

University of Minnesota St. Paul Computing Services Newsletter

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* There are many major changes occurring at the end of June. *
* The changes are highlighted below, see an article on each *
* announcement inside this issue. Many of these changes are final. *
* There will be no grace period. *
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* ANNOUNCEMENTS: *
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* o St. Paul Computing Center has officially changed its *
* name to St. Paul Computing Services (SPCS). *
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* o The fiscal year cutoff will be midnight, Tuesday, June 24, *
* 1986. All services rendered after the cutoff will be *
* processed as July, 1986 business. *
*
* o Time grant cutoff is midnight, Tuesday, June 24, 1986. *
* If not renewed, time grants will be cancelled as of *
* this date. *
*
* o The MUSIC operating system will not be available after *
* June 30, 1986. All MUSIC files must be moved to CMS *
* by that date. *
*
* o SAS datasets on the shared SAS disk will be inaccess- *
* ible after June 30, 1986. You must be using the *
* LINKACC statement in your BATCH jobs by then and any *
* SAS datasets on the shared disk must have been moved. *
*
* o The use of punched cards will be discontinued at SPCS *
* as of June 30, 1986. The card reader and card punches *
* will be removed from 90 Coffey Hall. *
*
* o The dial-in phone number for computer access is now *
* 624-4220. The new phone number brings the user in *
* through the new 7171 communications controller, so *
* there are also changes in the method of connecting to *
* SPCS. *
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* o The YTERM terminal emulation software package is *
* available from SPCS. *
*
* o All SPCS BATCH users should be using the new BATCH *
* system (using "batch submit filename filetype" to send *
* jobs for BATCH processing). *
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* o A renewal form for this newsletter is on the back page. *
* Please fill it out and return it if you haven't renewed *
* yet. *

OUR NAME HAS CHANGED

Effective May 1, 1986, the St. Paul Computing Center has changed its name to St. Paul Computing Services. The mission of SPCS continues to be to serve the computing needs of the faculty, staff, and students of the University of Minnesota, with special emphasis on providing unique computing alternatives through IBM and IBM-compatible hardware and software products.

FISCAL YEAR CUTOFF

The fiscal year cutoff for St. Paul Computing Services will be midnight, Tuesday, June 24, 1986. June activities will be processed and journal vouchers will be sent out promptly. All services rendered after the cutoff date will be processed as July, 1986, business. Users should update their accounts if designated budget numbers or personnel involved with the account have changed.

TIME GRANT ACCOUNT CLOSURE

By University of Minnesota policy, users are required to establish their eligibility for computer processing time grant support annually, (i.e., to assure that departmental funds remain unavailable for computing).

To administer this policy, we are required to close all time grant accounts concurrent with our fiscal year cutoff. This year, the time grant cutoff will occur at midnight, Tuesday, June 24, 1986. Instructions advising time grant users of what to do were mailed in May. If you have not received a copy of these instructions, please contact the Main Office, 50 Coffey Hall, 624-7788. Time grant users must return one of the two 'action' forms attached to the instructions before 10:00 am June 24th. If a form is not returned, the time grant will be cancelled by default (cancellation results in the removal of userids and the irretrievable loss of permanent files).

MUSIC DISCONTINUED AS OF JUNE 30, 1986

As previously announced, the MUSIC operating system will not be available at SPCS after June 30, 1986. All MUSIC files which have not been moved to CMS or copied onto magnetic tape will become inaccessible on that date. **YOU SHOULD MOVE ANY MUSIC FILES YOU HAVE TO YOUR CMS ACCOUNT NOW!**

To have your current MUSIC userid enabled for CMS, obtain a blue User Change Request form from 50 Coffey Hall. On the form, indicate that you want the account enabled for CMS, and the amount of CMS minidisk space that you anticipate using (for files transferred from your MUSIC library and for future processing). See the handout Information for New Users for estimating your space requirements on CMS.

Magnetic tapes created using MUSIC's MFARCH and FILARC utilities cannot be used by CMS users (this includes copies of those tapes). All data on these tapes will not be available after June 30, 1986. There are some differences between the versions of SCRIPT and FORTRAN that are available on MUSIC and CMS. See a Help Desk consultant if you need to transfer one of these files.

CURRENT MUSIC USERS SHOULD COMPLETE THEIR CONVERSION TO CMS NOW.

The following documentation is available in 50 Coffey Hall.

<u>Document</u>	<u>Price</u>	<u>Origin of Document</u>
Information for New Users	free	SPCS
Transferring Files from MUSIC to CMS	free	SPCS
MUSIC SCRIPT Files Transferred to CMS	free	SPCS
Beginner's Guide to CMS		
For Terminals with Full Screen Capability	\$2.00	SPCS
CMS Primer (IBM publication)		
-Full Screen	\$9.20	IBM
Managing your SAS Data Sets under the New Disk Storage System	free	SPCS

CARDS TO DISAPPEAR

The use of punched cards will be discontinued at SPCS as of June 30, 1986. The key punch machines and the system card reader/punch will be removed from Room 90. All users should convert programs that they are running from cards to programs on CMS accounts before the discontinuation date. Users should also remove their card files from the remote storage in North Hall. Cards that remain in this remote storage location will be disposed of late this summer.

DIAL-IN USERS NOTES

All dial-in users should now be calling in on the new phone number (624-4220). The new phone number brings the user in to SPCS through the 7171 communications controller. There are significant changes in the method of connecting to SPCS's IBM 4381 when coming into the 7171.

Line-at-a-time use on the 7171 is currently not supported. SPCS is evaluating possible options for these users.

If you have a CRT (screen) type terminal, even if you always dialed into SPCS as a line-at-a-time user before, you may be able to use full screen. The 7171 supports many terminals as full screen and many more terminals may be able to emulate one of the supported terminals. SPCS may also be able to reprogram the 7171 so that it can support your CRT.

If you have a screen type terminal that is not listed below and you wish to use this terminal to dial in to SPCS, contact the Help Desk (624-6235). You should leave your name and phone number as well as the name and model of your terminal. You may also be required to provide the technical specifications that came with your terminal.

When you dial in to SPCS (624-4220) and press the ENTER key for your terminal, you will be presented with the prompt to "ENTER TERMINAL TYPE:". The following is the present list of the supported terminal types.

Terminal Type	Description
IBM3101	For the IBM3101 terminal
TVI912	For the TELEVIDEO 912 terminal
TVI950	For the TELEVIDEO 950 terminal
TVI950R	For the TELEVIDEO 950 terminal in modified display mode
ADM31	For the LEAR SIEGLER ADM31 terminal
ADM3A	For the LEAR SIEGLER ADM3A terminal
VIS50	For the VISUAL 50 terminal
VT100	For the DIGITAL EQUIPMENT VT100 family
DM1520	For the DATAMEDIA 1520 terminal
DM1521	For the DATAMEDIA 1521 terminal
DM3045	For the DATAMEDIA 3000 family
IBM316X	For the IBM3162 and IBM3161 terminals

SPCS is currently distributing the YTERM communications software package for the IBM PC (see the next article). This software package allows the IBM PC to emulate a full screen VT100 terminal and do file transfers with the 4381.

IBM 3101 Emulation Program users must create a new specification file. See the document Using the IBM PC and the IBM 3101 Emulation Program to Connect to the SPCSC Computer.

Each terminal, listed above, may have some special keys and setup instructions; these are found in the 7171 Manuals that are for reference in the user reference racks and at the Help Desk. There are also free handouts, listed below, for the most popular terminals, describing the connection procedures and tables of the key definitions.

Document Number	Document Title
11	Using the 3101 to Connect to the SPCS 4381
12	Using the IBM PC and the IBM 3101 Emulation Program to Connect to the SPCS Computer
13	Using the VT100 to Connect to the SPCS 4381

YTERM NOTES

YTERM Communications Package Now Available from SPCS

SPCS has obtained rights to distribute Yale University's YTERM communications software package. YTERM is a package of system services and terminal emulation software for the IBM Personal Computer family. YTERM will run under versions 2.0 and higher of DOS and is fully compatible with the IBM PC Network. SPCS has evaluated this product and found it to be a highly desirable and user friendly product for full screen terminal emulation and upload/download functions. SPCS strongly encourages all IBM 3101 Emulation Program users to switch to YTERM.

A "Special Notice" was sent 4/14/86 to all SPCS users on the newsletter mailing list regarding distribution of the YTERM communications software package for the IBM PC. This notice included an application form for obtaining the YTERM product. To request additional application forms, please call our main office at 624-7788.

SPCS will distribute YTERM to University of Minnesota full time students, staff and faculty with at least a 50% appointment for \$7. Those not qualifying above will be required to pay \$27; \$20 of this fee covers Yale royalty charges.

YTERM's functions are:

- * terminal emulation
- * fully error correcting file transfer (uploading/downloading)
- * session logging and attached printer support

In addition, YTERM provides screen, keyboard, and communications tools for programmers that may be used independently of the terminal emulation program.

YTERM is only intended for use on the IBM PC family, although it may also work on some similar computers whose manufacturers profess them to be fully IBM PC compatible.

YTERM Documentation

As is stated in the YTERM installation instructions, the documentation for YTERM is contained on the diskette with the YTERM programs. You will find it easiest to print out the files on the original YTERM diskette that have the file extension of DOC and HST.

If the volume of YTERM documents is overwhelming you, the following are the minimum that you will need to look at and be familiar with to get started using YTERM.

- * Documentation Note 10 - Installation Instructions for YTERM at the University of Minnesota. This contains directions for creating a working YTERM diskette and for initiating the terminal connection. This is provided in the YTERM packet you receive from SPCS and also in the file SPCC.DOC on the YTERM diskette. The special action keys are redefined in YTERM. See a key definition chart on the back of the YTERM installation instructions (they are also listed in the YTERM User's Guide).
- * The YTERM User's Guide section on Starting the terminal emulation (page 5).
- * The LOGONSPC.DOC document. This contains an explanation of the LOGONSPC command along with some examples.

Transferring files between PC and Mainframe

Due to an autobaud problem, users may experience difficulties in uploading and downloading files on the new phone system. The Upload/Download IBM PC in 90 Coffey Hall may be used on a first come, first serve basis.

For those users who are using PCTTRANS, the YTERM command for uploading and downloading files, the following are some usage notes.

1. The maximum LRECL (Logical REcord Length) for a file to be uploaded or downloaded is 512 bytes.
2. The RECFM (RECORD ForMat) of an uploaded file using PCTTRANS is always V (V stands for variable record length). If the file you have uploaded is a SAS or FORTRAN program, you will have to change the RECFM to F (F stands for fixed record length) before you can run the program file through the processor. You can change the RECFM of the file from within XEDIT (RECFM F typed on the XEDIT command line and then file the file) or by using the COPYFILE command with the RECFM F option for the output file).
3. The documentation for the PCTTRANS command that you will use to transfer files is in the on-line help file system. To get help on PCTTRANS, type in the following:

```
help um pctrans
```

A correction for YTERM users, using COM port 2 (COM2)

There is an error in the sample programs for COM2 users as distributed on YTERM diskettes number 1 through 112. The majority of users are using COM port 1 for their YTERM connection. The line in the 4 SPCCXXX.BAT files that read

```
t %1 c%2 /x
```

should be the following:

```
t %1 /c%2 /x
```

A slash is added before the c.

The files that contain the error are:

```
SPCCITE.BAT  
SPCCSTE.BAT  
SPCCOUT.BAT  
SPCCMKO.BAT
```

The YTERM TPRINT Command

TPRINT (Terminal PRINT) will output a CMS file to a printer attached to a full screen terminal.

The autobaud problem, mentioned above in connection with uploading and downloading files, may also be a problem for TPRINT users. The Telecommunications Department is working on the problem.

The YTERM TPRINT command, like the YTERM PCTTRANS command, is issued from the mainframe, so there is on-line help for it. To get help on the TPRINT command, type in the following:

```
help um tprint
```

HELP DESK SERVICES

Consultants are available for answering specific questions that relate to computer program problems. They are not responsible for designing programs for you. Users requiring more than 5 - 10 minutes of time should make a special appointment with a staff member to arrange for contract programming.

Questions regarding class assignments should be taken to the instructor or teaching assistants for the class.

In order to make the most efficient use of the help desk consultant's time, please be prepared to explain your computer problem when you come to the Help Desk.

- * Before contacting the consultant make sure that you cannot find the information in a manual.
- * If your question regards an error message, bring the printouts of the computer run showing the error message as well as printouts of the files involved.
- * Try to come in person. If the consultant is busy with a user at the Help Desk, a caller may be asked to leave his/her phone number or come to the Help Desk in person.

Contract Programming

Contract programming is available from the SPCS staff. If you have a project that requires computer programming, but you feel that you don't have the time, staff or expertise to complete it, SPCS's contract programming may be your answer. The hourly rate for contract programming is \$30.00. Call Michele Burlew at 624-7788, if you have questions or would like to make an appointment to discuss your project.

SUMMER SHORT COURSES

St. Paul Computing Services will be offering the following short courses during the Summer Quarter.

SHORT COURSE NAME	DATE		TIME
Introduction to NOMAD2	Jun 20	(F)	3:00-5:00
NOMAD2 Application Development	Jun 23,25,27,30,Jul 2,TBA	(2*M,W,F)	2:30-5:00
Introduction to CMS	Jul 7,9,11,14	(M,W,F,M)	3:00-5:00
SAS (Statistical Analysis System)	Jul 15,17,22	(T,Th,T)	3:00-5:00
CMS Advanced Topics	Jul 16	(W)	2:00-5:00
CMS Mail and BITNET	Jul 18	(F)	3:00-5:00
NOMAD2 Collection Demonstration	Jul 29	(T)	3:00-5:00
NOMAD2 DBEDIT Demonstration	Jul 31	(Th)	3:00-5:00
Introduction to CMS SCRIPT	Aug 11,13	(Th,T)	3:00-5:00

Introduction to CMS

Introduces the Conversational Monitor System (CMS), an operating system that allows one to edit and save files, submit batch jobs, and run jobs interactively.

CMS Mail and BITNET

Introduces the CMS commands necessary to send messages and files to other computer users. BITNET is an international network of over 200 research and educational institutions through which electronic mail, messages and files may be sent.

Introduction to SAS

Covers the Statistical Analysis System (SAS). In addition to statistics, SAS provides software tools for data storage and retrieval, report writing, general programming, and graphics. A computer-based training package for SAS will be part of the course. Users not attending the short course may also have access to this self-study course. Those interested should obtain the handout named "Using CBT for SAS".

Introduction to NOMAD2

NOMAD2 is a fourth generation language, which may be used for data management, retrievals, application programming, report writing, and graphics. This demo will emphasize database description and organization using NOMAD2 syntax.

NOMAD2 Application Development

Teaches the steps necessary to set up a NOMAD2 application. Topics covered include: problem definition, writing a schema, entering, maintaining, and retrieving data, writing procedures, and report writing.

Introduction to SCRIPT

Presents the basic features of SCRIPT, a text formatting language that allows you to prepare finished typed material such as letters, reports, manuscripts and other similar documents.

NOMAD2 DBEDIT Demonstration

The NOMAD2 DBEDIT Demo will introduce the NOMAD2 database editor (DBEDIT). DBEDIT is a full screen facility designed to allow the user to view and modify data in a NOMAD2 database. The class will cover the basic commands for moving through the database, editing data, and schema statements needed to format DBEDIT screens.

NOMAD2 Collection Demonstration

Introduces the NOMAD2 Collection, which consists of special tools and support facilities to enhance the basic NOMAD2 environment. Emphasis will be on new NOMAD2 tools such as: BROWSE, LISTER, and SPROMPT.

CMS Advanced Topics

Presents information on the use of tapes, requesting information about the computing environment, and the SPOOL command.

The first hour of the SAS, CMS, and SCRIPT short courses is lecture, and the second hour is a terminal session in which the students may apply what they have just learned.

Previous registration in a CMS class is required for registration in the SAS, NOMAD2 Applications Development, SCRIPT and CMS Advanced Topics short courses.

All courses will be offered on the St. Paul Campus. To register for the courses, please obtain and complete a short course registration form from SPCS (624-7788; 50 Coffey Hall). Return it to the Main Office, 50 Coffey Hall, prior to the start of the class. Most short courses have a modest fee associated with them and require full payment before the class begins. Sorry, no refunds are made after the class begins.

If you have questions about short courses, their cost, or registration, please call Jan Jannett or Diane Suski (624-7788).

Additional Introduction to CMS classes will be scheduled, depending upon user interest. If you have a group of 6 or more people interested in any of the short courses, SPCS can schedule a class just for your group. Please contact Jan Jannett at 624-7788 to make the necessary arrangements.

SAS NOTES

SAS Disk Migration

All SAS users must be storing their permanent datasets on their own CMS minidisk by June 30, 1986. SAS datasets on the shared SAS disk will be inaccessible after June 30, 1986. See a help desk consultant if you have any datasets that have not been moved to your own CMS minidisk (201 B disk). You must have a LINKACC statement in your SAS BATCH jobs and use the command below to submit the job:

```
batch submit filename filetype
```

Substitute your own filename and filetype for the file you are going to process.

SAS Microcomputer Products

Release 6.02 of the SAS microcomputer product has just arrived at SPCS. Both the Base SAS and the SAS/STAT product will be available from SPCS in mid June. Call the SPCS Main Office (624-7788) or the help desk (624-6235) to request an application.

CMS NOTES

SELF-TEACH, an On-line XEDIT Tutorial is now available

Self-Teach is an on-line tutorial for XEDIT. The tutorial consists of 15 lessons that cover 108 of XEDIT's more than 179 commands. These include the high usage commands and many of the more unique commands. The tutorial devotes 3 lessons to XEDIT's macro processing.

To use the Self-Teach tutorial, you should be familiar with CMS and the keyboard. There is an introductory document called Self-Teach, an On-line XEDIT Tutorial available from SPCS. This lists the topics in the course and notes on use of the tutorial at SPCS.

To access Self-Teach, type in the following from CMS.

```
slfteach
```


9700 LASER Printer Schedule and price list

SPCS continues its cooperative agreement with AIS for use of the 9700 Xerox LASER printer. LASER tapes are created at 8:30 and 11:30 AM each day. If output is not received in the virtual reader of the LASER userid by those times, it will not be included in the respective run. Turnaround time continues to be about 24 hours.

Charge per page image	Handling charge per file
\$0.035 for regular xerox paper	\$1.00
\$0.060 for 100% cotton rag (thesis quality)	\$1.00

The handling charge will be higher for special requests.

CMS BATCH System

If you are a CMS BATCH user, you should be running all of your jobs through the new system by now (this does not include DOS VSE users). If you are using the following type of command to submit your program, you are using the new system.

```
batch submit filename filetype
```

If you are not using the BATCH SUBMIT command as shown above, see the document CMS BATCH Summary and Examples, make the few required changes to your job and start using the new system.

BATCH System maximum line limit increased to 500,000 lines

The maximum number of lines that may be output from a BATCH job has been increased to 500,000. The default maximum remains the same, 32,000 lines. If you need to increase the default limit, use the /SET LINES= statement in your BATCH JCL.

NOMAD2 NOTES

The document Technical Updates is now available. This contains the release notes for version 3.10, 3.20, and corrections to the June 1985 printing of the Release 3.00 reference manuals. This document is available free to anyone who has previously purchased a NOMAD2 reference manual.

The first release of the NOMAD2 Collection will be available sometime this summer. It contains significant updates and additions to what was previously known as the NOMAD2 Tools. Watch for more information about the NOMAD2 Collection in the next newsletter. A free demo of some of the new tools in the NOMAD2 Collection will be given on July 29 at 3:00 p.m. Register in 50 Coffey Hall.

ETHICS AT SPCS

Computers have become a way of life at the University of Minnesota. As more and more people use the Computing Services, rules for the fair and ethical distribution of computer resources and for protecting the privacy of users become important.

The following is a list of rules or guidelines that SPCS feels important for all SPCS users be aware of. (Adapted from the University of Tennessee Computer Center Newsletter, December, 1983).

1. Users must use only those computer accounts which have been authorized for their use.
2. Users are responsible for the use of their computer accounts. They should make appropriate use of the systems protection features such as passwords and take precautions against others obtaining access to their computer resources.
3. Users must use their computer accounts only for the purposes for which they were authorized. For example, unsponsored research codes should not be used for 1) sponsored research work or 2) private consulting.
4. Users should follow the published procedures for accessing the computing system.
5. Users must not access or copy the programs, files or data belonging to other users or to SPCS unless they have prior authorization. Programs, subroutines and data provided by SPCS may not be taken to other computer sites without permission. Users may not use programs at SPCS obtained from other computer sites, unless they are in the public domain or permission to use them at SPCS has been obtained.
6. Users should minimize the impact of their work on the work of other users. Users should not attempt to 1) encroach on others' use of the facilities or 2) deprive them of resources.

Microcomputer Ethics

In recent months, SPCS has begun distributing micro computer software. There are many aspects to the use and distribution of micro computer software that SPCS feels its users should consider. The following article appeared in the University of Maine, CAP-STAN Newsletter, Summer, 1985. We are reprinting it for the information of our users.

Ever since microcomputers became a consumer product, there has been controversy over unauthorized copying of micro software. This issue became particularly burning in the Apple II world, because due to the architecture of the Apple micro it is relatively simple to "fix" software disks so that they cannot be easily copied.

Software companies took advantage of this facility to "copy protect" their products. Immediately this gave birth to a subindustry of software packages that defeat the copy protection mechanisms.

This vicious circle with the copiers chasing the copy protectionists has been perpetuated in the MS-DOS world (IBM PC and work alikes). The net effect has been to confuse and inconvenience the software customer. The controversy over copy protection has obscured the underlying legal issues.

U.S. copyright law applies to software, just as it does to books and magazines. Under this law, it is illegal to make a copy of a program and distribute it to other people. It may be legitimate to make backup copies for your own use, so long as you do not run the program on more than one computer at once. It is not legal to put the program on a network or other shared system, if multiple copies can be in use simultaneously.

Under the copyright law, it may be legal to sell or otherwise transfer your rights to a piece of software, lend it to someone, etc., so long as you do not retain a copy for yourself. The fundamental principle here is that only one copy should be used at a time. If two people want to use the software simultaneously, then two copies must be purchased. The analogy to a book is obvious.

(Evidently, the copyright that a magazine has on an article it publishes applies to listings of computer programs in the article. This means that to legally use a program

published in a computer magazine such as "Compute", you must have purchased the magazine. User groups take note!)

The restrictions on software copying under the copyright law are relatively easy to understand. The rationale behind the rules is the same as for printed material, television shows, movies, etc. There are plenty of points that need to be clarified in the courts, but the basic principle is that the software vendor should be paid for every copy of the product in use.

Software vendors have attempted to take this a step further, however. If you purchased software, you have probably seen the license agreement that accompanies almost all software. This varies from one product to another, but the gist is that, as the purchaser, you are not allowed to copy the program at all! Sometimes you are told that you may not sell or otherwise transfer the program to anyone else (hence no lending of programs), and sometimes even that the program can only be used on one particular microcomputer.

There are variations on this theme. For example, some products can be copied for back-up purposes only. Some vendors state that "x" number of copies can be made, but not more, etc.

The validity of this sort of license has not been fully tested in court. In fact, the degree to which the ordinary copyright law applies to software has not been really spelled out. One state, Louisiana, has bypassed the courts by passing a state law enforcing the license agreements, and a number of other states are contemplating such action.

As a software consumer, you may be annoyed by such restrictive licenses. You may feel that after paying high prices for your software, you should be allowed to dispose of it as you see fit. Some people feel that so long as the right of the software publisher to benefit commercially from the product is respected, the license agreement can be ignored. However, until the courts have clarified the legal status of these licenses, we suggest that you abide by them.

SPCS feels that it is plainly unethical to make copies of commercial software and distribute them. In a university environment, with tight budgets, copying is a tremendous temptation. However ethical standards must be maintained. If many copies of a particular product are needed, the university can negotiate a site license or multiple purchase agreement or even license the product for use on a network.

ADAPSO, an organization of software vendors, and certain individual companies like Lotus have been very aggressive lately in prosecuting software copying cases. In several instances, the damages awarded have been in the millions of dollars. We certainly do not want the University of Minnesota to be the defendant in a similar case!

DATA ENTRY SERVICES

The Data Entry Section of the St. Paul Computing Services is open from 8:00 to 4:30, Monday through Friday, in Room 6 North Hall.

Services include:

1. Punching and verifying data from most types of source documents (i.e., coding sheets, questionnaires, etc.). If needed, 80-column coding sheets may be obtained from the Data Entry Section.
2. Providing assistance in preparation of source documents for acquiring the most efficient data entry.
3. Conversion of cards to tape or tape to cards.
4. Hard copy available from tape or cards.

Jobs are done on a first-come, first-serve basis. Turnaround time may vary with the workload. Output is available on cards or on 800/1600/6250 bpi tapes, which will run on an IBM, CYBER, or other mainframe computers. Unless special arrangements have been made to purchase tapes, tapes are to be returned to the Data Entry Section as soon as you are finished with them.

For information about current turnaround time, cost estimates or other questions, contact Linda Pichner or Cleo Medlock at 624-7297. Account numbers for services may be obtained at 50 Coffey Hall or by calling Diane Suski at 624-7788.

St. Paul Campus Microcomputer Laboratory

Location: B50 St. Paul Library
 Phone: 624-3269

Equipment:

13 IBM-PC's 4 Apple IIe's 4 Macintosh PC's

Regular Hours:

8:00 A.M. - 8:00 P.M. Mon. - Thur.
 8:00 A.M. - 4:30 P.M. Fri.
 12:00 P.M. - 4:30 P.M. Sat.
 Closed Sun.

2 Disk Drives	2 Disk Drives	2 Disk Drives
10-256K Memory	128k Memory	512k Memory
3-512K Memory	Appleworks	Basic
Wordstar	MouseWrite	MacPaint
Lotus 1-2-3		MacWrite
dBase III		MacChart
Minitab		Multiplan
Basic		Basic
Word Perfect		MacFile
Turbo Pascal		MacWord
w/8087 sup.		MacPascal
		MacSpell plus

Access cards: \$20.00/Quarter

This card will permit access to 7 microlabs on the Twin Cities Campuses (see below). This will increase availability of hardware/software and some consulting services.

Printer Access Cards: \$1
 This card will permit you to print your files on letter quality laser printers at \$.10 per page.

5 Epson FX-80 printers (attached to IBM)
 4 Imagewriter printers
 1 HP Laserjet (printer - attached to IBM)
 1 Color Display station
 1 Mouse for Apple IIE

You may obtain access cards from the Bursars' Offices.

At the St. Paul Library Lab, attendants will be present to sign out the software and manuals that are available for use in the lab. Instructors may arrange to have assignment materials distributed via the lab attendants. The lab may be reserved by class instructors for two or three class periods during a Quarter. To reserve the lab, or if you have questions, call Karen Bellows at 624-7788.

A micro computer can be reserved in person, or by calling 624-3269 (2 hour notice required). Coordination of reservations will be handled by the lab attendant. If there is a high demand for the machines, individual sessions may be limited to 2 hours.

Micro-Lab	Location	Phone
St. Paul	B22 COB	
West Bank	170 Anderson Hall	376-8651
Minneapolis	14 Folwell Hall	376-2741
	148 Architecture	376-9922
	306C Lind Hall	376-5846
	9 Walter Library	373-4721

MICRO HELP LINE

ACSS Microcomputer Systems Group
376-4276 (dial DR MICRO) 9:00-12:00, 1:30-4:00 Monday, Tuesday, Friday
9:00- 4:00 Wednesday, Thursday
125 Shepherd Labs

STATISTICAL CLINIC

The Statistical Clinic on the St. Paul Campus, is staffed by graduate students of the School of Statistics, and supervised by faculty members of the Applied Statistics Department. The Statistical Clinic provides statistical consulting to researchers at the University of Minnesota, generally without charge. Assistance on appropriate experimental designs and methods, data analysis, and the interpretation of results are part of the mission of the Clinic.

Many statistical problems can be handled completely by the personnel in the Clinic. However, more difficult problems will be referred to an Applied Statistics faculty member.

The consulting hours of the Statistical Clinic for the Summer, are

Tuesday-Friday 10:00 - 2:00 Room: 125gCOB Phone: 625-3121

REDUCED RATES FOR OFF-HOUR USERS

Computer processing performed after 5:00 pm daily (Monday thru Friday) and all day Saturday and Sunday receives a 25% reduction on 3 billable components: Central Processor Time, High Speed Input/Output (disk and tape), and Connect Time.

ACCESS TO FACILITIES

ST PAUL COMPUTING SERVICES

SPCS hours, locations and telephone numbers:

Main Office	: 50 Coffey Hall	624-7788	8:00 am - 4:30 pm
Users Room and	: 90 Coffey Hall		7:00 am - 11:00 pm M-F,
Computer Hours (1):	: 90 Coffey Hall		8:00 am - 4:00 pm Sat, and
	: 90 Coffey Hall		2:30 pm - 10:00 pm Sun
Help Desk	: 90 Coffey Hall	624-6235	10:00 am - 12:00 pm M-F
			1:00 pm - 4:00 pm M-Th
			1:00 pm - 3:00 pm F
Data Entry	: 6 North Hall	624-7297	8:00 am - 4:30 pm
Interactive Dialup Number:		624-4220	

- (1) After hours, Saturday, and Sunday access to the Center may be achieved by using the tunnel passageway from the Student Center.
- (2) The DOS operating system will be shut down at 10:00 pm M-F.

SPCS will be closed Friday, July 4, 1986.

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 or veteran status.

ST. PAUL COMPUTING SERVICES NEWSLETTER
SUBSCRIPTION RENEWAL

If you haven't returned a Newsletter renewal form yet, and if you didn't request to be placed on the newsletter mailing list on an account application since July 1, 1985, please fill out and return this form.

NAME: _____

ADDRESS: _____

Thank you.

SUGGESTIONS OR COMMENTS: _____

St. Paul Computing Services
50 Coffey Hall
University of Minnesota
1420 Eckles Ave.
St. Paul, MN 55108

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