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UNIVERSITY

COMPUTER C

ENTER

newsletter

Director: Peter C. Patton

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OPEN USERS' MEETING

A GENERAL MEETING OPEN TO ALL USERS OF UCC FACILITIES (BOTH THE CYBER 74 AND CDC 6400)*
IS SCHEDULED FOR THURSDAY, NOVEMBER 20, 1975 FROM 2:00 - 5:00 PM IN ROOM 225 AERO.

ANYONE WHO HAS QUESTIONS, COMMENTS, COMPLAINTS, OR SUGGESTIONS IS ENCOURAGED TO
ATTEND. WE ALSO SOLICIT SUGGESTIONS OR QUESTIONS TO USE AS A GUIDE IN MAKING UP THE
AGENDA FOR THIS MEETING. CALL OR WRITE L. FETCHER, 235A EXPERIMENTAL ENGINEERING,
373-7744.

DEADLINE FOR THE NOVEMBER UCC NEWSLETTER IS OCTOBER 24.

cyber system --by L. A. Liddiard

HARDWARE

The addition of 32K more core this summer brought the Cyber 74 to 131K memory. Two CDC 669-4 9-track, 800 and 1600 cpi magnetic tape drives have been added for better magnetic tape interchange between UCC and other institutions and for mass storage dumping (46M characters per tape vs. the 20M of the CDC 607 tape drives). Two additional single density disk drives are coming in November 1975, bringing user permanent file space up to 1100M characters. Three double density drives are due to arrive in February 1976 (660M additional characters on three drives).

The University Computer Advisory Committee and UCC will be investigating archival mass storage. since the current doubling of disk storage requirements each year means that \$5M would have to be spent by July 1979 for the 7 additional disk controllers and 56 double density drives to keep ahead of the user requests for mass storage. (Note that doubling is a three year average, since late statistics show a tripling in the past year.) If disk storage becomes this large, UCC will probably give free computing time since disk storage revenue will be three times that of projected computer processor revenue! Joking aside, mass storage, because of its exponential growth, will be a problem for users and UCC for the next few years.

SOFTWARE

The KRONOS 2.1 operating system, currently at Level 8, will be upgraded to Level 10. The major improvements for the user in Level 10 are the queue protection over Level 0 deadstarts (currently, INPUT, PRINT, PLOT, and PUNCH queues are lost), and a new Cyber loader. This Level could have been available for this fall but, since system stability and reliability might have been degraded, this change will be implemented in a controlled manner. In software, the major change is Cyber Record Manager (CRM) that CDC has used to integrate the FORTRAN, COBOL, and SORT/MERGE I/O systems. COBOL Version 4, using CRM, will be the standard product this fall since testing and user programs have shown it to be richer in language features and faster in execution. FORTRAN Extended Version 4.4 (FTN) was not made standard for this fall since several serious errors were encountered in the OPT=2 compiler optimization level. On the programs that it compiled correctly, FTN 4.4 showed very good compilation and execution speed improvements. The version of MNF that interacts with CRM will be available with a FETCH command. All previous compiler versions will be available for at least a year in order to ensure that currently running user jobs still run after introduction of the new versions using Record Manager. Over the summer, additional improvements and error corrections have been made in most of the compilers, applications packages, and libraries. UCC is committed to a reliable, stable software and hardware system for the 1975-76 academic year.

cyber network

-by R.L. Hotchkiss, T.D. Hodge, & R.T. Franta

Over a period of time the University Computer Center has become a central supplier of computing services to groups throughout the state through a network of high speed batch, medium speed batch, and low speed interactive terminals. The number of jobs entering the Cyber 74 system via the remote job entry terminals (both RJE and MIRJE) as compared to the number entering at the Lauderdale site or the high speed stations has increased rapidly. About 45% of all batch jobs now enter the system through the RJE network while less than 10% are entered from the local Lauderdale site. Because of this changing usage, it might be useful here to summarize the roles of the different network facilities.

THE HIGH SPEED STATIONS

In addition to the Lauderdale central site, three high speed stations (131 Experimental Engineering, 90 Blegen Hall, 143 Space Science Center) all provide specialized services to distinct groups; for example, very large jobs, digigraphics, the special needs of West Bank users, and student batch jobs. In addition, the high speed station operators serve as expeditors for DISPOSEd, XMITed, and plotted job output.

THE MEDIUM SPEED NETWORK (RJE)

At present, UCC has seventeen 2400 baud ports to the PDP-11 front end processor which supports medium speed remote job entry (RJE). The Cyber 74 system software, with SUPIØ software and the front end processor, can communicate with either Univac 1004 terminals, CDC 200 User Terminals, or simulators of either of these. We now have 54 such terminals within the network. The terminals available to the general University user are:

> 9 terminals Twin Cities East Bank campus Twin Cities West Bank campus 1 terminal 4 terminals Twin Cities St. Paul campus 2 terminals Morris campus l terminal Waseca campus Crookston campus l terminal 2 terminals Duluth campus UCC Lauderdale central site l terminal

The remainder of the RJE terminals are closed shop operations, that is, they are not available to the general University user. These sites are managed by many different groups of people throughout the state, including

> 7 terminals University departments State & federal governmental units 6 terminals Other educational institutions 8 terminals 12 terminals Private companies

Within the next year, we will expand this network by more than 15 individual sites. Most of these new sites will be University departments and other educational institutions. These 15 terminals sites are now being planned; actual expansion within this fiscal year could be more than 25 sites. In addition to the increased number of sites, usage of the present sites is also increasing. By next October, over 75% of all batch jobs could be entering the system through the RJE terminals if present trends hold.

The PDP-11 and the SUPIØ software have been very stable during the past year and we feel they should remain so in the future. We plan to add IBM 2780 and special mini-computer protocols to the software but will make no changes other than these additions. With the testing process we now use and will continue to use, we expect no major software problems.

THE TIMESHARING NETWORK (MIRJE)

UCC's timesharing network, MIRJE (Minnesota Interactive Remote Job Entry) opened for service in the fall of 1974 and has developed well, both in size and stability. Originally, several of the University's timesharing instructional computer laboratories were placed on the MIRJE system to relieve the demand on MECC's timesharing services. However, since the University purchased the CDC 6400 computer this year and will maintain the MERITSS system for a time (see page 7 for MERITSS news), most instructional timesharing users previously on the MIRJE network have been transferred back to the MERITSS system, leaving only research users and a small amount of record keeping for MIRJE. The only exceptions to this policy have been those users who require special packages not available on MERITSS.

NETWORK DOCUMENTATION & CONSULTING

The increasing use of the remote network has changed the ways we present our documentation and consulting services. An increasing number of documents are now available in machine retrievable form (see page 10). Printed documents are still available in 140 Experimental Engineering (for Twin Cities campus users) or by calling or writing the UCC Reference Room 235a Experimental Engineering, 612/373-7744. In addition to the in-person consulting sites (see page 11), network consulting is available by telephone; call the HELP-line, 612/376-5592, which is staffed by UCC senior staff members for 8 hours each week day.

applications software summary

--by R.L. Hotchkiss

The Applications section of UCC has recently obtained a new version of GPSS from Control Data. We will add contouring and 3-dimensional hidden line programs to our plotting software. We will investigate user oriented linear programming packages and are looking at structural analysis programs such as SAP and NONSAP. We are putting heavy emphasis on applications in humanities such as text processing, textual analysis, and art. We are obtaining BMDP in the statistics area and perhaps a new level 7.0 of SPSS. ISIS has been compiled under MNF and will be faster and shorter.

In conjunction with other departments, we plan to add a non-linear least squares program, an improved GPM for non-linear programming, and better symbol manipulating capabilities in ALMAP and FORPREP. We will be making future reports on these projects. A report on the ISIS changes follows.

A NEW VERSION OF ISIS -- by L. May

Over the summer all known bugs were corrected and we began standardizing ISIS so it would run on the RUN23, MNF, and FTN compilers. Previously, ISIS could only run on RUN23; a poor situation since CDC no longer supports RUN23.

After this standardization, an ISIS test deck was developed and the binaries of the three compilers were tested. This procedure found errors in ISIS and in the compilers. The ISIS errors were corrected and the compiler errors reported. The final outcome of the testing showed that MNF produced a binary that ran 10-20% faster, used slightly less memory (34100 for MULTREG, the largest overlay), consistently needed less memory for any individual overlay, and produced absolute binary that was smaller overall. The only difference in output from this MNF-compiled version of ISIS is due to rounded arithmetic and this is normally preferable to the unrounded arithmetic from RUN23.

ISIS now has been standardized in its coding. Areas which we developed or corrected are well documented internally. There are no longer multiple statements per line and necessary maintenance programs have been incorporated into ISIS in an attempt to make ISIS self-contained.

This new version of ISIS may be accessed currently on MIRJE by typing

FUTURE, ISIS

and on MERITSS by typing

ATTACH, ISIS/UN=LIBRARY

Any problems with ISIS should be reported to the UCC Applications section, along with appropriate documentation of the problem and any associated files.

systems news

PERMANENT FILES -- by K.C. Matthews

Several changes have occurred in the UCC permanent file system since the end of spring quarter. Two 844-21 disk drives were added since last spring, giving us a total of eleven (11). Both new drives have been assigned to user permanent files, raising the number of user disk drives from six to eight.

We have (we hope) fixed the problem which had been causing most of the permanent file losses. This elusive bug also caused the disappearance of portions of files when those files resided on disks that filled up. This problem was finally corrected on September 1.

Secured permanent files are now dumped to tape twice daily. This will provide a more current backup than our previous procedures did whenever a permanent file recovery is required.

All files created from MIRJE terminals are now secured unless the FS=US parameter is specifically included. This includes files created with the REPLACE command. Previously, MIRJE files created with the REPLACE command were unsecured.

A new machine retrievable permanent file writeup is available via the WRITEUP,PFGUIDE control card. It gives details of the permanent file system at UCC and describes how we differ from CDC's standard KRONOS 2.1. If you have never used permanent files at UCC, be sure to read the section on permanent file security.

Even though we have more disk space than ever before, we are still unable to satisfy everyone's needs. UCC has a new policy limiting each account number to 20,000 sectors of permanent file storage on the non-removable packs. To accommodate users who require more space, UCC removable packs have been made available on which blocks of space may be reserved for storage. (WRITEUP, PFGUDE also contains details on the use of the UCC packs.) Remember that permanent files are not an infinite resource and that magnetic tapes are much cheaper. Please carefully manage (and minimize) your direct access permanent file storage.

MAGNETIC TAPES -- by W.J. Elliott

A new "Tape User's Guide" is now available by executing a WRITEUP, TAPEUSE control card. At present, it runs to 75 pages and is formatted for a line printer (teletype users, beware!). This writeup is a consolidation of all pertinent information relating to the use of magnetic tapes at UCC. This includes all local modifications to the standard KRONOS 2.1 system as well as an attempt to interpret existing CDC documentation in light of our own experience. The "Tape User's Guide" will be updated as new facts surface (especially as regards causes and cures associated with tape related error messages) and as experience is gained with the new 9-track units.

By October 1, two nine-track tape units should be available for use. Generally, all control cards pertaining to 7-track units (MT) will produce similar results on 9-track units (NT). All the tape formats (F=1, F=S, etc.) are also defined on 9-track units. To have a tape mounted on a 9-track unit, you must add the NT parameter to the rest of the LABEL card parameters.

Only two densities are available on 9-track equipment. These are 800 cpi (NRZI recording) and 1600 cpi (phase encoded recording). Use of 200 (LO) or 556 (HI) densities on 9-track units is not defined and your job will abort. Use of the default phase encoded density is recommended. Reports from other installations indicate that, despite the increased density, parity errors rarely occur. Be sure that any tape used with this density is certified by the manufacturer for at least 3200 FCI (flux changes/inch) full width. Note that cpi means "characters per inch" and is replacing bpi as an industry wide standard.

It is not possible to read a 7-track tape on a 9-track tape unit or vice-versa. Therefore, 7- and 9-track tapes stored at UCC must be segregated to maintain the security of labeled tapes. Each tape to be used on a 9-track unit should be <u>clearly</u> marked to indicate that intention. An attempt to use a stored 9-track tape on 7-track equipment will result in a job abort by the system or the operator. Transient tapes will be mounted as requested unless a visual conflict exists (for example, 9-track sticker present with tape requested on a 7-track unit).

A new version of EXAMINE is available. Current documentation can be obtained by executing a WRITEUP, EXAMINE control card. Several new options have been added and a few obscure bugs eradicated.

DOCUMENTING SYSTEM CHANGES -- by K.C. Matthews

Beginning October 1, 1975, the UCC Systems group will maintain a file listing all operating system changes. Any changes in system programs (not compilers or user libraries) will be documented in this file. The file will be available via the WRITEUP, SYSMODS control card for batch jobs, and by the X,WRITEUP, SYSMODS command for MIRJE users.

Entries in this file will be maintained for one month. Hopefully, this writeup can be used as a "last resort reference source" if you have an unsolvable problem and suspect that operating system changes have caused it.

plotting facilities

--by M.J. Frisch

The following table lists devices, features, and software for plotting which are available at UCC. Not all of the equipment is owned by UCC; in particular, an outside vendor supplies time on one of the Computer Output Microfilm (COM) devices.

Writeups for the software mentioned can be found in 140 Experimental Engineering, in the UCC Reference Room (235a ExpEng), or call 373-7744.

EVICE	FEATURES	SOFTWARE
DC 501 line printer	136 columns/page, 1000 lines/minute, 10 columns/inch,	PRNPLOT
	66 lines/page, 6 lines/inch, multi-page output.	SCLPLT
	Price: 3¢ per page.	Į .
	Approximate plots; fast and convenient.	
	Some contrast levels via overstriking.	[
Inivac 1004 line printer	132 columns/page, less than 600 lines/minute, 10 columns/inch,	PRNPLOT
mirae root tille printer	66 lines/page, 6 lines/inch, multi-page output.	SCLPLT
	Price: 3¢ per page.	
	Approximate plots; fast and convenient.	
	Some contrast levels via overstriking.	
imesharing terminal	72-80 columns, multi-page output on paper-oriented devices.	PRNPLOT
(includes teletype,	Approximate plots; slow though somewhat convenient.	201
CRT)	Little contrast available (no overstriking).]
Varian Statos 31	On-line to the Cyber 74.	PLOTPAC
lectrostatic plotter	14.08 inches wide, 500 foot rolls of paper, 0.01 inch	PLTSCL
rectiostatic procter	dot spacing, dots can be turned on or off.	1, 5, 205
	Speed: about 2 inches/second.	
	Price: 75¢ per setup plus 10¢ per foot of paper.	
	Quite accurate fast plotting with good turnaround, very	ļ
	practical for gray scale plotting, possibly useful	į
	for publication (output is not very dark).	
Classe CCC and and tall	Off-line at the Hybrid Computer Laboratory (134 SpaSci	PLOTPAC
alcomp 565 pen-and-ink lotters	Center).	
Totters		PLTSCL
	10.84 inches wide, 100 foot rolls of paper, 0.01 inch line	
	length incremental.	
	Speed: 300 increments/second.	1
	Price: \$20 per hour of plotting.	}
	Quite accurate slow plotting with slow turnaround, limited	1
	contrast via overplotting or using adjacent lines, very	ļ
	useful for publication (very dark output is possible),	l
	colors possible by changing pens.	<u> </u>
Calcomp 563 pen-and-ink	Same as Calcomp 565 except 29.5 inches wide and 0.005 inch	PLOTPAC
lotter	line length increment.	PLTSCL
M Electron Beam Recorder	16mm unsprocketed positive image microfilm, printing only	PRNPLOT
nicrofilm printer (EBR)	(simulates line printer).	SCLPLT
	132 columns/frame, 64 lines/frame, 6 frames/second, frame	İ
	butting can be done.	ļ.
	Price: 20¢ per setup plus 2/3¢ per frame.	Ī
	Approximate plotting; fast output but slow turnaround, needs	į.
	enlargement, many frames needed to justify use, some contrast	1
	levels via overstriking.	
nformation International	Off-line using outside vendor with UCC transporting magnetic	PLOTPAC
R-80 microfilm plotter	tape.	PLTSCL
	35mm unsprocketed negative image microfilm, 12,965 x 16,384	i
	points/frame with true vectors, frame butting is possible.	[
	Price: \$66 per hour of plotting.	1
	Very accurate fast plots but slow turnaround, limited contrast	
	via overplotting or using adjacent lines, very useful for	1
	publication when enlarged, no movies because of unsprocketed	I
	film.	1

Other Devices: A digitizer and interactive graphics devices (IDIIOM and CDC digigraphics CRT's) are available at the Hybrid Computer Laboratory in 136 Space Science Center.

special language processors

COBOL, SORT/MERGE, RECORD MANAGER, & UTILITY PRODUCTS -- by H. Kurs

FUTURE, current, and PAST versions of the COBOL compiler and the SORT/MERGE processor, as well as FUTURE and current versions of Record Manager and specific utility products are now available for use. By specifying the following control cards, a user may access the desired version of these products:

FUTURE (name)

Name.

Provides the newest (latest) version of the product specified by "name."

Name.

Provides the current version of the product.

PAST (name)

Name.

Provides the older version of the product.

PETCH (name)

Provides the current version of the library specified by "name" or may provide a special version of the product specified by "name."

The following table describes briefly each of the products and libraries available:

Product	Description
BBT06RM	Blocked binary conversion routine.
CB4L1B	COBOL library routines.
COBOL	COBOL compiler.
COPY8P	8-bit subroutine utility to copy IBM to CDC print files.
COPYCL	Utility to create a COBOL source library.
ESTMATE	Record Manager utility routine for index sequential files.
FILE	Record Manager file control card processor.
IXGEN	Record Manager utility routine for multiple index files.
RANCONV	Random file conversion routine.
SISTAT	Record Manager statistical utility routine for index sequential files.
SMTEXT	SORT/MERGE text for SORT/MERGE COMPASS programs.
SORTMRG	SORT/MERGE processor.
SYSIO	Record Manager library routines.
SYSMISC	Version 3.0 COBOL library for old binary SORT/MERGE programs.

The following table describes the level of the products to be accessed when using FUTURE, ''name'', PAST, or FETCH:

Product	FUTURE	current	PAST	FETCH
BBT06RM	NA	ввто6км	NA	NA
CB4L1B	NA	NA	NA	V4.3, Level 8:PSR393
COBOL	V4.3, Level 8:PSR393	V4.3, Level 7:PSR387/388	٧3	V3
COPYCL	V4.3, Level 8:PSR393	V4.3, Level 7:PSR397/388	٧3	V3
COPY8P	V4.0, Level 8:PSR393	NA	NA	NA
ESTMATE	V43., Level 8:PSR393	V4.3, Level 7:PSR387/388	٧3	V3
FILE	V4.3, Level 8:PSR393	V4.3, Level 7:PSR387/388	NΑ	NA
IXGEN	V4.3, Level 8:PSR393	V4.3, Level 7:PSR387/388	NA	NA
RANCONV	AM	RANCONV	NA	NA
SISTAT	V4.3, Level 8:PSR393	V4.3, Level 7:PSR387/388	٧3	V3
SMTEXT	V4.3, Level 8:PSR393	NA	٧3	V4.3, Level 7:PSR337/388
SORTMRG	V4.0, Level 8:PSR393	V4.2, Level 7:PSR387/388	NA	NA
SYSIO	NA	NA	NA	V4.3, Level 8:PSR393
SYSMISC	NA	NA	NA	V3

NOTE: NA means not applicable

FETCH products, CB4LIB, SYSIO, and SYSMISC, need only be used when binary programs are to be executed. FETCH product, SMTEXT, is the current version of the SORT/MERGE text. When the COBOL compiler is accessed, the COBOL library (CB4LIB), Record Manager (SYSIO), COPYCL utility (COPYCL), and the file control card processor (FILE) are automatically provided. Utility products BBT06RM, ESTMATE, SISTAT, RANCONV, IXGEN, COPYCL, and COPY8P need to be individually accessed. The file control card processor, FILE, will automatically be provided for all products except the library SYSMISC.

Version 3 products, with the exception of SORT/MERGE, will remain as PAST products until final removal from the system. SORT/MERGE Version 3 will remain available as SORTMR3 until its final removal from the system. Final removal of these Version 3 products will occur when their usage ceases. There will be no further maintenance or modifications by UCC of these Version 3 products.

Documentation for these products can be found in the following manuals and writeups:

- 1) BBTO6RM and RANCONV: "Version 3 to Version 4 Data File Conversion Guide," (UCC, September 1975).
- 2) COBOL, CB4LIB, and COPYCL: COBOL Version 4 Reference Manual (CDC publ. # 60384100), and "COBOL 3 to COBOL 4 Conversion Guide," (UCC, May 1975).
- 3) ESTMATE, FILE, IXGEN, SISTAT, and SYSIO: Cyber Record Manager Version 1 User's Guide (CDC publ. # 60359600), Record Manager Guide for FORTRAN Users (CDC publ. # 60385200), and Record Manager Guide for COBOL Users (CDC publ. # 60385300).
- 4) SORTMRG, SMTEXT, and SYSMISC: SORT/MERGE Version 4 and 1 Reference Manual (CDC publ. # 60343900), and "SORT/MERGE 3.0 to SORT/MERGE 4.0 Conversion Guide" (UCC, May 1975).
- 5) COPY8P: 8-bit Subroutines Version 1 Reference Manual (CDC publ. # 60359400).

meritss news

-- by M.M. Skow & T.D. Hodge

The summer months were very uneventful for MERITSS. One of the events we were happy to have NOT happen was a system crash. July and August had mean times to failure of over 100 hours and the August percent of availability was 99.9. It seems that we have nowhere to go but down! (Get it?)

All but 15 of the non-University ports on MERITSS have been transferred to the MECC Univac 1110. The service capacity of the instructional computer laboratories will be expanded by adding dial-up capability and new terminals to the existing labs and by adding two new labs: 136a Lind Hall (formerly called Main Engineering) and 1-752 Health Sciences A. The new 10 and 30-character per second dial-up capability will allow lab access to the MECC Univac 1110. Call Thea Hodge for a Univac 1110 lab number.

A list of the instructional computer laboratory locations can be found on page II of this newsletter. In future, MERITSS news and instructional lab locations will be included each month in the IICC newsletter.

operations news

EXPERIMENTAL ENGINEERING I/U STATION -- by J. Larson

If you use the Experimental Engineering 1/0 station to run your batch jobs, you may call 373-4994 to hear a recorded message telling the BIN numbers for jobs which have been completed. This recording is updated hourly on the half hour. We will also tack on additional messages, when appropriate, to indicate holiday schedules, scheduled down time for equipment installations or repairs, and extended periods of unanticipated downtime.

If you have any comments regarding the operation of the ExpEng high speed station, please use the suggestion box cards or drop a note to Jerry Larson, Operations Services Supervisor, University Computer Center, 150B Lauderdale.

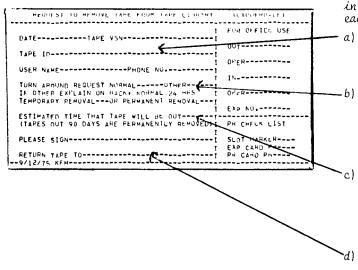
OPERATIONS REQUEST FORMS -- by J. Larson

This article will attempt to explain the various request forms that are used by UCC's Operations group. Most of these forms have been modified in the past month and an additional form has been added to the list. All of these forms are available in the Lauderdale I/O area (or from I/O personnel), at the ExpEng station, and at the West Bank Computer Center. Copies will also be supplied, on request, to other RJE terminal supervisors. These forms have been designed to help us serve you more efficiently and effectively. PLEASE FILL OUT ALL FORMS AS COMPLETELY AND CONCISELY AS POSSIBLE.

UCC TAPE STORAGE REQUEST

UCC TAPE STORAGE REQUEST For (Circle one) 7-Track 9-Track		a)	Request storage for 7-track and 9-track tapes on separate forms. Circle "7-track" or
DATE			"9-track" on the top of the form.
PERSON RESPONSIBLE FOR TAPE			
DEPARTMENT PHONE NO		1	
ACCOUNT NUMBER (3 alpha characters followed by 4 digit	s)		
Normally the Tape Librarian will contact you with the If due to extenuating circumstances you request your rhow soon and explain why.	new VSN number within 24 hours. number(s) sooner, please indicate		
		6)	Il due to externatine eitermetance un must
Do you want it SCRATCH LABELED!* TAPE ID(S) (14 characters or less) YES_NO_ YES_NO_ YES_NO_ YES_NO_ YES_NO_	EXPRESS?** Storage Number YES NO	01	If, due to extenuating circumstances, you must have your number(s) earlier than normal, state your reasons and the required time here. One hour is the minimum allowable request and we reserve the right to judge what constitutes "extenuating circumstances."
		()	Tape ID information must be supplied by the
YES NO YES NO	YES VO VSN =		user and is the name by which the tape will be identified on the paper label that the Tape
	TES_NOVS		Librarian affixes.
*SCRATCH LABELED. This should be done only if the tap- desired to destroy that label. Tapes with information not be SCRATCH LABELED. *EXPRESS TAPES. Tapes should be placed into EXPRESS of tape five or more times in the first two weeks of sto- If you will not be at the above number, please fill ou- if you have any questions, please contact the Tape Life	n on them to be retained should not if you are going to be the rage. this section of the form. Also	d)	The request to scratch label the tape should be checked "YES" only if the tape being stored was previously labeled and you wish to destroy that label. Tapes with information to be retained should not be scratch labeled. The default assumption on this request is "NO."
Person the Tape Librarian may contact with the	e new VSN number:	l el	The request to make the tape "EXPRESS" should
NAME:] "	be checked "YES" if you expect to use the tape
PHONE		1	five or more times during the first two weeks
HOURS			of storage. Express tapes get mounted faster
***Return this form and tape(s) to the Tape Libra			because of their close proximity to the operator Again, "NO" is the default assumption.
For Office Use: Date and Time Received		6)	•
Date and Time Responded		1 01	VSN's are supplied by the Tape Librarian.

REQUEST TO REMOVE TAPE FROM TAPE LIBRARY

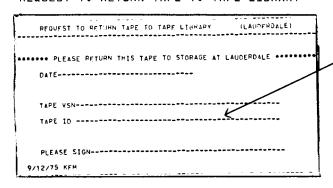


This form must be used when you wish to remove a tape stored in our SN library. Separate slips must be filled out for each tape removed.

- Terminology asking for tape identification has been changed to conform to KRONOS conventions. The tape VSN and ID must correspond exactly to that which appears on the tape paper label.
-) A space is provided to check whether the user wants normal or special turnaround. An explanation of "other" turnaround should be written on the back of the slip.

 Normal turnaround is 24 hours or less; again, the one hour minimum is effective and we reserve the right to judge the necessity of the faster than normal turnaround.
 - Space is provided for indicating whether the user is removing the tape temporarily or permanently. If the removal is temporary, please indicate the number of days. Tapes held out for more than 90 days are considered permanently removed and will need a new VSN when restored to the library.
 - Space is provided at the bottom of the slip to indicate to where the tape should be delivered.

REQUEST TO RETURN TAPE TO TAPE LIBRARY



This slip must accompany all tapes which have been temporarily removed from the SN library and are now being returned. A separate slip should accompany each tape.

 The terminology has been modified to conform to KRONOS conventions and space is provided for both the VSN and ID.

REQUEST TO HAVE TAPE TESTED OR SCRATCH LABELED

REQUEST TO HAVE TAPE	TESTED OR SU	PATCH LABELEC	(LAUDERDALE)
DATE	TAPE VS	N	I FOR OFFICE USE
TAPE ID	ACCOUNT	мо	.I OPER
OWNER	PHONE N	0	I DATE AND TIME
TAPE 517E 3200() 2	2400() 1206(1 600()	100000
DENSITY 1600() 800)() 556()	2001 1	Ī
SCRATCH LABELED()			-
I UNDEPSTAND THAT AL	L DATA ON THE	S TAPE WILL P	HE DESTHOYED.
PLEASE SIGN			**************************************
9/12/75 KFM	PLEASE	RETURN TEST	OUTPUT TO

This slip corresponds to the old "Request to have tape tested" form. Modifications are:

- a) Terminology has been changed.
- b) Use this slip for either 7-track or 9-track tapes. Testing of 9-track tapes and 1600 cpi densities is contingent on the conversion of our testing routine for use on 9-track units or on the availability of another testing device.
- c) Space is provided for indicating whether the tape should be scratch labeled or tested. Either of these procedures destroys information and should <u>not</u> be used on tapes with information to be retained.

REQUEST FOR TEMPORARY TRANSIENT TAPE STORAGE

REQUEST FOR TEMPORARY TRANSIENT TAPE STORAG	
DATE TAPE VSN	FOR OFFICE USE
ACCOUNT NOTAPE ID	
USER NAME	[N
TAPES WILL BE STORED IN TEMPORARY TRANSIENT	OPER
TAPE STORAGE FOR A MAXIMUM OF TWO MEEKS AFTER WHICH THEY WILL BE RETURNED TO THE LOCATION	i I nut
DESIGNATED BELOW.	I OPER
RETURN AFTER (DATE) RETURN TO	1
PLEASE SIGN	
9/12/75 KFM	

Use this form to store transient tapes temporarily at Lauderdale. A separate slip should accompany each tape. Storage is limited to two weeks. This procedure will permit your use of a transient tape intensively for several weeks without having to submit a special request slip and the tape with each run.

SPECIAL REQUEST SLIP

SPECIAL REQUEST SLIP	(LAUNEPDALE)
DATE	T OFFICE USE
PUNCH CARDS. APPROX. NO. IF OVER 2000	0PEP
PRINTED PAGES. APPROX. NO. IF OVER 400	¹ <i>f</i>
VSN=TT	
ASMELL	
VSN=TTID=ID=	K
OTHER SPECIAL INSTRUCTIONS. USE BACK IF NECE	ESSARY)
9/12/75 KFM	

This slip should be filled out and submitted with jobs using transient tapes (unless the tape has been temporarily stored at Lauderdale; see the previous form description). Specific lines have been added to this form on which to enter transient tape VSN's and ID's.

Use this slip for all jobs submitted where you expect to generate more than 2000 punched cards or more than 400 pages of printed output. Please estimate the number of cards or pages you expect.

Use the space for other special instructions to explain special handling, such as multiple tape jobs or requesting that printing be done on the reverse side of the paper. If you have periodic or frequent special runs, you may write up your own instructions to submit with your jobs.

In general, if the special request requires operator intervention to make special settings on, or to place user provided forms in the printer or other devices during any part of the run, you must have the prior approval of the Operations Supervisor.

MISSING I/O FORM

	MISSING INPU	T/OUTPUT FORM
Present Date: _		Present Time:
		ceived and description y unusual markings:
Bin Number:		Time Submitted:
Experimental E	ngr. users only:	
Did you p	ick up your job wi	thin 24 hours?
If not, he number?		ne large bin under your bin

Use this form to trace missing items (i.e., tapes, punched cards, printer output, etc.) processed and/or handled by UCC Operations personnel at UCC staffed sites. Submit this form whenever any item of input or output does not come back within a reasonable length of time. A "reasonable time" should be governed by prevailing conditions effecting throughput; for example, the computer may be down, shuttle picks up Lauderdale output only once each hour, etc. Our operators have been instructed not to search for missing items until they receive this form for these reasons:

- a) Submitting this form is an indication that you have done all possible in attempting to find the item. Our records show that 30-40% of items reported missing turn up where they belong or have, in some way, been lost by the user.
- b) The completed form gives us a record of the problems we have in this area. We can then identify some of the basic causes and take steps to remove these causes.

COMPUTER DOWNTIME SUMMARY

August 27 through September 20, 1975	Monday-Friday 0800 - 1600	other	total
Total possible scheduled uptime hours	180	266	446
Total downtime hours (see schedule A)	15.5	17.7	33.2
Total uptime hours	164.5	248.3	412.8
Uptime percentage	91.4 percent	93.3 perce	
Average downtime per occurrence	28.2 minutes	96.4 minut	
Mean time between failures	5.8 hours	24.18 hour	
· · · · · · · · · · · · · · · · · · ·	J.0 110d13	24.10 Hour	5 10.01 110415
Subsystem failures			
SUPIO	11	t	12
TELEX	3	1	4
EXPORT	6	4	10
Schedule A: downtime hours			
	number	total av	/erage
	of		nutes
	occurrences		owntime
 Preventive maintenance over-runs 	2	.77	23
Software related problems	7	2.57	22
Hardware related problems	4		55
4) Indeterminate software/hardware prob	olems 29	11.28	23
5) External problems	2		248
• • • • • • • • • • • • • • • • • • • •	_	۷.2) 2	.סד.

Twice during September we were down on a Saturday to work on a hardware problem that was causing the scopes to blank. While investigating this, another hardware problem was encountered. The work on these was completed on Saturday, September 20.

the suggestion box

- Q/S I must occasionally make a trip to Lauderdale for tapes. It is very distressing to have to wait at an impersonal metal table for unknown lengths of time for a simple transaction. My suggestion is that something be done to alleviate this wait. (September 7)
- Leaving tapes to be stored should be no problem since the tape librarian will call you with the assigned VSN. If you are removing tapes and require rapid service, specify the desired response time (minimum is one hour) and state your reason. We will make every attempt to handle your request within the specified time. See page 7 of this newsletter regarding Operations request forms. (J. Larson)
- 0/S How about cleaning out the Statos 31 bin at ExpEng? There are 3 weeks of old plots in this bin and it is hard to find current jobs in a bin full of forgotten junk. Why not set it up similar to the TT rack; have a "recent" Statos bin and an "old" Statos bin and move plots appropriately. (September 9)
- This is a good suggestion and has been carried out. All plot output more than three days old will be moved to a shelf below the "current" plot output. (J. Larson)
- Q/S I am somewhat mystified as to the procedure for putting XMITed, DISPOSEd, and "no bin card" output on shelves at Lauderdale. My XMITed output seems to go anywhere; twice it has even gone to the proper shelf. I realize that it's difficult to tell the difference between some of these outputs, but these mistakes are annoying and operators should be carefully trained to avoid them. (September 9)
- We are aware of this problem and are working on methods to alleviate it. The complexity of our dispose and delivery systems and the number of persons involved with I/O activity tend to complicate matters. Users have also been observed to move output from one shelf to another when searching for their own output. (J. Larson)
- Q/S Why is the 1004 user paying 3¢ per page but getting poorer quality paper than he gets from the high speed printers?
- The open shop 1004 terminals show approximately 20% of unaccounted paper usage (off-line listing, page feeds between jobs, page feeds on dial-up, etc.). In return for the undoubted convenience of having open shop card-and-paper terminals in over a dozen locations on the Twin Cities campus alone, the on-line user pays 3¢ per page to help cover this extra paper cost. (R. Franta & T. Hodge)
- Q/S How about getting two more "29" keypunches for Lauderdale? The lines waiting to use the keypunches are frequently quite long during the peak work times. Also, the "29" currently available is in great demand because of the complete character set. (September 9)
- One 026 punch has been taken from Lauderdale for the 1004 site in Territorial Hall. My understanding is that a new punch will be installed at Lauderdale this quarter. (G. Jensen)

brief notes

- TWO NEW RJE SITES --- A new Univac 1004 terminal has been installed in M39 MasonH. This terminal will be a closed shop operation, managed by HCS personnel. This terminal will provide a convenient link to the Cyber 74 for Health Sciences users. Contact the HCS Computer Center for details of operation. --- A Univac 1004 terminal is now available in W106 Territorial Hall, for the convenience of dormitory students. This is an open shop terminal; instructions for operation can be found at the site.
- MESSAGE TO MIRJE USERS --- The information program INFORM, will be available to you as of September 29. This program is identical to that which exists on the MERITSS system, except that the information has been changed to be compatible with the MIRJE system. To use the program, type the command, INFORM, and then follow the program's promptings.
- HYBRID LAB ANNOUNCES CHANGES --- The Hybrid Computer Laboratory has completely revised its pictorial information digitizing system. Digitizing may now be done on the Bendix Datagrid Digitizer, with output written onto magnetic tape by the Control Data 1700. A writeup is now available from the Hybrid Lab describing the use of the new system, and the format of the output tape. For more information, call 373-5768.
- TO ALL DEPARTMENT HEADS --- Are you aware that 50% of all page charges for instructional batch use on the Cyber 74 is, at present, automatically reimbursed to the department by University Computer Services? This is for classroom accounts only, and the reimbursements are done every six months. (J.K. Foster)

documentation/publications

- NEW MACHINE RETRIEVABLE DOCUMENTS -- WRITEUP, TAPEUSE. describes magnetic tapes.

 - WRITEUP, PFGUIDE. describes use of permanent files. WRITEUP, DOCLIST. lists sources & prices of printed documentation.
- -- Available from the UCC Reference Room, 235a ExpEng, 373-7744. NEW PRINTED DOCUMENTS
 - 1) Student Guide to Cyber 74 Batch Computer Use
 - 2) Student Guide to the Timesharing Instructional Computer Laboratories

UNIVERSITY COMPUTER CENTER

FALL QUARTER SHORT COURSES

```
*************
INTRODUCTION TO UCC
     October 1 (Wednesday)
     2:15 - 4:15 PM
                                               For descriptions of the content
                                               of these courses, see a copy
                                           *
     209 Aero
                                               of the Guide to UCC Short Courses, *
INTRODUCTION TO UCC
                                              available in 235a Experimental *
     October 2 (Thursday)
                                               Engineering.
     3:00 - 5:00 PM
     250 Anderson Hall
                                               You need not register for these
                                               courses, no fees are charged,
KRONOS CONTROL CARDS
                                           *
                                               and no credit is given.
     October 20,22,24,27,29,31 (MWF)
     2:15 - 4:15 PM
                                               Questions about the courses may
     21 Aero
                                               be directed to Richard Franta at *
                                               376-3963 or Amy Koepke, 373-7744. *
BEGINNING FORTRAN
     October 6,8,10,13,15,17 (MWF)
     2:15 - 4:15 PM
     21 Aero
PASCAL
     November 3,5,7,10,12,14,17,19,21 (MWF)
     3:00 - 5:00 PM
     193 ExpEng
COMPASS
     October 6,8,10,13,15,17 (MWF)
     2:15 - 4:15 PM
     319 Aero
COBOL
     October 7,9,14,16,21,23 (TTh)
     3:00 - 5:00 PM
     21 Aero
INTRODUCTION TO DATA MANAGEMENT
     November 17,19,21 (MWF)
     3:00 - 4:00 PM
     313 Aero
RECORD MANAGER
     October 20,22,24,27,29,31 (MWF)
     2:15 - 4:15 PM
     319 Aero
SORT/MERGE
     November 3,5,7 (MWF)
     3:00 - 5:00 PM
     319 Aero
SYSTEM 2000
     October 28,30, November 4,6,11,13 (TTh) *
     3:00 - 5:00 PM
     21 Aero
SYSTEM 2000 PROGRAMMING LANGUAGE INTERFACE
     November 18,20,25 (TTh)
     2:15 - 4:15 PM
     317 Aero
SPSS
     November 18,20 (TTh)
                                          ×
     2:15 - 4:15 PM
     319 Aero
                                           ****************
IMSL
    November 11, 13 (TTh)
    3:00 - 5:00 PM
    225 Aero
GRAPHICS
    October 27, 29, 31 (MWF)
    3:15 - 4:30 PM
```

317 Aero

CYBER 74 OPERATING HOURS*

13	2:01AM	2AM	3AM	4AM	8AM	4PM	Midnight
Sunday							
Monday		::::			//////		////////
Tuesday					//////	///////////////////////////////////////	11/1////
Wednesday					//////	///////////////////////////////////////	////////
Thursday				::::	//////	///////////////////////////////////////	
Friday					//////	///////////////////////////////////////	///////
Saturday					:::: //////	1/1///	

:::::: Lauderdale only

|||||| Lauderdale, ExpEng

////// Lauderdale, ExpEng, West Bank

*UCC operators stop accepting jobs at the manned high-speed stations about 15 minutes before operations end to enable the queues to clear on time. SUPIO comes up 1/2 hr. after operation begins and closes down 1/2 hr. before operation ends (RJE medium speed terminals). The operator issues a 10 minute warning before TELEX is dropped (MIRJE).

CONSULTING SITES & HOURS**

LAUDERDALE USERS' ROOM (general consulting)
Monday - Friday 1:30 - 3:30 PM
Monday - Thursday 7:30 - 9:30 PM

EXPERIMENTAL ENGINEERING 140 (general consulting)

Monday - Friday 9:00 AM - 5:00 PM 7:00 PM - 9:00 PM 5aturday 10:00 AM - 2:00 PM 7:00 PM - 9:00 PM 7:00 PM - 9:00 PM

EXPERIMENTAL ENGINEERING 140 (statistics packages) See the schedule posted in 140 ExpEng.

SOCIAL SCIENCES 167 (statistics packages)
See the schedule posted in 167 SocSci (West Bank)

CLASSROOM OFFICE BUILDING 125 (statistics packages) See the schedule posted 125 ClaOff (St. Paul)

BLEGEN HALL 25 (general consulting)
See the schedule posted in 25 BlegH (West Bank)

 $\ensuremath{^{\dag \! \! \dag}}$ The consulting sites remain the same throughout the year. However, the hours will vary.

MEDIUM SPEED REMOTE TERMINAL SITES (RJE)

site	code	Supervisor
ElectE 38 (East Bank)	4V	J. Guentze1/373-5404 M. Cook/373-3985
EltH N640 (East Bank)	46	<pre>J. DeWitt/376-7377 N. DeWitt/376-7377</pre>
KoltH S191 (East Bank)	42	<pre>T. Faulkner/376-7024 J. Duff/373-2348</pre>
MasonH M39 (East Bank) (closed)	4C	L. Croatt/373-0336
MinMet 321 (East Bank)	41	<pre>C. Swanson/373-5475 V. Bongiorno/373-2309</pre>
Physics 69 (East Bank)	44	R. Scarlett/373-0243 R. Hendrickson/373-3361
TerrH W106 (East Bank)	4I	
SocSci 167 (West Bank)	4X	J. Shea/373-3608
BioSci 257 (St. Paul)	47	R. Comstock/373-0979 R. Cardellino/376-3407
ClaOff 125G (St. Paul)	48	<pre>C. Bingham/373-0988 S. Weisberg/373-1068 Consultant/373-0829 Consultant/376-3846</pre>
CofH 415 (St. Paul)	57	D. Nelson/376-7003 T. Ehlen/376-7003
NorH 24 (St. Paul)	40	J. Colten/373-0990
Lauderdale User's Room	49	Shift Coordinator/373-4940

UOFM TIMESHARING COMPUTER LABORATORIES

CentH (East Bank) E1tH 121 (East Bank) ExpEng 140 (East Bank) HealthSciA 1-752 (East Bank) LindH 136C (East Bank) MechE 308 (East Bank) TerrH (East Bank) VincentH 4 (East Bank) WaLib 204 (East Bank, CAI) MiddlebrookH (West Bank)	R. Richgarn/373-2289 B. Sympson/376-7792 M. Kramer/376-7289 L. Ellis/373-0331 D. Boyd/373-7581 A. Erdman/373-2977 R. Baker/373-3567 W. Stenberg/373-2586 R. Estelle/373-5195 P. Johnston/376-6561
Walib 204 (East Bank, CAI)	R. Estelle/373-5195

TELEPHONE NUMBERS

373-454	8 Account Clerk						
376-396	3 Educational Services (R. Franta)						
373-459							
376-706	7 Field Engineering						
373-252	1 Keypunch Supervisor						
373-494	Lauderdale Shift Coordinator						
373-499	5 Microfilm Operator						
373-487	6 Operations (R. Folden)						
373-774	4 Reference Librarian						
376-396	The services (III, Italica)						
373-499	5 Tape Librarian						
373-436	O UCC Main Offices						
373-459	9 User Services (T. Hodge)						
373-492	l Users' Room (Lauderdale)						
373-360							
REMEMB	ER THE HELP-LINE: 376-5592						

KEYPUNCH LOCATIONS

[The number of keypunches at each site is in parentheses.]

East	Bank		St. Paul			West Bank
38	ElectE	(1)	257	BioSci	(1)	90 BlegH (1)
N640	EltH	(2)	125G	ClaOff	(1)	86 BlegH (11)
130	ExpEng	(2)	415	CofH	(1)	167 SocSci(2*)
131	ExpEng	(1)	24	NorH	(2)	
208	ExpEng	(14)*				
S191	Ko1tH	(1)				
321	MinMet	(2)	Laude	erdale		
69	Physics	(1)	Users	Room	(5)*	

*includes 1 interpreting card punch.

library changes & additions

-- by M.J. Frisch

August 30, 1975 : The PDP-11 software driving the Statos 31 was changed to allow printing of characters

at 6 lines per inch and to allow ASCII characters.

September 8, 1975 : The Statos 31 post-processor, PSTPRC, was corrected so that occasional bad plots will

not occur.

September 11, 1975: The interactive statistics package, ISIS, was recompiled with MNF to improve speed

and core requirements, while minor errors were also corrected. Both the MIRJE and

MERITSS versions were changed.

future, mnf » mnf » past, mnf

-- by B. Stahl

The summer FUTURE, MNF version has been made the current version for fall quarter. The data statement handling has been completely revised in this version and several other bugs have been fixed:

(1) Under the RUN calling sequence, more than 6 parameters are now passed correctly.

(2) A subroutine name typed double or complex has correct code generated.

(3) A subroutine call requiring an entry in the APTAG list after a double or complex store will now have correct code generated for it.

(4) The 3-branch IF(UNIT(1)) statement now has correct code generated.

(5) A 3-branch IF statement which degenerates into a simple GO TO has correct code generated.

(6) A call to the subroutine SYSTEM is set up correctly.

(7) A multiple replacement statement containing subscripted variables is correctly evaluated.

RETURN TO: University Computer Center 227 EXPERIMENTAL ENGINEERING UNIVERSITY OF MINNESOTA MINNEAPOLIS, MN 55455

> IF YOU WISH TO HAVE YOUR NAME REMOVED FROM THIS MAILING LIST,

WRITE TO:

EDITOR UCC NEWSLETTER AT THE ABOVE ADDRESS, OR CALL 373-7744.

> UNIVERSITY ARCHIVES WA LIB ROOM 11 MINNEAPOLIS CAMPUS