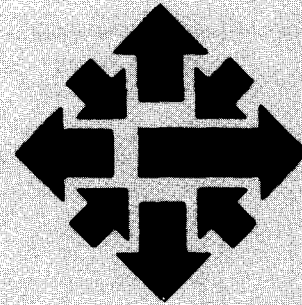


University Computer Center Newsletter

University of Minnesota
Twin Cities

July 1985
Volume 19, Number 7



The NOS 2.3 Conversion: Login and Help

As announced in the May *Newsletter*, all three CYBER systems (MD, ME, and CA) operated by UCC will be converted to the NOS 2.3 operating system during the summer and fall of this year. The MD machine, devoted to specialized instructional computing within the Institute of Technology, began to run NOS 2.3 on June 16. The ME machine, which is used by most students, will be converted to NOS 2.3 on August 25. The CA machine, used for research projects and as a front-end for UCC supercomputers, will be converted on December 15.

The upgrade to NOS 2.3 has been undertaken for several reasons: 1) We need a NOS 2 operating system to run new, more sophisticated CDC software. 2) The old operating system is now at its limit for the number of jobs and the number of files it can handle at one time and for the amount of equipment, especially disk drives, it can keep track of. NOS 2.3 will remove the restrictions on performance imposed by present system limits. 3) The new operating system will make the transition to the new University telecommunications service smoother. We will be able to install new communications equipment and software that will let you communicate with the mainframes at higher baud rates than what are presently available. 4) We hope to install a communications network, called CDCNET, that will make it possible for more users to

access all three systems at higher speeds. This network will work only with a NOS 2 system. 5) The new system will also allow the CA to function more efficiently as a front-end to UCC supercomputers.

We expect that under NOS 2.3 our systems will operate more reliably, with fewer performance bottlenecks, faster communications, and better response times. You will also be able to take advantage of a number of new and useful commands in the NOS 2.3 system.

All users will discover changes in the operating system that will require some adaptation, but we expect that the conversion will cause little inconvenience for most users. Students using the ME machine, for example, should notice very few differences between the NOS 1.4 and NOS 2.3 systems. Others who use UCC computers mostly to run application programs will also notice little difference in the behavior of the new system. But some users who have built up procedure files and programs that depend on close interaction with the operating system may run into difficulties as they convert to NOS 2.3.

This article explains important changes that every user will notice when the MD, ME, and CA machines are converted. The changes are most significant in the new procedures for recovering jobs, in

the way the system identifies each job, and in the on-line help facilities. In next month's *Newsletter*, we will explain in some detail the changes you should anticipate in NOS commands and command parameters.

LOGGING IN AND RECOVERING JOBS

You will notice that small details have changed when you log in under NOS 2.3. You will type in your user name (what used to be called your user number) and password much as you do under NOS 1.4. But the system also makes it possible at this point to recover jobs that might have been disrupted. The new login sequence is illustrated in Exhibit 1.

After "FAMILY" you type a carriage return to select the default permanent file family. You type in your user name after the "USER NAME:" prompt. The user name is what has been called your user number under NOS 1.4, and it is assigned to your account by UCC. You type in your password as usual. The system blanks it out on your screen. After "JSN:" there appears a four-letter code, your job sequence name, that identifies your job or terminal session within the system. The three-letter code on the same line is your terminal type. Usually the code will be "TTY."

```

WELCOME TO THE NOS SOFTWARE SYSTEM.
COPYRIGHT CONTROL DATA 1978,1983.

85/05/31. 14.24.16.MERITSS/MD (05/15-AF).
NOS 2.3-617/617.

FAMILY: <CR>
USERNAME: ABC1234
PASSWORD
XXXXXXXX
JSN: ACDG,TTY
X,SETJOB,JAD
FORTRAN, NEW, PROGRAM
AUTO
00100 PROGRAM TEST (INPUT, OUTPUT)
00200 PRINT *, "HELLO"
00300 END
RUN
IAF IS DOWN

After a system crash, Jane logs on again.
The normal login sequence reappears,
followed by a list of recoverable jobs.

WELCOME TO THE NOS SOFTWARE SYSTEM.
COPYRIGHT CONTROL DATA 1978,1983.

85/05/31. 14.34.16.MERITSS/MD (05/15-AF).
NOS 2.3-617/617.

FAMILY: <CR>
USERNAME: ABC1234
PASSWORD
XXXXXXXX
JSN: AEBN,TTY
RECOVERABLE JOB(S)

JSN  UJN  STATUS  TIMEOUT
ACBA LDNC  SUSPENDED  19 MIN.
ACDG  JAD  SUSPENDED  19 MIN.
ACEF LDNC  SUSPENDED  19 MIN.
ADFT LDNC  SUSPENDED  19 MIN.
ADVR LDNC  SUSPENDED  19 MIN.

ENTER GO TO CONTINUE CURRENT JOB,
RELIST TO LIST RECOVERABLE JOBS AGAIN
OR DESIRED JSN: ACDG

JSN: ACDG  SYSTEM: FORTRAN  MODES: PROMPT ON
STATUS:
CHARACTER SET: NORMAL  MODES: PROMPT ON
IDLE. ENTER COMMAND.
READY.
RUN

```

Exhibit 1. Jane Doe logs in and recovers a job.

At this point, if a previous session was detached or interrupted or ended abnormally, the system will list recoverable jobs according to their job sequence names, as shown in Exhibit 1. This listing constitutes a significant improvement over the NOS 1.4 prompt "RECOVER/SYSTEM" because the listing gives you information about the jobs and a choice of whether or not you wish to recover a job immediately or sometime later.

You need to understand the JSN and UJN identification codes in this listing of recoverable jobs. Every job is assigned a Job Sequence Name (JSN) by the system-this is a random four-letter code. Every job also has a User Job Name (UJN) associated with it; the default four-letter code for the UJN for interactive jobs is what has been called your hash code. You

may also set the UJN to a meaningful name by using the new SETJOB command; if you share a user name with other people, this may become especially important. If the system crashes during your terminal session, you will then know what job is yours and which one to recover. For example, Jane A. Doe, a student sharing a user name with ten other students, might log in to the system, set a unique UJN and, following a system crash, recover her job as shown in Exhibit 1.

The listing of recoverable jobs also tells you the status of the jobs listed and tells you the number of minutes they will remain recoverable. The job may be executing (if it has been detached), suspended (if the system went down), or rolled out for some reason. The timeout period is

important; the system keeps your jobs available for recovery for about 30 minutes and automatically lists them for you during this time. The timeout listed is the number of minutes the job will remain recoverable.

In response to the listing, you may type "GO" to continue the present job without recovering any other jobs, "RELIST" to see the listing again, or a specific JSN to restart a job you want to recover. At any time during an interactive session, you may type "RECOVER" to see the listing and recover a job.

Finally, at the end of the login sequence you may be asked to type in a charge number. The "CHARGE NUMBER:" prompt will only appear if your account is set up by UCC as an MIS user account. Type in the

appropriate number, if the prompt appears.

ON-LINE DOCUMENTATION

The NOS 2.3 Help and On-line Manual systems are easy to use and informative.

HELPME

If you need help building a command with many parameters, you may type "HELPME" followed by the command name. The system will first describe the command and then prompt you for the parameters one by one. The system will also explain all the possible values for a parameter if you ask for these explanations. You type a carriage return to accept the default value, or you type the value itself, or you type a question mark to get information about the parameter. You may escape the HELPME procedure by typing the BREAK

key, and at any time you may execute the command with default values by typing a period (.) followed by a carriage return. When you type the value for the last parameter, the system executes the command you have just entered. For example, you might ask for help with a CATLIST command as shown in Exhibit 2. When the CATLIST command executes at the end of the example, you would find a listing of all your permanent files on local file CATOUT. The series of prompts and responses illustrated in Exhibit 2 is equivalent to typing the command CATLIST, L=CATOUT.

EXPLAIN

If you only want to find out about a command or read about a topic, you may use the EXPLAIN utility to read on-line manuals and documentation. To read about system commands, for example, you would type,

EXPLAIN, M=COMMAND

This command effectively brings a large, on-line manual entitled "COMMAND" to your terminal. You follow the directions presented on the screen to find out about a particular command that you are interested in. You can simplify your search within a manual by specifying a topic when you use EXPLAIN. If you want to read about the CATLIST command, for example, you would type,

EXPLAIN, M=COMMAND . CAT LIST

The EXPLAIN command is described in more detail in the June issue of the *UCC Newsletter*. These new features of NOS 2.3, HELPME and EXPLAIN should help you to become familiar with the differences between NOS 1.4 and NOS 2.3 and to adjust to the new operating system.

HELPME,CATLIST

The CATLIST command lists information about your permanent files, or about the permanent files you can access in the catalogs of other users.

Format: CATLIST, FN=pfname, LO=p, UN=username, L=lfname, PN=packname, R=r, DN=dirname, NA, WB

Note: CATLIST without parameters gives you a list of the permanent files in your catalog.

Permanent file name? ?

You may specify a particular file about which to receive permanent file information. (You must specify a file when requesting access permission information.) CATLIST without parameters, on the other hand, simply gives you a list of the permanent files currently in your catalog.

Permanent file name? <CR>
List options? <CR>
Alternate user's name? <CR>
Listing file name? CATOUT
Alternate disk pack? <CR>
Device type? <CR>
Do you want to abort on errors? <CR>
Wait if file busy? <CR>
CATLIST COMPLETE

Exhibit 2. HELPME example.

MORE INFORMATION ABOUT THE CONVERSION

In next month's *Newsletter*, we will explain the differences in commands and command parameters between NOS 1.4 and NOS 2.3. There are many such changes, some very important to many users. You should be certain to read upcoming articles here to minimize your confusion when the change to the new operating system takes place. As each machine is converted, a WRITEUP will be installed that tells you what you need to know about the new system, about new commands, and about how to get along without the commands you are familiar with. On machine MD, which converted to NOS 2 in June, WRITEUP,NOS2 contains important information. These WRITEUPs will be your primary source of information about the conversion. Be certain to look at them when your machine changes over to the new operating system. The CDC document *NOS Version 2 Reference Set*, volumes 1 through 4, describes the new system. Volume 3, *System Commands*, is probably most useful for most users. You may wish to examine the *Reference Set* in UCC's Reference Room, 140 Experimental Engineering.

(Parker Johnson)

Data Base Update

SIR Data Base Seminar

The University Computer Center will offer a SIR Data Base Seminar in September, 1985. If you have large amounts of data and need to manage them effectively, then this seminar is for you. The seminar will run for three days (September 9-11) for six hours each day (9 a.m.-noon, 1:30-4:30 p.m.). Topics include:

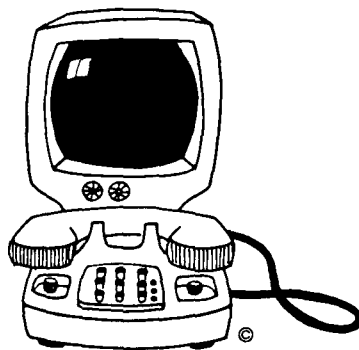
- Schema Design
- Retrieving Data
- Reports
- Utilities
- The Relational Query Language: SQL

Lab time will be available on UCC's CYBER 845 computer. Registration will be limited so be sure to register early. The registration deadline is August 30, 1985. The cost of the seminar for University of Minnesota students, staff, and faculty is \$200; the fee for non-University persons is \$250.

To register, send check or journal voucher to:

SIR Seminar
University Computer Center
227 Experimental Engineering
208 Union Street S.E.
Minneapolis, MN 55455

For further information, call Jerry Stearns at 376-8806.



CONSULTING

Scribe Consulting Changes

Elaine Collins, master of Scribe, has left UCC. Alas, her expertise will be missed. Limited consulting will be available from Ron Zacharski, on Mondays, Thursdays, and Fridays, 1-3 p.m., at 376-2944. UCC is currently reevaluating the need for Scribe.

Text Analysis and Humanities Consulting

If you are doing research that may require text analysis or other humanities computing, contact our consultants Mondays, Thursdays, and Fridays, from 1-3 p.m., at 376-2944.

UCC offers a variety of text-analysis programs, on-line texts, and other humanities computing resources.

Mathematics and Statistics Packages

SPSS 9.1

We have made a number of bug fixes to SPSS 9.0 on the CYBERs and called the new version 9.1. SPSS 9.1 may be accessed by typing FUTURE,SPSS. None of the errors fixed yielded erroneous results. But they did cause spurious and sometimes expensive aborts. Among the bugs fixed are:

COMPUTE $X = A * B$ was improperly giving a domain error when $A < 0$ and B was an integer.

SORT CASES Sometimes aborted when sorting very large files.

FREQUENCIES Occasionally aborted with CM Out of Range when all cases were missing.

MANOVA Sometimes hung until time limit if no cases were selected, and had problems with dynamic field length allocation on very large jobs.

SYSTEM Always returned pack name 0 as the default pack after exiting SPSS. This affected very few users.

If you are using one of these procedures, or even if you are not, you might consider using the FUTURE version.

BMDP 83

We have installed BMDP 83 as a FUTURE version of BMDP on the CYBER CA. This release corresponds to the *BMDP 83 Manual* we have been selling in the bookstores for about a year.

To access BMDP 83, type:

FUTURE, BMDPxx.
BMDPxx.

where xx is the two-letter code describing the specific BMDP program (i.e., 8V for ANOVA or 2T for Box-Jenkins Time Series Analysis).

More information on BMDP 83 can be obtained from WRITEUP,BMDP.

NEW FEATURES IN BMDP 83

1. Many new transformation functions have been added. These include a crude RECode function, date and time functions, ability to replace missing values by linear interpolation, and numerous summary statistics within a case, including sum, mean, median, standard deviation, interquartile range, linear interpolation, trend, t-value and the correlation coefficient. These transformations and others are documented on page 52 of the *BMDP Users Manual*.

2. BMDP Save Files may optionally be written as a formatted file (rather than as a binary file). A formatted file can be visually inspected and is easier to transfer to other non-BMDP programs. See page 69 of the *BMDP Manual*.

3. Many bug fixes have been supplied, especially for BMDP1T and BMDP2T.

CHANGES AND INCOMPATIBILITIES

1. The program known as BMDQ3M (Block Clustering) in BMDP 82 has replaced BMDP3M in the 1983 release. The old program BMDP3M is no longer available. Users may still access it from BMDP 820.

2. The control statement parameters D, S, AI, MF, and AF are no longer permitted in BMDP 83. Attempting to use them will result in a CPU Abort with the dayfile message:

ILLEGAL PARAMETER

Instead these file names are communicated to the BMDP programs by means of control language directives described below. This usage is consistent with the *BMDP 83 Manual*.

The broadly applicable parameters:

I [INPUT]	Input file
L [OUTPUT]	Output file
B [none]	User-supplied relocatable binary

W [10,000] Decimal workspace available

are still permitted. Default values are in brackets.

3. Local file names are specified directly within the BMDP control language. The standard input file is requested by specifying:

```
"/INPUT UNIT = 5."
```

All other files must be referred to by a file name in the "FILE = fn." sentence. The "UNIT = n." sentence, used in previous releases, is not permitted in BMDP 83, except "UNIT = 5." to refer to the standard input file. Note that this practice differs from that described in the *BMDP 83 Users Manual*.

This new way of communicating file names allows greater flexibility in using files since more than one file of any given type can be used per run. Consider the following BMDP job consisting of two problems, each of which reads data from its own raw data file:

```
GET, DATA1 .
GET, DATA2 .
BMDP3D .
.EOR
/PROBLEM
/INPUT VARIABLES=5 .
FILE=DATA1 .
...
/END
/PROBLEM
/INPUT VARIABLES=3 .
FILE=DATA2 .
...
/END
```

In this job, the "FILE=DATA1." sentence in the first problem specifies that raw data is to be read from the file DATA1. Similarly, the "FILE=DATA2." sentence in Problem 2 indicates that data is to be read from DATA2.

See WRITEUP, BMDP for further conditions and examples of file usage in BMDP 83.

MINITAB

The new *MINITAB Handbook*, 2nd edition (Boston: Duxbury Press, 1985), is an excellent handbook, both for comments on MINITAB and for teaching introductory statistics. However, some users have been distressed to learn that many features discussed in the *Handbook* do not exist: the book describes MINITAB 5.1, a version that has not yet been released.

Supplements to this *Handbook* will be available in the Reference Room, 140 Experimental Engineering, at no charge. These supplements correspond to MINITAB 82, which is currently available on our CYBERs.

By the time you read this *Newsletter*, these supplements *may* be in stock; the timing of their arrival is indefinite. Contact the Reference Room at 373-7744 for further information.

(Bruce Center)

CYBER Notes

New ACCSTAT Monitors Subaccounts

On July 1, a new version of UCC's ACCSTAT utility went up on the CYBERs. Like the old version, new ACCSTAT provides statistics on the amount of system resources you have used on UCC's systems and the charges accrued by your account in using these resources. But new ACCSTAT has several enhancements; with new ACCSTAT

- you can obtain summary reports on subaccounts associated with your master user number.
- you can obtain reports on your own subaccount.

- you can get reports on specific time periods.
- you can produce machine-readable output files.
- you can obtain reports on specific machines.

To use ACCSTAT on the CYBERs, log in and type

ACCSTAT

New ACCSTAT will then display a report summarizing your account's (or subaccount's) use of system resources and the corresponding charges for the last billing period and month-to-date.

New ACCSTAT has an SN parameter that permits master users to monitor subaccount resource use and charges, but subaccount owners should NOT use the SN parameter. By default, ACCSTAT will report on the subaccount you have logged in on, and your subaccount will not be validated to monitor other accounts.

New ACCSTAT has a number of other parameters that you can use to monitor your resource use and charges more carefully. The LO= parameter, for example, causes ACCSTAT to list optional information. For example, the parameter LO=A causes ACCSTAT to print statistics for all categories maintained by the accounting system, including those for which there is no charge.

LO=L lists units and costs for the last billing period. LO=M lists units and costs for the current month, and LO=Y prints units and costs from July 1 to the present date. Using all these LO= options, like this-

ACCSTAT, LO=ALMY

-produces statistics and costs of all categories for the last billing period, the current month, and the period since July 1. Exhibit 1 shows a sample report from new ACCSTAT on the account SUB1234, a subaccount of ABC1234, produced with the LO=ALMY parameter.

All the parameters of new ACCSTAT are described in the CYBER on-line document WRITEUP,ACCSTAT.

DESCRIPTION	RATE	LAST UNITS	LAST COST	MTD UNITS	MTD COST	YTD UNITS	YTD COST
CA SRUS - NORMAL	.15	209.106	31.37	1627.272	244.09	40297.400	6044.61
CA SRUS - DELAY	.10	32.742	3.27	491.165	49.12	638.203	63.82
CA MASS STORAGE TRANSFERRED		70.019	.00	573.313	.00	12652.001	.00
CA PERMANENT FILE OPERATIONS		3.816	.00	12.172	.00	616.582	.00
CA TAPE KPRUS TRANSFERRED		.616	.00	5.989	.00	264.557	.00
CA PF STORAGE BEFORE JUL 1	.016	6008.732	96.14	26796.888	428.75	857681.95	13722.91
CA DOUBLE DENSITY PACK MOUNT	6.60					1	6.60
CA STORED LABELED TAPE MTS	.44					27	11.88
CA STORED UNLABELED TAPE MTS	.66					8	5.28
CA TRANSIENT TAPE MOUNTS	1.10	1	1.10	4	4.40	25	27.50
CA CONNECT TIME - 300	1.30					.348	.45
CA CONNECT TIME - 1200	2.25	1.439	3.24	8.837	19.88	229.698	516.82
CA PUBLIC TERMINAL ACCESS HR	1.55	1.258	1.95	8.656	13.42	211.527	327.87
CA PERMANENT FILES LOADED	10.00					4	40.00
CA CPU JOBS		16	.00	43	.00	8101	.00
CA CENTRAL PROCESSOR SECONDS		125.484	.00	1098.646	.00	18677.134	.00
CR SYSTEM BILLING UNITS	.23	65.338	15.03	87.884	20.21	29509.927	6787.28
CR MASS STORAGE TRANSFERS		3.904	.00	9.989	.00	11337.582	.00
CR BLOCKS TRANSFERRED TO		.562	.00	2.447	.00	197.163	.00
CR BLOCKS TRANSFERRED FROM		.548	.00	2.179	.00	233.800	.00
CR PERMANENT FILE STORAGE	3.36	.166	.56	1.485	4.99	146.712	492.95
CR SPSS SBUS						1600.952	.00
CR CPU JOBS		1	.00	6	.00	1043	.00
CR CENTRAL MEMORY USAGE		16.965	.00	19.939	.00	2636965.1	.00
CR CENTRAL PROCESSOR SECONDS		59.724	.00	78.007	.00	21402.008	.00
JOBS OF ALL ORIGIN		17	.00	49	.00	9144	.00
TELEX ORIGIN JOBS		9	.00	24	.00	741	.00
TERMINAL KILO-CHARS INPUT		3.833	.00	21.000	.00	683.345	.00
TERMINAL KILO-CHARS OUTPUT		85.495	.00	576.732	.00	14321.764	.00
TOTAL PAGES PRINTED		61	.00	107	.00	16500	.00
PRINTED PAGES CHARGED	.035	61	2.14	107	3.75	16500	577.50
MICROFICHE SETUPS	3.00					9	27.00
MICROFICHE ORIGINALS	1.50					75	112.50
MICROFICHE DUPLICATES	.20					1	.20
XEROX 9700 MULTI SETUPS	1.00					4	4.00
XEROX 9700 SINGLE SETUPS	3.00					4	12.00
XEROX 9700 PAGES	.035					792	27.72
TAPES STORED PER MONTH	.75					55	41.25
BATCH ORIGIN JOBS		8	.00	25	.00	8375	.00
		-----		-----		-----	
		154.80		788.61		28850.14	

Exhibit 1. Output from the new ACCSTAT.

PHONE NUMBERS

<p>Access:</p> <p>CYBER(CA)—10, 30 cps 376-5730 —120 cps 376-5706</p> <p>MERITSS(ME)—10, 30 cps 376-7730 —120 cps 376-7120</p> <p>VAX/VMS(VA)—(autobaud) 376-9770</p> <p>Accounts:</p> <p>MERITSS 373-7745 User Numbers 373-4548</p> <p>Computer-Aided Instruction 376-2975 Computer Hours (recorded message) 373-4927</p> <p>Consulting</p> <p> HELP-line 376-5592 7 a.m.-7 p.m., Monday-Friday</p> <p> Statistics Packages 376-1761 1-2 p.m., Monday-Friday</p> <p> Data Bases 376-1761 10-11 a.m., Monday-Friday</p> <p> Microcomputers 376-4276 9:30 a.m.-noon and 1:30-4 p.m., Monday-Friday</p> <p> Scribe, Text Analysis & Humanities Computing 376-2944 1-3 p.m., Monday, Thursday, Friday</p> <p>Contract Programming 376-1764 Data Base Applications 376-1764 EDUNET Liaison 373-7745</p>	<p>Engineering Services 376-1023, 376-8153 Equipment Purchase/Information 376-8153 Experimental Engineering I/O 373-4596 Graphics Software 638-0541 HELP-line 376-5592 7 a.m.-7 p.m., Monday-Friday</p> <p>HOURS-line (recorded message) 373-4927 Information, Experimental Engineering 373-4360 Information, Lauderdale 373-4912 Instructional Labs 376-2703 Instructional Services 373-7745 Lauderdale Computer Room 373-4940 Lauderdale Services 638-0523 Lauderdale Services Manager 373-7538 Lauderdale Users' Room 373-4921 Newsletter Subscription 376-1491 Permanent File Restoration 376-5605 Professional Services Division (PSD) 376-1764 Project Assistance 376-1764 Reference Room 373-7744 Remote Batch (RJE) Services 376-2703 Short Courses 376-8806 Shuttle Bus Service 376-3068 System Status (recorded message) 373-4927 Tape Librarian: see Lauderdale Services Text Processing Services 376-2943</p>
--	---

OPERATING HOURS

	CYBER (CA)	Low rate	CRAY (CR)	MERITSS (ME)	VAX (VA)
M-F	7 a.m. - 4 a.m.	8 p.m. - 4 a.m.	7 a.m. - midnight	7:45 a.m. - 3:30 a.m.	8 a.m. - 6 a.m.
Sat	4 a.m. - 5:15 p.m.	4 a.m. - 5:15 p.m.	7 a.m. - 5 p.m.	7:45 a.m. - 3:30 a.m.	24 hours
Sun	4 p.m. - 1 a.m.	4 p.m. - 1 a.m.	4 p.m. - midnight	4 p.m. - 3:30 a.m.	24 hours

PUBLIC LABS—TWIN CITIES CAMPUS

Location	Batch	Interactive	Micro	Location	Batch	Interactive	Micro
<i>East Bank</i>				<i>West Bank</i>			
Arch 148		X	X	BlegH 25		*	
CentH		X		BlegH 90	X		
ComH		X		BlegH 140		X	
DiehlH 270, 207		X		MdbH		X	
Elth 121, 125		X		OMWL 2		X	
Elth N640	X			SocSci 167			X
Exp Eng 130		*					
FolH 14, 14a	X	X*	X	<i>St. Paul</i>			
Lindh 26	X	X		BaH		X	
MechE 308		X		ClaOff 125	X	X	
Physics 69		*					
SaffH		X					
TerrH		X					
Vinch 4		X					
Walib 89		X					

* Research cluster; access to CYBER CA and VAX/VMS
 X in interactive column indicates access to MERITSS

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Michael M. Skow, Acting Director

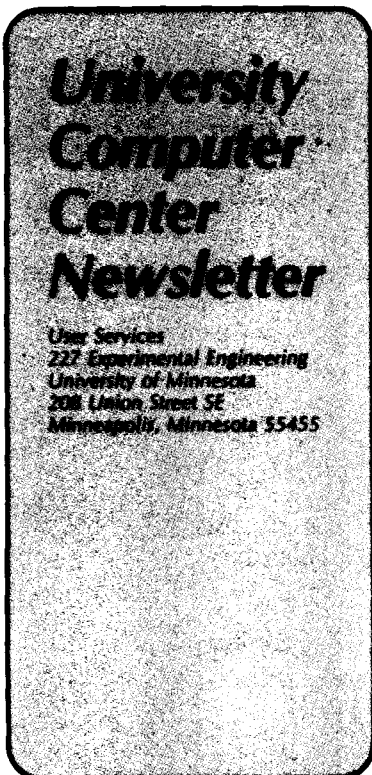
The *UCC Newsletter* is published monthly by the University Computer Center. Deadline for articles is the 10th of the month preceding publication; deadline for short announcements is the 15th. The *Newsletter* is edited and coded for typesetting at the Computer Center, then typeset on a Linotron 202 and printed at the University of Minnesota's Printing and Graphics Arts Department.

Comments, suggestions, articles, and announcements should be directed to the editor, 227 Experimental Engineering, (612) 376-1491.

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