



VOLUME 3
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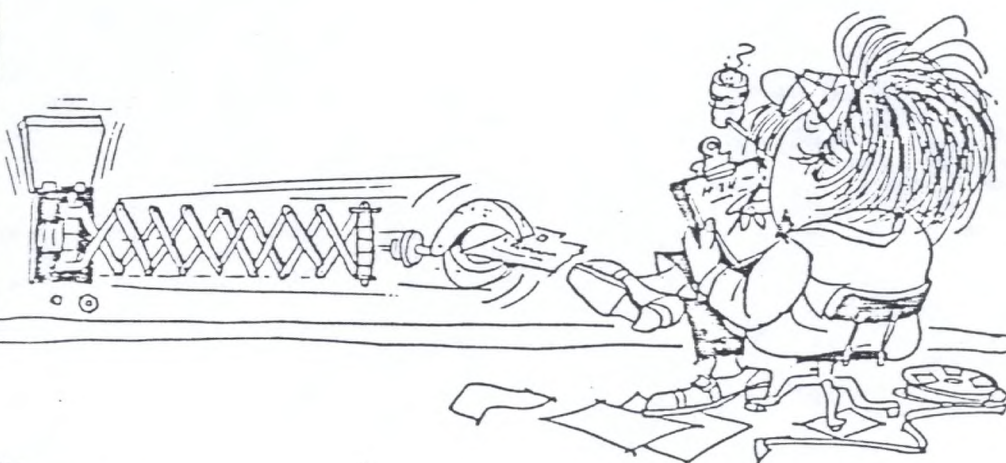
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PERSONNEL

Computer Resources Department staff are located in Room 2N214 unless otherwise shown below.

Locals shown are for BCIT's central number:
(604) 434-5734.

Director, Willy Kurz.....245

Secretary, Debbie Stamnes818

Academic Support Analysts

Lee Herberts.....798
Dan Low.....268
Murray Smith.....268
David Thomson.....798
Bill Tupper - Released Faculty.....268
ID requests, information, and assistance..351

Managers

Academic Support, Neil McLagan.....680

Administrative Support, Neil McLagan.....680

Processing Services, Ron Sproule.....708

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COMPUTER ROOM.....246
after 1700 and weekends.....434-5746

DATA CONTROL AND DATA ENTRY

Data Control, Rita Richardson.....456

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DIAL-UP TO COMPUTERS

off campus....Please contact Academic Support
on campus.....448/449

PUBLISHING INFORMATION

The Computer Resources Newsletter is published by the Computer Resources Department of BCIT.

Contributions to the Newsletter and comments from our readers are welcome. Address correspondence to: Editor, BCIT Computer Resources Newsletter, BCIT Computer Resources Department, 3700 Willingdon Avenue, Burnaby, B.C. V5G 3H2.

Subscription changes to the Newsletter may be requested by completing the form on the last page. You are subscribed if your name appears on the label attached to the Newsletter. The next issue is planned for 84:12:03.

FACILITIES

The BCIT computer system is an IBM 3083-EX1 with 16 megabytes of main memory, 256 terminals and two CAD workstations. Both batch and online processing for academic and administrative applications are performed. The operating systems are VM/CMS and DOS/VSE.

A Hewlett-Packard 3000/64 minicomputer with 64 terminals is available for introductory and application package training.

Twenty Apple II+ and twenty IBM PC microcomputers are available for student instructional use.

Two Apple II+ microcomputers, an HP125 microcomputer (terminal to the HP3000), an IBM 3178, and a Televideo 950 are available for exclusive Faculty use.

Further information on the above facilities is available from the Manager of Processing Services, Ron Sproule (local 708).

The INTERGRAPH CAD/CAM system consists of a DEC VAX 11/751 Central Processing Unit with 5 megabytes of main memory, two 300 megabyte removable-disk CDC disk drives, one 160 megabyte Winchester-technology hard disk drive, one tape drive, ten single-screen graphics workstations, one dual-screen workstation, three desk-top electrostatic plotters and one 24-inch electrostatic plotter.

Further information on the INTERGRAPH system is available from Dan Low (local 268) or Tony Adamo (local 488).

Locations

IBM 3083

Student Terminal Labs:

IBM 3278.....2N329
Memorex 2078.....2N419
Televideo 950.....2N420/421
IBM 3178.....2N327
IBM 3250 CAD stations2N319A

Faculty Area

(Computer Resources Foyer) 2N210

HP3000

Terminals.....2N322/2N325

Microcomputers*

APPLE Cart.....Library
Faculty Resource Lab.....Library Room 308A
APPLE Student Lab.....2N319
IBM PC Student Lab.....2N318

*Access to the Apple Carts and the Faculty Resource Lab can be arranged through the Listening and Viewing desk in the Library. The Apple Carts may be used within the Library by students but they must relinquish the unit to any instructor desiring to use it.

The Student Microcomputer Labs (Rooms 2N318 and 2N319) may be booked through the Timetabling Department (Room 107, Trailer 2V, local 386). In non-booked times, Room 2N319 is open for scramble use.

EDITORIAL MESSAGE

Welcome back to the start of a new term! This issue marks the beginning of the THIRD year of publication for the Computer Resources NEWSLETTER.

In addition to the past mixture of articles on the IBM system, the HP 3000 and the APPLE II+ and IBM PC microcomputers, we will also report on developments on the INTERGRAPH CAD/CAM system. In addition, we will report on computer-related acquisitions by the LIBRARY as we had done in the past. We hope that you will look to the NEWSLETTER as a source of information on ALL computing services at BCIT.

As requested by some readers in our survey of last May, we are reinstating the DUTY ANALYST'S CORNER to provide answers to questions that may be of common concern.

We welcome any letters of comment regarding the Newsletter and its contents. Please address the letters to The Editor, Computer Resources Newsletter.

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HOURS OF OPERATION

The normal operating schedule to 84:12:31 is given in the following table. If there are changes to these hours of operation, they will be posted prominently and displayed on the terminal logon message as far in advance as possible.

System	Hours	Days
IBM 3083	0800 - 2300	Monday - Friday
	0900 - 1700	Saturday, Sunday
	(starting 84:09:15)	
	(ending 84:12:16)	
HP 3000	0700 - 2400	Monday - Sunday

Computer Centre Holiday Hours:

Thanksgiving Day - 84:10:08 (0900 - 2300)
Remembrance Day - 84:11:12 (0900 - 2300)

Computing Centre Closures:

December 24th, 25th, 26th and 31st.

SYSTEM BACKUPS

System	Times	Days
HP3000	0700 - 0730	Monday - Friday
	2130 - 2400	Friday Evening

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MAINTENANCE

The Computer Resources Department is responsible for maintenance of the following equipment. Trouble calls may be made at Local 246 during regular daytime hours. After 1700 and weekends, please call 434-5746.

Units	Locations
Microcomputers:	
APPLE II+	2N319
IBM PC	2N318
Terminal Labs:	
IBM system	2N419, 2N420, 2N421
	2N329, 2N327, 2N319A
HP3000 system	2N322, 2N325

HP 3000 Preventive Maintenance:

84:12:05 - starting at 10:00;
normally ending by 14:30

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SUPPLIES

The Computer Resources Department stocks supplies for all terminals. Ribbons, paper, etc. will be replaced during daily checks. Supply shortages should be reported to the Operations staff at local 246 or, after 1700 and on weekends, at 434-5746.

Print Layout Sheets are supplied to students by Computer Resources and are available in Room 2N327. Coding forms are NOT supplied, and students may purchase these through one of the campus TNT (This 'n That) stores.

Microcomputer diskettes are available from the TNT stores, BCIT Central stores and Book-store. The IBM PC requires soft-sectored double density 5 1/4 inch diskettes. They can be single or double-sided as you wish (depending on the price that you are willing to pay). Single density diskettes can be used with the APPLE microcomputer but double density diskettes provide greater reliability in recording data.

In all cases, avoid cheap brands. Poor quality manufacturing provides short diskette life-times and increases the probability of damaging the read/write heads.

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CAD SYSTEMS MAINTENANCE

Computer Resources is not responsible for the scheduling or the maintenance of the INTERGRAPH CAD/CAM system. However, Computer Resources is responsible for the maintenance of the IBM/CADAM system.

ALL INTERGRAPH SYSTEM hardware and software problems should be reported to Dan Low at local 268. (In Dan Low's absence, contact Guy Johnson at local 484.)

CAD SYSTEMS HOURS OF OPERATION

The INTERGRAPH system is operational during normal school hours. However, there is little unscheduled scramble time. The CAD/CAM terminal lab is available only under instructor supervision. Changes to this policy will be posted in the CAD/CAM lab.

The IBM 3250 graphics workstations to the CADAM system are currently located in room 2N319A. As in the past, this room is available to students only under instructor supervision. The operating hours of the CADAM system is the same as that of the IBM system. Faculty can have access to room 2N319A by contacting the Computer Operator at local 246.

SYSTEM BACKUPS

System	Times	Days
INTERGRAPH	0830 - 0840	Tuesday--Thursday
	1300 - 1600	Friday Afternoon

On the INTERGRAPH system, backups can perform concurrently with the normal operation of the system. However, response time may be slower than normal and access to a file will be denied while the system is copying it to magnetic tape.

PREVENTIVE MAINTENANCE

Preventive maintenance will be performed during the Wednesday 3-hr. breaks. While the schedule has not yet be finalized, notice will be given as far in advance as possible.

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HARDWARE AND SOFTWARE CHANGES

CHANGES TO CMS AND XEDIT (VM/SP RELEASE 3.1)

Release 3.1 of VM/SP has been installed on the IBM with new versions of CMS and XEDIT. The following changes should be noted.

1. If you use SET CMDLINE TOP in your XEDIT PROFILE, error messages will spoil your command line. To avoid this use SET MSGLINE ON 1 1.
2. The default PF key settings have changed a little. They are now:

PF Key	Old Value	New Value
PF10,22	SPLIT CURSOR	RGLEFT (Moves screen right and left)
PF11,23	JOIN CURSOR	SPLTJOIN (Does both SPLIT and JOIN)
PF12,24	CURSOR COLUMN	CURSOR HOME (Sends cursor to command line)

3. The information line at the top of the screen gives the following information:

Filename Filetype Filemode - eg. TEST EXEC
A1

V or F - A Variable or Fixed length record
of length shown. (eg. V 132)

TRUNC - The number of columns before the
line gets cut off.

SIZE - The number of lines in the file.

LINE - The current line number.

COL - The current column number.

ALT - The number of alterations since
the last save of the file.

4. FILELIST is the new product to replace FLIST. (Although FLIST is still available.) Note the function key designations at the bottom of your screen.

5. Users who still use QUERY READER and ORDER READER may find the command RDRLIST easier to use. Type RDRLIST and note the function key designations at the bottom of your screen.

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NEW VERSION OF BASIC

Version 3.0 of Waterloo BASIC is now available on the IBM 3083. The following is a list of features of this version:

1. Procedures may be defined. They are similar to defined functions but are invoked with the CALL statement.
2. Matrix inversion is now supported.
3. Substrings may be obtained by the "(start:ending)" notation used in other BASIC systems.
4. INPUT and LINPUT have been extended to accept prompt strings.
5. Quotation marks are now optional when surrounding filenames in editor commands.
6. A prompt requesting verification is now given when SAVE, STORE or STOREOBJ commands are issued if the file exists.
7. The RENUMBER command can now be used to renumber a subset of a program.
8. BASIC is now faster.

Note that programs stored in the previous version of BASIC (i.e. WSTORE files) must be recompiled.

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NEW MINING GEOLOGY SOFTWARE

The Mining Technology has purchased a mining geology software system from INTERNATIONAL GEOSYSTEMS CORPORATION, Vancouver, B.C. to run on the INTERGRAPH CAD/CAM system. This software package has been installed on the INTERGRAPH CAD/CAM system in July and the interface to the INTERGRAPH software is being developed.

The GEOLOG system is a comprehensive system for geological data collection, storage and analysis. The interface to the INTERGRAPH CAD/CAM system will allow collected data to be edited, displayed and plotted with the graphics workstations and the electrostatic plotters. Additional routines provide such services as reserves calculation, mine design and advanced graphical plotting.

The GEOLOG system improves the data acquisition and analysis aspects of mineral exploration, development and mining. This system has been designed by professional geologists and has evolved over 15 years of field application. Many exploration and mining companies throughout the world in such places as North and South America, Australia, Malaysia, the Philippines and Indonesia are currently using the system. BCIT is the first educational institute to install the GEOLOG system for the training of mining geologists and is also the first installation to interface it to the INTERGRAPH graphics control system.

For further details on the use of the package, please see John Fairley, Mining Technology, local 323.

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FEATURES

BILL TUPPER LEAVES SURVEY

The headline is just a little misleading. Bill will be leaving Survey Department for this academic year to join the Academic Support group in Computer Resources. As the successful applicant for the Faculty Support position in the group, Bill will be responsible for liaison with faculty from all areas of the Institute and bringing a faculty perspective to the services provided by us. In addition, he will be working on his special area of interest: graphics applications in photogrammetry.

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NEW ANALYST JOINS ACADEMIC SUPPORT

Murray Smith joined the Academic Support group at the end of June. Murray's experience following graduation from UBC in Computing Science was obtained in Heidelberg, West Germany. While there, Murray worked for the University of Maryland on Hewlett-Packard 3000 applications.

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CMS COURSES

If you're interested in learning CMS, contact Dave Thomson at local 798. We're planning on offering a session soon.

FACULTY IDS - NEW PASSWORDS

To ensure the security of faculty IDs and data, passwords will be changed for all faculty IDs on the IBM and HP systems. The new passwords should be picked up from the Computer Resources Receptionist in room 2N214 after 84:09:15. For security reasons we cannot mail passwords to you.

New passwords will be required effective 84:09:29. Remember to keep your password secure from others.

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COMPUTER RESOURCES SECURITY

Security is an ongoing concern in Computer Resources. Physical security, security of data and resource access are constantly monitored. Three significant enhancements have been made recently in order to improve security in Computer Resources.

A Halon fire suppression system has been installed in the computer machine room. This system will automatically release Halon gas if a specific sequence of sensors is triggered. The Halon gas creates interference in the molecular activity required to create combustion.

An access control system has been installed in the major entrances to Computer Resources. This system provides records of all activity through the specific entry ways. It also provides flexible controls so that levels of security can be easily changed when required.

A source of constant aggravation over the last couple of years has been the security of the microcomputer labs. Because of the stand-alone nature of the microcomputers, they are much more susceptible to theft. In fact, several have been stolen. We have installed an electronic security system that will monitor all microcomputers in rooms 2N318 and 2N319, including the internal components. We are also planning on installing physical security devices in each unit this Fall.

Security should be everyone's concern, staff and students alike. When items are stolen or systems violated, the people that suffer most are the users of the equipment or the system. We all face higher costs whether in the form of increased tuition fees or higher taxes.

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INTERGRAPH SYSTEM UPDATE

The INTERGRAPH CAD/CAM system is fully operational. Instructors from various Engineering technologies, Operations Management, and Computer Systems technology have been given training on the use of the basic graphics software package during June and July.

Instructors wishing to obtain personal Ids can obtain application forms from the Computer Resources Receptionist. A single application form is used for all computer systems at BCIT.

Instructors wishing to hold classes on the CAD/CAM system must obtain prior approval of Tony Adamo (CAD/CAM Program Head) at local 488 before making application for Ids.

For readers not acquainted with the field, the following definitions (extracted from COMPUTING CANADA) are given:

CAD (Computer-Aided Design) is a method of interactively creating product designs with a computer and storing the designs in a database system.

CAM (Computer-Aided Manufacturing) is a method of selecting designs from the CAD database for use throughout various operations of the business, from purchasing to actual manufacturing.

CIM (Computer Integrated Manufacturing) is the concept of a totally automated factory. The business and manufacturing processes are integrated and controlled by a CAD/CAM system.

FMS (Flexible Manufacturing Systems) is the concept wherein "cells" are established to process simultaneously a variety of parts using tools under control of a CAD/CAM computer.

MRP (Material Requirements Planning) is a set of procedures designed to schedule the ordering and placement of inventory for manufacturing processes. In an integrated system, MRP is controlled by the CAD/CAM computer system.

As evident from the breadth and depth of these definitions, BCIT is embarking into a "new world" of activity - the unifying of computing science, engineering and business technologies. To assist in this process, INTERGRAPH Corporation has supplied BCIT with software in many application areas as indicated in the following list:

Architectural Production Drawing
Architectural Modeling
Space Planning and Facility Management

Engineering Production Drawing
Mechanical Design & Drafting System
Numerical Control Programming
Steel Detailing

Sculptured Surface Model

Structural Analysis

Finite Element Modelling (FEM)

World Mapping System

Digital Terrain Modelling

Each user on validation of their ID has a "configuration" or "profile" file associated with their User ID to allow them access only to the requested application package(s). When more than one person have similar needs, such as the students in a course, they will "share" a single configuration file.

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OF LAN's, RINGS, STARS and RELATED THINGS

This is the second article on computer communications. In the previous issue of May 1984 (Vol. 2 No. 3) we discussed the use of the APPLE microcomputer as a "dumb" terminal to access a host computer via modems and the telephone system. The logical progression would have been to discuss the use of the microcomputer as a "smart" terminal (this will come in a later issue). However, inspiration motivated a discussion of LAN's.

What are LAN's? LAN's is the acronym for Local Area Networks, a method for attaching several devices to share resources. A typical LAN has the following characteristics:

- covers a limited area, usually within one building
- high rates of data transmission
- ability to support a variety of devices

By this characterization, a minicomputer with a mixture of directly-attached terminals at 9600 bits per second could, perhaps, be called a LAN. However, the most interesting applications of LAN technology are those in which each device or workstation is able to send and receive information without help from a central host.

Applications for LAN's at BCIT might include interconnection of student and administrative terminals and printers, video instruction aids, and microcomputers to share files. Probable benefits include:

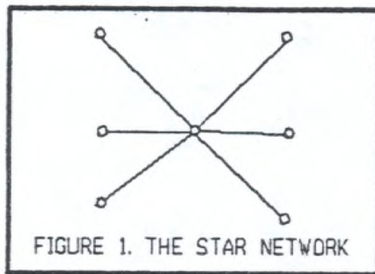
- reduced hardware and software costs through sharing of resources
- more efficient use of resources in that idle time resulting from inaccessibility is reduced

This article will discuss some elementary concepts in networking microcomputers.

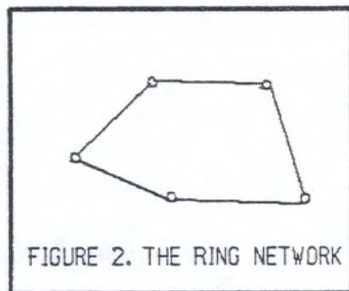
LAN's can take the form of stars, rings or busses and any combination of these basic forms. The abstract form of a LAN is often referred to as the "topology" of the LAN.

In the following discussion, the term "node" is used to refer to any device in the network. A node could be a microcomputer, an intelligent printer, a file server, a communications server, or a "gateway" device. A "file server" attaches disk storage units to the network; a "communications server" links the network to the public telephone system. A "gateway" device provides a link between two separate networks.

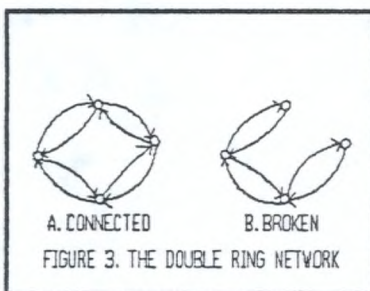
The STAR network is the traditional form of a computer network where one computer acts as the host (or network controller) and all other devices are linked to it, as illustrated in Figure 1. It should be noted that a reliability requirement of a LAN network is that there should not be any "critical" nodes. A critical node is a node that would bring down the network if that node was out of service. In this respect, the STAR network is the least desirable form for a LAN.



In the RING network, the devices are connected in an endless loop, as illustrated in Figure 2. In this form, all devices in the ring must have "intelligence" to send or receive data. This is due to the fact that transmission from one node to another node is always (except for adjacent nodes) through intervening nodes. Any node must then have "intelligence" to analyze any data packet, determine whether or not it is the intended receiver of the data packet, and send it to the next node in the ring if it is not the intended recipient.



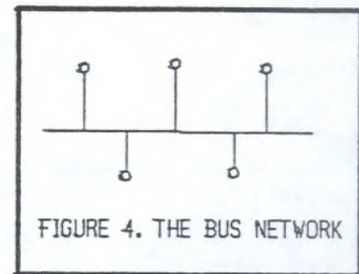
Some rings have only one direction for transmission of data packets. A double ring allows two directions for transmission. In this case, the removal of any single link does not disrupt communications in the network since there is always a second path to the intended receiver.



As a result of the double cabling, this topology is more reliable. However, it is more costly due to the double cabling and the intelligent network interfaces required to switch transmission from one direction to the other direction.

The third basic topology is the bus network. All devices "tap" into a single bus as shown in Figure 4. All devices connected to the bus "listen" to it at periodic intervals to see if there are any messages on the line and "extract" the message if it is the intended receiver.

The bus topology is used by the ETHERNET (developed by XEROX, DEC, and INTEL).



There are many aspects to networking. Apart from the physical wiring, one needs to consider the transmission method and the message-handling protocol.

One distinct feature of LAN's is that the transmission speed is very high (on the order of millions of characters per second) in comparison to that via the telephone system. In LAN's, the capacity for data transfer is governed by the method. One is called baseband while the other is broadband.

In a baseband system, transmission is in digital form and operates in half duplex mode. An example of a baseband LAN is the ETHERNET network.

In a broadband system, the frequency capacity of a coaxial cable is fully utilized by a method called frequency division multiplexing (FDM). In a broadband LAN, data is transferred in analog form as in a telephone system. Hence, modems are required for digital-analog conversion. Due to the high transmission rate, high speed modems are required. At present, broadband LAN's are relatively expensive and have not been applied to microcomputer networks. Examples of broadband networks are the WANGNET and the Sytek LocalNet 20.

A more extensive discussion on communication protocols will occur in a forthcoming issue of the Newsletter. For the present, we will state that there are three main protocols -- polling, token passing, and carrier sense multiple access (CSMA).

For further reading, refer to:

"Communications and Networking for the IBM PC" by Larry Jordan and Bruce Churchill, published by Brady Corporation, 1983.

This book is available at some microcomputer book stores in the Lower Mainland.

Another reference is:

"Micros and Modems: Telecommunicating with Personal Computers" by Jack M. Nilles, published by Reston Publishing Company, Inc., 1983

This book is available in the BCIT Library and briefly discusses some of the topics in this article.

As a final note, the diagrams accompanying this article were prepared on the INTERGRAPH system and plotted on a small plotter at the

As a final note, the diagrams accompanying this article were prepared on the INTERGRAPH system and plotted on a small plotter at the low resolution of 100 dots per inch.

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DOCUMENTATION UPDATE

Due to hardware and software changes performed this summer, some documentation has been revised. Please be sure to check with Academic Support for revised documentation.

The following are new documents available from Academic Support.

BCIT HP3000 User's Guide (84:09:01)
BCIT QEDIT User's Guide (84:09:01)
BCIT VAX/VMS User's Guide (84:09:17)

The following documents have been revised as a result of the hardware and software changes.

BCIT CMS User's Guide (84:09:01)
BCIT VSE User's Guide (84:09:01)

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LIBRARY SOFTWARE UPDATE

The BCIT LIBRARY has acquired some software packages for the IBM PC microcomputer. A partial list is given below:

Data base management

dBase II
PFS: File

Spreadsheet software

Lotus 1-2-3
Multiplan
Visicalc

Word-processing

Easywriter (Release 1.1)
MailMerge (Release 3.3)
Multimate
Peachtext
PFS: Report
Wordstar (Release 3.3)

For a complete list of the software available, please check at the Circulation Desk in the Library.

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HOW TO SELECT A MICROCOMPUTER

With the proliferation of microcomputers in the market place today, the selection of a microcomputer is a very difficult task. Listed below is some advice for evaluating small systems. The search strategy consists of three phases. Each phase involves some questions which should be asked before and during the search for a microcomputer.

1. Define your needs:

- Do you need word processing? statistics? filing? accounting packages?

- What do you want in your records?
- Do you need alphabetical or numerical or both?
- How are you going to sort and index your work?
- Do you need a printer or only a screen?
- How large a data bank will be created and who will use it?
- How often will the machine be used?
- Are tape cassettes, floppy disks, or hard disks needed?
- What type of backup system will you get? (A copy of your work is needed for insurance.)
- Do you want to dial-in to a network? If so, what kind of host computers are in the network?
- Do you have samples of the kind of work that you would like to do on the microcomputer? If not, make up some examples and use them in testing the systems in your search.

2. Find the best software first:

- Look in magazines, books; talk to sales representatives.
- Compare your needs and those systems created by 3-5 major suppliers.
- Talk to users; borrow manuals to study.
- look at flexibility, data security, ease of operation and cost.
- Arrange WORKING demos; try your test examples.
- Narrow your focus to one or two software packages.
- Are they able to perform multiple functions for you?.

3. Match the software to the best hardware:

- Compare overall design, cost, maintenance and size.
- Consider the location: lighting, access/ security, connection to the network.
- Write down your comparisons and then decide.
- Find the best supplier.
- Follow up with questions about regular maintenance, upgrading software and/or hardware.

(Material for this article has been adapted from the University of Guelph newsletter NEWS FROM ICS, November/December 1982, Vol. 4, No. 11.)

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TEN COMMANDMENTS FOR MICROCOMPUTER USERS

The popularity of microcomputers have placed computing power in the hands of hundreds of thousands of non-computer professionals. In many cases, these "non-computer" people do not have access to professional advice in developing systems or when problems occur. The following ten Rules or Commandments were developed to improve the use of personal computers by non-computer professionals.

RULE 1. DO NOT DIVIDE BY ZERO

This is self-explanatory to any student of mathematics. However, in most cases, the computer does not have a representation of infinity and does not know what to do when this situation occurs. Hence, when a division is to be performed and there is a probability of the divisor to be zero, you should first check for the divisor being equal to zero and decide on some course of action should the comparison be true.

RULE 2. SEPARATE DATA FROM LOGIC

Data is anything in a model (forecast, budget, calculation, analysis) that can change from one situation to the next.

Logic is the set of instructions telling the computer what to do with the data or how to manipulate the data.

Generally, the logic of a model does not change from one situation to the next but the data does change. Hence, it is easier to change the data if the two components were separate.

RULE 3. KEEP BACKUP COPIES OF IMPORTANT FILES

This is a safeguard against disaster. Murphy's Law has a tendency of coming true at the worst possible time.

RULE 4. DO NOT BACKUP A FILE ON TOP OF YOUR MOST RECENT COPY OF THE FILE.

This seems self-evident. When you save a file, you should save it with a different name from the original so that the original file is not corrupted if any disaster occurs while the updated file is being copied from the computer memory to disk or tape.

RULE 5. PRINT ONLY WHEN NECESSARY

In most cases, the printer for a personal computer is a mechanical device. The less you use it, the less the chance of it breaking down.

RULE 6. PLAN WHAT YOUR FINAL RESULTS SHOULD LOOK LIKE BEFORE TOUCHING THE COMPUTER.

This is easy to say but hard to follow. The eagerness of getting on with the job of inputting to the computer can result in a longer time spent in getting something to work. Time spent in planning can save a lot of time in frustration later.

To make a comparison, you would not build a house by rushing out with a hammer and nailing

lumber together without an architect's plan. Similarly, you should not start programming without defining how the output should look like and what the specific sequence of steps should be.

RULE 7. DIFFERENTIATE BETWEEN VARIABLES AND VALUES

People who have not been exposed to data processing often have difficulty in distinguishing between a variable and the value of that variable.

RULE 8. USE THE COMPUTER TO HELP IN FILING PAPERS

The computer can perform filing and retrieval of documents so much faster than humans. Hence, if you have the capability, why not use it?

RULE 9. READ THE MANUALS

This is self-evident. Eventhough, it is the duller part of using a computer, it may be the most useful thing to do when you run into problems.

RULE 10. KEEP A COOL HEAD

When things go wrong and nothing seems to work the way you thought it would, don't panic and press all sorts of buttons. Try to think of the steps that brought you into the situation and think about what the computer would be doing under your directions. Read the manual.

(This article was adapted from "Ten Commandments Revisited", INFOAGE, November 1982.)

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CMS SPOOL FILES

Spooled CMS files will be automatically deleted after seven (7) days if they are of PUNCH type and three (3) days if they are of CONSOLE type. Please try to minimize the spooling of files to other IDs as this consumes disk space that other IDs may require.

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DUTY ANALYST'S CORNER

The following little-known facts about VS FORTRAN under CMS may be useful:

1. To write on disk where the record length exceeds 80 bytes, you must use RECFM V in the FILEDEF e.g. for unit 9, and a record length of 132, the following seems to work

```
FILEDEF 9 DISK name type mode (RECFM V LRECL
136 BLKSIZE 140
```

FORTRAN ignores the LRECL field unless RECFM is V. In addition, note that the block size (BLKSIZE) should be 4 bytes greater than the record length (LRECL).

2. To write on a printer (virtual or real), it must be unit 6. Otherwise carriage control is lost.

3. When doing a compile and execute in an EXEC, the compiler apparently clears all FILEDEF's. Place your FILEDEF's after the FORTVS and before the START.

The CMS RETRIEVE Command

Here is another suggestion to people using the CMS system. Those CMS users who sometimes make typing errors may find the RETRIEVE command useful.

Add CP SET PF12 RETRIEVE to your PROFILE EXEC, then type PROFILE, and you will find that keyboard entries (commands, data or whatever you typed) will re-appear on the screen when you press PF12.

Hit ENTER to re-submit that entry to the system, or make corrections and then hit ENTER. Or press PF12 again and again to go back to previous entries. (This is very similar to the ? subcommand in XEDIT). This gives you another chance to correct the spelling without repeating the whole line, or to repeat the same or similar commands with minimum effort. When you hit ENTER, what you see is what gets sent.

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CMS VERSION OF NEWSLETTER

If you have a CMS ID, you can access a copy of the Newsletter through one of the terminals. This file will be updated with each issue of the Newsletter.

The procedure is as follows:

- 1) Logon to CMS
- 2) Type 'NEWS' and the current version will be displayed at your terminal through XEDIT.
- 3) Use the standard XEDIT commands to scroll through the Newsletter.
- 4) Type 'QUIT' when you have finished viewing the Newsletter.

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NEWSLETTER SUBSCRIPTIONS

CHECK the subscription change wanted:

- ADD MY NAME TO YOUR MAILING LIST
- CHANGE MY NAME/DEPARTMENT
(Please attach current address label)
- DELETE MY NAME

NAME/TITLE _____
last first

DEPARTMENT/ADDRESS _____

RETURN TO: Editor
Computer Resources Department
BCIT
3700 Willingdon Avenue
Burnaby, B.C. CANADA V5G 3H2

121865

3300
SERIALS
LIBRARY 01