaneous Non-Linear Equations

University of Wisconsin
B554 Electrical Engineering
Madison, WI 53706

Contact: Bill Lagerroos
Lang: Assembler
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

SOLVER will find and print or plot solutions to simultaneous non-linear equations. Solver uses a special version of DMS cataloger. SAU is used without interrupts.

HUE085: Roots of Real Polynomials

University of Wisconsin
B554 Electrical Engineering
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

These programs will find the complex roots of a polynomial with real coefficients.

HUE086: Error Function

University of Wisconsin
B554 Electrical Engineering
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
01/02/78

Description:

Calculates the error function of any real number to 7 significant digits. Although ERF(X) is a real function, all calculations are done in double precision, thus assuring full significance for a real variable on the HARRIS machine.

HUE087: Multiple Precision Arithmetic Package

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: Assembler/FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: NO
01/02/78

Description:

This package will add, subtract, multiply, divide and raise to integer powers numbers with up to 103.5 digits of accuracy with an exponent range of 10-300 to 10**900. It keeps track of the amount of error accumulated during calculations.

HUE088: DMS Source File Editor

University of Wisconsin
1025 West Johnson Street
Madison, WI 53706

Contact: John Wende
Lang: Assembler/FORTRAN 66
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

$SOFIE -- Customized Source File Editor.

Used to manage multi-file disk areas containing symbolic data. A small direct access file is used to add, delete, select, list, spool, and replace files. Job stream can be generated to compile symbolic library into relocatable library.

HUE090: DMS FORTRAN-Callable Contingency

University of Wisconsin
1025 West Johnson Street
Madison, WI 53706

Contact: John Wende
Lang: Assembler
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

Permits use of the DMS contingency abort return from a FORTRAN program.

HUE092: DMS Disc Housekeeping Utility

University of Wisconsin
1025 West Johnson Street
Madison, WI 53706

Contact: John Wende
Lang: FORTRAN 66
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

This permits simple word patching on disc by presenting a sector of disc information in an 8 X 14 matrix and soliciting changes. Useful for patching system, improperly closed blocked files, etc.

HUE098: DMS Filemanager Scan

University of Wisconsin
1025 West Johnson Street
Madison, WI 53706

Contact: John Wende
Lang: Assembler
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

FIND is a small foreground program to allow a user to search a DMS filemanager save tape for a particular file. Upon request, it will also list all file names present on the tape.

HUE105: DMS Program List Display

University of Wisconsin
1025 West Johnson Street
Madison, WI 53706

Contact: John Wende
Lang: FORTRAN 66
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

This is a foreground program to allow terminal user to look at the current active program list.

HUE106: DMS Cataloged Assignments List

University of Wisconsin
1025 West Johnson Street
Madison, WI 53706

Contact: Dave Mond
Lang: Assembler/FORTRAN 66
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

A small foreground program to list all assignments that were cataloged with a foreground program under DMS.

HUE111: DMS Timer Scheduler List

University of Wisconsin
1025 West Johnson Street
Madison, WI 53706

Contact: Bruce Douglas
Lang: Assembler
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

TIMER lists all entries on DMS timer scheduler.

HUE116: DMS Rename File

University of Wisconsin
1025 West Johnson Street
Madison, WI 53706

Contact: John Wende
Lang: Assembler
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

Call RENAME (oldname, newname, oldpass, newpass, type, file-protect, status).
See: DMS Reference Manual.
Allows , newname, oldname, newpass to be integer zero when not being changed. Type=ASCII Type Designation: S,B,C: 1-90, if no change file protect="P", Public, "RWD"=Read, Write, Delete, O=No

HUE119: DMS Message Service

University of Wisconsin
1025 West Johnson Street
Madison, WI 53706

Contact: John Wende
Lang: FORTRAN 66
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

TALK is a small interactive program to permit a terminal operator to spool a one line message to any other spooled device.

HUE120: DMS Symbolic Record Generator

University of Wisconsin
1025 West Johnson Street
Madison, WI 53706

Contact: Dave Mond
Lang: Assembler/FORTRAN 66
Opsys: DMS

Doc: NO
Maint: NO
01/02/78

Description:

$DMAPX scans master disc directory generating symbolic records which can be optionally sorted. Printer output contains subtotals according to all but the first sort fields.

HUE122: Source Input To CRT

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: Assembler/FORTRAN 66
Opsys: VULCAN

Doc: NO
Maint: NO
02/20/78

Description:

This program will set tabs, display input fields, and build source files for FORTRAN, COBOL, ASSEMBLER, and RPG II.

HUE123: IBM 1130 Commercial Subroutine Package

Oregon Institute of Technology
Computer Center
Klamath Falls, OR 97601

Contact: Frank Vaskelis
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: NO
09/28/77

Description:

The IBM 1130 Commercial Subroutine Package facilitates the use of FORTRAN in basic commercial programming. A GET routine allows the programmer to decode input records after they have been read. This eliminates the common FORTRAN-associated problem that occurs when input records enter the system in an unknown sequence. Input records that vary in this way may be read with the A1 format and converted to real numbers (using GET) after the program has determined which type record was just read.

An editing routine, EDIT, supports the preparation of output in special formats. With EDIT it is possible to insert commas, supply leading blanks, float dollar signs, display a CR symbol after negative numbers, etc. EDIT is especially useful in the preparation of invoices, checks, and other commercial documents.

Also provided are code conversion routines for data manipulation and more efficient data packing.

The subroutines converted to run on Harris systems are: A13, A3A1, WHOLE, NCOMP, MOVE, FILL, XA1ix, NZONE, PRINT, SKIP, GET, PUT, ixXA1, EDIT, and READ.

HUE124: DMS Modified Autogen For Array Processor

Arecibo Observatory (NAIC)
Box 995
Arecibo, PR 00612

Contact: Peter Shames
Lang: Assembler
Opsys: DMS

Doc: NO
Maint: YES
02/20/78

Description:

Several modifications have been made to the DMS Autogen program to allow two tape drives to be used for sysgen (bin and aux input) and to allow inclusion of updated basic system modules from the aux tape. In addition, a modification has been made to allow the 2INTER command on the USRDEV card to handle tty's and other interrupt devices. Modifications are distributed as a series of updates to the source file S87700 to be applied with the $UTILITY program. A second jobstream allows creation of a new AUTOGEN tape.

HUE125: AP-120B Array Processor Handler

Arecibo Observatory (NAIC)
Box 995
Arecibo, PR 00612

Contact: Richard Murphy
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: YES
10/28/81

Description:

This handler for the Floating Point Systems (FPS) AP120-B array processor has been extensively revised from that provided by FPS for use with Harris computers. More extensive error checking and debugging features are provided and abort conditions are handled in a similar fashion as with standard VULCAN handlers. Most of the source listing documentation is updated to provide a clear idea of the protocol required to communicate with the 120-B. Specially modified FORTRAN routines are provided, so release 79.2 of the FPS/Harris software will work with this handler.

HUE126: ANALYZ - Interactive Array Analysis Language

Arecibo Observatory (NAIC)	**Contact:** Peter Shames	**Doc:** YES
Box 995	**Lang:** Assembler/FORTRAN 66	**Maint:** YES
Arecibo, PR 00612	**Opsys:** DMS/VULCAN	05/01/80

Description:

ANALYZ is an interactive array-oriented language which permits detailed control of data reduction and analysis. Those familiar with the reverse Polish and X,Y,Z,T stack notation in HP calculators will recognize most of the syntax immediately. The main difference is that X, Y, Z, and T as well as the STO/RCL memory "registers" are arrays rather than single numbers.

The ANALYZ programming capabilities allow new functions to be defined in terms of the elementary functions provided. Nested definitions allow complex operations to be defined in a naturally modular way. Creation and use of program libraries, use of input and output data files, and display options for printing and plotting are also supported. The language provides several routines which support plotting on Tektronix 4010 terminals as well as hardcopy output on Calcomp and Versatec plotters. Users may easily add their own routines to expand the power of the language.

Other features include:

- Initialization function
- Array manipulation
- Trigonometric functions
- Statistical functions
- Arithmetic functions
- Fourier transforms and convolutions
- Smoothing and filtering
- Conditional tests and loop control.

HUE128: CRT Display Subroutines

Harris Corporation	**Contact:** Patricia Magyari	**Doc:** NO
2101 W. Cypress Creek Road	**Lang:** Assembler	**Maint:** NO
Ft. Lauderdale, FL 33309	**Opsys:** VULCAN	02/20/78

Description:

FORTRAN-callable routines to handle CRT display and input.

HUE129: Stock Market Charting

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: FORTRAN 66
Opsys: VULCAN

Doc: NO
Maint: NO
02/20/78

Description:

Program reads data file of stock prices and outputs chart of performance.

HUE130: DMS Debug and Trace

Computer Resources Inc.
Suite 117, 6289 Sunrise Boulevard
Ft. Lauderdale, FL 33313

Contact: Hollis Arban
Lang: Assembler
Opsys: DMS

Doc: YES
Maint: NO
02/20/78

Description:

SINDOT -- is a dynamic execution debug package which provides interactive CRT users with functions required to execute a program with total control and without commandeering the computer system.

HUE131: FETCH VULCAN Tapes to DMS

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: Assembler
Opsys: DMS

Doc: YES
Maint: NO
02/20/78

Description:

FETCH will load VULCAN Keep/Fetch format files from magnetic tape and restore or replace these files to a DMS system.

HUE132: DMS 8080 Cross Assembler

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: Assembler
Opsys: DMS

Doc: NO
Maint: NO
02/20/78

Description:

The program input is not standard 8080 Assembly language. The Assembler input is similar in format to Harris Assembler language, however, all 8080 instructions are available.

HUE133: TRACE - Program Instrumentation Package

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Gary Graunke
Lang: Assembler/FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
08/01/80

Description:

There is often a need to identify the program points which are responsible for the bulk of a program's execution time. Efforts to improve efficiency may then be concentrated on these critical regions. TRACE is a program instrumentation package which provides the capability to graph the execution cycles vs. program address for program areas selected by the user. Upon program exit, a histogram for each area is printed. The percentage of total execution time (excluding system services) is also printed for each area.

HUE134: COBOL Cross Reference

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: Assembler
Opsys: VULCAN

Doc: NO
Maint: NO
02/20/78

Description:

This program reads COBOL source file and prints all occurrences of labels by line numbers.

HUE135: Screen Formatter

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: YES
07/18/79

Description:

The Screen Formatter package is a system of several utilities and subroutines that provide the following capabilities:

1. Generating, modifying, testing and other manipulation of CRT screen formats through the use of a utility, eliminating the need for a user program.
2. Displaying screen formats with variable user data using simple FORTRAN/COBOL calls.
3. Receiving (reading) data from screen formats using simple FORTRAN/COBOL calls.
4. Manipulating multiple screen formats within a single program.
5. Performing interactive terminal functions using FORTRAN/COBOL calls. These include "wait for transmit", "edit", "read/write", "clear screen/memory", "display data panel lights."

HUE136: DMS Disc Modification Utility

Arecibo Observatory (NAIC)
Box 995
Arecibo, PR 00612

Contact: Peter Shames
Lang: FORTRAN 66
Opsys: DMS

Doc: NO
Maint: NO
02/20/78

Description:

This is an interactive program to allow a user to patch or look at a disc location, peek and poke memory, and change one's user number.

HUE137: DMS Disc Mapper (DSLIST)

Arecibo Observatory (NAIC)	**Contact:** Peter Shames	**Doc:** NO
Box 995	**Lang:** FORTRAN 66	**Maint:** NO
Arecibo, PR 00612	**Opsys:** DMS	02/20/78

Description:

DSLIST allows the user to display the name, password, sector, and disc allocation, user number & protection status of any file(s) in the system. File names may be specific or generic. The generic feature allows a search of the MDD for any file matching name mask or all files belonging to a given user.

HUE139: Quadruple Precision Arithmetic

Arecibo Observatory (NAIC)	**Contact:** Peter Shames	**Doc:** YES
Box 995	**Lang:** Assembler	**Maint:** NO
Arecibo, PR 00612	**Opsys:** VULCAN/DMS	02/20/78

Description:

QUAD is a library of functions which may be used to do quadruple precision arithmetic. Four words are used to represent data yielding 19 decimal digits of accuracy and a dynamic range of 10 plus or minus 1000000. Data to be manipulated are typed as complex, and normal Fortran conventions are used for expressions. The conversions are automatic library references. The QUAD library is input to the catalog step as a replacement for the existing complex type routines. The SAU conventions are used in coding and routines are provided for alphanumeric to QUAD and vice-versa.

HUE140: DMS Versatec Printer/Plotter

Arecibo Observatory (NAIC)	**Contact:** Peter Shames	**Doc:** YES
Box 995	**Lang:** Assembler	**Maint:** NO
Arecibo, PR 00612	**Opsys:** DMS	02/20/78

Description:

SHADE produces a grey-scale (shaded) photograph on the Versatec. An argument is used to control Versatec speed (unspooled) and thus to control the contrast. It uses Versatec directly (through IOCS) on channel 5 unit 0. This would have to be changed to the user's own channel and unit number.

HUE141: DMS MTCOPY - Tape and Disc Utility

Arecibo Observatory (NAIC)
Box 995
Arecibo, PR 00612

Contact: Peter Shames
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
02/20/78

Description:

MTCOPY is a tape-to-tape, tape-to-disc, and disc-to-tape utility routine. It can copy files for "export" (i.e. converts from binary to ASCII or EBCDIC on request) and can perform blocking or deblocking.

Restrictions:

Channel and unit numbers are embedded Assembly statements and would have to be changed to suit the user installation.

HUE142: DMS PROTAP - Tape Profiler

Arecibo Observatory (NAIC)
Box 995
Arecibo, PR 00612

Contact: Peter Shames
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
02/20/78

Description:

PROTAP produces a profile of a tape listing record size, number of records, number of files, etc. Tape positioning commands are available, and tape contents can be dumped.

Restrictions:

Channel and unit numbers are embedded Assembly statements and would have to be changed to suit the user installation.

HUE143: KPLOTR-VERSATEC Graphics, Statistics, Data Mgmt

Mt. Sinai Hospital	**Contact:** Herman Watson	**Doc:** YES
4300 Alton Road	**Lang:** FORTRAN 66	**Maint:** NO
Miami, FL 33140	**Opsys:** VULCAN	02/20/78

Description:

KPLOTR is an interactive graphics, statistics, and data management package for the Versatec Printer-Plotter. It is divided into four main functional parts:

1. The main program which is associated mainly with graphics
2. A set of utility commands which allow data manipulation
3. A set of statistics commands
4. A data base of 50 data "registers."

KPLOTR incorporates the Versatec VERSAPLOT software and it's concepts, and allows the user to call them either in an interactive mode, or in a "chained" mode (input from a disc file). The "register" file is a random access file of 50 groups of 510 floating-point numbers and is manipulated by user commands.

An example of a plot command is LFIT which does a least squares fit to data in X and Y and plots it with statistics printed on the plot. Geometric power curve and natural log fits are also supported. Statistics commands allow the user to compute the means and standard deviations of the X and Y arrays and the paired T-value of the X population and Y population, with the corresponding probability.

HUE144: PASCAL-P4

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: NO
02/20/78

Description:

PASCAL is a general-purpose programming language with good features for structured programming and data structuring. It was designed to be simple, efficient, and particularly suitable for teaching Computer Science.

The PASCAL-P4 compiler is a heavily modified version of the P4 compiler offered by the University of Colorado. It generates standard VULCAN object code modules containing "threaded code" (semi-interpretive) in a form compatible to the linkage editor and other system processors.

Other features include the ability to link to external FORTRAN procedures, support for an arbitrary number of "text" files, and extensive run-time checking and diagnostics.

HUE147: Job Control Commands

Assoc. Colleges Central Kansas
105 East Kansas
McPherson, KS 67460

Contact: Glen J. Wiebe
Lang: List File
Opsys: VULCAN

Doc: NO
Maint: YES
02/20/78

Description:

HELP is an extension to the "HELP" command. It allows the user to obtain information on system commands by entering the "HELP" command where command is any job control command. Command names may be abbreviated to two characters. New commands can be added by putting a list file under the qualifier "0000HELP".

HUE148: INTRCEPT - Interactive Screen Format Processor

Harris Semiconductor
P.O. Box 883
Melbourne, FL 32901

Contact: Gary Killian
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: YES
03/09/77

Description:

INTRCEPT is an interactive processor which is used to create and manage a library of screen formats. It provides facilities to interactively design and generate Assembly language screen modules which can be called from a FORTRAN, BASIC, or COBOL program. The primary objective of INTRCEPT is to support many of the features and functions of an IBM 3270 display system on a Harris computer using the TEC 425 CRT in order to perform on-line transactions, such as key-to-disk and data base inquiry and update.

The INTRCEPT user can set initial default values for a field and can edit a screen in the screen library independently of the CPU using the editing facilities built into the CRT hardware. The user can print a Screen Diagnostics and Attribute Report. The use of INTRCEPT is divided into two major phases: interactive and run-time. A programmer would use the interactive phase to generate a screen library - design, edit, delete, copy, and rename screens in a screen library - and to generate a run-time screen module. The screen module is an Assembly language program that may be called from a COBOL, or other higher-language program. The screen module contains the logic required to handle the display of the format and the reading and writing of protected, unprotected, and blinking fields.

HUE150: Harwell Library

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: NO
04/07/78

Description:

The Harwell Subroutine Library contains mathematical and numerical analysis routines, written mostly in FORTRAN. The routines fall into the following general categories:

- Differential equations
- Algebraic eigenvalue and eigenvector problems
- Mathematical functions, random numbers, and
- Fourier transforms
- Geometrical problems
- Sorting
- Linear and dynamic programming
- Problems in linear algebra
- Nonlinear equation problems
- Input and output facilities
- Polynomial and rational function problems
- Numerical integration
- Functions of statistics
- Interpolation and general approximation of functions
- Optimization and nonlinear data fitting problems.

Restrictions:

This software consists of almost 100,000 records. Most of it is written in IBM 360 dialect of FORTRAN 66. There is also a small number of IBM 360 assembly language routines. In general, a moderate amount of effort will be required to convert and test a routine from this library.

HUE152: WORMS - CRT Exerciser

Harris Controls	**Contact:** Larry Hughes	**Doc:** NO
P.O. Box 430	**Lang:** FORTRAN 66	**Maint:** NO
Melbourne, FL 32901	**Opsys:**	02/02/78

Description:

A CRT demonstration program utilizing a FORTRAN driver to exercise an Assembler language CRT I/O subroutine. Output is via Tektronix terminals.

HUE153: TIDY - FORTRAN Statement Renumbering

University of Wisconsin	**Contact:** Bruce Bursten	**Doc:** NO
1101 University Avenue	**Lang:** FORTRAN 66	**Maint:** NO
Madison, WI 53706	**Opsys:** VULCAN	03/01/78

Description:

TIDY reads a FORTRAN source file and renumbers all statement numbers in ascending order. The user may optionally define starting line number and increments. In-line Assembly code is handled as well. An option allows FORMAT statements to be moved to the end of each routine.

HUE160: DBIO - TOTAL Interface Routine

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: COBOL
Opsys: VULCAN

Doc: NO
Maint: YES
08/15/79

Description:

DBIO is a data base module which acts as an interface between the application program and TOTAL. COBOL programs call DBIO, pass specific parameters (function, file, data area, etc.) and DBIO interacts with TOTAL to perform the requested function. DBIO also interrogates the security data base to determine if that program or terminal can access the requested files. Password security is also controlled by DBIO. Any "fatal" DBMS errors are logged on the error file, and analysis data is captured on the analysis file.

Restrictions:

1. Requires TOTAL data base manager.
2. Many of the techniques utilized in this application were developed for a much larger data base and more complex and integrated systems. They have provided an excellent framework for developing an MIS at Harris but due to the way they are dependent upon each other, the transportability of these applications is somewhat limited.

HUE161: Security System for TOTAL

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: COBOL
Opsys: VULCAN

Doc: YES
Maint: YES
08/15/79

Description:

This system maintains security files used by the DBIO routine.

Restrictions:

1. Requires TOTAL data base manager and DBIO (HUE160).
2. Many of the techniques utilized in this application were developed for a much larger data base and more complex and integrated systems. They have provided an excellent framework for developing an MIS at Harris but due to the way they are dependent upon each other, the transportability of these applications is somewhat limited.

HUE162: TOTAL Chain Chaser

Harris Computer Systems Div.
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Marcia Russo
Lang: COBOL
Opsys: VULCAN

Doc: YES
Maint: YES
08/15/79

Description:

Chain Chaser is a utility program to access any record(s) in a TOTAL data base for unformatted display, printout, or update. It can also delete any record(s) in the data base.

Restrictions:

1. Requires TOTAL data base manager.
2. Many of the techniques utilized in this application were developed for a much larger data base and more complex and integrated systems. They have provided an excellent framework for developing an MIS at Harris but due to the way they are dependent upon each other, the transportability of these applications is somewhat limited.

HUE166: LIB Source

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: COBOL
Opsys: VULCAN

Doc: NO
Maint: YES
08/15/79

Description:

This is a file that contains all the MIS COBOL COPY routines.

Restrictions:

Many of the techniques utilized in this application were developed for a much larger data base and more complex and integrated systems. They have provided an excellent framework for developing an MIS at Harris but due to the way they are dependent upon each other, the transportability of these applications is somewhat limited.

HUE168: QED - Text Editor

Bell Laboratories	**Contact:** B.R. Chawla	**Doc:** YES
600 Mountain Avenue	**Lang:** FORTRAN 66	**Maint:** YES
Murray Hill, NJ 07974	**Opsys:** VULCAN	04/07/78

Description:

QED is an interactive program which is used to create and modify text from an interactive terminal. It has a command structure that makes it particularly easy to use. QED's syntax is concise and very regular. There are a number of commands which are one character long, and most command names are mnemonically related to their functions.

Unlike many text editors, QED stores all the text it is working on in main memory. This arrangement gives the user rapid access to the text, even if addressed randomly.

Other features include:

- Context addressing
- Line editing
- Text editing
- Special characters in regular expressions
- Selective command execution
- Optional command input from disc file.

HUE169: FAMULUS Documentation System

Assoc. Colleges Central Kansas
105 East Kansas
McPherson, KS 67460

Contact: Glen J. Wiebe
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
04/07/78

Description:

FAMULUS is a documentation system specifically designed for research workers. It offers various information retrieval facilities such as automatic sorting of files into alphabetical order, indexing, and searching in response to specific requests. Because of its ability to collate and extract information, it can also be applied as a tool for research upon the data which it stores.

File maintenance is accomplished with an EDIT module. Records can be added, deleted, or modified. Each record is subdivided into fields, which are given names appropriate to their contents.

Examples of FAMULUS capabilities include the KEY, KWIC, and SEARCH modules. The KEY module allows automatic keywording to be done using existing fields as the source for the key terms. The terms, based on a vocabulary, stop-word list or go-word list, are placed into a user-specified field in the record.

The KWIC module produces a Key Word in Context Listing for the file. Each word in the field or fields selected is alphabetized and centered with as much of the field as possible to the left and right of the word.

The SEARCH module acts as both a report and a means of dividing a file. A search formula is constructed and each record evaluated according to the formula. Record numbers of those fitting the constraints of the search are printed and optionally, a new file of those records is produced.

HUE173: 'DMS to VULCAN Restore

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: Assembler
Opsys: VULCAN

Doc: NO
Maint: NO
11/25/78

Description:

This program will write onto a VULCAN system a DMS "save" file.

HUE174: System Utilization Accounting

Assoc. College Central Kansas
105 East Kansas
McPherson, KS 67460

Contact: Glen J. Wiebe
Lang: COBOL
Opsys: VULCAN

Doc: YES
Maint: YES
11/25/78

Description:

This system expands on the Harris supplied Acutil.

HUE175: Tektronix PLOT 10 Interface Routines

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: Assembler/FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: NO
08/29/79

Description:

These are user-defined interface routines for the Tektronix PLOT 10 packages. Documentation and programs are available from your local Tektronix office.

HUE176: Disc Copy Routine

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: Assembler
Opsys: VULCAN

Doc: NO
Maint: NO
05/25/78

Description:

System independent disc copy routine, designed to copy disc packs.

Restrictions:

Use for 28/565 MB disc and 5/10/40/80 MB discs.
Cannot use 150-300 MB discs.

HUE177: TX - Full-Screen Text Editor

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Rick Maule
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: NO
06/25/79

Description:

The TX text editor is a stand-alone program designed for full-screen, interactive text editing of files on interactive CRT's. TX command types offer the user various editing features, such as:

- Automatic tabbing
- Default display size modes
- Text-insertion and movement within the edit file or from other files into the edit file
- Listing and displaying forward or backward within a file
- Program escape
- Edit session recovery.

The escape commands permit the user to exit TX during an edit session without having to update his file, and without losing the work files. This capability also allows recovery following system problems.

HUE178: COGO - Coordinate Geometry System

Oregon Institute of Technology
Computer Center
Klamath Falls, OR 97601

Contact: Frank Vaskelis
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
02/25/79

Description:

COGO is a problem-oriented language that provides engineers with the means of solving coordinate geometry problems by computer without the necessity of prior computer experience. Problems are stated in terms that are familiar to the engineer and no programming, in the usual sense of the word, is necessary. Designed specifically for civil engineering geometry problems, COGO may actually be used in other application areas as well. It can be applied, for example, to problems encountered in highway design, control surveys, bridge geometry, construction layouts, land surveys, and many others.

Documentation for this version of COGO can be found in IBM publications.

HUE180: DMS 7-Track Convert Routine

Harris Corporation, PRD
6801 Jericho Turnpike
Syosset, NY 11791

Contact: Philip Brown
Lang: FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
06/25/79

Description:

Converts 7-track Varian (UNIVAC MCC) tapes to Harris files.

HUE181: DMS Block Letter Printing

Harris Corporation, PRD
6801 Jericho Turnpike
Syosset, NY 11791

Contact: Philip Brown
Lang: Assembler/FORTRAN 66
Opsys: DMS

Doc: YES
Maint: NO
06/25/79

Description:

Prints large block letter titles on listing, 9 characters per line, 4 lines maximum output on single page.

HUE182: FORMAT - Documentation System

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Richard Bleikamp
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: NO
02/25/79

Description:

The FORMAT text processor is a useful tool for preparation of documentation such as specifications, reference manuals, reports, or other written products. It automatically does many of the tedious and time-consuming chores needed to produce a finished product, such as right margin justification, page-numbering, chapter- and section-numbering, centering, producing a table of contents, and other similar operations.

HUE184: HIERS - Data Entry and Retrieval System

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: NO
05/25/79

Description:

The Harris Information Entry and Retrieval System (HIERS) allows the user to enter data on disc from the keyboard of a CRT under control of a pre-stored (in a library) screen "form". The form describes each field in a record. The form consists of explanatory information that is displayed for the CRT operator and, in brackets, the field definitions which specify the size and type of each field. Field definitions may specify alphabetic, numeric, alphanumeric, table verify, or table key lookup. In the case of table verify, a table is provided that contains all possible entries for the field. Whatever entry is made by the operator must match one of the entries in the table. Table key lookup allows the operator to type a key (e.g., a digit). The keys are then related in a table to an entry that will be made in the data record when the operator types the key.

Restrictions:

Requires Harris 8610 CRT terminal.

HUE185: C Programming Language

Waisman Center, U. of Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
PROG: B. Orchard
Opsys: DMS/VULCAN

Doc: YES
Maint: YES
10/21/82

Description:

C is a general-purpose language designed for structured programming. Features:

- Data types include: character, integer, floating point, double precision, pointers to all types, functions returning all types, arrays of any type, structures and unions of all types
- Operations intended to give machine-independent control of full machine facility, including to-memory operations and pointer arithmetic
- Macro preprocessor for parameterized code and inclusion of files
- All procedures recursive, with parameters passed by value
- Machine-independent pointer manipulation
- Definable data types
- Block structure.

For a full description of C, read "The C Programming Language", Kernighan and Ritchie, Prentice-Hall, 1978.

HUE186: 1130 Scientific Subroutine Package

Portland State University
Box 751, Computer Services
Portland, OR 97207

Contact: Lee Wood
Lang: FORTRAN 66
Opsys: VULCAN

Doc: NO
Maint: NO
08/29/79

Description:

The IBM-1130 Scientific Subroutine Package is available. It consists of over 100 subroutines and is capable of performing a number of useful calculations. All of these subroutines are described in IBM Publication GH20-0252. Users may purchase their own copies directly from their local IBM office. Scientific Subroutines may be called from user-written FORTRAN programs exactly as they are described in the IBM publication. However, when Vulcanizing, the following procedure should be followed:

VU.(options), (parameters)
LIB,2TLIB*SSP, (other user libraries, if any),*LIBRARY

(other Vulcanizer commands, if any)

BEGIN

HUE187: CALL- Program Calling Routine

Assoc. Colleges Central Kansas
105 East Kansas
McPherson, KS 67460

Contact: Glen J. Wiebe
Lang: MACRO
Opsys: VULCAN

Doc: YES
Maint: YES
08/29/79

Description:

The CALL interface is intended to simplify use of the system to the general user. Instead of accessing programs by a qualified areaname, the user simply types:

CALL AREANAME

where areaname is a program or macro. CALL is itself a macro and is used to call a program from one of several possible libraries. This procedure also allows the system manager to capture data on called program frequency.

HUE188: LISP F3

Rockwell International
2770 East Carson Street
Lakewood, CA 90712

Contact: Ray Backer
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: NO
08/02/83

Description:

The LISP F3 interpreter is a superset of LISP 1.5 and almost a complete subset of INTERLISP.

HUE189: Documentation and Help

Assoc. Colleges Central Kansas
105 East Kansas
McPherson, KS 67460

Contact: Glen J. Wiebe
Lang: MACRO
Opsys: VULCAN

Doc: NO
Maint: YES
08/29/79

Description:

CALL DOC will list the available documentation and application program categories and then ask you what category you would like to see. By selecting a category, you will next receive a list of the programs that are within the category and a short description of the programs. If none of the programs listed are applicable to your needs, you can enter the name of another library or category and continue to search through the catalog until you find a program about which you would like more information.

HUE190: MAIL

University of Illinois
665 Psychology Building
Champaign, IL 61820

Contact: David McWilliams
Lang: Assembler/FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
06/20/79

Description:

MAIL is a disc-based system designed to allow users of a Harris computer system to communicate with each other. Messages can be typed directly into MAIL or can be composed with an editor and sent to any other user on the system. MAIL also allows the user to manage the contents of his mailbox.

An important feature of the MAIL system is the variety of on-line help available to the user. The user may get a list of all valid commands, a description of any or all of the commands and a short paragraph explaining how to use MAIL with a few simple commands. A list of MAIL users is also available.

A variety of options are available to the user in viewing messages. If the user just wants a "survey" of his MAILBOX, the name of the sender, the date sent, and the subject of each message will be listed. The user may also "read" his messages or write them to a disc file. Messages may be deleted, replied to, or forwarded. Messages may also be selected by name of sender, date sent, and whether or not the message has been viewed yet. The user may then read, delete, survey, or forward those messages selected.

HUE194: CALCOMP Plotter Package

University of Chicago
933 East 56th Street
Chicago, IL 60637

Contact: G.A. Lentz
Lang: Assembler/FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: NO
06/28/79

Description:

This is a package of FORTRAN-callable subroutines (line, plot, scale, number, symbol, etc.) for generating plots to be plotted on a CALCOMP 836-type incremental plotter. It also includes a modified version of the terminal spooler, V.ITSP, which allows the 836 to be attached as a write-only terminal to a DMACP as device :46, and to receive plot output from the plotter package as a spoolout terminal. Provision is made for operator setup messages.

HUE195: Interactive Performance Monitor

NASA/Johnson Space Center
FD7
Houston, TX 77058

Contact: David Pruett
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: NO
08/29/79

Description:

This program was developed for NASA by Mitre Corp. Herb Hillman of Mitre presented a paper on this program for the 1979 HUE Annual Symposium held in Fort Lauderdale. The purpose of the monitor is to collect, in realtime, the CPU and disc utilization statistics for all transactions submitted to the system from those terminals interfaced to a Harris computer via a direct memory access communications multiplexor.

HUE196: Control Point Switcher Patches

INTERCOMP
1201 Dairy Ashford
Houston, TX 77079

Contact: Stanley M. Sutton
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: YES
08/29/80

Description:

This program contains several patches. The first and fourth patch modify CPQS to allow for a unique jobname for all batch jobs. The second patch allows a priority partition based on time limit to be set up. The third patch, which consists of a macro and a code change, allows for a wider range of priority than the current code.

HUE197: BMD - Biomedical Statistical Programs

Portland State University	**Contact:** Lee Wood	**Doc:** YES
Box 751 - Computer Services	**Lang:** FORTRAN 66	**Maint:** NO
Portland, OR 97207	**Opsys:** VULCAN	08/29/79

Description:

The UCLA Biomedical Computer Programs (BMD) package is a series of statistical programs, originally intended for use by researchers in the health sciences. It has subsequently been used for a variety of biological and behavioral problems.

The BMD programs fall into the following general categories: data description, plots and histograms, frequency tables, missing values, regression analysis, nonlinear regression and maximum likelihood estimation, analysis of variance and covariance, nonparametric statistics, cluster analysis, multivariate analysis, survival analysis, multipass transformation, factor analysis, and time series analysis.

HUE198: Games

Assoc. Colleges Central Kansas	**Contact:** Glen J. Wiebe	**Doc:** NO
105 East Kansas	**Lang:** FORTRAN 66	**Maint:** NO
McPherson, KS 67460	**Opsys:** VULCAN	08/29/79

Description:

Many games are included such as WUMPUS, BASKETBALL, FOOTBALL, MONOPOLY, etc. Also included are games from Harris "TOOLS".

HUE199: Pictures

Assoc. Colleges Central Kansas	**Contact:** Glen J. Wiebe	**Doc:** NO
105 East Kansas	**Lang:**	**Maint:** NO
McPherson, KS 67460	**Opsys:** VULCAN	08/29/79

Description:

Many pictures collected from many sources are included. Also the ability to print pictures on top of a calendar for any year.

HUE200: Telephone Directory System

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Marcia Russo
Lang: COBOL
Opsys: VULCAN

Doc: YES
Maint: YES
08/15/79

Description:

The primary purpose of the system is to provide a means for maintaining (via a terminal) a telephone directory file which can be used for printing a company telephone directory. Secondarily, the system provides a method for an operator or receptionist to have quick access to employee and department extension numbers, frequently called business numbers, and special numbers (either internal or external) and to keep a record of all visitors and where they may be reached in the plant.

Restrictions:

1. Requires TOTAL data base manager and the Screen Formatter.
2. Many of the techniques utilized in this application were developed for a much larger data base and more complex and integrated systems. They have provided an excellent framework for developing an MIS at Harris but due to the way they are dependent upon each other, the transportability of these applications is somewhat limited.

HUE209: Huntington II Simulation Programs

Assoc. Colleges Central Kansas	**Contact:** Glen J. Wiebe	**Doc:** YES
105 East Kansas	**Lang:** BASIC	**Maint:** NO
McPherson, KS 67640	**Opsys:** VULCAN	08/29/79

Description:

Developed by the Huntington Computer Project, State University of New York at Stonybrook, these simulation programs are designed to introduce elementary concepts in biology, physics, business, and social studies.

BIOLOGY-ECOLOGY:

HARDY Simulates the Hardy-Weinberg principle of population genetics.
LOCKEY Imitates the lock and key model of enzyme action.
MALAR Student controls a malaria epidemic.
PH Simulates the effect of PH on enzyme activity.
POLUT Simulates pollution of a lake, river or pond with various wastes.
POP Studies the growth of a gypsy moth population.
STERL Student controls insect population by means of sterile males and pesticides.
TAG Sample exercises on a simulated farm pond.
RATS Simulates effect of cleanliness and poison on rat population.
DIETS Simulates weight control as a function of food intake and compares against a standard diet.

PHYSICS:

CHARGE Students determine electron charge with a simulation of Millikan's oil drop experiment.
SCATR Simulates alpha particle scattering to determine atomic structure.
SLITS Young's double slit experiment showing light interference

BUSINESS:

MARKET A game engaging two companies in one-product competition.
SAPA statistical package for analysis of survey data.
MASPAR Model of mass participation in decision making.

SOCIAL STUDIES:

ELECT 1-2-3 Three-part simulation of historical Presidential elections and electorate attitudes.
POLICY As members of various pressure groups, students formulate national policy.
POLSYS As community members, students influence city government policy.
USPOPU.S. population dynamics study.
LIMITS Model of future population and food supply trends.

BUFLO Herd population management of buffalo or other threatened species.

HUE212: COBOL Conversion Guide

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: COBOL
Opsys: VULCAN

Doc: YES
Maint: YES
05/25/78

Description:

This program details the steps involved in converting COBOL programs from other systems to run on Harris.

MANUAL ONLY -NO PROGRAMS

HUE213: Houston Plotter Interface

Houston Instruments
One Houston Square
Austin, TX 78753

Contact: Local Sales Office
Lang: Assembler/FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
08/29/79

Description:

These are programs to interface Houston Instruments Plotters to Harris. The package also includes many utility plotting routines.

HUE215: Keyword Program

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: COBOL
Opsys: VULCAN

Doc: NO
Maint: NO
08/29/79

Description:

This program is for extracting titles from HUE Catalog Database (TOTAL) and for picking out keywords to prepare catalog index.

HUE216: Loan Amortization Schedule

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Bob Fox
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: NO
08/29/79

Description:

Calculates payment amount, if desired, and prints schedule including interest per year. Runs interactively.

HUE217: TOTAL Notebook

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: N/A
Opsys: N/A

Doc: YES
Maint: N/A
06/25/79

Description:

This is a notebook containing a collection of notes and helpful hints for TOTAL data base management system users. Data Definition subject areas covered include: Granule size for data base files, disc placement of files, DBGEN example, free space in records, and element processing. Data Management subject areas covered include: Load DBMOD, FORTRAN examples, error checking after TOTAL calls, testing, how to unlock LOCKS, backup/recovery using KEEP/FETCH, and transaction logging.

HUE218: SPOOL - RJE Respool

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: NO
08/29/79

Description:

SPOOL will allow the operator to respool any spool file of the form "SPOL*SP XXX". the operator does not need to be the owner of the file and the files need not be public read.

HUE220: CAL - Interpretive Calculator

Portland State University
Box 751-Computer Services
Portland, OR 97207

Contact: Rod Hills
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: NO
03/01/80

Description:

CAL is an interpretive calculator that provides the user with the ability to perform mathematical calculations by entering an arithmetic expression or trigonometric function. CAL also can work in any number base or in mixed "bases." Legal operators are multiplication, addition, division, subtraction, powers, and factorial. Legal functions are SQR, ABS, SIN, COS, TAN, LOG, EXP, ATN, and INT. In general, any legal combination of functions and operators are allowed. Nesting of parenthesis is limited to 40 deep.

HUE221: Mailing Labels

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: FORTRAN 66
Opsys: VULCAN

Doc: NO
Maint: NO
08/29/79

Description:

This program accepts mailing addresses and outputs them in a format suitable for single width mailing label forms, preceded by three test patterns.

HUE222: Line Editor

University of Illinois
665 Psychology Building
Champaign, IL 61820

Contact: Dave McWilliams
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: NO
03/01/80

Description:

This Line Editor is a FORTRAN subroutine that may be called by any program which needs to do input from the user's terminal. It allows the user many CONTROL CHARACTER commands which modify the current line of text being typed. There are five basic classes of commands: 1) commands that move the cursor, 2) commands that delete text, 3) commands that change internal modes, 4) commands that read and write internal buffers, and 5) miscellaneous commands. All CONTROL CHARACTER commands are given by holding down the CONTROL key on the terminal, then pressing the appropriate letter. Characters other than CONTROL CHARACTERS are automatically inserted into the line at the current cursor position.

This line editor works best on terminals that are running 1200 BAUD or faster in which ASCII '10 causes the cursor to backspace, and when a character is overwritten, it replaces the previous character.

Restrictions:

This program will not work if the user's terminal is a TEC CRT.

HUE223: TALK - Terminal Communications

University of Illinois
665 Psychology Building
Champaign, IL 61820

Contact: Dave McWilliams
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: NO
03/01/80

Description:

TALK is a communications system for sending messages from one terminal to another on the VULCAN operating system. Messages are sent immediately to the terminal and do not require any action on the part of the receiver to be read (as with the VULCAN $SEND service). It is composed of a set of FORTRAN-callable subroutines that send the messages and two programs which call those subroutines.

The TALK command enables the user to send messages to other interactive terminals on the VULCAN system. The REC command allows the user to begin receiving messages, stop receiving messages, or print a list of the terminals on the system, indicating which ones are currently receiving messages.

HUE224: Printronix Printer Handler

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: David Higgins
Lang: Assembler
Opsys: VULCAN

Doc: NO
Maint: NO
03/01/80

Description:

This handler supports the Printronix 300 including plot mode. The supported carriage control characters are "+" for overprint, "a" or " " for single space, "b" or "0" - double space, "c" - triple space, "d" through "o" to skip 4 to 15 spaces, "1" or "p" - skip to top of page. For ":" the printer is "held", and the line containing the ":" is output as an operator message. For "#" the line is printed using double-height characters. Plotting is supported. A binary or special record is considered to be a plot record, with the contents of that record treated the same way as with a 4700 Series plotter. The Printronix plots at 60 dots or nibs per inch horizontally and 72 rasters per inch vertically.

Restrictions:

The Electronic Vertical Forms Unit is not supported.

HUE225: Program Paging Statistics

MIT Lincoln Laboratory
P.O. Box 73
Lexington, MA 02173

Contact: Claranne Bechtler
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: NO
02/11/80

Description:

OSORC*V.PAGE is a monitor program, which when run on frequency schedule, repetitively displays on the OPCOM (TEC) CRT, a program list with corresponding physical page usage for each program. Also displayed is the demand page count per program, the demand page count per second of CPU time, the total number of pages locked in I/O, and the total number of "free" pages.

Restrictions:

1. V.PAGE must be assembled and Vulcanized using OSORC*NRH and the source files required by it must be available on the system.
2. The program switcher interrupt is disabled and re-enabled during execution.
3. Monitor routines, system constants and tables are read, as are the system VAR's.

HUE226: SPICE II - Circuit Design

Harris Semiconductor
P.O. Box 883
Melbourne, FL 32901

Contact: James Spoto
Lang: FORTRAN 77
Opsys: VULCAN

Doc: YES
Maint: NO
03/01/80

Description:

SPICE is a general-purpose circuit simulation program for nonlinear DC, nonlinear transient, and linear AC analyses. Circuits may contain resistors, capacitors, inductors, mutual inductors, independent voltage and current sources, transmission lines, and the four most common semiconductor devices: diodes, BJTS, JFETS, and MOSFETS.

SPICE has built-in models for the semiconductor devices, and the user need specify only the pertinent model parameter values. The model for the BJT is based on the integral charge model of Gummel and Poon: However, if the Gummel-Poon parameters are not specified, the model reduces to the simpler Ebers-Moll model. In either case, charge storage effects, ohmic resistances, and a current-dependent output conductance may be included. The diode model can be used for either junction diodes or Shichman and Hodges. The model for the MOSFET is based on the Frohman-Grove model. However, channel-length modulation, subthreshold conduction, and some short-channel effects are included.

HUE227: SUPREM-II - Semiconductor Process Simulation

Harris Semiconductor	**Contact:** James Spoto	**Doc:** YES
P.O. Box 883	**Lang:** FORTRAN 77	**Maint:** NO
Melbourne, FL 32901	**Opsys:** VULCAN	03/01/80

Description:

SUPREM-II is a semiconductor process simulation program. There are six different types of processing steps that can be modeled by SUPREM: ion implantation, predeposition, oxidation, epitaxial growth, low temperature oxide deposition and etching. Drive-ins are modeled by oxidations in nitrogen or neutral ambients. Each step in a processing sequence uses the impurity distributions that resulted from the previous step as the starting point for it's calculations.

Ion implant steps may be specified in two ways: (1) If the implant energy is specified, then the program uses internally stored information to calculate the profile. In this case the profile is a two-sided Gaussian for the elements arsenic, phosphorus and antimony, and a modified Pearson Type-IV distribution for boron. (2) If the range and standard deviation are specified then SUPREM uses these values to calculate a simple Gaussian distribution for the element.

Etches in SUPREM can be either high or low (below 200 degrees centigrade) temperature. In low temperature etches the amount of oxide etched away is equal to the etch rate times the step time. Any low temperature etch stops when all of the oxide has been removed. In high temperature etches, the oxide is assumed to be etched away in a negligible amount of time, and so the amount of silicon removed is equal to the step time, times the etch rate.

In the low temperature oxide deposition step, doped or undoped oxide is deposited on the silicon surface or one top of any existing oxide. The amount of oxide deposited is equal to the step time, times the growth rate.

The oxidation step (and drive-in) is a high temperature step which includes the redistribution of the impurities present due to diffusion and evaporation. In addition, if the ambient indicated by the oxidation model is not a neutral one, then impurity redistribution due to the growth of the oxide also occurs.

The predeposition (non-implant) step models the introduction of an impurity element from a constant source at the silicon surface. The epitaxial growth step models the epitaxial growth of a silicon layer at high temperatures, on top of an initial layer of silicon. The added silicon may be doped or intrinsic.

HUE228: SIBYL - Logic and Fault Simulation

Harris Govt Electronic Sys Div
P.O. Box 37
Melbourne, FL 32901

Contact: Keith Nettleton
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: NO
03/01/80

Description:

SIBYL is a design verification software system which performs logic and fault simulation on circuit models. It is a time-based, rather than unit-delay simulation, and can be used interactively or in batch mode.

The logic simulator is a computerized breadboard. High and low signal patterns are applied to the circuit model inputs, and the simulator propagates their effects through the circuit elements. Activity within the model is monitored by printing out the logic levels of selected circuit elements.

The fault simulator simulates the effects of faults within a circuit model. It is used to grade the effectiveness of a set of input patterns for detecting faults. A set of "bad circuits" - each with one fault - is set up and simulated simultaneously with the "good circuit". When the logic value of any detection point differs between the good model and a faulty model, that fault is detected.

Portions of the entire model can be assigned to up to 48 blocks. Each block or any combination of blocks, can be simulated or fault simulated at one time. In addition, delay times associated with the circuit elements can be different (minimum, maximum, plus/minus n%) in each block. Up to 24 groups of input stimuli (input signals, initialization, print elements, windows, etc.) can be stored and used to exercise any combination of blocks.

A circuit data base file contains a circuit model used for simulation. This model is built up from the description of circuit elements. The model can be modified and printed at any stage.

Elements for a circuit model are defined either by the logical function they perform or by the number of a cell they represent for a particular technology. Technology cell libraries contain functional, structural, pin and fault information for individual cells.

HUE229: TECTALK - 3277 Screen Package for TEC 425

Harris Corporation	**Contact:** Dale Nelson	**Doc:** YES
2101 W. Cypress Creek Road	**Lang:** Assembler	**Maint:** NO
Ft. Lauderdale, FL 33309	**Opsys:** VULCAN	08/01/80

Description:

TECTALK is a collection of subroutines designed to make a TEC 425 CRT simulate an IBM 3277 display device. It responds to remote 3270 commands, orders, and text, and generates Read Modified-compatible data from the TEC 425 screen. The package is designed to accept actual remote 3277 data as input, and will produce screen images that contain alphanumeric, numeric, and protected fields. All relevant null suppression, cursor positioning, and other 3277 features are performed. It will properly respond to Set Buffer Address, Start Field, Insert Cursor, Repeat to Address, Program Tab, and Erase Unprotected to Address orders, as well as appropriate manipulation of Modified Data Tag field settings.

TECTALK is intended to be a programming tool only, and not a replacement for 3277-type terminals.

HUE230: ECAP - Electronic Circuit Analysis

University of Wisconsin
B554 Engineering Building
Madison, WI 53706

Contact: Bill Lagerroos
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: NO
03/01/80

Description:

The Electronic Circuit Analysis Program (ECAP) is an integrated system for performing direct current (DC) and transient analysis of both linear and nonlinear electrical networks. By means of a flexible, easy-to-use language, the user can describe his circuit, indicate the analysis to be performed, and specify the output variables to be displayed in the tabular and/or plotted formats.

Features include:

- Consistent standards and conventions, single specification of network for both DC and transient analysis.
- Modification, rerun, and parameter-study capabilities, including modification of topology.
- Nonlinear elements which can be described by arbitrary, user-defined functions.

HUE231: COBOL Register Services Routine

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: NO
03/01/80

Description:

RGSERV is a subroutine which provides a COBOL program with the capability of utilizing, through a simple CALL statement, the register services -- remove register, set register, and get register.

HUE232: RATFOR - Rational FORTRAN

Freie Universitat Berlin
Corrensplatz 2, FB 10, WE1
1000 Berlin 33, Germany

Contact: N. Apostolopoulos
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: NO
08/01/80

Description:

RATFOR (Rational FORTRAN) is a translator which can be used to preprocess structured FORTRAN programs. It was designed by B.W. Kernighan and P.L. Plauger of Bell Laboratories and Yourdon Inc., respectively.

RATFOR is FORTRAN, with some specific enhancements:

- Compound statements
- IF-ELSE, DO, FOR, WHILE, REPEAT-UNTIL, BREAK, and NEXT statements
- Symbolic constants
- File insertion
- Free-format source
- Translation of relationals like >,>=

A good RATFOR reference is Kernighan and Plauger, "Software Tools", (Addison-Wesley, New York).

HUE233: FCHART - Solar Energy Simulation

Oregon Institute of Technology
Computer Center
Klamath Falls, OR 97601

Contact: Frank Vaskelis
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: NO
08/01/80

Description:

Developed at the Solar Energy Laboratory, College of Engineering, University of Wisconsin-Madison, the FCHART solar energy simulation program is used to size collectors for solar space and domestic water heating systems of conventional design. FCHART is designed for interactive use on the Harris system. Once the program is executed, the use of FCHART is self-explanatory.

The method is based on standard system configurations using liquid or air as the heat transfer medium. The economic optimum collector area can be found by calculating the present value of future costs of the solar system and of the conventional system (including the effects of escalating fuel prices, property and income taxes, interest, depreciation, insurance, and maintenance). The program has the appropriate meteorological data for 172 cities in North America.

HUE234: CAL - Matrix Language/Structural Analysis

Oregon Institute of Technology	**Contact:** Frank Vaskelis	**Doc:** YES
Computer Center	**Lang:** FORTRAN 66	**Maint:** NO
Klamath Falls, OR 97601	**Opsys:** VULCAN	08/01/80

Description:

Developed at the Department of Civil Engineering, University of California, Berkely, California, CAL is a matrix interpretive language and a small capacity structural analysis program. It can handle three different elements - 3D truss, 3D beam, and 3 to 8 node plane stress isoparametric element. Dynamic analysis can be performed by either the step-by-step or mode superposition method.

The program contains over 40 subroutines which can be used within CAL or can be used in the development of other programs. Some of these are: printing, plotting, addition, subtraction, multiplication, inversion, solution of equations, submatrix manipulation, eigenvalues and vectors, step-by-step solution of the dynamic equalibrium equations and generation of element stiffness and mass matrices.

HUE235: Tape Library System

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Fred Fairchild
Lang: COBOL
Opsys: VULCAN

Doc: YES
Maint: YES
08/01/80

Description:

The Tape Library System allows an installation to maintain a record of tapes which have been written to "keep" (backup) VULCAN disc files. Each tape can be associated with a particular job or application.

An on-line screen program will add master ID (job) and tape reel number records. It will also display all reel numbers for a given job, calculate the scratch (delete) date of a reel number, and produce a hard copy audit trail of daily activity. Batch programs are provided to generate reports of all tapes in reel number sequence, or in job, date, reel number sequence.

Another program prints tape labels by day scheduled, and a tape log for operators to log backup tape numbers and time of backup.

Restrictions:

Requires Screen Formatter (HUE135).

HUE236: WSISIN/WSISOUT - APL Interchange Workspaces

University of Florida
300 Mechanical Eng. Blvd.
Gainesville, FL 32611

Contact: R.G. Selfridge
Lang: APL
Opsys: VULCAN

Doc: YES
Maint: YES
08/01/80

Description:

WSISIN and WSISOUT are workspaces for receiving and transmitting APL code from other installations, using the Interchange Convention outlined in Quote-Quad, March 1979. In both cases a tape is resourced and then tied to an APL file using a specified record length.

HUE237: Special Forms Handler

Defense Language Institute	**Contact:** Keith Stanton	**Doc:** YES
Foreign Language Center	**Lang:** Assembler	**Maint:** NO
Presidio of Monterey, CA 93940	**Opsys:** VULCAN	08/01/80

Description:

This code provides a method by which the Physical Device Number (PDN) of a line printer can be repeatedly changed via the "PD" OPCOM command in order to handle special forms output. These forms are sent to pseudo printers by users. At a later time, the operator can change the actual printer's PDN, mount the special forms, and "PU" the new PDN to output all the spooled files sent to that particular PDN. With standard paper mounted, the operator returns the printer to PDN 6 via "PD lastnum,6" then "PU 6". Output may continue to be sent to PDN 6 throughout special forms handling, as it will remain in a spooled queue until the printer is reassigned. This is a VULCAN operating system modification of *V:OPC7:V (NRH).

HUE238: FRAME 11

American Steel Building Co.
Box 14244
Houston, TX 77021

Contact: Scott Halvorson
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: NO
07/14/80

Description:

FRAME 11 is a program for the direct linearly elastic analysis of complex bridge bents and other highway structures. Rigid frames, trusses, continuous beams, and other planar structures may be analyzed.

The solution uses a variation of the basic discrete-element beam-column model for the evaluation of member stiffness and fixed-end-force properties. The discrete-element model allows flexural and axial rigidity as well as lateral, axial, and rotational values of loading and elastic restraint to vary randomly along the length of the member. Input is not restricted to values lumped at certain discrete stations but may be input in normal engineering values at any point on the member. In addition, options provided do not require the transferring of loads and dimensions from one axis to another by the user.

Frame displacements are obtained by standard matrix techniques modified to utilize the time and storage reductions possible for linearly elastic plane frames. The frame geometry may vary randomly and still be input in a simple and straightforward manner.

Options are provided that permit the designer to analyze structures for the multitude of loading cases required by the AASHO code. These options allow the designer to consider a large number of loading conditions economically.

HUE239: WSP-3 - Water Surface Profiles

Albert H. Halff Assoc.
3636 Lemmon Avenue
Dallas, TX 75219

Contact: Joe Novoa
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: NO
08/01/80

Description:

The Water Surface Profile (WSP-3) program was developed by Halff Associates and was patterned after a program originated by the U.S. Soil Conservation Service and the U.S. Army Corps of Engineers for use on rural watersheds. This program establishes the water-surface elevation versus discharge relationship at various sections along the stream. The hydraulic theory is based on the assumption of steady flow between two sections since the discharge is assumed to remain constant for the time interval involved. WSP-3 carries out an iterative solution of the energy equation and balances the total energy at a downstream section against that at the next upstream section. Friction losses are obtained by applying Manning's equation. The head losses through bridges are calculated using the Bureau of Public Roads bridge coefficients, which are built into the program. An added feature of WSP-3 is the calculation of culvert head losses using an approach modeled after the Texas Highway Department Bridge Division in which friction losses and entrance losses are considered.

HUE240: TR-20

Albert H. Halff Assoc.	**Contact:** Joe Novoa	**Doc:**	YES
3636 Lemmon Avenue	**Lang:** FORTRAN 66	**Maint:**	NO
Dallas, TX 75219	**Opsys:** VULCAN		08/01/80

Description:

TR-20 was originally developed by the Engineering Division of the Soil Conservation Service, U.S. Dept. of Agriculture, and was implemented on Harris computer systems by Halff Associates. The program computes surface runoff resulting from any synthetic or natural rainstorm. It takes into account conditions having a bearing on runoff and routes the flow through stream channels and reservoirs. It combines the routed hydrograph with those from other tributaries and prints out the peak discharges, their time of occurrence and the water surface elevation for each at any desired cross section or structure. In addition, it prints out the coordinates of the routed hydrograph together with the corresponding elevation of each if requested.

TR-20 provides for the continuous analysis of nine different storms over a watershed under present conditions, and with various combinations of land treatment, floodwater-retarding structures, and channel improvement. It will perform these routings through as many as 120 reaches and 60 structures in any one continuous run.

HUE241: PCOGO - Coordinate Geometry

Albert H. Halff Assoc.	**Contact:** Joe Novoa	**Doc:** YES
3636 Lemmon Avenue	**Lang:** FORTRAN 66	**Maint:** NO
Dallas, TX 75219	**Opsys:** VULCAN	07/02/82

Description:

The PCOGO program is designed to solve the particular geometry problems commonly encountered in engineering and surveying practice. It is based on a command vocabulary made up of terms familiar to the civil engineer and surveyor. In concept, the user of PCOGO states the problem through commands very similar to actual surveying procedures. No programming is required.

PCOGO is a modification, improvement, and expansion, by the City of Dallas Public Works Department, of a part of the Civil Engineering COordinate GeOmetry System (COGO) distributed by IBM in 1968. Albert H. Halff Associates, Inc., converted the package to run on Harris computer systems and has performed other enhancements. Taliaferro and Browne, Box 1600, Kansas City, KS, 66117 has added the UNUSED/POINTS command.

PCOGO is identical to 1130 COGO in command processing. However, several commands were deleted or changed and several new commands were added. These changes include:

1. All spiral routines have been omitted.
2. A curve table has been added, enabling the user to use up to 99 circular curves.
3. Commands have been included to allow plotting as additional output.
4. Commands may be specified as alphabetic or numeric or may be mixed.
5. PCOGO allows the definition and use of permanent coordinate and curve tables.

HUE242: SIPS - Interactive Statistical System

Southern Oregon State College	**Contact:** Dick Straw	**Doc:** MR
1250 Siskiyou Boulevard	**Lang:** FORTRAN 66	**Maint:** YES
Ashland, OR 97520	**Opsys:** VULCAN	01/20/82

Description:

The Southern Oregon State College Statistical Interactive Programming System (SIPS) is a direct outgrowth of a similar software product written at Oregon State University. The command set includes input/output, log maintenance and viewing, and data manipulation and editing capabilities. Stand-alone statistics commands include average, coefficient of variation, chi-square, correlation, covariance, frequency distributions and histograms, F-ratio, geometric means, kurtosis, one-way analysis of variance, paired t-statistic, pooled estimate of population variance, Kendall's tau and Spearman's rho, sums of products, scatter diagram, standard error of mean, and standard deviation. Major subsystems include multiple regression analysis and data enumeration (3-way cross tabulation).

HUE243: HEATRN - Heat Transfer Analysis

Beloit Corporation	**Contact:** Gordon Voll	**Doc:** NO
1 St. Lawrence	**Lang:** FORTRAN 66	**Maint:** NO
Beloit, WI 53511	**Opsys:** VULCAN	08/01/80

Description:

Developed at the Department of Civil Engineering, University of California, Berkeley, California, HEATRN applies the finite element method to the transient temperature analysis of plane or axisymmetric solids. The theoretical basis for the program is described in a paper by E. L. Wilson and E. Nickell, "Application of the Finite Element Method to Heat Conduction" as published in the Journal of Nuclear Engineering and Design (1966).

The method solves both the steady state and transient heat transfer problem for two dimensional bodies, subjected to convective conditions, external heat fluxes, and material heat generation.

Output includes a detailed printout of input geometry and nodal point temperatures at various time steps and an optional tape for use as input for a thermal stress solution using the SAAS III program.

HUE244: SAAS III - Stress Analysis

Beloit Corporation	**Contact:** Gordon Voll	**Doc:**	NO
1 St. Lawrence	**Lang:** FORTRAN 66	**Maint:**	NO
Beloit, WI 53511	**Opsys:** VULCAN		08/01/80

Description:

The Stress Analysis of Axisymmetric Solids (SAAS III) program is a modified version of a similar program developed by the Aerospace Corporation, Los Angeles, California, and described in the Air Force Report No. SAMSO-TR-71-103. The finite element method is used to determine the displacements, stresses, and strains in axisymmetric and plane solids with different orthotropic, temperature-dependent material properties in tension and compression including the effects of internal pore fluid pressures and thermal stresses. The mechanical loads can be surface pressures, surface shears, and nodal point forces as well as acceleration or angular velocity. The continuous solid is replaced by a system of elements with triangular or quadrilateral cross sections. Accordingly, the method is valid for solids which are composed of many different materials and which have complex geometry. Two-dimensional mesh generation and temperature interpolation features allow the program to be readily used.

Output consists of plotted mesh, deformed mesh, stress, strain and temperature contour plots as well as detailed printout of nodal point displacements and element stresses and strains.

HUE245: SAAS III - Mesh Generator

Beloit Corporation	**Contact:** Gordon Voll	**Doc:**	NO
1 St. Lawrence	**Lang:** FORTRAN 66	**Maint:**	NO
Beloit, WI 53511	**Opsys:** VULCAN		08/01/80

Description:

The two-dimensional mesh generation scheme employed in SAAS III has been modified by the Beloit Corporation, Beloit, Wisconsin, and made into a stand-alone program with several possible applications:

1. An initial mesh for SAAS III is generated and plotted. This step serves as a checkout point for the mesh and avoids the large memory requirement of SAAS III. also, if the mesh generated is inadequate, computer time is not lost on a meaningless solution for displacements and stresses.
2. A mesh is generated and input to HEATRN, a finite element heat transfer analysis program.
3. A mesh is generated and nodal point and element statements are created for later input to SOLID SAP, a general purpose finite element structural analysis program.

Output consists of a plotted mesh and a detailed printout of node point coordinates and element makeup.

HUE246: SAAS III - Contour Graphics

Beloit Corporation	**Contact:** Gordon Voll	**Doc:**	NO
1 St. Lawrence	**Lang:** FORTRAN 66	**Maint:**	NO
Beloit, WI 53511	**Opsys:** VULCAN		08/01/80

Description:

Developed at Beloit Corporation, Beloit, Wisconsin, the SAAS III Contour Graphics Post Processor is a self-prompting interactive graphics program which uses the contour plotting subroutines contained in SAAS III. It displays stress, deflection, and temperature results obtained from solutions of SAAS III and HEATRN, as contour plots of the desired variable, e.g., N.P. temperatures, N.P. deflections, principle stresses, shear stresses, etc.

The post processor is executed at a Tektronix 4014 graphics terminal. Output consists of screen display of contour plots of selected variables, which may be hard copied via the Tektronix hard copy unit.

HUE247: SAP III - Structural Analysis

Beloit Corporation	**Contact:** Gordon Voll	**Doc:**	YES
1 St. Lawrence	**Lang:** FORTRAN 66	**Maint:**	NO
Beloit, WI 53511	**Opsys:** VULCAN		08/01/80

Description:

The Structural Analysis Program III (SAP III) performs linear, elastic analyses of large, complex structural systems subjected to either static or dynamic loads. There are practically no restrictions on the number of elements, number of load cases and bandwidth of the equations to be solved. While the program has the capacity to solve very large three-dimensional systems, there is very little loss of efficiency in the solution of small one- and two-dimensional structures.

HUE250: ASHSAB - Stress Analysis

Beloit Corporation	**Contact:** Gordon Voll	**Doc:**	NO
1 St. Lawrence	**Lang:** FORTRAN 66	**Maint:**	NO
Beloit, WI 53511	**Opsys:** VULCAN		08/01/80

Description:

Developed at the Department of Civil Engineering, University of California, Berkely, California, the ASHSAB program performs static stress analysis of axisymmetric structures under arbitrary loading. The static solution uses a finite element approach and requires N.P. loading to be described by Fourier Series coefficients.

Printer output consists of finite element mesh data, stress and deflection results for each Fourier term (coefficient), and combined results for stress and deflection for various circumferential positions around the body.

Documentation (Program Number 25-975) is available from the National Information Service - Earthquake Engineering, Computer Applications, Davis Hall, University of California, Berkeley, California 94720, (415) 642-5113.

HUE252: APL Wire Grid Views and Contour Plotting

University of Florida
300 Mechanical Eng. Blvd.
Gainesville, FL 32611

Contact: R.G. Selfridge
Lang: APL
Opsys: VULCAN

Doc: YES
Maint: YES
08/01/80

Description:

This APL workspace is designed to take a rank two array of function values and construct wire grid views of the function, from almost any chosen view angle, and/or contour plots of the function. The pictures are drawn using spline fit curves, with provision made for tension in the splines. This has the effect of smoothing out wiggles, until a large tension will draw polygonal curves. The wire grid pictures provide for looking at the under side or not, as desired, and also provide a mask for sections where the function is to be ignored. This workspace is designed to provide output on a Tektronix or Chromatics CRT, or for plotting on a Houston Instruments plotter.

HUE253: APL Plotting for Diablo Terminal

University of Florida
300 Mechanical Eng. Blvd.
Gainesville, FL 32611

Contact: R.G. Selfridge
Lang: APL
Opsys: VULCAN

Doc: YES
Maint: YES
08/01/80

Description:

This APL workspace contains functions that will produce plots on a 1620/1640 Diablo terminal. All input data is in inches, with X across the terminal (a range of 14+ inches) and Y down (with a range of 11 inches.) Points are inserted between data points, using straight line interpolation. Optionally, the interpolated points can be generated by a spline fit, thus creating a smoother picture, but at added cost. Axis and label functions are also provided.

HUE254: APL Plotting on Tektronix CRT

University of Florida	**Contact:** R.G. Selfridge	**Doc:** YES
300 Mechanical Eng. Blvd.	**Lang:** APL	**Maint:** YES
Gainesville, FL 32611	**Opsys:** VULCAN	08/01/80

Description:

This APL workspace is identical to HUE253 (APL Plotting on Diablo) with the exception of changes made to support the Tektronix 4015 CRT instead of the Diablo terminal. The function calls are identical, so that any software that runs on the Diablo will run on the Tektronix without change.

HUE255: APL Workspace Dump to Printronix Printer

University of Florida	**Contact:** R.G. Selfridge	**Doc:** YES
300 Mechanical Eng. Blvd.	**Lang:** APL	**Maint:** YES
Gainesville, FL 32611	**Opsys:** VULCAN	08/01/80

Description:

This APL workspace is designed to dump all the functions of a given workspace to the Printronix printer.

Restrictions:

1. Not all symbols can be printed. Those that are missing will be replaced by @.
2. There is a limit to the number of characters that can be sent in a line to the printer. Long lines, with specific combinations of symbols will be cut off. This appears to be a system limit that should be removed in the near future. This may require some optional hardware in the printer.

HUE256: SSP - Scientific Subroutine Package

Rohr Marine	**Contact:** Fred Peter	**Doc:** YES
P.O. Box 2300	**Lang:** FORTRAN 66	**Maint:** NO
Chula Vista, CA 92012	**Opsys:** VULCAN	09/02/80

Description:

This is a collection of FORTRAN-callable scientific subroutines. Routines are included in the following areas: Correlation and regression, design analysis, generation of random variates - distribution functions, matrix and polynomial operations, nonlinear equations, extremum of functions, interpolation, approximation, smoothing, numerical quadrature, and ordinary differential equations.

HUE257: APL Plotting Routine

University of Florida	**Contact:** G.K. Matthew	**Doc:** NO
300 Mechanical Eng. Blvd.	**Lang:** APL	**Maint:** YES
Gainesville, FL 32611	**Opsys:** VULCAN	08/01/80

Description:

This routine plots data in a rectangular box of specified size. Automatic scaling; Allows equal scale factors; Allows "truescale" or multiple thereof.

Restrictions:

Requires Diablo terminal.

HUE259: Vulcanize Cross Reference

PRD Electronics Division	**Contact:** Philip Brown	**Doc:** YES
6801 Jericho Turnpike	**Lang:** FORTRAN 66	**Maint:** YES
Syosset, NY 11791	**Opsys:** VULCAN	03/10/81

Description:

REL is a processor which reads in binary object files (relocatables) and produces various data as output. In normal mode of operation, it will read in a single relocatable file and produce such data as external references, external labels, common blocks used, size of module, etc. In Vulcanization mode, it will read in a source deck which contains within it a Vulcanization job stream. It will examine that deck for any card whose first two characters are LO (load directive). It will then parse that card to find the name of the file to be loaded. It will open and read the designated file. Upon completion of all cards in the source deck it will output an external label table which lists all external labels in alphabetic order against the module in which they are contained, a module table which will list in alphabetic order all modules against the file in which they are contained, and a cross-reference table which will list each file. Under each file will be listed all modules contained in that file. Under each module will be listed common blocks used, any external labels referenced, and any external labels defined. Under each external label defined will be listed the names of those modules which reference that label.

Restrictions:

The size of the module given by RORG and PORG is slightly off on the large side, and in Vulcanization mode, the processor will pick up all modules contained in the file specified on the load directive. The Vulcanizer allows the user to specify specific modules.

HUE260: HEADER

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: Assembler/MACRO
Opsys: VULCAN

Doc: NO
Maint: NO
03/10/81

Description:

HEADER is an Assembler Macro that produces a block letter banner of the text passed as a parameter. It is useful in making source listings more readable.

Restrictions:

HEADER handles most characters including upper case alphanumerics and often-used special characters.

HUE261: Cat

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: Patricia Magyari
Lang: Assembler
Opsys: VULCAN

Doc: NO
Maint: NO
03/10/81

Description:

CAT is a Catalog List Utility to supplement the Job Control $MAP command. Several output formats are available including a condensed multiple-name-per-line format.

HUE262: NHR Load Count

Harris Corporation
2101 W. Cypress Creek Road
Ft. Lauderdale, KS 33309

Contact: Patricia Magyari
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: NO
03/10/81

Description:

This program consists of two program areas and one data file. The monitor program is used to obtain the non-resident handler load count. It writes a disc area which is an unblocked file with a reasonable granularity. Finally, after the monitor program has obtained all the requested information, it initiates the second program and exits. That program is a real-time FORTRAN/ASSEMBLY program. results go to the line-printer, and installation begins.

HUE263: Job Control Macros

U.S. Geological Survey
P.O. Box 26659
Albuquerque, NM 87125

Contact: Judy Lee
Lang: MACRO
Opsys: VULCAN

Doc: NO
Maint: YES
03/10/81

Description:

MYTAPE contains a list of all users on the system with their assigned tapes used for performing their own keep, verify, or fetch. It then calls one of four separate macros depending on the option selected. The first macro (KEEPMORE) is used to add files onto a user's keep tape by advancing over existing files. The second macro (KEEPIT) copies all or several disk areas to tape, verifies it, and copies the maps to the printer. The third macro (VERIFYIT) is used to verify only with an option to either copy the maps to the screen or to the line printer. The fourth macro (FETCHIT) fetches one or more areas off a keep tape. It can also be used for continuation volumes.

The macros (ONLINE) & (PERIPH) are used to locate a terminal that is not in use or to locate someone. This is very helpful when there is a shortage of terminals. It uses the /PS command to accomplish this. At the end of this list it displays the PDN number and it's corresponding location or room number.

HUE264: DUMP

PRD Electronics Division
6801 Jericho Turnpike
Syosset, NY 11791

Contact: Philip Brown
Lang: FORTRAN 66
Opsys: VULCAN

Doc: NO
Maint: YES
03/10/81

Description:

Interactive Dump facility. DUMP will dump any disk file by area name, or any device by logical unit number. For instructions, enter the command HELP. Note: DUMP will prompt you for all information.

HUE265: COMPF

PRD Electronics Division
6801 Jericho Turnpike
Syosset, NY 11791

Contact: Philip Brown
Lang: Assembler
Opsys: VULCAN

Doc: NO
Maint: YES
03/10/81

Description:

This processor will compare two files/LFNs with binary data against one another. The format of the control card is:

*COMPF.OPS F1 F2 COUNT

OPS	Options
E	Normally COMPF stops when encountering either an EOT or a double EOF. If the E-option is used COMPF does not stop at a double EOF. (Used for tapes which were not generated on a Harris system.)
F1/F2	File 1/File 2. If numbers, then it is a logical file name. If text, then it is an areaname. If an areaname is used, it is assigned temporarily to the first free LFN below 199, and then freed when done.
COUNT	Optional parameter. If omitted, defaults to max buffer size. Should be specified only for unblocked disk areas and is then the logical record size to be used.

HUE266: TEXT

University of Florida
300 Mechanical Eng. Blvd.
Gainesville, FL 32611

Contact: R. G. Selfridge
Lang: APL
Opsys: VULCAN

Doc: YES
Maint: YES
03/10/81

Description:

TEXT is a system designed to run under APL and provide a very flexible text editor. During text entry or edit, a large number of commands provide for searching for and replacing phrases, and moving or copying sentences. Printing is controlled by numerous format commands, providing double justification in varying widths, multiple columns, second fonts and automatic footnotes.

A bare minimum of APL is needed, just enough to sign onto the system.

Edit commands are indicated by the symbol "=" at the start of a line of raw text. An = in any other position is just part of the text.

Format commands are indicated by a format delimiter, a special symbol chosen when the text is initialized. This manual will use the symbol "/" for the delimiter in the explanation of available commands. Format commands are typically embedded in the text as entered, though they can be inserted on separate lines. Some commands require a trailing delimiter.

This text system is oriented around a sentence as a unit of text, and a simplified definition of a sentence is given in the first section. Though this will occasionally create unexpected sentences, it has the advantage of being easy to define and implement without great overhead.

There are three major parts to this manual, an Edit (or Entry) phase, a Print (or Format) phase, and a mechanics (or printing) phase.

Restrictions:

Though very long texts can be written, the overhead will climb, and texts should be held to less than 1000 sentences if possible. The absolute limit on size is 2000 sentences. Formulae with superscripts and subscripts can be entered and printed on several terminals.

HUE267: Chaining Block Controller Handler

Millstone Hill Radar
P.O. Box 73
Lexington, MA 11791

Contact: Claranne Bechtler
Lang: Assembler
Opsys: VULCAN

Doc: NO
Maint: NO
03/10/81

Description:

CBCH is an IO handler for any device connected to a Chaining Block Controller. It does not use VULCAN's IOCS. It was specifically written to handle real-time devices for which block IO initiation is synchronized to an interrupt other than the device interrupt. Optional user status calls can specify the maximum wait for IO completion in either clock ticks or as the occurrence of a specified interrupt. Additionally, users can request an IO be initiated on the occurrence of an interrupt - with buffer handling overhead done prior to the interrupt.

Restrictions:

1. CBCH must be assembled and Vulcanized using OSORC*NRH and the files required by it must be available on the system.
2. VULCAN 08A and later versions are required because USERDEVICES do not work correctly in prior versions.
3. File OSYST*V:SSD must be edited or copied to add CBCH to a BLU location.
4. If using VULCAN08A and specifying more than one USERDEVICE, a V:ONGEN correction is necessary and is available from Harris. It was incorporated in 09A.

HUE268: SNOBOL Character Translator

Defense Language Institute
Foreign Language Center
Presidio of Monterey, CA 93940

Contact: Keith Stanton
Lang: Assembler
Opsys: VULCAN

Doc: MR
Maint: NO
03/10/81

Description:

Utility programs to convert all the 8 bit (256) codes to and from the 8 bit (64) codes used by Harris SNOBOL. Called by inputting:

"*SNTRAN Infile, Outfile, Length, CS/SC"

where CS and SC denote which direction to translate and Length is the 256-code record length. Each 256-code 8-bit string is corrected to or from 2-8 bit legal SNOBOL code strings.

HUE269: Banner Page

Defense Language Institute
Foreign Language Center
Presidio of Monterey, CA 93940

Contact: Keith Stanton
Lang: Assembler/FORTRAN 77
Opsys: VULCAN

Doc: MR
Maint: NO
03/10/81

Description:

Vastly improved version of HUE181 Block Letter Printing program. Produces 4 lines of 9 alphanumeric character strings onto specified output LFN (defaults to LFN 6). Spaces and blank lines okay. Prints a single page using standard TOP alignment. The call is standard JCL format.

HUE270: OPCOM IJ Command

Defense Language Institute
Foreign Language Center
Presidio of Monterey, CA 93940

Contact: Keith Stanton
Lang: Assembly/FORTRAN 77
Opsys: VULCAN

Doc: NO
Maint: NO
03/10/81

Description:

Allows OPCOM operator to invoke an $IJ command to inject a batch job belonging to some owner/qualifier other than the one that is signed on as operator. Developed for batch production use. Capable of maintaining Harris disk file security methods. Operator enters IP*RUNJOB. A message requesting the areaname appears at the OPCOM terminal. The operator then enters the areaname for the file to be $IJed. *DLIIJCMK is required and provided to generate an object/library module to accomplish the actual $IJ operation.

HUE271: Disc File Cleanup

Defense Language Institute
Foreign Language Center
Presidio of Monterey, CA 93940

Contact: Keith Stanton
Lang: JCL MACRO
Opsys: VULCAN

Doc: NO
Maint: NO
03/10/81

Description:

Macros to determine which blocked disk files of the signed-on owner/qualifier needs to be run through *SHORTEN (HUE272), to set up granule sizes so as not to waste disk space. Allows operations to correct programmers who do not monitor their files. Tape backup generation of all user files was reduced in time by 40% at this installation following the first execution of this macro through everyone's files (run by each owner/qualifier).

Restrictions:

Requires HUE272 Disc File Shorten Macro.

HUE272: Disc File Shorten

Defense Language Institute	**Contact:** Keith Stanton	**Doc:** MR
Foreign Language Center	**Lang:** JCL/MACRO	**Maint:** NO
Presidio of Monterey, CA 93940	**Opsys:** VULCAN	03/10/81

Description:

Vastly improved version of the inefficient and down-right dangerous 2500MARK*SHORTEN on the TOOLS tape, this is a macro to correct and reduce blocked disk file space waste through granule size control. Sets file granule size equal to file size when file size is under 120 sectors. If the file size is over 120 sectors, a check is made to determine if the granule size is under 5% of the file size. If so, the granule size is set at 25% + and not to be under the installation's default size. The blocked disk file attributes are all passed in the copy.

HUE273: Transfer Disc Files

Defense Language Institute	**Contact:** Keith Stanton	**Doc:** MR
Foreign Language Center	**Lang:** JCL/MACRO	**Maint:** NO
Presidio of Monterey, CA 93940	**Opsys:** VULCAN	03/10/81

Description:

This is a macro utility which generates 5 JS files 1) Retype files to PR, (to accomplish the following):

1. Retype files to PR,
2. Check that file names don't already exist,
3. Copy files onto another qualifier,
4. Delete files from Signed-on qualifier, and
5. return the original files to their original access attributes if the decision is made not to delete them.

This is an EXACT file copy (all attributes) of:

a. all files under the Signed-on qualifier/owner, or
b. specified files from this group.

The call is in standard Harris JCL statement format.

HUE274: VULCAN DMA RTP Handler

Waisman Center, U. Wisconsin	**Contact:** Cliff Gillman	**Doc:** YES
1500 North Highland Avenue	**Lang:** Assembler	**Maint:** YES
Madison, WI 53706	**Opsys:** VULCAN	03/01/81

Description:

This is a queued I/O handler used with DMA transfer to and from Computer Products Inc.'s RTP (Real-Time Peripheral) equipment. This handler allows normal interactive programs to do high speed (up to 20,000 samples/second) transfers to or from the RTP. Because the I/O is queued, continuous transfers are possible. Schematics for the hardware changes needed to make the RTP box a DMA (Direct Memory Access) device are included. required patches to VULCAN are also included. B. Orchard, programmer.

Restrictions:

RTP hardware must be modified to be self-clocking, and a DMA channel must be devoted exclusively to the RTP.

HUE275: VULCAN ANALOG - Analog Signal Input

Waisman Center, U. Wisconsin	**Contact:** Cliff Gillman	**Doc:** YES
1500 North Highland Avenue	**Lang:** Assemb/FORT 66	**Maint:** YES
Madison, WI 53706	**Opsys:** VULCAN	03/01/81

Description:

ANALOG digitizes analog waveforms from up to 8 channels simultaneously. Data are stored on disc in ASC11, binary, or packed binary (two values per word) form. B. Orchard, programmer.

Restrictions:

HUE274 (VULCAN DMA RTP Handler) is required to utilize VULCAN ANALOG.

HUE276: VULCAN Accounting Report Programs

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: C
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

The programs print reports and bills from standard VULCAN accounting information. Bills are printed for each user sign-on qualifier combination, using a predetermined rate structure. Reports of resource use also generated for each user sign-on qualifier. Summary reports are also available. Any time interval may be used as the reporting-billing period. This package allows the ACSM files to be deleted daily. B. Orchard, programmer.

HUE277: Extra VULCAN System Services

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

WAITF	wait for flag	DAASGA	assign for file save/move
DISPAT	trigger dispatcher	RELPAK	release resourced pack
CUNAME	convert user name	IOINST	do hardware i/o instruction
GETMEM	get memory	GETTLB	get tape label
RDABS	read absolute sector	GETACT	get accounting block
WTABS	write absolute sector	DEVACT	get device accounting data
WEFABS	write absolute EOF	COMLOC	compute Hash Function
CLUSER	clear user number	DROPSB	drop spool bits
QMESG	queue message	SPUPDT	spool queue update
SPFIND	spool queue find	SPRSRC	resource output spool device
SPACNT	write spool accounting record.		

Restrictions:

Requires a detailed knowledge of VULCAN internals to install and maintain.

HUE278: WHICH-TP - Find Backup Tape Labels

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: C
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

WHICH-TP lists labels of all backup tapes that contain a given file. An indexed-sequential file holds tape labels and file names, and a program to add and delete items from this table is included. B. Orchard, programmer.

Restrictions:

Requires VULCAN - HUE277.

HUE279: WHO

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: C
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

WHO lists the user name and program for every PDN in use, including terminals. This provides a service for each terminal user comparable to the operator's TL command. B. Orchard, programmer.

Restrictions:

Requires VULCAN - HUE277.

HUE280: WHOIS - Look Up User

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

Given a user number, this program finds the user's name, and vice-versa. J. Doermann, programmer.

Restrictions:

Requires HUE277 - Extra VULCAN System Services.

HUE281: Set Terminal Parameters - TERPAR

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: C
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

This program allows the user to tell VULCAN the characteristics of his terminal. One may change the following terminal parameters: backspace response, cancel response, characters per line, DC1/DC3 operation, character echo, line speed, case translation, and several others. This service is often needed for dial-in ports. B. Orchard, programmer.

Restrictions:

Requires HUE286 - Modified TTY Handler.

HUE282: Message Sender - HI

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

This program sends a one-line message to another terminal for immediate display (i.e. without waiting for an RC command). B. Orchard, programmer.

Restrictions:

Requires HUE277 Extra VULCAN System Services.

HUE283: DISCDUMP

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

DISCDUMP provides octal or ASCII dumps of disk sectors. Blocked files are dumped as is. The records are not deblocked. Thus the output is more like the OPCOM DD command than like PRINTF. B. Orchard, programmer.

Restrictions:

Requires HUE277 for absolute sector disc dump.

HUE284: SAMCHECK

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: C
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

This program checks (and can correct) the SAM (Space Allocation Map) on a VULCAN disc. B. Orchard, programmer.

Restrictions:

Requires HUE277 Extra VULCAN System Services.

HUE285: VULCAN GET/PUT - File Archiving

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: C
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

The PUT program moves disc files (those not on an Exceptions list) onto "inactive" disc storage, i.e. packs not normally on-line. Copies of files unused within the last week are also deleted from active storage after being copied to inactive storage. The GET command brings one or more files back from inactive storage to active storage. B. Orchard, programmer.

Restrictions:

Requires HUE277 and a dedicated disc drive.

HUE286: Modified VULCAN TTY Handler

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

This handler contains modifications required by TERMIN (HUE287) and the Satellite Computer Communications package (HUE288). Included are changes to the VULCAN resident, which are also required. This handler includes many additional "nice" features. B. Orchard, programmer.

Restrictions:

Requires detailed knowledge of VULCAN internals.

HUE287: Call Another Computer - TERMIN

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: C
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

TERMIN supports sites with dial-out modems. One may call another computer and use a Harris terminal as if it were attached to the other computer. Files may be sent or received, and a permanent record of the terminal session may be stored on disc. B. Orchard, programmer.

Restrictions:

Requires HUE277 and HUE286.

HUE288: Satellite Computer Communications Package

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: C
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

This package permits remote computers to send/receive files to/from the Harris computer, and allows remote computers to initiate programs on the Harris computer. B. Orchard, programmer.

Restrictions:

Requires HUE277 and HUE286.

HUE289: VULCAN PLOT SPOOLER

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

This spooler permits plots to be spooled to a pen plotter or a printer/plotter. Handlers for such devices are also included. This spooler may be used with the VULCAN Plotting Package (HUE291), and it will use a hardware rasterizer if one is available. This contribution includes a plot handler and VULCAN resident patches. B. Orchard, programmer.

Restrictions:

Requires HUE277.

HUE290: SHOW - Interactive Plotting

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
11/21/81

Description:

Interactive "canned" plotting program for use on a graphics terminal. plots may be sent to a Versatec plotter or a Calcomp plotter for hard copy. Programmers: D. Wilson, B. Orchard, M. Clark.

Restrictions:

Requires HUE291.

HUE291: VULCAN GRAPHPAC Plotting Package

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assem/FORT 66
Opsys: VULCAN

Doc: YES
Maint: YES
09/13/82

Description:

This extensive plotting package allows output on a Versatec plotter, Chromatics 7900 terminal, Tektronix graphics terminals, or Calcomp plotter. This is an adaptation of HUE056 for VULCAN. Versatec plotting at 200 points per inch is supported. Plotting routines include ones for surfaces and hidden-line three-dimensional plots. Programmers: M. Mansfield, B.Orchard. Boeing Military Airplane Co., Robert Kunze, MS K90-20, 3801 South Oliver, Wichita, KS 67207, (Programmer: Arne Flones) has submitted an update including documentation, polar plotting routines, and Tektronix 4631 hard copier support.

HUE292: VULCAN DBM - Data Base Manager

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler/FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
11/21/81

Description:

DBM is a simple Data Base Manager based upon the VULCAN Indexed Sequential Package. Record length is fixed. Fields within a record may be variable length and multi-valued. Up to 26 different field types may be used. DBM permits interactive data entry and retrieval. A simple report writer is included in DBM. A library of utility routines are included for use by special report programs. Two data bases may be used together if a field in one data base holds record keys for the other. Global commands allow mass changes throughout a data base, and an UNDO command rescinds the previous command. D. Wilson, programmer.

Restrictions:

Requires VISP and Sort/Merge Utility.

HUE293: VULCAN ECLPOL Polynomial Curve Fit

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

ECLPOL is a program to fit polynomials to data using a least squares criterion. This program uses the subroutine POLWGT for curve-fitting. This is an adaptation of HUE035 to VULCAN. Programmed at ECL.

Restrictions:

Requires HUE030.

HUE294: SPEECH - Artificial Speech Generator

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

SPEECH is used to synthesize speech using Klatt's algorithm. The user must supply values for various parameters - formant frequencies, amplitudes, etc. Both parallel and serial synthesis are available. SPEECH does linear interpolation of parameter values over time, and plots parameter values over time. Programmers: D. Klatt, D. Wilson.

Restrictions:

Requires HUE274.

HUE295: VULCAN CALCOMP/COMPLOT Plotting

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

These routines produce complete graphs on an incremental plotter, including polar coordinates, logarithmic axes, and bar graphs. This package also includes primitive plotting routines. This is an adaptation of HUE031 for VULCAN. Programmed at ECL.

Restrictions:

Requires HUE291.

HUE296: VULCAN SOUND - Waveform Generator

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler/FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

SOUND will produce waveforms with specified center frequency, bandwidth, amplitude, and sinusoidal components. Output is an analog waveform through the Computer Products Inc. RTP D/A converter. The digital representation of the waveform is stored on disc. This program is useful for preparing noise patterns with known spectral composition. Programmers: D. Wilson, B. Orchard.

Restrictions:

Requires HUE274.

HUE297: NASIGN & GETPAR

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler/FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

GETPAR is a Fortran-callable subroutine which collects parameters from a command line in the order they appear. NASIGN is a Fortran-callable function which assigns unit numbers to files. Assignments are made to file names specified on the command line, in the order they appear. D. Wilson, programmer.

HUE298: Inventory Control Program

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

This program keeps track of a parts inventory. New items may be added to the inventory, and items may be charged to active accounts. Both parts and labor may be charged. Bills are printed for all active accounts upon demand. D. Wilson, programmer.

Restrictions:

Requires HUE292.

HUE299: LINKXR - Cross References Externals

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler/FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

LINKXR determines the utilization of different program units or common blocks in a large program. LINKXR will produce two cross-reference tables. The first provides information about all externally defined variables, subroutines, and functions. The second table lists all common blocks and system service calls that the program unit uses. Programmed at ECL.

HUE300: WARP - Weighted Polynomial Regression

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

This program does weighted polynomial curve-fitting, with associated statistics and plotting. Particular features include:

1. Plotting to Calcomp or Versatec plotters
2. "Pure error" analysis
3. Durban-Watson statistics
4. Analysis of Variance Tables.

R. Tonge, programmer.

Restrictions:

Requires Printer Plotting Package (HUE030) and VULCAN CALCOMP/COMPLOT Plotting Package (HUE295).

HUE301: VISPCHEK

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: C
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

This program checks a VULCAN Index Sequential File for consistency. An indexed sequential file may become inconsistent if a program writing to it was aborted (or the system crashed) before the file was closed. VISPCHEK reports the location of the inconsistencies so that someone with enough knowledge of VISP files can repair the file using MS commands from OPCOM. B. Orchard, programmer.

HUE302: VULCAN VOCAL - Verbal Utterance Manipulator

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler/FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

VOCAL is used to prepare and/or analyze sequences of acoustic stimuli. Each utterance or sequence is stored in a separate disc file. A single utterance may be of duration up to 15 minutes. Any effective sampling rate up to 160,000 Hz may be used. VOCAL handles editing of utterances - concatenating, trimming or changing the level of the wave- form. A sequence may be prepared, specifying the order of the utterances for each ear, the delay between the utterances, and the delay between outputs to the ears. D. Wilson, programmer.

Restrictions:

Requires HUE274.

HUE303: VULCAN FULLTR - Assembly Language Trace

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

FULLTR is used to debug Harris Assembly Language programs. Every time an instruction is executed under trace, the FULLTR program will, if requested to do so, print out the instruction. Thus, the user can follow the trace output to see what his program is doing. The user may also request a memory dump to view the final values in memory. FULLTR cannot trace system service calls which are followed by a parameter (e.g. DCM, C/RTN) or bit manipulation instructions. FULLTR is implemented such that valid calls to FULLTR do not change any of the register contents. D. Wilson, programmer.

HUE304: COMPARE - Symbolic File Comparison

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

This program compares two source files, an "old version" and a "new version", and reports what changes were made to make the "old version" into the "new version". Only changes are listed, and neither file is modified by COMPARE. The program checks 81 columns per record. Programmers: G. Ecklund, D. Wilson.

HUE305: BINCOMP - Binary Compare of Files

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

BINCOMP scans two binary files, does a record by record comparison, and reports any differences found. This program checks up to the first 112 words of each record. II two records are unequal, the program displays the record number and the first three unequal words in octal. D. Wilson, programmer.

HUE306: SEARCH

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

This program searches an ASCII source file for all occurrences of up to 20 strings. The program lists all lines from the file which contain at least one of the given strings. Programmers: D. Olson, D. Wilson.

HUE307: VULCAN FORXR - FORTRAN Cross Reference

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

Produces two cross reference tables for each FORTRAN program unit. first, it lists the program unit with line numbers, then a table of statement numbers, where they were defined, and where they were referenced. Finally, it lists, in alphabetical order, all variable names, and at what lines the name was referenced (and assigned a value). Programmed at ECL.

HUE308: VULCAN Macros for Editing

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: Job Control MACRO
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

LTEXT	lists all occurrences of one string on the file being edited.
AL	finds the next occurrence of a string, lists and edits the line.
PL	finds first occurrence of a string.
S	prints column numbers. To be used after an L command.
MR	moves the records specified, to be inserted following the line number specified.
UL	updates the file being edited, edits the same file, and lists the specified lines.

Programmer: D. Wilson

HUE309: Interactive Bibliographic System

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

These programs provide data entry and retrieval to and from a Bibliographic Data Base. Retrieved citations may be automatically placed in any journal format, with suitable commands for the RUNOFF text processor. D. Wilson, programmer.

Restrictions:

Requires VULCAN DBM (HUE292), and VULCAN RUNOFF (HUE023) is recommended.

HUE310: VULCAN 6800 Cross Assembler

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53706

Contact: Cliff Gillman
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

This is a Motorola 6800 two-pass cross assembler for the Harris computer, written in machine-independent FORTRAN. This is the same program as HUE024, but has been set up for VULCAN rather than DMS. G. Bonin, programmer.

HUE311: RATMAC - Preprocessor

Unilever Research Lab
Olivier van Noortlaan 120
3133 AT Vlaardingen
The Netherlands

Contact: T.C. van Soest
Lang: RATMAC
Opsys: VULCAN

Doc: YES
Maint: YES
03/01/81

Description:

The RATMAC preprocessor is based on two programs, RATFOR and MACRO, described in the book "Software Tools" by B. W. Kernighan and P. J. Plauger (Addison-Wesley Publishing Company). Essentially RATFOR is FORTRAN (66 or 77), extended with modern control statements like REPEAT - UNTIL, IF - ELSE, and WHILE. These constructs encourage a programmer to write structured programs. (See also RATFOR - relational FORTRAN). MACRO is a very powerful recursive macro processor. Built-in character string manipulating macros like: "LENSTR:", "SUBSTR:", and "IFELSE:" can, for example, be applied to extend a language (such as RATFOR, itself, or PASCAL) with constructs which may be useful in particular applications but which are not provided by the host language. Also, the macro processor can be used to translate machine-dependent statements written in the form of macros. These macros can be changed easily later when a program must be ported to another machine. RATFOR statements as well as the MACRO invocations of a RATMAC program are preprocessed into FORTRAN (66 or 77) before compilation and link-editing.

HUE312: SCAN

U. of Kansas, School of Eng.
2008 Learned Hall
Lawrence, KS 66045

Contact: Robert Dodds
Lang: Assembler/FORTRAN 77
Opsys: VULCAN

Doc: YES
Maint: YES
05/05/81

Description:

Problem-oriented languages (POLS) over the years have proven an effective communication mechanism between computer systems and applications users. This is especially true for interactive processing. A set of approximately 30 FORTRAN 77 based subroutines, collectively known as SCAN, were developed to facilitate incorporation of POLS in application programs. SCAN routines handle input prompting, data echo, file stacking, token parsing, and logical operations necessary to translate input commands. Application programs communicate with SCAN through standard ANSI-66 FORTRAN standard links, thus preserving machine independence of the applications software. SCAN is available on every major mainframe and supermini. It has been used extensively for over 10 years at the University of Illinois and other sites worldwide.

HUE314: 6502 CROSSASSEMBLER

Arkansas State University
Box 151
State University, AR 72467

Contact: Robert F. Rossa
Lang: Assembler/FORTRAN 77
Opsys: VULCAN

Doc: MR
Maint: TP
04/14/81

Description:

The Harris Macro Assembler is used as a cross assembler for 6502 microprocessor source code. Each 6502 mnemonic is seen by the assembler as a Harris Assembly Language macro. A postprocessor written in FORTRAN 77 produces hexadecimal code.

HUE315: PCHECK Keyword Parameter Checking System

Coventry (Lanchester) Polytechnic
Priory Street
Coventry CV1 5FB U.K.

Contact: Paul Dimmer
Lang: FORTRAN
Opsys: Vulcan

Doc: YES
Maint: NO
03/19/81

Description:

PCHECK is a system to simplify the task of a programmer who requires parameters to his macro to be specified by keyword. Allowable keywords can be specified as compulsory or optional, with interdependence if required. There is also the provision for specifying allowable values for each keyword. PCHECK checks the supplied parameters and reports on errors found.

HUE316: HELP System

Coventry (Lanchester) Polytechnic
Priory Street
Coventry CV1 5FB U.K.

Contact: Paul Dimmer
Lang: FORTRAN
Opsys: VULCAN

Doc: YES
Maint: NO
04/15/81

Description:

Intended as an information service for users, this HELP system has all the appearances of being level-structured through index pages, but still allows any level of information to be obtained directly from job control. HELP can be used to obtain information on any Harris error number, any subject in the catalog or a specific section of a subject. Any page of information can be accessed by one command:

HELP <subject><,section>

or error number information by typing:

HELP <error number>

HUE317: Automatic Program Documentor

Harris Controls	**Contact:** Susan Thomas	**Doc:** :YES
P.O. Box 430	**Lang:** Assembler/FORTRAN	**Maint:** TP
Melbourne, FL 32901	**Opsys:** VULCAN	09/29/81

Description:

ADOC is used to generate program documentation from source programs which have been coded with special character sequences in comment lines. Various text processing and string manipulation commands are provided to the user. The user interaction with ADOC is similar to the BASIC programming language.

HUE318: IGL UIO and Utility Routines

MIT - Haystack Observatory	**Contact:** John M. Holt	**Doc:** MR
Off Route 40	**Lang:** FORTRAN 66	**Maint:** TP
Westford, MA 01886	**Opsys:** VULCAN	10/05/81

Description:

IGL (Interactive Graphics Library) is a library of FORTRAN-callable subroutines which may be purchased from Tektronix, Inc. These routines allow the user to perform a wide spectrum of graphic operations in a host- and device- independent manner. The software interface between the host computer and Tektronix terminals, as well as between the software and the files on the host computer is provided by the Universal Input/Output (UIO) routines. In addition to the (UIO) routines, this package contains the MORTRAN precompiler and a variety of utilities which simplify the installation and maintenance of the IGL library on HARRIS computer systems.

HUE319: PED - Page EDitor

MIT - Haystack Observatory
Off Route 40
Westford, MA 01886

Contact: John M. Holt
Lang: MACROS
Opsys: VULCAN

Doc: MR
Maint: TP
10/05/81

Description:

PED is a page-oriented editor implemented by Job Control macros written especially for the Tektronix 4020 Series terminals. It provides a means of combining the built-in text-editing capabilities of these terminals with the text editor resident in VULCAN.

HUE320: QPL - Quick Plotting Language

MIT - Haystack Observatory
Off Route 40
Westford, MA 01886

Contact: John M. Holt
Lang: FORTRAN 66
Opsys: VULCAN

Doc: MR
Maint: TP
10/05/81

Description:

QPL, a quick plotting language, is an interactive program used for producing line drawings from FORTRAN output. Hard copy is produced on a Trilog C100 Colorplot printer/plotter. Requires Tektronix 4020 Series terminal.

HUE321: IMPS Interactive Mathematical Programming System

Newcastle Polytechnic
Computer Unit, St. Mary's Place
Newcastle-Upon-Tyne NE1 8ST U.K.

Contact: Bernard Pereira **Doc:** MR
Lang: BASIC/FORTRAN 77 **Maint:** TP
Opsys: VULCAN 12/01/82

Description:

This package is designed for educational use and allows users to define and solve mathematical programming problems from a terminal. It comprises a Matrix Editor (MPEDIT) as a driver program, plus a number of solution and display methods, which allow varying maximum problem sizes:

MPEDIT Interactive Matrix Editor - 150 constraints, 200 variables, 600 elements
LPSOLVE Linear programming Matrix solver-70 constraints & variables
LPSIMP Linear programming Simplex teaching program - small matrices
MPCODE Mathematical programming - Linear, Quadratic, Parametric, Integer, and Discrete to 120 constraints, 120 variables
PICTURE Matrix display.

On-line HELP and machine-readable documentation.

HUE322: FPRINT - File Print Utility

Newcastle Polytechnic
Computer Unit, St. Mary's Place
Newcastle-Upon-Tyne NE1 8ST U.K.

Contact: Bernard Pereira **Doc:** MR
Lang: Assem/FORTRAN 77 **Maint:** TP
Opsys: VULCAN 08/15/83

Description:

High speed multi-function file listing program. Lists disc files interactively or to any printer - provides wide choice of output formats including right-justified line numbering, page heading and illegal character interception together with the usual list/copy facilities. Allows system printers to be known by mnemonics. Comprehensive error reporting. Provisions made for non-Beehive type terminals under VULCAN.

HUE323: ACCTSTAT - Account Status

Boeing Military Airplane	**Contact:** Bob Kunze	**Doc:** YES
MS K90-20,3801 South Oliver	**Lang:** MACRO/FORTRAN 77	**Maint:** NO
Wichita, KS 67210	**Opsys:** VULCAN	09/09/81

Description:

Account status produces a summary of the user's account. The summary lists each qualifier on the account, the number of files on each qualifier and the number of sectors used by each qualifier. Included in the summary are totals for qualifiers, files and sectors.

HUE324: DAMBRK - Dam Break Flood Forecasting Model

International Engineering Co.	**Contact:** Price Stiffler	**Doc:** YES
180 Howard Street	**Lang:** FORTRAN 66	**Maint:** NO
San Francisco, CA 94105	**Opsys:** VULCAN	11/10/81

Description:

DAMBRK is the dam break flood forecasting model developed by the National Weather Service. The model consists of three parts: (1) description of dam failure, (2) computation of the outflow through the breach, (3) routing of the outflow, using the dynamic wave method. In addition to it's usual function of forecasting downstream flooding, the model can be used to forecast flooding from spillway releases or to route any specified flood downstream. The model has wide applicability - it can function with various levels of input data, ranging from rough estimates to complete data specifications, the required data is readily accessible, and it is economical.

Documentation and information is available from
Dr. D. L. Fread
Office of Hydrology
National Weather Service
Silver Springs, MD 20190
(301) 427-7640.

HUE325: DWOPER - Dynamic Wave Operational Model

International Engineering Co.	**Contact:** Price Stiffler	**Doc:** YES
180 Howard Street	**Lang:** FORTRAN 66	**Maint:** NO
San Francisco, CA 94105	**Opsys:** VULCAN	11/10/81

Description:

The Dynamic Wave Operational Model is a program for unsteady flow analysis. It is based on an implicit, finite difference solution of the complete, one-dimensional, St. Venant equations of unsteady flow.

DWOPER is useful for analyzing unsteady flows which are subject to backwater effects, tides, or inflows from large tributaries. It is also useful in situations where channel bottom slopes are quite mild.

The model features the ability to use large time steps for slowly varying floods, and to use cross-sections spaced at irregular intervals along the river system. It is generalized to accommodate a wide range of physical features in rivers, such as irregular geometry, variable roughness parameters, lateral inflows, flow diversions, off-channel storage, local head losses (such as bridge contraction-expansions), lock and dam operations, and wind effects.

Documentation and information is available from:
Dr. D. L. Fread
Office of Hydrology
National Weather Service
Silver Springs, MD 20190
(301) 427-7640.

HUE326: SHAKE - Earthquake Response Analysis

International Engineering Co.
180 Howard Street
San Francisco, CA 94105

Contact: Price Stiffler
Lang: FORTRAN 66
Opsys: VULCAN

Doc: MR
Maint: NO
11/10/81

Description:

SHAKE is a program for earthquake response analysis of horizontally layered sites. It computes the responses in a system of homogeneous, viscoelastic layers of infinite horizontal extent subjected to vertically traveling shear waves. The program is based on the continuous solution to the wave-equation (Kanai, 1951) adapted for use with transient motions through the Fast Fourier Transform algorithm (Cooley and Tukey, 1965). The nonlinearity of the shear modulus and damping is accounted for by the use of equivalent linear soil properties (Idriss and Seed, 1968, 1970) using an iterative procedure to obtain values for modulus and damping compatible with the effective strains in each layer.

The program is able to handle systems with variation in both moduli and damping and takes into account the effects of the elastic base. The motion used as a basis for the analysis, the object motion, can be given in any one layer in the system and new motions can be computed in any other layer.

Documentation is available from:
NISEE/Computer Applications
Davis Hall
University of California
Berkeley, California 94720
(415) 642-5113

HUE327: V.OPC - Change User Command

Sunderland Polytechnic
Priestman Building, Chester Road
Sunderland, Tyne & Wear, U.K.

Contact: Dave Webster
Lang: Assembler
Opsys: VULCAN

Doc: YES
Maint: NO
06/18/81

Description:

This is a modified version of the OPCOM module which supports a change-user command. It allows the change of password and user name using "CU PW=" and "CU N=".

Restrictions:

Knowledge of how to compile and install a VULCAN non-resident handler is necessary to utilize this program.

HUE328: GRAF - Poor Man's Graphing Program

Arkansas State University
Box 151
State University, AR 72467

Contact: Robert F. Rossa
Lang: Assembler/FORTRAN 66
Opsys: VULCAN

Doc: MR
Maint: YES
01/15/82

Description:

The GRAF program is intended for use by students. GRAF interactively obtains a function definition from the user and then outputs a graph in a form suitable for a line printer. A subroutine creates an executable version of the function in object code. Students can also graph parametrically defined curves interactively.

HUE329: Harris TDX for Fairchild Sentry Testers

Harris Semiconductors	**Contact:** Jeff Hilbert	**Doc:** YES
P.O. Box 883,M/S 98-3	**Lang:** Assembler/FORTRAN 77	**Maint:** YES
Melbourne, FL 32901	**Opsys:** VULCAN	11/16/81

Description:

Harris TDX permits users to create and/or read TDX formatted tapes for the Fairchild Sentry VII and Sentry VIII testers. The transfer of data, object, source and core-image file types are supported.

Harris TDX will normally be of interest to those sites using a Sentry tester.

Restrictions:

Some modifications may be required for use with the Sentry M3 operating system.

HUE330: CONTUR - Contour Plotting Program

Arecibo Observatory (NAIC)	**Contact:** Peter Shames	**Doc:** NO
Box 995	**Lang:** FORTRAN 66	**Maint:** NO
Arecibo, PR 00612	**Opsys:** VULCAN	10/28/81

Description:

This is a package for plotting contours to fit a grid of data points.

HUE331: DISCHK - Quick Disc Checker

Arecibo Observatory (NAIC)	**Contact:** Peter Shames	**Doc:** NO
Box 995	**Lang:** Assembler	**Maint:** NO
Arecibo, PR 00612	**Opsys:** VULCAN	10/28/81

Description:

This is a modified version of the standard VULCAN V:DISCHK program. It has enhanced error messages and a quick check feature that saves time over the usual long disc check. Some documentation is included in the file DISCHK.

HUE332: CROSS - Cross Reference Generator

Arecibo Observatory (NAIC)
Box 995
Arecibo, PR 00612

Contact: Richard Murphy
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: YES
10/28/81

Description:

This sequence of programs will process a LR file produced by a compiler or assembler and produce a cross reference listing of entry points and where they are called, library routines, and various types of common areas. CROSS.H is a HELP feature.

HUE333: Data Entry/Retrieval System

Elmhurst College
190 Prospect Ave.
Elmhurst, IL 60126

Contact: Jim Francis
Lang: Assembler/COBOL
Opsys: VULCAN

Doc: YES
Maint: NO
03/12/82

Description:

This is a series of programs to permit data entry, data validation, and retrieval. Uses central system tables for data dictionaries, validation criteria and small coordinated files. The data entry system utilizes full screen data entry, concurrent file access, and transaction logging for recovery/auditing. The retrieval system allows non-DP personnel to create their own reports.

HUE334: USER LIST

University of Wyoming
Box 3945, University Station
Laramie, WY 82071

Contact: Robert Morrison
Lang: Assembler
Opsys: VULCAN

Doc: MR
Maint: YES
01/27/82

Description:

USER LIST represents a combination of macros and programs which allow a Harris list sorted by qualifier and a user list sorted by user name. The macros can be modified to sort on any criteria desired. See User*Doc for additional information.

HUE335: NOVA CROSS ASSEMBLER

Upjohn Co., Phys./Analyt. Chem.
301 Henrietta Street
Kalamazoo, MI 49001

Contact: David Duchamp
Lang:
Opsys: VULCAN

Doc: MR
Maint: NO
01/27/82

Description:

Nova Cross Assembler.

HUE336: DIETCOMP

University of Central Florida
P.O. Box 25000
Orlando, FL 32816

Contact: Joe Rice
Lang: FORTRAN 66, 77
Opsys: VULCAN

Doc: YES
Maint: YES
04/15/81

Description:

Permits users to enter information regarding elementary food items comprising a diet and to receive hardcopy feedback regarding the nutritional value in the diet for twenty-one (21) variables. Use presumes that the user has identified the elementary food items using the U.S.D.A. CFE (ADM.)-322 August 1972 publication FOOD COMPOSITION DATA - FOOD NAMES AND IDENTIFICATION NUMBERS by "item number" and that the user has at least some reasonable approximation of the number of grams of each "item" consumed for each "item" entered.

Input up to twenty-five (25) food items per group, no limit on number of groups per session. Output lists each food element by item number with values for each of the twenty-one (21) nutritional variables per item, totals for the input group, average values for all input groups, and recommended value ranges under appropriate headings.

HUE337: SEED SYSTEM

U.S. Army Corps of Engineers
City/County Airport, Building 633
Walla Walla, WA 99362

Contact: Keith Parris
Lang: FORTRAN 77
Opsys: VULCAN

Doc: MR
Maint: YES
09/01/82

Description:

The SEED system consists of utility programs and a run-time subroutine library which provide the capability of formatting and editing data on a video-terminal screen. Host programs may be written in COBOL or FORTRAN '77. Programmer written code is independent of the screen layout. All types of COBOL and FORTRAN '77 data may be displayed and edited, and the system automatically performs the conversions between the storage and display formats. The user has much freedom in the order of data entry and the correction of errors. Each field may be validated by the host program immediately after being changed by the user, and if the field is in error, an error flag may be set for the field, which prevents the user from storing the data before the error is corrected. So-called "smart" terminals are not required, the terminal must only be capable of positioning the cursor to a spot specified by a control sequence sent by the computer. The type of terminal being used is automatically determined at run-time, so a program using the SEED system may be run on any of the supported terminal types. The number of characters sent to and from the terminal is minimized for efficient use of terminals connected to the computer by low-speed lines.

HUE338: MODIFIED VOS-1 LP2H

NASA/JSC - LOCKHEED/EMSCO
1830 Space Park Drive, Building 8
Houston, TX 77058

Contact: Harry Hefner
Lang: Assembler
Opsys: VULCAN

Doc: NO
Maint: YES
09/07/82

Description:

This is a VOS-1 version of LP2H modified to support Versatec's Vector-to-Raster converter hardware, used with Versatec printer/plotter. It recognizes "special" records of 44 words and handshakes with the VRC to allow hardware rasterization for plots.

Restrictions:

It requires Versaplot-7 with special writes in 44-word blocks.

HUE339: METAFONT

Electrocon International, Inc.
611 Church Street
Ann Arbor, MI 48104

Contact: Khai Mong
Lang: FORTRAN 77
Opsys: VOS

Doc: MR
Maint: TP
05/15/82

Description:

A program to design character fonts. Dr. Knuth's SAIL version of the program from Stanford University has been converted to Harris FORTRAN 77. The present program works exactly as described in Dr. Knuth's book "TEX and METAFONT" except for the output options. Currently, only the "drawdisplay" mode is available on a DEC VT100 with an add-on Retrographics board. Stubs are provided to implement additional output modes.

HUE340: DEASSEM - HARRIS Disassembler

Harris Computer Systems
8300 Greensboro Drive
McLean, VA 22101

Contact: Howard Page
Lang: Assembler
Opsys: VULCAN

Doc: MR
Maint: NO
05/15/82

Description:

DEASSEM is a user program which enables the user to convert an executable program area into assembler source code. The program has the following features:

- DEASSEM handles all non-extended instructions except for the I/O instructions.
- DEASSEM lists address values, instruction mnemonics, and operands as well as an ASCII and binary representation of the specific word to help discern the difference between instructions and data.

Restrictions:

DEASSEM does not correctly handle reentrant code since it does not renumber the PORG portions of the program.

DEASSEM does not correctly handle extended instructions.

HUE341: SANDERS TERMINAL HANDLER

NASA/Johnson Space Center
FD 7
Houston, TX 77058

Contact: David Pruitt
Lang: Assembler
Opsys: VULCAN

Doc: MR
Maint: NO
05/15/82

Description:

Parallel handler for Sanders Graphic 7 Terminals which allows them to operate as both TTY's and graphic terminals.

HUE342: HUE LIBRARY CATALOG

Harris Computer Systems
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: : Patricia Magyari
Lang: FORMAT
Opsys: VULCAN

Doc: MR
Maint: YES
10/15/82

Description:

The Harris Users' Exchange Program Library Catalog in FORMAT SOURCE.

HUE343: V-EDITOR

Univ. of Mass. Computing Center
Harbor Campus
Boston, MA 02125

Contact: : Tony Marcinkiewicz
Lang: No Source
Opsys: VULCAN

Doc: MR
Maint: NO
09/01/82

Description:

The V-Editor is an interactive program designed for two simple purposes. It allows the terminal user to create and modify card image text files. It also allows the terminal user to create and modify text messages as well as send and receive text messages via the operating system message services (i.e., allows a primitive form of electronic mail). No source is included.

HUE344: M.D.M.S. - A FINANCIAL MODELING PACKAGE

Manchester Business School
Booth Street West
Manchester, MI5 6PB ENGLAND

Contact: A. Cunningham
Lang: FORTRAN 77
Opsys: VULCAN

Doc: MR
Maint: NO
12/15/82

Description:

MDMS is a general-purpose package designed primarily to handle financial models, and as such has a number of functions to aid financial analysis: It allows a user to create, edit and calculate elements of a table (or tables) where each row is a VARIABLE such as "costs", "sales", "cashflow", etc., and each column represents a period in time.

HUE345: BASIC LANGUAGE TRANSLATION PROGRAM (BLAT)

Manchester Business School
Booth Street West
Manchester, MI5 6PB ENGLAND

Contact: A. Cunningham
Lang: BASIC
Opsys: VULCAN

Doc: YES
Maint: NO
12/15/82

Description:

The BASIC LAnguage Translation program is designed to convert Basic into another language with the minimum programming overhead. The translation is controlled by an editor table which consists of a series of DATA statements. It enables the user to specify the differences between the two dialects of BASIC in a compact manner.

A second table of reserved words may need to be extended and a list of variables not used in the source program must be supplied. A pre-processor for the translation program has been developed to supply this list.

HUE346: HARRIS USER GUIDES

Newcastle Polytechnic
Computer Unit, St. Mary's Place
Newcastle-Upon-Tyne NE1 8ST,U.K.

Contact: Bernard Pereira
Lang: FORMAT
Opsys: VULCAN

Doc: MR
Maint: NO
12/01/82

Description:

This is a collection of user guides used at Newcastle Polytechnic.

Harris User's Guide (Introductory Manual)
Harris Reference Card
Files, Devices and Commands,
BASIC-V Programmer's Guide,
COBOL Programmer's Guide, and
FORTRAN (77) Programmer's Guide.

Sources are in FORMAT (excepting the Reference Card which is in RUNOFF), and proof files are also provided.

HUE347: UTILITIES

Newcastle Polytechnic
Computer Unit, St. Mary's Place
Newcastle-Upon-Tyne NE1 8ST U.K.

Contact: Bernard Pereira
Lang: Assmb,BASIC,Pascal
Opsys: VULCAN

Doc: MR
Maint: TP
12/01/82

Description:

A collection of utility programs and macros:

QUERY - system information querying.
AL, BL, SCAN, NXT, DALL - $EDIT macros.
BASDENT - indents structure BASIC-V source programs.
PASBOLD - a program to "beautify" Pascal sources.

HUE348: CPSYS - Critical Path Analysis System

Newcastle Polytechnic
Computer Unit, St. Mary's Place
Newcastle-Upon-Tyne NE1 8ST U.K.

Contact: Bernard Pereira
Lang: FORTRAN 77
Opsys: VULCAN

Doc: MR
Maint: TP
12/01/82

Description:

The Critical Path Analysis System allows the entry, solution and modification of a critical path (I-J) network with resource smoothing and costing up to a maximum problem size of 200 activities and 4 resources. A variety of processing options are available, including:

1. Load network either at the terminal or from a file
2. Edit activities on network
3. Save or delete network on file
4. Display entire network on file
5. Solution options including network solution, scheduling with limited resources and cost analysis.

An on-line HELP facility is available for documentation.

HUE349: Disc Usage Statistics

Harris GCSD
P.O. Box 92000, Building 12, Rm. 111
Melbourne, FL 32901

Contact: Jeff Bennett
Lang: FORTRAN 77
Opsys: VULCAN

Doc: MR
Maint: NO
10/04/82

Description:

This package yields the qualifiers using the most disc space, the number of sectors in use by each and the percentage of total user sectors in use by each. A number of useful statistics are also generated. Statistics produced include: Number of user qualifiers, files and sectors, average sectors per user file and per user qualifier, percentage of sectors used by top 1%, 2%, 5%, and 10% of users, and a file of numbers useful in charting a histogram of qualifiers vs. sectors used. The statistics are useful for estimating space needed for adding users. The list of users can be helpful when storage space used approaches the upper limit. For sites with Tektronix and PLOT 10 a program is provided to plot the histogram of qualifiers vs. sectors used.

HUE350: SPINT FORTRAN Interface

General Dynamics
P. O. Box 748, MZ 5982
Ft. Worth, TX 76101

Contact: Phillip White
Lang: Assembler
Opsys: VULCAN

Doc: MR
Maint: NO
08/02/82

Description:

The subroutine in this package provides a FORTRAN-callable interface to the Harris SPINT System Services.

HUE351: DISCDMP - DISC Dumper Routine

Dept. of Environmental Quality
P.O. Box 1760
Portland, OR 97207

Contact: Kurt Rader
Lang: Assembler
Opsys: VULCAN

Doc: MR
Maint: YES
02/24/83

Description:

DISCDMP provides octal, ASCII and truncated ASCII dumps of disc files. In addition, if the user has write access to the area, he may modify individual words by giving the old and new values in octal, decimal or as a 3-character string. In many cases, this makes it easier to use than the OPCOM MD command. For each sector dumped, the following information is listed: Area name, relative sector number, end-of-file message (if appropriate), pack number, absolute sector number and the sector itself in octal, ASCII and TASCII representation. The user may specify how much information to display.

HUE352: TITLE - Line Printer Title Page

Dept. of Environmental Quality
P.O. Box 1760
Portland, OR 97207

Contact: Kurt Rader
Lang: Assembler
Opsys: VULCAN

Doc: MR
Maint: YES
02/24/83

Description:

The TITLE system provides a method for identifying line printer output and handling special forms through standard alignment pages. Banner text is proportionally spaced and centered horizontally and vertically on each page. Although there is no limit on the number of banner pages, the title string is limited to 80 characters. Four programs make up the system. One is a core program that actually creates the banner and three interface routines. The job-control interface accepts parameters using standard VULCAN conventions. Interfaces are also provided for COBOL and FORTRAN programs. This enables programs to title their output without the need for a job-control macro as a shell. All characters in the truncated ASCII character set are enlarged, and illegal characters are converted to their TASCII equivalent. The user has control over banner length and width.

HUE353: GCS - Graphics Compatibility System (in 2-D)

Army Corps of Engineers-Alaska Dist.
P.O. Box 7002
Anchorage, AK 99502

Contact: J. M. Jones
Lang: FORTRAN 66
Opsys: VULCAN

Doc: YES
Maint: TP
07/29/83

Description:

This is the two-dimensional version of the Graphics Compatibility System (GCS). GCS is a collection of ANSI standard FORTRAN subroutines designed to be general-purpose and device-independent. The device drivers include Tektronix 4012/4014 and Calcomp compatible. For documentation contact:

Waterways Experiment Station
P.O. Box 631
Vicksburg, MS 39180
Attn: Mike George
(601) 634-3111

HUE354: LED - A Line Editor

University of Vermont
Academic Computing Center
Burlington, VT 05405

Contact: Geoffrey Rogers
Lang: Assembler/C
Opsys: VOS

Doc: MR
Maint: TP
03/29/83

Description:

LED is a line editor to edit text files of ASCII characters. This editor was designed to work mainly on devices defined as TTY under the VULCAN/VOS operating systems. The editor has the following features:

1) HELP command to display each editor command
2) Meaningful error massages
3) Column editing commands
4) ALTER command for character edits on one line
5) Definable register commands
6) Execute commands from a file
7) More than one command on a line
8) Complete reference manual.

HUE355: STATUS - A Project Status Reporting System

Harris Government Systems
P.O. Box 37
Melbourne, FL 32901

Contact: Bill Jennings
Lang: FORTRAN
Opsys: VOS

Doc: YES
Maint: TP
05/03/83

Description:

STATUS is a program which predicts the size, percentage complete, and the time and manpower required to complete a software development project given appropriate data describing the project. The program is self-calibrating in that it refines the projections based on performance during the term of the development. A secondary function of STATUS is to predict the amount of computer memory required to accommodate the software that is to be developed.

Restrictions:

The current version of STATUS allows a maximum of 40 computer software components of up to 99 software elements each. Software may be developed in 4, 5, 6, or 7 phases and targeted for up to 10 computers. A maximum of 10 overlay areas are permitted for memory projections.

HUE356: MONEY - A Financial Project Management Program

Harris Government Systems
P.O. Box 37
Melbourne, FL 32901

Contact: Bill Jennings
Lang: FORTRAN
Opsys: VOS

Doc: YES
Maint: TP
05/03/83

Description:

MONEY is a program which aids in the financial management of a development project. It has been tailored to provide additional data relative to software packages which use the STATUS tool. The program allows cost projections by the identification of effort projections for individual project numbers. Actual costs are accumulated under these charge numbers as they are incurred and are plotted against an estimate of the "earned value" to evaluate development performance. The costs and projections may be grouped by charge numbers in a variety of ways for tabular and graphical presentations. MONEY may be used alone, or in conjunction with STATUS, the software status report program. The current version of MONEY can handle up to 135 charge numbers, 50 people, job durations of 90 weeks, three salary changes per person during a job, and 15 graphed phases.

HUE357: FLX - Convert PDP-11 FLX Tape Format

Harris Computer Systems
10800 NE 8 Street, Suite 400
Bellevue, WA 98004

Contact: John Olson
Lang: FORTRAN 77
Opsys: VOS

Doc: MR
Maint: TP
05/03/83

Description:

FLX is a program that reads PDP-11 tapes written with the PDP-11 "FLX" utility and writes the output to VULCAN/VOS disc files.

HUE358: RIM-5

Harza Engineering Co.	**Contact:** Carl Gray	**Doc:** YES
150 S. Wacker Drive	**Lang:** FORTRAN 77	**Maint:** NO
Chicago, IL 60606	**Opsys:** VOS	05/03/83

Description:

The Relational Information Management System (RIM) was originally developed as a prototype database management system by Dennis L. Comfort and Wayne J. Erickson at the Boeing Company under NASA Contract NAS1-14700 (IPAD). Mr. Erickson at the University of Washington and Frederic P. Gray at the Boeing Company made enhancements to the system which culminated in RIM Version 4 (RIM-4). RIM-5 was developed by Mr. Erickson for NASA and by Mr. Gray and Geoffery Von Limbach for Boeing. RIM is based upon the relational algebra model for data management and has been used for both engineering and business data. The system is accessible as a standalone system and through an application program interface. The standalone system may be executed in two modes: menu or command. The menu mode prompts the user for the input required to create, update, and/or query the database. The command mode requires the direct input of RIM commands.

RIM is written almost entirely in FORTRAN 77 with a few routines written in Assembly Language. To the greatest extent possible, a subset of FORTRAN 77 is used which is compatible with FORTRAN 66. The program loads at 43K octal words of memory when running standalone on the H-800 with VULCAN. The memory requirements could be lowered quite easily, if necessary.

HUE359: MAIL - Electronic Mail

University of Wisconsin	CONTACT:David Wilson	**Doc:** MR
2149 MACC	**Lang:** Assembler/FORTRAN	**Maint:** YES
Madison, WI 53706	**Opsys:** VOS/VULCAN	10/23/85

Description:

This MAIL is based on MAIL (HUE190) from the University of Illinois. This MAIL can be used on CRT terminals, as well as TTY- type terminals. Users do NOT need the special access bits ACCTAC, QUALAC, and XRTACC to use MAIL. MAIL users' names must still be unique in the first 8 characters. MAIL handles up to 4,095 users, and allows a message to be sent to up to 400 people at one time. MAIL uses the Job Control editor ($ED) for TTY-type terminals, and TX for CRT terminals. The editor used can be easily changed. You are notified when someone reads a message you sent. After you enter a message, MAIL asks: Send, Edit, or Continue? MAIL uses the VOS/VULCAN message system for notifications. Users should enter MAIL when they see *** MESSAGE AVAILABLE ***. MAIL shows all VOS/VULCAN messages on entry. On TTY-type terminals, MAIL now uses basic mode I/O, rather than character-by-character I/O, to reduce costs.

HUE360: SCREEN FORMATTER

Oregon Institute of Technology
South Hall Systems Services
Klamath Falls, OR 97601

Contact: Dave Adolf
Lang: Assembler
Opsys: VOS

Doc: MR
Maint: NO
05/20/83

Description:

This is a revision of HUE135. The Screen Formatter Package is a system of several utilities and subroutines that provide the following capabilities:

1. Generation, modifying, testing, and other manipulation of CRT screen formats through the use of a utility, eliminating the need for a user program.
2. Displaying screen formats with variable user data using simple FORTRAN/COBOL calls.
3. Receiving (reading) data from screen formats using simple FORTRAN/COBOL calls.
4. Manipulating multiple screen formats within a single program.
5. Performing interactive terminal functions using calls. These include "Wait for Transmit", "Edit Read/Write", "Clear Screen/ Memory", and "Display Data Panel Lights".

Restrictions:

Written for use on a Beehive Terminal model 8675. Terminals must be on a DMACP.

HUE361: TIMESHARE PROTOCOL

U.S. Army Engineers,Jacksonville
P.O. Box 4970
Jacksonville, FL 32233

Contact: Don Phillips
Lang: FORTRAN 66/Assembler
Opsys: VULCAN

Doc: YES
Maint: TP
06/02/83

Description:

The TIMESHARE PROTOCOL allows a user to transfer ASCII files from one Harris Computer to another Harris Computer via a low- cost ABC-Network switch, linking a TTY/CRT terminal to two dialable Harris Timeshare Systems. A "SEND" program is used to transmit the ASCII file and a "RECV" program is used to receive the transmitted file. The two programs perform character compaction, transmission/retransmission, error checking, and a summary of the exercise is written to a *MSG:SMRY file. A third program, "MSGSLO", is included to allow the user to transfer files using system commands (EDIT/INSERT) on the receiving Harris and the MSGSLO program to send a data line with a delay loop from the transmitting Harris.

Restrictions:

These programs use the special I/O routines in the Harris TTY handler. Information on the ABC Network Switch is available from:

Data Network Systems
P.O. Box 805
Jacksonville, FL 32201

HUE362: IREGRESS - Non-Linear Regression Analysis

Harris Semiconductor	**Contact:** L. K. Gast	**Doc:**	YES
P.O. Box 883	**Lang:** FORTRAN 77	**Maint:**	NO
Melbourne, FL 32901	**Opsys:** VULCAN		06/09/83

Description:

IREGRESS is a multivariable non-linear regression analysis program, which minimizes the least squares distance between given Y-data points and computed Y values from the user-supplied function subroutine. This function calculates the value of the dependent variable Y, as a function of the vector of unknown parameters (B) and the matrix of independent variables (X). Thus, the unknown model parameters are solved for, as the best fit to the data supplied by the user.

This program is quite general in the sense that there are no real restrictions on the defined function. As simple a function as a straight line (Y=MX+B) may be used, or as complex a function as the MOSFET level 4 model.

This version of REGRESS allows a great deal of interactive communication between the user and the program.

HUE363: SEDAN - Semiconductor Device Analysis

Harris Semiconductor	**Contact:** L. K. Gast	**Doc:**	YES
P.O. Box 883	**Lang:** FORTRAN 77	**Maint:**	NO
Melbourne, FL 32901	**Opsys:** VULCAN		06/09/83

Description:

SEDAN (SEmiconductor Device ANalysis) performs the one-dimensional analysis of a semiconductor starting from the impurity profile (analytical, or output of "SUPREM", HUE227) and solves for the electrical properties of the device.

HUE364: SAMPLE - Simulation of IC Lithography & Etching

Harris Semiconductor	**Contact:** L. K. Gast	**Doc:** YES
P.O. Box 883	**Lang:** FORTRAN 77	**Maint:** NO
Melbourne, FL 32901	**Opsys:** VULCAN	06/09/83

Description:

SAMPLE (Simulation And Modeling of Profiles for Lithography and Etching) is a general process simulation of etching and lithography in integrated circuit fabrication. It was developed at the University of California at Berkeley.

HUE365: SUMMARY - User File Information Summary

Norwich City College	**Contact:** G. S. Wilson	**Doc:** MR
Ipswich Road	**Lang:** FORTRAN 77	**Maint:** NO
Norwich, England	**Opsys:** VULCAN	06/15/83

Description:

SUMMARY outputs userfile information in a condensed format. This format consists of an alphabetical list of filenames followed by their total size and the number of filenames listed. Currently, 240 filenames can be sorted at one time, although this number can easily be altered to suit user requirements. Output is directed to LFN 3 unless the number of files within the catalog exceeds 110 (one screen-full), in which case, remaining output will be made to LFN 6 and a display of LFN 6 9999 will be set-up via the back-store system service.

HUE366: LIST - File List and Search Program

LGM - Delft Soil Mechanics Lab	**Contact:** J. F. Vellekoop	**Doc:** MR
Postbox 69	**Lang:** Assembler	**Maint:** TP
Delft 2600 AB Netherlands	**Opsys:** VULCAN	07/04/83

Description:

LIST is an interactive program to list files with record lengths up to 135 characters. It includes the following command syntax: TX, column shift, continuous scan mode, and SCAN/FIND (all within line- and column- limits) and a HELP file.

HUE367: CONTROL - Print Line Containing Control Characters

Washington U. Biostatistics	**Contact:** Skip Russell	**Doc:** MR
P.O. Box 8067	**Lang:** FORTRAN/Assembler	**Maint:** NO
St. Louis, MO 63110	**Opsys:** VULCAN	06/29/83

Description:

CONTROL is a program designed to detect and print lines containing control characters. Since most control characters are non-printing, CONTROL is helpful in diagnosing unseen bugs in a program or macro.

HUE368: TAPE BLOCKING/UNBLOCKING

Washington U. Biostatistics	**Contact:** Skip Russell	**Doc:** MR
P.O. Box 8067	**Lang:** FORTRAN/Assembler	**Maint:** NO
St. Louis, MO 63110	**Opsys:** VULCAN	06/29/83

Description:

This is a set of three utilities to read blocked tapes to disc, write blocked tapes, and verify tapes of arbitrary record or block size. These utilities permit efficient utilization of tape, and simplify the transfer of files to and from non-Harris sites. The block and record sizes are obtained interactively.

HUE369: PRETTY - Cleans Up FORTRAN Programs

Chemical Dynamics	**Contact:** Michael Redmon	**Doc:** MR
1550 W. Henderson Road	**Lang:** FORTRAN	**Maint:** YES
Columbus, OH 43220	**Opsys:** VOS	05/25/83

Description:

PRETTY processes FORTRAN programs and prettyprints them. The resulting code has all statement numbers in ascending order with a uniform increment, DO-loops indented, FORMAT statements collected in one place, and Comment statements delimited for better visibility. Because PRETTY can delete unused statement numbers and FORMAT statements, it is extremely useful for cleaning up old code that has undergone numerous revisions.

HUE370: MACROS For Compiling, Linking, Etc.

Chemical Dynamics	**Contact:** Michael Redmon	**Doc:** MR
1550 W. Henderson Road	**Lang:** FORTRAN	**Maint:** YES
Columbus, OH 43220	**Opsys:** VOS	05/25/83

Description:

These MACROS are useful for compiling, linking, etc.

HUE371: SFTRAN3 - Language for Structured FORTRAN

Chemical Dynamics	**Contact:** Michael Herring	**Doc:** MR
1550 W. Henderson Road	**Lang:** FORTRAN	**Maint:** YES
Columbus, OH 43220	**Opsys:** VOS	05/25/83

Description:

SFTRAN3 is a language for structured programming that includes a preprocessor for translating SFTRAN3 into FORTRAN. Code designed and written using these facilities for nested control structures and modularization will have fewer initial errors and be easier to maintain and modify than standard FORTRAN. An INCLUDE facility is supported, allowing code to be inserted from an external file. SFTRAN3 was originally developed by C. L. Lawson and J. A. Flynn at the Jet Propulsion Laboratory.

HUE372: TURBO QED (A Modified Version of HUE168)

Hull University	**Contact:** R. A. Reese	**Doc:** YES
Cottingham Road	**Lang:** FORTRAN 66/Assembler	**Maint:** TP
Hull HU6 7RX England	**Opsys:** VULCAN	06/20/83

Description:

This version of QED was modified by John Hughes. The maximum line length has been increased to 135 characters, the W command was speeded up and now uses the TP workfile for updating, the R command has been speeded up, the program now works on CRT terminals, the action of TAB on TTY terminals has been improved and the maximum file size is up to 690 Kbytes as the buffer is allocated from DCM. As a protection against power failures or aborts, a log of commands is kept in a workfile.

HUE373: DE-DBM (Convert DBM (HUE292) To a Blocked Area)

Freie Universitat Berlin
3 MATH INST, Arnimallee 2-6
1000 Berlin 33 Germany

Contact: M. Blumenfeld
Lang: FORTRAN 66/Assembler
Opsys: VULCAN

Doc: MR
Maint: TP
06/01/83

Description:

DE-DBM converts a DBM Database to a blocked area which, when $ADDED in a DBM run, will regenerate the DBM Database. The purpose is to use less space on backup of Database and large edit operations on database records which cannot conveniently be made inside DBM.

HUE374: Utilities and Handy MACROS

Freie Universitat Berlin
3 MATH INST, Arnimallee 2-6
1000 Berlin 33 Germany

Contact: M. Blumenfeld
Lang: Assembler
Opsys: VULCAN

Doc: MR
Maint: TP
06/01/83

Description:

Several small utilities and macros:

ASD1 - Assign display file without showing or rewind
ASL1 - Assign list file without showing or rewind
ABORT - Do an ABORT 24 (Useful for macros and jobstreams)
CURSOR - Toggle cursor on Beehives
CUT - Remove first n columns from area
GETQUAL - Get default qualifier to JCL register
MESSG( ) - Write message to Beehive status line
OP - Remote control of operator screen
MESSWAIT - Wait for JCL message (e.g. from RJE).

Restrictions:

Some programs may depend on VULCAN 10 release. Some subroutines may have to be modified to individual site PDN'S.

HUE375: LISP Users Guide

Gustavus Adolphus College
Computer Center
St. Peter, MN 56082

Contact: Peter Worland
Lang: NA
OPSYS NA

Doc: YES
Maint: NA
09/01/83

Description:

Provides the user documentation for HUE188. MANUAL ONLY (NO PROGRAMS).

HUE376: PLOT 10 EASYGRAPHING I/O Routines

Harris Computer Systems
2101 W. Cypress Creek Road
Ft. Lauderdale, FL 33309

Contact: David Higgans
Lang: Assembler
Opsys: VOS

Doc: NO
Maint: NO
06/01/84

Description:

These are user-defined interface routines for the Tektronix PLOT 10 EASYGRAPHING" package. Documentation and programs are available from your local Tektronix office.

HUE377: BCD-Binary Compare Program

Rockwell International
2770 East Carson Street, MSWA08
Lakewood, CA 90712

Contact: Earle Soukup
Lang: FORTRAN
Opsys: VOS

Doc: MR
Maint: YES
09/28/83

Description:

The Binary Comparison Program (BCP) determines whether two binary files are equivalent. Data words which are not equivalent are written to a file (in hexadecimal or octal) or also sent to the line printer. The user determines the number of miscompared words allowed (before halting program execution). The binary files must be less than 65000 3-byte

Restrictions:

The binary files must be less than 65000 3-byte words.

HUE378: VOS Printronix Printer Handler

Harris GSSO	**Contact:** S. Thompson	**Doc:** YES
P.O. Box 37	**Lang:** Assembler	**Maint:** NO
Melbourne, FL 32902	**Opsys:** VOS	02/01/1984

Description:

This is the serial Printronix Handler (HUE224) modified for VOS 2.2 accounting and interfaces to V:EXEC.

HUE379: POLYNOM - Polynomial Manipulation with APL

Arkansas State U.	**Contact:** Robert F. Rossa	**Doc:** MR
P.O. Box 151	**Lang:** APL	**Maint:** TP
State University, AR 72467	**Opsys:** VULCAN	03/01/84

Description:

This APL workspace contains implementations of algorithms given in the paper "Polynomial Manipulation with APL", by B. Billard, Communications of the ACM 24 (1981) pp.457-465. A few simple functions have been added. Billard's code had to be altered somewhat. See Billard's paper for documentation.

HUE380: TRIANGLE - Pascal's Triangle [9 Printer-Sheets Wide]

Arkansas State U.	**Contact:** Robert F. Rossa	**Doc:** MR
P.O. Box 151	**Lang:** SNOBOL	**Maint:** NA
State University, AR 72467	**Opsys:** VULCAN	03/01/84

Description:

A Pascal's triangle, 9 printouts wide, to be printed, cut and pasted. The SNOBOL program that did the deed is included, but should not be run again.

HUE381: Function Key Program Generator

Harris Computer Systems
8300 Greensboro Drive, Mezzanine
McLean, VA 22102

Contact: Howard Page
Lang: FORTRAN 77
Opsys: VOS 2.5

Doc: MR
Maint: NO
11/07/83

Description:

This program allows the user to input data to be sent when a function key on the 8685 (8686) terminal is pressed. This information is put into an Assembler Language program for subsequent assembly and linking. This assembled program, when invoked, will program the function keys.

HUE382: VSPDMP- Dumps VISP Files To Work File

Gibbs & Cox, Inc.
119 W. 31 Street
New York, NY 10001

Contact: Richard Caliari
Lang: FORTRAN 77
Opsys: VOS 2.5

Doc: MR
Maint: NO
11/01/83

Description:

This program dumps VISP files into work file BW.

HUE383: FORTRAN 77 Analyzer

Singer-Link Simulation Systems
11800 Tech Road
Silver Springs, MD 20904

Contact: Howard Lessey
Lang: FORTRAN 77
Opsys: VULCAN

Doc: MR
Maint: NO
12/09/83

Description:

The root FORTRAN 77 Analyzer was developed by TRW for the National Bureau of Standards and is available from the National Technical Information Service. The FORTRAN 77 Analyzer is an automated data system composed of three computer programs: A preprocessor, an instrumented source program, and a post processor. The system evaluates the structure of a FORTRAN program both statically, based upon the source code and dynamically, during execution. The programs produce reports describing the findings of the static and dynamic analyses, based upon the types of analyses requested by the user. Reports include: call tree, statement-type, summary and frequency of statements executed. Singer's modifications added Harris extensions to FORTRAN 77, corrected errors, and improved ease of use on VOS.

HUE384: FLOMON - Flow Monitor For FORTRAN 77

Harris GMBH
Rennbahnstrasse 72-74
6000 Frankfurt 71, W. Germany

Contact: B. M. O'Conner
Lang: Assembler
Opsys: VOS

Doc: MR
Maint: TP
03/16/84

Description:

FLOMON replaces walkback and produces an indented listing of execution through your FORTRAN 77 program at subroutine level. When execution finishes, the user is treated to a list of the executed routines and the times taken in each. If the program exits, stops or aborts, a walkback is produced.

HUE385: RMQUAL- Eliminate All Files For Qualifier

McDonnell Douglas	**Contact:** Charles Oehler	**Doc:** MR
P.O. Box 516	**Lang:** Assembler	**Maint:** YES
St. Louis, MO 63166	**Opsys:** VOS	05/21/84

Description:

The program RMQUAL will eliminate all files under a specific qualifier. The user has access to map and is able to retype files to public delete. This program is very useful if files are to be moved to shared disc. All files under the qualifier must be removed before the RQE and DQE commands can be used to destine to a specific pack.

HUE386: LIBED - Eases Maintenance of Large Program Library

McDonnell Douglas	**Contact:** Charles Oehler	**Doc:** MR
P.O. Box 516	**Lang:** JCL	**Maint:** YES
St. Louis, MO 63166	**Opsys:** VOS	05/21/84

Description:

This macro is used to ease the maintenance of a large program library by compiling/assembling a module using FORTRAN 66, FORTRAN 77 or the assembler, and inserting it into a named Library. There are options to print the LO file, squeeze the Library, and overwrite the old routine in the Library. This macro will work on both VISTA and non-VISTA source files.

HUE387: FIXQDD - Changes Pack Number In a QDD Entry

McDonnell Douglas
P.O. Box 516
St. Louis, MO 63166

Contact: Charles Oehler
Lang: Assembler
Opsys: VOS

Doc: YES
Maint: TP
05/21/84

Description:

This system service will change the pack number in a QDD entry for a "Darest" call to match the pack specification on the system from which the files are being fetched. If the qualifier is a destined qualifier then the pack number is changed to the destined pack. Spool files are changed to the spool pack, check files are changed to the check pack, and all other files are changed to the user pack. The source changes are included to invoke this service from JCL on a fetch with a parameter of NP=0.

HUE388: FC - Generates Jobstreams To Compile and Link

Northrop Advanced Systems Div.
8900 East Washington Boulevard
Pico Rivera, CA 90660

Contact: Karl Forsstrom
Lang: Assembler-C
Opsys: VOS 2.5

Doc: MR
Maint: TP
05/31/84

Description:

The FC program provides a capability to automatically generate job streams which compile (or assemble) and link FORTRAN, C, and Assembly Language programs. The primary reason for development was not necessarily to relieve the programmer of having to leave job control, but rather to introduce a measure of procedural consistency into the lab. The FC macro accomplishes this consistency via the file-naming conventions which are encouraged by its use. To allow for this consistency, several concepts had to be introduced. These concepts are: a) Element name, b) Descriptor file and c) Load file.

HUE389: Software Documentation Guide

Rockwell International
2770 East Carson Street, MSWA08
Lakewood, CA 90712

Contact: Earle Soukup
Lang: NA
Opsys: NA

Doc: MR
Maint: YES
04/25/84

Description:

Software Documentation Guide for large projects.

HUE390: FORTRAN Program Analysis Utilities

International Engineering Co.
180 Howard Street
San Francisco, CA 94105

Contact: Price Stiffler
Lang: FORTRAN 77
Opsys: VOS

Doc: MR
Maint: NO
06/13/84

Description:

IOANAL locates and prints with line numbers all I/O statements and indicates in which subroutines they occur. STANAL locates all storage declaration and allocation statements. MDANAL analyzes a program's module structure by indicating for each routine the calling and called subroutines and functions.

HUE391: FIND - Improved Version of Harris FIND Program

Department of Labor
200 Constitution Ave, NW
Washington, DC 20210

Contact: Thomas Jasionowski
Lang: FORTRAN 77
Opsys: VOS 2.2

Doc: MR
Maint: TP
06/07/84

Description:

This program searches a file for one or more user specified phrases. New options now permit the user to specify which LFN to search. Output can go to the screen, LFN 6, or both. Many new search modes and output modes are supported. A HELP screen is included.

HUE392: ACE - Another Screen Editor

Harris Computer Systems
5 Old Concord Road
Burlington, MA 01803

Contact: Geoffrey Rogers
Lang: "HUE C
Opsys: VOS

Doc: MR
Maint: NO
07/02/84

Description:

ACE is a line-oriented full-screen editor. In editing a file, what you type is what you get. The only exceptions are control characters and <ESC> sequences. There are two command modes in ACE: One is the full screen mode and the second is Macro Command Level. Full screen mode is where all the editing of the file takes place. Macro Command Level is used to build, delete, display, and list macro strings, and to set different terminal and ACE parameters.

ACE Features:

1. Executes FIND and REPLACE commands in both forward and reverse directions on a string-by-string basis
2. Splits a line into two parts
3. Joins two lines together
4. Deletes word command
5. Deletes from here to end-of-line command
6. Inserts blank into line
7. Inserts and deletes lines
8. Deletes current character or previous character
9. Moves cursor with the arrow keys
10. Builds and executes strings of commands
11. Executes Macro Command Level commands from specified file
12. Moves lines around within the file
13. Gets lines from other files
14. Provides a HELP command.

ACE supports Harris 86xx and DEC VT100/VT52 terminals and their emulators.

Restrictions:

All terminals must be on a DMAC-16 or CNP.

HUE393: APROPOS - Searches Commands and Tools For String

Purdue University
Electrical Engineering Bldg.
West Lafayette, IN 47906

Contact: Jack Fenner
Lang: C
Opsys: VULCAN

Doc: MR
Maint: YES
08/01/84

Description:

APROPOS will search the HVOS*COMMANDS and HVOS*TOOLS for a given string. Any one-line descriptions which contain the string will be displayed. It is intended to help users determine whether a utility exists for a certain function. It can also help users remember the precise name or utility.

HUE394: FILES - List Files In User Account

Southern Oregon State College
1250 Siskiyou Boulevard
Ashland, OR 97520

Contact: Tim Kelley
Lang: MACRO,BASIC,FORT,Assemb
Opsys: VOS

Doc: MR
Maint: TP
04/11/84

Description:

This utility lists to the terminal the names and sizes of all files on the User's account with the exception of work files. Option W will list work files also. The display is in multiple-column format so that a much larger portion of a directory can be viewed on one screen. The map listing remains on LO (which is rewound) after the terminal listing is finished.

HUE395: HARDCOPY - Of BASIC Programs For Instructors

Southern Oregon State College
1250 Siskiyou Boulevard
Ashland, OR 97520

Contact: Tim Kelley
Lang: Assembler
Opsys: VOS

Doc: MR
Maint: TP
04/11/84

Description:

A utility for institutions teaching BASIC language-programming, which lists to the printer both the source language and the interactive input and output of a BASIC program for the instructor's review.

HUE396: Builds CATALOG of Programs and Descriptions

Southern Oregon State College
1250 Siskiyou Boulevard
Ashland, OR 97520

Contact: Tim Kelley
Lang: FORTRAN 77
Opsys: VOS

Doc: MR
Maint: TP
04/11/84

Description:

This program builds a catalog of publicly-available programs and their descriptions. Programs may be classified by department (SOSC department organization now incorporated) and titles, or titles and descriptions retrieved by department(s). Three auxiliary files are maintained by BUILD and read by CATALOG.

HUE397: FUZZY - Decision Making on Pair Comparisons

Southern Oregon State College
1250 Siskiyou Boulevard
Ashland, OR 97520

Contact: Tim Kelley
Lang: FORTRAN 77
Opsys: VOS

Doc: MR
Maint: TP
04/11/84

Description:

A program to facilitate "fuzzy decision making". It uses matrix reduction techniques to incorporate comparative ratings by pairs that may not be wholly consistent. Program is adaptable to group joint exercises as well as individual use.

HUE398: FORTRAN Routines - REGISTER, FILE, FORMAT

Southern Oregon State College
1250 Siskiyou Boulevard
Ashland, OR 97520

Contact: Tim Kelley
Lang: Assembler
Opsys: VOS

Doc: MR
Maint: TP
04/11/84

Description:

REGISTER subroutines are FORTRAN-callable routines to set and return the values in VOS machine registers for communication between programs. FILE HANDLING subroutines are FORTRAN-callable routines to emulate JCL file-handling commands (e.g. AR, AF, etc.). FORMAT SCANNER subroutines are FORTRAN-callable routines that permit use of the format scanner in reading input lines and extracting information from them.

HUE399: Local BLU Calls and Utilities

Southern Oregon State College
1250 Siskiyou Boulevard
Ashland, OR 97520

Contact: Tim Kelley
Lang: Assembler
Opsys: VOS

Doc: MR
Maint: TP
04/11/84

Description:

LOCAL BLU calls and utilities are a series of local BLU routines in use at SOSC, and some local system utilities. NOUSER manipulates or reports on the user's usernumber, can be called only from limited programs (USERSTAT is one), and is required to access certain accounting information. UNREAD can be used to terminate TTY I/O to enforce a timed read requirement. BASBIT checks on the setting of the basic bit in the device definition block (once required by PLOT10 subroutine calls from BASIC programs.) PDNCT returns a count of interactive devices on the system. A core of code allows for easy expansion of local BLU suboptions.

HUE400: SYSTUTIL - To Manipulate NOUSER Files

Southern Oregon State College
1250 Siskiyou Boulevard
Ashland, OR 97520

Contact: Tim Kelley
Lang: FORTRAN 77/Assembler
Opsys: VOS

Doc: MR
Maint: TP
04/11/84

Description:

SYSTUTIL is an SOSC utility that allows a qualified user to manipulate "NOUSER" files without establishing a usernumber and account for them. Uses local BLUs (HUE399).

HUE401: USERSTAT - How Much Time and Disc Space Remaining

Southern Oregon State College
1250 Siskiyou Boulevard
Ashland, OR 97520

Contact: Tim Kelley
Lang: FORTRAN 77/Assembler
Opsys: VOS

Doc: MR
Maint: TP
04/11/84

Description:

USERSTAT is an SOSC utility that advises the user how much time and disk space he/she has used and has remaining. We call this in the system sign-on macro, so the user is advised each time he/she signs on. Accesses V:USER but none of the accounting files. Requires local BLUs (HUE399).

HUE402: Full Screen Editor For 40 Different Terminals

U. Illinois, Psychology Dept.
603 East Daniel
Champaign, IL 61820

Contact: David McWilliams
Lang: Assembler/FORTRAN 66
Opsys: VOS 3.1

Doc: MR
Maint: TP
08/02/84

Description:

SED is a full screen editor that works with 40 different types of terminals. It is similar to "vi" on UNIX systems. It is based on QED, so it uses QED for "dumb" terminals.

Unlike TX, the editor allows you to scroll up or down in the file one line at a time. Since it uses VOS hot read mode, it has minimal impact on the system response.

There are over 60 functions available, such as: Delete n characters/ words/ lines, moving the cursor, saving text, and searching for text. A macro writing facility is available for sophisticated users.

Restrictions:

To implement the editor on a terminal, the terminal must have delete-line and insert-line capability. VT100 terminals are the only exceptions.

HUE403: Banner Page Modification

Harris Computer Systems
Suite 412, 5700 Crooks Road
Troy, MI 48098

Contact: Mike Cook
Lang: Assembler
Opsys: VOS

Doc: MR
Maint: NO
08/30/84

Description:

This program changes the standard VOS header banner page to print two title lines (within the asterisk border) to identify the site doing the printing.

HUE404: Memory Management FORTRAN Subroutines

U. Kansas, Dept. of Civil Eng.
Room 2008, Learned Hall
Lawrence, KS 66045

Contact: Robert Dodds
Lang: FORTRAN
Opsys: VOS

Doc: YES
Maint: YES
08/28/84

Description:

This is a library of FORTRAN subroutines to perform memory management functions commonly required in engineering software.

HUE405: KERMIT - Micro/Host Communications

University of Wisconsin
2149 MACC
Madison, WI 53706

Contact: David Wilson
Lang: Assembler/Pascal
Opsys: VOS

Doc: YES
Maint: TP
10/23/85

Description:

Kermit is a Micro/Host communications program which allows many popular Micros to be used as terminals and to permit file transfers between the Micro and host computer. It is widely used and runs on numerous hosts and Micros.

Restrictions:

This works for VOS version 5.1 and later. For VOS releases prior to 5.1 order HUE472.

HUE406: FLOWGO - Flowcharting System

McDonnell Douglas
P.O. Box 516
St. Louis, MO 63166

CONTACT:Stephen Morreale
Lang: FORTRAN
Opsys: VOS

Doc: MR
Maint: TP
01/10/85

Description:

FLOWGO produces a flowchart from a command file. This command file consists of block type commands and the associated comments and equations that go into each block. On and off page connectors are generated and maintained automatically. A page of output consists of three columns with as many blocks in each column as will fit on a page. Page numbers are also updated automatically. Output can be to a line printer or a plotter.

HUE407: XRAY - Detail Info of a Disc Area

Washington U. Biostatistics
Box 8067, 660 South Euclid
St. Louis, MO 63110

Contact: Skip Russell
Lang: Assembler/FORT 77
Opsys: VOS

Doc: MR
Maint: TP
06/14/85

Description:

Prints detailed information about a disc area. If the area is a a program: Page usage, addressing, and access information is printed. If the area is a blocked data area: Information about block sizes, wasted space, etc. is printed.

HUE408: Beehive ATL004 Utilities

NASA Johnson Space Center
NASA Road 1, MC DG5
Houston, TX 77058

Contact: Brad Claire
Lang: Assembler/FORT 77
Opsys: VOS 4.1

Doc: MR
Maint: TP
11/25/85

Description:

Support utilities for Beehive's ATL004 Terminals including: Hot I/O Subroutine Library, down load user keys, change terminal configuration via program, double high/double wide list file, make terminal wide, make terminal narrow, MUSE config file, source, and object.

Restrictions:

HUE409: MUSE CONFIG Files

NASA Johnson Space Center
NASA Road 1, MC DG5
Houston, TX 77058

Contact: Brad Claire
Lang: TRMDEF
Opsys: VOS 4.1

Doc: MR
Maint: YES
11/25/85

Description:

Configuration files for MUSE for the following terminals: 80-column ATL004 Beehive, 132-column ATL004 Beehive, VT100 configuration, QMS Laser 1200 printer, HP Laserjet as TTY.

HUE410: LISPMACS - LISP F3 Macros

Arkansas State U.
P.O. Box 151
State University, AR 72467

Contact: Robert Rossa
Lang: LISP
Opsys: VOS

Doc: MR
Maint: YES
12/16/85

Description:

This is an extension of HUE 188 (LISP F3). We provide an implementation of LISP macros, in a somewhat unsatisfactory way, in LISP F3. The nonstandard binding of FEX PRS is the major impediment. The goal is to implement the FOR, LOOP, and LET macros (which are provided) so that we can have some hope of transcribing the systems in the books "Artificial Intelligence Programming", by Charmiak, Riesbeck and McDermott, and "Inside Computer Understanding", by Schank and Riesbeck.

Some sample functions using the macro package are provided, including an heuristic best-first search for a solution of the 8-puzzle. We also provide a debugging tool we call INFECT. The call (INFECT FN) will create a new function which will produce a symbolic trace of the execution of FN.

HUE411: PINDEX-Program Indexer

Arkansas State U.
P.O. Box 151
State University, AR 72467

Contact: Robert Rossa
Lang: Assembler/FORT 77
Opsys: VOS

Doc: MR
Maint: YES
12/16/85

Description:

This is a program indexing system that permits users to obtain descriptions by title, to obtain a list of all programs indexed by a given keyword, to obtain a list of keywords, to obtain a list of all programs in the index, and to browse through the index. Maintenance commands for adding, deleting, and editing descriptions are built in.

Restrictions:

The only prerequisite is VISP.

HUE412: TXCC/TXIC Line Editing Macros

National Loss Control	**Contact:** Don Elliott	**Doc:** MR
Route 22 & Kemper Drive	**Lang:** MACRO	**Maint:** NO
Long Grove, IL 60049	**Opsys:** VOS 3.1	12/18/85

Description:

TXCC and TXIC are line-editing macros that behave similarly to CC and IC in TX.

HUE413: AE-FILE Advance and Edit a File Macro

National Loss Control	**Contact:** Don Elliott	**Doc:** MR
Route 22 & Kemper Drive	**Lang:** MACRO	**Maint:** NO
Long Grove, IL 60049	**Opsys:** VOS 3.1	12/18/85

Description:

AE-FILE Allows a user to edit and update a file by advancing to a record and then performing a series of line-editing actions. The action is repeated until end-of-file is reached.

HUE414: REG-ALL (Set Macro Registers)

National Loss Control	**Contact:** Don Elliott	**Doc:** MR
Route 22 & Kemper Drive	**Lang:** MACRO/FORT 77	**Maint:** NO
Long Grove, IL 60049	**Opsys:** VOS 3.1	12/18/85

Description:

REG-ALL is a program that sets register ALL to the various values typically needed in macros. The macro writer can get these values via $SR commands. The values returned are: User name, user number, date, time, system level, day of week, PDN, type of terminal, year, day of year, sign-on qualifier, and default qualifier.

HUE415: SC-FILES (String Change on Series of Files)

National Loss Control
Route 22 & Kemper Drive
Long Grove, IL 60049

Contact: Don Elliott
Lang: MACRO
Opsys: VOS 3.1

Doc: MR
Maint: NO
12/18/85

Description:

SC-FILES allows the user to do a series of the same string changes on a list of files.

HUE416: COL-PRT (Print Files With Long Records)

National Loss Control
Route 22 & Kemper Drive
Long Grove, IL 60049

Contact: Don Elliott
Lang: MACRO/FORT 77
Opsys: VOS 3.1

Doc: MR
Maint: NO
12/18/85

Description:

COL-PRT prints files with up to 1000 characters per record in 50-column or 100-column formats.

HUE417: COL - Displays Long Record Files

National Loss Control
Route 22 & Kemper Drive
Long Grove, IL 60049

Contact: Don Elliott
Lang: MACRO/FORT 77
Opsys: VOS 3.1

Doc: MR
Maint: NO
12/18/85

Description:

COL displays a long (1023 columns) record to the CRT.

HUE418: MACLEAN - Cleans Up Dirty Macros

National Loss Control
Route 22 & Kemper Drive
Long Grove, IL 60049

Contact: Don Elliott
Lang: MACRO/FORT 77
Opsys: VOS 3.1

Doc: MR
Maint: NO
12/18/85

Description:

MACLEAN indents and cleans up dirty macros and writes the results to another file. Labels go into column 1, operations to column 10, and tries to line up comments in column 30.

HUE419: ADD-CODE (Lists $ADD Code Files)

National Loss Control
Route 22 & Kemper Drive
Long Grove, IL 60049

Contact: Don Elliott
Lang: MACRO/FORT 77
Opsys: VOS 3.1

Doc: MR
Maint: NO
12/18/85

Description:

ADD-CODE generates a listing of ADD code files that are used in the indicated files. The output is: (1) Programs with no ADD code, (2) ADD code used with each program, and (3) Which programs use a given ADD code.

HUE420: MAPMAKER - Makes JS Files From MAP Output

National Loss Control
Route 22 & Kemper Drive
Long Grove, IL 60049

Contact: Don Elliott
Lang: MACRO/FORT 77
Opsys: VOS 3.1

Doc: MR
Maint: NO
12/18/85

Description:

MAPMAKER allows the user to make JS files from the output of MAP, KEEP, and VERIFY commands. It also allows the user to change either the account or qualifier in the resulting files. Special actions are taken for $RN, $EL, REPLACE, and $FE to generate different output, such as, $RT oldfile newfile. MAPMAKER can generate just a list of files which can be processed by other programs or macros.

HUE421: UED 200-Line University EDitor

University of Wisconsin
1210 West Dayton Street
Madison, WI 53706

Contact: Michael Wollen
Lang: C
Opsys: VOS

Doc: MR
Maint: YES
05/31/85

Description:

UED is a conversational screen and line editor. It recognizes over 25 different kinds of terminals. It minimizes use of CPU time, disc accesses and virtual address registers. The line editor handles the same commands as the QED editor and the "ed" editor from UNIX (AT&T Trademark). The screen editor handles characters, words, lines, scrolling, and tab stops. The full UED is sold, with source, by the Madison Academic Computing Center at the above address. This sample version is limited to 200-line files, and is included with MAIL (HUE 359). UED uses hot I/O..

HUE422: V:ITSP:V Interactive Spooler Handler Patch

Oregon Institute of Technology
South Hall, Systems Services
Klamath Falls, OR 97601

Contact: Rick Lengel
Lang: Assembler
Opsys: VOS

Doc: MR
Maint: NO
02/14/86

Description:

Patches for the Interactive Terminal Spooler Handler V:ITSP:V which gives it nearly the same intelligence as the standard line printer handlers. These patches give V:ITSP:V the ability to directly handle carriage control characters "1", "B" through "O" and ":" (for printer holds). It was intended for most NEC SpinWriters but should work for virtually any RS-232 serial printer configured on a TTY port. A nice enhancement to the handler which rids you of the burden of having to post-process spoolfiles just to get them to do carriage control.

Restrictions:

A good knowledge of VOS internals is recommended, as well as experience with using the Auto-Jobstream utility to compile NRH programs.

HUE423: DOWNTIME Tracking Package

Harris Government Systems
P.O. Box 37
Melbourne, FL 32902

Contact: Harvey Newstrom
Lang: FORTRAN 77
Opsys: VOS

Doc: MR
Maint: YES
03/24/86

Description:

This system automatically keeps track of all downtime, reboots, and reasons for the downtime. DTREPORT is an interactive program that prompts for a starting and ending date for the report. It then outputs to LFN 6 a report showing every period that the computer was down. Displayed are start of downtime, end of downtime, and the reason. At every reboot, DTSTART records a downtime record in DTLOG. The reboot time and reason are taken from the OPCOM log. The time the system went down is taken from DTTIME. This time is updated every 60 seconds by DTCLOCK. In addition to giving a downtime, report also calculates prime-time downtime. Prime time is assumed to be from 8-5, Monday- Friday. Special holidays or workdays can be entered.

HUE424: MAL - MAp Line

Harris Government Systems
P.O. Box 37
Melbourne, FL 32902

Contact: Harvey Newstrom
Lang: FORTRAN 77
Opsys: VOS

Doc: MR
Maint: YES
03/24/86

Description:

The MAL command is used to map disc areas. One line of output is produced for each file mapped. The output is to the screen and to list out. Parameters set the bounds, the exceptions to the bounds, and the data to be displayed. The order of the parameters define the order of output on the line, as well as the sort sequence.

HUE425: ARCHIVE Inactive Files

Harris Customer Support	**Contact:** Ricky McGee	**Doc:** MR
11262 Indian Trail	**Lang:** MACRO	**Maint:** TP
Dallas, TX 75229	**Opsys:** VOS	02/05/86

Description:

This package will ARCHIVE files that have not been accessed within a specified period. A special user number must be assigned, and ARCHIVE is recommended as the user name. The files may be kept to a user-restricted removable disc pack or to a tape. A two-sector dummy file is left on the system (owned by ARCHIVE) so it can be MAPped and a trail is left.

HUE426: HCALC SPREADSHEET

University of Illinois	**Contact:** John Boyd	**Doc:** NO
603 East Daniel	**Lang:** Assembler/FORTRAN77	**Maint:** NO
Champaign, IL 61820	**Opsys:** VULCAN	05/30/86

Description:

HCALC is a spreadsheet program. The usual worksheet features are offered: Loading and saving to disk, moving, copying, deleting and inserting worksheet cells, automatic recalculation after each cell entry, and printing a worksheet to a printer. Other features offered include: A built-in line editor entry of text across cells, protection of cell formulas from accidental erasure, and ability to sort records based on a single column.

HUE432: COLS-DUP and COLS-MVE

National Loss Control	**Contact:** Don Elliott	**Doc:** NO
Route 22 & Kemper Drive	**Lang:** FORTRAN77	**Maint:** NO
Long Grove, IL 60049	**Opsys:** VOS 4.1.1	09/02/86

Description:

COLS-DUP <file> <from> [-<to>] <after> is a program to allow the user to duplicate the columns <from> [-<to>] on each line of the file <file> and put them after the <after> column. COLS-MVE <file> <from> [-<to>] <after> is a macro to allow the user to move the columns <from> [-<to>] on each line of the file <file> and put them after the <after> column.

HUE433: ENCRYPT

Harris Government Systems Center
2400 Northeast Palm Bay Road
Melbourne, FL 32905

Contact: Jim Constable
Lang: FORTRAN77
Opsys: VOS 4.1.1

O NO
Maint: NO
04/01/86

Description:

Twin routines ENCRYPT and DECRYPT are for protecting blocked files from unauthorized users. The ENCRYPTION does not follow any standard, and should not be presupposed to be invisible. This is for your own personal use, not for classified data. The ENCRYPTION is based on a keyword (1-15 characters) entered by the user. The original access bits of the file are saved and the Encrypted file is retyped "Owner Only", so that it cannot be accidentally written to. The DECRYPT routine restores the original access bits. If the wrong keyword is entered in DECRYPT, an error message is sent to OPCOM source files. ENCRYPT and DECRYPT should not be made available to the public.

HUE434: HARRIS

LTV Aerospace and Defense
VMAP Division, M/S MSF-73
P.O. Box 65003
Dallas, TX 75265-0003

Contact: C. W. Gibke
Lang: FORTRAN77
Opsys: VOS 4.1.1/VAX/VMS 4.3

Doc: NO
Maint: NO
04/28/86

Description:

Portability

The HARRIS program is designed to solve a VAX-to-Harris source file probability problem. Once the HARRIS program is compiled and linked on the VAX, HARRIS KEEP/FETCH source files (VULCAN OSA format or VOS 2.2 format) may be read or written on magtape. The program may also be used on a Harris machine and contains many features that are useful for tape operations (such as: ADVANCE to the next header, VERIFY, and DUMP a record). Most of the commands are self-explanatory. The HARRIS program also contains a HELP command. The P.HARRIS source file contains information on getting it running on both the Harris and VAX machines.

HUE435: SLIDE

Arkansas State University
Box 151
State University, AR 72457

Contact: Robert F. Rossa
Lang: FORTRAN77/PASCAL
Opsys: VULCAN

Doc: NO
Maint: NO
12/04/86

Description:

SLIDE is a simple strategic game in which the user plays a program that uses the Minimax Algorithm with alpha-beta pruning to select it's next move. The program displays the move sequences it is considering, using the Hot I/O routines published in the November, 1984 HUE BULLETIN.

HUE436: MAP6MOS

U.S. Department of Labor
Room B-85, 909 First Avenue
Seattle, WA 98174

Contact: Dan Pierce
Lang: COBOL
Opsys: VOS 4.1.1

Doc: NO
Maint: NO
10/07/86

Description:

This program produces a listing of all user files (excluding accounts beginning with zero) that have not been accessed in six months or more. The output is sorted by owner and qualifier and lists the filename, generation date, last-accessed date, and (if the file is a MUSE file), the words "MUSE FILE".

HUE437: LOCATE

International Paper Co.
P.O. Box 160707
Mobile, AL 36616

Contact: Frank Stafford
Lang: Assembler/FORTRAN
Opsys: VOS

Doc: NO
Maint: NO
10/29/86

Description:

LOCATE is an interactive tool that can determine which executable programs contain specified subroutines, junctions, or commands. It does this by reading the Post-Mortem-Dump information that is normally included in executable programs. The job control $MAP command is used to produce a list of programs that are to be searched. The options for LOCATE are similar to the Sage Tool Find, but only a subset. LOCATE can search for a single name or for a set of names, and it can typically search through about three programs per second.

HUE439: ICALC - Interpretive Calculator

SIU Theoretical Chem. Computer Ctr.
Dept. of Chemistry & Biochemistry
Southern Illinois University
Carbondale, IL 62901

Contact: Robert Brenstein
Lang: FORTRAN77
Opsys: VOS

Doc: YES
Maint: NO
10/29/86

Description:

ICLAC is an enhanced and more versatile version of the CAL program (HUE220), revised for FORTRAN77. It provides users with extensive calculation capabilities, interactive at the terminal. ICALC supports standard arithmetic and trigonometric functions. It can perform evaluation in a number base between binary and hexadecimal, including mixed bases. More than one evaluation or command may be entered in each input line. ICALC offers two modes of operation: One of them functionally resembles a simple pocket calculator, while the other provides more sophisticated, extensive interactive features, like control commands or variables. Disc areas can also be used for input and/or output. The document file (provided in spoolable format) may be displayed by ICALC, as well. The standard HELP file is provided, too.

HUE440: KERMSRV - KERMIT SERVER

Washington University Biostatistics	**Contact:** Skip Russell	**Doc:** NO
Box 8067, 660 South Euclid Avenue	**Lang:** FORTRAN77	**Maint:** NO
St. Louis, MO 63110	**Opsys:** VOS 5.1	09/22/86

Description:

KERMSRV supplements HUE405. It permits error-free transfer of files to/from micros using the "server mode" of KERMIT. The KERMIT protocol maintains the integrity of data even over noisy phone lines. Selected "remote" commands such as "remote directory" and "logout" are implemented. KERMSRV does not use Hot I/O in order to accommodate systems configured with a MUX.

HUE441: IGL UIO and Utility Routines

MIT Haystack Observatory	**Contact:** Ching-Neu Lue	**Doc:** NO
Off Route 40	**Lang:** Assembler/FORTRAN77	**Maint:** NO
Westford, MA 01886	**Opsys:** VULCAN	05/15/86

Description:

The Interactive Graphics Library (IGL) is a host-independent library of graphic subroutines which is FORTRAN-callable and may be purchased from Tektronix, Inc. The software interface between the host computer and Tektronix terminals, as well as between the software and the files on the host computer, is provided by the Universal Input/Output (UIO) routines. In addition to the UIO routines, this package contains the MORTRAN precompiler and a variety of utilities which simplify the installation and maintenance of the IGL library on Harris computer systems.

HUE442: EO

National Loss Control	**Contact:** Don Elliott	/*(dO	NO
Route 22 & Kemper Drive	**Lang:** FORTRAN77	**Maint:**	NO
Long Grove, IL 60049	**Opsys:** VOS 4.1.1		09/02/86

Description:

EO N1 {-M1} [N2 {-M2} ...] is a macro that allows the user to eliminate SPOL (spool) files from the system using their numbers or a range of numbers.

HUE443: REP

National Loss Control	**Contact:** Don Elliott	**Doc:**	NO
Route 22 & Kemper Drive	**Lang:** FORTRAN77	**Maint:**	NO
Long Grove, IL 60049	**Opsys:** VOS 4.1.1		09/02/86

Description:

REP <seconds> <command> [:<command>] is a macro that allows the user to repeat the <command> or list of commands, pausing <seconds> between each time. Must be aborted to terminate.

HUE444: SUB-LIST

National Loss Control	**Contact:** Don Elliott	**Doc:**	NO
Route 22 & Kemper Drive	**Lang:** FORTRAN77	**Maint:**	NO
Long Grove, IL 60049	**Opsys:** VOS 4.1.1		09/02/86

Description:

SUB-LIST <file list> <output> is a macro/program that generates a list of COBOL subprograms from the list <file list>, or calls a given subprogram indirectly. The file <file list> is a list of the COBOL source programs.

HUE445: CHG-ALL

National Loss Control
Route 22 & Kemper Drive
Long Grove, IL 60049

Contact: Don Elliott
Lang: FORTRAN77
Opsys: VOS 4.1.1

Doc: NO
Maint: NO
09/02/86

Description:

CHG-ALL <file list> <changes> is a macro to change all the files in <file list> using the changes from the <changes> file. Each line in the <changes> file is a <from> <to> string separated by blanks. Uses the $SC editing command.

HUE446: FLOMON REVISION

International Paper Company
3101 International Drive, East
Mobile, AL 36606

Contact: Ron Hosford
Lang: Assembler
Opsys: VOS

Doc: NO
Maint: NO
03/18/87

Description:

This is a revised version of the Flow Monitor program written by Brendan M. O'Connor. This version allows the program to accommodate module names with character-length greater than 6 characters. It saves the K register on calls to F$WKBK (this is necessary for the initiation of real-time programs), and has an option for brief, summary-type output to LFN 6.

HUE447: VDUMP

McDonnell Douglas Corporation
P.O. Box 516
St. Louis, MO 63166

Contact: Charles E. Oehler
Lang: Assembler
Opsys: VOS

Doc: NO
Maint: YES
05/14/86

Description:

VDUMP outputs an octal disc image dump of a VISTA file to aid in the repair of damaged VISTA files. The internal format must be known by the user.

Restrictions:

Program supplied in OBJECT only; No HELP file supplied.

HUE448: VSMAP

McDonnell Douglas Corporation
P.O. Box 516
St. Louis, MO 63166

Contact: Charles E. Oehler
Lang: Assembler
Opsys: VOS

Doc: NO
Maint: YES
05/14/86

Description:

VSMAP returns an ordered listing of all the variants in the specified VISTA file. The variant names are listed in ascending order by columns. If a variant is not named, the number of the variant will be used instead, and it will be listed as "VARIANT NN" where NN is the SON number of the variant.

Restrictions:

Program supplied in OBJECT only; HELP file also included.

HUE449: TERMPLOT

Kuhlman Corporation
101 Kuhlman Boulevard
Versailles, KY 40383

Contact: Robert Murphy
Lang: Assembler
Opsys: VULCAN

Doc: NO
Maint: YES
06/22/87

Description:

The TERMPLOT program allows viewing of a Harris CAD plot file on a Tektronix 4014-compatible terminal. Allows ZOOMING via selection of two corners of a ZOOM window, and returns to the original base scale.

HUE450: BREAK

Kuhlman Corporation
101 Kuhlman Boulevard
Versailles, KY 40383

Contact: Robert Murphy
Lang: Assembler/FORTRAN77
Opsys: VULCAN

Doc: NO
Maint: YES
08/20/87

Description:

The BREAK program allows trapping of a terminal BREAK or an OPCOM AP; Written in Assembler and callable from FORTRAN. Upon pressing the BREAK, a jump will be executed.

HUE451: LTV MACROS

LTV Aerospace & Defense
VMAP Division, M/S MSF-73
P.O. Box 650003
Dallas, TX 75265-0003

Contact: C. W. Gibke
Lang: HARRIS JCL
Opsys: VOS 4.1.1

Doc: NO
Maint: YES
04/30/86

Description:

LTV MACROS is a group of four general-purpose JCL macros for use in VOS file manipulation. They are:

*AXE - eliminate all the files within a specified qualifier
*KILL - retype and delete a single file
*QCHG - renames the files on qualifier to another qualifier
*LISTR - list a file to a printer without the burst page.

A short description of usage is contained within each macro.

Restrictions:

User RT (ReType) access is required for the file-deletion macros.

HUE452: XYGRAF

University of S. Florida
SCA 464
Tampa, FL 33620

Contact: Art Matheny
Lang: BASIC
Opsys: VOS 5.1

Doc: YES
Maint: YES
12/04/86

Description:

Constructs pen plotter graphs where one quantity is plotted against another. XYGRAF generates graphics commands for a Hewlett-Packard 7475A Graphics Plotter (Harris Model Number 4615), but it should also work with any plotter that accepts the Hewlett-Packard Graphics Language (HP-GL) instruction set. Some features of XYGRAF are: Automatic scaling, text for titles and axis labelling, major and minor tick marks, multiple-data sets, different symbols for labelling data points, tracing of curves with various patterns, and ability to read data from specified columns of a table. A 13-page instruction manual is included.

HUE453: MAKESIGN

University of S. Florida	**Contact:** Art Matheny	**Doc:**	NO
SCA 464	**Lang:** FORTRAN77	**Maint:**	YES
Tampa, FL 33620	**Opsys:** VOS 5.1		12/03/86

Description:

MAKESIGN is a utility package which prompts the user for information in the construction of a sign. The user is asked to give size, color, justifications, and slant for every line, and is prompted for line spacing between lines. The program stores this information in a work- file and then writes it out to a file which is sent to the plotter. The file remains in the directory until it is eliminated or until MAKESIGN is run again.

MAKESIGN is designed to write out files in Hewlett-Packard Graphics Language, and it was written for an HP 7475A Graphics Plotter (Harris Model 4615); However, it should work for any plotter which accepts the Hewlett-Packard Graphics Language instruction set.

Restrictions:

Only for plotters utilizing Hewlett-Packard Graphics Language instruction set.

HUE455: AUXPRINT

U.S. Army Engineers	**Contact:** Susan Mitchell	**Doc:**	YES
P.O. Box 2288	**Lang:** FORTRAN77	**Maint:**	YES
Mobile, AL 36628-0001	**Opsys:** VOS		10/26/87

Description:

AUXPRINT allows users to print on a variety of auxiliary printers from a variety of terminals of PC's. It prompts the user to enter the terminal type, printer type, pitch, type of file, type of print, width of lines, and the file name. The program will automatically turn on the buffer print mode and make the appropriate settings for the selected printer before printing the document. This program has the capability to print files with or without carriage control. The program can be easily modified to add more terminal or printer types.

HUE456: SHOW3D

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53705

Contact: Clifford B. Gillman
Lang: FORTRAN77
Opsys: VULCAN

Doc: NO
Maint: YES
10/28/87

Description:

SHOW3D produces three-dimensional bar graphs or surface plots interactively based on user commands. Data values come from a disc file. Color graphs may be displayed on a Chromatics terminal. The program can be run from any terminal, or even from a control point, but a preview graph appears only if you are using a graphics terminal. Final output can be sent to a plotter, or photographed from the terminal screen.

Restrictions:

Requires HUE291.

HUE457: SLIDE

Waisman Center, U. Wisconsin
1500 North Highland Avenue
Madison, WI 53705

Contact: Clifford B. Gillman
Lang: FORTRAN77
Opsys: VOS

Doc: NO
Maint: YES
10/28/87

Description:

SLIDE facilitates the process of generating 35mm color slides or transparencies containing alphanumeric information. The display area of the Chromatics terminal just fills a slide; The positioning and text size on the screen show what the projected slide will look like. SLIDE is interactive. Final output can be sent to a plotter or photographed from the terminal screen.

Restrictions:

Requires HUE291 and TCS from Tektronix.

HUE458: FTP-SEND

National Loss Control	**Contact:** Don Elliott	**Doc:** NO
Route 22 & Kemper Drive	**Lang:** FORTRAN77	**Maint:** NO
Long Grove, IL 60049	**Opsys:** VOS	12/21/87

Description:

FTP-SEND is a macro that allows the user to easily send files across Ethernet using FTP to another machine. The user must specify the machine and a list of files to be sent. Logs-on to the other H-Series with the same sign-on as the current user by using the program *REG-ALL (HUE414).

FILES:

*FTP-SEND - macro
9682MJS*REG-ALL - JS file for REG-ALL

HUE459: GRANULE

National Loss Control	**Contact:** Don Elliott	**Doc:** NO
Route 22 & Kemper Drive	**Lang:** Assembler/FORTRAN77	**Maint:** NO
Long Grove, IL 6004	**Opsys:** VOS	12/21/87

Description:

GRANULE is a program that interactively allows the user to dump the SAM (Space Allocation Map), print a sorted profile, and determine if a file can fit on a disk. Uses a local non-resident handler (V:BL37:V) that is generated by 9682MJS*BL37. File 9682MJS*GRANULE generates the program *GRANULE. Parts of this program and the idea came from the Harris Analysts in Chicago, where it was written in C.

FILES:

9682MJS*GRANULE - program Source JS
9682MJS*BL37 - non-resident handler JS

Restrictions:

Needs system service $DISK that is in the handler V:BL37:V, which is provided.

HUE460: RIJ - Control-Point Jobs Across Ethernet

National Loss Control	**Contact:** Don Elliott	**Doc:** NO
Route 22 & Kemper Drive	**Lang:** Assembler	**Maint:** NO
Long Grove, IL 60049	**Opsys:** VOS	12/21/87

Description:

RIJ allows a user to start control-point jobs across Ethernet. The user must specify the name of the machine and the name of the control-point to be started. RIJSERVE is a real-time program on the target machine that does the IJ on the file name. E:ADDR is an assembler routine that translates the machine name to a DINEADDR.

FILES:

9682MJS*RIJ - interactive program JS
9682MJS*RIJSERVE - real-time program JS
9682ASMS*E:ADDR - subroutine to translate name to address.

HUE461: DISPATCH - Scheduler for Control-Point Jobs

National Loss Control	/*(cO Jack Tieman	**Doc:** NO
Route 22 & Kemper Drive	**Lang:** FORTRAN77	**Maint:** NO
Long Grove, IL 60049	**Opsys:** VOS	12/21/87

Description:

DISPATCH is a real-time program that uses the SCHEDULE file to determine when to submit control-point jobs. It also determines the next time it should be initiated. Control-point jobs can be submitted on a weekly/daily, monthly, quarterly, semi-annual, or annual basis. One line in the SCHEDULE file indicates the frequency of submission, the name of the control-point job, the time of day when files are submitted, and the day/month of submission. Included are:

*SCHEDULE - sample,
*DISPATCH - real-time program, and
9682MJS*DISPATCH - JS file to compile and link *DISPATCH.

HUE462: FIX-DB - Interactive Program for Unblocked Files

National Loss Control
Route 22 & Kemper Drive
Long Grove, IL 60049

Contact: Don Elliott
Lang: FORTRAN77
Opsys: VOS

Doc: NO
Maint: NO
12/21/87

Description:

FIX-DB is an interactive program that allows the user to display, modify, and print a sector at a time from an unblocked file. The commands are 1-character with a HELP system embedded in the program. The sector is displayed in octal and ASCII.

Includes the file:

9682MJS*FIX-DB - JS file to create *FIX-DB.

HUE463: ESC - Symbolic-Write to Terminals Using Hot I/O

National Loss Control
Route 22 & Kemper Drive
Long Grove, IL 60049

Contact: Don Elliott
Lang: Assembler/FORTRAN77
Opsys: VOS

Doc: NO
Maint: NO
12/21/87

Description:

ESC is an interactive program that allows the user to symbolically write ASCII control characters to the terminal using the Hot I/O mode. Useful for determining which sequences are needed to make the terminal behave.

Includes the file:

9682MJS*ESC - JS file to create *ESC.

HUE464: PSHOW - Program to View Printable File

National Loss Control	**Contact:** Joe Serocki	**Doc:** NO
Route 22 & Kemper Drive	**Lang:** FORTRAN77	**Maint:** NO
Long Grove, IL 60049	**Opsys:** VOS	12/21/87

Description:

PSHOW is an interactive program that allows the user to view a printable file using 23 rows by 80 columns. Uses 1-character commands, with a built-in HELP. The file is displayed as it would be printed. Useful to be able to see files during debugging without having to print them out.

Includes the files:

9682MJS*PSHOW - JS file to create PSHOW
*PSHOW - macro.

HUE465: PFILE

National Loss Control	**Contact:** Joe Serocki	**Doc:** NO
Route 22 & Kemper Drive	**Lang:** FORTRAN77	**Maint:** NO
Long Grove, IL 60049	**Opsys:** VOS	12/21/87

Description:

PFILE is an interactive program that allows the user to view 23 rows * 80 columns of symbolic files containing records up to 1023 characters long. The commands are 1-character, with a built-in HELP command. Useful to view long record files.

HUE466: MAKE

International Paper ED&C
P.O. Box 160707
Mobile, AL 36616

Contact: Richard Williams
Lang: FORTRAN77
Opsys: VOS

Doc: YES
Maint: YES
02/08/88

Description:

MAKE is a program that automates the compile/link portion of the development cycle using a predefined list of modules and dependencies. MAKE determines and executes only those commands necessary for rebuilding the software system. For example, if a programmer edits an ADD file that is used by two out of seven source files, then only those two source files will be recompiled by MAKE. MAKE will also check the last write-dates of modules and compile only those that are newer than the resultant program.

Also includes updated SCAN (HUE312) and a library of general-purpose subroutines.

HUE467: FPR - File Print Command

Southern Illinois U.
Theoretical Chem. Comp. Lab
Carbondale, IL 62901-4409

Contact: Robert J. Brenstein
Lang: Assembler/FORTRAN77
Opsys: VULCAN

Doc: NO
Maint: YES
2/13/88

Description:

The FPR command spools a disc file to a line printer. It is an alternative to HUE322 for sites using only a single line printer. The input file may have (or may not have) carriage-control characters. Options are provided to ignore (or to partially or fully expand) present CC characters. Printing can be done either in continuous or page mode. Three levels of page headers are supported. Line count can optionally be added to the output. Lines too long for the printer can be printed as multiple lines. Positions of unprintable characters can be shown as well. Line range can be specified, if only a part of the file is to be printed. Options also allow the user to append several files into a single output file. By default, this command generates its own banner page, which prints much faster than the standard one. "No banner page" or "system banner page" can be selected as well. Extensive comments are provided for easy installation and tailoring for local needs.

HUE468: RUNOFF - Document Formatting System

Southern Illinois U.
Theoretical Chem. Comp. Lab
Carbondale, Il 62901-4409

Contact: Robert J. Brenstein
Lang: Assembler/FORTRAN77
Opsys: VULCAN

Doc: NO
Maint: NO
02/13/88

Description:

The RUNOFF program offers simple yet effective text formatting capabilities, particularly useful when preparing program documentation. This submission is actually a FORTRAN77 version of HUE023 with just a few minor changes. It allows the user to choose: 1, Q, or nothing for page eject control.

HUE469: ONGEN - SYSGEN Maintenance Macro

Southern Illinois U.
Theoretical Chem. Comp. Lab
Carbondale, IL 62901-4409

Contact: Robert J. Brenstein
Lang: JCL
Opsys: VULCAN

Doc: NO
Maint: YES
02/13/88

Description:

This is a macro which automates maintenance of the system configuration file (SYSGEN). It keeps three levels of configuration files: Historical (last major upgrade), present, and next. It offers three modes of operation: Upgrade, fixup, and verify. Also included is a sample of the actual configuration file (as it is at present at our site.) This sample offers a different example from the fragments supplied with VOS, although it is specifically designed for our site.

HUE470: TOHUE - HUE Library Submission Utility

Southern Illinois U.
Theoretical Chem. Comp. Lab
Carbondale, IL 62901-4409

Contact: Robert J. Brenstein
Lang: JCL
Opsys: VULCAN

Doc: NO
Maint: VULCAN
02/13/88

Description:

This macro automates and unifies preparing submission tape with programs for the HUE Library. It generates a submission list file as well as a READ-ME file for each submission. All tape files are owned by HUE and come from the 9999 account, as required by the HUE Library. Extensive information is provided with the submission.

HUE471: G82 - Gaussian82 Control Macro

Southern Illinois U.
Theoretical Chem. Comp. Lab
Carbondale, IL 62901-4409

Contact: Robert J. Brenstein
Lang: Assembler/FORTRAN77
Opsys: VULCAN

Doc: NO
Maint: YES
02/13/88

Description:

The G82 macro and related programs replace the original G82 macro (provided for control of execution of the Gaussian82 package). This new macro offers several additional utility functions. It can be used instead of $IJ to submit job decks for execution and can actually create and verify job decks. It also provides convenient mapping and cleaning functions. It includes an extensive HELP file (not included with the original program).

HUE472: KERMIT - PASCAL Version

U. Wisconsin	**Contact:** David Wilson	**Doc:** YES
2149 MACC	**Lang:** Assembler/Pascal	**Maint:** TP
Madison, WI 53706	**Opsys:** VOS	10/23/85

Description:

Kermit is a Micro/Host communications program which allows many popular Micros to be used as terminals and to permit file transfers between the Micro and host computer. It is widely used and runs on numerous hosts and Micros.

Restrictions:

This works for VOS version 4.1 and earlier. For VOS releases later than 4.1 order HUE405.

HUE473: DUNGEON - Adventure Game

Harris Corporation-CSD	**Contact:** Tom Lewis	**Doc:** NO
#119, 1400 Fashion Island Blvd.	**Lang:** FORTRAN77	**Maint:** NO
San Mateo, CA 94404	**Opsys:** VOS	02/23/88

Description:

DUNGEON has the ability to support "any" asynchronous terminal. (It has been tested on the H8665, H8691, and H8685 terminals, but any terminal Harris supports would work as long as the #TER register is set.)

DUNGEON is designed after the UNIX game, ROGUE. DUNGEON is a full-screen, Hot I/O adventure game. The player must fight monsters and find gold along the way through the dungeon in search of the Amulet of Gondor. With the Amulet, the player can escape through the 30th level and win. To aid in his quest, he may find magic scrolls, potions, rings, and staffs, as well as weapons, armor, and food.

DUNGEON includes the files:

GAME*DUNGEON - executable file, and
GAME*M DUNGEN - monitor common area containing the top ten scores.

Harris Users' Exchange
Software Library
UNIX Programs

Note: Programs written in C may be useful on VOS systems.

UNX001: VMS FORTRAN Conversion Tools

MASSCOMP Users' Society	**Contact:** MASSCOMP	**Doc:** MR
One Technology Park	**Lang:** C, FORTRAN	**Maint:** NO
Westford, MA 01886	**Opsys:** UNIX (MCX)	Summer/Fall 1985

These tool help convert a DEC VAX/VMS FORTRAN program to the MCX's f77 FORTRAN compiler. In some cases, these tools may be useful in converting to other variants of FORTRAN 77.

UNX002: Di

MASSCOMP Users' Society	**Contact:** MASSCOMP	**Doc:** MR
One Technology Park	**Lang:** C	**Maint:** NO
Westford, MA 01886	**Opsys:** UNIX (MCX)	Summer/Fall 1985

Di is an interactive visual data editor/reviewer for short-format numerical data. It uses many of the command conventions of the Berkeley UNIX ASCII editor, vi. Other specialized commands and mnemonic (**s** for save, **d** for difference, etc.) As yet, it is limited to one-channel short-format data. It performs many functions including:

- Displaying data.
- Reporting values and differences between individual data points picked out using a cursor.
- Writing data excerpts to external files.
- Saving screen images for later replay or printing.
- Data smoothing.
- Finding maxima and minima.

Restrictions:

Di is written for the Masscomp 2-plane black and white graphics terminal (832x600 screen), but adapts itself to displaying data within the current screen window given that it exceeds 200x200 pixels in size.

UNX003: Expand

MASSCOMP Users' Society	**Contact:** MASSCOMP	**Doc:** MR
One Technology Park	**Lang:** C	**Maint:** NO
Westford, MA 01886	**Opsys:** UNIX (MCX)	Summer/Fall 1985

The **expand** Macro Preprocessor is a line-oriented macro-expansion designed to facilitate assembly language programming with a minimum of effort. It is written specifically for the UNIX as assembler, though it can be used with any source files with a similar input format. **expand** allows the programmer to define and invoke macros, complete with arguments. Note that macros are essentially only glorified text substitution; however, they can alleviate the drudgery of typical programming to a great degree if used properly and ingeniously.

UNX004: Compress, Uncompress, Zmore

MASSCOMP Users' Society	**Contact:** MASSCOMP	**Doc:** MR
One Technology Park	**Lang:** C	**Maint:** NO
Westford, MA 01886	**Opsys:** UNIX (MCX)	Summer/Fall 1985

Compress, uncompress, and zmore are utilities that allow users to compress, uncompress, and display compressed files.

Compress compacts the specified files or stdin if no files are supplied. Each file is replaced by a files with the extension **.Z** but only if the file got smaller. If no files are specified, the compression is applied to the standard input and is written to standard output regardless of the results. Compressed files can be restored to their original form using uncompress.

Zmore is a filter which allows examination of compressed text files on a screenful at a time on a soft-copy terminal and is patterned after the UNIX more utility.

UNX005: XLISP

MASSCOMP Users' Society	**Contact:** MASSCOMP	**Doc:** MR
One Technology Park	**Lang:** C	**Maint:** NO
Westford, MA 01886	**Opsys:** UNIX (MCX)	Summer/Fall 1985

XLISP is an experimental programming language combining some of the features of LISP with an object oriented extension capability. It was implemented to allow experimentation with object oriented programming on small computers. There are current implementations running on MCX systems, DEC's PDP-11 under RSX-11, RT-11 and UNIX V7, on VAX-11 under VAX/VMS and Berkeley VAX/UNIX, the Apple Macintosh and on the Z-80 running CP/M-80. It is completely written in the C programming language and is easily extended with user written builtin functions and classes.

UNX006: KIC

MASSCOMP Users' Society	**Contact:** MASSCOMP	**Doc:** MR
One Technology Park	**Lang:** C	**Maint:** NO
Westford, MA 01886	**Opsys:** UNIX (MCX)	Summer/Fall 1985

Developed by the University of California, Berkeley, KIC is an interactive color graphics program that aids in mask level design of integrated circuits. KIC's color graphics editor is designed to work with any IC technology and has symbolic layout and split-screen capabilities to provide a high-performance design tool for layout engineers.

UNX007: KERMIT

Harris Computer Systems Div.
P.O. Box 8100
Melbourne, FL 32901

Contact: Alex Stover
Lang: C
Opsys: UNIX

Doc: YES
Maint: TP
11/02/87

Description:

Kermit is a Micro/Host communications program which allows many popular Micros to be used as terminals and to permit file transfers between the Micro and host computer. It is widely used and runs on numerous hosts and Micros.

Restrictions:

This works on the HCX.

Additional UNIX programs have been submitted to the HUE Software Library. These programs, however, were not available when the catalog went to press. An addendum to this catalog will be forthcoming.

Harris Users' Exchange
Software Library
Index

Harris Users' Exchange
Software Library
Forms

HARRIS USERS' EXCHANGE
Program Library Submittal Form

Program Title: _____ **Author:** _____

Site Name: _____

Contact: _____ **Date** _____

Address: _____ **Revision:** _____

_____ **Phone:** _____

Abstract: _____

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_____

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Keywords for Index: _____

_____

_____

Hardware System: _____

Host Language:	☐ Assembler	☐ FORTRAN 77	☐ C	☐ COBOL	☐ Other _____
Program Type:	☐ Program	☐ Subroutine	☐ Macro		☐ Multi-Programs System
Program Developed On:	☐ VULCAN	☐ VOS	☐ VUE	☐ UNIX	☐ Other _____
Release Level	_____				

Special Program Limitations or Restrictions: _____

_____

_____

Program Supported by Site? ☐ On Continuous Basis ☐ When Schedule Permits ☐ Not Supported

Documentation Provided:

	Machine Readable	Paper		Machine Readable	Paper
User Documentation	☐	☐	**Test Data & Results**	☐	☐
Commented Listing	☐	☐	**Algorithms**	☐	☐
Technical Documentation	☐	☐	**Flowchart**	☐	☐
Files with Descriptions	☐	☐	**Other** _____	☐	☐

I give full permission to HUE to reproduce and distribute this program to all interested parties in accordance with standard HUE library procedures.

Signed _____ **Date** _____

HARRIS USERS' EXCHANGE
Program Library Supplement Form

Program Number: _____ **Program Name:** _____

Site Name: _____

Contact: _____ **Date** _____

Address: _____ **Revision:** _____

_____ **Phone:** _____

Supplement Includes: _____

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Hardware System: _____

Host Language:	☐ Assembler	☐ FORTRAN 77	☐ C	☐ COBOL	☐ Other _____
Program Type:	☐ Program	☐ Subroutine	☐ Macro		☐ Multi-Programs System
Program Developed On:	☐ VULCAN	☐ VOS	☐ VUE	☐ UNIX	☐ Other _____
Release Level	_____				

Special Program Limitations or Restrictions: _____

_____

_____

Program Supported by Site? ☐ On Continuous Basis ☐ When Schedule Permits ☐ Not Supported

Documentation Provided:

	Machine Readable	Paper		Machine Readable	Paper
User Documentation	☐	☐	**Test Data & Results**	☐	☐
Commented Listing	☐	☐	**Algorithms**	☐	☐
Technical Documentation	☐	☐	**Flowchart**	☐	☐
Files with Descriptions	☐	☐	**Other** _____	☐	☐

I give full permission to HUE to reproduce and distribute this program to all interested parties in accordance with standard HUE library procedures.

Signed _____ **Date** _____

HARRIS USERS' EXCHANGE
Program Library Request Form

Date _____

	Program Number	Program Title
1	_____	_____
2	_____	_____
3	_____	_____
4	_____	_____
5	_____	_____

Note: Programs can be requested only by the HUE Representative of a Member Installation.

You may be asked to collaborate with other sites to help others bring these packages up and to improve the Library offerings you have requested.

Site Name: _____

Address: _____

_____

_____

Attention: _____ Phone: _____

Media Format:

Programs are distributed only on magnetic tape for H-Series and HCX applications and on floppy disk for MCX applications. Please enclose the appropriate type of media or make special arrangements with the HUE office at Harris.

H-Series

_____ 800 BPI _____ 1600 BPI

_____ VOS Keep/Fetch _____ VULCAN Keep/Fetch _____ DMS Format

UNIX (cpio format)

_____ 1600 BPI - HCX _____ 96 TPI Floppy - MCX

No responsibility is assumed by Harris Computer Systems, the author, contributor or his employer for any errors, mistakes, or misrepresentations that may occur when using these programs. These programs may or may not be supported or maintained at the discretion of the contributor.

Harris Users' Exchange
Harris Computer Systems Division
2101 West Cypress Creek Road
Fort Lauderdale, Florida 33309

HARRIS USERS' EXCHANGE
Program Library Reaction Form

1. HUE Program Name and Number: _____ _____

2. Is the program in use at your site? ☐ Yes ☐ No
   If yes, how long has it been in use? _____
   Please note operating system and release: _____

3. Who installed or tried to install the program?
   Name: _____
   Title: _____
   Phone: _____
   Estimated man-hours spent installing this program: _____

4. Describe any modifications that had to be made to bring the program up.

5. Describe any special problems in bringing the program up or in using it.

6. What could have been included to make the program easier to use?

7. Have you developed any documentation for this program at your site?
   ☐ Yes ☐ No

   If yes, would you be willing to share it with other users through HUE?
   ☐ Yes ☐ No

8. Rate the following aspects of the software by checking the appropriate box:

	Excellent	Good	Fair	Poor	No Reaction, or Not Applicable
Ease of Installation					
Documentation					
Usability/User-Friendliness					
Maintainablity					
Efficiency					
Accuracy					
Recovery from invalid inputs (robustness)					

9. Suggest some improvements that could me made to this program. Use additional pages if necessary.

HARRIS USERS' EXCHANGE
Program Library Error Report

Program Error ☐ **Catalog Error** ☐

Program Name: _____ **Program Number:** _____

Description of Error: _____

_____

_____

_____

_____

_____

Site Name: _____

Address: _____ _____

_____ _____

Contact: _____ **Phone:** _____

.....

Program Error ☐ **Catalog Error** ☐

Program Name: _____ **Program Number:** _____

Description of Error: _____

_____

_____

_____

_____

_____

Site Name: _____

Address: _____ _____

_____ _____

Contact: _____ **Phone:** _____

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