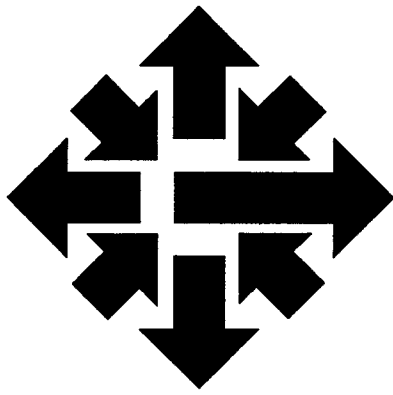


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20739



# ACSS NEWSLETTER

Academic Computing Services and Systems

Volume 23, Number 4

University of Minnesota, Twin Cities

April, 1989

## Documentation Now in Libraries

*Michael Dunham*

Academic Computing Services and Systems (ACSS), St. Paul Computing Services (SPCS), and Health Sciences Computing Services (HSCS), in cooperation with Information Services, has placed a collection of computer manuals in three libraries on the Minneapolis and St. Paul campuses. We've established these three collections to make these essential manuals more conveniently available to our users.

The manuals are at the Reserve Desks in Wilson Library, Walter Library, and St. Paul Campus Central Library. The collection in each library (the same titles are at each site) includes the most frequently used and requested manuals for the central computing systems at

- ACSS (CYBERs running NOS and NOS/VE, a VAX running VMS, and an ENCORE running UNIX),
- HSCS (CYBERs running NOS and NOS/VE),
- SPCS (an IBM running CMS), and
- for a wide variety of software on these machines.

The manuals have been catalogued by the University Libraries' staff, and entries for each manual appear in LUMINA, the Libraries' on-line catalog.

The ACSS manuals also remain available in our Computing Information Center in 128A Lind Hall. For questions about using these materials, please contact the Reserve Desks in the various libraries. Or, if you want to see a complete listing of the manuals, please call me (625-7397) or send me a MAIL or BITNET message (MAD@UMNACVX, MAD@UMNACCA, and MAD@UMNACUX). ■

## In This Issue . . .

The University is now a member of the **IBM Higher Education Software Consortium**. Karin Teder, of St. Paul Computing Services, explains how faculty and staff can obtain software for IBM mainframes, mini-systems, and workstations through the Consortium.

Tom Rindflesch and Ron Zacharski describe two **natural language parser** development systems for researchers in artificial intelligence.

For researchers in econometrics, Sharon Krmpotich announces a new version of, ahem, **RATS** for our VMS system.

**Have you renewed your subscription?**

(See the last page of this issue.)

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# HELP PAGE

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## HELP-LINES

### Central Systems (CA,NV,UX,VX):

626-5592 8 am to 5 pm weekdays

### Artificial Intelligence:

625-8332 3 to 4 pm weekdays

### Data Base:

626-1887 10 to 11 am weekdays

### Graphics:

626-5592 8 am to 5 pm weekdays

### Liberal Arts, Text Analysis:

625-8332 3 to 4 pm weekdays

### LUMINA (communications questions)

626-2272 8 am to 5 pm weekdays  
7 pm to 10 pm Thursdays

### Microcomputer and Workstations:

626-4276 9 am to 4 pm, weekdays  
(Closed 12:00 to 1:30 pm,  
Monday, Tuesday, and Friday.)

### Statistics:

626-1887 1 to 3 pm weekdays

### Text Processing:

625-1391 10 am to noon, Tuesday,  
Wednesday, Friday

## CONSULTING

### Walk-In

#### East Bank:

128C Lind Hall; 10 am to 4 pm, weekdays

#### West Bank:

140 Blegen Hall; 2 to 4 pm, Tuesday;  
11:30 am to 1:30 pm, Wednesday; and  
2 to 4 pm Thursday

#### Microcomputer and Workstations:

125 Shepherd Lab; 9 am to 4 pm, weekdays  
(Closed from 12:00 to 1:30, Monday, Tuesday,  
and Friday.)

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## Electronic Mail Consulting

Consulting is now available via the mail facility on all ACSS systems (the CA, NV, UX, and VX). Send mail to user name CONSULT for questions after hours and for low-priority questions that are not critical to your immediate computing work. Replies will be sent to your account through the mail facility on your system.

---

## Instructional Computing Consultant

Department instructors may call 626-0200 for assistance in choosing ACSS systems (CYBER/NOS, CYBER/VE, ENCORE/UNIX, VAX/VMS), software, and for answers to any other inquiries on using computers for instructional computing.

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## COMPUTING INFORMATION CENTER

128A Lind Hall, 625-7397, MAD@UMNACCA, MAD@UMNACUX, MAD@UMNACVX  
8 am to 4:30 pm, Monday through Friday

**Computing account and grant applications** available for CYBER, ENCORE, and VAX computers.

**Short course enrollment.** Short course schedules and class descriptions available.

**Assistance in ordering vendor documentation.** Vendor documentation is not always available in the University bookstores and may be ordered directly from the company.

**Complete documentation collection.** Reference copies of vendor and all other documentation for ACSS software.

**Free ACSS documentation.** General information, and mainframe and microcomputer information available.

**Computing Newsletters.** Subscribe to the *ACSS Newsletter* and the *ACSS Microcomputer Newsletter*. Newsletters from other computing centers are also available for reference.

# ACSS NEWSLETTER

Volume 23, Number 4 April, 1989

## ACSS NEWSLETTER

Acting Director, ACSS: Michael Skow  
Editors: Steven Brehe, Paula Goblirsch

The *ACSS Newsletter* is published monthly by Academic Computing Services and Systems of the University of Minnesota, Twin Cities. Deadline for articles is the 5th of the month preceding publication; deadline for short announcements is the 10th. The *ACSS Newsletter* is produced with an Apple Macintosh Plus running Microsoft Word, FullPaint, CricketDraw, Adobe Illustrator, and Aldus PageMaker software, with camera-ready copy produced on an Apple LaserWriter Plus.

Direct comments, suggestions, articles, and announcements to the editors at the address on the back page, or call (612) 626-1828 or 626-1093. BITNET: SKB@UMNACVX, PMG@UMNACVX.

For a free subscription call (612) 625-7397, or send your name and address to the Computing Information Center, 128A Lind Hall. BITNET: MAD@UMNACCA, MAD@UMNACUX, or MAD@UMNACVX. On-campus address changes *must* include your department name and address.

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, religion, color, sex, national origin, handicap, age, veteran status, or sexual orientation.

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**Renew your Newsletter subscription now!**

## IBM Higher Education Software Consortium

*Karin Teder*  
St. Paul Computing Services

The University of Minnesota recently signed an agreement to participate as a member of IBM's Higher Education Software Consortium (HESC). This means that a broad spectrum of IBM system and application software is now available to the University, and that licensing fees for this software are waived. After designating that the desired software is to be used for either instructional or research purposes, a University faculty or staff member may place orders to acquire software products through a local contact, a Technical Support Coordinator.

The Consortium is a new and innovative component of IBM's evolving partnership with higher education. Its principal goal is to enhance the academic process through effective use of modern computer technology in teaching, research, and scholarship. Members have access to broad-based groups of selected software for the following equipment families: RT/PC engineering workstations; System/36, System/38, and AS/400 mini-systems; 9370 mid-range systems; and System/370, 43XX, and 30XX systems. The IBM Personal Computer family is not covered by this software offering.

Some of the benefits to Consortium Members include:

1. Access to Consortium-sponsored forums addressing issues of common concern regarding the integration of computer technology into the curriculum.
2. Through user group meetings, share results achieved by other member Institutions.
3. Opportunities to work with IBM in the development of products applicable to the higher education instruction and research environments.
4. Opportunities for feedback to IBM regarding the use and performance of IBM software in an academic environment.
5. A forum for the exchange of instructional materials and demonstrations developed by Consortium Members.

The software now available to HESC Members is organized into six separate categories:

**Group I-A:** General-Purpose VM (Virtual Machine) software for mainframes and mid-range systems (IBM system/370, 43XX, 30XX, and 93XX systems).

**Group I-B:** AIX-based (UNIX) software for RT-PC workstations.

**Group II-A:** Engineering-related software for mainframes and mid-range systems (IBM system/370, 43XX, 30XX, and 93XX systems).

**Group II-B:** Engineering-related Software for RT PC Workstations.

**Group III:** Business application software for mini-systems (IBM System/36, System/38, and AS/400).

**Group IV:** Business application software for the system/36 mini-system.

The software from the first category (Group I-A) must be used for academic instruction and/or research at least 80 percent of the time to be eligible. The software in the remaining groups must be used solely for academic instruction and/or research.

If you want to obtain more information regarding the Consortium and how it works (what software components are included, how to order products, what equipment the software runs on, etc.), contact the local Consortium's Technical Support Coordinator: Mel Sauve, 50 Coffey Hall, St. Paul Campus (624-6765). ■

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## Reminder: Varian Plotter to be Removed

*Michele Lewis*  
MAL@UMNACVX

As we announced in the February *Newsletter*, we will remove the Varian plotter from CA on June 11. The plotter is antiquated and difficult to maintain.

There is now a Future version of PLOTPAC, the graphics package most frequently used to create files for the Varian. The future version creates plot files for the Versatec color

electrostatic plotter. We recommend that Varian users recompile their application programs to use FUTURE,PLOTPAC.

See the December *Newsletter* or WRITEUP,PLOTPAC on CA for more information on FUTURE,PLOTPAC. If you have problems with this version of PLOTPAC or need assistance in converting your jobs, please call Michele Lewis at 626-0314. ■

Special projects group  
M141 Fraser (office)  
128A Lind Hall (mail)  
625-8332 ■

## Natural Language Parsers

Tom Rindflesch  
TCR@UMNACVX

Ron Zacharski  
RAZ@UMNACVX

Two unification-based natural language parser development systems are now available to researchers interested in constructing parsers. These programs read grammars written as a set of phrase structure rules and produce systems that parse natural language. Both development systems also include some ability to perform semantic interpretation.

**Chat**, a system from Fernando Pereira at SRI International, is a natural language interface running in Prolog. It is based on definite clause grammars and this offers several advantages. First, Chat is extremely fast (running on VX under Quintus Prolog, it responds to queries in less than one-tenth of a second). Second, since definite clause grammars are closely related to Prolog, Chat is easily integrated into other Prolog programs such as data bases and expert systems. Chat includes a rather extensive demonstration grammar that can be used profitably as the basis for new grammars.

The **Universal Parser** from the Center for Machine Translation at Carnegie Mellon University is based on Tomita's efficient generalized LR parsing algorithm and partially implements lexical-functional grammar. It is written in Common Lisp and was designed to be transportable to any Common Lisp system. For example, it is running at Carnegie Mellon on Symbolics 3600 Series, IBM RT PC's, and HP Bobcat AI workstations. At ACSS the Universal Parser is running on our VX and UX central systems and is also available for the Macintosh.

If you have any questions or would like information on obtaining these systems contact:

## RATS on the VAX!

Sharon A. Krmpotich  
SAK@UMNACVX

**R**ATS is the Regression Analysis of Time Series program, Version 2.0, for econometric research. RATS analyzes and forecasts time series by ordinary least squares, weighted least squares, two-stage least squares, and three-stage least squares. RATS can perform seemingly unrelated regressions, univariate ARIMA estimation, and single equation non-linear least squares. RATS also includes instructions for analyzing multivariate time series using vector auto-regressions, spectral analysis, and Fast Fourier transforms.

In spite of the version numbers, RATS 2.0 is a newer version than RATS 4.11, which has been available on the CYBER CA for quite some time. The numbering scheme for versions has been changed for compatibility with PC-RATS. RATS 2.0 is generally upwardly compatible with the old RATS 4.11.

To use RATS on the VAX, type:

```
$ RATS inputfile
```

where *inputfile* is the name of your RATS program file. If you omit the input file name, RATS runs in interactive mode. If you specify an input file (e.g., **BIG\_GRAY.RATS**), the output file defaults to the same name with an extension of **.LIS** (e.g., **BIG\_GRAY.LIS**). There are three optional qualifiers on the RATS command:

```
/OUTPUT=output file name  
/DATA=data file name  
/COPY=copy file name
```

For details on these options and further information on RATS, type the felicitous command

```
$ HELP RATS
```

the next time you are on VX. If you have problems with RATS, call your local pest control experts at 626-1887, weekdays from 1 to 3 pm. ■

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# SHORT COURSES

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## Spring Quarter 1989

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### CENTRAL SYSTEMS COURSES

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Central Systems courses are *free*. To register call 625-7397.  
Some classes have size limitations: Register early.

#### Introductory Courses

Introduction to VAX/VMS Operating System	April 17-26	MW	2:15-4:00 pm
Overview of the NOS 2 Operating System	April 18	T	2:15-4:00 pm
Overview of the NOS/VE Operating System	April 20	Th	2:15-5:00 pm
Introduction to UNIX Operating System	May 9-11	TTh	2:15-5:00 pm

#### Elective Courses

INGRES Data Base Management on VAX	April 25-May 4	TTh	2:15-4:00 pm
Using SPSSX (Statistics Package)	May 1-5	MWF	2:15-4:00 pm
Electronic Mail (VAX and BITNET)	May 8-10	MW	2:15-4:00 pm
Using SAS (Statistical Analysis System)	May 15-19	MWF	2:15-4:00 pm
Advanced UNIX Seminar--The C-Shell	May 25	Th	2:15-5:00 pm
Advanced UNIX Seminar--The Bourne-Shell	June 1	Th	2:15-5:00 pm

### MICROCOMPUTER COURSES

#### General Courses

Strategies for Networking Microcomputers and Workstations	April 12	W	1:30-4:00 pm	Free
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#### IBM and Compatible Courses

Limited to 10 people.

FEES: 1) U of MN students, 2) U staff/faculty, 3) Non-University persons.

				(1) (2) (3)
Introduction to Micros-DOS				
Section 2	April 24-26	MTW	1:30-3:30 pm	\$40,\$50,\$80
Section 3	May 17-19	WThF	10:00-noon	\$40,\$50,\$80
Orientation for IBM Campus Network Users				
Section 2	April 18	T	11:00-noon	Free
Section 3	May 11	Th	3:00-4:00 pm	Free
Section 4	May 22	M	9:00-10:00 am	Free

# SHORT COURSES

Mastery of *Introduction to Microcomputers-DOS*, or equivalent knowledge,  
is required for the IBM courses listed below.

				(1) (2) (3)
Managing Your Hard Disk	May 30-June 1	TTh	1:30-4:00 pm	\$40,\$50,\$80
Introduction to dBase III	April 10-14	MWF	10:00-noon	\$40,\$50,\$80
Programming in dBase III	May 8-9	MT	1:30-4:00 pm	\$40,\$50,\$80
Beginning Lotus 1-2-3 Section 2	May 15-17	MW	1:30-4:00 pm	\$40,\$50,\$80
Intermediate Lotus 1-2-3	May 31-June 2	WF	2:00-4:00 pm	\$40,\$50,\$80
Introduction to Excel for PC/MS-DOS Computers	May 23-25	TTh	1:30-4:00 pm	\$40,\$50,\$80
Introduction to WordPerfect 5.0 Section 1	April 11-13	TTh	1:30-4:00 pm	\$35,\$45,\$80*
Section 2	May 3-4	WTh	9:30-noon	\$35,\$45,\$80*
Section 3	May 31-June 2	WF	9:30-noon	\$35,\$45,\$80*

\**Introduction to WordPerfect*, A ComputerPREP, Inc. WordPerfect 5.0 Training Guide, is required for this class. You must buy this \$15.98 workbook at the Minnesota Book Center Electronics Desk before you come to class.

## Macintosh Courses

Hands-on. Limited to 10

				(1) (2) (3)
Macintosh Fundamentals				
Section 2	April 11	T	10:30-noon	\$10,\$10,\$10
Section 3	April 19	W	9:00-10:30 am	\$10,\$10,\$10
Section 4	May 12	F	9:00-10:30 am	\$10,\$10,\$10
Section 5	May 19	F	1:30-3:00 pm	\$10,\$10,\$10
Orientation for Macintosh Campus Network Users				
Section 1	April 13	Th	9:00-10:00 am	Free
Section 2	May 1	M	11:00-noon	Free
Section 3	May 15	M	9:00-10:00 am	Free

Mastery of *Macintosh Fundamentals*, or equivalent knowledge,  
is required for the courses listed below.

				(1) (2) (3)
Introduction to MS Word for the Macintosh				
Section 2	April 20-21	ThF	9:30-noon	\$35,\$45,\$85
Section 3	May 2-4	TTh	1:30-4:00 pm	\$35,\$45,\$85
Section 4	May 16-18	TTh	1:30-4:00 pm	\$35,\$45,\$85

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## SHORT COURSES

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Intermediate MS Word for the Macintosh				
Section 1	April 25-26	TW	9:30-noon	\$35,\$45,\$85
Section 2	May 25-26	ThF	9:30-noon	\$35,\$45,\$85
Introduction to Excel for the Macintosh				
Section 1	April 18-20	TTh	1:30-4:00 pm	\$35,\$45,\$85
Section 2	May 3-5	WF	1:30-4:00 pm	\$35,\$45,\$85
Intermediate Excel for the Macintosh				
	May 9-10	TW	9:30-noon	\$35,\$45,\$85
Using Hyper Card				
Section 2	April 27-28	ThF	9:30-noon	\$35,\$45,\$85
Section 3	May 23-24	TW	9:30-noon	\$35,\$45,\$85
Intermediate HyperTalk				
	May 10-12	WF	1:30-3:30 pm	\$35,\$45,\$85
Introduction to Desktop Publishing—PageMaker				
Section 2	April 27-28	ThF	1:30-4:00 pm	\$35,\$45,\$85
Mathematica				
	May 30-June 1	TTh	10:00-noon	\$35,\$45,\$85
Introduction to Programming the Macintosh Using Pascal				
	April 17-21	MWF	2:00-4:00 pm	\$35,\$45,\$85
Developing Applications for the Macintosh Using MacApp				
	May 22-26	MWF	2:00-4:00 pm	\$35,\$45,\$85
Preparing a Dissertation on the Macintosh				
	May 5	F	9:30-noon	\$15,\$25,NA

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### ACSS SHORT COURSE INFORMATION

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**Prerequisites:** Please note any prerequisites for the class you are interested in. Instructors will not be able to review any prerequisite information. If you have not used a Macintosh before, you must attend a session of *Macintosh Fundamentals* before taking any other Macintosh classes. For more information on prerequisites, call the Computing Information Center at 625-7397.

**Limits:** All microcomputer classes and some central systems classes have limits to class size. Please try to register early to be sure of getting a place. If you decide to cancel from a class, please do so as soon as possible, so that we can make the space available to others.

**Registration:** Registration is located at ACSS's Computing Information Center, 128A Lind Hall. (Hours: 8:00 am to 4:30

pm, Monday through Friday.) Fees must accompany registration. Mail registrations will be accepted. Deadline for registering is 4:00 pm on the last working day before the class begins. Please call and give us your name if you plan to attend a free class; also call to cancel if you later decide not to attend, so we know how many to expect. For registration information, call 625-7397.

**Fees:** Fees following microcomputer courses are for 1) University students, 2) U faculty and staff, and 3) non-University persons. Course fees may be paid by check, or include a signed University journal voucher with registration information. (No cash, please.) Fees must accompany registration. *No refund* will be made if you cancel within 48 hours of the beginning of the class.



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# SHORT COURSES

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## ACSS SHORT COURSE POLICY

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Each quarter ACSS offers a large number of free computer short courses for the University community. Although these are usually introductory courses, the instructors spend a good deal of time preparing for them. We ask people to register for these classes by phone, mail, or in person, so instructors know how many people to expect.

ACSS avoids overbooking classes so that instructors and class participants are not inconvenienced. When registration for a class reaches classroom capacity, we keep a waiting list of those wanting to attend.

We always have waiting lists. If you do not show up for a class, or fail to cancel, you are depriving those who wish to attend.

Please be considerate. Think of those staff who organize and teach ACSS short courses. And, in particular, think of those users who are on our waiting list. If you aren't able to attend a class, a simple phone call (625-7397) will enable us to contact someone who can.

**Note:** Monday, May 29 is a University holiday. No classes will be held.

---

## St. Paul Computing Services Short Courses Spring 1989

CMS Electronic Mail	April 27	Th	2:00 - 4:00	PROCOMM	April 25	T	3:00 - 4:00
CMS Utilities	April 10	M	2:00 - 4:00	NOMAD2	April 26	W	2:00 - 4:00
CMS Tapes	April 12	W	2:00 - 5:00				
CMS REXX	April 14	F	2:00 - 4:00				
SAS/Base	April 17, April 19	M W	2:00 - 5:00 2:00 - 4:00	SAS/Base	April 18, April 20	T Th	9:00 - 12:00 9:00 - 11:00
SAS/Stat	April 21	F	2:00 - 4:00				
SAS/Graph	April 24	M	2:00 - 4:00				
PC SAS Overview	April 28	F	2:00 - 4:00				
YTERM	April 11	T	3:00 - 4:00				
TinCan	April 13	Th	3:00 - 4:00				

### WEST BANK CLASSES

### Registration

To register for short courses, please obtain and complete a registration form from SPCS (624-7788; 50 Coffey Hall). Return it to the Main Office, prior to the start of the class. Many short courses have a small fee associated with them and require full payment with registration. Sorry, no refunds are made after the class begins. Call 624-7788 for more information.

# PHONES/HOURS/LABS

## ACSS PHONE NUMBERS

Administrative Office: 626-1600

HELP-Line 626-5592

Access:	
New number (All systems)	626-1630
Accounts:	
CYBERs, ENCORE, VAX	625-1511
Computer Hours (recorded message)	626-1819
Computing Information Center	625-7397
Contract Services	625-2303
East Bank I/O, 128B Lind Hall	625-5082
Engineering Services	625-1595
Equipment Maintenance/Repair	625-1595
Graphics Software	626-5592
Information, Lauderdale	626-1600
Lauderdale Computer Room	626-0550
Lauderdale Services	626-1838
LUMINA	626-2206
LUMINA Consultant	626-2272
Magnetic Tape Librarian	626-1838
Math and Engineering Packages	625-5830
Microcomputer HelpLine	626-4276
Newsletter Subscription	625-7397
Permanent File Restoration	626-0595
Project Assist	626-1090
Public Labs (Managed by ACSS)	
170 Anderson Hall	624-6526
140 Blegen Hall	624-5278
135 Classroom Office Bldg.	624-9226
121 Elliott Hall	624-0866
14 Folwell Hall	625-4896
306B Lind Hall	625-9032
B2 OMWL	626-2205
130 Physics	625-6820
9 Walter Library	626-1899
Lab Manager (14 Folwell Hall)	625-7850
Publications Information	626-1093
Short Course Registration	625-7397
Shuttle Bus Service	625-9525
System Status (recorded message)	626-1819
West Bank Computing Services	624-0877

For the phone numbers of consulting services, see the Help Page.

## PUBLIC LABS TWIN CITIES CAMPUS

Central System    Interactive    Micro  
Printing

<i>East Bank</i>			
Aph 204		Closed for remodeling	
Arch 148			X
CenH		X	
ComH		X	
DiehH 207, 270	2	X	X
EddyH Annex 54			X
EltH 121	1	X	X
FolH 14, 14a	2	X	X
FronH		X	
LindH1	1	X	
LindH 26		Closed for remodeling	
LindH 128B	2	X	
LindH 306B			X
MasCanCtr M39		X	
MechE 308	1	X	
MoosT 8-425			X
Nich 109			X
Phys 130	2	X	X
PioH		X	
SanH		X	
TerrH		X	
VinH 203			X
WaLib 9	2	X	X
<i>West Bank</i>			
AndH 170	2		X
BlegH 140	1	X	
MdbH		X	
OMWL B2			X
<i>St. Paul</i>			
BaH		X	
CentLib B40	1	X	
CentLib B50			X
ClaOff 135			X
McNH 69	2		X
Vet 436			X

1 - Impact line printers.  
2 - Laser printers.

## SYSTEM OPERATING HOURS

The CYBER CA, the CYBER NV, the ENCORE UX, and the VAX VX systems run continuously from 6 pm Sunday until 6 am the following Sunday.

The systems are in unattended production mode each night from 2:45 am until 6 am. It is unlikely that any tape requests or printing will be

processed during these hours. Normal operations resume at 6 am each day except Sunday.

On the first and third Fridays of each month from 5 am to 7 am the CYBER CA and NV systems are unavailable. Low rates hours are from 8 pm to 8 am Monday through Friday, and all operating hours on Saturday and Sunday.

# **If you have not yet renewed your subscription to the *ACSS Newsletter*, please renew it now.**

Please help us update our mailing list. To renew, use the form on the back of this page:

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- On-campus subscribers: please provide your department's name and departmental address—no personal offices, please.
- Provide the rest of the information requested on the renewal form — **if you do not provide this information, we will not renew your subscription.**
- Fold this page along the line below so that the ACSS mailing address (below) shows.
- Staple this page closed and mail it to us.

*Thanks for your help!*

fold along this line



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Academic Computing Services and Systems  
128A Lind Hall

University of Minnesota  
207 Church Street S.E.  
Minneapolis, Minnesota 55455

staple or tape here

# ACSS Newsletter Subscription Renewal

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Department \_\_\_\_\_

Departmental Address \_\_\_\_\_

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Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

## ACSS NEWSLETTER

Academic  
Computing  
Services and  
Systems

Technical Publications  
100 Lauderdale CF  
University of Minnesota  
2520 Broadway Drive  
Lauderdale, Minnesota 55113

Nonprofit Org.  
U.S. Postage  
PAID  
Minneapolis, Mn.  
Permit  
Permit No. 155

UNIVERSITY ARCHIVES  
10 WeLib

Deliver to current occupant.