

ADELAIDE MICRO USER News

The Adelaide Micro User Group Inc. was formed in 1979 as a forum for owners of Tandy computers to exchange information in a spirit of self-help.

Special interest sections form from time to time as members feel a need for them. Currently there are such groups for Tandy Models 1,3,4, and IBM-PC

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For particular information, please contact any committee member, who will direct you to someone whose interest is in that specific area.

NEWS SPOT

LAST MEETING: December

Chairman Erik welcomed the gathering. It was a computer games night and included one using an Artificial Intelligence program demonstrated by Rex Wagner.

With a flourish, Rex produced a cooking pot, two mince pies, an "old fashioned XT and a 1950s technology set of scales" and a "victim". With his usual good humour, Algi Grigonis had agreed to be the victim. The XT loaded with the AI program was set whirring and came up with questions requiring input.

'Height of victim' set off a search for a box so Rex could reach to Algi's head. Then the measuring tape was too short so a further approximation had to be made. Next, age, weight and colour of hair. The aim was to guess the victim's weight less the intelligence. About this time I thought I could smell a rat. The scratching of biro's on paper could be heard as the eager gathering prepared to pit their wits against the XT. The carefully considered answers were put in the pot. With awe, Rex reverently keyed-in the victim's vital statistics but the monitor responded with rude

remarks. He was very restrained however and did not take it out on the XT.

The answer came up as a negative value. What to do? In a flash, without missing a beat but with just a faint flush of face, Rex announced in a confident voice that the closest answer would win. Meantime David Shelly had arrived at his answer of zero. So David being closest to a negative value carried off the mince pies.

It seems there could be two 'morals' here. Firstly, when considering a problem use some lateral thinking as a background task. Secondly, when you undertake a computer demonstration have a cooking pot and a couple of mince pies on hand.

Many thanks to Rex for his entertaining presentation and to the others who brought and demonstrated their computers and games.

NEXT MEETING - February

Hard-disks - Bob Mills, Peter Lynn, Rex Wagner

MARCH

Fax - Brian Wormald

FEBRUARY 1992

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Next newsletter deadline is Sunday 16th February

Next general meeting is Thursday 6th February, 7-30
at the Combined Car Clubrooms, Clark Avenue, Glandore
The major topic will be hard disk maintenance

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APRIL

Compression and archiving - Jack Birks Mod.IV, Bob Mills PC.

MAY

What we do with our computers - Rex Wagner

JULY

Annual General Meeting

PROGRAM DISK SALES

Tandy Public Domain - Jack Birks

There is one new disk of games for the Model I or III and one new disk for Model IV. The Model IV disk has some archived packages. Also available are one disk of CO-CO programs and one disk of CP/M programs.

Disks are priced at \$3 each.

Jack has a catalogue of the programs in the public domain library.

PC Shareware - John Hall. [See following article for more detail on a new trial venture for PC Shareware.]

Custom-ordered downloads from Tan80 BBS - Max Morris

BLANK DISK SALES

Blank disks are sold by John Fielke after the main meeting. We now offer all types of commonly used blank disks. Defective disks will be replaced, and we ask that you do report problems with disks to John, as this will give us an idea of the quality. Our aim is to supply cheap disks, but we do require reasonable quality standards.

PRICES (per 10 disks):

5¼ DSDD (360K)	\$5.00
5¼ DSHD (1.2MB)	\$10.00
3½ DSDD (720K)	\$10.00
3½ DSHD (1.44MB)	\$20.00

TEA and COFFEE AT MEETINGS.

For some time there has been available tea and coffee from the kitchen. The first cup is 50c, with refills being free; it operates on the 'honour' system, as a convenience to members, not a profit-making venture. Disposable cups are provided; members are welcome to bring their own, which will probably be more pleasant to use.

TUTORIALS AT MEETINGS

Of course any member will welcome questions and discussions at any time. However, personally customised tutorials are regularly undertaken by Jack Birks for Models 1/3/4, and by Max Morris for beginning MSDOS users. Just see either at the back tables after the main part of the meeting. And the PC corner starts 20 minutes after the main part in the side room.

PERSONALISED CONSULTING SERVICE

Of course AMUG has always been an information forum, where members are encouraged to approach any with expertise in the particular field they need assistance. And this is still so we are pleased to see.

Recognising that it's an unrealistic task for the

'normal' person to keep up with the rapid changes of the technical marketplace, Erik Rasmussen (voice 326 2695, modem data 326 1132) and Peter Lynn (263 7800) have each strongly asked that members at least contact one of them before setting out on a buying spree. Peter or Erik will be happy to take into account the particular needs, and pass on their acquired wisdom slanted to individual requirements.

TRADING TABLE

Members are most welcome to bring anything they wish to sell to any meeting and set up on one of the back tables. There have been many highly rewarding (to both seller and buyer!) episodes. You can get advance publicity in this newsletter by a phone call to the Editor. A good way to recycle your redundant assets, to the benefit of fellow-members.

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PC SHAREWARE

[This venture is the result of several month's discussion at Committee Meetings. So it is an official AMUG trial.]

Shareware and public domain utilities and games for the PC are increasing in number every week on the Tan80 bulletin board, and one of the first things many BBS nuts do when they sign on is go to Tan80's area for new imports.

But you don't need a modem to plunder all those programs on Tan80. AMUG, with the generous aid of Tan80 sysop Erik Rasmussen, is making a selection of them available at club meetings.

The person to see at the meetings is John Hall, who will have the month's selection available in archived form on floppy disks.

John will make a new selection each month, replacing files that attract no attention with others that seem more useful and exciting. In that way, over the year, many hundreds of files will be available to club members for computer and office management, for communications, for programming, and most of all for sheer pleasure.

At the February meeting John will have 23 files covering a wide range of interests. Games take precedence, with 11 to choose from, and there also is a worldwide atlans program.

You can improve the quality of the output from your nine-pin printer with a utility designed to play with the data before it goes to the printer.

For bulletin board enthusiasts there is the Bluewave offline message reader, and for people who find the keyboard unfriendly there is a mouse driver.

John has a couple of good business applications in a powerful spreadsheet and a high-powered word processor, and to protect your computer he has included McAfee's important virus scanner.

For people who like to make themselves suffer, there are some good files on Assembly language.

The club fee for each disk of these files is \$5. Some disks will contain more than one program, but the larger programs will be spread over two or more disks. This is a much cheaper way to buy your programs than through some commercial outlets. The latest commercial price being quoted for just one shareware program is nearly \$20 per disk. Although you will have paid for the disk and program, under the shareware distribution concept it remains the responsibility of the buyer to pay the required registration fee to the program's author or agent if the program is found to be acceptable and is put to use. Registration usually entitles the buyer to information about updates and fixes and may also provide substantial discounts for updates as well as readily available advice on program operation. The registration can range from as little as \$10 up to about \$100 although usually it is around \$30 to \$60. Details are included on the disk containing the program.

Here is the list of programs John Hall will have at the February meeting. If you don't know John, ask any of the committee members. And if you don't know any of the committee members, look for the fellow with the Danish accent, walking stick, and wicked gleam in his bespectacled eye - that's chairman Erik Rasmussen and the sysop of Tan80.

#### GAMES

CAPITAL.ZIP - Two games from Wizard.  
 DARKAGES.ZIP - Graphics adventure game.  
 FORDSIM1.ZIP - Test drive Ford cars.  
 INSANITY.ZIP - Fast maze game.  
 ISLEWAR.ZIP - Island war game.  
 MAHJONG35.ZIP - Ancient Chinese Mahjongg game of skill and luck that is even more addictive than poker.  
 PTCOMB.COM - Pharaoh's tomb exploration and adventure.  
 QUEST.ZIP - Dungeons and dragons.  
 SOPWITH.ZIP - Fly and fight in the famous World War I aircraft.  
 ATCEGA.ZIP - Drive yourself nuts trying to be the Air Traffic Controller. Requires EGA.

#### UTILITIES

9T024.ZIP - Improve nine-pin printing quality.  
 BWAVE201.ZIP - Offline message reader.  
 SCANV84.ZIP - Virus scanner.  
 GMOUS906.ZIP - Mouse driver.

#### BUSINESS

ASEZ40P.LZH - As-Easy-As spreadsheet.  
 FUGUE.ZIP - Powerful, full featured Australian word processor.

#### GEOGRAPHY

ATLAS1.ZIP - Worldwide atlas program.

#### PROGRAMMING

Set of files for Assembler and Disassembler  
 A86V320A.LZH  
 A86V320B.LZH  
 A86V320C.LZH  
 D86V315A.LZH  
 D86V315B.LZH

## PC CORNER

by Peter Lyon

### DECEMBER minor.

There is no report of the December meeting as, at the last moment, I was unable to attend. The topic scheduled for the December meeting has been re-scheduled for the February meeting - see below.

### FUTURE TOPICS.

A look at DOS 5.0. This will be covered over the next few meetings, with other topics in between to give variety.

If there are any other topics that members want to talk about, feel free to ask - this is what the Minors are all about - members helping members.

### THIS MONTH'S MINOR TOPIC

Various MSDOS commands - so if you have any questions, please raise them at the next minor.

### STOP PRESS

As previous minors have tended to continue for approx. 1 hour or more by which time most of the members not involved with the minor have left, it has been suggested that the minor start 15-20 minutes after the end of the main topic. This would allow members to chat with other members and possibly do some "trading".

I am open to suggestions - we could even discuss them during the minor.

### FROM OUR CHAIRMAN ERIK

Hello fellow members of AMUG...

I hope you all had a well earned rest over the holidays and didn't over-indulge too much...I know it can be hard not to yield to temptation.

And now you are all fresh and rested and ready to tackle the new year with gusto, and really get involved in the various club activities??

Will be nice to read about how you enjoyed your computering over the holidays (if you could get near the keyboard, with the kids being home from school).

I am lucky enough to have both my children grown up and doing their own thing and only have my darling wife to fight with over who's turn it is to use the blessed machine !grrrr.. Well that problem will soon be solved; I am building up a machine for her use, so there!!

I spent countless hours at the keyboards here and enjoyed every minute of it. I am into playing music with my AT and also enjoy messing around with the multi-tasking on the BBS. It is fascinating to be able to do a lot of things on the

one machine at the same time. As I am typing this there are users on both lines doing their thing; we don't interfere at all with one another - just like having 3 machines in one.

It is good too to see the camaraderie that has built up over the years between members: I enjoy the inter-actions going on all the time. I get to chat to most of you at various times as a sysop, and the club activity on the BBS is going fine too. The committee has been using their own message area to sort out various committee things the easy way. Most of the committee is into communication: makes life a lot easier when you can reach nearly all the committee with one phone-call.

Well, enough 'rambling' from me...now I think it must be your turn to try that word-processor out and put something in the newsletter!!!

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ON THE BOARD from Erik Rasmussen, Sysop Tan80 Connection. Fido 3:680/822. Telephones (08) 326 1132 and (08) 326 4853 (Tan80 members only) 24 hrs a day. Covering v21 v22 v22bis v23 and v32

So much for the holiday break, which never seems to last long enough. Not that you could call it a holiday for me anyway: as I don't have to work (poor choice of phrase Erik? Surely you're not telling us you're idle? Ed.), each week is much like the preceding week.

Only when everyone else goes on holiday my work load grows as everyone is busy logging on to BBS to get a heap of exciting new software that crops up all the time: things like the new version of Aseasyas5 which is THE most used spread-sheet anywhere. And there seems to be a lot of new word-processors every month. The Shareware area is a real boon to us; the authors send their latest products direct so we are always up-to-date in that respect, with some really good stuff among it too. Although we only get a dump of files for that area about once a month it sure mounts up, averaging about 5 meg a month, which is about 40 or so programs of excellent quality (most of it).

The board is slowly being re-organised in respect to the file areas. I am in the middle of sorting the files into categories to make it easier to find anything for Dos5 for instance, or Networking, etc. So bear with me for another month or so as I have to do it slowly at one area per day to minimize the effect on the bbs - I have to go off-line to tamper with the filebase.

The usefulness of Bluewave (Offline Mail reader for PC compatibles) to the BBS and users alike is great. I have country members who have to ring STD to logon; they can now get all the mail they want and be off the line in 4-5 minutes, whereas before they could take an hour to just scan some of the echoes. Now they can have the lot to sit and read without having to increase the mortgage just to pay Telecom those exorbitant rates. [See elsewhere this issue for more about Bluewave. Ed.]

And a new feature has been added: members can file-request

through Bluewave. It is proving a real boon to some of the users who now logon and disappear into Bluewave, get their mail, upload replies, then grab a file or two, and exit the BBS straight from BW. So doing is freeing up a lot of time for other users. At the present ONLY two files at the time can be requested; this number-restriction will be under review later and may be increased.

Also a late addition to the collection: GeoWorks. At least a demo version for those who would like to see what it is all about - it is in fact a window like utility for XT's, and even AT's, which requires much less memory to run than does MS-Windows, and has a lot of good features built-in.

AMUG EDITOR'S ADDITION

Erik has neglected to mention the absolutely superb Opus User's Manual available on Tan80. I recommend it for ALL users to read, or at least scan. A short excerpt that I simply can't resist: and it's all just as good!

SPEEDY LOG-INS

Command stacking and key macros have been designed to accelerate your activities. And the stacking principle can be applied even to your login with one essential difference: commands given at login are introduced by "/" -- a delimiter.

Remember that you separate "move" and "execute" components by using spaces once you're in Opus. When you log in, you use "/" to separate your parameters.

Johnny B. Goode /pPassword /vA /hR
 Quick! What have we done? Right! Not only have we set the password, but we've also set video mode to ANSI and the help level to Regular. Here's a list of parameters you can define at login:

PARAMETER	TOKEN	VALUE
Password	/p	<string>
Video Mode	/v	A, O, or P
Help Level	/h	N, R, E, or H
Screen Length	/l	<number of lines>
Screen Width	/w	<number of columns>
Full scrn edit	/f	Y or N
HotKeys	/k	Y or N
TalkLink	/t	Y or N
Time prompt	/+	Y or N
More	/m	Y or N
IBM characters	/i	Y or N

MIS-USE OF BLUEWAVE? asks Rod Stevenson

The following series of (I hope) interesting points of view comes from the following piece I put on Erik's Tan80 BBS concerning my fate as a victim of Bluewave. I reprint my original message, followed by the replies I received; for which I thank all concerned. I stress that I'm not criticising Bluewave: I'm drawing attention to what I consider an unintentional and probably unrealised misuse of a very beneficial utility program.

For the February issue of our newsletter I intend writing a follow-up of Erik's brief review of Bluewave in the December issue. I will of course be writing as a private member of AMUG, expressing my own experiences as a victim of Bluewave, just as any other member has the privelege to write for our journal. Being Editor, I don't see myself as denied this same measure of equality.

And, of course, being a totally unbiased and unprejudiced Editor, I wish to advise known users and interesteds, in the hope of stimulating some replies in advance (if it's not a contradiction in terms to reply in advance?).

My particular comments will be along the lines that, as I see it from my own experience, Bluewave is mis-used to the extent that it impedes the flow of communication, slowing down what can be, and was pre-Bluewave, a very quick and lucid turn-around of messages. It transparently seems to aid the confusion of carrier with contents, messenger with message, and other such cliches.

It used to be my practice to access a BBS on a vaguely weekly basis, read any messages for me, and reply to them on the spot. The next time on, I would read the replies to those I'd left a week before, reply as necessary, leave new messages, and so on. But since Bluewave this no longer happens. It seems the addressees still access as often as they used to, but merely download the new messages, and upload their replies to those retrieved on their previous access; which means two accesses to put back their replies to the messages I'd left on one of mine. So the sense of continuity is lost: the reply I read is from before the last message I left. So I may become confused [!]

I don't criticise Bluewave, nor am I suggesting any more but that its users may like to become aware of the situation such use is engendering.

Two possible remedies suggest to me: access the BBS more often, preferably as soon as you've downloaded your messages and replied; use the Bluewave facility for quoting that message you are replying to at the time.

FROM MAX MORRIS

Rod is likely to get a number of articles on this subject judging by the discussions in Message Area 5 (Soap Box) of TAN80. That being the case he will probably only publish the best, so you may not read this. That reminds me of a message I left for Jack Birks. I asked him to let me know if he didn't get it. As I didn't tell Jack it was a joke, it worried him how he would know if he didn't get it!

Erik, who believes in high-tech, has bullied a number of us into trying out a new utility called Blue Wave. It is actually quite interesting, and worth discussing.

BW must be installed in its own directory with the sub-directories it sets up. When the board is logged onto, the option "Bluewave" is offered by the menu. The first time it is used the numbers of the desired message areas must be selected.

That means you can ignore messages in boring areas like "Amiga Sig", and "CPM", and only get messages from the more interesting areas. Once this is done BW reads the messages in the selected areas, checks which ones have not been read previously, and then archives them into a package which you have the option of downloading. Next time you log on messages are only taken from the areas that were listed the first time.

At this stage you can exit BW and nose around the Board as you always have, or log off. Using your copy of BW, unarchive the file which BW saved to your machine, and read the messages at leisure, reply, using the inbuilt editor, and save your replies. BW archives your replies into a file named TAN80BBS.NEW.

At the next log on replies can be uploaded, and all the answers will be put into the correct message areas. If you choose to, you can log on, download all unread messages from specified areas, upload previously written replies, then log off. It would take no more that five minutes. I am sure Erik would love this, but I find it a boring option.

I use BW as explained above, but I still like to look around the various areas and post short replies, and only use the full BW options to write longer and more considered replies.

Blue Wave is a very neat, easily used programme. It can make it very easy to make short visits to the Board when you haven't the time to read all the new messages. It has many features which I have not mentioned. You need a PC to use it, however. Hard luck owners of other machines.

There has been quite a discussion about the philosophy of using Blue Wave on the Board, which others will probably explain.

FROM MAX MORRIS, in a reply on Tan80

You have a point, Rod. I am hopelessly behind in replying. This will go on tomorrow if I can get on. I have had several tries over the last few days and couldn't get through, hence the backlog.

Also, I have had some trouble with BW sending messages that I sent earlier in the new file along with new messages. I like to keep them for a week or so and read them several times, but the program seems to pick up all messages in the directory not just the new ones I have just written. I have wasted a lot of time replying several times to a message because it went into the wrong file when I tried to save it for sending.

I may be doing something wrong, and it might not be the programs fault.

FROM REX WAGNER

The new Bluewave offline message system on Tan80 bulletin board gives new freedom to board users. They can drag messages off the board as quickly as their modems can

operate and dump replies back onto the board all with the press of a few buttons. And a bonus - available with the sysop's permission - is the file request feature, which permits the user to ask for a particular file before signing on to the board and then to get the file as part of the routine, automated message download.

All this means time saving on the board, which from the user's point of view means more time available on the board for such things as chat and search. And for the STD phone user it also means hard cash saved in phone costs.

Bluewave is a door to Tan80 bulletin board which lets users tag message areas for automated download of any messages not yet read.

After the download, you go offline, then use the Bluewave offline reader to open your message packet - saved in archived form to conserve space on your disk - and read and reply to the messages just as if you were still on the board, only much faster because the messages are stored in RAM and do not have to come down the line from the host.

The replies, which Bluewave automatically compresses, are dumped back on to Tan80 and are automatically distributed to their correct areas. If you send the same message more than once, Bluewave politely tells you of the duplication and sends the offending file into oblivion at the BBS end.

And as if that were not good enough, Bluewave is the basis of a new art form - the creative sting in the tail.

The Bluewave offline reader permits the user to insert a mini-message at the end of any message, and Bluewave users have come up with some pungent little aphorisms to give punch to their thoughts. Admittedly, cute taglines can be overdone and become offensive, tedious and just plain boring. But, when used with discretion, the clever tagline can be a strong communication feature. The Bluewave taglines can be applied automatically or chosen selectively from a special file or can be entered manually. Of course, you can ignore the tagline option.

These are some of the better taglines doing the rounds:
 TV is chewing gum for the eyes.
 No real problem has a solution.
 Biochemists wear designer genes.
 What you don't know can hurt you...only you won't know it.
 Does the Little Mermaid wear algebra?
 It's the dead wood that holds up the tree.
 A million lemmings can't be wrong.
 My reality check just bounced.
 Reality.sys corrupted. Reboot universe? <Y/N>
 Missepelled? Impossible - my modem is error correcting!
 Stealth means never having to say you're sorry.
 Safe sex means never having to say, "You've got WHAT?!"
 !@\$\$!@\$\$%\$DGFON - Get the cat off the keyboard!
 Jesus saves ... he fakes to Moses - he SCORES!

FROM REX WAGNER, in a reply on Tan80

Hiya, slowcoach. Even if you accessed the BBS daily you'd

find my replies right there waiting for you from the previous day. Got the whole system set up so that I download quickly, go offline, read, reply, and upload replies immediately. You can't blame Blue Wave for slovenly habits. A tardy person will be tardy with or without the Wave, but, as others use the Wave more efficiently, the mentally cluttered operators will appear to be even more like slugs.

In my limited time I can download more and get in get in more replies on more bulletin boards by using the offline reader, which is far, far quicker than reading online because it instantaneously skips to whole messages rather than scrolling through all the commands. The only other thing I do besides Blue Waving when I'm online is to do a quick scan for new files - anything new since I was last on. So I suggest you got it all wrong about Blue Wave.

Ride the Wave rather than wallowing in it.

Messages needn't be consecutive just as programs need not be consecutive in their listing. Think of the skipping around as a series Basic GOSUB lines. You do have to keep your wits about you as you sift the various echoes. In the Telix international conference recently a person from Canada got replies from his home area, the neighboring USA, Australia, and even from Holland - all in good English. But it took a little time for some of the echoes to respond, and the replies certainly were not sequential. So what? The communicative link and its concomitant good will were more important than the necessity to have someone sort the messages into choronological niceties.

However, your suggestion that messages be quoted within messages to aid continuity was germaine, and lack of such a courtesy in the big international echoes certainly would reduce their interest and effectiveness.

Hey, Rod, why haven't you responded yet to my messages? They've been waiting for you for about 18 hours and you have done nothing. Has the Blue Wave got your tongue? Come on, lad; a quick turnaround is what we want. :-)

FROM RON DUTTON, in a reply on Tan80

I use Bluewave as it a cheap way of getting the messages, and I can read them at my leisure. I admit it can be a bit confusing but I am interested in hardcopy. One way is to download one day, read and answer, upload them and download the next day. On STD it's a bit expensive to be on too much.

FROM ERIK RASMUSSEN

A lot of discussion re the pros or cons of the value and usage of the Bluewave Offline Mailreader has passed back and forth on the BBS between users and non users of this very versatile utility. Now I will try to give my view, as a sysop, on the subject.

Firstly, the arrival of Bluewave on the BBS has been a roaring success!! Never has so much mail been read so many users, and that's something to gladden the heart of even the

most jaded sysop. The country members in particular seem to benefit well from Bluewave: they are logging on via STD so have to watch the time, or face a huge bill from Telecom.

With Bluewave it is no hassle to log on and grab any mail one wants from any of the local areas or echoes. It only takes the system a short moment to grab all the messages and bundle them up ready for transmission, then send them to the user. Who can then sit and read all the mail at leisure and reply, or even enter new messages, then toss them up next time they log on for a mail run.

And now a new feature has been invoked in Bluewave: members of Tan80 can file-request too (tho only 2 files at the time). This means if you are really in a hurry, you get Bluewave to order the files for you and send them to you in a mail run. Of course you need the master list from the BBS so you know what filenames are available; you can even order the masterlist with Bluewave.

So from a sysops point of view Bluewave gets the thumbs up!! It makes it easier for the users to get to read all the mail; it saves them time on the line too, thus actually saving them money. It saves the BBS time too, so more users can get on with only two lines connected.

Of course I can see Rod's dilemma. He can't use the 'Wave in his Model 4 and so is really handicapped against the other users with whom he is carrying out a rather heated debate at times. Rod has to do his messaging "live" and the others can sit at their leisure and put some really diabolic replies up for Rod's perusal. ;-)

Well Rod, you asked for it and you got it!

~~~~~

## VIDEO STANDARDS

by Peter Lynn

This is a brief journey through the evolution of the various video standards as applied to computers - it is not a strict chronological discussion.

Early computers targeted towards the home computing market (such as the Tandy TRS80 model 1) were designed with the video output identical (or nearly) to that used in a TV set. This allowed a conventional TV set to be used as a monitor and hence reduce the cost of the computer.

In a TV set the light spot scans left to right and at the same time scans top to bottom. The total number of horizontal lines for one complete scan from top to bottom is 625 - the number of visible horizontal lines is less than this number because some lines are used to move the spot from the bottom right corner to the top left corner. The horizontal scan frequency is 15,625 Hz and the vertical frequency is 50Hz. If we divide 15,625 by 50 the result is 312.5 which is exactly one half of the number of lines in one vertical scan. To get the total number of lines there must be 2 scans - note that we actually have 312.5 lines ie a half a line.

Lets assume that the scan starts at the top left corner,

then the scan must finish in the bottom middle of the screen. The number of lines required to retrace to the start is constant, then upon retrace the spot will start from the top middle and the scan will finish at the bottom right. Remember that as the spot moves in the horizontal direction it is also moving in a vertical direction - thus if the spot started at the top left corner, by the time it has reached the middle of its first scan line it has moved down a small distance ie the scan lines are not horizontal. Hence if the spot commences from the top middle it will be slightly above the previous line and succeeding lines will be between the previous scan lines - this is called interlaced scanning.

To build up a complete picture, two scans are required giving a picture rate of 25 Hz using two scans at 50Hz. If the picture was scanned at a 25Hz rate without interlace, then the flicker would be too severe for normal use.

To synchronise the position of the spot on the screen with that at the transmitter, signals are required. These can be separate leads - thus a total of 4 leads are required (video = 1, earth = 1, horizontal = 1, vertical = 1) or they can be combined electronically requiring only 2 leads - this is called COMPOSITE VIDEO. A further complication arises when colour information is added to a TV signal but this is outside the current discussion.

When the IBM Personal Computer was introduced, the initial screen format was mainly text based. An improvement was the release of the CGA (Colour Graphics Adapter) card which had connectors on the rear panel for composite video and another format called RGB. RGB is shorthand for Red, Green and Blue - any colour can be represented by a combination of red, green and blue (primary colours). The actual RGB connector signals were Red, Green, Blue, Vertical sync. and Horizontal sync. The RGB signals replace the video signal. Note - monochrome displays require video, horizontal and vertical sync and a new signal called INTENSITY to control highlighting.

The CGA display in text mode is 80 characters per line and 25 lines per screen (the character cell is 8 x 8) while graphics mode is 640 cells x 200 cells 2 colours or 320 x 200 and 4 colours (in 320 x 200 text mode the number of characters/line is 40). The horizontal scan rate is 15,600 Hz and 60 Hz which is very close to the standard TV rates - this allows a standard TV set to be used as a monitor (monochrome) using the composite output.

CGA cards produce low resolution displays and so a new format was introduced - EGA (Enhanced Graphics Adapter).

EGA still has the basic text mode of 80 character lines by 25 lines per screen but each character cell was improved to 8 x 14. In graphics mode the resolution increases to 640 x 350. In both text and graphics modes the number of colours is 16 out of a total of 64. The horizontal frequency is 21.85KHz and the vertical frequency is 60Hz. EGA improved the resolution of displays but the quest was for better and better resolutions so the next step was to VGA (Video Graphics Array).



VGA supports the previous text format but the graphics resolution has increased to 640 x 480 with 16 colours out of 256,000. The VGA can also operate in 640 x 400 and 640 x 480 modes with 256 colours out of a palette of 256,000 colours. The text character cell is 9 x 16 in text mode. The scanning frequencies are 31.5KHz and 60 Hz. A complication arises with EGA and better - the number of different operating modes (such as 132 characters/line and 44 lines of text) increases markedly and I have only described one mode briefly.

VGA has been improved and in doing so different manufacturers have used different terminology to describe their enhanced features. - enhanced and extended VGA.

In Enhanced VGA mode the graphics resolution is 800 x 600 with 16 out of 256,000 colours. The scanning frequencies are 35.5KHz and 56 Hz.

In Extended VGA mode the scan can be either interlaced or non-interlaced. The graphics resolution is 1024 x 768 with 16 out of 256,000 colours. The text mode supports 128 x 48 format. The scanning frequencies for interlaced mode are 35.5KHz and 43.5 Hz while for non-interlaced mode they are 48.5KHz and 60Hz.

As the resolution increases so does the amount of information needed to display a picture. At 1024 x 768 resolution, the display adapter must track more than 2.5 times as much information as in 640 x 480 resolution. This means that more processing work has to be done by the main processor which slows down the software. There is a trend with high performance display adapters to use a video co-processor on the adapter to do the video updating leaving the main processor to do the number crunching. These boards are expensive but are really required in CAD and other graphics applications.

In parallel with the improvement in resolutions there had to be an improvement in video monitors so that the higher resolutions can be displayed. Initially each step in resolution required the purchase of a new monitor - the old monitor was designed to work at only a particular scan rate. NEC in Japan was one of the first to introduce a monitor that could support a wide range of scan frequencies and named their monitors MULTISYNC. This name has become generic in that any multi-frequency monitor is called multisync. As new monitors have been introduced they have had features such as auto-sizing where the vertical size is adjusted automatically when switching from one mode to another (without auto-sizing the height has to be adjusted manually - very infuriating) and allowing the height, horizontal and vertical positions to be stored for each mode and be recalled when changing modes.

As the resolution was improved the spot size had to reduce so currently the spot size is around 0.28mm.

In the above descriptions I have generalised in places to reduce the amount of technical information. As can be seen it is a very complicated subject being complicated even more by the different meanings applied to the same terms by

different manufacturers.

In conclusion there are a lot of factors to take into account when selecting a video standard and monitor and each person will place emphasis on different features.

## SHOW YOUR EMOTIONS

urges Rex Wagner

Computer screens convey logical messages readily but cannot easily cope with the subtleties of such illogical things as emotion, particularly humor, in a concise form.

But telecomputing buffs are developing a new language to avoid the problem - the emoticon. John Dvorak succinctly defines the emoticon as: "A figure created with the symbols on the keyboard. Read with the head tilted to the left. Used to convey the spirit in which a line of text is typed."

For example, instead of sending the message <grin> you may use the emoticon for a grin, which is :-)

Turn your head 90 degrees to the left to see the two eyes, nose, and upturned mouth.

There are many regional variants on emoticons. Erik Rasmussen uses one to convey his Viking ancestry with the symbol }-) to represent the horned helmet of his ancestors.

Here are some of the common emoticons circling the telecomputing world today.

|        |                                        |
|--------|----------------------------------------|
| :-)    | Humor                                  |
| :-<    | For those with hairy lips              |
| ;-)    | Wink                                   |
| :-r    | Sticking tongue out                    |
| :-T    | Keeping a straight face (tight lipped) |
| :-,    | Smirk                                  |
| :-#    | Censored                               |
| :-x    | Kiss                                   |
| :-O    | Shouting                               |
| :-O    | Shouting even louder                   |
| :-(    | Unhappy                                |
| :-C    | Really unhappy                         |
| :-!    | Disgusted                              |
| :-?    | Licking your lips                      |
| O:-)   | The Saint (I feel good today)          |
| @=     | Nuclear warning                        |
| —(     | Late-night messages                    |
| B-)    | Batman                                 |
| 8-)    | Wearing spectacles                     |
| (-_-)  | Secret smile (right side up)           |
| (:~... | Heart breaking message                 |

## GO FAST AND TAKE THE RISK!

from Kevin Parker

"ITS NOT IMPORTANT HOW YOU PLAY THE GAME; WHAT MATTERS IS HOW YOU DESIGN THE PLAYING FIELD."

In recent months there have been many changes at my place of work. After a number of problems we are seeing the



introduction of new technology at an alarming pace. One after the other, Local Government applications are being installed on the Council's new Prime EXL and we are well and truly into the testing process. Between writing this article and fixing it up after Rod couldn't read it despite telling him the format (see November Newsletter) and finding a glitch in the original file (just thought I'd save Rod the embarrassment), the Council has introduced a new network server to replace the aging 3Com system. The new network server comprises a 486 with 3 x 100megabyte drives running under Novell Netware and you haven't seen speed in a network until you've seen this machine perform. Read/writes from the server appear faster than reading off my local drive; and Novell guarantee consistent speed irrespective of the number of users. But it is not just us that is effected. The Council Libraries have had an injection of new technology as well. As the EDP guys say 'PEGASUS is flying'. Pegasus is a reference to the software package being used on the Council's recently acquired RISC 6000 (RISC pronounced 'risk') and this has provided the catalyst for this particular article.

The term RISC 6000 sounds pretty catchy and it most certainly caught my attention, so much so that I wondered what a RISC 6000 was, well not so much what a 6000 was but rather what is a RISC. RISC is an acronym for Reduced Instruction Set Computer. Even more mystery now. Why would an organisation 'hell bent' on a major injection of technology buy a REDUCED INSTRUCTION SET Computer? My immediate reaction was that its very name denotes some sacrifice in performance or something. Not so! In fact its quite the opposite.

RISC technology was first developed about 1970 and the motivation behind it was that age old driving force in computers, SPEED. Many of us may have heard the term Transputer; well it was the Inmos Transputer that heralded the arrival of RISC technology.

Microprocessor technology began with the CISC or the Complex Instruction Set Computer. These ranged from the well known 8080 to the 16 bit 68000 and the ever faithful 8086; it even includes the 32 bit 80386 and the 68020. The complexity of the CISC chip is in fact its downfall when compared to RISC technology. Basically speaking each instruction contained in the chip would trigger a small program in ROM within the microprocessor itself. The driving force behind this logic was a simpler architecture for chip designers. It all sounds rather confusing doesn't it; complex instructions give rise to simpler design. The sacrifice for simple design was SPEED. On receiving an instruction, it would have to be looked up and then the 'microcode' sequence executed. In an 8086 a 16 bit integer multiplication would take between 118 and 133 clock cycles. Loading a register could take 20 clock cycles. There was some advantages with long execution times because of the limitations of earlier computer memory. The early 386's wallowed in 'wait states' because processing times exceeded memory access performance.

The next development step towards improved performance was 'pipelining'. Older CPU's processed data in sequence i.e. the read data, decode it and then execute it. It could

involve reading data from memory, working on it and then writing it back. So with all the clock cycles involved and processor performance exceeding memory access performance things could get pretty slow. Other sections of the computer might perform operations like the ALU while the processor lies idle. Pipelining utilises sections of the processor in parallel. The address of the next instruction is placed on the address bus prior to the completion of the current cycle. For example an instruction can be read while the processor is decoding it while the ALU is processing the result from the previous instruction.

This led to a further development, Cache Memory. Some way was needed to feed the "voracious appetite" of the pipeline so the cache memory was borrowed from main-frame technology. Until recently cache memory was a bit of mystery to me until I actually set one up in expanded memory on a PC. Because the expanded memory was not used for anything else I could configure a maximum sized cache and don't you notice the improvement in performance. But back to the subject; cache is a portion of extremely fast RAM which can keep up with the demands of the processor and in theory (at the onset of the technology) reduce or eliminate wait states. In more simple terms a cache is a form of a buffer sitting between RAM and the processor. When data is first read it is also written into the cache. If it is written back then the processor only has the overhead of writing it to the cache. After that cache control logic does a "write through" to the slower main memory allowing the processor to get on with processing the next instruction. If the data is required again, its sitting there waiting in cache for high speed access with no access to main memory required. Some early difficulties were reported in large databases where extremely large caches were used. If data was written to the cache waiting for a write to disk and at that very instant there was a power failure or surge of some type then data could be at risk.

To make it even more wonderful the cache control causes a short history of the information to be written to cache as well. This might include its location in main memory, how long ago it was used and the nature of its contents. Making these entries enables the data in cache to be searched simultaneously rather than sequentially thus further improving performance. Such caches are referred to as "associative cache" and tend to be expensive. When data is requested from memory which is not in cache such systems use a "least recently used" algorithm to find space for it i.e. the entry which was used the longest ago is discarded on the premise that it is unlikely it is going to be used at all.

A cheaper but less sophisticated system uses "direct mapped" cache where blocks of memory are simply mapped to the cache.

The most notable developers of RISC technology were University groups at Berkeley and Harvard. Their basic objective was to improve system performance by increasing the "throughput of data".

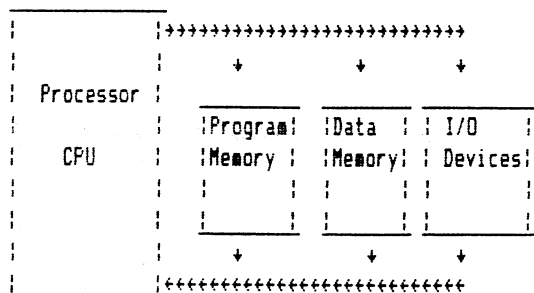
In order to do this some major factors were identified. Such systems should have reduced instruction sets (hence was born

the generic name). Examination of CISC designs showed that most processors spent most of their time only executing a small subset of the instructions contained in a CISC processor. Processing an instruction in a single clock cycle was now a realistic dream but would require a 32 bit word to be available to the CPU every 40 nanoseconds. (Realistically allowing for address delays and data set up time, speeds approaching 21 nanoseconds would actually be required to achieve the 40 nanosecond speed but even this objective could not take into account ANY delay in an address or data interface buffer)

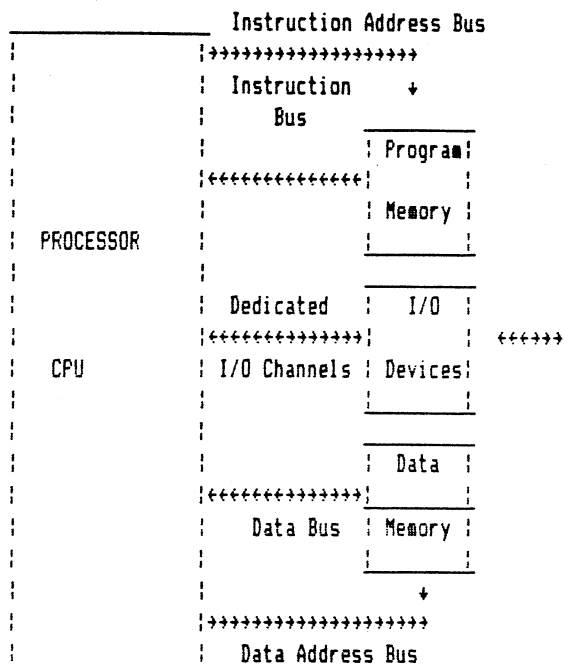
The silicon area freed up by removing instructions could now be devoted to other tasks such as holding data registers. Some earlier RISC chips could be made with up to 4k of fast RAM in the chip itself thus reducing the need to access external memory (thus eliminating performance reducing memory interfaces). Alternatively the space freed up could be utilised for fast IO channels (also eliminating performance reducing interfaces). However, the power of RISC lay not just in the hardware. (The speed and type of memory in a computer no longer plays a big role in determining the system's performance. The configuration of its memory interface has now become a major factor.)

It was now possible to further exploit pipelining. Effects were quite astounding. Instructions could be executed in different orders, amongst other things. As simple as I can explain it, a jump could be read before it was executed. However, benefits could only be gained by the development of "optimising compilers" i.e. compilers that optimised the code much more efficiently than humans could. Ideally software had to be matched to the processor at which it was directed.

The other significant feature of RISC technology is internal design and the way in which it interfaces with memory. CISC technology tended to follow this model.



This model indicates that along a single data bus must travel both instructions and data, in both directions. No matter how efficient the processor it can only do one thing at a time. In their earlier research the Harvard engineers developed "Harvard architecture" using multiple buses. The processor is fed with a stream of instructions along a dedicated Code Bus, while data is read and written along a separate Data Bus (as detailed in the diagram below). The next instruction can be read from the Code Bus at the same time as data is being written out along the Data Bus thus leading to improved performance.



Internally the architecture is extended to provide more than one data path between registers. Such things as moving two data registers along parallel paths can be achieved to feed the ALU, with the arithmetic result being moved along a third path. There is a sacrifice in that more silicon area is required than conventional CISC technology, however, this is offset by improved performance.

Until CMOS design pushed speeds past 20MHZ effective RISC systems could not be effectively built. Even with using cache there was a heavy demand for fast RAM. Until RAM capacities approached 1M with chip speeds of 80 to 120 nanoseconds RISC technology was at a disadvantage to its 'less powerful but more memory efficient' CISC counterpart. Now more modern technology is bringing RISC into true state of the art status. RISC machines can now be built to rival the performance of Cray supercomputers.

However, don't worry, your CISC is not obsolete overnight. While design is now simpler for RISC machines, there is still a big market place for CISC. RISC machines will tend, in the short term, to take their place in artificial intelligence, high power graphics, factory and plant control (particularly chemical and nuclear applications) and multi-tasking and multi-user systems.

I don't profess to be an expert of RISC technology. All I have done is tried to acquire a layman's understanding of it because the technology fascinates me. If any member has more or other knowledge on this subject, or would like to correct me, I am sure Rod will welcome your input into the Newsletter. [Certainly will: on this, as on any topic. Ed.]

INTERRUPTED MODEM

this author wishes to remain anonymous!

The high-kicking chorus line on Broadway has nothing on what went on in one of the AMUG member's homes recently when an eight-year-old ballerina got into the act.

As our long suffering club member approached the end of a very long file download from Tan80 bulletin board, strange characters appeared for an instant across his computer screen and then Telix interposed a message that the system had been disrupted.

In a mild rage, he rushed from the computer room into the kitchen, where the family's one and only phone line has its main handset, and there he found his young daughter sticking something to the phone handpiece. It was a note which read: "You touch this phone, you die."

A bit of explanation is needed here. The club member had asked his two daughters to devise a system which would ensure that the phone was not disturbed while Dad's modem was on line, and this little handwritten note was their solution.

Naturally he presumed that young daughter had lifted the handpiece while taping the note to the phone.

"No, it wasn't that," elder daughter volunteered gleefully - and perhaps somewhat maliciously. "She kicked it off!"

If we describe the kitchen setup, you'll see why he was struck with disbelief. The young daughter stands about 4 ft 3 in high. The phone is on the wall about 5 ft above ground level.

Last thing his wife heard from him as he went off in a sulk to try to download the file again was something about the high price of ballet lessons for athletic ankle-biters.

#### EDITOR'S COMMENT

For a price (suggested to be around \$80), Telecom will install a specially wired modem socket that will dis-connect all other phone sockets in the house when a modem is connected to it. Depending on the actual modem in use, the dis-connection will occur only if the modem is switched on, or all the time the modem is plugged into the socket.

In an earlier issue there was a reprint of an article from a US newsletter with details of a simple circuit to install inside a telephone socket to do the same thing when any phone was lifted. We don't know if any of our own members tested it; the only feedback we got was "it's illegal and won't work anyway".

Further advice is hereby solicited: it will appear next issue.

#### WILL I LOSE MY JOB WHEN THE COMPUTER ARRIVES?

By David House. Reprinted from NCTCUG (US) Newsletter and from The Prompt Newsletter RPCUG (US)  
AMUG input by Jack Birks

Not too many years ago, in the era of large computers, it was generally popular to assume that there was some sort of strict trade-off between jobs and computers. The big machines were to be paid for in the savings that would result from firing a portion of the staff.

The notion persists today. Of course, computers have assumed a more benign aspect since Charlie Chaplin was resurrected and the MASH folks came on board to show us how whimsical and friendly the warm little machines really are: nevertheless there are still those who fear for their jobs when computers are discussed.

In fact, what brought this to mind was the comment of a friend who has a new job in computer sales. She felt bad that, in selling her beloved Macintoshes to the art department at a large local company, she would be a part of a process which would cause some of the artists to lose their jobs.

But it's not true, you see. People are not fired because of computers. People are fired because of their own poor performance, or because of the company's poor performance, or for reasons that have to do with man's inhumanity to man, otherwise known as "office politics". Computers have little or nothing to do with any of the above.

But perhaps even more startling is the widely misunderstood fact that small computers rarely reduce the workload and given that dying companies rarely purchase computers, this is the underlying fact which causes the belief in Computers vs. Jobs to be a myth.

What? Computers do not reduce the workload? How can this be? Why else are they purchased and used? The poor productivity most often experienced when using computers has to do with three factors, in my view.

First there is often a poor fit between the work to be done and the tools provided. Tools such as graphics programs, for example, come with their own set of assumptions and limits, and these may or may not match up well with the dimensions and shape of the desired solutions. You may have a problem to solve which requires graphics to be produced, and you may have a program which produces graphics, but what good is it to have a computer-generated bar graph when what you really wanted was a picture of a bridge?

Beyond that, even if the tools are adequate and well fit in a general sense to the task at hand, they may not have gotten sufficient customization to bring them to the point where they are truly useable.

A classic example is the doctor who is looking for a computer to help manage his practice. The sales person sells him dBASE, which is probably adequate to meet what could only be termed a "suspected need" (as vague as it is). Without considerable, expensive, and often painful customization, however, dBASE will never help that doctor any more than a baby, with all of its limitless possibilities, would make a good receptionist.

The second reason that the computers will not increase productivity is that once they are installed, the amount of work needing to be done will increase. That is, once the turnaround time on jobs gets a bit better, more jobs will show up to be done. Murphy, Finagle, Heisenberg, and other

researchers in the field of Real Work understood this perfectly.

There isn't a company created under the blue sky that couldn't find more to do, whether or not it is worth doing, and computers are among the best machines ever created for doing more work.

Finally third, there is the "fiddle factor". That is, once upon a time it - whatever the work was - only had to be good enough for government work, since the effort involved in simply getting it done was so painful and monumental that substantial improvements were beyond reach. With a computer, some of the work becomes easy. In fact, it often becomes too easy (after one has gone through the painful and frustrating process of learning to use the machine).

You may know the 80/20 rule, which is the business equivalent of Einstein's Theory of Relativity. It has various incarnations, but in one it states that: 20% of your customers require 80% of your effort, and 80% of profits come from 20% of your customers. Of course, these are never the same 20% of your customers.

In this context, the 80/20 rule becomes the 98/2 rule, and it states that the final 2% of the changes you will make in any output from the computer will consume 98% of the time required to get that output.

Small changes in formatting, punctuation, and syntax, for example, will be repeatedly made, and "final copies" of the document repeatedly printed, when working with a word processing program. Output from a database, a CAD program, a spreadsheet, or from any other program largely directed at producing something on paper, the same principle will be seen to apply. That is, the "fiddle factor" will kick in, and computer users will show themselves to have been closet perfectionists all along.

In the end, therefore, the computers will not reduce the need for personnel in most situations. Given that one does not run afoul of office politics, or become the tragic victim of mistaken identity, and given that the company continues to do well, then there is no further reason that anyone would worry for their job. For why else would a good worker be fired?

The trade off is not between computers and jobs; it is between myths and realities.

**STOP MODEM MESS-UPS** by Betty Rutter (from Hayes Technical Support) Reprinted from NCTCUG (USA) 8-9/91 and from Orange Bytes Jan 91, orig. from New Jersey PCUG AMUG input by Jack Birks

You're sitting at home or in a hotel sending from your laptop to a computer back at the office. There's a beep on the line. You have another call coming in. The "beep" knocks your modem off the air. Your data call is destroyed.

#### SOLUTIONS:

The obvious one: Turn off call waiting, or use a line without call waiting. The less obvious one: Modify your modem. Here's how: In all Hayes and Hayes compatible modems, there is an S10 register. It tells the modem how long before it hangs up after losing the carrier. In Hayes modems, the S10 register is set for 1.4 seconds. The typical call waiting tone is 1.5 seconds. Solution: Increase the S10 register to six seconds (to be sure).

Use your communications software. Go into terminal mode, then type ATS10=60. You have to put this value in every time you power up, because the Hayes 1200 modem, and others, has volatile memory. But the Hayes 2400 and 9600 have non-volatile memory. They remember the six seconds after they've been switched off. The command to write this to memory is ATS10=60&W.

New Jersey Editor's note: Those who use Procomm and have volatile memory modems can add the command S10=60 to the init string.

AMUG Editor's note: Erik suggests register S9 is paired with S10, and therefore should also be altered. It is further suggested that the call-waiting facility can be turned off as part of the number sequence stored in your terminal program's dialling directory: the # and \* needed for the turn-off code can be typed in as # and \*.

#### SHOULD COMPUTERS BE LEGALIZED?

Reprinted from NCTCUG (USA) Newsletter June/July 1991.  
AMUG input by Jack Birks

The following message is reprinted as a public service from the Voice of FCUG, Fairfield County Computer Users Group Newsletter, September 1990.

Computer use is rampant. Efforts to control it are pointless because effective enforcement of anti-computer laws would overwhelm the criminal justice system.

What is the alternative? Proponents of legalized computer use, the powerful computer lobby, suggest that overall legalization of computers is the logical answer. But what then? If computers are legal, who would protect the public from shoddy chips and inferior programs. Legalizing computers would allow anyone to build a computer. And if anyone can build one, it follows that anyone would be allowed to use one.

The public has to act. It must ask itself, is a child capable of using a computer intelligently? Would you trust a computer to the kid next door? To your grocer? And would you feel safe knowing that your pharmacist or even your doctor is using one?

#### WARNING.

If you suspect your child is using computers and need help to know what to do about it, call your local Computer Hotline where trained social workers will help you ease the burden of knowing that your child is hooked.