# FAST-FAX



January 15, 1970

PROFILE SHEETS A MUST As you know, Customer Profile sheets are required before Sales Reps commissions are paid. The correct person to send them to is

Mr. H.A. Santucci, Mgr-Customer Accounting, Information Service Dept., General Electric Co., 4815 Rugby Avenue, Bethesda, Maryland 20014.

INCOME TAX Bill Noble, Target Markets — PROGRAM Accounting: TAX1969, a MK II BASIC program for individual

federal income tax returns is now available through Fast-Fax. It handles computations for the individual 1040 form along with Schedule A (itemized deductions). The program selects the most advantageous method of declaring deductions — either itemizing or use a standard deduction. It runs in either conversational or file mode.

Instructions for running TAX1969 are available from Fast-Fax. No additional documentation is required. Program requires minimal field support. Schedule G. Income Averaging is being written. TAX1969 may prove useful to current customers, including some small accounting firms, banks or other companies handling individual tax return preparation. Some customers may want to use this as a fringe benefit for their employees in computing or checking their tax returns. This program does not represent a complete tax package. All supporting data, including additional schedules, must be prepared prior to running.

AFTER 5:30 EST USE TTY When contacting Fast-Fax after 5:30 P.M. EST, would you please send your messages over the teletype. Fast-Fax teletype numbers

are 8\*273-4449 and 8\*273-4524. Please give us your name and teletype number in addition to your DIAL COMM telephone number, so that we can provide you with an early reply.

MORE PCA PROGRAMS? Larry Vifquain, San Francisco: A Portland Cement Association rep said there are other programs

than those recently made available. Will they be made available? Bowman Irani, Applications, indicated that in early April programs for shear wall frame interaction, floor systems support, and staggered wall beam analysis will be available.

PETRO/ CHEM ON RISKY\* Now you can access through RISKY\* 12 petro/chemical timesharing programs, for your chemical engineering customers. Most

of them were developed by R.V. Jelinck, Syracuse University. All are listed in a catalog, PETCH\*. Documentation for the programs is available from Fast-Fax.

CONVEYOR BELT PROGRAMS

George Chipman, Pittsburgh, sent three conveyor belt programs design of scraper conveyors, horsepower requirements, and a

curved conveyor that begins level. These were in response to a FAST-FAX Want-Ad from Australia and are now available through RISKY\* program catalog. All are self-documentating.

SERCH\$ AVAILABLE SERCH\$, a new off-line library program, is for information retrieval on the Mark II System.

Documentation is available from Fast-Fax. Call your Computer Center for the program.

APACHE COMETH APACHE, a total time-sharing service package for chemical engineers is coming. Field sales

people are already receiving APACHE aids. APACHE will bring in heap big whampam. Watch for new smoke signals of promotional aids, presentations, prospect lists... all before new moon in March. APACHE heap big help in happy hunting grounds. Call chief Tal Briddell, 8\*273-4661, if you sense problems.

750 (1-70)

For Fast-Fax call:

Brian Berger Vic Henschel 8\*273-4345 8\*273-4525

8\*273-4421 8\*273-4578



MMIS BIG WITH BANKS Money Market Information Service is a new library offering from Citibank. It provides, daily, full opening market report

(or any part) on Short Term Investments, Government Securities, Municipal Bonds, and Foreign Exchange. Also gives a closing summary and weekly Economic Comment. John Canning, Banking & Finance, says that MMIS will be of considerable interest to new as well as current Citibank program users. See Sales Bulletin No. 118 for more programs and information.

CHECK PAGES 4 AND 5 FOR SIGN-UP AND ACCESSING PROCEDURE OF THE CITIBANK LIBRARY.

MORE CØGØ\$\$ IMPROVE-MENTS Three new features are available in the January 1970 version of CØGØ\$\$\*\*\*, Coordinate Geometry. Bob Nelson, Eng. Appl., says these are:

- A new command, SCRATC (short name SCR) which scratches a file designated by the user,
- (2) The INB, INA, and DIS commands now permit multiple inputs and provide multiple outputs, and
- (3) The program now checks for a line feed (LF) and X-ØFF in either order following each command if data is being entered by paper tape.

IMPROVEMENTS

II to explain improvements to
EXPLAINED

and the more efficient use of
GIRDR\$\*\*\*, Continuous Girder

Analysis. The explanation is list only.

CØGØEXP\*\*\* for Mark II explains improvements in CØGØ\$\$\*\*\*, Coordinate Geometry. CØGØEXP\*\*\* has been on the system for about a year, but has been recently updated. It is list only. If you have any questions, call Bob Nelson, Eng. & Sci. Appl. 8\*273-4619.

DN736'S TALK TO EACH OTHER Howard Weidberg, Manhattan. Will the new DN730 series be conversational with each other?... The new Datanet 736's have TDM 115's which permit talk

between machines. That is, they can call and receive messages. The earlier models could only originate, says Larry Pierce, IND.

NEW FLUID PROPERTY LIBRARY A Fluid Property Library, looseleaf documentation, will replace Field Test Documentation THRPR\$, 902206. Ed Woll, Eng. & Sci. Appl., has initiated the set

of subroutines, functions and programs for the Mark II FORTRAN Subroutine Library. The loose-leaf format will permit easy revision and selective distribution.

The Fluid Library is numbered 912381 and each fluid will have a sheet number, i.e., oxygen documentation is sheet 912381-3. The first 6-page set of documentation shows subroutines for steam, water, oxygen, wet or dry air, 10-C transformer oil, pyranol, nitrogen, carbon dioxide and hydrogen. The subroutines are in the Mark II FORTRAN Subroutine Library.

Examples in the documentation show how to access subroutines to obtain properties of fluids and how to insert user data for temperature, pressure, etc. More documentation sheets will be added to the Library to keep it up to date.

Who should be interested? Petro/Chem engineers, heat exchanger manufacturers, manufacturers of gases (nitrogen, oxygen, carbon dioxide, hydrogen), pump and steam valve designers, manufacturers producing items involving compressed air, and coolant engineers. If you use fluids other than those on the mentioned, contact Ed Woll or call Fast-Fax.

PAPER-ROCK-SCISSORS CCPRS\*, new on RISKY\*, is a computerized version of the ancient paper-rock-scissors game. The Mk II BASIC program is a

good demo for showing random number generation, string variables and the change verb, says author Cal Cillay, Eng. & Sci. Appl.

Instructors can augment the material on page 43 of the Mk II BASIC book with the coding contained in this program. The program shows coding that lets the user input an alpha string, change that to a numeric variable and then operate the program.

When you stop playing the game by typing "QUIT" the program gives you a statistical analysis of the scores.

## ►►► TECHNICAL TIPS ◄◄◄

#### **FAST READING INTO ARRAY**

MARK II FORTRAN

1000 READ(FN,100,END=1000)(LN,(A(I,J),I=1,10),J=1,1000)

Where "LN" is line number. This will read in data from a file with 10 data items to a line. When the "ENDFILE" is encountered and the system transfers to line 1000, the value of "J" will be one greater than the number of records that were read in. This is a fast way to read data from a file into an array.

#### READING A FILE WITH NO LINE NUMBERS

(MARK II BASIC)

100 DELIMIT #N, (NULL) 110 INPUT 110 INPUT #N,A\$(I)

This combination will allow the user to read from a file with no line numbers, just leading blanks. Normally the system forgets about leading banks. This is useful in processing files that have been loaded from cards.

#### SPEED UP WRITING TO PACKED FILE (MARK II BASIC)

100 WRITE#N, STR\$(A);

#### FAST MATRIX SUMMING ON ROWS OR COLUMNS

(MARK I OR MARK II BASIC)

A quick way to do summing of rows or columns in a matrix is to multiply the matrix by a row unit vector to get the sum of the columns or multiply the matrix times a column unit vector to get the sum of the rows.

#### TO GET SUM OF EACH ROW:

10 DIM A(3,4),B(4,1),C(3,1) 20 MAT READ A 30 DATA 1,2,3,4,5,6,7,8,9 31 DATA 10,11,12 40 MAT B=CØN(4,1) 50 MAT C=A\*B 60 MAT PRINT C: TO GET SUM OF EACH COLUMN:

10 DIM A(3,4),B(1,3),C(1,4) 20 MAT READ A 30 DATA 1,2,3,4,5,6,7,8,9 31 DATA 10,11,12 40 MAT B=CØN(1,3) 50 MAT C=B\*A 60 MAT PRINT C; 70 END

#### MANIPULATING ALPHA VARIABLES AS INTEGERS

(MARK II FORTRAN)

70 END

If you want to manipulate alpha variables as integers and do mathematical operations just read the information into integer variables using ALPHA (A) format and write it out the same way. Be careful when doing "IF" checks that all variables are integers.

#### THE "IF MORE" STATEMENT

(MARK II BASIC)

The "IF MORE" statement will look ahead in the file for more input or more space for output. On output the system checks for a full record in order to pass the test.

All these tips from Dave Comroe, Teaneck 8\*225-8298 - thanks Dave for sharing these with the Field!

## TROUBLE ACCESSING CITIBANK PROGRAMS?

Here's the Datanet Software Services procedure to sign-up prospects for access to First National City Bank's private library\*.

- Make sure your prospect has received written approval from Clay Simpson (8\*222-0111 ask for 559-4936) at First National City Bank.
- 2. Have the prospect sign the special user number supplement to agreement for computer Time-Sharing (MF-26A). If the prospect is not already a user of GE T/S have him also sign the standard agreement (MF-1).
- 3. Telephone the Administration Specialist at your Computer Center and ask for:
  - A. A Mk II special user number under First National City Bank's private catalog without protection.
  - B. The User Number does not have a password with non-printing characters at this point, that comes after the customer successfully gets onto the system.
  - C. User number billing option. Make sure the prospect's name and address file is keyed to his special user number.
- 4. Complete and mail the Datanet Software Services information sheet to: Jerry Chessler, Information Service Department, 7735 Old Georgetown Road, Bethesda, Md. 20014.
- 5. Ask your customer to call Clay Simpson at Citibank and give him:
  - A. The special user number.
  - B. The customer's account name. (Any 6 characters)
- 6. Citibank will validate the customer's account name and special user number within 24 hours.

#### TO ACCESS THE CITIBANK LIBRARY

USER NUMBER--I1:6 4 : GREEN
SYSTEM--BAS
(Sales Reps obtain demo password from Fast-Fax, weekly)
NEW ØR ØLD--ØLD NETWK\$

READY

NETWK\$ 09:37 01/07/70

\*\*\*FNCC FINANCIAL SERVICE NETWORK\*\*\*
\*\*\*COPYRIGHT 1969\*\*\*

\*\*\* "MMIS" UPDATED TUESDAY JANUARY 6 1970
\*\*\* "FACTS" UPDATED 01/06/70 3PM

ENTER ACCOUNT NAME, COMMA, AND PROGRAM NAME? GE-ISD, MMIS
GE-ISD

THIS IS THE CITIBANK MONEY MARKET CENTER INFORMATION SERVICE UPDATED TUESDAY JANUARY 6 1970

REPØRTS AVAILABLE: (1) SHØRT TERM INVESTMENTS; (2) GØVERNMENT BØNDS, NØTES AND CERTIFICATES; (3) TAX EXEMPT BØNDS; (4) FØREIGN EXCHANGE.

ENTER FOUR NUMBERS SEPARATED BY COMMAS, (1 TO PRINT REPORT, 0 TO OMIT, FOR EXAMPLE FOR REPORTS 2 AND 4, ENTER 0,1,0,1)? 0,1,0,0

<sup>\*&</sup>quot;LET'S SELL TO BANKS", pps. 18 & 19

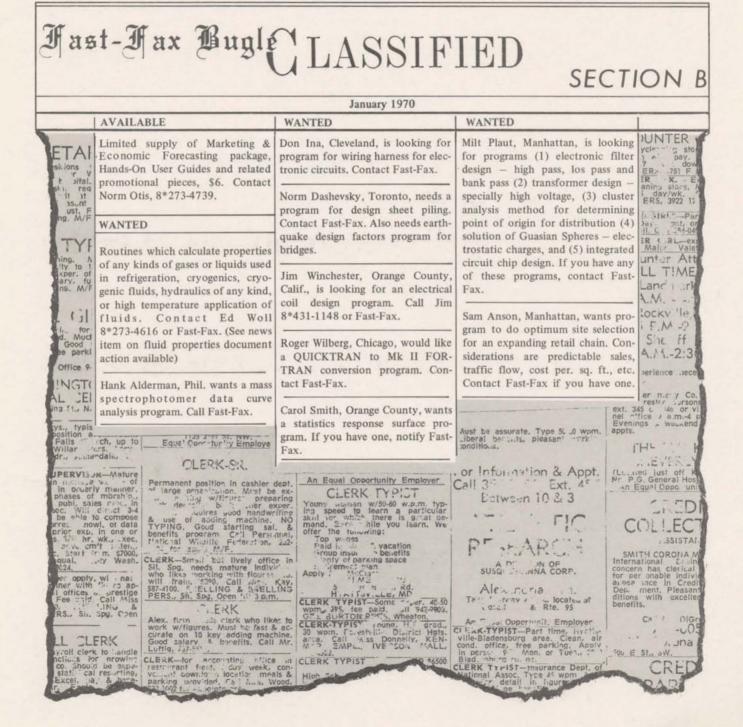
#### (CITIBANK PROGRAMS)

A list of programs accessible to the user will be printed when the user enters the word LIBRARY where it asks for program name.

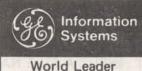
If the user wishes to run the program a second time or use another program, type:

OLD NETWK\$ (going thru the sign-on procedure again)

After the customer has successfully completed accessing the program, have him contact you to establish protection on his special user number.



# FASET!



In Time-Sharing Service

January 30, 1970

INCOME AVERAGING TAX PGRM

Bill Noble, Accounting-Accounting Services Markets: You can now do Schedule G - Income Averaging with INCAV\*, a T/S

program which complements TAX 19\*69. On RISKY\*, the MKI BASIC program INCAV\* does:

- 1) Schedule G computation (income averaging)
- 2) Schedule G alternative tax computation
- 3) Form 1040 tax computations based on your total adjusted taxable income

You can perform either Schedule G or 1040 tax computations an indefinite number of times. INCAV\* will accept data either from a file or by responses to questions asked by the computer. Program offers running instructions.

STATIS-If you need help in finding statis-TICIANS ticians in a target industry, may IN TARGETED we suggest: 1969-70 DI-INDUSTRIES RECTORY FOR THE OPERA-TIONS RESEARCH SOCIETY

OF AMERICA. By looking at company names in your area you can determine, for example, the names of the statisticians in banks, insurance companies, petro/chem firms, utilities, etc. The directory which gives a geographical list of 7000 names and addresses can be purchased for \$5.00 prepaid from: Operations Research Society of America, 428 East Preston St., Baltimore, Md. 21202.

#### FAST-FIX

Realizing it's important for you to know of improvements and changes in programs and documentation as quickly as possible, we are providing a special section in FAST-FAX to be called FAST-FIX. We will collect and publish these changes as they are forwarded to us. The first collection appears on page 4.

LOOK ME OVER!



Presently, Fast-Fax is attempting to evaluate the RISKY\* catalog programs. Since the Field Sales Operation is most aware of the value of RISKY\* programs, we are relying on you for information about these programs. In this effort, we would greatly appreciate your assistance in completing the following questionnaire attached to this FAST-

After completing the questionnaire, please return it in the self-addressed envelope.

CALCULUS WITH T/S "Computer Applications To Calculus" has been of big interest to our educational time-sharing

users. It has been catching the eye of managers of technical training in large companies. If you have customers of prospects who have a need to teach their people calculus, this book is ideal. It shows how to use time-sharing to supplement three popular calculus textbooks. Order your book Pub. No. 908356 for \$3.95 from the Distribution Services, General Electric, 705 Corporation Park, Scotia, N.Y. 12301.

MYLAR FOR TTY

George Chipman, Pittsburgh: Ex-TAPES perience over a year's time at a telephone company, has indicated that a certain mylar tape

can be punched by the Model 33 or 35 Teletypes with no problems. It is called PMPO Series 200 (paper/mylar/paper, opaque). It's available in red, blue, or green, and cost is \$24.50 per 1000 ft. roll. The product is sold by Eastern Specialities Co. P.O. Box 350, Holyoke, Mass 01040.

MARK II RISKY\* CATALOG PASSWORDS WILL CHANGE WEEKLY - CALL FAST-FAX.

750 (1-70)

For Fast-Fax call:

Brian Berger Vic Henschel 8\*273-4345 8\*273-4525 8\*273-4421 8\*273-4578



INFORMATION SERVICE DEPARTMENT

### ►►► TECHNICAL TIPS ◀◀◀

INPUT A FILE NAME AND PASSWORD DURING EXECUTION PROGRAM

(Mark II BASIC)

100 FILES\*
120 PRINT "ENTER FILENAME" PASSWØRD"
130 DELIMIT#0, ()
140 INPUTA\$
150 DELIMIT#0, (,)
160 FILE#1,A\$

Statement on line 130 causes FILENAME, PASSWØRD, to be entered as a single alpha (A\$) and when used in 160, the comma present indicates the existence of a filename plus a password. – John Bowen, SSO

HIGHGAS NEW ON OFF-LINE HIGHGAS, a new off-line program, does high pressure gas network analysis, Mk II FORTRAN. For documentation, call Fast-Fax.

For a transfer of the program, contact your computer center.

NEW GE ONLY PROGRAM F.A. Kurawadwala, Eng. & Sci. Appl.: A new program, PROBAN\*\*\*, is now available on the LIBGEO\*\*\* (Mark II cata-

log). The program is used for analyzing a model for uncertainties in management decision making. Program PROBEX\*\*\* is the instruction program for running PROBAN\*\*\*. Complete (GE Class II) explanation can be found in TIS Report #69MSV100. For report write Distribution Unit, Bldg #5, Research & Development Center, P.O. Box 43, Schenectady, N.Y. 12301

500 WHAMPAM Generate up to \$500 per run of FROM APACHE GEPDS, says Tal Briddell,



APACHE chief. General Electric Process Design Simulator is among the new programs for chemical engineers. (See Sales Bulletin No. 102 APACHE!-2). Especially good prospects are those customers who are currently using the NGPA K\*H programs or those who are interested. These customers can use the same data base. Also, when selling GEPDS\*, be sure and see those potential T/S users in refineries, petroleum based chemical plants, and natural gas companies.

TN-300 THRU ISD STATUS Joe Cote, IND: Information Services Division has ordered a limited quantity of Terminet-300 units, ASR configuration,

for lease and sale. Initial units in certain highdemand areas are expected to be available by mid-April. Field Sales personnel will be advised and given advertising and contract materials in advance. New service arrangements for TN-300 (and DN-730) being considered. Direct inquiries, preferably in writing, to Joe Cote, IND, 7735 Old Georgetown Rd., Bethesda, Md. 20014.

ECAP PLOTTER From an output file written by ECAP, a new program plots the data. Stored as PECAP\*, in

RISKY, MK II BASIC, plots transient analysis data only. It will print from one to three data outputs.

If you can improve the program, authors Chuck Kemper and Norm Thurston, Appl. would like to see your program. Also, on the wanted list are programs for AC plotting of ECAP files. Contact Fast-Fax if you can assist.

#### RISKY\* CATALOG LISTING NOW GIVES YOU...

- New programs added within past month (first few lines)
- Catalogs to list for target markets and other pertinent categories. (eliminates listing of the more than 130 program titles)
- \* List of programs removed from RISKY\* and now on paper tape at Fast-Fax

### ISD PUBLICATIONS STATUS

A&SP Distribution Services at Scotia will again back-order your orders for publications if they are not available, advises Norm Otis, Software Sales Promotion. Substantial gains have been made in replenishing ISD supplies.

Please use discretion in ordering... DO NOT order more than necessary for normal office operation.

If publication becomes "obsolete," "out-of-stock," or "available again," a notice will appear in FAST-FAX.

#### PUBLICATIONS AVAILABLE AGAIN

Laplace Transform, Mk I	801202
CØGØ, Coordinate Geometry, Mk II, Rev. 11-69	806229E
Cash Flow Analysis, Mk I, II	807236A
General Ledger Accounting System, GLAS, Mk II Rev. 12-69	904212B
TPØRTS, Mk II	907342
Computer Applications To Calculus, Mk I, II New	908356

#### SPECIAL

Introduction to BASIC Programming, Learning Guide, Mk I	203026
Abundance in stock help make use of entire stock revision due in spring.	

#### TEMPORARILY OUT OF STOCK

TEM STATE OF STOCK	
BASIC Language, Reference Manual, Mk I Introduction to Time-Sharing FORTRAN, Mk I FORTRAN, Reference Manual, Mk I Mark I Edit Commands, Mk I Retaining Wall, Mk I Continuous Girder Analysis, Mk I Curved Bridge Geometry, Mk I Regression Analysis, Mk I Desk Side Command System	202026B 227106A 206046D 708209B 801204A 801205 801206 802210A 803212
Capital Investment Analysis, Mk I	803216A
Learning Curve Analysis, Mk I, II	803217
Mortgage Annuity, Mk I, II GELATH, Mk II Complex Arithmetic, Numerical Analysis, Mk I Numerical Interpolation, Mk I Matrices & Linear Systems, Mk I Analog Computer Simulation, Mk II Interior Lighting Design, Mk II Airduct Design, Mk II	803217 805219A 805221A 806223 806225 806226 807233 808241 810246
FORTRAN Program Conversion, Desk Side	812249
Electronic Circuit Analysis Program, ECAP, Mk II  "How To Tame A Wild Elephant"  Process Design System, Mk II  Computer Color Matching, Mk II  Mark II Edit Commands  A/C D/C Network Analysis, Mk I, II	906323A 908345 909359A 910366 911374 912379

Please order publications with form AF-110 from A&SP Distribution Services, General Electric Co., 705 Corporation Park, Scotia, N.Y. 12302. If you have any questions contact Norm Otis, 8\*273-4739.

# FAST-FIX

SHELL\$

Sally Gazda, Eng. & Sci. Appl.: A new field text version of SHELL\$, stress program for

shells of revolution, is being released. It has a new integration routine which decreases the run time of the program. Please note: the test problem listed in FT809224 will give slightly different results with the new SHELL\$ program due to difference in accuracy of the two integration schemes. The Users Guide is being revised.

LARGER QCRTS\$ Bob Rao, Mfg. Appl.: Quality Control X & R Chart Preparation, QCRTS\$\*\*\*, has been

modified to include 1) file capability; 2) number of samples increased to a maximum of 30; 3) the number of observations per sample increased to a maximum of 20; and 4) Ymax and Ymin values are automatically calculated by the program. Old manual will still apply — program comments defines new capabilities.

CIFLØ\$\*\*\*
CHANGES

Lee Beyer, Electrical/Electronics Markets: The electrical load flow program CIFLØ\$\*\*\* has been

improved to accommodate 100 buses and 400 lines. The User's Guide, FT906325, otherwise continues to be applicable. Please note the following changes on page 4:

1001 1, V, P, Q
Should Read
1001 1, V, P, Q, A
And
10-- NB, K, V, P, Q, A
Should Read
10NB, K, V, P, Q, A

7 BAYS NOW WITH FRAM1\$ FRAM1\$ (FRAMX\$), an off-line program which does rigid frame analysis, has been improved to do 10 story 7 bays. Brian Gar-

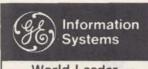
nichaud, San Gabriel, wrote the program improvements. Please alert your customers who have this program stored in their catalogs.

# Fast-Fax Bugle LASSIFIED

SECTION B

		January 1970		
	AVAILABLE	WANTED	WANTED	
TAI	TAX19*69, computes individual's income tax (Form 1040). TAXIN*ST are instructions to run program. Contact Fast-Fax for program listing.	Mark II BASIC or FORTRAN conversions for Mark I ALGOL programs statistical — MULRG\$, MULTRX, SIXCR, DESTAT; business applies in the PARSIM\$	Tom Caspari, St. Louis, is looking for programs to do media research, i.e., frequency research, time slotting, etc. other than Time-Life programs. Call Fast-Fax or Tom at 8*326-4360.	PUNTER ycle*** g s ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ?
TYF	Fluid Properties Library, 6-page set of documentation Mk II FOR- TRAN Subroutines, Contact	series; and graphical business appli- cations of CALPLO. Please contact Fast-Fax.	Pete Koelach, Palo Alto, needs program to calculate vaporization tem-	IR take
ing. A ty to to oper. of ary, fu ng. M/F	Beverly Lippold, 8*273-4773.  "PROGRESS REPORT ON GENERAL ELECTRIC'S PER-	Gerhard Schopp, CGE, wants program that does reservoir modeling for determining optimum injection well location. Call Fast-Fax.	perature for various pressures less than one atmosphere for various elements. Call Fast-Fax or Pete at 8*421-1370.	LL T!M
for for Good e parki	FORMANCE IN THE INFORMA- TION SYSTEMS BUSINESS," ex- cellent booklet to include as a supplement to a proposal or use parts of it in your written pro-	Do you have any mining process control programs? Tom Smith, Toronto, has a need for them. Contact Fast-Fax.	Alex rura Corp.	n has cleric ronable ind nace in Cr ment, Pleas with exce
NGT( LEI St., N. typis sition a	posals. Available at Distribution Services, GE, 705 Corporation Park, Scotia, N.Y. 12301.	Ine. 30 wpm. Forestyll: Disrict Hgts. Mr. Mr. 25MPL. IVE SON MALL, in CEERK TYPIST	cond. office, free parking. Apply in pers 5 Mon. or Tues. " Blad while ro ma.  All Treist maurance Dept. of the person of the pe	St., aw.
illar phie t	AF-110	oer. Young wurnan w/50-60 w.p.m. typ- ling speed to learn a particular NO skill or which there is great mand. Servicially you learn	Entween 10 & 3	CHE

# FAST-FAX



World Leader In Time-Sharing Service

March 15, 1970

RISKY\* IS GROWING...

APEX\*\* is the new name for the Fast-Fax library of unsupported programs (it was called RISKY\*). APEX\*\* APEX\*\*, Applications Programs EXchange, will be more meaning-

ful to your customers. As the name implies, it's a give-and-take library. If you have a program to share with others using GE Time-Sharing, send it to Fast-Fax. We'll put it on Network I so they may have easy access to it.

APEX\*\* can now be listed from the Network I -- Ø53 -- - catalog. Your office has a validated catalog number or will have in the near future. It was intended originally that the last three digits of the user number be your cost center. Many sales offices, however, were already validated with other numbers.

Recent additions to APEX\*\* are listed in the first few lines of the catalog. Also, we'll publish a list periodically in FAST-FAX. For those programs having documentation, call Fast-Fax and we'll send it to you. Recent program additions include:

RØØTS\* Polynomial root finder in double precision. Mk II FOR. Good demo. Selfdocumenting. From George Elkins, Albuquerque.

MAR1\*\*\* and MAR2\*\*\*, programs which make the computer work as a desk calculator, Mk II BAS, From Dinu Martin, IISO.

MULFT\* Mk II FORTRAN conversion program of Mk I MULFT\$\*\*\*, Regression Analysis, which provides double precision. Documentation. From Don Soard, Tulsa.

Subroutine for linear interpolation. Mk I BAS. Self-documenting.

NEW ACNETS. DCNET\$

New versions of ACNET\$ and DCNETS, Mk I & II, are available. Output file and minus beta capabilites have been added.

Also, the Mark I versions now have dependent source update for Tolerance and Monte Carlo analysis like the Mk II versions. Input file checking programs, ACCHK\$ and DCCHK\$, written by David Wallwork, IISO, London, are also available. Documentation is Pub. No. 912379.

CITIBANK **PROGRAMS** 



Investment men frequently need to find a portfoloio rate of return INVESTMENT and compare it with standard indexes of market movement. Clarence Selin, Datanet Software Service, said the recent addition to the CITIBANK package, PRCSN\$, provides three rate of return tables: (1) performance of actual portfolio, (2) performance of Dow-Jones Industrials, and (3) performance of the Standard and Poor's 500 stock price index.

PRCSN\$ permits portfolio managers to separate two influences on his fund: over all market performance and selection of securities.

SWAP CHANGES . . . Tax Reform Act of 1970 specifies that the discount accrued on a bond purchased after July 11, 1969 will be taxed as ordinary income. The Bond Trading Analysis programs, SWAP and SWAPS have been revised by CITIBANK to compute the effect of the new tax treatment.

VENDOR FOR TN-300 PAPER

Are you looking for a price list for sprocket and friction feed TN-300 paper? Write to Computer Rolls Company, 3214 Max-

roy, P.O. Box 19087, Houston, Texas, 77024.

750(3-70)

For Fast-Fax call: Brian Berger Vic Henschel 8\*273-4345 8\*273-4525 8\*273-4421 8\*273-4578



#### GET THE LEAD OUT



Petroleum manufacturers are to produce lead-free gas in the not too distant future. This means redesigning refinery plants for the more than 250 potential customers for GEPDS, Process Design System, program. PDS can save them \$\$\$\$ in design costs and provide good revenue for your account, says APACHE! Chief Tal Briddell. Contact those refinery engineers, chemical engineers, soon . . . new plant facilities will be the order of the day.

DICK FONTAINE, Highland Park, N. J. suggested making a listing of the GEPDS demo's RUN. This great idea may help you do an impressive demo for your prospective customer.

Before calling on your customer, we suggest calling up the demo program, PDSDM\*, on APEX\*\* and making a paper tape of it. Put the program on your user number. Then with the customer to watch a typical "RUN" of PDS, LISTNH PDSDM\* and the demo program will appear . . . without the normal wait for computation time and without the computation expense. You only pay for the listing of the PDS demo RUN. And you can count on PDSDM\* for the demo from either your file or from the APEX\*\* catalog on Network I.

TRADE
SHOW
Offer programming services or
ASSISTANCE
free access in exchange for a sign
in your customer's booth at a
trade show or convention. The give-away days are
gone.

M. E. IN

Bob Cox, Teaneck: If any of your customers are interested in mechanical engineering design with time-sharing, they may want to read, INTRODUCTION TO COMPUTER AIDED DESIGN, by Mischke, Prentice-Hall, 1968. The book contains examples of how to solve engineering design problems with t/s.

IMPROVED The off-line program, PTSIM\$,
PTSIM\$ Scientific Inventory Management, Mk I, has been improved to include the following (1) A protection against large sales values, (2) the program runs 1.5 to 5 times faster. Documentation is still applicable.

EUSD If you'd rather have a complete PAPER TAPES EUSD library on magnetic tape, send to Fast-Fax a 7-in tape and YOU DOWN? cannister. We'll duplicate the entire EUSD library on it and re-

turn the tape to you.

PCA PROGRAM

DOCUMENTATION

Looking for documentation on the Portland Cement Association programs? Bowman Irani, Eng. & Sci. Appl. says to contact your local PCA representative

(he's listed in the Yellow Pages of the telephone directory) and ask for the following:

PCACL\$\*\*\*, Ultimate Strength Design of Reinforced Concrete Columns, SR0014.01

PCAPL\$\*\*\*, Design of Flat Plates and Continuous Concrete Frames, XS6815, XS6817, and XS6815A.

PCABR\$\*\*\*, Design of simple span pre-castprestressed highway or railway bridges. XS6828 and XS6826.

It is necessary to call up the information file for each program (See FAST-FAX 95-15) before running them.

READ ABOUT Customer Bulletin 35-2, p. 19,
T/S FOR references Statistical PackageSTATIS- Hahn, but gives no documentation number. It's a reprint from
the American Statistician Magazine, Dec. 1968. Ask Distribution Services for
Pub. No. 185039. Sample runs are shown. Program names in article are incorrect, but are correct
in CB 35-2.

WEIBL\$\*\*\*

NEW ONLINE

Bob Nelson, Eng. & Sci. Appl.

This new on-line program provides a Weibull reliability analysis using time-to-failure data to com-

pute estimates and confidence intervals for:

- \* Weibull shape and scale parameters
- \* Distribution percentiles
- \* Survival probabilities
- Conditional probabilities of survival
- \* Average failure rates

It may be used for both complete and incomplete data. A graphical method for analyzing data from the Weibull distribution is available in the Mk I PRPLOT (FAST-FAX 95-12). Documentation for WEIBL\$\*\*\* may be ordered from Distribution Services, Scotia, N.Y. Ask for Pub. No. 910373.

# FAST-FIX

JOBSHOP EXPANDED Continuous Industry Process Schedule program, PCNJTS, Pub.

No.906324, has now been expanded in Line 3 to 24 machine descriptor. —

John Chadderton, Mfg. Appl.

LEARN BASIC Lesson 10 in the Learn BASIC program series has been corrected. New tapes are to be on

the Mk I system by mid-March.

GEPDS AVAIL-ABLE GEPDS, Plant Design Simulator program is now available commercially. Order documentation, Pub. No. AR-1, from Distribu-

tion Services, Scotia, N.Y.

STMRG\* RUNS The APEX\*\* program, STMRG\*, stepwise multiple regression, had a bug in it. Thanks to Bob Cox, Teaneck, for helping debug the program. He advises using a data

file, FILE1\* for a sample run. The Mk II FOR program is on Network I.

NON PRINTING L, M, N, Ø ON TN-300 HOW DO YOU DUPLICATE Control Shift LMNO on the Terminet-300? Ken Coit, IND, said there is a Programmer's Manual, GEK-15002, written by

the Communications & Control Devices Dept., Waynesboro, Va., lists all control characters and how to make them. TN-300 users should get a manual from their Terminet supplier.

To get a	Press Keys
C/S L	Control &
C/S M	Control &
C/S N	Control & ~
C/S Ø	Control & -

The last key shown above is an underscore. The back arrow is not on the TN-300 keyboard, but the code is generated by striking the underscore key (no shift, no control). It erases a character for each underscore printed.

## **Take Note...For Terminal Reference**

#### NOTES ON USE OF THE FRIDEN TERMINAL

If your prospect is considering using the Friden 7102 terminal into GE Time-Sharing Service, here are a few facts to help you give him good service:

- On the Mark I, the timing sequence must be deleted from the validation cycle. Since the terminal does not have an answerback drum, you must read in an answerback code either from edge punched card, paper tape, or type it in by hand. The first three characters must be FRI.
- 2. On the Mark II following validation and program name request, you type in FRIDEN, and the system will respond READY.

#### NOTES ON HIGH SPEED TERMINALS INTO NETWORK I

The Network System will recognize the Model 37's (only if they have an answerback) and will automatically adjust to the 150 baud rate.

When entering with a Terminet 300, start at the 110 speed, and after the sign-on procedure, when you have a chance to insert a system command, type SPEED XX (where XX is 10, 15, or 30). The system will respond READY, and you switch the Terminet-300 to the appropriate speed. You can decrease speed, by using the system command and specifying the new slower speed desired.

#### **ACCESS POINTS**

You cannot get data rates higher than 110 bps through the present Diginet 152 multiplexors. If you connect to the Network System through the Remote Concentrator (also known as Compat and 416) you can change data rates through use of SPEED command. Make sure your customer has the correct phone number to access Compat rather than Diginet 152 for higher speeds.

### ►►► TECHNICAL TIPS ◀◀◀

When the MK II function CLCINT is used more than once in a program with the same variable name designating the fourth argument for CLCINT on some of the repeated calls to this function, the 5-term array used repeatedly as the fourth argument must be initialized to zeros each time before a repeated call to CLCINT.

George Elkins, Albuquerque

WRONG BOB . . . . Bob Cohen, El Monte, was not credited for the speed up sort routine (95-17) . . . . it was inadvertently given to Bob Cohen, Manhattan!

Subroutine to obtain current date from the system and change it from an alpha string to a decimal. Use it when you want to count days passed, etc. Mark II BASIC.

5 DIM C(12)
10 LET C\$=DAT\$
20 CHANGE C\$ TØ C
30 LET A1=10\*(C(1)-48)+C(2)-48
40 LET A2=10\*(C(4)-48)+C(5)-48
50 LET A3=10\*(C(7)-48)+C(8)-48
60 PRINT A1;A2;A3

Bill Moore, Newport News, Va.

# Fast-Fax Bugle LASSIFIED

SECTION B

Mark in	unida and all om failm	March 1970	principle of tempora	BURY HIL
	AVAILABLE	WANTED	WANTED	711 b194
ETAI	DCØGØ\$*** Double Precision CØGØ, without vertical curves. List CØGØEXP*** for further information. If you have problems, call Bob Nelson, 8*273-4619.	South Africa salesman wants programs for (1) optimization procedures used in nickel mining technology. (2) high pressure hydraulics.	Carol Smith, Long Beach, wants information on anyone using a PDP-8 with a dataphone as an input device to either Mk I or Mk II. Call Carol on 8*432-5261 or Fast-Fax.	VOLUNTER  yellering story  yellering story  yellering story  yellering story  to day/wk  ERS, 3922 12  ERS, 3922 12
ng. M/F	"HOW TIME-SHARING CAN IN- CREASE MANAGEMENT'S USE OF STATISTICS" reprint from American Statistical Association	Ron Fellows, San Diego, is looking for a printed circuit board plotting routine.	Dick Fontaine, highland Park, N.J.: Needs boiler design program. Reference "ASME MANUAL FOR BOILER DESIGN", Fig. USC-28.2	in State - Par lar - Att, or ill C - 194-04 ill C - 194-04 ill C - 194-04 major - Valet unter - Atti
ty to to to come of the common to the common	recent proceedings. Call Fast-Fax.	Glen Fraser, Toronto, Ontario, wants a program to do scheduling of student classes.	from Sec. VIII of the ASME Code for unfired pressure vessels is a chart of curves which usually are	LL TIME
li for d. Muci Good ge parki	IF YOU CAN BE OF ASSIST- ANCE TO ANYONE BELOW, CALL FAST-FAX.	Joan Wood, Syosset, wants a program to calculate golf handicaps by USGPA rules.	empirical. It is used to determine the shell thickness of cylindrical and spherical vessels under external pressure.	has clerical onable Indivince in Creditent. Pleasan
office 9- L!NGT( AL JEI Juna 51., N.	Norm Thurston, Mfg. Appl., wants program to convert ECAP files to ACNET, DCNET files and vise versa. Contact Fast-Fax.	Jonnie Dorotik, Seattle, is looking for a program written by an eastern lengineering firm for the Naval Facilities Engineering Command	Customer needs a convenient method of obtaining values from this chart, other than matrix opera- tion, such as a subroutine or poly- nomial which would input the cor-	with exceller
ys., typis position a Falls Willar dr., mid while to now	for a program to help design mag-	which forcasts costs of prepared buildings. Program COSTAB, Cost Analysis and Projection, was written by Seeley N. McKee.	rect values to his program. Thus eliminating the need to look up information during each run. Contact Dick or call Fast-Fax.	d Just off K General Hos juni Coppo un

# FAST-FAX



April 15, 1970



FAST-FAX celebrated its first birthday April 14... the first, Sales Bulletin 95 was distributed to all field sales on this date in 1969. With this issue,

95-21, we hope to start another year of information exchange between field and headquarters personnel. One of the big projects which you people in the field made possible is the APEX\*\* library. (We changed the name from RISKY\* to APEX\*\* as a result of comments in the RISKY Questionnaire).

To celebrate the one year anniversary, we're sending along a complete APEX\*\* listing. All programs are on the Network NAØ53 catalog. We have organized the APEX\*\* index to provide you with a quick reference when talking to customers. If you would like a copy for your customer, let us know. Emphasis to your user, this is an exchange library.

In keeping this up-to-date, the first of each month we will list new programs which are added. This list will appear in the first few lines of APEX\*\*. To update your catalog, get a listing from APEX\*\* each month.

PROGRAM Among the advantages of EXCHANGE APEX\*\* is the simplicity of exchanging programs. By putting the program you want to share on NAØ53 catalog, Fast-Fax can make it available to others in the field on APEX\*\*. Just give us a call, tell us the name you gave it, and we'll transfer it to APEX\*\*. Send us available documentation, and then we'll announce its availability.

Here are the recent additions to APEX\*\*:

Economic forecasting package, from Tom Choate, Marketing, Mk II BASIC. Documentation available:

- CHØT1\* DERIVES A LINEAR TREND EQUATION AND PROJECTS MONTHLY DATA.
- CHØT2\* FORECAST USING EXPONENTIAL SMOOTHING TECHNIQUES SIMPLE' DOUBLE, SECOND ORDER AND TRIPLE.
- CHØT3\* FORECAST USING EXPONENTIAL SMOOTHING WITH TREND FACTOR, SEASONAL FACTOR, AND BOTH.
- HISTØ\* PLOTS A HISTOGRAM OF DATA FROM A FILE.
- THEIL\* COMPUTES HENRI THEIL'S MEASURES OF QUALITY OF FORECAST
- CHØPL\* SCALES AND PLOTS UP TO TEN VARIABLES AGAINST TIME.
- TCPLT\* PLOTS PAIRS OF X-Y VALUES ON BOTH LINEAR OR LOG SCALES.

Other APEX\*\* additions:

- GRAF2\* PLOTS A SINGLE GRAPH FROM TWO DATA FILES, I.E., MONTHLY COSTS VS. MONTHLY SALES. MK II FOR DOCUMENTATION.
- From Tom Hunt, Grand Rapids
  LEMII\* SIMULATES SOME PROBLEMS
  FACING ASTRONAUTS LANDING
  ON THE MOON. YOU ARE AT THE
  CONTROLS. MK II BASIC. LIST
  LEMXP\* FOR INSTRUCTIONS.
- LISTR\* LISTS UP TO 50 PROGRAMS FROM APEX\*\* AND PUTS A TAPEL\*BL ON EACH TAPE. MK II BAS SELF-DOCUMENTING.

From Ron Fellows, San Diego

4-70 (7.5M)

For Fast-Fax call: TTY: 8-273-4449 or 4524 Brian Berger Vic Henschel 8\*273-4345 8\*273-4525 8\*273-4421 8\*273-4578



A real time inventory control system for multiple locations is INVENTORY now available on APEX\*\*. CONTROL From Paul Morey, Sacramento, the Mark II FORTRAN package

- called "BRICS1" features:
  Dimensioned for 3000 stock can do 2300 economically
- Fast 'Shell sort' routine
- \* Wide carriage printout
- \* Written in modular form for easy alteration.

\* Takes advantage of the new executive system. Four programs make up BRICS1 - UDATE\* Performs update to master file, REPØR\* Prepares any of several inventory reports, ALTER\* Performs alterations to binary master file, and BUILD\* used to initially load master file. Call Fast-Fax for documentations (1) for customer (2) for AR's.

MEANING OF For a list of "User Visible" ERROR Mark II errors, list ERØRS\* on the Network NAØ53 catalog.

This will give you a description of each problem and the plan to fix the error. The file is updated periodically.

LIBRARY INDEX **UPDATED** 

Customer Bulletins 19-6 and 35-2 are being replaced with new information, Bruce Wilson, Manager-Documenta-

tion. Mark II Library Index will be Pub. No. 900000 and Mark I will be Pub. No. 800000. Bulk shipments are being sent directly to all field offices. There's no charge to you for the bulk shipments, but additional copies are a dime each to your cost center.

NEW OFF-LINE PROGRAM

CFVØLS, Mark II FORTRAN, computes cut and fill volumes from given topological data. Can be used by civil engineers,

general contractors, etc. Program handles 30 existing and 30 proposed elevations per station. Available documentation from Fast-Fax covers sample input, data file, sample runs.

DOUBLE Double precision CØGØ is now PRECISION available for field testing under CØGØ the name CØGØD\* on Network

in the NAØ53 catalog says Bob Nelson, Eng. & Sci. Appl. For instructions call CØGØE\*P on Network.

SYSTEM--FØR NEW ØR ØLD--ØLD SLEW READY LISTNH OF TOTAL OF THE PROPERTY OF

50 INTEGER X 100 INPUT,X

116 PRINT 230,X

120 PRINT 220, X 150 200 FØRMAT(1H&,16)

160 210 FØRMAT (1HQ, 16) 165 230 FØRMAT (1H ,16)

170 220 FØRMAT (1H&, 16)

From Re

200 STØP; END

If you have a customer who has written new programs in FORTRAN using carriage control in the format statements 110 PRINT 200,X then this message is for you. There was an error on all Mark II's, but it has been corrected. all Mark II's, but it has been corrected.

This zero is supposed to produce two (2)

line feeds and a carriage return.

08:09 03/26/70

With the error, it produced only one line feed and a carriage return.

User input underscored

7987654 987654

987654 987654987654

PRØGRAM STØP AT 200

2

# FAST-FIX

COGO Coordinate Geometry, 806299E, page 4, two configurations are described which do not function on 727. However, the following should work.

LF - line feed

← – back arrow (shift Ø)

CR - carriage return

X-ØFF - control S

RØ-rub out

RØ - rub out

- Bob Nelson, Eng. & Sci. Appl.

TPØRT\$

(1) Transportation & distribution program, Mark I and Mark

II, goes into an endless loop if the total supply is not equal to the total demand.

(2) It is useless to include sources with no supply and distributions with no demand. This will sometimes cause an error message and will always increase running time.

Dinu Martin, Mark I Services
 Din Kurawadala, Eng. & Sci. Appl.

FRIDEN TAB Your customer with a Friden terminal can reduce the character count charges by not pay-

ing for imbedded blank characters on his printout. Use the following code for the tab feature on the 7102 Friden terminal.

LET C(0) = 1

LET C(1) = ASC(HT)

CHANGE C TØ C1\$

PRINT C1\$

ASCII coding for horizontal

tab

- Bob Caton, Rochester

LISTR\* SAVES YOU TIME Ron Fellows, San Diego, sent Fast-Fax a program which will save you time in listing several programs. It is in the APEX\*\*

library filed under LISTR\*. The Mark II BASIC program asks you for program names that you want listed out. It will make listings and paper tapes for up to 50 programs. Each tape will have a readable date and program name in the header. Be sure you have enough paper tape in the terminal when you start. Give it a try... call it up and say RUN. It's great for non-prime use of Network... operates unattended until it lists all programs requested. Teach your secretary how to use LISTR\*.

CONFIDENCE VS. PREDICTION LIMITS Fred Wood, Washington: With the improved SIXCR\$\*\*\* and MREG1\$\*\*\*, can you give me a concise explanation of the difference between confidence

limits and prediction limits?... Dinu Martin, Mk I Services, says confidence limits apply to estimated values, e.g., the coefficients A and B, or the estimated Y's. Prediction limits apply to actual values. Actual values may be found if a new table of values is extracted from the same population. The new Y's will then belong to the prediction interval with a probability of 95 percent.

STARFISH FINDS NEW OYSTER

Joe Domonkos, mild-mannered Manufacturing maestro (alias THE STARFISH) says, "I made a real, honest-to-goodness sales call on a manufacturing firm's data processing manager (arch enemy). After paralyzing him

with a few lashes of my tentacles, he suggested — yes, he suggested — that JSHØP\$ would be perfect for scheduling his computer room operation." It's another oyster in the same body of water.

NEW MULTIPLE REGRESSION Cal Cillay, Eng. & Sci. Appl., says STAREG\*\*\*, a new multiple regression program, Mk II, uses double precision,

has 9 options for output, accepts up to 25 independent variates and an unlimited number of observations. Ron Pushee, Schenectady, and Bob Cox, Teaneck, report they have users who are quite impressed with the STAREG features. Documentation is in "Statistical and Mathematical Programs", 807232A.

NEW	MFG
PROC	GRAM
STAT	US

Larry Wolfe, Manufacturing Applications, said to help generate more revenue you may tell your customers and prospects of the recent additions to the Mark II library for manufacturing applications. These include:

		Pub. No.
GEGPS\$***	General Purpose Simulator	AR-1
GJSCH\$***	General Shop Scheduler	AR-2
REMTA\$***	Methods-Time Analysis. For businesses using MTA, MTM, MSD,	
	and MTS work standards	AR-3
CPMX1\$***	New CPM system incorporating feedback and reporting.	AR-4
COILS\$***	Prepares coil slitting planes for coiled material, e.g. steel, paper.	AR-5
WEIBL\$***	Reliability analysis by Weibull Distribution. For preparing reliabil-	
	ity forecasts from bench test and distributive test results.	FT910373

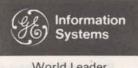
Larry also indicated there are several "coming attractions". No firm release date... watch for announcements of these-

- Capital equipment investment analysis to analyze the cash flow on purchase of new machine tools.
- CPM Graphic Reporter prepares CPM output reports in graphic format.
- Cutting Planner for linear materials which prepares cutting plans for standard length stock, e.g., seamless tubing, lumber, etc.
- Assembly line balancing
- Preventative maintenance scheduling.

# Fast-Fax Bugle LASSIFIED

no.	FOUND	April 1970 WANTED	AVAILABLE	b olds
TAI	A salesman attending the first session of Sales Conference left his nifty magnetic chess board on the bus. If it's yours call Fast-Fax and identify it.	Ron Ford, Cincinnati, wants program to flowchart Mk II FOR- TRAN program similar to program on APEX**, FLOCT* which flow- charts Mk II BASIC programs, Con-	"VERTICAL AND HORIZONTAL TABBING ON MOD 35'S, WITH BASIC" 3-page report, from Fast-Fax.	POLICE OF THE PROPERTY OF THE
ust. F	WANTED	tact Fast-Fax.	Documentation for CFVOL\$, Mk II FORTRAN, cut and fill program	ERS, 3922
TYF	Bob Rentz, Schenectady, wants program to analyze and design an	Randy Myers, Seattle, is looking for management retrieval system com- parable to MINI-MIS. Call Fast-Fax.	new off-line program. Call Fast-Fax.	iR t RL- Mair V
er. of	automatic sprinkler system for fire prevention in industrial and com-	AVAILABLE	Best regression program, STAREG***, has 9 options, uses	LL T!N
(1)	prevention in industrial and commercial buildings. If you have one, call Fast-Fax.  Ed Taylor, Cleveland, wants t/s	FINAN\$*** data files same as in documentation. FINF1*, historical	double precision, in Mk II Library. Documented in Pub. No. 807232A,	LOCKY 1
for Muci Good parki		spread data, and FINF2*, projected spread data. Both on NAO53. Files	Statistics and Mathematics Programs.	has cleric onable inconce in Crient, Plea
lice 9	forging area. Contact Fast-Fax.	developed by John Canning in response to field requests.	WBLEXP***, a LIST ONLY file, is available on-line to explain version	with exce
o uarl	K Mature  of Permanent position in cash the many morsh in a sign wife in pression of the many wife in pression of the many wife in pression of the many wife in	con- Ci FRK TYD! T	Call 3 Ext. 4 Language to WEIBL\$***.	General Equil Copc

# FAST-FA



World Leader In Time-Sharing Service

May 1, 1970

MK I TO MK II **FORTRAN** 

Do you have customers who want to change Mark I program(s) to Mark II? You can convert his Mark I FORTRAN

program to Mark II with the help of MK122\*, an APEX\*\* library program. Don Bishop, Pittsfield, provided this improved version of the earlier MK1-2\* conversion program.

WEIBL\$\*\*\* CHANGES

The quality control program, WEIBL\$\*\*\*, has a number of improvements in a 4/25/70 ver-

sion which should be on the Mark II Library by mid-May. WEBLEXP\*\*\* which describes the improvements of WEIBL\$\*\*\* should also be loaded in Mid-May, said Bob Nelson, Eng & Sci. Appl.

STAT **NEWS** 

Cal Cillay, Eng. & Sci. Appl., suggests: The statistically inclined CAS may want to have

his name added to the STATOGRAM NEWS-LETTER mailing lists. Send your request to Mrs. Beulah Melius, Bldg. 5-237, Distribution Unit, R&D Center, General Electric Co. P.O. Box 43, Schenectady, N.Y. 12301.

The most recent STATOGRAM NEWSLETTER is called "Which Statistical Interval Do I Use? (Or, Confidence, Tolerance, and Prediction Intervals - Vive La Difference!)" Material is OK to give to customers, but multiple copies are not available.

PLASTIC TAPE WINDERS Since we mentioned the low-priced plastic tape winder in FAST-FAX 95-20, we have received responses from others in

the field who have access to such, i.e. Carol Smith, Long Beach (her husband developed a tape winder). If you want information concerning plastic tape winders, call Fast-Fax.

PRICES

Ken Wallace, Indianapolis. When will we receive new forms for the Education Plan? . . . Bill

Backer, Sales Programs, said Form MF-16, EDU-CATION PLAN, has been revised to conform with the new price structure and it will be effective June 1. Changes include:

- \* Extension of the 50% discount (after 6 p.m.) to I/O characters on Mark II.
- New standard provision to suspend the monthly minimum charge for up to 3 months of summer vacation periods.

Terminal connect time remains the same - 50% after 6 p.m. and before 8 a.m. The new forms will be available from Minnie Ferguson, Marketing--Communications in Headquarters.

FINANS DATA FILES

 ★ A number of AR's have requested data files for FINAN\$, Financial Analysis System. John Canning, Application Sales, has

made available two files on APEX\*\*. FINFI\* gives data for a historical spread (same as in Users Guide, No. 001386), and FINF2\* is data for a projected spread.

LEAP **PUBS** 

LEAP Associates, Inc., have made available user manuals for two new programs, 1)

ELONG\$, calculates elongation and strand pulls in setting up strand in a prestressing bed; 2) TABLE\$, produces tables of loads, moments and stresses for different spans. Also available are promotional sheets for a new program MLOAD\$, which provides a table of maximum loads permissible when concrete release strength limits the design. Documentation and promotion sheets are available from Fast-Fax or Clarence Selin, Application Sales . . . limit one per office.

5-70 (7.5M)

For Fast-Fax call:

Brian Berger Vic Henschel TTY: 8\*273-4524

8\*273-4345 8\*273-4525 8\*273-4421



INFORMATION SERVICE DEPARTMENT

### TECHNICAL TIPS

#### DELIMITER CAUTIONS WITH FORTRAN IV

Be careful when using certain combinations of delimiters (commas, blanks) in Mark II FORTRAN IV. The following program illustrates the inconsistencies in the language in the interpretation of the (V) FORMAT READ.

#### HØHUM

RUN

10 10 READ ("JERRY", 1)L.J.K.M 20 1 FØRMAT (V) 30 PRINT. J. K.M 35 GØ TØ 10

OLD HOHUM READY

40 40 STØP : END

#### **JERRY**

10 1.62.3 20 1,,2,3 30 1882.3

40 16.2.3

(b = space)

HØHUM	14:49	04/28/70	error
animom II		2	3
03 — one 1		2	Jerry Lechliter, Eng & Sci Appl

SAMPLE FOR FRIDEN TAB

Dick Beldon, York, Pa., provided the program below to illustrate the tab subroutine (non-counting of blank spaces) when using a Friden terminal

(FAST-FAX 95-21).

10 LET C(0)=1

LET C(1)=ASC(HT) 20

CHANGE C TØ C\$ 30

40 Y=1 TØ 6

50 PRINT Y: C\$: Y+2

60 NEXT Y 70 END

- Dick Beldon, York, Pa.

PECAP IMPROVE-MENTS

Bill Barber, Joe Mezera, Cleveland offer the following changes in PECAP\* if the user desires to put more than one plot in a file.

Current program in the APEX\*\* library "scratches" output file prior to writing each file. They suggest you put these lines in the program:

550 INPUT VS

551 IF V\$ = Z\$ THEN 560

552 FILE #2: "\*"

553 FILE #2:VS

554 SCRATCH#2

EDIT DELETE 600-610,2440

2530 FILE#1:"\*" 2540 LET ZS=VS

GAMES DOCUMEN-TATION

The correct documentation for Management Games is the (10/69) version. Some customers still have the former version.

If your customer needs documentation for the Mark I on-line library program, call Fast-Fax and ask for Pub. No. 412069 (10/69).

XEROX COPYING COSTS. TOO

Don't spend money making copies of off-line documentation. If you need copies, contact Fast-Fax. Ask the office secretary to make sure that at

least one copy of each off-line documentation is available for your reference.

TO HELP SPEED YOUR PUBLICATION ORDER THROUGH THE DISTRIBUTION SERVICES, SCOTIA, N.Y. BRUCE WILSON, MANAGER-DOCUMENTATION, OFFERS THE FOLLOWING SUGGESTIONS WHEN COMPLETING FORM MF-33

INVOICE TO - This block must contain the name and address of the individual organization to which the invoice or bill is to be sent. PURCHASE ORDER NUMBER - This block must contain either 1) a customer or G.E. purchase order number, or 2) a G.E. billing number. GE billing numbers must contain the department MAR PUBLICATION ORDER code, cost center, and subaccount number. INVOICE TO IA. BUREL ABC Corporation 10 Main 84. Latorille N. Y. DODOL 213-871-40 100 Elm 81 Buttalo, N. Y. 90002 807265 902413 Atta: R. R. Status SHIP TO - This is the mailing address 218043 label. The Post Office reads the in-1.00 formation you put here. . . it is the 2.00 1.00 mailing label. INSTRUCTIONS The order blank must be filled out complete-J. L. Jones R. R. S. ly for each publication order number with this information: \* QTY. (Quantity) Publication No. (As it appears in the MF-34 Price Schedule) UNIT PRICE (See MF-34) CONTROL TORRICATION WITH REPLY COLL EXTENDED AMOUNT (QTY times UNIT PRICE) TOTAL - Sum of entries in EXTENDED AMOUNT column. If your office has supplied publications to a customer and does not wish to replenish office stock, should write below the list of publications "DELIVERED - INVOICE ONLY" INVOICE TOTAL - Either 1) sum of TOTAL and SERVICE CHARGE or 2) \$5.00, whichever is greater.

FOR YOU ...ON APEX\*\* A program which calculates the profit index of a bank's loan department is among the recent additions to the Applications

Programs EXchange library. Programs added to this library on the Network NAØ53 catalog recently include:

**BLACK\*** 

Solves Wein's and Planck's radiation equations. Conversational, self-documenting. Mk II BASIC. Should interest infrared engineers and physicists. From Don Moore, Syracuse.

PACKR\*

Program will "pack" Mark II FORTRAN programs. Listing shows packed file. Self-documenting. From Ron Fellows, San Diego.

PROFS\*

For commercial bank's loan department to provide an indication of profit realized from its customers. Documentation available. Mark II BASIC. From Bill Cafiero, Syracuse.

CHARACTERS

Dick Fontaine, Highland Park, N.J., gave the following inputs for L,M,N, and O non-printing

characters when using an Execuport Terminal.

To get a	Press Keys
C/S 0	Control/Shift & Delete
C/S L	Control & (Backslash) \
C/S M	Control & Right bracket) ]
C/S N	Control & (Upward arrow) ↑

NEW STATIS-TICAL PACKAGE A new Mark II summary statistical package, ONESAM\$\*\*\*, provides analysis of statistical data. It gives detailed descriptive statistics, hypothesis testing

and statistical intervals. Din Kurawadwala, Eng. & Sci. Appl., says DATA FILE "DIN2" for sample problem number 1 is missing from documentation, 003401. Contact Din, 8\*273-4224, for the data.

# Fast-Fax Bugle LASSIFIED

### SECTION B

		March 1970		
	AVAILABLE	WANTED	WANTED	
AI ital. red	STAREG*** data file, scientific application. Call Cal Cillay, Eng. & Sci. Appli., 8*273-4469 for tape.	Ken Conroy, Greenville, S.C. wants to know about applications and programs for a mark sense terminal device, Call Fast-Fax.	Jim McAvoy, Toronto, wants Calcomp plotting program for high- way design applications.	PUNT
A/F	Two programs for processing atomic absorbtion data, Mk I BASIC. Call Dinu Martin, 8*273-4696.	Andy Johnson, Atlanta, would like pipe stress analysis programs. Con-	Dick Beldon, York, Pa., wants a program for a paper processor which converts color-eye table code	ERS, 3
YF AT OF UNIT	SPECIAL Marketing & Eco- nomic Forecasting Package, \$5. Contact Minnie Ferguson, Market- ing-Communications.	Marilyn McDonald, IISO, wants a Mark I payroll program. Also Insurance portfolio analysis program.	to the McAdam table. Call Fast- Fax.  Al Hays, St. Louis, is looking for a program which, given the diffrac-	unter LL T Land
از	WANTED	Call Fast-Fax.	tion lines on a polycrystaline pow- der will compute the index num-	locky
for Much d erki	Don Moore, Syracuse, needs an accounts payable program for a small construction company. Call Don or Fast-Fax.	Karol Andolina, Pittsburgh is look- ing for a step-down cost analysis for Medicare with hospital accounts. It- is to be used by an accounting firm which is using G.L.A.S. Call Karol	bers, determine the crystal system involved, and then determine the lattice constants. Call Al Hays or Fast Fax.	has clonable ace in tent. P with
EI N.	Will Spreeman, Omaha, is looking	or Fast-Fax.	Ale nuna . 1. Concer	A no 1
1 h	for payroll program to use with G.L.A.S. Contact Fast-Fax.  130 wpm. Fa. estylit Diariet Hois. 131 wiss Donnelly. KEN-	Fast-Fax is looking for a Mark II BASIC to FORTRAN program which works and has good documentation.	Te Nay boates at ditions benefit & Rte. 95  Ar Doportunit Employer tille-Bladensburg area. Clean, alread office, tree parking. Apply 19 pers.	WITT

# FAST-FAX



MAY 15, 1970

#### ADVANCE NOTICE ON SYSTEM SOFTWARE CHANGES

Improvements in system software are often being made. To keep you informed of changes before they happen, we are trying a new means of communicating this information, said Bill Backer, Sales Programs.

As soon as we get the details of a system change, the INFØRM message to be associated with the change will be placed in a special NEWS program in our Fast-Fax NAØ53 catalog on Network. NEWS will contain the scheduled release dates for the change and its INFØRM listing, as well as the dates and system involved in the field test.

With this system, you should get information on system changes well in advance of your customers.

Depending on the lead time available, we will call your attention to new NEWS programs (they will be sequentially numbered, i.e. NEWS1\*,

NEWS2\*, etc.) by a notice in FAST-FAX, letter to Branch Managers or telegram to District Managers.

We plan to time the release of the INFORM messages so customers get the word of improvements in the system a reasonable length of time before they are made.

One important aspect of this scheme is that if release dates are revised, as they frequently are, the new dates will be immediately posted in a NEWS program. Of course you will have to call it up and list the first few lines to see if changes have taken place. But the latest information will always be there.

The first test of NEWS has already been made — for the change involving the spacing following INPUT statements in Mk II BASIC. NEWS1\* was loaded May 7 on Network and District Managers were notified by telegram the next day. Did you get the word? Have you listed NEWS1\* to see what the change is?

MINIMUM

Ken Wallace, Indianapolis, Ind. Does the monthly minimum apply for user number billing?...

If the ABC Co. has a catalog number and gives user numbers to customers, or vendors, or friends, GE sends the bill to ABC Co. ABC then bills the other people, marking up the service if they choose. GE can't send user number bills to a specific user number unless he has a contract with us. The exception is the case where a national firm wants us to bill their components directly.

Remember, the highest user number in the catalog get bucks added to his bill if the total catalog doesn't add up to \$100. Level I DSS users can get bills directly from us, but they must have contracts, subject to initiation and minimum charges.

SALES TAX COLLECTING Nell Snowden, Long Beach: How do we collect for the sales tax on manuals?... Distribution Services in Scotia, N.Y. add the

appropriate local tax to the customers invoice. The field office doesn't need to do anything more than send in the order.

FASTER GIVY1\$ Advance documentation (AR 002395) for the new Mark II FORTRAN Inventory Control

& Order processing System, GIVY1\$, is now in field test. The revised version of GIVY1\$ is identical in content to the original, but dramatically faster (and less expensive) in record handling capability. Questions should be directed to Marion Bailey Eng. & Sci. Appl., 8\*273-4592.

750 (5-70)

For Fast-Fax call: TTY: 8\*273-4524 Brian Berger Vic Henschel 8\*273-4345 8\*273-4525 8\*273-4421



# ELECTRICAL/ELECTRONIC MARKETS



Lee Beyer, "Caused a blackout! You must be kidding."

For your Electrical/Electronic targeted market customers and prospects, Lee Beyer, Application Sales, and Fred King, Mgr-Electrical/Electronic Appl. offer tips on ways to promote the package, and information on common problems and how to avoid them.

The Electrical/Electronic targeted market covers both electronics and the electric utilities. Many of the programs designed for the electrical engineers within electric utilities can also be used by electrical engineers working on electrical power systems in factories, refineries, etc.



Fred King: "Who dreamed up these ECAP diagnostics anyway?"

### PLUG-IN TO AN



As you are talking up CIFLO\$ (for load flow studies) and FLT3P\$ (for 3-phase short cir-

cuit studies), you may find success in bringing up ACNET\$ and ECAP\$\$ to your electric utility's electrical engineers. They could use these programs for load flow studies, short circuit studies, and for transient studies on electrical power systems.

For a list of the on-line programs which can be applied to the various departments within an electric utility, see the booklet "Let's Sell to Electric Utilities". Also check "Let's Sell to Financial Management", for programs which the electric utility's corporate planning, operations research, and marketing functions could use.

# ELECTRIC UTILITY!

TGVAL\$
BEGINS
OFF-LINE

TGVAL\$, for calculating the value of a BTU improvement in heat rate for steam turbine generators, was originally planned

for the Mark II on-line library. It is now off-line and will be until we can add more features. Ask Fast-Fax for documentation (552050).

GET THE MOST FROM CIFLØ\$ For your users of the load flow studies program CIFLØ\$, a way of getting around the restriction of having only one line between

busses is to introduce dummy busses in all except one of the parallel lines. This, however, may be more cumbersome than manually combining the admittances of the parallel lines.

CIFLØ\$ user's guide (906325) includes a discussion of some of the more common convergence problems and how to solve them.

BRIGHTEN YOUR PRESENTA-TION When presenting a package to a prospect or customer, use the colorful pocket folders into which sales promotion sheets are easily placed. For elec-

tronics order from warehouse in Scotia, N.Y.,

Pub. No. 197059 and for electric utilities it's 255010. In the "PUBLICATIONS AVAILABLE" section are recommended sales promotion sheets. These are a great selling tool in pointing out the important features and benefits of the programs to customers.

## PUT ELECTRONICS IN YOUR SALES CIRCUIT

DYSIM TO REPLACE ANALG\$ A new analog simulator program, DYSIM, "Dynamic System Simulation" (807233A) will be available in June. It is an

improved version of ANALG\$. Among the new features of DYSIM are:

- \* Results for up to 20 blocks (ANALG\$ gives 4)
- \* A more flexible plotting routine (from C.Zia, El Monte)
- \* Improved command structure
- \* Gaussian random number generator
- \* Pulse generator with variable width

Most analog simulation users will want to switch to DYSIM. ANALG\$, however, will remain on the system during the transition and as long as customers use it.

AC - DC . . . TOGETHER A new ACNET\$/DCNET\$ user's guide, (912379) describes the programs on both Mk I and

Mk II. The older manuals can still be used for Mk I. New features described in the manual are:

- Programs to check input file
- Commands to write output to a file (Mk II only)

#### FAST-FAX ON E/E TARGET MARKET

- \* We can tell you what Electric Utility customers in your area are using GE Time-Sharing Service.
- \* APEX\*\* Library catalog . . . shows your customer what other programs have been written for and by t/s users in all departments (Finance, Marketing, Engineering, etc.)
- \* In the Electrical/electronic section of APEX\*\* are listed the EUSD programs. You may obtain these by sending a 7-in. magnet tape to Fast-Fax.
- \* Off-line documentation for all areas of the E/E businesses (Business Analysis, Economic Forecasting, Highgas, Merger Analysis) as well as the new TGVAL\$ are obtained from Fast-Fax.
- \* NEW Documentation for gas network flow and pressure analysis program, GASFL\*, on APEX\*\*, for your customers in the gas utility area. (Developed by H.H. Borgen, Systems Planning Dept. Central Illinois Light Co.)

COMING . . . STUB

STUB is the first of a number of programs which will form a microwave engineering package.

It provides both single and double stub matching for transmission lines. It can be used also as an automatic Smith chart. Documentation due soon... watch for announcement!

NLNET\$ — DC Non-Linear Circuit Analysis documentation (003402) is now in the Warehouse. Current users of circuit analysis programs will find NLNET\$ very useful.

VISUALS AVAILABLE An electronics presentation of 70 slides and a script is available for \$25 from Minnie Ferguson.

Marketing-Communications. It covers ECAP\$\$, ACNET\$, DCNET\$, ANALG\$, TRANS\$, plus some math and statistical programs.

LOGIC\$ FAST-FIX The last time period specified by a RUN or TRACE command may print-out incorrect results.

To avoid this difficulty, the RUN or TRACE time limit should be one time unit greater than the final time limit. Call Fred King, 8\*273-4607 if problem persists.



NEW LØGIC\$ FUNCTIONS "Digital System Simulation" User's Guides (910372) includes a description of two new logic

functions, NAND, and NØR gates, and an oscillation detection capability, which indicates that the user has improperly modeled his logic device. As far as we know, this oscillation detection is not available in competition programs.

A 5/1/70 version of LØGIC\$ which substantially improves the efficiency of the program will be loaded on systems around June 1. This version offers as much as 50% reduction in the cost of running large problems.

FINAN\$
IMPROVEMENTS

Financial Analysis System, FINAN\$, will check all years in the historical data file for balancing errors and allow the user

to continue the run even if the balance sheet is out of balance, says John Canning, Application Sales. This change will enable the user to find his errors easier since it will allow him to print the balance sheet for those years which do not balance.

A second change is in the Statement of Sources and Uses of Working Capital. It will reflect the changes in accumulated depreciation if the change is not equivalent to the depreciation expense for that year. These two changes are to be made May 30.

FINDA\*, from Bill Moore, Newport News, is a program which will print null as the account title for historical accounts. It will print zeros as the amount for each null account and print zeros in all fields to be filled for the number of projection years. FINDA\* is in the APEX\*\* Library.

Another FINAN\$ program from Bill Moore, which is on APEX\*\* is FINCK\*. This program checks 1) format errors in the data file, 2) the number of characters in account title (max. 15), 3) varifies that balance sheet balances for all years in file and will print the amount of Current Assets, Total Assets, Current Liabilities, Liabilities & Equity and balancing error if any for each year, and 4) prints Gross profit, net profit, change and retained earnings for each year of income statement.

PGRAMS ON MK II Dean Steiner, Manhattan: ITT FORTRAN programs have X OFF and other special characters at the end of each line.

How can I get them into the Mark II? . . . First divide the program into blocks that will fit into the Mk I. Next load the blocks into the MK I in DSM. Then LISDNH it out onto paper tape — the Mk I will omit the special characters, adding carriage return and line feed to the paper tape. Now, load it into the Mark II in DSM and use the APEX\*\* program BATCH\* to add line numbers. Courtesy of Larry McNeil, Washington Sales Office.

TPORT\$\*\*\*
MODIFIED

Din Kurawadwala, Eng. & Sci. Appl., gave the following changes for Mk II TPORT\$. 1)

Comparison of total supply to total demand, 2) option of either complete output or just the minimum cost, and 3) printout of the result (distribution) is modified to avoid repeatedly printing the header line.

AT HOME AND ABROAD IISO is looking for U.S. customers who have overseas affiliates that might use timesharing. Advantages to U.S.

sales offices are:

- 1) Show total service concept to customer
- 2) Mark II programs would get converted to Mk I on U.S. system, creating revenue.
- U.S. customer would have back-up on these programs when he makes them workable on both Mark I and Mark II.
- Use of GE Time-Sharing Service by U.S. and overseas affiliates helps "lock in" a customer.

If you know of affiliates, call Jim Parkhurst, Int'l Sales Dev., 8\*273-4115.

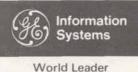
"I AM CURIOUS" Two instructional video tapes are available: "FINANCE and TIME-SHARING" discusses pre-

sentation of t/s to financial management — the organization, potential prospects, and other related t/s library programs. Length: 15 min. Rated: SR, CAS, and AR. "ALPHANUMBRIC STRINGS IN BASIC" features use of alphanumeric variables and constants in Mk I and Mk II BASIC. Also, explained are binary representation of ASCII characters, the CHANGE verb, and ASC function. Length: 30 Min. Rated: CAS

For these video tapes, on a free loan basis, contact Jim Medley, Education Center (8\*273-4672).

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10- m. Fe -1856 or edr - ork. 1/3 and w. Boss. rent. 1: take ri. 1: take ri. 1: take ri. 1: take ri.	looking for a program CORLAP, a plant layout program demonstrated	AANTUA 1:4S spl. leve. cp. rni. w-w c rp. barsnip 2.1 y 273-6800  A EA Lins's MANC
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# FAST-FA



In Time-Sharing Service

JUNE 1, 1970

**STATUS** OF **GPSS** 

A sales plan is being prepared tying together final documentation, field training, promotional material, etc., for the General

Purpose System Simulator (GPSS) language now on all Mk II and Network Systems as GPS\*\*\*. You'll be hearing more about it via sales bulletin in a few weeks, says Bill Noble, Marketing, 8\*273-4657.

Until all parts of your sales kit are ready (by July 31), Bill suggests that you avoid a mass selling effort. Instead, go after current batch users of GPSS, both internal GE and external customers, requiring minimum support on your part.

As an assist for internal GE customers, A MANU-FACTURING INFORMATION LETTER, devoted entirely to our GPSS version, was sent to 1200 GE manufacturing managers by the Materials Operation in New York. It mentions applications of GPSS for manufacturing problems in plant capacity, in-process inventory, dispatching, equipment utilization, and analyzing the flow of material through manufacturing operations.

Advance Realease is AR-1 and technical support is from Din Kurawadwala, 8\*273-4224.

ORDER OFF-LINE DOCUMENTA-TION FROM FAST-FAX

Recently, with the new documentation ordering system, customers have inadvertently been ordering off-line pubs from Distribution Services. This method delays shipment to the

customer, as Distribution Services must forward the order to Fast-Fax. To keep your customer happy, Jim Doyle, Sales Support Unit, urges you to check publication order form MF-33 for Off-line documentation before it's sent to Distribution Services.

An inventory control package for purchased goods in-INVENTORY ← CONTROL → ventory - with random access binary files - is now BRICS2 on APEX\*\*. The package, BRICS2, came from Paul

Morey, Berkeley, who provided BRICS1. The new Mark II FORTRAN package includes the following:

- Random access binary files
- 2. Fast "shell sort" routine
- 3. A highly economical position referencing routine.
- 4. Modular construction that can easily be altered.
- 5. Reliance upon the system executive for high economies
- 6. A variety of reports that are run separately from the update.

Four programs make up the BRICS2 package: 1) UDATE\*2 which updates the master file, 2) REPØR\*2 offers a choice of up to 7 reports, 3) ALTER\*2, makes alterations on the binary master file, and 4) BUILD\*2 initially loads the customers master file. An inventory of 3000 items can be accepted by the program and 200 transactions can be handled in one running of UDATE\*2. Documentation, from Fast-Fax, has an inventory control for a hospital to show how the program runs.

PRØBS\* The list of User Visible Problems on Mark II has been revised. The current list is stored in the APEX\*\* catalog under the program name, PRØBS\*.

NEW / -INVOICE-

Customers will be receiving new invoice forms for May services. FORM An explanation of the information on these forms is given in

detail on page 2. You are urged to review this information before your customer receives his invoice the week of June 1.

750 (6-70)

For Fast-Fax call: TTY: 8\*273-4524 Brian Berger Vic Henschel

8\*273-4345 8\*273-4525 8\*273-4421



INFORMATION SERVICE DEPARTMENT

May invoices for Time-Sharing Service will be billed on new forms. An explanation of the new invoice form is shown below to prepare you for any questions that may arise from our customers.

Requisition No. Assigned by the IPC to facilitate collection of sales statistics information

Subscription No. Permanent number assigned by GE finance.

Remote Concentrator Code for the RC assigned to customer. (Does not appear on Mark 1 invoices).

Catalog Identification of Catalog being billed by this invoice. For User Number billing "Catalog" is replaced by range of inclusive User Numbers, e.g., 550-559.

> Sales Office No. First three digits are Cost Center of Branch Office receiving revenue credit, (When credit is split only one of the participating office numbers is used).

Customer Type Code Last digit is used by GE finance for accounting purposes.

> GE Financial Code If used, number is for accounting purposes.

> > PAY THIS AMOUNT

\$ 11037

Customer Account No. Assigned by GE finance to identify customer's "paying address" for credit and collection purposes.

GENERAL ELECTRIC Customer Order No. The Purchase Order number used by the customer to buy service from GE.

To: Up to 4 lines of "Bill To" location where the invoice is sent for payment regardless of where service was used.

> Invoice No. Sequential number assigned to each invoice issued.

Job No.: Up to 12 characters of information that can be printed on the invoice if requested by customer.

Remarks: Network Service will be identified here.

IPC The GE center which furnished computer service.

Type of Service\* Can be Mark I or Mark II. Network Service will appear as Mark II, but Network rates will be used in calculating charges; see Remarks above.

Minimum Charge Adjustment The amount required to bring total usage charges for the month up to the \$100 minimum for the catalog (miscellaneous charges do not count toward the minimum).

Other Charges This is where charges for Initiation of Service, User No. changes, etc. will be shown.

\*Note: Billing for Desk Side Service, Mark I D.A.S. ports, Publications, Customer Courses, Terminals, and CAS Time are billed separately.



Zigi Quastler, Manager-Mark I Services Operation, answers more questions from the National Sales Conference.

- Q. Is there any way that a customer can multiplex several terminals into one dedicated port?
- A. A dedicated access service customer would have a telephone rotary the size of which would depend on the number of ports for which he has contracted. Our best experience with D.A.S. users is a customer with 45 terminals and 12 ports that says he has never received any busy signals and another with 22 terminals and six ports that said he never used the last line on his rotary.
- Q. Does the customer at remote sites pay for the lines to Mark I ports or just to the RBU's?
- The D.A.S. customer pays for only the local line facilities.
- Q. Is there a price break for deferred or after hours runs?
- A. There is no price break for a deferred run. It is, however, available from 12 Noon to 1 p.m., and users may take advantage of this facility during the prime time period. For some customers this can mean a considerable saving in terminal connect hours cost. The only discount for after hours is 50% of normal terminal connect hour rate after 6 p.m. for educational establishments.
- Q. Has consideration been given to offer Mark I service at a flat hourly rate?
- A. Yes, we are currently considering new ways of pricing the Mark I service. For example, TUTØR on Mark I is now charged at a fixed rate of \$1.00 per lesson for CRU's plus terminal connect hours used.
- Q. What can we do for schools with dedicated Mark I ports during the summer months?
- A. We are currently developing a policy for the education market.



(Judy Jehn, Dayton)

#### PROGRAMS EXCHANGE

APEX\*\* now has available the following programs on the NAØ53 catalog on Network.

CASHM\* Computes internal rate of return, net present value, and does sensitivity analysis for uniform or end of period cash flows. Mk II BASIC, documentation available. Thanks Bill Moore, Newport News.

BATCH\* Converts batch FORTRAN DSM files to line numbered files. Mk II FORTRAN, documentation available. Thanks Larry McNeil, Washington.

CLASS\* Interactive test on command system for use following instructor's lesson.

Mk II or Mk I BASIC, self-documenting. Thanks Harlan Dodge, Cincinnati.

COPAR Compares two data files on a line by line basis and prints non-identical lines — up to 10 errors with option to abort. Use to compare tape with actual file. Mk II BASIC, self-documenting. Thanks Ron Fellows, San Diego.

NETNØ\* List of local telephone numbers for Network System from Compat locations.

SURVY\* Analyzes multiple choice questionnaire and allows for cross-tabs on up to three questions. Good for market research/analysis firms. Mk II FOR-TRAN, documentation available. Thanks Mike Mash, Bala Cynwyd.

If you have programs that you want to share with others, contact Fast-Fax.

### ►►► TECHNICAL TIPS ◀◀◀

#### Confidence vs. Prediction Limits

Din Kurawadwala, Eng. & Sci. Appl., gives more explanation for confidence and prediction limits (FAST-FAX 95-21).

Confidence limits provide intervals around some unknown parameters, such as

- 1. the mean of a normal population
- 2. the coefficient of  $\alpha$  and  $\beta$  in a regression model
- 3. the true average value Y for a given value of x in a regression model

each of which can be calculated from a given set of data.

In contrast, a prediction interval provides an interval which will include a single (or more) future observations such as

- 1. a future observation from a normal population
- 2. a future value Y corresponding to a specified value X of the independent variable in a regression model.

Both confidence and prediction intervals, along with other intervals, can be obtained from MARK II new program ØNESAM\$\*\*\*.

CPMX1\$\*\*\* has been modified to accept different running options (customer's responses) through terminal as well as through file. Name of the file is input in response to a question asked. A typical file input is shown below.

#### DSDSDS

	CPMIN	Name of NETWORK INPUT file
10000	YES	Activity description?
	) GH	Description file name
130	YES	Resource Code?
140	NØ	Cost?
150	CD	
151	DE	Working files (three)
152	EF .	
160	) FG	Output file (because no expedited results are asked for)
170	20	Near critical float
180	YES	Dating option?
190	BC	Holiday file name

READY

Note: All line numbers are 3 characters long.

-Din Kurawadwala, Eng & Sci Appl

#### ADVANCE RELEASE ABSTRACTS

Brian Berger, Fast-Fax, has prepared the following summary of Advance Releases available to date (June 1, 1970). As new AR's become available, abstracts of them will be published in FAST-FAX so you may keep this "quick reference" up to date.

#### **GENERAL PURPOSE SIMULATION (AR-1)**

Program: GPS\*\*\* System/Language: MK II/FOR

Description: A powerful tool which permits the user to describe and study an unlimited variety of different systems for logical structure, flow of traffic, and competition for resources in the system.

Use: Will give the user a better understanding of his present system and permits him to determine the impact on the system if parameters are changed. Some examples of systems that GPS\*\*\* can be used to describe are: Purchase Order, Automotive Traffic, Electrical, Manufacturing, Baking etc.

Prospects: Analysis, planning, or systems engineering types in all diciplines.

#### GENERAL SHOP SCHEDULER (AR-2)

Program: GJSCH\$ System/Language: MK II/FOR

Description: Produces feasible solutions for work activities where a job is moved from work center to work center during its production process.

Use: Used in developing a number of different feasible solutions for the shop, i.e. for direct scheduling of the shop; for a "first cut" picture of shop load; as a tool for developing job promise dates.

Prospects: Manufacturing or production environment — custom machine shops, maintenance activities, tool and die shops, foundaries etc.

#### METHODS TIME ANALYSIS (AR-3)

Program: REMTA\$ System/Language: MK II/FOR

Description: Assists in performing the routine calculations and work associated with motion-time studies (a technique whereby predetermined times are assigned to physical motions performed in manual work). This type analysis is used to study and improve work methods, establish time standards or piecework prices and estimate manual labor costs.

Use: Used in manufacturing "assembly" environment or in areas containing high manual direct labor. The program will: improve report turnaround times, permit completion of studies by clerical personnel, and improve the accuracy of study results.

Prospects: Motion-time Specialists or methods engineers

#### CPM (EXPANDED) (AR-4)

Programs: CPMX1\$, CPMX2\$, CPMX3\$, CPMX4\$ System/Language: MK II/FOR

Description: These programs are an enhancement of the existing Mark II programs CPM01\$ and CPM02\$.

Use: Allows the user to: produce solutions based on both "normal" and "expedited" duration costs; detail network activities by: duration times, description, costs, resource code and cost slope; update, sort and report a CPM saved output file.

Prospects: Current or prospective users of the critical path method or PERT technique of project or system evaluation.

#### COIL SLIT PLANNER (AR-5)

Program: CØ1LS\$ System/Language: MK II/FOR

Description: Calculates, for different customer orders, an optimum slitting plan for standard material grade inventory coils.

Use: Matches customer orders with standard inventory coils so as to reduce excessive coil waste to a minimum. Also provides customer billing data.

Prospects: Customer order departments in the steel, paper, plastic, glass, textile industries etc.

#### ZERO-ONE INTEGER LINEAR PROGRAMMING (AR-6)

Program: INTZ1\$ System/Language: MK I/BAS

Description: Uses integer linear programming technique to solve problems involving yes-no decisions or where the variable can take on either of 2 values.

Use: Permits selection of the most efficient alternatives of problems involving maximization or minimization restraints i.e. Profit Maximization-determining optimal allocation of funds for procurement of R & D contracts, research activities, marketing efforts, proposal preparation etc.

Prospects: Cost conscious and profit-minded decision makers — particularly in planning and project evaluation functions.

#### CALCULATION OF PAINT COMPOSITION (AR-7)

Program: PAINT\$ System/Language: MK I/BAS Off-Line

Description: Calculates the total paint composition for variable blends of pigments, solvents, resins and additives. Provides cost data for varing formulations and area coverage.

Use: Chemical - Reduces the paint chemist's calculation time, provides more exact calculations - in greater detail and economically.

Prospects: Paint chemists.

#### DATADISPLAY (AR-9)

Programs: FREQT\$, HISTG\$, BARGR\$, CUMDI\$ System/Language: MK II/FOR

Description: Provides summary statistics and graphical presentation of numerical and alphabetical data in the form of frequency tables, histograms, barographs, and graphs of cumulative distributions.

Use: Statistical - Can be used in place of, or in conjunction with numerical analysis, Provides easy interpretation of statistical data.

Prospects: Crosses all disciplines. Areas of application include (but are not limited to): statistical analysis, market research, financial, sales, inventory etc.

#### THREE-PHASE FAULT STUDIES (AR-12)

Program: FLT3P\$ System/Language: MK II/FOR

Description: Simulates electrical power systems for the study of three-phase, short-circuit faults.

Use: Upon imputing data on where a short-circuit occurs, the electrical power engineer is provided with the resulting fault current. He puts this information to a variety of uses i.e. determining the size of circuit breakers.

Prospects: Electrical power engineers in the Distribution Engineering, Transmission Engineering, or System Planning Departments of Electrical Utilities.

GARRETT Twenty-four demo files are available to help you sell those Garrett programs to petro/chem

customers and prospects. You can get a list of the nine basic programs and corresponding demofiles, with a short description of each file, on your standard 401 demo number. Call up the program XAMPL\* and LIST, As demos are added they will be included.

#### DOCUMEN-TATION FIX-IT

A discrepancy in the collation of the Mark I COMMAND SYSTEM Reference Manual, 229116D, has been detected in

a limited number of copies. Pages 9 - 24 may be missing and pages 1-8 and 25-32 duplicated. If you find that you have bad copies, call Norm Otis, 8\*273-4723. Norm will send you correct replacements at no charge. Also please ship all bad copies to Norm Otis, Documentation, General Electric Co., 7735 Old Georgetown Rd., Bethesda, Md. 20014, so that an estimate of the copies erroneously collated can be made.

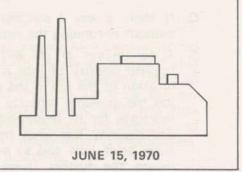
#### WE LIKE MONEY. BUT

When ordering ISD publications please do not send checks or money orders with Publication Order form, MF-33. Presently,

there is no way to process such checks. Payment must be sent through the normal billing procedure.

CLASSIFII	ED	MAY 1970
I STATE OF	WANTED	
Hair 3 bit. ded 'g. si/adi/a. birk A/C bring A/C bring to din. if. Its dascap	Rod Lemberg, Milwaukee wants a program for insurance company to compute and printout convention statements, particularly schedule D. Call Rod 8*326-5292 or Fast-Fax.	sedrms, eat starpet, \$275 mo. \$ "YIC." HI Updaty, Townhoaths, central axcel, cond., \$ cell " neccell y BAJCRO
dear at seel agon. Livel 2 raths two INIA frequency	M. Waxgiser, Syosset is looking for any applications for railroad, sub- way or bus systems. Call Fast-Fax or Waxy.	ST. AN NY  3 bedrin, 2 be A NY PRICE, Lef JN TOWN bedrin, 2 full 8 A/C, all applia Avell, MW (3) ANTUA FU. S Spl level, cen
10-m, Fe -1856 ol edr 3 ork, 1/3 a a w Rejes, rent, 17 take r1.	Stamos Katotakis, Toronto needs t/s applications for flame characteristics of natural gas.	rni, W-W C rp. berselp 23 y 273-6800 A' SA
n R. to will.  U. or is will.  U. or is will a this  C. or in this  C. or in this  S. or in this	Marilyn MacDonald, IISO, wants a Mk I program to solve symetric "traveling salesman's" problem for up to 100 points. Call Fast-Fax.	Available for J nial Wistia asb Holves with a private in 2000 for only 250 o. This imes with 4th firept for satir nen
Someon series covered OF 100 cm, air	Bob O'Keefe, Cincinnati, has a steel company looking for a program to size and design foundations and footings giving vertical loads, bending moments, and horizontal loads, size of foundation, area of steel and placement volume of concrete required, and soil bearing capacity.	wetl and really air-collection for the collection of the collectio

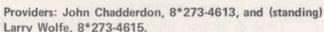
# FAST-FAX



A SPECIAL ISSUE ON ...

## **MANUFACTURING MARKETS!**





- Q. Can I run the Jobshop Simulator from a saved file rather than the conversational mode?
- A. Yes, create a file off-line and call the program JBSIP\$\*\*\* (This is the working link of JBSIM\$\*\*\*). The only restriction is that following this technique, the dating option is not available.
- Q. In the Budgeting program, BUDGT\$\*\*\*, is there an easy way to start budgeting an expense in the middle of the year?
- A. Yes, by manipulating the transaction and disposing codes for type 2 and 3 accounts, but this is quite tedious. If a large enough demand for this feature is received, future revisions could contain this option.
- Q. Is there a possibility of a price reduction in the cost of posting a transaction in the Inventory Control Program, GIVY1\$\*\*\*?
- A. Yes, a significant reduction in cost has been realized. Try the latest library revision using your own benchmarks.

- Q. I have a customer interested in the General Job Scheduling program, but he wants some clarification.
  - The machine/work center load report that can be generated is confusing, just what does this do?
  - A. The machine/work center load report lists the available time left on each machine/ work center after all jobs have been scheduled.
  - 2. My customer will probably have more than 500 jobs open at all times for detailed scheduling. Can GJSCH\$\*\*\* handle this?
  - A. Yes, essentially we have infinite capacity (within Mark II file limits).
  - 3. Occasionally, my customer may require more than 19 operations per job. The User Guide states that 19 operations per job is a restriction. Can this be expanded?
  - A. Yes, if your user is interested in doing "forward type" loading (scheduling from today's date forward). If he is interested in "due date" loading, the 19 operations per job is a restriction. (Cont. on p.2)



Merchandiser: Joe Domonkos, 8\*273-4625

750 (6-70)

For Fast-Fax call: TTY: 8\*273-4524
Brian Berger Vic Henschel
8\*273-4345 8\*273-4421



INFORMATION SERVICE DEPARTMENT

- Q. Is there a way I can input additional jobs without re-running the entire schedule again?
- A. A simple yes or no will not suffice. The implied priority of jobs is controlled by the location of the job in the input file. The first job has available capacity on all machines to mortgage for its requirements. The next job has capacity less what has been mortgaged from prior jobs and so on. This, or course, means the further down the input file a particular job is located, the more likely that available capacity and time will be reduced. If all incoming jobs have an implied lower priority than previously scheduled jobs (first in-first out), there is a way to avoid rerunning. Simply adjust the available machine/ work center hours to the identical capacity at the end of the prior schedule responding to input questions. This will be cheaper and faster because only the new jobs have been massaged. If the incoming jobs will not be "tacked on" the end of the existing job file, then the entire schedule must be re-run.

#### ABOUT STARFISH ...

For the Manufacturing targeted market, Starfish Joe Domonkos, Application Sales; John Chadderdon and Mgr. Larry Wolfe, both in Business & Manufacturing Applications, provided the information in this special issue of FAST-FAX. They have included additional uses of Library programs, recent additions, typical customer questions and a list of available promotional sheets and documentation... good information for you field starfish to get your tentacles around those oysters.

#### **NEW DSS FOR MANUFACTURING**

TIME/WARE, Redwood City, Calif., a new DSS author, offers over 60 programs for Quality Control. Top management is mainly ex-GE with one nationally known figure in the Quality Control world — Jack Lancaster, from Lockheed. TIME/WARE, has salesmen kits, prospecting hints, and the ability to service what they sell.

One of the major items in their goody basket is the government Quality Control standards MIL. STD. 414 and 105D. All firms supplying the government go through the manually long procedure. Now its starfish soup on GE Time-Sharing.

Pete Kelsch, Palo Alto, 8\*421-1370, and the Los Angeles group have enjoyed great success with this product already.

#### FAST-FIX

RGRTH\$, Reliability Growth Analysis — corrected for erroneous calculations. Revised to permit greater flexibility in graphing mean-time-between-failure output.

MACHC\$, Machine Tolerance — Revised to include user options permitting the suppression of formal report output.

GPS\*\*\*, General Purpose Simulator — Revised to permit the handling of larger simulation networks.

QCRTS\$, X & R Chart Preparation — Revised to permit file input.

PCNJS\$, Continuous Process Scheduler – work centers increased to 24.

GJSCH\$, General Shop Scheduler — conversational input reduced: farm-out centers increased; and file input permitted.

#### STARFISH SHOWS (Presentation Materials)

Three slide presentations are available through Minnie Ferguson, Marketing-Communications, 8\*273-4749.

General Shop Scheduling, GJSCH\$ - 14 slides, use Pub. 002389 for script
Time & Motion Standards, REMTA\$ - 14 slides, use Pub. 002397 for script
Capital Investment Analysis, CEIAP\$ - 12 slides, script available.

#### **NEW PROGRAMS**

Capital Equipment Investment Analysis, CEIAP\$, — a 'cash flow' financial analysis program measuring the economic advantage of a new equipment purchase versus alternative methods of production.

NC Tape Verification, TAPVER\*\*\* – A system of modular Mark II programs to verify the correctness of NC tapes by using a plotter to display tool movements.

Inventory Tools, NWSIS\$, PBREK\$, MIEØQ\$, SEVST\$ — a converted Mark II edition of Mark I programs significantly revised for 'readable' output formats... valuable in studying inventory/ purchasing decision rules.

Cutting Planners, CØILS\$, LMCPL\$ — programs to prepare cutting/slitting plans for users who wish to optimize coil slitting and/or linear stock cutting operations.

#### DID YOU KNOW YOUR CUSTOMERS CAN

- ... Use schedulers, e.g. PCNJS\$, GJSCH\$ etc. for scheduling people and projects in a nonmachine/production environment, e.g. an engineering firm/function.
- ... Apply WKSAM\$ to studies of idle time in a clerical environment, e.g. an insurance office, welfare boards, etc.
- ... Use GPS\*\*\* for clerical studies and data processing flow studies to determine improvements that might be made in throughput.
- ... Apply RGRTH\$ in the factory maintenance area to determine when the equipment failure trend justifies equipment overhaul/ maintenance.
- ... Use NWSIS\$ in the study of existing inventory policy for the purpose of revising inventory decision rules with an eye towards lower inventory levels.
- ... Apply CEIAP\$ to the study of two or more current methods of production (without consideration of new equipment purchases).
- ... Apply CØILS\$ to material environments other than metals e.g. paper, plastic, etc.

Have you used Larry Wolfe's MFGIN\*FØ program on NAØ53 to custom-fit programs to a customer's need? The file was accessed over 150 times during the past month! A printout makes an impressive customer presentation.

#### OYSTER WRESTLING

Black belts in oyster gripping have been conferred to 45 field personnel at three Manufacturing Workshops held in Bethesda, Cleveland, and Los Angeles. Conducted primarily by those two experienced oyster grippers, Larry Wolfe and John Chadderdon, the course covered the elements and relations existing in a manufacturing organization, their problems and functions.

A detailed study of how our programs work and how they can be applied were great bait. An in-depth review of statistics preceded the use and application of the Quality Control programs. Overviews of manufacturing implications of GPS, PL-3, CPM, and ALB (Assembly Line Balancing) were also given.

Voracious, but mild mannered starfish, Joe Domonkos spoke to 130 potential oysters about CAM and our capabilities at the Third Annual Pacific Northwest Management Seminar of American Production and Inventory Control Society in Seattle. The next day at the Portland office, he conducted a seminar and workshop for 40 customers and prospects. His comment," I just love to get my tentacles around some of these Western oysters."

#### **CAM SUMMARY**

More than 30 problem-solving programs to Computer-Assist Manufacturing are summarized in Pub. 290060, (due in Scotia Warehouse in July, says Joe Domonkos). It breaks down programs into major categories, i.e. N/C, Production Control, Inventory Control, etc., and for each it gives the documentation and promotional material available. This summary can be a big help in presenting your wares to customers and prospects.

#### IN PROCESS . . . WATCH FOR ANNOUNCEMENTS!

GIVY2\$, Order Processing/Inventory Control — a random access Mk II data base application providing control of 'on hand', 'on order', 'backorder,' and 'mortgaged' inventory.

GELATH\*\*\*, document for the new REMAPT post-processor incorporating GE 7500 series controls, automatic threading and automatic roughing.

GPOINT\*\*\*, document for the new REMAPT post-processor for drilling machines, mills, and machining centers.

Preventative maintenance... Mk II data base application will handle approx. 3000 equipments.

Assembly-line balancing to produce optimally balanced work assignments for a paced assembly line.

Production feedback system to be used with general job scheduler, GJSCH\$.

Daywork payroll, GEPAY\$, comprehensively handling all aspects of hourly and salary pay including tax reports.

## MANUFACTURING PROMOTIONAL MATERIALS

Numerical Cont	rol		Pub. No.
REMAPT (fold	er) 17 de la company de la com		154098A
GELATH			155098A
NCPPL\$			271010
TAPVER	(Mala - +		269010
	(Make a tape make a sale)		207010
Part & F			267010
	e – Moore Special Tool Co.		266010 - 1 & 2 171118
	mation Magazine "Look to Timesharing	in Preparing	171110
	N.C. Tapes" by R. Mill		223089
Production Con	trol		
-		restat transfers till teste and	THE INTERIOR
JSHØP\$		Combined in	262010
GJSCH\$		S/B 124	263010
Quality Contro	Venetions bile and automov		
MACHC\$		S/B 125	268010
Inventory Cont	rol		
Annual of the Annual of the State of the Sta			
NWSIS\$ SEVST PBREK\$, MIE		All 4 on	271010
TOTILINO, WILL		All 4 on	271010
Industrial Engir	eering		
REMTA\$		273010	273010
Reprint - Ame	rican Machinist — "Computers Figure Jol		
Management	(GE T/S in work at Ca	litornia Company)	
CPM			160098
	SELECTED MANUFACT	URING PRØGRAMS	
		Author A March 1884 Ed Ed	
NAME	DESCRIPTIÓN		DØC #
PCNJS\$	CØNTINUØUS PRØCESS SCH.		906324A
RGRTH\$	RELIA. GRØWTH ANALYSIS		FT910368
WKSAM\$	WØRK SAMPLING		FT911376
BUDGT\$	MFG. EX BUDGET PREP.		FT911377
JBSIM\$	JØBSHOP SIMUL./SCH.		FT909362
CØILS\$	CØIL SLITTING PLANNER		002393
LMCPL\$	LINEAR MAT'L PLANNER		002393
MACHC\$	MACHINE TØLERANCE		908343A
REMTA\$1	METHØDS-TIME STUDY		002397
JSHØP\$	JØBSHØP SCHEDULER		FT907337
NWSIS\$	INV. SIMULATØR		FT906320
MEIØQ\$	ECØNØMIC ØRDER QTY		FT906320
PBREK\$	PRICE BREAK		FT906321
SEVST\$	LIMITED WHSE SPACE SIM.		FT906321
GJSCH\$	GENERAL SHØP SCHEDULER		002389
QCRTS\$	X & R CHART PREP.		909360A
GPS***	GENERAL PURPØSE SIM.		AR-1
CPMX	CPMX1\$ - CPMX4\$ = CPM SYST	EM	002394
and prelighten v	CPMX5\$ = CPM GRAPHIC ØUTPL		AR-16
CEIAP\$	CAP. EQ. INV. ANALY.		AR-14
DEMART	NO BRE BROOFESCOR		005000

805220

NC PRE-PROCESSOR

REMAPT



# **ANSWERS TO SCHOOL PRICING**

The Educational Plan Pricing Schedule, MF16A, has been distributed to all field offices. Among changes: 1) It was known as "Supplement to Agreement'; now it's called "Pricing Schedule", 2) Eligibility and usage requirements are defined, 3) 50% discount for Mark II I/O characters in non-prime time, and 4) monthly minimum can be suspended for up to 3 months.

Here are several procedural questions asked about educational customers.

- Q. What do we do to "sign up" an educational customer?
- A. The Branch Manager is responsible for assuring that the customer meets the qualifications of the plan. The customer is given the Educational Plan Pricing Schedule, MF16A, and the normal Pricing Schedule, MF-22A. The only agreement a customer signs is the standard agreement, MF1.
- Q. If there is doubt about whether a customer qualifies for the Plan, who resolves the question?
- A. Charlie Hatch, Manager-Contract administration, 8\*273-4645
- Q. Do we notify headquarters when we extend the Educational Plan to a customer?
- A. No.
- Q. How do we assure that the educational customer actually gets the discount the Plan provides?
- A. The IPC must know that Educational user numbers have been assigned to a customer, and then the system automatically follows rules of the plan in its billing routines. When using Mailbox for validation be sure that you state after COMMAND with a REM statement that this is an educational user number.
- Q. How do we get the Monthly Minimum Charge suspended when the customer requests it?
- De-validate the customer the same way as if he were cancelling service.
- Q. Must a suspended customer take his programs off the system?
- A. Yes, or they will be permanently lost.

- Q. How do we re-validate a suspended customer?
- A. Validate him as you would a new customer using Mailbox. In the REM, instruct the IPC not to charge for Initiation of Service. Don't forget to tell the IPC that you are requesting Educational User Numbers. State that clearly in the REM statement.
- O. Is there a charge for de-validation and validation activities to suspend and then re-instate a customer?
- A. Yes, the standard charges shown on MF-22A apply. It's \$10 to de-validate the service and another \$10 to re-validate it.
- Q. What do we do with the customer's letter requesting suspension?
- File it in your customer's correspondence or contract file.
- Q. My customer wants to suspend right away, what about the 30-day notification?
- A. To allow everyone to take immediate advantage of this new provision the 30-day notice can be ignored until Sept. 1, 1970. Don't forget, however, that a suspension period must coincide with a billing month(s).

FØSTR\$ An improved version of Mk I
FIXED FØSTR\$, will be on the systems June 30, says John Can-

ning, Application Sales. A Mark II FØRTRAN version of FØSTR\$\*\*\* is now available. Instructions for the Mark II version are listed in file INFSTR\*\*\*.

RESOURCE Using Monte Carlo simulation for alternate courses of action in allocating corporate re-

sources for plant expansion, additional product lines or R&D, Resource Allocation is a new package on APEX\*\*. John Canning points out that the six Mark I ALGOL programs are similar to the Mark I PARSIM series, Capital Investment Analysis Pub. 803216. "Resource Allocation" is referenced in "Let's Sell to Banks" and "Let's Sell to Financial Management". Contact Fast-Fax for documentation. See "What's NEW ON APEX\*\*" in this issue for file names in package.

NON-
PRINTING
L, M, N, O
ON FRIDEN

How do you duplicate nonprinting characters L, M, N, O when using a Friden terminal?... Bob Seaton, IND, offers the following:

To ge	t a	Press keys	
C/S	L	Control & — (< FS)	
C/S	M	Control &	() GS
C/S	N	Control & ——(♠RS)	
C/S	Ø	Control &	(?/US

#### MMIS ON NETWORK

Citibank's Money Market Information Service which provides daily, full opening market re-

port on Short Term Investments, Government Securities, etc., is available only on Network, said Clarence Selin, Application Sales 8\*273-4731.

#### NETWORK SIGN-UP

Nick Kefal, Network Sales: The sign-up procedure for Network customers is now on the

NAØ53 catalog. NETIN\* gives you simple instructions in setting up a Network account. The form mentioned is available from Network Sales, at Headquarters.

#### PROFILE PLEASE!

Nick Kefal, Network Sales: "We can zero-in on logical accounts and applications for Network

with your help. We would like from the field, customer profiles or a brief applications write-up on present customers." Please send the information to Nick Kefal (8\*273-4624) or George Cofield (8273-4625) at Headquarters.

Booking dates for a traveling road show: Customer Seminar Presentation on STRESS and/or CØGØ - novice-user oriented. 1¾ day presentation with many transparencies. Good way to increase present customer revenue. Call booking agent Wayne Garber 8\*273-4297.

#### NEW STRESS

Boman Irani, Appl. Dev. Opr.: A new version of STRESS with binary random access files and

twice as fast as the original will be on-line in late June. Call STRESEXP\*\*\* for explanation of improvements.

NEW ON APEX\*\*\* Is your customer in a quandary about whether or not to expand his plant facilities? An APEX\*\*

package, Resource Allocation, can help him solve such problems. It is among the recent additions to the APEX\*\* Library which include:

FSWAC\* Plots ACNET\$ frequency sweep (linear or log); also has option to plot ACNET\$ part increment. Mk II FORTRAN, Documentation available. Thanks Joe Carpentiere, Meriden, Conn.

FQSWP\* Plots ECAP\$\$ AC frequency sweep, node voltage or any branch output.

Mk II FORTRAN, Documentation.
Thanks Joe Carpentiere.

INVLU\* Finds the angle corresponding to an involute in over-pin measurements in gears. Mk I or II, BASIC, documentation available. Thanks Otis McKee, Newport News, Va.

QINDY\* Driver for JACELF, Numerical Analysis Routine. Tabulates 3 Jacobian elliptic functions that arise as inverse functions of incomplete elliptic integrals of the first kind. Self-documenting. Sample output available. Mark II, FORTRAN. Thanks, Cal Cillay, Appl. Dev. Opr.

#### CLASSIFIED **JUNE 1970** WANTED AVAILABLE Ray Goetsch, Greenville, S.C. is Alphabetic and bit-shifting routine looking for a program to keep track written in FORTRAN simulating of county drug prescriptions. Call the BASIC functions, mat input, Fast-Fax. change, etc. Call Bob Cohen, El Monte, 8\*432-5334. Will Spreeman, Omaha, needs a program to convert ComShare List of local telephone numbers for FORTRAN (Extran) to MK II Network system from Compat loca-FORTRAN. Contact Fast-Fax. tions, on APEX\*\*, List NETNØ\* for up to date numbers. Ron Lund, Toronto, 8\*253-5214, wants a program for design of high voltage, paper insulated, power Allan Nuss, IND., recently made a cable. presentation on BINARY FILES AND THEIR ADVANTAGES. John Biggs, New Orleans, would Copies of the script, visuals, and a like a program to convert latitude handout example are available from and longitude to Lambert Co-Minnie Ferguson, Marketingordinates. Call Fast-Fax. Communications. You can hear the presentation as given by Allen Nuss, Paul Turcotte, Providence, wants to if you send a blank cassette, we'll know if anyone is using NCPPL\$ have his talk dubbed on it. with a slo-syn wire wrap machne or

a Ditco wire test machine. Call Paul

on 8\*262-6450 or Fast-Fax.

# FAST-FAX



World Leader In Time-Sharing Service

JULY 1, 1970

BINARY FILES PITCH AVAILABLE Allan Nuss, IND, recently made a presentation on BINARY FILES AND THEIR ADVAN-TAGES, in Cleveland and Chi-

cago. It brought accolades from those attending.

Sandy Calcin, Chicago, "good training session for answering customer's questions.

Gary McIrvin, Cleveland, "it enabled field people to truly see the advantages of introducing customers to binary files."

Bob McGregor, Cleveland, "the vivid example of cost saving should 'turn-on' any substantial user of files."

Al Parker, Schenectady, "it gave our people words to use in presenting binary files to the non-sophisticated time-sharing user."

Now you can have copies of the script, visuals, and a handout example. Contact Minnie Ferguson, Marketing-Communications for it. You can hear the presentation as given by Allen Nuss. Send us a blank cassette, we'll have his talk dubbed on it.

FORTRAN TEST Judy Jehn, Dayton, sent in a program which tests a student's knowledge of FORTRAN.

FTEST\* has 90 True and False questions (written in BASIC for Mark II), and a random number generator picks out 25 questions for each student. Judy uses it as FORTRAN class "final exam" — as does a professor at Dayton College. Judy says she couldn't let Harlan Dodge get ahead of her with his command system test, CLASS\*.

For two weeks only, July 20 – 31 FTEST\* will be on APEX\*\*. FORTRAN instructors may obtain the program during this period.

MAJOR & MINORS

Liz Scicchitano, Bala Cynwyd: What are the major and minor project totals that appear on

the billing supplement?.... They are accumulated totals for the project ID field. Project ID (not user number) can be up to 18 digits in length. The major project ID are the first six digits and the minor are the last 12 digits.— all within the same user number. The minors accumulate terminal connect time, the minor project totals may not add up to the total of the major project totals.

ZERO TCT? Vic Mack, Rochester: How can I/O characters be billed for a specific day when there is no

terminal connect time shown for that day?... TCT's are rounded to the tenth of an hour, so accesses of less than three minutes would round to zero. If it were the only access for that day, I/O characters are rounded to the nearest 10, and the log-in would take more than that. The billing program would round out TCT and then drop it, but retain the character I/O charge, since it exceeds the rounding increment.

# SHOW AND SELL CPM WITH NEW DEMO PROGRAMS

- On-line data file (CPDATA\*\*\*) lets you save and execute.
- Conversational sorting
- 11 columns of output per activity
- Project duration and total cost are clearly labelled.
- Stored compiled fast runs.
- Use CP100:\*\*\* for up to 100 activities
- Use CP400:\*\*\* for up to 400 activities
- · Error detection and easy correction
- List CPINST\*\*\* for instructions

Mark I Friendlier Than Ever

750 (6-70)

For Fast-Fax call: TTY: 8\*273-4524 Brian Berger Vic Henschel 8\*273-4345 8\*273-4525 8\*273-4421



INFORMATION SERVICE DEPARTMENT



AUTOTAB FROM NEW DSS AUTHOR AUTOTAB, a new financial planning and control system, produces tabular reports from simple instructions. It is now

available to GE Time-Sharing users from the newest Datanet Software Services Level I author, Capex Corp.

For use in all targeted markets, AUTOTAB is functionally oriented for people requiring reports. Basically doing tabular reports, it can also produce three types of graphs — curve, bar or joined bar.

"Instructions are more basic than BASIC", says A.L. Ellison, president of Capex. Providing users with a business-oriented system, AUTOTAB applies time-sharing to the task of preparing and maintaining reports which are usually prepared manually... such as budgets, cash flows, proformas, performs calculations and prints out a neat accurate report.

Data can be retrieved from saved tables to build an interlinking consolidated system of financial reports. Changes and updates are automatically "rippled" through a report... excellent for use as a "what if" modeling tool.

The new software operates on ordinary teletypewriters or on wide carriage terminals. Tabular reports and graphs that are too wide for the terminal are divided into sections and printed out as multiple page reports.

USE IT NOW! It's on DDS's Network Q01 catalog (see Sales Bulletin 131). You must contact Capex who will establish a special file for the user before he may run AUTOTAB.

Detailed information, promotional sheets and manuals on AUTOTAB may be obtained from Capex Corporation, 2613 No. 3rd St., Phoenix, Ariz. 85004. DIAL COMM 8\*433-2011 (602) 264-7241. Also contact Clarence Selin, Marketing, 8\*273-4731.

ADD DSS LEVEL I AUTHOR Add this author to your DSS Level I list (See Sales Bulletin 131).

Inatome and Associates, Inc. 8980 West Ninemile Rd. Oak Park, Mich. 48237

Contact: Joe Inatome, President

Applications: Construction industry — air conditioning system cooling and heating load; coil size calculation; exhaust duct system design program (only time-sharing program with industry approval).

CUSTOMER NEWS-LETTERS??? Would the editors of the various GE Time-Sharing newsletters for customers please add Fast-Fax to your mailing list? We'd

like to see what type of information you find useful for your customers. Send us a few back copies, the DIAL COMM of the editor, and the frequency it's issued, monthly, bimonthly, etc.

PUBLICA-TIONS ADVISORY BOARD Bob Richardson, Manager— Marketing Communications: "I'm not getting good feedback on what the field thinks about our manuals." Now, field per-

sonnel can pass along comments to local contacts who will forward them to Bob. If you would like to offer suggestions about manuals, contact anyone of the following members of the Publications Advisory Board:

A.U. Nuss 8\*273-4201, Bethesda
Hugh Calkin 8\*273-4694, Bethesda
Bob Cohen 8\*432-5334, El Monte
H.H. Greenberg 8\*432-5334, El Monte
T.M. Tranfaglia, 8\*225-8316, Teaneck
R.E. True, 8\*256-1539, Syracuse
Bob Blair, 8\*455-3229, Phoenix
R.D. Beldon 8\*242-2211, ask for 755-9661,
York, Pa.
D.D. Walker, 8\*281-7390, Atlanta
Ray Kane, 8\*273-4441, Bethesda

Or, if you send a message to Fast-Fax teletype 8\*273-4524, we'll deliver it to Bob Richardson's office.

### ▶▶▶ TECHNICAL TIPS ◀◀◀

TERMINET TABBING Paul Morey, Berkeley: Do you have any data on tabbing on the Terminet-300?... TN-300's with

HT = Horizontal tab

the horizontal tab option installed can use the feature to save character I/O charges between columns of data. Tabs can be set and cleared on-line using ECS followed by numeral 1 (to set

the tab) and ESC followed by the numeral 2 (to clear the tab).

To do it by program control, you must imbed the appropriate coding in a print statement. For example, this FORTRAN coding:

100 PRINT, "ESC2"
110 PRINT, "ESC1####ESC1####ESC1"
120 PRINT, "HT HT A"
130 PRINT, "HT B"
140 PRINT, "C"
150 PRINT, "C HT B HT A"
160 2 STØP; END

Clears previous tabs
(# are spaces); you are setting tabs
Print an A at column 10 at cols. 5 and 10
Print a B at column 5
Print a C at the left margin
Print CBA tabbed
End of routine

#### **FSL SUBROUTINE MTMPY**

The following illustrates erroneous results which may occur by not following the instructions for MTMPY exactly on page 58 of the "NUMERICAL ANALYSIS ROUTINES" manual #807231A. The incorrect results are caused by not fulfilling the requirement that LDIM must be the same for the A and C arrays.

NEW MATRIX
READY
100 DIMENSION A(1,3),B(1,3),C(3,3)
110 DØ 1 I=1,3
120 A(1,I)=1.
130 I B(1,I)=1.

140 CALL MTMPY (0, A, B, C, -3, 1, 3, 1, 1)

150 DØ, 2I=1,3

155 2 PRINT 3, (C(I,J),J=1,3)

160 3 FØRMAT (5X, 3F6.1)

170 STØP 180 END RUN

MATRIX 11:49 07/01/70

PRØGRAM STØP AT 170

In the first run, note that LDIM was set equal to 1 to agree with the DIMENSION declaration of A. However, note that the requested matrix multiplier will produce a 3X3 matrix. To be correct for the C array, LDIM should be 3. The rule to follow, as illustrated by the second run, is: Be sure that the first subscript of the A and C arrays as specified in the DIMENSION statement are identical (and equal to the larger of the two LDIMs required). This requirement is to permit MTMPY to calculate correct subscripts for arrays of any size. Remember that L, M, and N specify the actual data contents of the matrix arrays.

- Jerry Lechliter, Appl. Dev. Opr.

100 DIMENSIØN A(3,3),B(1,3),C(3,3) 140 CALL MTMPY(0,A,B,C,-3,1,3,3,1) RUN

MATRIX 11:50 07/01/70

1.0 1.0 1.0
1.0 1.0 1.0
1.0 1.0

PRØGRAM STØP AT 170

USED .19 UNITS

# FAST-FIX

John Wright, IND: In the FORTRAN Reference Manual, 802209D, on pps. 45 & 46 the definition column following the functions ATAN2 and DATAN2 should read as follows:

ARCTAN (Arg<sub>1</sub>/Arg<sub>2</sub>)

Mark I documentation for GROTR\$\*\*\*, Pub. 906328, page 12 says type 190 \$DATA DFILE, but you should type 191 +DFILE.

MARK I TOP PRGMS IMPROVED SIXCR\$\*\*\*, CURFT\$\*\*\*, POLFIT\*\*\*, and COLNR\$, took top honors for usage on Mark I. These programs were accessed 14,420 in a recent

month. There's a 90% probability that your Mark I customer was one of the users. Now they have been improved, speeded-up and expanded, says Dinu Martin Mark I Engineering CURFT:\*\*\*
POLFT:\*\*\* and COLNR:\*\*\* now make up a Regression Package available in Saved Object Code (SOC). They can share the same data. Data can be listed for verification purposes and modified.

SIXCR\$ has been expanded. The new version, BIGSIX\*\*\* was created after a suggestion and with the cooperation of **Don Bishop**, **Pittsfield**. Thanks, Don!. It accepts more data points, and is generally faster. List FITINF\*\*\* for a detailed description of the instructions for all four programs.

Joe Domonkos' telephone is 8\*273-4659 (not 4625 as given in FAST-FAX 95-25).

#### DATA FILES ANYONE???

Let's not re-invent the wheel. Submit your data files for running Mark II Library programs to Fast-Fax. We will make the file available through the NAØ53 catalog on Network.

NOW ON APEX\*\* Two new statistical programs have been added to the APEX\*\*\* library. These are

among the recent additions which include:

BETAR\* Generates a data file of random numbers from a beta distribtuion with parameters gama and beta having positive integer values. Mk II FORTRAN, self-documenting. Thanks Cal Cillay, Appl. Dev. Oper.

DATES\* Will sort a DSM file consisting of dates and any related alpha information.

SORTD\* is sample data file. Mk II BASIC, self-documenting. Thanks Ron Fellows, San Diego.

NORMR\* Uses Dnorm2 function to generate pseudo-random numbers from a normal distribution, can generate a file of input data from the Datadisplay programs. Mk II FORTRAN, self-documenting. Thanks Cal Cillay, Appl. Dev. Opr.

List the first few lines of the APEX\*\* for even more recent additions to the Library.

FAST-FAX		CLASSIFIED		
	WANTED	LOOKING FOR A PROGRAM???	AVAILABLE	
ys typist position average mine the position average mine the position average mine the position and the public sair	Roger Wilberg, Chicago: wants a program to calculate bending moment distribution for 3 dimensional cantilever plates.	Hunting for special applications can	Three data files for BRICS1 — TRANS**, SALES*, and MASTR*. When using these files, the order column will have negative figures unless you enter an order file.	الاستدار
	Pete Ekstrand, Washington, is looking for conversion programs for SDS940 Tymshare to Mark II, FORTRAN.		AUTOG\$, Automatic Gas Chromatography Calculations, Mark I off- line, now has YES or NO Option	
prior exp.  37 hr.  57 vc cm  5314 f  qual  3024.	Brussels sales office is looking for insurance company applications programs for Mark I. Contact Fast-Fax.	you out!	for receiving instructions. Documentation available from Fast-Fax.  Slides for PAINT\$ splash, limited supply. No script available. Contact	CORONA M ial Edin is clerical able indivi
Fee and RS., Sin,	Melanie Bouer, San Fernando, is looking for a parts explosion program for Mark II, up to 3 to 5 level.	Fast-Fax Want-Ads bring results. Distributed to over 600 field and headquarters personnel and scores	Minnie Ferguson, Marketing- Communications.  Mk II Off-line programs now can be	in Credi
LL CL hyroll cleri ncliuts fo co. Should stati cal	Ray Kidon, Toronto, wants a vertical or horizontal pressure vessel design program.	of other people in G.E. departments.	accessed on-line by appending '***' to the program name.  ERK TYPIST—Insurance Dept. of ' tional Assoc, Type 45 wpm	J. Jna sw. CRED