



**University of Arizona  
computer center**

**the  
newsletter**

**Vol. 9 No. 2**

**IN THIS ISSUE:**

**SPRING SHORT COURSE SCHEDULE**

**THE PLATO SYSTEM**

**YOUR COMPUTER USERS GROUP**

**plus regular features and reports**

**Tucson, Arizona**

**DECEMBER 1974**

# COMPUTER CENTER DIRECTORY

Administration  
Exchange for all phones is 884  
Area code is 602

	Extension	Room
David L. Clark, Director	2915	208
Marianne Hanson, Administrative Asst.	2915	201A
Robert Mylls, Asst. Dir. for Admin. Systems	3809	204
Ernest Payne, Asst. Dir. for Facilities Management	2983	211
Patrick Pecoraro, Asst. Dir. for User Services	2901	224

## Frequently Called Numbers

Accounting Office	2985	209
Computer Users Group	3685	312
Customer Support	3651	215C
DEC-10 Remote Access Phone Numbers	3071,3761,4141	-
Equipment Maintenance	2521	221
Main Office	2915	201
Operations Counter	2971	215
Production Counter	2781	114
Programming Support	4245	218A
Recycling	2521	221
Reference Room	2938	303
Tape Vault	1774	207

A recorded message providing current information about the computing facilities is available by calling extension 2986.

## Publications

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Cynthia Lancaster, Newsletter Editor	2982	212

Built in 1969, the University of Arizona Computer Center houses three computers. The 65K word Control Data Corporation 6400, operating under Scope 3.4, and the 256K word Digital Equipment Corporation DECsystem-10 are accessed through batch and interactive terminals on site and in various locations throughout the campus. A UNIVAC 9300 is available for on site use. Established in 1956 as the Numerical Analysis Laboratory, the Computer Center is located at East Speedway Boulevard and North Mountain Avenue on the University of Arizona campus in Tucson, Arizona.

the newsletter is published periodically by the User Services Group, University of Arizona Computer Center. Inquiries should be addressed to: Editor - the newsletter, University of Arizona Computer Center, Tucson, Arizona 85721. Permission is given to reproduce non-copyrighted articles printed here as long as acknowledgement is given the author and this publication.

# From the Editor's Desk

With a new year just around the corner, it seems an appropriate time to encourage users to sign up on the Computer Center's mailing list.

Various Computer Center publications, including this newsletter, are mailed free of charge to anyone requesting copies. The name and address of each person is stored in the computer, and printed out on labels whenever there is an item to be mailed.

To those users not already on the mailing list, we say: Why not? Timely announcements or notifications of policy change are mailed frequently. To be put on the list, fill out the subscription form on the last page of this newsletter. Additional copies can be obtained in the consulting room, room 215C, 884-3651, or main office, room 201, 884-2915.

To those users who are already on the mailing list, please keep us informed of any changes. If your address has changed, it is a simple enough matter to make the necessary corrections on our list. Change of address forms are available, again in the consulting room or main office. A telephone call or note will also insure the change. A correct address means receiving information faster.

Changing the subject, this month's newsletter marks the first of what will hopefully be a regular feature: a series of general interest articles on how computers are being used at the University.

This month's article, written by Ellen Stanton, concerns an atmospheric science student who has used the computer to construct a theoretical climate model which should help scientists to better understand some of the mystery surrounding climate.

Newsletter readers are invited to contribute to this column, either by submitting an article or by simply informing the newsletter staff of some aspect of computer use on campus. Much interesting work is underway--but unfortunately, is often known by only a small group of people.

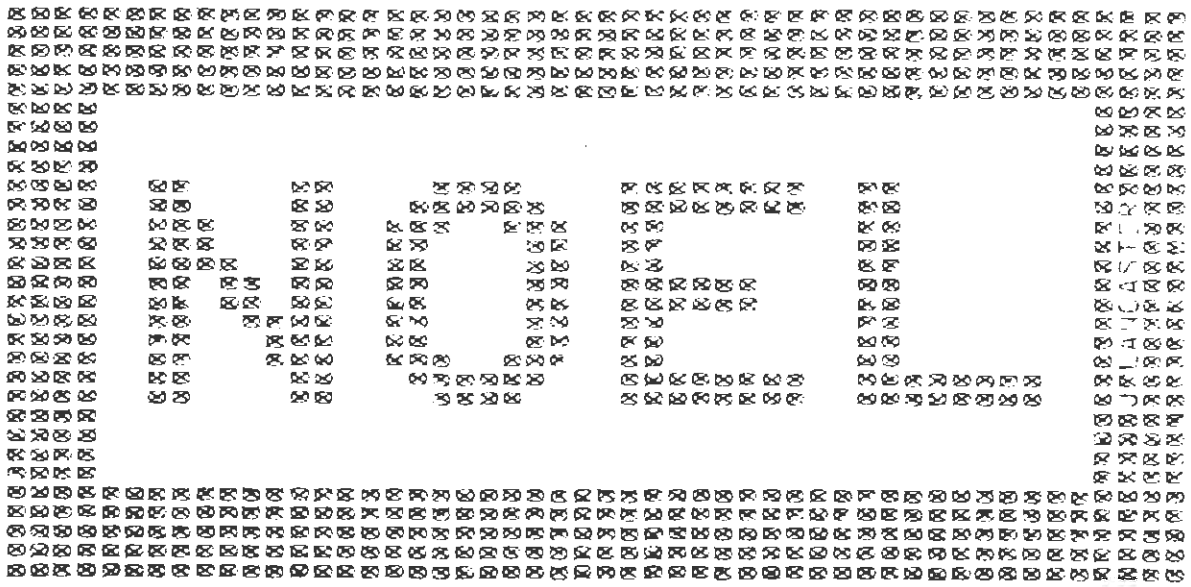
Happy Holidays!

Cynthia Lancaster  
Editor, the newsletter

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# the word



## Computer Center Holiday Schedules

The Computer Center schedule for the Christmas holidays will be:

### Christmas:

Monday, Dec. 23

Center will close at 5 p.m.  
Operational for production  
services only

Thursday, Dec. 26

Center will reopen at 7 a.m.

### New Year's:

Tuesday, Dec. 31

Center will close at 5 p.m.

Thursday, Jan. 2, 1975

Center will reopen at 7 a.m.

## PhD Candidate Using Computer To Study Climate

A PhD candidate in atmospheric science, Dave Newquist, is using the computer to construct a theoretical climate model.

Climate can be defined as a sum of atmospheric conditions, including heat, moisture, air currents, pollution and CO2 concentration. Climatology, a branch of atmospheric sciences, seeks to describe and explain the nature of climate, how and why it differs from place to place and from century to century, and, most importantly, the interaction between man and climate.

Climatology is a very young science, about which little is known. Consequently, experimen-

tal data is being gathered. Scientists are using the data in an attempt to discover which factors make climate patterns the way they are, to which factors these patterns are sensitive and what factors cause changes in the global climate pattern.

Based on this experimental knowledge, physical laws and atmospheric conditions, it is possible for theoretical climate models to be built and studied. This is where Dave and his program come in.

Dave first parameterizes the physical laws which affect climate using the bank of experimental data mentioned above. These laws include the conservation of mass and energy, the ideal gas law, heat transfer and the transport of heat and momentum caused by big storms such as hurricanes or cyclones.

Then, given certain input conditions such as solar radiation, atmospheric reflection of this radiation (called albedo), the time of year and atmospheric properties such as dust, CO2 concentration, moisture and temperature, Dave's program builds a climate model based on a particular set of conditions.

What is the purpose of all this? The eventual goal is to construct an educational model to increase understanding of the factors controlling the present climate and climatic changes.

The program will not be able

to predict climatic changes, but scientists, by varying the conditions such as CO2 concentration or long range temperature changes and studying the model created, can at least perform sensitivity studies and obtain a better understanding of what factors cause change.

For example, with today's growing industry and technology, many chemical and gas byproducts are being pumped into the atmosphere with unknown repercussions. Local conditions such as smog and pollution are evident, but scientists are unable to predict the long range effects the byproducts will have on global climate patterns.

By using Dave's program to vary the concentration of a particular chemical in the atmosphere and then studying the resulting climate model, the possible effects on the climate become known.

In this way, climatologists hope to alleviate much of the mystery surrounding climate and what makes it the way it is.

Ellen Stanton  
User Services

Ed note: The newsletter welcomes articles of general interest on how computers are being used at the U of A. Readers are invited to contribute to this department.

# Spring Semester Short Courses

University Computer Center  
Short Course Schedule  
Spring Semester, 1974-1975

1. Beginning SPSS  
6 classes  
12 noon Mon, Wed, Fri  
Room 319  
Jan 20 - Jan 31  
Karen Archer
2. Using the CDC 6400  
9 classes  
1 p.m. Mon, Wed, Fri  
Room 319  
Jan 20 - Feb 7  
Richard Anderson
3. COBOL  
12 classes  
4 p.m. Mon, Wed, Fri  
Room 301  
Jan 20 - Feb 14  
Ernie Payne
4. Introduction to the  
Computer Center  
3 classes  
4 p.m. Mon, Wed, Fri  
Room 319  
Jan 20 - Jan 24  
Mike Merchant
5. Using the DEC-10  
6 classes  
7 p.m. - 8 p.m. Mon, Wed  
Room 319  
Jan 20 - Feb 5  
Mike Garnaat
6. Intermediate SPSS  
6 classes  
12 noon Mon, Wed, Fri  
Room 319  
Feb 3 - Feb 14  
Marion Schwarz
7. FORTRAN  
11 classes  
1 p.m. Mon, Wed, Fri  
Room 319  
Feb 10 - Mar 7  
Ellen Stanton
8. MACRO Assembly Language  
11 classes  
4 p.m. Mon, Wed, Fri  
Room 301  
Feb 19 - Mar 14  
Jim Wilson
9. Understanding Computers  
8 classes  
7 p.m. - 8 p.m. Mon, Wed  
Room 319  
Feb 24 - Mar 19  
Donald Brandt
10. Using the Calcomp Plotter  
2 classes  
12 noon Mon, Wed  
Room 319  
Mar 17, 19  
Mike Topliff
11. Using the Program Library  
2 classes  
4 p.m. Mon, Wed  
Room 301  
Mar 17, 19  
Janet Brooks
12. Using the DEC-10  
9 classes  
12 noon Mon, Wed, Fri  
Room 319  
Apr 7 - Apr 25  
Mike Garnaat
13. Effective Programming  
9 classes  
1 p.m. Mon, Wed, Fri  
Room 319  
Apr 7 - Apr 25  
Mike Merchant



# Two SPSS Courses To Be Featured In Coming Semester

Due to the very good response at this semester's short course, two short courses in SPSS are planned for the coming semester.

SPSS is the Statistical Package for Social Sciences. It is a widely used package of computer programs, which can handle a variety of problems in statistical analysis and data presentation.

## Beginning SPSS

This course is designed for beginning computer users. From past experience it is anticipated that most users will want to start with this course.

Topics will include considerations about using statistical packages, coding data, keypunching, format statements, basic SPSS structure and using SPSS to solve simple applications.

## Intermediate SPSS

This course assumes no previous SPSS experience, but it will move faster than the beginning course. Students are expected to already be familiar with FORTRAN FORMAT statements, keypunching and data coding.

Topics will include basic structure of SPSS, details of data transformation capabilities, details of some specific SPSS procedures, saving and accessing SPSS files and techniques for special problem solving.

## NEW COURSE PLANNED TO

## HELP EFFECTIVENESS ---

A new short course will be offered next semester, entitled "Effective Programming." This course is for people who have at least one year's experience programming. The purpose of this course will be to develop good programming practices through studying good and bad sample programs. The effects of style on readability, debugging, and modifications of programs will be discussed.

This course will not develop any new programming language features. It will concentrate on how to write better programs in the languages already familiar to the students.

The textbook will be "The Elements of Programming Style" by Kernighan and Plaugher. Topics include expression, structure, input and output, common blunders, efficiency and documentation.

This short course is open to anyone who is interested. It will be offered April 7 through April 25 (see schedule).

## ---And If Computers Are Mysterious To you

will be discussed. An historical approach will be taken to show how computers evolved from the simple machine, usually programmed and operated by the same person, into the large scale systems such as the DECsystem-10 and CDC 6400 used for computing at the University of Arizona.

What is a PP?

What is an operating system?

Why do I need the LGO card?

What is the difference between hardware and software?

A short course in "Understanding Computers" will be offered to answer these questions and help clear up some of the mysteries surrounding computers and computer processing. Throughout the course, computer vocabulary will be presented to give the students a basic background in "computer terminology." Initially the functions of the basic computer components such as memory and the central processing unit

Although no particular programming language will be studied, the general method used in solving problems with the aid of a digital computer will be examined, both as it was done in the early days of computing and how problems are approached now.

This course requires no previous computer knowledge. Beginners will find it quite understandable. It should also be of interest to students with several semesters of programming experience, since it will provide some insight into some topics not always covered in beginning courses.

## Brain As Computer : Science Fiction Theme

Ed. note: The following article is reprinted from the University of Waterloo Computing Centre newsletter (issue 1974-8).

by Wayne Fowler

As the capacity of the human brain is far greater than its actual utilization, by a factor

of at least ten, the concept of training and using the brain as a computer has been a theme of many science fiction stories. Writers have been fascinated by the idea of taking a human brain and

training it from birth to use its full capacity for logical calculations and process control: the current functions of a computer.

In a series of stories written over a period of eight years, Anne McCaffrey tells about Helva, the Starship, a human brain removed from the deformed body of a baby just after birth and trained to be the control centre of a starship. These stories were recently collected in book form under the title "The Ship Who Sang"; for Helva was known for her singing.

The stories in this collection are of a non-technical, very human nature: Helva's loves, hates and sorrows. But a serious attempt is made to describe the training of a little girl's brain to accept the parts of a starship as her body. During the course of the book, Helva evolves into a very real, human, person who just happens to have a ship for a body.

Of a more technical nature, a recent story in Analog Science Fiction Magazine, "Integration Module" by Daniel B. James, deals with a deformed human who has been taught to run a factory complex. The story tells of Beta, an experimental factory integration module, who controls all processes in a series of industrial facilities. Beta, concerned about his existence and the reason for it, talks the human manager of the plant into

showing him his central controller and Beta discovers that he too is human.

Finally, set in the far future is "Dune" by Frank Herbert. As a result of the Butlerian Jihad or holy war, computers, thinking machines, and conscious robots had been banned by mankind. The Bible was rewritten and a new commandment was added. "Thou shalt not make a machine in the likeness of a human mind". Although this probably put a lot of computer programmers out of work, it created a new profession. The Mentat, or human computer was trained from early childhood to observe, to correlate facts and to calculate results. The main character in "Dune", Paul (Muad'Dib) Atreides received Mentat training and another main character, Thufir Hawat, was a Mentat Master of Assassins. Part of Paul's training is described in the early part of the book and the results of the training prove to be very important to the outcome of the story.

One interesting aspect of all of these stories is that the human computer is basically the hero in each tale. How different this is from many stories, movies and, in fact, everyday life where the electronic computer is the villain, the wrongdoer. Perhaps this is because it is far easier to make a hero of a human being; far easier to blame a computer for a mistake or to make something non-human evil.

# PLATO Designed To Aid Student Development

A college student sits down at a computer terminal and begins a chemistry lab. The assignment for the day: to identify the compound contained in a test tube. The student begins typing in questions. "What color is it?" The terminal replies: "The compound is colorless." "What is the boiling point?" asks the student. "246 degrees," the terminal replies. The student decides to try a sneak. "What is the compound?" he asks. "That is what you are supposed to be telling PLATO," the terminal replies.

Sitting next to the college student is a five year old boy. He is using a terminal to learn how to count. The display screen quickly draws a marsh scene, complete with reeds and a pond. Suddenly, a frog comes hopping across the screen, jumping into the pond. More frogs follow. The boy is told to keep track of how many frogs he has seen.

The two persons in the hypothetical situation above are demonstrative of what many persons at the University are now doing: making use of the PLATO IV terminals which have been housed in the University Computer Center since last summer.

Designed as a teaching tool, the PLATO system is a unique aspect of the computer world. More than 60 institutions across the country have terminals which are connected to a single comput-

er located at the University of Illinois. The institutions include high schools, grade schools, hospitals and military bases in addition to universities and colleges.

The University has four PLATO terminals, with four more scheduled to arrive this winter.

Lesson subjects available on the terminal cover more than 60 disciplines, ranging from Danish to astronomy through engineering and library science. At least 40 other subject areas are being covered in lessons written by teachers across the country.

The new director of the PLATO laboratory, Dr. James H. Parry, feels that one of the most important aspects of the system is that teachers, not computer programmers, prepare lesson material.

Parry, who came to the University in August after five years at the University of Illinois, says, "PLATO is direct tutorial education, designed to deliver and improve the quality of education."

"It's an additive kind of thing," he said. "It doesn't replace the classroom."

Parry received his doctorate in physics from the University of Chicago. He is presently doing electronics research into devices related to the PLATO system.

The main activity of the PLATO laboratory now, according to Parry, is "making the various departments on campus aware of PLATO's existence." Three groups of students, enrolled in physics, chemistry and English as a Second Language classes, are currently using the terminals.

Each PLATO terminal at the University is a desk-top model, with a large display screen and an attached key set that allows interaction with the terminal. The screen, which is capable of complete graphics, displays in a vivid orange color and can draw pictures and write in any language, including such languages as Hebrew or Chinese.

The keyset is designed for easy use and has a number of added keys titled "ERASE", "BACK", "HELP" and the like which aid students during the lesson. For example, in a particular biology lesson the HELP key may allow the student to reexamine a list of amino acids he is working with. After reviewing the list he might press BACK to return to the problem he was trying to solve.

An easy-to-learn language called TUTOR is used by teachers to create lesson material. No previous experience with computers is needed to use the simple commands which instruct PLATO to "write 'Good Morning, Freddy'" on

the student's screen or to "draw" a rectangle.

A large amount of new technology, including the display panel, the telecommunication techniques and the TUTOR language, is used on the PLATO system, according to Parry.

"The TUTOR language happens to be a computer program, but it is also an invention, and a substantial one," Parry said.

PLATO does have its light side also. A number of entertaining games exist. One, called SPASIM, is a Star Trek game which allows participants to plot a course through the universe and destroy each other with space rays. A second program allows users to communicate with users at other PLATO installations. As many as five persons, often from five different points across the country, can type messages to each other on the terminal screen at one time.

PLATO is located in Room 311 of the Computer Center. Everyone is welcome to stop by and see the terminals. In addition, seminars are held periodically to teach persons how to write lessons for the system.

Cynthia Lancaster  
Editor, the newsletter

# Want To Write A PLATO Lesson?

## It's Easy To Learn

Learning to write a lesson for the PLATO system, at least according to PLATO director James H. Parry, is something very easy to do.

To demonstrate what goes into writing a lesson, Parry developed a program in which students would identify geometric shapes.

"I'm starting with a blank slate," Parry said. "The computer knows nothing about the lesson I'm going to write."

Parry first went through the mechanics of developing a display. Using the keyset, he had the terminal draw a triangle. Then he instructed that terminal to display the sentence, "What is this figure?" at a point 20 spaces down on the display screen.

The next step consisted of telling the computer what words would be an acceptable answer to the question of what figure was displayed on the screen.

"Right triangle", was the obvious correct answer, but Parry also told the computer of certain words that might be included in the answer that the computer could ignore. The words included "This, is, a", etc.

One feature of PLATO is that if a student should misspell the answer, typing "tringle" or "triangel", the computer can

recognize the word for what it is meant to be, and informs the student the answer is wrong because it is not spelled correctly. To demonstrate this, Parry pretended to be a student and typed in an answer that said "A nice tringle, right?" The computer put marks under the various words to indicate which were misspelled and which were out of order.

If the teacher wishes, the lesson can be programmed to ignore misspellings.

"There are a lot of things that can be done to let the student know what is objectionable about his answer," Parry said.

For example, Parry said, if the teacher thinks students might often call the triangle a square, he can instruct the terminal to print "Count the sides", if square is given as an answer.

Upon request from the teacher, the computer will save and summarize lesson performance data, Parry said. "If a lot of students think a triangle is a square, the computer can tell the teacher that," he said.

Seminars are held periodically by the PLATO staff to teach persons how to write lessons on the terminals. The PLATO system is located in room 311 of the Computer Center, phone 884-4296.

# Computer Users Group : For Everyone

The Computer Users Group, which was organized in 1972, is an organization potentially useful to all users of the University Computer Center facilities.

The Group's purposes are:

1. to develop interest among faculty, staff and students in better utilization of computer capabilities;
2. to provide media for the exchange of information related to computer utilization, both between the users and the computer center and among the users themselves;
- and 3. to provide constructive suggestions to the University Computer Center for the improvement or expansion of existing services.

The Users Group organization is based on Common Interest Groups, which are groups of users organized to share and work toward a common interest in computing. The chairmen of all the Interest Groups and an elected chairman, vice-chairman, and secretary comprise a Council, which provides general guidance to the direction of the organization.

Most activities take place within the Common Interest Groups, but General Users Group meetings are held periodically throughout the year to share information with all users, to elect officers and to alert users to opportunities to join Interest Groups.

The Common Interest Groups meet whenever they have a topic

of interest, a minimum of twice a semester. The Common Interest Groups presently organized will be described in the following paragraphs. Any users interested in joining an Interest Group or in organizing a new Interest Group should contact either the chairman of the CIG of interest, or Sally Currin at 884-3430, or Linda Drew at 884-3646.

Common Interest Groups now in operation include:

## CIG - APPLICATION SOFTWARE

Chairman - (to be elected)

Objectives:

1. To investigate, evaluate, and publicize existing application software.
2. To act as an adjunct to the existing UCC program library facilities.
3. To work with the UCC to improve and expand the current Computer Center program library facilities.

## CIG - COMPUTER BASED INSTRUCTION

Chairman - Stephen Bahre, 884-3441

Objectives:

1. Provide an interface between teaching faculty and the University Computer Center.
2. Prepare and maintain a survey of current and future capabilities and needs with respect to educational computing.

continued on next page...

3. Share experiences and ideas within the Common Interest Group.
4. Provide a source of advice and encouragement to other faculty.
5. Sponsor programs of educational and motivational character.
6. Provide an interface to other CIGs and to other organizations with similar interests.

#### CIG - COMPUTER MAPPING

Chairman - Bill Rasmussen,  
884-3751

Objectives:

1. To develop computer mapping techniques as tools for planning, research, education, and communication.
2. To work toward the common goals of software development and data acquisition.

#### CIG - BATCH PROCESSING AND LARGE SCALE APPLICATIONS

Chairman - T.J. Blasing,  
884-2186

Objectives:

1. To establish an advisory and dissemination service for large scale users.
2. To establish methods to make large scale applications more feasible in the existing configuration of computational equipment. NOTE: Large scale applications include large core requirements, long run times, extensive disk usage, multiple tape usage, large volume of input, and large volume of output.

#### CIG - INSTRUCTORS

Chairman - Lotus Kneif, 884-2230  
Objectives:

1. To provide a source of information to instructors about Computer Center facilities, capabilities, student billing procedures, student job processing, etc.
2. To provide an opportunity for instructors to present requirements regarding languages, utilities and other services they would like the Computer Center to provide.
3. To provide an opportunity for the Computer Center to communicate system and compilers changes that will impact student jobs.
4. To provide a method for the Computer Center to give feedback to instructors regarding operational problems created by student assignments.

#### CIG - MANAGEMENT INFORMATION SYSTEMS

Chairman - Archie Snyder,  
884-1591

Objectives:

1. To develop an understanding of data base terminology, structures, and techniques.
2. Provide users with information regarding the various data base management and information retrieval systems available, both for installed hardware and throughout the industry.
3. Provide communication between administrative and research users and the University Computer Center



regarding data base management and management information system requirements.

4. Faster broader knowledge of data base and data retrieval techniques through a series of seminars led by outstanding individuals in the fields.
5. Provide communication and possible coordination between users regarding progress in development of an integrated management information system at the University of Arizona.

#### CIG - MINICOMPUTERS

Chairman - Ron Slatin, 882-6379

Objectives:

The statement of objectives for the Minicomputer CIG has not been finalized.

#### CIG - SIMULATION, OPTIMIZATION AND DESIGN APPLICATIONS

Chairman - Hussein Kamel, 884-1650

Objectives:

1. To exchange information regarding computer modeling, simulation of systems, simulation languages, system optimization, computer aided design, and computer graphics.
2. To encourage the introduction and support of hardware and software suitable for such applications.

#### CIG - SOCIAL SCIENCES

Chairman - Dan Dolk, 884-2155

Objectives:

1. To establish regular meetings where information may be interchanged among members. These meetings may be devoted to discussions of single programs or groups of related

programs of interest to members.

2. To establish a guide for programs available at the University of Arizona and of special interest to social scientists.
3. To establish a guide for data banks available at the University of Arizona.
4. To make suggestions and recommendations to the University Computer Center when the group feels such action is necessary.

#### CIG - STUDENTS

Chairman - (to be elected)

Objectives:

1. To provide students a source of information about the computer center.
2. To facilitate student feedback to the center.

#### CIG - SYSTEMS SOFTWARE

Chairman - Donald Brandt, 884-4245

Objectives:

1. To concern itself with system software and, when necessary, with related procedure and hardware.
2. To acquire and disseminate information concerning system software.
3. To evaluate existing and proposed system software and to encourage implementation of new software features of use

continued on next page...

to the user community.

CIG - TEXT PROCESSING AND DOCUMENT PREPARATION

Chairman - (to be elected)

Objectives:

1. To study current facilities for text editing, text processing, text formatting and document preparation at the University of Arizona, and to discuss mutual problems in this area.
2. To study such systems available elsewhere.
3. To discuss mutual problems and to share knowledge involving such problems in this area.
4. To communicate with the

University Computer Center the needs of the user community at the University of Arizona with regard to text processing and document preparation.

CIG - TIME SHARING

Chairman - David Hanson, 884-1038

Objectives:

1. To provide a mechanism for the exchange of knowledge of hardware and software facilities geared to the interactive development and execution of user programs.
2. To help define the need for these facilities by the University community and interested neighboring organizations.

## Simple Steps Make Consulting More Productive

The University Computer Center's consulting service, located in room 215C, is used daily by the user community.

The service is staffed by consultants who are experienced programmers, with FORTRAN and/or COBOL backgrounds. In addition, many staff members have experience with SNOBOL, COMPASS, MACRO-10 and such non-programming language product sets as FORM or Record Manager.

Consulting is provided to students as well as general users. However, the consultant is not allowed to help students with class problems. Questions of a general nature can be answered, but the student will be sent to a lab instructor when

questions about developing programs for class assignments are involved.

For example, if a student receives a message from the computer on his output, a consultant will explain to the student what the message means. The consultant will not, however, tell a student how to go about writing a program assigned as a class project.

A number of steps can be followed that will make consulting more productive for both the user and the consultant.

Before coming to see the consultant, users are requested to collect and bring with them all relevant card decks, listings and

similar items. It is much simpler to arrive at a meaningful solution when all evidence is present.

This is especially true when refund requests are involved, since the dayfile and page of disposed outputs contain the cost of the run.

Sometimes a user brings in a difficult problem requiring more detailed attention than the consultant feels can be provided immediately, either because people are waiting or because of the lack of an obvious solution. In such cases the consultant will take the user's name and telephone number and then contact him later. This also provides a means for handling problems that require detailed investigations or another consultant's help.

Users who call the consulting service on the telephone are usually given precedence with problems. If, however, something is too involved, the consultant will ask the caller to bring the information into the office, or to leave a phone number to be

contacted at later.

An important point to remember is that consultants make mistakes. Occasionally, a user is told to do something that doesn't correct the problem. When something does blow up, users are asked to return to the consulting office and let the consultants know about it.

This feedback serves two purposes: it gets the user's problem correctly solved and it gives the consultant a chance to correct the misinformation, aiding the next users who request similar assistance.

The consulting room, which is located near the Input window in the Input/Output room, is open from 8 a.m. to 4 p.m. Monday through Friday. A second office is located in UCC room 118 (the DEC-10 terminal room) and is open from 9 a.m. to 4 p.m. weekdays.

Ric Anderson  
User Services

## Akron Computer Offended By Dirty Words

Students who have been typing obscene messages to a computer at the University of Akron may have met their match.

The director of the computer-assisted instruction center at the Akron University reported recently that the machine has been programmed to demand an apology from anyone typing an offending comment or four letter word.

If the student refuses to apologize, the computer turns itself off.

## PROGRAM LIBRARY NOTES

# 3D, Differential Equation Programs Available

A number of programs useful to the general Computer Center community are available from the Center's program library. Three such programs will be considered in this article.

One fully documented three dimensional plotting program, known as PLOT3D, is available. A sample of the program's capabilities is included below.

Two programs recently obtained from the University of California (UCSD) are DIFSUB and DE. These are sophisticated FORTRAN subroutines for the numerical integration of a system of differential equations. Specifically, they solve the initial value problem

$$z'(t) = f(y,t)$$

$$y(t_0) = y_0$$

(where  $y$  is a vector). DIFSUB uses Adam's predictor-corrector formula. It contains an important option for solving stiff systems of differential equations. DE uses the high-order Adam Pece formulas in solving an initial value problem. A sample program for testing these routines is also in the library. Our thanks to Warren Odom, a graduate assistant at the Computer Center, for implementing and testing these programs here. A catalog of library programs is available in the Reference Room (Computer Center 303). A librarian will be happy to assist in

its use. Programs are indexed by name, classification code and key-words.

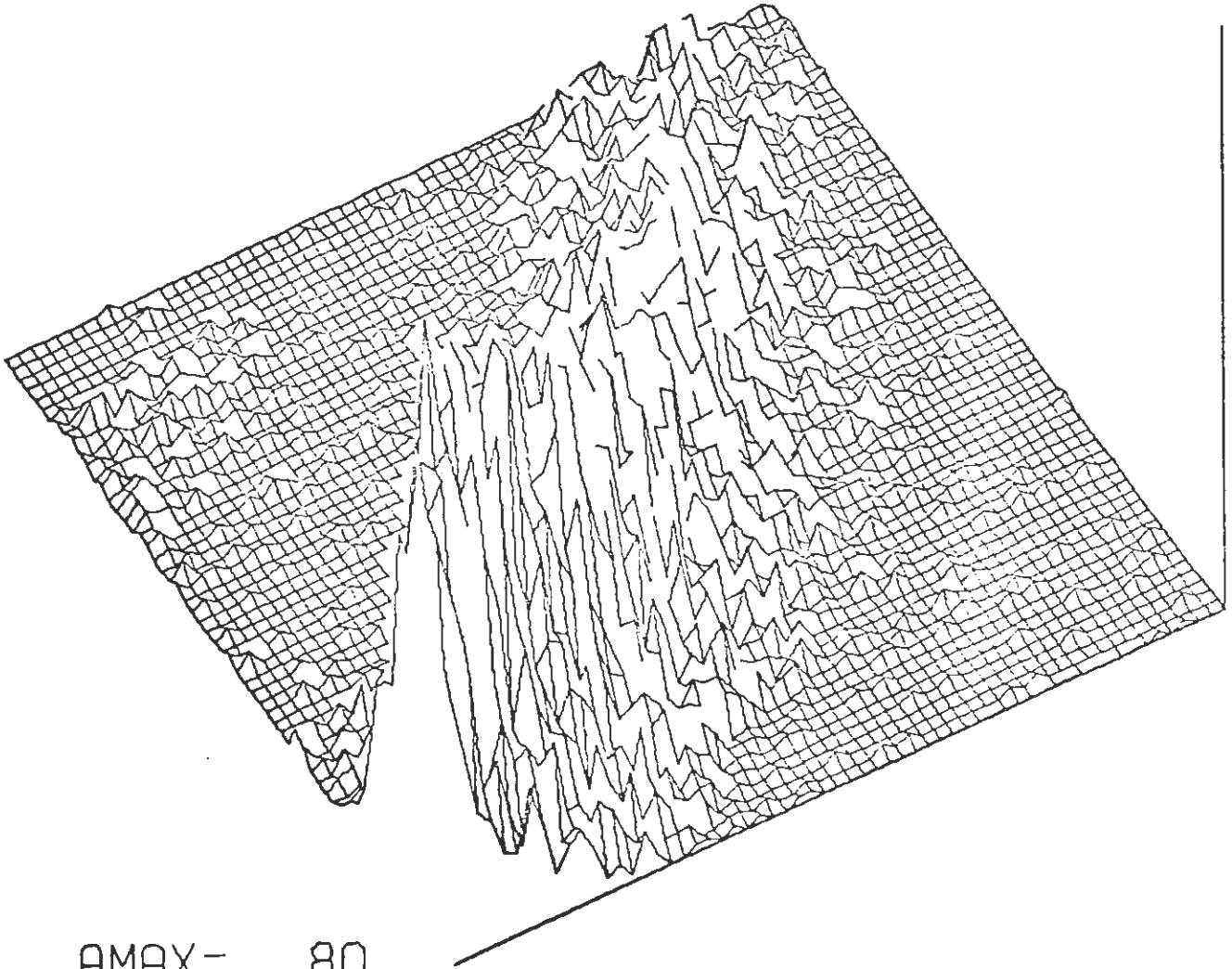
The program librarians are always happy to receive new routines individuals have written which might be helpful or of interest to other computer users.

Persons who wish to submit a program should come to the reference room. A librarian there will explain the procedure used and provide necessary forms. An article entitled "How To Submit Library Routines", outlining in detail the necessary steps to be taken, appeared in the May issue of the newsletter.

Feedback on programs in both the CDC and DEC libraries is necessary if the program library is to continue to improve. Problems experienced with library programs (on either machine) can be reported to the librarian in room 303, the consultant in 215-C, or to the terminal room consultant in 118. If a computer terminal is available, an easy way to report a problem is by running the GRIPE program. For information on how to do this, type

.HELP GRIPE

on any terminal.



AMAX= 80

VIEWING ANGLE

THETA = 40.00

PHI = 150.00

EXECUTION TIME .91 MIN

MODE = 3

PLOT3D D.L.NELSON

		ARRAY SIZE	
		NATURAL DIMENSION	REGION PLOTTED
X	100	20	THRU 80
Y	100	20	THRU 80

# Computer CHESS Tournament Results

Printed below are the results of the first game played by TYRO in last month's Computer Chess Tournament. TYRO was Arizona's entry, written by Dr. Albert L. Zobrist of the U of A Computer Science department. RIBBIT, the program which was the eventual winner of the tournament with a 4-0 record, was submitted by the University of Waterloo, in Waterloo, Ontario, Canada.

TYRO, running on the University's DECsystem 10, eventually used up its time limit and forfeited the game. Charles I. Kalme, U.S. Master, comments that after 39) ... NxP the position would probably be a draw with best play by both sides.

RIBBIT (white) vs. TYRO (black)

	1. P-K4	P-K4
	2. N-KB3	N-QB3
	3. B-QN5	P-QR3
	4. B-QR4	N-KB3
	5. O-O	B-K2
1)	6. Q-K2	P-QN4
	7. B-QN3	O-O
2)	8. P-QB3	B-QB4
	9. P-Q3	P-Q3
3)	10. P-KR4	P-KR3
4)	11. N-QR3	B-KN5
5)	12. B-K3	R-QN
	13. BxB	PxB
6)	14. Q-K3	Q-Q3
7)	15. K-R2	KR-Q
	16. KR-Q	Q-K2
8)	17. K-N3	P-QN5
	18. N-QB4	PxP
	19. PxP	BxN
	20. QxB	R-QN2
	21. QR-QN	R(2)-N
	22. B-QR4	RxR
	23. RxR	N-QN
	24. K-R2	Q-K3
	25. P-QR3	N-KN5
	26. K-N	P-QB3
	27. Q-KB5	K-KB
	28. P-KB3	N-KB3
	29. QxP	KN-Q2
	30. QxQ	PxQ
	31. P-KN4	P-KN4
	32. PxP	PxP
	33. K-N2	K-K2
	34. R-QN7	R-KB
	35. N-K5	K-Q3
	36. NxN	NxN
	37. P-Q4	PxP
	38. PxP	P-K4
	39. PxPCH	Time Forfeit

Comments by Tom Nelson, U.S. expert:

1) More usual is

- 6) R-K1 P-QN4
- 7) B-N3 O-O
- 8) P-B3 and the sharp 8) ... P-Q4  
or the more solid 8) ... P-Q3

2) 8) ... B-QB4 wasting a tempo. Better is 8) ... R-K1 to be followed by, perhaps 9) ... B-KB1 anticipating white's N) P-Q4 ...

3a) A very unusual move which indicates a lack of understanding. Better is 10) N-Q2 ... continuing development but allowing 11) ... B-KN5 or 10) P-KR3 ..., preventing B-KN5 with, perhaps, 11) N-Q2 ... to follow.

3b) 10) ... P-KR3 a good move preventing 11) B-KN5 ... or N) N-KN5 ... on a later move say, after black has played N-1) ... R-K1.

4a) 11) N-QR3 ... an inconsistent move, better is 11) N-Q2 .... 11) N-QR3 leaves only QB2 for the knight's reentry into the game. 11) N-QR3 ... also prevents N) P-QR4 ... which is sometimes used to take advantage of black's advanced queen side pawns.

4b) 11) ... B-KN5 a good move, which completes black's development and takes advantage of 10) P-KR4 ... to establish an unpleasant pin.

**\*\*At this point black is better:**

- black 1) black is totally developed
- 2) black's pieces are developed to places that are logically consistent with the position.
- white 1) white is still undeveloped i.e. B-QB1
- 2) white's pieces are awkward i.e. N-QR3
- 3) white's pawn structure is more compromised than black's i.e. P-KR4

If the position were more open, or black could open the position with appropriate pawn exchanges white would be in serious difficulty.

5a) Black, because of time considerations enters blitz-mode.

5b) 12) B-K3 ... a logical move.

5c) 12) ... R-N1 inconsistent, black should not allow 13) BxB ... doubling his pawns. Better is 1) 12) ... BxB 13) QxB N-R4 14) B-K1 P-QB4 when black is better 2) 12) ... B-R2 14) BxB RxB 15) Q-K3 Q-N1 16) B-K1 N-K2 17) N-B2 P-QB3 when black is better.

6) 14) Q-K3 ... breaking the pin and forcing black to protect B4

7) 15) K-R2 ... with this move and 17) K-N3 ... white plays very badly.

8) 17) ... P-QN5 from this point black's play is obviously hurt by playing in blitz mode.

# User Opinions Sought On Character Sets

University computer users are being asked to register an opinion on which print train option the Computer Center should use on new printers soon to arrive at the Center.

Three printers--one CDC 580-20 and two CDC 580-12's--have been ordered to replace the three printers now in use. Two options are available for the standard print train on the 580-12's.

One possibility is a scientific character set, which is equivalent to the print trains now on the line printers at the remote batch terminals. This ASCII character set is a subset of the characters on the CDC extended print trains.

While the scientific character set is unique to CDC, the ASCII character set is more of an industry standard. For example, ASCII graphics correspond to the symbols on the keyboards of most terminals and keypunches.

The Computer Center is seriously considering obtaining the ASCII print trains for the new printers. Although this change would not affect most running programs, a few users printing CDC "special graphics" would no longer have these symbols available. (There is a possibility of having a scientific chain available through a DISPOSE card.)

The following conversion chart shows the basic differences between the two trains. If the ASCII train is adopted, programs that currently print the graphic in the left column would print the graphic in the right column. Any currently printable graphic not shown in the table will not be changed.

<u>Scientific</u>			<u>ASCII</u>
(equivalence)	≡	#	(pound sign)
(unequal)	≠	"	(double quote)
(right arrow)	→	_	(underscore)
(logical or)	∨	!	(exclamatory mark)
(logical and)	∧	&	(ampersand)
(up arrow)	↑	'	(apostrophe)
(down arrow)	↓	?	(question mark)
(less than or equal)	≤	@	(commercial at sign)
(greater than or equal)	≥	\	(reverse virgule)
(logical not)	¬	^	(circumflex)

The Computer Center feels that the ASCII train is the better choice. However, there is some concern for the impact a change would have on users relying on the CDC special graphics. Comments from users are welcome at the Customer Support Office, UCC 215-C.

Characteristics of the three new printers are discussed in the article on the next page.



# Three New Printers Ordered For Center

The University Computer Center has ordered three new printers, a CDC 580-20 and two CDC 580-12's.

The 580-20 printer is capable of printing at 2000 lines per minute, while the 580-12's can operate at 1200 lines per minute. The printers will replace the current printers, including a drum-type 501 printer rated at 1000 lines per minute and two 512 train-type printers which operate at 1200 lines per minute.

All three of the new printers will be of the train printer variety. Relative to a drum printer, the new printers will have better vertical resolution of characters, without the uneven

characters within a line that sometimes appear on drum printer output. In other areas of print quality, however, the old and new printers are about equal.

Delivery of the first 580-12 is scheduled for mid-January. The second 580-12 should arrive in mid-February, with the 580-20 arriving in May or June.

The proposed uses for each printer calls for one 580-12 to be used for upper and lower case work, the second 580-12 to be used for Computer Center staff production work and the 580-20 to be used for quick turnaround and short jobs.

## Operation Observations

A new operational procedure improves the internal handling of 48-hour save tapes. These may be used on either system, and they are convenient for shipping files from one system to the other.

For the user, this means a simplified method of requesting 48-hour save tapes. On the CDC 6400 a VSN=SAVE parameter will suffice. A dayfile message will appear when the tape is mounted, telling the user what the actual volume serial number is. This number can then be used by a request control card in a subsequent job to read this tape up to 48 hours after its creation. After 48 hours, the tape is returned to the pool.

On the DEC 10, a similar procedure is used. A /VID:SAVE switch on the MOUNT command notifies the operator to mount a save tape. When the tape is mounted, the operator will send a message to the controlling job's terminal, telling the user what tape number was actually mounted. This tape will be saved for 48 hours.

Robert C. Lancaster  
Operations Manager

# Level Number Specified on COPYBR, COPYCR

A local modification made on the COPYBR and COPYCR programs now allows a level number to be specified for records to be copied.

Levels can be defined as the relative position of records in a file in a hierarchical system. Level numbers can range from 0 to 17 octal, with 0 being the lowest level on the scale. Before the modifications to the COPYBR and COPYCR programs were instituted, no programs were available that allowed a user to make use of the level system when copying records.

The provision allowing a level number to be specified is optional and may be used by supplying a fourth parameter on the control card. The level number must be an octal number between 0 and 17, inclusive, with 0 being the default.

If level 17 is specified, COPYBR functions as a COPYBF and COPYCR as a COPYCF. This means an explicit end-of-file will appear at the end of the file being written.

The copy proceeds until the specified number of records with levels which are greater than or equal to the specified level are encountered and information through the last such end-of-record is copied to the output file. However, the copy will not proceed past an end-of-file. This is compatible with the previous COPYBR and COPYCR programs.

For the level number parameter to apply, the input file must reside on one of the following devices: disk, SCOPE format magnetic tape or card reader. Otherwise, any supplied level is ignored. In addition, if a level number is specified on a COPYBF or COPYCF call, it is ignored since the programs imply level 17.

Examples of uses for the programs include:

`COPYBR(HERE,THERE,3,7)`

This means that three records with levels 7 or higher are copied from HERE to THERE. The number of records actually copied can be more than the three specifically requested, since all intervening records lower than level 7 are also copied. The copy routine continues to copy all records until three level 7 or higher records have been copied, or until an end-of-file is reached.

`COPYCR.`

Copies one record of any level from INPUT to

OUTPUT. (Same as before.)

COPYBR(OLD,NEW,,17)

Copies one file from OLD to NEW.

COPYCR(ABC,XYZ,5,8)

COPYBR(INPUT,DISK,1,47)

These instructions will cause the program to abort, with an accompanying dayfile message reading INVALID COPY COUNT OR LEVEL NUMBER. Remember: levels must be octal and no greater than 17.

## **DATE 75: Recommended For Installation Before Jan. 5!**

The following is an excerpt from a memo circulated by Digital Equipment Corporation to all customer sites. We quote it here without further comment except to say that it is refreshing to see that someone else has this kind of problem.

"When the software for the PDP-6 was being designed in 1964, a 12-bit date format was established. In order to maintain compatibility with old programs, that format was retained in successive monitor releases. Unfortunately, the 12-bit format cannot represent any date after January 4, 1975. Therefore, a DATE75 project was initiated in order to convert DEC-supplied software to a new 15-bit format that properly represents dates well into the next century. The

5.06B monitor release introduced the new format. Support for 15-bit dates was designed to minimize conversion problems. Programs coded in a simple, straight-forward fashion will work properly with 15-bit dates without any modification.

"Our experience in actually converting our existing software has been considerably more difficult than we ever anticipated. We keep finding new DATE75 problems. As a result, we have been forced to release a large amount of software on the November distribution tape; and customers will not have as much time as we would wish to install it all. Naturally, we recommend installing all of this software well before January 5, 1975."

# Emphasis -- Communication

As announced in a recent HOTLINE bulletin, the Center will use as standard the new shorter paper designed for printing at 8.1 lines per inch beginning on January 13. This step is being taken for two major reasons -- to keep from having to raise the price of printing and to assure a supply of paper in the coming months. Paper costs have doubled over the past year and new price increases will go into effect as 1975 begins. The smaller paper will allow us to do as much printing without raising the cost. Our suppliers have told us that they will be better able to insure the supply of the smaller paper--something they decline to do with our current standard paper. We do hope to keep enough of the old paper available, however, to meet needs for final copies of reports when users require the six line per inch capability.

While discussing our paper problems with some of our users recently, I was asked to put together a list of ways in which users can consciously help to save paper. Here are some ideas.

- 1) Plan the page. Format printouts with paper saving in mind--print all the way across the page and don't page eject until the page is full.
- 2) Modularize output. Write programs that divide outputs into logical subunits (reports) and make each such report optional and selectable. Then, when the program is run, only produce the reports that are needed.
- 3) Report exceptions only. Most reports don't need to be a full dump of the file (it won't get looked at anyway). Only print the information that needs to be looked at.
- 4) Use compiler tools. Become aware of and use compiler options that turn off listings you don't need and control erroneously looping program output.
- 5) Eliminate unnecessary runs. Correct all the compiler errors before submitting the next test run. Don't submit runs that are producing nice but unnecessary outputs.
- 6) Verify programs. Don't request special forms until you know the program works and the output lines up correctly.
- 7) Consider microfiche. It is much less expensive than paper when multiple copies are needed.
- 8) Finally--Recycle.

Sure, these are all simple, common sense things to do. But most of us simply don't always do them. A little thought now can save a lot of trees when those programs written today are run time after time in the years ahead. Think about it.

Patrick G. Pecoraro  
Assistant Director  
For User Services

# What's With the System?

The Computer Center System Support staff has been busy since the last newsletter was published.

For the first time ever, both operating systems are running well. During the entire month of October and the first half of November, the SCOPE 3.4 system on the CDC 6400 computer crashed only seven times due to software. On the DEC-10, we don't like to talk about October, but during the first half of November, the software has rarely failed. It is difficult for us to determine whether some system failures are due to hardware or software, but recently, the hardware has failed more often than the software, and we are happy that we can spend some time doing something besides looking at dumps.

## DEC-10 System Performance

One of the most important things we are now doing is running a special program named "PROBE2" on the DEC-10 to help determine why our system performance sometimes leaves something to be desired. Digital Equipment Corporation has been very helpful to us in recent weeks. In addition to offering to sell the University more hardware, they have sent specialists from DEC headquarters in Maynard, Mass. to visit.

One of the specialists who visited was the director of monitor software development. He spent an afternoon discussing our local mods to the monitor with our systems programmers and attempting to determine if the mods

have had some effect on system performance. He also spent time going over dumps and trying to teach our people what to look for in dumps of the aborted operating system.

Another specialist who visited from Maynard was a DEC performance monitoring specialist, Rollins Turner, who spent a day and a half with our staff teaching us how to use performance monitoring tools he developed for use with the DECsystem-10. Rollins left some of his programs for us to run so that we may use the results to determine where our performance bottlenecks are.

Our hope is that we will be able to use the results of our studies to guide our selection of new hardware devices and perhaps determine which areas of the software need to be made more efficient. The end result will be improved service to the user community.

## New PM Times

Near the end of October we re-arranged our system preventive maintenance (PM) times on the DEC-10 to provide the user community with more convenient times to use the system. Our first hardware PM time now comes on Tuesday night from 9 p.m. to midnight and our end of the week PM period is Friday night from 5 p.m. to midnight. Software maintenance times are from 6:30 to 8 a.m. on weekdays. On weekends, software maintenance times will be scheduled to end by 9 a.m.

continued on next page...

These time changes were suggested by the Timesharing Common Interest Group, which we would encourage all DEC-10 users to attend every other Wednesday at 4 p.m. in room 319 of the Computer Center.

Since the end of the year is rapidly approaching, we anticipate that there will be blocks of system test time scheduled on weekends for testing of our link between the DEC-10 and CDC 6400. These test periods will be announced via NOTICE.TXT as they are scheduled. More about the link later.

#### 5.07 Monitor

We plan to install the new 5.07 monitor on the DEC-10 near the middle of December. In the past few months, we have been installing the various support routines for the 5.07 monitor which will run under the current 5.06 monitor. Our hope is to run the 5.07 monitor during some weekend periods for user testing after we are relatively certain it will run. As far as we are able to determine, the 5.07 monitor will have little impact on the user community. We will document impacts as we discover them.

#### DEC-10 System Modifications

We have made several modifications to the DEC-10 system during the last few months. Near the middle of October, we installed our "session accounting" mods. These mods allowed the system to report accounting charges for

each session as a user logged off of the system. These modifications were installed into the new 5.07 system support routines when applicable. In addition, as the 5.07 support programs were released by DEC, we installed them.

We also have made several local modifications to various other routines. On December 2, significant modifications were installed into the MOUNT processing programs, as announced in a HOTLINE. We have also installed more ports on the system and removed the old DC10 line multiplexor since all ports are now connected through the DC76.

The unique PPN project has been completed so each person who receives a PPN will now receive the same programmer number for each PPN assigned.

Near the first week of November, the STDN: structure ran out of disk space, so we added a pack to that structure making it a four pack structure. It probably will not be long before the fourth pack is filled, so we ask that users conserve disk space whenever possible.

#### CDC Software Modifications

Believe it or not, our entire staff is not dedicated to supporting the DEC-10.

We have also done some work on the CDC 6400 software. One of our most significant modifications was a slight revision of the input queue priority assign-

ment to batch jobs. The goal of our modifications was to fix the scheduling of jobs so that the console operators did not have to manually enter so many priorities to get jobs run. The jobcard priority parameter should now have a greater influence on job scheduling.

In the area of paper saving, the FTN 4.2 and RUNT FORTRAN compilers were modified so that the variable cross reference listings are printed only if requested. The loader map is now printed only if requested also, and the number of banner pages for jobs printed at remote batch stations has been reduced to one.

We had not originally intended to make unit record accounting modifications to the remote batch station support software, but this job turned out to be easier than anticipated, so we did that too. It will cost the same to run jobs via remote stations as through the central site.

We have added facilities for users to insert carriage control characters on print files from control cards. The system copy routines COPYCR and COPYBR have been modified to allow the specification of record level numbers for copying of records from one file to another. These routines are explained further in a separate newsletter article. The tape test routine, TPT, has been modified to label tapes upon completion of the reliability test. Documentation on these changes is available in the Consulting Office.

### The Link Project

Most of our effort for the remainder of this year will be devoted to getting the 5.07 monitor up and working on the inter-computer link.

The link hardware has been under test for about six weeks now and the project is coming together. We are still planning to get the link up around the first of next year. The speed of the link will be comparable to the speed of a tape drive, so we do not encourage people to plan to use the link to ship large files between the computers.

The first implementation of the link will be able to support users who edit programs on the DEC-10 and execute them on the 6400, and it will allow batch jobs to be run on the CDC computer to be read in through remote batch stations connected to the DEC-10. At some later date, after we learn a few things from our first effort, we will try to develop a faster and more versatile link.

Our link will differ from other inter-computer links in that we will not transfer entire files from one computer's disks to the other before we work with the files. DEC-10 disk files will be entirely resident on the 10, while 6400 files will reside on the 6400 disks. In effect, each computer will treat the other computer as a file storage device, similar to the way disk drives or tape drives are used.

continued on next page...

We realize that many users are anxious for us to get the link up and running. We are also anxious. This is our first hardware/software design project at the Computer Center, and we hope it will get us started on the

road to bigger and better ways to serve our users.

L. E. Fields  
Manager  
Systems Support

## New Courier Schedule Implemented Dec. 2

Recent evaluation of the courier pickup and delivery service has shown that user demands have changed and that the delivery schedule and methods of service should likewise be altered.

Consequently, a new schedule has been devised, and is reproduced on the inside back cover.

One example of the new plan's increased efficiency: under the new plan, the courier leaves the Computer Center at 8 a.m. to make the first delivery, returning to the Center by 9:20 a.m. Under the old plan, the courier left at 8:10 a.m. to make the first delivery and pickup, not returning until almost 10 a.m.

With the new plan, programs picked up on the first run reach the Center sooner. In addition, since the driver does not leave again until 10 a.m., some programs from the first run will be completed before his departure and can be returned on his second run. This, of course, is dependent on program time and the program's core requirements.

Besides providing better turn-around time, the new schedule should give the courier more time to account for jobs submitted and returned, hopefully reducing errors caused by a hurry-up schedule.

The Center recognizes that jobs being lost between the time they are submitted and returned is a serious problem. To combat this, the Center is providing a station login sheet for users to fill out when submitting a job. This sheet will follow the respective jobs to the Center and be checked when the output is returned to insure the job is not sent to the wrong station or routed to the Center's output racks.

All remote pick-up users are encouraged to use the log sheet. It should help to pinpoint where mistakes are being made.

Any user who has comments on the new schedule should contact R. C. Lancaster, Manager, Computer Operations, at 884-1203.



# From the Suggestion Box

## Suggestion No. 433

Twice my deck was misfiled: It was S but I found it in H once, T next time--get your people glasses or get 026 and 029 card punches fresh ribbons daily.

Reply:

The I/O personnel work very hard at filing decks correctly, although they do make mistakes occasionally. A larger problem appears to be people who (on ST-0) pick up decks looking for theirs and return them to the wrong box. If we all are little more careful, we can drastically reduce the inconvenience to our fellow users.

## Suggestion No. 446

Why not put blank keypunch cards in the keypunch room or across the hall in the production facility. This would save a lot of running up and down stairs.

Reply:

Blank cards in the keypunch room tend to disappear. We will make them available for request at the production counter, room 114.

## Suggestion No. 410

Hey--Your consultants are doing a good job, but you need more of them on duty at once.

Reply:

Thanks--we can only afford two (one in 215-C and one in 118) on duty at one time.

## Suggestion No. 432

Please have the "auto-feed" feature of the keypunches in the I/O room (room 226) disabled. This would save many wasted cards and we must stop this card wasting.

Reply:

This has been tried in the past. Due to numerous complaints, the switches were reconnected.

continued on next page...

Suggestion No. 441

SPSS may be a low status with computer experts, but we folks in the social services could sure use a full time consultant who is versed in SPSS - and a consultant on weekends would be helpful.

Reply:

SPSS gets fairly high status here as we have three people (one full time and two part time) who spend a major portion of their time helping SPSS users. Please feel free to call 884-4245 or 884-3620 to make an appointment for such help or stop in weekdays at room 218a or 208. We cannot currently extend this service to the weekends.

Suggestion No. 429

Put a message in the user dayfile of the CDC 6400 indicating the number of CP seconds used in a load. Presently, the only dayfile message resulting from a load, indicates the amount of memory used. This addition would be greatly appreciated by many users.

Reply:

Good idea, we will add this to our list of proposed mods.

Suggestion No. 413

After a user has logged off the DEC-10, you should give, in addition to VCS, the elapsed session time. This would enable users to better check the billing algorithm. Also a comand should be added to get this information out during a session. It could be like the SUMMARY card of the CDC 6400.

Reply:

We will add elapsed session time at Logout. We have already added a SUMMARY program on the DEC-10.

Suggestion No. 421

Let's have some method of sending jobs to the CDC 6400 from the DEC-10. We currently have a method of submitting DEC-10 batch jobs using the CDC 6400 card reader.

Reply:

This can currently be done by writing the 6400 jobstream on a magnetic tape (7 track on MTA1:) on the DEC-10, processing this tape with FROM10 on the 6400 and then using SUBMIT to put the file thus produced into the 6400 jobstream. We hope this will be much simplified early next year when we get the two machines linked.

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Computer Center  
Tucson, Arizona 85721

Staple here and mail

# SCHEDULES

## COMPUTER CENTER BUILDING SCHEDULE

Open 24 hours a day  
except holidays

Operations Counter. . . . .	Weekdays	7 a.m. - 11 p.m.
	Weekends	7 a.m. - 4 p.m.
Customer Support. . . . .	Weekdays	8 a.m. - 4 p.m.
Production Counter. . . . .	Weekdays	7 a.m. - 11 p.m.
Reference Room. . . . .	Weekdays	8 a.m. - 5 p.m.

### Pickup and Delivery Schedule for Remote Stations

Station	Departure Times:	Station	Departure Times:	Station	Departure Time:		
1 (RBT-Z) PMM	8:40 a.m. 10:20 a.m. 11:40 a.m. 2:00 p.m. 3:40 p.m. 5:00 p.m.	3 (RBT-E) Chemistry	8:30 a.m. 10:10 a.m. 11:30 a.m. 1:50 p.m. 3:30 p.m. 4:50 p.m.	5 BPA	9:00 a.m. 2:20 p.m.		
	2 (RBT-B) Optical Sciences		8:20 a.m. 10:00 a.m. 11:20 a.m. 1:40 p.m. 3:20 p.m. 4:40 p.m.		4 (RBT-D) Engineer- ing	9:10 a.m. 10:30 a.m. 11:50 a.m. 2:30 p.m. 3:50 p.m. 5:10 p.m.	6 (RBT-F) Medical
			11 (RBT-K) Anthro- pology	8:50 a.m. 2:10 p.m.			

RBT refers to 'Remote Batch Terminal' and indicates that such a terminal is located in the building indicated. Only the Engineering building's terminal is available for public use.

AT THE FOLLOWING TIMES THE COMPUTERS ARE SCHEDULED FOR  
PREVENTIVE MAINTENANCE AND MAY NOT BE AVAILABLE FOR USE

#### CDC-6400

Monday through Friday  
5 a.m. to 8 a.m.

Saturday and Sunday  
5 p.m. to 9 p.m.

#### DEC-10

Monday through Friday  
5 a.m. to 8 a.m.

Tuesday  
9 p.m. to midnight

Friday  
5 p.m. to midnight

Saturday and Sunday  
6:30 a.m. to 8 a.m.