Significant Bits

Brisbug

Magazine of the Brisbug PC User Group Inc

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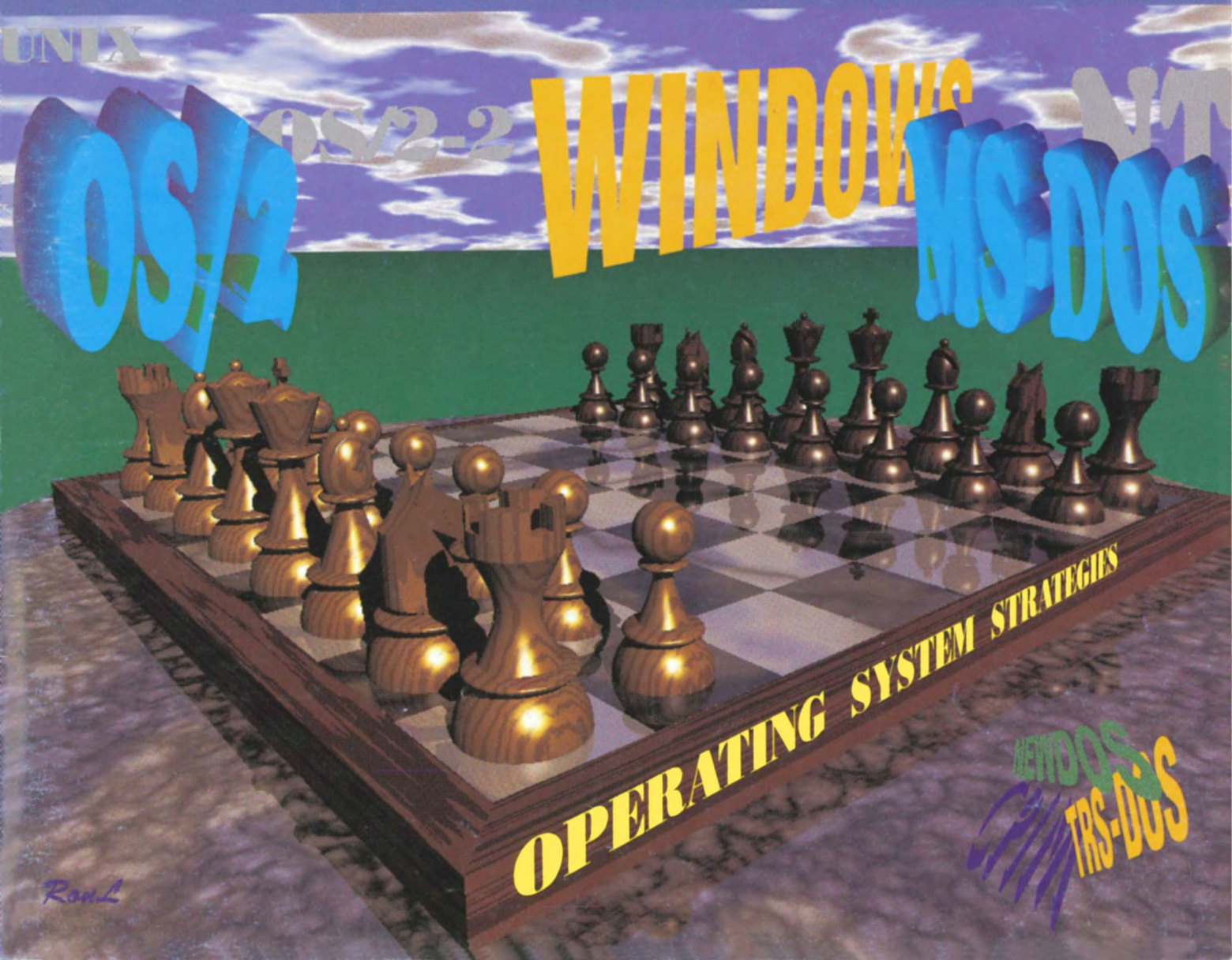
Volume 8 No 4
March 1993
PRICE $3.00

This Month

Sunday 21st March

Microsoft previews **MS-DOS 6**

Lunchtime Special **Checkit - LAN demonstration**



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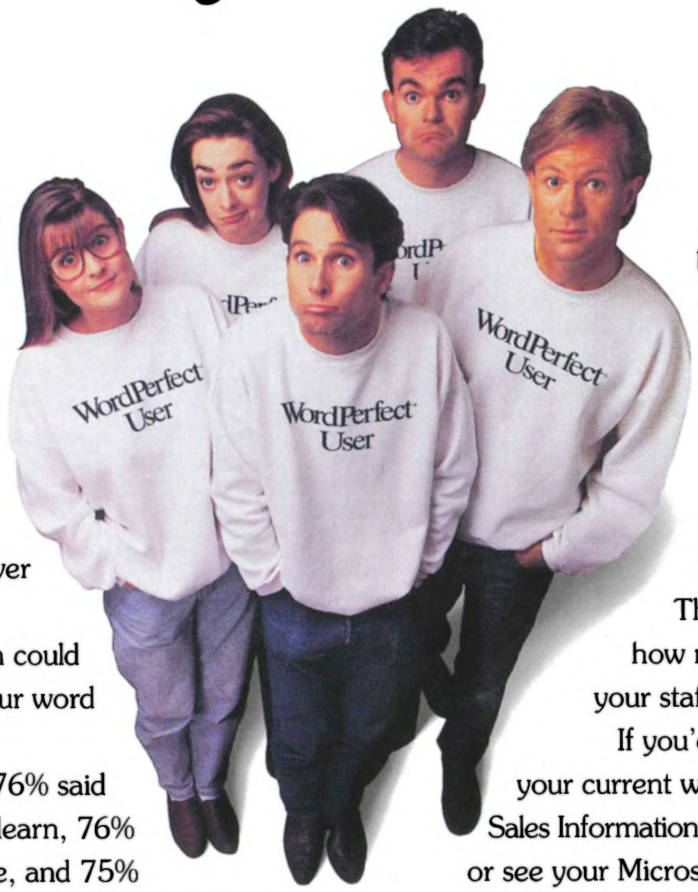

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Significant Bits March 1993 Volume 8 No. 4

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MARCH MEETING ACTIVITIES -- 10:00 am - 5:00 pm
Angus & Robertson Bookshop (Southport) all day
Classes -- 10:00 am - 12 noon SIGs 3:15 - 5:00 pm
New Members' Orientation Talk -- 12:15 pm Foyer Steps
Junior Club -- 12:00 - 3:00 pm
Software Shop -- 11:00 - 4:00 pm Room S1

Advertisers' Index

BRISBUG PC USER GROUP Inc.

The Brisbane group for users of PC-type computers
PO Box 985 Toowong, Qld 4066 Tel:274-4108

Committee 1993

President	Ron Lewis	273-8946
Vice President	Lloyd Smith	281-6503
Treasurer	Max Kunzelmann	201-6551
General Secretary	Chris Raisin	379-1415
Membership Sec.	Jan Ausburn	018 883 889
SIG Coordinator	Bernard Speight	349-6677
Education Coord	Ron Kelly	399-5406
Magazine Coord	FN (Chip) Karmatz	847-2244
Development Co-ord	Chris Ossowski	274-4144

Bulletin Board Service

Chair/Sysop: Paul Marwick. Assistant: Graeme Darroch
BBS phones: (07)871-0304, 871-0298, 870-2972

Software Library & Shop

Post Prepaid requests to:
Brisbug Software Library,
95 South Station Road,
Booval 4304
or phone: (07)281-6503 MON-FRI
9am to 1 and 2 to 4pm ONLY!!

Significant Bits Magazine

Chief Editor: F.N. (Chip) Karmatz
Associate Editor: Ron Lewis, Geoff Harrod
Reviews Editor : Ash Nallawalla
Contributions always welcome and needed! Preferably on disk (any sort), or modem upload to Brisbug BBS ("Stack Overflow" file area)
Deliver disks, artwork or copy to:
Ron Lewis, 12 Firelight St, SUNNYBANK HILLS 4109

Printer: MARLIN PRINTING
37 Caloundra Rd. Caloundra (074)915-833

Copyright

Liability

The rates, sizes and other information needed by advertisers is set out below. Significant Bits will take color or black and white ads. Position must be requested. Advertiser printed inserts can also be arranged.

DEADLINES

Normal deadlines are the third Friday of the month preceding publication. Space reservation deadline: 3rd Friday of month preceding publication. Replacement artwork deadline the last Friday of that month. Artwork must accompany space booking. If booked by phone or FAX, booking becomes effective only when artwork is received. The magazine is usally printed the second week of the month of publication, so that changes to copy must be in the preceding week.

TERMS

Payment must accompany bookings unless an account has been established. Discounts are offered for multiple insertions when advance payment is made. Members may advertise at half rate, but member payment must accompany ads (Classified ads not exceeding three lines are run free of charge. More than three lines attract attract a minimum charge of $5.)

FORMAT

The magazine is A4 size, offset printed and saddle stiched. More than 2300 copies are printed of each issue and distributed throughout Australia and overseas. Artwork should be full size, paper bromide, film (right-reading emulsion down) or laser print. Postscript print or EPS files can be accepted by arrangement via modem. Brisbug does not typeset ads other than classifieds. Text only ads 1/6 or 1/12 page can be FAXED. The layout for these must be at the editor's discretion and are accepted without proofs. All sizes are given as height x width in mm. Artwork must not exceed stated sizes.

FULL PAGE SIZE DETAILS

Normal article text (3 col)	260x178
Page trim	295x208
Max assured print area	280x190
Optional bleed extent	300x215

RATES

Color covers	**$600**	**Doublepage spreads**	**$500**
Colour page	**$450**	**Colour 1/2 page**	**$250**
Colour 1 column	**$110**	**Colour 1/12 page**	**$50**
Centrefold spread	**$525**	**Full page**	**$275**
2/3 page	**$175**	**1/2 page**	**$160**
1 column	**$110**	**1/4 page**	**$70**
1/6 page	**$50**	**1/12 page**	**$25**

Special positions:

Full page RH side, 1st 20 pages	**$285**
Inside covers, B&W	**$350**

INSERTS

Inserts are subject to prior arrangement. The charge is 1.5 time the full page rate. The inserts may be color and double-sided and may be in foldout or booklet form, but may not exceed A4 size. The required quantity of printed inserts are to be delivered to Significant Bits. Quantity, delivery and other details will be advised on request. Advertisers may contact John Burgess, Trimedia, 99 Gregory Terrace, SPRING HILL 4002, or Chip Karmatz tel-FAX (07) 847-2244 or Ron Lewis (07)273-8946, FAX (07)273-8954.

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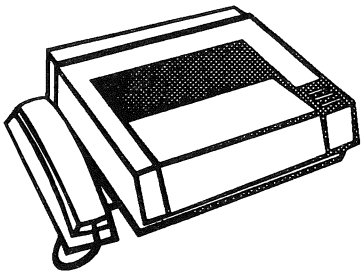
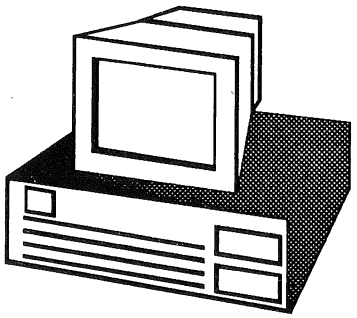


Computer



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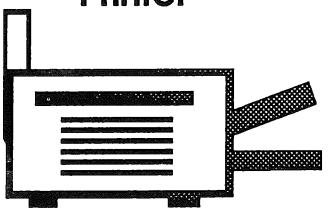

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EDITORIAL

YOU CAN TELL A GOOD BOOK BY ITS COVER

In February we produced our first full color cover. We would have explained its significance then, but didn't have enough space left after all the other 80 pages of editorial material. So we have carried it over to this month and expanded the discussion to include a little bit about our magazine production philosophy.

Our philosophy for SigBits

As many members know, the magazine uses the current desktop technology. The whole process, however, is much more complicated than just using a computer for laying out the magazine and takes several days and the efforts of several people before the finished product is delivered by the printer. The materials are entirely edited and formatted on Pagemaker 4.0. For the February color cover, for example, through Corel Draw, we imported a shareware graphic from POVRAY, a program available on our BBS. Yet all 80 pages plus covers, 27 article listings, including graphics were delivered on just two floppy disks.

Two members were instrumental in the production, Jeff Lehong, Marlin Printing, and Trevor Payne, Queensland Business Magazines. The latter provided us with better color separations than we could generate with Corel Draw.

Colour covers

Having a color cover is much like deciding to use a color monitor. Most people like the additional definition and dimension as well as the aesthetic appeal of color. Justification of color covers is in having advertisers who want those page positions and provide color materials. Hopefully, the covers will look more professional and more like our commercial counterparts. The same goes for the contents— as with most newsstand magazines, we have moved our table of contents inside.

... and costs

And this brings up the matter of costs. As the balance sheet in the February issue indicates, your magazine is the single most expensive item of Brisbug's operation. At the same time, members indicated in the last survey that Significant Bits was the most important communication tool Brisbug had, or as one member said it is the glue that holds the club together. Happily, color will not mean an increased production cost deficit. Increased costs of production have been offset by advertisers who are willing to pay more for color. In addition, production costs per copy have been reduced through tax benefits and improved production techniques.

This month we hope to add color to the inside of the book as well as the covers. We are using a lighter coated stock to facilitate the color printing. And we will be making typographical changes as well, in the name of readability, compactness and weight(to hold down mail charges).

Getting Slugged by Australia Post

Next year we will have greater difficulties holding down costs—mail charges will more than double if the Post Office goes ahead with its plan to eliminate Class B (bulk) Mail for non-profit organisations. They have already eliminated it for commercial magazines. We are hoping that advertisers find Significant Bits a good medium (a niche market) to use, one in which aesthetics, content and reader responsiveness are all considerations.

Popular consumer magazines have already been hit by these increases. Family Circle or Electronics Australia, for example, cost 47 cents to mail anywhere in the country in 1990. In 1993 it costs 87 cents to mail it in Sydney and 99 cents to other capital cities. To mail a copy to a country area costs $1.52. Note that a good percentage of Significant Bits', (29%) circulation is to affiliated clubs and rural addresses. Under Australia PostÆs new pricing scheme, the same magazine will cost between 87 cents and $1.52 for the same service, which means it receives the lowest delivery priority.

This month's cover uses the POVRAY file CHESS as the main theme, the rest of the art-work being added using CORELDRAW. The cover was proofed on an HP DeskJet 550C, then separated for us by Queensland Business Magazines

This is a basic change in policy. The Australia Post policy since set down by the government of the day in 1908 has been that all Australians, city and country dwellers alike, are entitled to receive bulk mailed print materials, i.e., magazines and books, at the same lower rates. Now bulk mail rates for commercial publictions have been given the deep six. At the end of this year, non-profit organisations face the same increases through elimination of bulk mail rates, even though these publications are still bulk mailed.

It's not just non-profit organisations like Brisbug who will pay more. The Red Cross, St Vincent's, Life Line and other like organisations will have to assess the cost of continuing to mail their newsletters. Do they wish to pay 223% more to provide information to subscribers, members, donors, etc.?

It isn't that Australia post is losing money on these items—Australia Post's last annual report shows a profit of $175 million! A print media association estimates that 10,000 jobs and $300 million in lost wages will result from the closing down of many magazines and printeries which can no longer live with the postal charges. One trade magazine that analysed Australia Post's annual report showed that bulk mail was not a losing proposition, rather a way for a monopoly to generate revenue for the government.

Unless there is a recision or modification of this pricing policy, you can expect the mailing cost of Significant Bits to more than double next year! The impact on Brisbug members is yet to be felt and assessed. At this point, we can leave to your imagination what a 223% increase in mailing charges will do to your magazine.

PRODUCT NEWS

(Synopsis of product news releases received this past month)

NEWS FLASH

DOS 6

A primary feature of DOS 6 was to be its data compression program. Microsoft thought it had a licensing agreement with Stac to use its compression technology, but the deal never came off. Then Microsoft applied for a patent for its own compression technology, which MS purports to be "new". Stac and Microsoft now have cross complaints against one another over data compression agreement breeches.

The Beta version of DOS 6 certainly has the compression program. And the latest issue of "Communique" has a description of the data compression feature along with others. It will be interesting to see at the Brisbug March meeting whether Microsoft will demo DOS 6 with or without a data compression feature.

DOS 6 was being billed as a package for around $100 that would double the size of your hard disk, provide your application with up to 200K extra RAM, provide virus and deletion protection for your data as well as automatic memory optimisation.

New Epson Scanner

Epson has released a new 24-bit flatbed scanner, the GT-6500, with single pass 300 dpi color scanning or 256 shades of grey. Scanning rate is 20 sec per page or 70 seconds for color.
Ex-tax price is $2339.

Fax-Modem

Banksia has introduced a FAX/modem with a data speed of 14,400, with V.42 error correction and V.42bis data compression.
It comes bundled with Quick Link II.
Price: $995 ex-tax.

LANTASTIC

Artisoft has announced four new adapter in its LANtastic NodeRunner 2000 series. The Alice chip measures less than one inch and is one of the smallest Ethernet Integrated Circuit ICs on the market, thus making it easy to integrate into a motherboard. It is expected to be part of families of network-ready computers.

Lotus 1-2-3

Lotus has new versions of 1-2-3 and Freelance Graphics designed to take advantage of OS/2 V2.0 multi-threading and 32-bit processing power. With lots of spreadsheet competition for DOS and Windows, Lotus is attempting to mark out an area in the OS/2 market. Mail for OS/2 and AmiPro for OS/2 are to come onstream later this year. 1-2-3 features:
* automatic page resizing to fit worksheets .
* discontiguous cell ranges can be collected
* 3D worksheets .
* Solver & Backsolver technology to run optimisation analysis .
* datalens data access technology

Freelance Graphics highlights:
. 500 new clipart images with on-screen browser
. global editing & direct file linking
. automatic chart composition
. dynamic data exchange
Price: 1-2-3 or Freelance Graphics upgrade—$195 or rec. retail $735

Lotus 1-2-3 for DOS V3.4 is has also been released, including a no-cost Windows upgrade. Enhancements, Lotus claims, include a 25% speed improvement in spreadsheet operations, improved Smarticons and Smartsums. New DataLens drivers include dBASE III&IV, Paradox and SQL Server drivers.
Price: $895 or $195 for upgrade.

Lotus Improv for Windows

Lotus Improv for Windows comes out in mid-March, a dynamic spreadsheet for Windows, which supposedly allows new ways to view and analyse spreadsheet data. Intro price is $195, which after may is supposed to rise to $735.

C++ for OS/2

Borland has boosted its cross platform with C++ for OS/2. The new C++ is an object-oriented development tool for developing 32-bit OS/2 applications. As part of the introductory package, Borland is offering the C++ for OS/2 for $250, in place of the regular suggested list price of $750.

Fujitsu Multimedia

Futjitsu is releasing a low-cost multimedia computer that is expected to sell for less than $1700. It will come standard with CD-ROM players and use standard video compression. The system has a proprietary chip-set that can convert a digital image and display it on an analog TV screen with a quality level equal to that of an SVGA monitor. It will use a

mouse or game pad instead of a keyboard and make use of the TV set in place of a computer monitor. Claims are that it will rum most of the Windows-type multimedia programs.

P5 Delay

Intel has again delayed shipping its Pentium P5 "586" chip until May 20, the first delay being the fourth quarter of 1992. Reasons given by industry analysts are that Intel wants the wring the last dollar from its 486 chip and that there are still technical problems. For instance, PC makers have to allow for 16 watts of power, more than three times the usage by 486 chips. Various computer writers say that no one will call it the Pentium, which supposedly stands for a fifth generation processor. Rather, the trade will call it the 586 or P5.

BOOK BROWSER

The February issue of Significant Bits on p.47 listed new books available from the library, courtesy of Microsoft. There's another Microsoft book well worth a look from any computer bookstore. It's the Microsoft Guide to Managing Memory with DOS 5, by Dan Gookin. In the US, this sell for under $15. Covers undocumented Windows.

Managing Memory

Other recent memory books include Memory Management and Multitasking Beyond 640K, by Lenny Bailes and John Mueller. Comes with a disk and is published by McGraw-Hill. Memory Management for All of Us, by John Goodman, Sams. And the most in depth seen is PC Magazine DOS 5 Memory Management with Utilities by Jeff Prosise, PC Mag.

Undocumented Windows

For undocumented Windows, Andrew Schulman, David Maxey, and Matt Pietrek put together a tome that clearly explains how Windows components relate to one another. Undocumented Windows: A Programmers Guide to Reserved Windows API Functions. There is another Windows programming book that is actually fun too read, a How To Program without Trying too Hard: Windows 3.1 Programming for Mere Mortals, by Woody Leonhard, Addison Wesley.

Shareware guides

There are a couple of new shareware and downloader books: PC Mag's PC/Computing Guide to Shareware by Preston Gralla and Glossbrenner's Guide to Shareware for Small Business by Alfred Glossbrenner from McGraw-Hill. The former picks out 250 of the best, covers viruses, finance, accouncting, shells, printers and utilities. The latter offers 51 productivity favorites at US$5 a disk if ordered from the author.

OS/2

One can't mention the above operating systems books without also mentioning the new OS/2 books: Now That I Have OS/2 On My Computer, What Do I Do Next?, by Steven Levenson, Nostrand Reinhold, is for those with little Graphical User Interface (GUI) experience. The book covers using desktop icons and the massive on-line help system, offers shortcuts etc. The next level up is Using OS/2 2.0 by Barry Nance and Greg Chicares. One of its strengths is the 100 command line commands. If you want a technical explanation of OS/2, that's Inside OS/2 2.0 by Bill Camarda, John Little, Mark Minasi and Marlene Semple, New Riders Publishing. Best in it is optimising DOS-OS/2 sessions.

Learn CAD

Learn CAD Now is another Microsoft book, in which autor George Omura demos CAD concepts and provides a host of sample projects, including home and office plans. Includes low-cost CAD software, the whole package being around $50.

Inside AutoCAD Release 12, Tom Boersma, Jim Boyce, Frank Conner, Rusty Gesner, Jeff Hester, Daniel Raker, Harben Rice, New Riders Publishing is a basic tutorial for new users, plus a good reference to features in Release 12 for more experienced users. Mastering AutoCAD Release 12, George Omura comes from Sybex and is in the usual hands-on tutorial technique that Sybex books follow. A strength is the section covering 2-D to 3-D conversions.

How computers work

How Computers Work, Ron White, is another Ziff Davis book based on materials from PC Computing.
For younger readers and computer novices. loads of color illustrations on everything from storage devices to mice. Reasonably priced around $32.

BUYER TALK

If you have the "I wants" for an exotic piece of new hardware and aren't sure whether to wait or buy it now, here's some tidbits of what's happening in the market place. The fastest growth area is for the smaller computer units worldwide. Pen, Palmtop and notebook computers first made the scene five years ago:

* YEAR	Millions of Units
1988	2.5
1990	4.0
1992	12.0
1993 (projected)	18.0
1996	45.0
1998	75.0

* Source: Market Intelligence Research

Systems and motherboards have taken strong price tumbles in the latter part of 1992.

Systems:	+\- Price change
386sx/25	- 9%
386/33	-23%
486sx/25	-23%
486/33	-17%
Notebook 386sx/25	

Trend in motherboard prices the last half of 1992:

* 386sx	-30.0%
386/33	-33.0%
486/33	-24.0%
486/50	-11.0%
486/50 EISA	-33.0%

*Based on US-Aus computer mag advertised prices

Modems over the same period (by baud:)

2400 int	-32%
2400 ext	-39%
9600 int	-19%
9600 ext	-15%

Hard Drives:

40 Mb	+21%
80 Mb	- 8%
100 Mb	- 9%
200 Mb	-18%

Printers:

* YEAR	Printer Type		
	1991	1993	1995
Page	100%	-12%	-35%
Ink Jet	100%	-19%	-27%
DM	100%	- 8%	-25%

*Cumulative price reductions estimated by Infocorp

ASSOCIATED CLUBS DIRECTORY

Club Name	Centred in	Telephone	Contact
Coffs Harbour Computer User Group	COFFS HARBOUR	066-543563	Bruce Jones
Gold Coast SIG (of Brisbug)	BURLEIGH WATERS	075-930577	Carl Planting
Dalby PC User Group	DALBY	076-621381	Peter Allen
Beaudesert Computer Club	BEAUDESERT	075-411050	Bernie Williams
Sunshine Coast Computer Users Group	MOOLOOLABA	074-442711	Daz Picton
Landsborough Computer Club	LANDSBOROUGH	074-923205	
Noosa Hinterland PC User Group	COOROY	074-851052	Colin Sheehan
Kenilworth Computer Users Group	KENILWORTH	074-460328	Peter Webb
Cooloola District Computer Club	GYMPIE	074-833881	Dorothy Ross
Fraser Coast Computer Club	HERVEY BAY	071-212397	
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Gladstone QRI Computer Club	GLADSTONE	079- 723083	Dave Franklin
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Rockhampton Group	ROCKHAMPTON	079-312383	Nick Quigley
Mackay Computer Users Group	MACKAY	079-573998	Gabriel Barbare
Burdekin Computer Club	AYR	077-834630	Rod McRae
Johnstone PC User Group	INNISFAIL		Lyndelle Coianiz
Cairns PC User Group	CAIRNS	070-577997	John Hampson

Minutes of the February Meeting

Ron Lewis opened the February General meeting of Brisbug with a flourish at 1-09 pm. He welcomed all new members to the fold and pointed out that anyone who was looking for the Tree Conservation Society meeting was in the wrong room! (Does that mean computers use more trees??)

The big question of the month seemed to be: "Who didn't get their magazine on time??" It was obvious from the small number of negative responses that nobody lives around Sunnybank Hills! Actually, it appeared that the Southside of Brisbane was a problem area (some would say it is anyway) with the members of the Gap and Everton Park bearing the brunt of late arrivals. The Stafford Mail Exchange has just moved to Northgate it seems and there are still a few teething problems in the sorting area.

The big news for the month (on the other hand) saw a discernible number eyes twinkle. The March meeting of Brisbug will have as its main attraction (apart from the Membership Secretary) a preview by Microsoft of DOS 6, which is to be released to the marketplace 6 days later (27/3/93).

The President was full of questions this month! Was everyone happy with the new colour cover on the magazine? A question from among the throng: "Does it cost heaps more?". The answer is NO, not under commitments from current advertisers. Colour will now be the norm for each month's cover!

There were apologies for the poor print quality on some pages...we are still getting used to the new paper quality and the laws of Ink Flow according to Newton. Ron asked for special help from members in the form of CARTOONS and humorous articles (aren't these minutes enough?). If ANYONE has a flair for drawing cartoons or knows of anyone who is thus talented and willing to spread his/her fame within the computing world at large, please contact Ron Lewis. (Please! We need a laugh now and again!)

There is also a distinct lack of articles for beginners...so get writing please! Letters to the editor there aren't (often!) so please send any criticisms (constructive) via the editor...they will get published in most cases (the only one ever knocked back was one written by a certain Ron Lewis himself...)

Report time! Max Kunzelmann said he had not received his magazine so he did not know the meeting was on! Nobody believed it, so he gave his report:

```
1/1/93 Opening Balance $ 15,586
Income for the month   $  6,096
Expenses for the month $  4,365
(no magazine in Jan! Big drop!)
31/1/93 Closing Balance $ 17,317
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The audited accounts were published in the February issue of Significant Bits which (almost) everyone had seen. The Secretary pointed out that the Department of Consumer Affairs (used to be the Justice Dept) required our acceptance of the statements before the end of February. It was moved by Chris Raisin and seconded by Max Kunzelmann that the audited reports be accepted and the motion was carried unanimously.

The new Education Services Coordinator (Ron Kelly) gave his inaugural Education Report. It seems that members have been asking for more variety in the classes offered by Brisbug. If you have any suggestions as to subjects or content PLEASE give Ron a ring between 7.00 pm and 9.00 pm any night. He is particularly interested in what LEVEL you want in a subject (beginner, intermediate, advanced, genius) and the timing of classes (Sunday mornings, avos, weekdays, nights, etc.)

Ron also called for teachers - anyone who has a particular skill they can pass on to their fellow members, please make yourself known to Mr Kelly! Your club needs you!

Good news (we think!) is that the NUTS are back! Yes, the New User Training Sessions will start again in March.....these are lessons given to those persons who are still feeling their way with computers. The classes will be run at 3.15pm on the club's meeting day (the third Sunday of each month) and will be conducted by the biggest nut of all, Chris Raisin.

Dan Emerson will be running interesting sessions on "Using your computer to monitor the environment" starting next month.

Bernard Speight has returned from his travels around the globe. He gave his usual efficient SIG report, but had a few words of sadness to pass on. The Desktop Publishing SIG has passed on (RIP) and will rise from the dead if anyone has an inkling to perform the seance. (Contact Bernard, please!)

Also the Northside SIG will not reappear unless there is some sign of support. Interested people from the Northside of Brisbane please contact Bob Gurney.

A special letter from Dulcie Haydon (a member from Calamvale) was received during the month. Dulcie is interested in the formation of a "weekday" SIG (to be held during the day). Anyone interested (particularly from the Southside) please contact Bernard.

Paul Marwick (the BBS Sysop) gave his usual report.....except for the added news of two new arrivals....Yes, Paul is now the proud father of two baby ....kittens. They are apparently going through the "teething" stage at the moment, judging by telltale signs on various cables spread around the BBS PC's!•

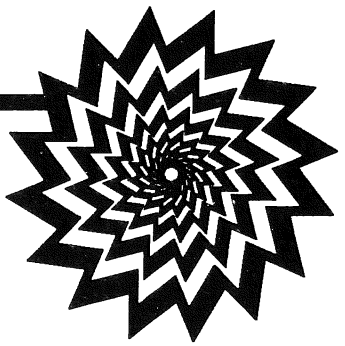
Brisbug was saddened to hear of the recent death from a heart attack of Brian Wendt, sysop for AMPAK and the SUNMAP Bulletin Board. The club's thoughts are with Brian's family and he will be missed.

The meeting thus closed on a sombre note at 2.53 pm., but an excellent demonstration of LANTASTIC by David Hudson (Business Development Manager of Artisoft Australia - Pymble, NSW) and Steve Hartley (Digital Solutions, Brisbane) cheered everyone up. There was great interest in this superb system for networking PC's (ie. allowing them to communicate with each other and share data) - the questions seemed to carry on forever!

Until next month with the DOS 6 explosion!

Chris Raisin

VIRUSES FOR VIRGINS



Anyone, computer owner or not, who reads the newspapers regularly, is familiar with apocryphal stories about computer viruses ... how virus ABBA.2 has brought down some huge computer net, and Rafael II is already hiding in your computer waiting to destroy it completely on Ninja Turtle Day. Yet many of us who are old enough (in computer terms, anyway) to remember A. K. Dewdney's prophetic article in "Scientific American " in 1987 about self-replicating programs taking part in (main-frame) "Core-Wars" have never accidently caught a virus. We have seen a few on other peoples' machines, and watched from a respectful distance as "gurus" such as Dan Bridges demonstrated the effects of live (i.e. real) viruses.

This article, based on Ron's presentation to a recent Not-So-New Users Group, outlines the basics of viruses.

What is a virus

A virus is a program, just as MS-DOS, Windows, Lotus 123, and Wolfenstein are programs. To achieve its purpose it has to load into memory and then execute, just like any other. However viruses differ from normal programs in a number of their characteristics:

* They are loaded surreptitiously and without operator initiation.
* They are designed to self-replicate (i.e. infect other disks/ programs to spread themselves around)
* Like other TSR programs (such as DOS and Virus Buster's Fido), they remain in memory, protected from DOS's normal housekeeping functions, until you turn off your computer.
* Viruses serve no useful purpose and many have destructive code .
* There is an Incubation Period (during which the virus spreads, but doesn't show itself).
* Some viruses have self-modify ing properties designed to help them escape detection by one genre of anti-virus programs. Much "noise" has been made about this innovation (dubbed "Stealth" by the virus-authoring idiots, the VAIs), but sadly for them, like much in computing, it is not a new feature, having been copied from self-configuring programs which were common (and notoriously unreliable) in the early Z80 days of personal computers.
* Viruses are unknown on PCs running "secure" operating systems such as OS/2.

How am I at risk from viruses

Catching a computer virus, just like its biological equivalent, requires that firstly you be exposed to the virus, and secondly that you take some action to actually catch the infection.

There are two main types of viruses:

Boot infectors

EXE infectors

The first type, the boot infector, resides in the system area present on all disks (hard or floppy). The second type, hides in EXE, or executable, files. *Note that other executable file types, such as .COM and .BAT are equally at risk.*

To catch a virus from an infected disk requires either:

That you try to boot from a boot-sector virus-infected disk, *or*

That you try to run a program containing an EXE-infector virus.

Obviously, a boot infector virus can only enter your system via an infected floppy disk, but an infected program could enter via your modem as well as an infected disk.

To pass on a virus already in memory, all you need do is access a clean disk which is not write-protected.

What will a virus do

It depends on the virus. Many do nothing except take up a small amount of space on your hard disk, and get you a very poor reputation as

a non-practitioner of Safe Hex with friends you pass the virus on to. Even some which are designed as benign, can cause severe damage. Marijuana is a good example. Designed simply to display a message advocating the legalisation of "grass", it has highly destructive effects on hard drives partitioned using Disk Manager instead of DOS.

BRISBUG ANTI-VIRUS KIT IS AVAILABLE FROM THE LIBRARY

Other viruses take up increasing amounts of space on your hard drive (by tacking a couple of thousand bytes onto each file each time it gets a chance) until your drive is full of garbage.

Still others are designed to be highly destructive of data. At the occurrence of some trigger, they will overwrite your partition table or format the hard-drive. By the time you realise something is amiss, the damage is permanent. *Note that the damage is "logical" ... viruses do not cause physical damage to equipment (operators do that). Michaelangelo is a well-known (particularly in Gladstone) example.*

How do I prevent infection

Some businesses simply ban the presence of floppies in their PC areas under pain of instant dismissal. (This did not prevent the employees of one large Queensland organisation using their modem to pick up a pirate game infected by the No-Frills" virus which then infected their system). If you can't ban all foreign programs then ...

All floppy disks entering your system must be regarded as suspect. Commercial disks are not automatically safe. The second "interesting" virus I ever saw was on a hand scanner drivers disk freshly unwrapped from its packet.

Even preformatted disks devoid of programs have been known to carry boot sector viruses such as the Marijuana virus. Some computing centres are notorious for their role as virus exchanges. Schools, TAFEs and universities are, of necessity, and despite elaborate precautions, prone to spreading infections.

It is not unusual to find a cocktail of both types of viruses on pirated copies of games swapped amongst "mates".

If you have a hard drive (99% of the PC population these days) always check that floppy drive A: is empty before you try to boot. That way you will not accidently infect your system.

Part of your daily "housekeeping" routine should be an anti-virus check.

ALWAYS USE THE LATEST VERSION OF THE VIRUS SCANNER, OTHERWISE YOU MAY MISS A "NEW" VIRUS

(I have included SCAN in my AUTOEXEC.BAT file so it runs each time I reboot). It only takes a couple of minutes at most to check your hard drive, and could save you hours of hard-disk reconstruction and days of disruption. You can use one of the Shareware programs such as McAfee's SCAN, or a commercial checker such as VIRUS BUSTER. These check for virus "signatures" (short sections of code characteristic of individual viruses) and alert you if any are found. Whichever you use, it must be the latest version, as it will only detect viruses for which it has signatures. Regular updates of SCAN appear on Brisbug's BBSs about once a month. Leprechaun Software, the authors of Virus Buster run a free BBS update service for registered owners of VB.

The major advantage of SCAN-type programs is their speed and low incidence of both false alarms and mis-identification. (Note however that SCAN, being an American program may miss, or mis-identify the latest efforts of local VAIs).

The major disadvantage is that they are retroactive i.e. they will not prevent infection of your hard disk by a virus already present in memory, but will show that it has occurred. Scanning all floppies entering your system will prevent transferring a virus into memory.

Virus Buster, and the Shareware program, TBSCAN, provide prophylactic measures against viruses. They install a small program in memory, which watches what's going on in your computer, and alerts you to, and prevents, subject to your over-ride, any "suspicious" activities such as attempts by programs to go memory-resident, or "writes" to critical areas of the operating system. Whilst highly effective, these programs tend to produce a lot of false alarms and operator annoyance. If your data is valuable enough to use a virus monitor, you also need to take precautions to stop "cheesed-off" operators from turning them off. At least one local manufacturer produces a hardware solution to the problem. Australian Technical Support Pty Ltd at Lawnton have already demonstrated their board at Brisbug. It offers several levels of protection, even up to incapacitating the hard drive if the board is removed (this feature is aimed at data SECURITY, rather than viruses).

Hardware Anti-Virus measures are also available from local Suppliers

You can check for the presence of viruses in memory by running CHKDSK and looking for reduced memory size, but this requires considerable expertise and is considered outside the scope of this article.

Can I recover an infected disk

The answer to this question is ... it depends.

Firstly, run SCAN or similar program to ensure there is no virus in memory (if the virus is already in memory, any attempt to access a clean disk will probably result in it becoming infected). If you normally boot from the hard drive, and a virus exists in memory then you'll have to restart from a clean, write-protected floppy system disk. Then ...

If the virus present is a boot infector, you can safely copy all the files from it to another floppy (or from hard disk to floppies).

Irrespective of the type of virus, you can copy data files, such as document files or databases, to a clean disk(s).

If the virus present is a program infector, then you can copy all uninfected programs to floppies.

Beware of any packed files (file extensions such as .ZIP, .LZH, .PAK) which will contain executable files and may need to be unpacked for checking.

Before attempting to remove a virus, you must back up all wanted data, as the removal attempt could logically "destroy" all information on the disk.

Now the interesting bit begins ...

For the faint-hearted or non-curious, the best solution, having copied all recoverable data, is the CIH method ... cut the infected floppy in half and throw it in the bin. For a hard drive, repartition and reformat.

Otherwise ...

When you ran the virus checker it would have identified the virus present. If you're using CLEAN, the companion program to SCAN, you can issue the instruction

```
CLEAN d: [virus_name]
```

where

d is the infected drive and

`virus_name` is the identifier provided by SCAN

Then run SCAN again, to check the virus has been removed. Generally this will be successful, except, for example, the locally-written virus "NoFrills", which SCAN mis-identifies as "Feist". You'll need Virus Buster to kill this pest.

Removing the virus can also irreparably damage the infected disk (boot infectors) or program(s). The VAIs are not as skilful as they would like to believe, and the act of infection can irretrievably damage partition tables or executable programs, particularly those like the accounting program Attache which check to ensure they have not been modified before agreeing to run. The notes which accompany CLEAN and VB indicate which viruses are destructive.

Summary

Prevention is better than cure. With commonsense and the right tools, you may never fall victim to the VAI's art.

Even if you do, recovery is probable, but at some expense.

Legal Aspects

During the discussion in my NSN group, the question of legal recourse for a victim of a virus was raised. The answer our well-known legal practitioner member gave was most interesting, if not very encouraging for those victims seeking vengeance against the VAIs. Maybe we can get him to write an article on it some time.

Ron Lewis

The Real Time Clock that *Isn't.*

John A. Tacey

Worse with progress

Just prior to Lindsay Bates article[1] appearing I noticed that the RTC (Real Time Clock) of my relatively new u-beaut PC was not showing correct time. So I reset it. A little later it was slow again. Then the above item appeared so I asked a number of friends about their experiences. All said the same - the rotten things lost time, some were worse than others. I've been using a range of PCs since 1985, each with a RTC, and all were 'set and forget' except for a minor adjustment once every year or so. They had real (genuine) Real Time Clocks. Conclusion. Oh well, that's "progress" for you. An RTC is no longer a Real Time Clock in today's new computers.

```
C:\>time
Current time is  8:54:55.82a    aaahh
Enter new time: 20:54:55.82
C:\>date
Current date is Thu 03-04-1993  no way
Enter new date (mm-dd-yy): 03-24-1993
C:\>
```

Some months later the clock started losing time at a greater rate and was worse if the computer was left turned off for several days. Ah Ha! said I, the rechargeable battery on the mother board is sick; rang the supplier who said to bring the beasty in and he would fit a new battery while I waited.

"An RTC is no longer a Real Time Clock in today's new computers"

Trotted in to supplier who ran a test on the RTC - all OK in that department. So a new battery was fitted and at the same time a holder and lead for an external battery was fitted.

Once home the computer was run for 24hrs to ensure that the new battery was fully charged.

All seemed well although the RTC still did not keep time to the standard expected. Three months later the time went wacko and the date wasn't changing either. At this stage the cmos settings were still OK.

"The battery looks as if it's really poorly this time. Hmmmmm. Lets see what happens if the external battery is used."

Off mit der cover undt
- bung four alkaline "AA" cells into the holder
- move the jumper to change from internal rechargeable battery to external replaceable battery
- place floppy boot disk in drive "A"
- turn on power and boot up
- Warning message to the effect that the CMOS settings are lost
- run setup and define drive "A" as 1.2Mb.
-save setting and exit setup
- computer boots up
- place CMOS reload disk in drive and reload cmos settings
- open door on drive "A"
- warm boot and the hard disk does it's job; we're in business !

Would you believe that the RTC now keeps respectable time ?

The early boards that provided an RTC for the PC and XT class computers had an on-board rechargeable NiCad (Nickel Cadmium) battery. A lot of these suffered from battery failure for various reasons and later boards were fitted with replaceable Li-Mn (Lithium Manganese) batteries with an effective life of two or more years depending on the battery capacity.

The problem with NiCads ...

Some AT (80286 or higher) class machines are fitted with on-board or off-board rechargeable NiCad batteries and others are fitted with off-board replaceable batteries with a long life, some of ten years, and, would you believe, some have provision for both an on-board rechargeable or an off-board replaceable battery .

The NiCad battery operates best where it is fully discharged and then recharged. It is a characteristic of these batteries that they will lose effective capacity over time if not allowed to discharge fully. In a computer this condition is unlikely to be met and so it is only a matter of time before they fail through loss of capacity. Replacement of the on-board type requires a service technician.

If your RTC is a loser and the battery is rechargeable then the battery could be at fault.

Both batteries will eventually fail. If the battery is off-board and uses a standard battery or cells then its easy to replace.

The only disadvantage of an off-board battery is that the connector to it may be dislodged when work is being done inside the case in which case the RTC and cmos settings will be lost; just be careful with the spring cleaning.

My choice of battery

I'll go with the replaceable alkaline battery; its life is better defined. Eveready claim a shelf life of five (5) years so they'll probably last four (4) to five (5) years with the cmos load and if the size is commonly available, e.g. "AA", then they can be purchased almost anywhere.
You DO have a copy of your cmos settings, hard copy and/or reloadable data file, don't you ?

References

1: Significant Bits - June 1992 - Hints and Tips Poor Time Keeping of the Real Time Clock.

BDOS ERR ON B: SELECT

...or, You Never Had It So Good with DOS!

Geoff Harrod

People complain that DOS is unfriendly and difficult, but you don't get mystifying messages like the above do you? Actually I think DOS is about as friendly and helpful as any command driven system can get. Let's look at where it came from and compare with some other systems.

First, what is an Operating System anyway? Well, it could be said fairly accurately that the Operating System is the program you're running when you're not running a program! The Operating System is a software program similar to the programs you choose to run, but with the important difference that it must be running at all times the machine is switched on, and in order to enable you to run the programs you choose. All the programs you want to use need the services of the computer's keyboard, screen, disks and maybe ports. Generally they access those services by calling the already-running Operating System. It is the OS that manages all those facilities.

Computer, and other digital electronics, are different from the older analog electronic circuits where you only had to apply power for them to do their thing. Digital systems don't really do anything when powered up. Their circuitry provides certain hardware facilities, but they need a sequence of instructions - a program - for them to achieve anything useful. Unlike analog circuits which can only do what the hardware was designed to do, digital circuits can do different things depending on the control program.

In a computer the control program is the Operating System. Without it, the machine will either appear to do nothing at all, or produce random rubbish on the screen and not accept any input. If the OS should lose track of its instruction sequence the computer will stop or run riot. Truly, the Operating System is the most important piece of software you will ever buy. Without it, all your other software purchases are just magnetic disks and interesting books to read.

The User Interface

Many people who use a computer to do a job and don't care about its workings operate from a menu system that appears when they switch on, after some mumbo-jumbo has scrolled up the screen. The menu system is a separate program that someone has set up to automatically run after the operating system has got itself organised. The users run their programs from the menu, and each program hands them back to that menu after it terminates. The menu is a sort of "second tier" added onto the operating system, but not part of it. Windows, in its present form at least, is also a second-tier that provides the user interface instead of DOS's user interface. It also adds quite a lot of extra operating system type of facilities, and acts as an extension to DOS. OS/2 and the forthcoming Windows NT are complete operating systems in themselves, instead of using DOS at all.

.. it could be said fairly accurately that the Operating System is the program you're running when you're not running a program!

Command Driven Systems

Let's forget about Windows, graphical environments and menu systems and look at the basic DOS. Like virtually all other computer operating systems DOS is a "command driven, text based" system. That is, it works with streams of text and is controlled by the user by typing command words. The user is expected to know the repertoire of valid command words and the correct way of putting them together -- the command language. Over the years computer command languages have sometimes been rather "verbose" -- needing quite a few rather longish words for each action, and sometimes have been very "cryptic" -- using extremely abbreviated commands. The former are easier to learn and for occasional users to use, but a bit long-winded for habitual users. The latter are very fast to use but hard to learn. DOS strikes a reasonable middle ground. UNIX is very cryptic. DOS's precursor, CP/M, was rather cryptic, and the title of this article is a CP/M message.

In case you're dying to know, the title message is supposed to mean; "You changed the disk in drive B: and haven't told me to log the new one yet", or "There's no disk in B:". You'd never guess?

Teletype Terminals

We take it for granted now that a computer is a box holding the works, a keyboard, and a video screen. Many modern users may be surprised to hear that not so very long ago the most common user interface hardware was a teletype. They were still in use ten years ago. A teletype terminal is an electric typewriter where not only can you type on the keyboard and see the words print onto the paper, but what you type also gets sent to the computer, and the computer can print directly onto the paper also. Usually the computer was a big one a long way away connected by telephone wires.

The typewriter, which most often used the old type-bars that swung up and hit the paper, could print about as quickly as most typists, but the messages that the computer sent were also limited to that speed, and the whole thing made a good deal of noise therewith. Typically of course the ribbons were usually worn out and you could hardly read the printing. They used continuous sprocketed paper, and most users pulled out the green shadow ruled paper and used the plain back of it to have a better chance of discerning the print.

Because the speed of getting feedback from the computer was so slow and noisy the system was usually designed with very brief error and other messages, often to the point of being decidedly unhelpful. IBM were notorious for their messages like "ABEND 1234", meaning "Abnormal ending, see code 1234 in the book". Likewise, users soon came to dislike typing long commands so cryptic commands were preferred, even if you had to learn a lot of two and three letter codes.

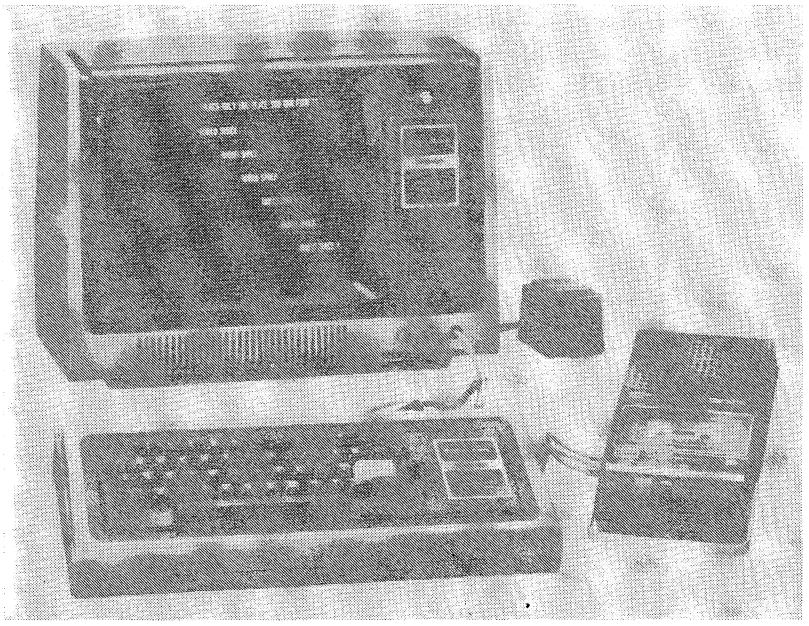
UNIX grew up in the teletype era, hence its abbreviated command structure and minimal feedback messages. UNIX was intended for computing professionals and university researchers who could be expected to learn the system. Mainframe systems like IBM's and UNISYS etc were more often used in business, by a lot of basically non computing people and occasional users, so they tended to have more obvious and longer command words and messages.

When serious business computing came to desktop computers (to a small degree) with the advent of CP/M, the limitations of the little computer's memory and processing speed made it necessary to adopt a rather cryptic command system, even though video screens were then becoming normal. MS-DOS developed from the basis of CP/M. But let us first look at the earliest forms of personal computer systems.

Early Personal Computers

The earliest CP/M machines were not really "personal" computers --they were too dear for that, even though most relied only on floppy disks. The first personal machines came out about the same time, in the late 70's. The most notable were the Tandy TRS-80, Commodore PET and Apple-II. Later Dick Smith produced a cheaper work-alike for the TRS-80 called the Super-80. A rather dearer and technically better machine, but not so popular, was the XIDY Sorcerer.

These all relied on cassette audio tape for program storage and had their operating systems permanently stored internally in ROM chips. The cassette systems were woefully slow and unreliable. All the "works" was in the keyboard box. Memory varied from 4k to rarely more than 16k, but could be expanded with expensive external boxes up to 64k. Floppy disks were available as external extras but initially not common due to price.



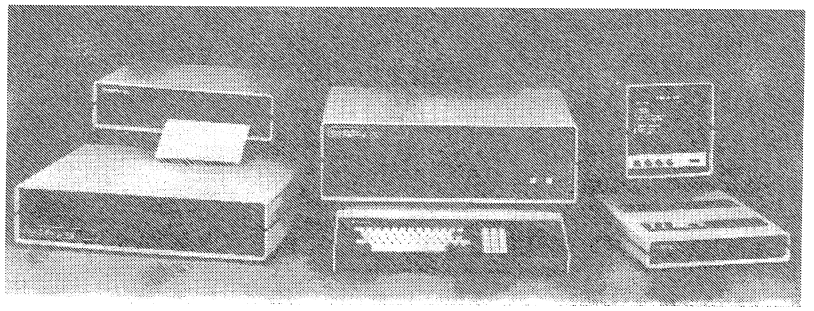
The Tandy TRS-80 personal computer of about 1978. Z80 CPU, 12k ROM, up to 16k RAM internally. 12" mono monitor with 16 lines of 64 characters. Cassette tape storage with 250 baud transfer speed. BASIC in ROM acts as the operating system.

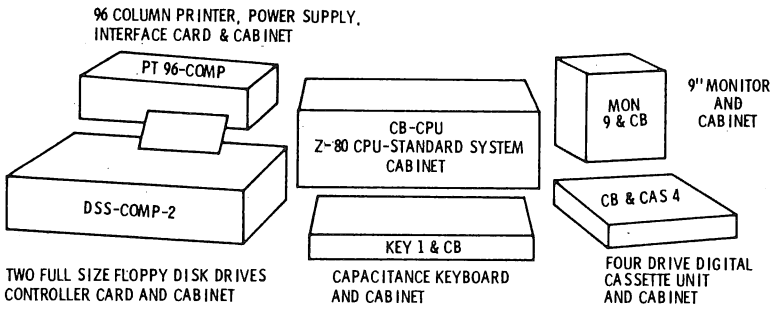
The Apples had the edge with their internal plug-in card system and bit-mapped colour graphics, but were somewhat dearer. Their colour graphics set them quite apart from the TRS-80s and made them the only real choice for games enthusiasts. Their plug-in system allowed internal memory expansion and easy disk addition. They used a different processor to the TRS-80s but enjoyed a much bigger program choice, and a plug-in Z80 board allowed them to run CP/M programs also. Before long the Taiwanese started selling blatant copies of the Apple-II and the Apple clone and add-on market became the major thing in personal computing until the PC clone business took over. The Apple-II lives on yet. It suits primary school computing ideally and has superb program support in that area.

Even modest machines like the TRS-80 were not all that affordable. Technically inclined enthusiasts without money built their own machines from kits or ingenuity. That was where I fitted in, along with current Brisbug members Peter Grimes and Peter Harding. We formed a little association of techos struggling with the DG-Z80 kit system, which proved much too half-baked to warrant its advertising claim; "anyone can build their own computer". We never managed to make anything really useable out of it, despite our pool of technical expertise. I went on to buy an Osborne-1 CP/M portable -- about the form and weight of a sewing machine, with 5" screen, 64k memory, two 183k floppies and needing 240v power. That cost me $1600 in 1983, and was by far the cheapest proper CP/M business machine. It came with Wordstar, Supercalc, dBase-II and BASIC, and I did a lot of serious work on it including all my university studies and assignments. I added Pascal, C, Cobol and Fortran compilers to aid my studies. It died honourably from overwork.

At the very busy Osborne Users Group I met Sylvia and Roy Willie and Andrew Osbourne. The four of us were among the first CP/M "deserters" who bought PC-XTs and left to form Brisbug. The Osborne User Group still lingers on, much depleted. It has tended to become a forum not only to support those who still use the Osborne-1, now usually much in need of support, but also for portable computing in general, now as laptops and palmtops; not necessarily MS-DOS.

Coming back to the point; these systems all used the classic command interface. The user "prompt" varied from CP/M's "A>" to the TRS-80's "Ready:", to the Apple's "?". Unix, VMS and many other big systems often used "$", favourite symbol of computer makers! They all were intended to mean "Go ahead, tell me what to do, I'm ready.". The big systems usually has some sort of on-line help system, so you could type "?" or "HELP" and would see some lists of





(B) Cabinet identifier.

The Digital Group offered personal systems in the late 70's. This is their top line System 7. Quite pricy, it needed some skill to put together.

commands, or even a complete indexed manual. In Unix, you type "MAN CAT" to read all the stuff in the MANual about the CAT command. On the desktop systems with small memory and no hard disk, such help was not practicable. Only the latest version of MS-DOS has on-line help, dependent on you having enough hard disk to spare for it. Otherwise you had to refer to the book or have a fold out command summary card on hand.

BASIC in ROM

The first personal computers like the TRS-80, Commodore and Apple had their operating system engraved in silicon in ROM chips so that they didn't need any floppy disk. At that time it was assumed that the main thing a computer hobbyist wanted to do was to write programs in BASIC. That was partly because of the very small choice of ready made programs to buy, and the fact that you were limited to those written specially for that make and model. So the BASIC programming system was also built into ROM. In fact, the operating system was not really a separate entity at all. The computer started up in BASIC and the BASIC programming language was used to control the whole machine.

When you bought the add-on floppy disk unit, it came with a disk control program that you had to run to enable the disk system. It had the effect of adding a new group of BASIC command words to access files on disks. These were seamlessly grafted in memory onto the commands provided from the startup ROM, but had to be initially read off the floppy disk, often by some mystifying command. The command system extension was called a "Disk Operating System" for obvious reasons, and so the "DOS" term was born. For the TRS-80 it was called TRSDOS; for the Super-80 it was NEWDOS; for the Apple it was APPLEDOS. Tandy also made a business oriented "TRS-80 Model-II" with built in 8" floppy disks, that also used TRSDOS, but it was never a real rival for the CP/M machines.

On the CP/M machines, the CP/M operating system was booted from floppy disk the same way as MS-DOS is on present PCs. If you wanted to do some programming or run one of the then numerous bought programs that needed BASIC, you loaded BASIC from floppy disk, which was always provided with the system.

BASIC began on multi-user university computers, usually with teletype terminals, which explains why you use "PRINT" to display on the screen. The teletype printed each character as you pressed a key like any typewriter, and lowered its ribbon mechanism each time so you see what was happening as you went. The only good thing about using a teletype terminal was that you got a printed copy of your program's output to keep, although it might be a bit jumbled up with your command interaction.

You could also send files or output to a "Line Printer", which was usually located in the computer centre's holy of holies. A Line Printer is so called because it prints lines of text rather than character by character. A real Line Printer actually prints an entire line in one hit at very high speed. They are floor standing machines bolted down on springs as they shake a lot, and usually in sound proof rooms of their own. The personal grade dot matrix printers that eventually became available were treated as Line printers because they buffered each line in memory and didn't print anything until the data stream sent a carriage return.

That's why you have commands like "PRINT" and "LPRINT" in BASIC. Because "PRINT" was needed so often "?" was accepted as a brief alternative.

The early PC

When IBM introduced their first Personal Computer it was the first of the new Intel 8088 based 16-bit machines instead of the 8-bit systems used in the Z80 or 8080 based TRS-80 and CP/M or the Signetics based Apple-II, and as such, had the capability of addressing a "mind boggling" 640k of memory instead of the Z80's 64k or the Signetics' 48k. Despite this much more business-like capability, IBM did not seem to think of it as much more than a toy initially, probably because they were still committed to steering serious business users into their expensive big systems. Although the PC always (I think) came with floppy disks, it initially only came with 128k memory, and provided an interface for the toy-like cassette tape system that its predecessors had relied upon. In fact that tape interface never got used but was not omitted until the AT came out.

Again thinking in a rut, it perpetuated the BASIC in ROM idea, even though there was no need since floppy disks were provided. However, here the operating system functions and BASIC were quite separate. Considering they provided BASIC in ROM, it's odd they didn't put MS-DOS in ROM also! Thankfully they didn't, as it greatly simplified upgrading the operating system later.

All the imitators of the IBM-PC sensibly provided BASIC on disk instead, but if you ever start up a genuine IBM PC or XT without any hard disk and forget to put a

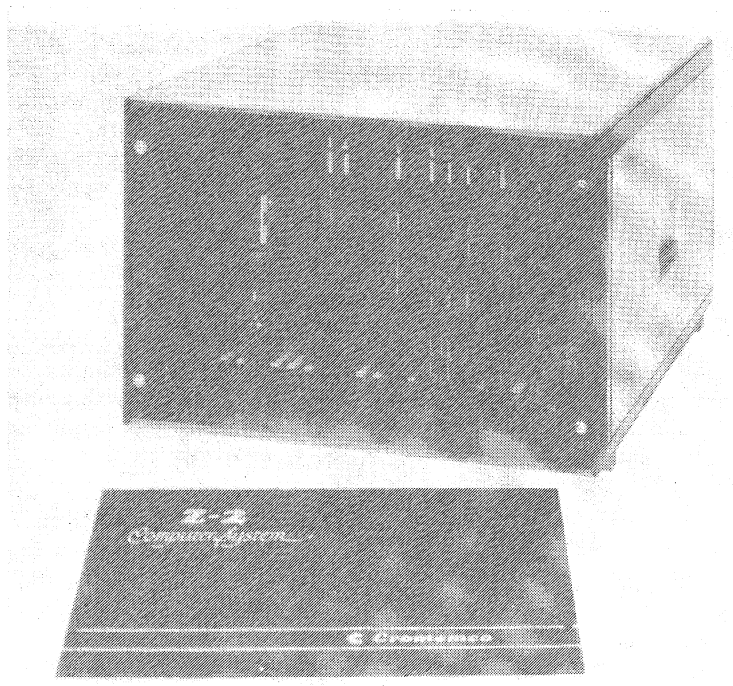
system boot disk in drive A:, instead of a message: "Place system disk in drive A:", you see "IBM BASIC Ready:". You couldn't access the floppy disks from the ROM BASIC and it was generally rather useless and pointless. They also provided the much more useful "Advanced BASIC" as BASICA on disk, the same as the Microsoft GW-BASIC that all the imitators provided. So, finally, the "Disk Operating System" became the real, general "Operating System" for the PC in the form of PC-DOS or MS-DOS.

The early books on the IBM PC failed to realise that the machine appealed to different types of user than the old TRS-80s, and they tended to confuse new users who bought the machine to do word processing or whatever, by skimping on the practical operational matters and dwelling at length on BASIC programming. In more recent times, some clone PCs have ceased supplying BASIC at all. Most still do, as the standard MS-DOS always includes it, but they often leave out the BASIC manual. The current MS-DOS 5 supplies the very much better QBASIC but no manual. QBASIC has good on-line help, but it is not really enough. However, there are few complaints about that, as very few buyers now have any interest in programming. While initially BASIC was the central feature and basis of personal hobby computers, PCs have now become mainly small business machines or games machines, or both.

Assisting the operator

Even with the on-line help provided with MS-DOS 5 and with DR-DOS people don't seem to like a command driven system. Yet it is much more efficient and quick to use than a totally menu operated system would be. It is quite practical to set up a customised menu system for all the things a particular user is likely to want, but to provide a menu system to access everything DOS can do would be quite cumbersome. Since MS-DOS 4 Microsoft have provided their DOS SHELL, which does quite a good job of accessing all system facilities without requiring the operator to remember command words and syntax. Even so, people complain it is too complex!

The fact is, you cannot provide full control of all the system's capabilities without being a bit complex. You just have to devote a little effort to learning to drive it. I believe the plain command driven DOS is really very easy to learn, and once learned, is much faster to work with than the DOS SHELL, or even Windows. Of course, Windows can do all manner of additional things that DOS cannot, so that is another story.



A typical CP/M business machine of about 1978 – the Cromemco Z-2. This is the system box, mainly a housing and bus for S-100 plug in boards. The memory boards usually held 16k and 4 could be used giving the 8080 CPU's maximum of 64k. A mainframe-style video terminal was plugged in by cable, and a separate box housed two 8" floppy disks. There might be another box for a hard drive but they were very expensive.

GUIs -- Graphical User Interface Systems

The Apple Macintosh was the first successful attempt to get away from command driven operation of a computer. Xerox had been the first to develop a system like that, but it had been a developmental exercise and prohibitively expensive.

Apple had foundered and lost millions with their first attempt to commercialise the Xerox concept with their Lisa, that was also too expensive. The Mac succeded by being a bit less ambitious than the Lisa. The present day colour Mac-IIs with large screens have become very similar to what the Lisa was, but before its time.

The Mac does make it all very easy, though not quite so intuitively obvious as Apple claim. It is all achieved at the cost of lots of additional computing power and resources though. The same is true of Windows. Windows does about as well as the Mac; better in some things, not quite so well in others. Macs have never been cheap and Windows is hopeless on anything less than a 386 with 4Mb memory.

The early Macs really didn't have enough grunt to adequately support the system and were annoyingly slow to use, like Windows on an inadequate PC. That's the penalty for wrapping the computer's control system in a very easy to use interface. If that's what you want; OK, just pay for it.

Even then, once you have been using the machine for half a year or so, the Mac/Windows style of operation can seem a hindrance in doing basic operating system tasks. You could do things faster at the command prompt. On Windows you can always click the DOS icon; on the Mac there's no equivalent.

So, don't skip the simple basics of using DOS; it puts you in much firmer control of your machine than any menu system or DOS Shell. Life would be much more difficult if you hadn't taken the time to learn to drive a car, wouldn't it? Command line systems are still the norm in mainstream computing, and are likely to persist for a long time because of their inherent efficiency. ❑

When is a SIG *more than* a SIG?

A: When it's on the GOLD COAST!

The Gold Coast SIG has all the characteristics of a SIG, such as all its participants are members of Brisbug, and it is self-funding. Unlike most SIGs which function around one leader, however, the Gold Coast SIG has a committee-type organisation, whilst retaining the informality and personal approach which give SIGs their friendly reputation.

There are about 100 Brisbug members in the Gold Coast area, which stretches as far inland as Mt Tambourine in the GC Hinterland. Many of these members are familiar faces at our Bardon Sunday meetings, but continue to support their local SIG which meets twice a month, on a Tuesday night, 7:00pm at the Broadbeach Senior Citizens Centre, Gold Coast Highway, Broadbeach. The venue is easy enough to find ... it's right next door to Jupiter's Casino, so if you're not feeling sleepy when the meeting finishes at 10pm you can nip in next door and increase the piggy bank for your new '586 grunter. Average attendance is around 30; ideal if you don't like crowds and want some friendly individual attention to your peculiar computer problem. The experience of members varies from the PC professional to the new user ... all are welcome and have something to contribute.

Refugee from the "Big Smoke", Carl Planting was "rewarded" for his efforts in forming the group by being appointed Chairman, with Joanne Ellis as Secretary, and Barry Moyle Keeper of the Privy Purse. Joanne doubles as newsletter editor.*(I want to know who draws their cartoons ... we could use him/her - Editor)* The newsletter currently runs 8 pages a month and, unlike it's "big brother", *Significant Bits,* runs on a break-even basis.

The GCSIG even has some (sub) SIGs ... for Genealogy, New Users and General, which meet on a different day to the main get-together. John Bedford's Genealogy Group, for instance, meets at his home on a Tuesday night.

A new addition to their facilities is a sub-set of the Brisbug's 7500 disk software library, including the very popular Kits. These are held at Nicotronics in Scarborough Street, Southport, just a few doors up from Chandlers.

Membership of the Gold Coast SIG is free to members of Brisbug. A small contribution is

Gold Coast SIG Chairman, Carl Planting

Software and Name-Tags man, Neil McPherson

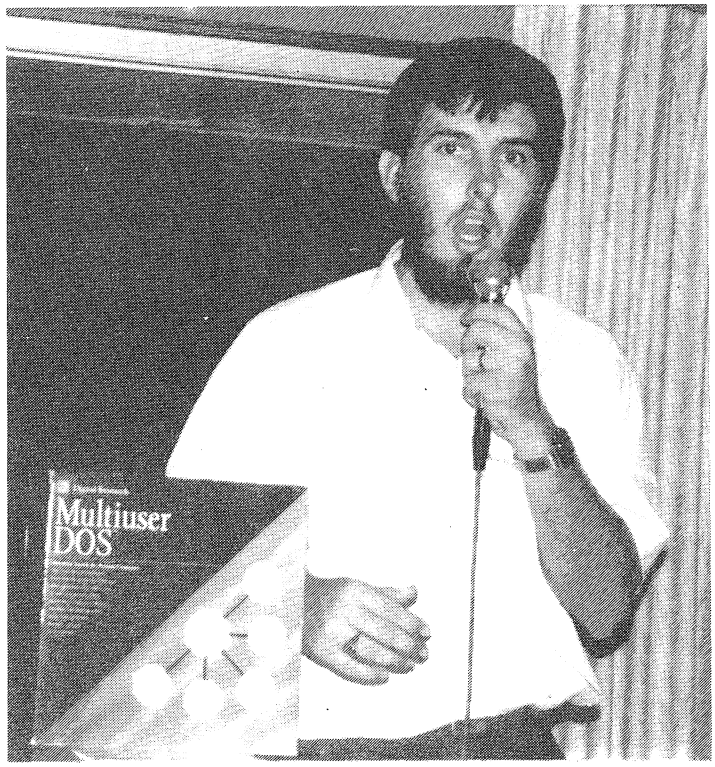
made by members and visitors towards the cost of the meeting venue and coffee.

Meetings include both a presentation by a visiting speaker, often accompanied by a demonstration, and a generous free-discussion period, for chat, technical and otherwise.

Recent topics have included

- CD-ROMs
- General Hardware
- Multi-User DOS
- Computerised Accounting
- Introductory Word Processing
- Computerland Presentation

Membership enquiries can be made to Joanne Ellis on (075) 710113.

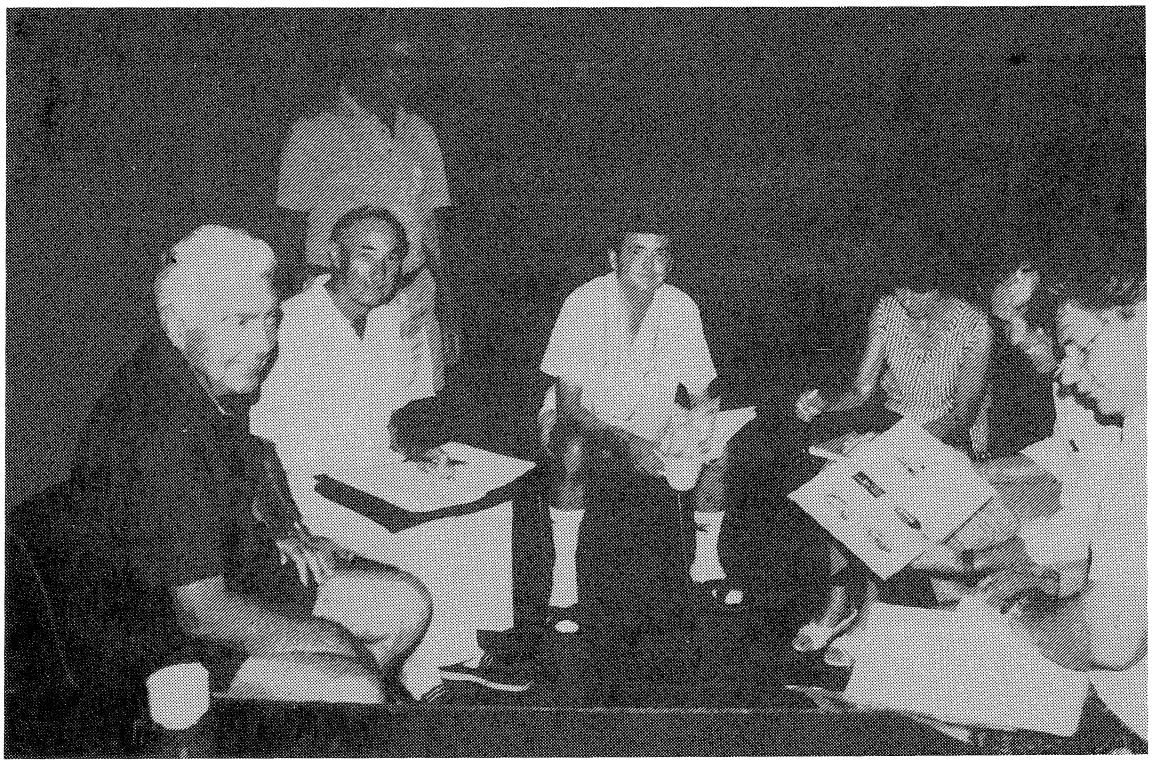


Kirk McPherson extols the virtues of DR-DOS V6

The Gold Coast SIG has a much larger proportion of lady members than the "Big Club" (Memo to:Brisbug membership Secretary. Please talk to GCSIG - Pres). Pictured here are Joanne Ellis, Secretary and Newsletter Editor, with new member, Jenni Mckell

GOLD COAST SIG

Some of the stalwarts of the Gold Coast SIG. From L. to R. - Neil McPherson, Joanne Ellis, Barry Moyle (Treasurer), John Ellis (Recruiting Membership), Carl Planting, Frank Norris, and Bill Harder



Members of the Genealogy SIG led by John Bedford (left)

COMPUTATIONAL HARDWARE VERSUS COMPUTATIONAL WETWARE

Rex Newsome

Big "brains"

As of new technology spawned by the second world war, the first computers were toted as "electronic brains." The first were awe inspiring and required up to 50 kw of air conditioning just to keep the computer room cool. Actually, the power of first generation machines would have embarrassed an amoeba.

Second generation computers were not much better. Even today, a day-old chicken is better computationally than a Cray supercomputer at things chickens do well. However, the feeble crunch-power of these first machines did not deter enthusiastic writers from proclaiming that soon electronic brains would be out-powering human ones. The belief was that it is all just a matter of attaining enough size and enough computing speed. That belief is still with us today in the quest for hyper-power and hyper-speed.

This article examines some differences between the way humans and computers work to see how justified is our quest for an electronic human-type brain. As you will see, we are a long way off from the day when a machine can be reliably swapped for a human for all thinking applications.

Artificial Intelligence

Recently, as computers have become bigger in capacity and fast, artificial intelligence (AI) has seemingly become within reach of even the home computer user. One recent magazine off the local newsagent even had a disk containing a free "neural net" AI program. However, before we get excited about the writing something that will to turn your 50MHz 486 into a problem-solving genius, take a cold shower, sit down quietly and consider the differences between electronic computers and real brains. Perhaps this article will help you get the problem into perspective. Mind you, despite the differences, electronic computers can come up with some impressive results.

Wetware

Without going into too much confusing detail, let's first look at the things human brains are good at. And while we are at it, we will look at some of the things human brains are not so good at.

Human (and most animal) brains, or wetware, are good at pattern discrimination. They are good at position detection and very fast adjustment and control of movements (think of the computational requirements to enable someone at slips to catch a 140 km/h cricket ball when it nicks off the bat!).

We have a super-vast capacity for storage of information -seemingly sufficient to store a lifetime of experiences. We are good at fuzzy problem solving where there is lots of missing data. We are good at inductive logic where a new concept may be produced out of a variety of seemingly unconnected instances. And we are good at constructing a solution to a particular problem we may face out of a collection of prior experiences, none of which are the same as the current situation.

"a day-old chicken is better computationally than a Cray supercomputer at things chickens do well"

Now, let us consider what the human brain is not good at. It is not good at algorithmic problem solving, at least, not without the aid of pencil and paper to represent and organise the process. As the number of variables to be manipulated becomes greater the human brain quickly becomes confused and bogged down.

We cannot remember a string of sub-answers to a total problem (add 1342x232 and 2532x314 without writing down the sub-products). Nor are we good at remembering a string of over nine digits for more than a few seconds -say, that taken between looking at a phone book and trying to dial a number. If we are delayed between looking up a number and dialling, the chances are that we will have forgotten.

We are poor at sorting out complex logical propositions. For example,
Given the rule that for X to be present a case must have the following l, m, n, o or p but not both given q and r only if s is not present or s alone. Now in the case where l, m, n, p, q and s are detected, is it a case of X or of not X?

This is the type of problem that a physician may face when trying to decide the presence of a complex disease such as AIDs. It also could represent a complex debugging problem with a program. Given the rule and the presenting symptoms, a suitable programmed computer can easily sort out the case. A human brain, such as one belonging to a local GP, will become confused quickly if fed serially a number of symptoms for diagnosis. Add a few more conjunctive/disjunctive rules and the brain jams up completely. The human brain is not good at recalling things from long term memory, at least, not for items that must be remembered quickly and without error. Sometimes, we get it just a little wrong. Sometimes we get it all wrong.

Also, our recall performance deteriorates under pressure (remember those exams where our mind went blank, only to present what we desperately wanted immediately after walking out of the exam room!).

Hardware, wetware differences

Most current computers are strictly serial processors.

That is, although they work at blinding speeds, it is one instruction and one operation at a time. Some parallel machines exist, and if one can believe Intel, there is a new CPU chip coming soon that will give our desk top device limited parallel processing. The most standard feature of hardware computational systems is the addressable memory. To hold an item of memory it must be put in a definite place. To get the item out of that memory place, its place address must be known or recalculated.

Serial computer, parallel brain

In contrast, for most part the human brain seems to work as a parallel processor, although it seems the conscious part works only as a serial processor in dealing with a single item at a time (try doing two simple long multiplications at the same time). Its architecture does happen to be something vaguely like a PC in that it has a set of special subsystems (like a chipset) for doing specialised processing.

Curiously, the brain doubles up on everything by a mirror image duplication of what is on one side with the other side, rather as if we had two motherboards sitting side-by-side in our skull. The two sides communicate through a SCSI type inter-connection called the corpus callosum.

There is good evidence, however, that the two halves take on different functions. Some unfortunately people who have had their corpus callosum severed have become virtually two conscious individuals sharing the same body!

People have been found that appear to operate normally on just one half of the brain. It is reputed that Louis Pasteur had one hemisphere that was entirely atrophied on death. He apparently functioned very nicely on half a brain.

Memory function

Whereas the PC stores memory images in arrays of addressable locations, our memories are stored associatively. That is, we use content, not an address, to find memory information. Human memory, thus, is quite different from computer memory. We see a face and use features of that face to sift for elements that can be put together to form a name. Our memory is also very fallible (Ever had trouble remembering your own name - say in responding to the policeman holding a breathalyser? Or have you ever given out an old telephone number instead of the well rehearsed new one?).

The human memory process appears to work by reconstruction using fragmentary elements rather than by finding and reproducing a memory trace. It is probabilistic in that it is a "best guess" at what happened originally at the to-be remembered event. In a sense, there is no physical memory trace. That is, there is no simple image pattern corresponding to a specific experience stored up there in our heads waiting to be accessed. Instead, our brain is modified by experiences in a way that predisposes it to produce one type of response rather than another.

Recall is not so much a process of pulling of an old memory out of a location, but one of constructing a new experience that satisfies us that it is like the old one. Sorry folks, but those vivid images of your past are all new ones that you generate during the act of remembering. That memory of our 5th birthday party is one put together of a whole heap of prior experiences and learning, and of quite a few that we have had since our 5th birthday. Our recall sometimes is also considerably modified by our emotional state at the time (and in addition, what we record of an event is modified by our emotional state, as courts of law well know).

"Recall is not so much a process of pulling of an old memory out of a location, but one of constructing a new experience that satisfies us that it is like the old one"

Now for the computer program. We know well how these work for simple algorithms, but what about the AI program? There are two alternative philosophies to the design of AI systems.

One, the black box approach, says that it does not matter much what you put inside the black box as long as the box does what you want it to do. To that view, that the human brain works as a sort of massive parallel processor, whereas you may have only one CPU in your black box is irrelevant, it is simply a matter of crunch power. The argument goes that if you can make your CPU bump along fast enough, you can make your computer look like a parallel processing system.

The brain as a Network System

An alternative philosophy is that the human brain is special in that it works as a network system (the idea of the brain as an electrical network is over a hundred years old. It is actually an electro-chemical network). The parallel processing feature of the brain is seen as being essential and intrinsic. A serial processing system, according to this view, cannot emulate the brain. Parallel processing networks use experience to modify nodes of the network such that it responds to an input in a different way each time. A memory is therefore represented by subtle changes in perhaps hundreds of thousands of interconnections that cannot be simulated by any serial process.

Network theorists claim that network systems can do things that serial-digital architecture cannot do. Emulationists, on the other hand, argue that it is not especially difficult to write a program to act like a set of nerve nets. If one chooses the right set of rules, these will do some remarkable tricks.

Neural networks can be used to solve many difficult problems, such as, for example, predicting economic trends from past stock-market information. A suitable large system hooked up to a speech synthesiser can be made to learn to speak just by 'rewarding' it every time it makes a slightly better approximation to a useful speech sound, as does the NETalk machine. With just a few days training NETalk can go from totally random machine sounds to ordered English sentences.

Amazing as this is, it is a long way from the linguistic capacities of a two-year old

child. For instance, a child has a vast advantage in capacity.

The human brain, besides having some 10^{11} neurones, has up to 80,000 synaptic interconnections between some single neurons and others. As a complex device, gram for gram, right now the human brain leaves even our most densely packed chips back at the beginning of evolution. One line of thinking in the AI business is that in any event trying to emulate human brain cells and the way these work is the wrong way to go about AI. Besides being inefficient to use whole sections of memory in simply emulating one human cell, one should go the way that is most efficient for an electronic digital computer.

"As a complex device, gram for gram, the human brain leaves even our most densely packed chips back at the beginning of evolution."

To this view, the computability or the black box approach, it does not matter how the internal process does the job, it is the result that count. Thus, it is a matter of finding an algorythimic way of solving complex problems, and of never minding how the human brain does it. A controversial question is "is there anything special about the human brain and the way that it works in that it cannot be emulated in inputs and outputs by a black box?" The hardheaded computationalists will say "No." In their view there is nothing special about human intelligence. Given enough crunch power and the right program, anything a human can do can be emulated by a computer. Others will argue that there are "special" intangible properties of human thought that can neither be defined nor emulated. But that is another story (the philosophers and theologians among the readers can have a good time with this one). Some further questions that might give readers fun in thinking about are: .

Given that we could eventually emulate a human brain with a stack of silicon wafers such that it can pass Searle's "Chinese room" test (essentially, it is that answers to messages passed in and out of the room are indistinguishable whether there is a Chinese gentleman in there, or a computer. Chinese was chosen by Searle because Chinese-to-English language translation is about the same order of linguistic isolation as English-to-Machine- code), would humans become redundant as thinkers?

Could a computer be conscious?

Could such a computer, being so intelligent, be said to be conscious? Would it have thoughts and feelings that are not simply predictable from an analysis of the circuitry and the running program? If there are readers interested in the challenge of AI, how about writing some simple AI programs. You might start with setting up a "Chinese room" test with limitations. Perhaps we might find enough people out there for a YAS (Yet Another Sig).

For the rapid reader who would like a change from PCs and PC literature to blow the cobwebs out of their minds I recommend the following:

References

Hofstadter, D. (1980). Gödel, Escher, Bach: **The Eternal Golden Braid.** Harmondsworth, Penguin.

Kosslyn, S.K.,and Koenig, O.(1992). **Wet mind: The new cognitive neuroscience**, New York: Free Press.

Johnson-Laird. P.N.(1988). **The Computer and the Mind.** London, Fontane Press.

Penrose, R. (1989). **The Emperor's New Mind.** Oxford. OUP.

Affiliated PC User Groups News

Cairns PC User Group

Max Baker's resignation as secretary due to pressure of work was accepted with regret. The new secretary is John Hampson, a computer teacher at Cairns TAFE, 21 Kavieng St, Trinity Beach Qld 4879.

March--Setting up a Database, Demo(John Brennan)

April--Laying out a spreadsheet (Tony Poyner) Plus BBS Sysop Noel Roberts on Modems and Communication

May--Demo of CD ROM (John Hampson)

June--Annual meeting 6:30 pm, Microsoft Works (John Hampson)

July--Clarion Database Demo(Frank Minjoy)

August--Demo of Midi Music (John Hampson & Guest)

September--Communications-Hints and Tips (Guest Speaker)

October--Demo of Corel Draw (Graham Walker)

November--More on Spreadsheets (Tony Poyner)

December--Shareware Specialties (Members)

Johnstone Computer Club--Innisfail PC User Group

Last year at the first Innisfail meeting I passed around page copies of Sig Bits and inadvertantly handed out my only copy of June 92. I will replace that copy with another if the person who has it returns it. (John Brennan)

The resignation of Secretary Audrey Eaves, due to pressure of work, was accepted with regret.

New Secretary elected is Lyndelle Coianiz, 10 Stanwell St, Babinda Qld 4861

CHKDATE . BAS

Ensure a sensible date setting

A QuickBASIC utility for use in AUTOEXEC.BAT
by Geoff Harrod

I wrote this little utility to fulfil a need on my wife's Toshiba laptop. I don't know whether this is a characteristic of all Toshibas or other laptops, but with hers, whenever she runs it on its battery until it drops, it loses its clock setting. It appears to use the main computer power battery for the clock which seems a bit silly. It also often loses its date if left unused and not on charge for several days. It irritated me to nearly always get files dated 1-1-80 or not long after that whenever we copied them into the home PC for DTP work or whatever. For one thing we couldn't tell at a glance which files were the most recently done when we couldn't remember the exact filename to use. I have a ''thing'' about wrongly dated files.

So one day I decided to do something about it and wrote this. The QuickBASIC compiler is indeed quick to get results from and also has very easy support for dates. Since the code could be used with the QBASIC interpreter that every user of DOS-5 has, I thought members might be interested to see it. It could no doubt be polished up considerably; I wrote it in about 45 minutes and it fulfils its purpose. If anyone wants to submit enhanced versions they're very welcome.

The program is intended to be called in the AUTOEXEC.BAT startup file. It checks the current system date as set from the CMOS clock. If it is 1-1-1980, which is DOS's fall-back date when it has not been set or has lost its memory, or if the date is earlier than it was the last time the program was run, it alarms the operator and insists on a date and time being entered. It won't accept lazy presses of the enter key!

So as to be able to check next time, it writes the current date setting to a file called LASTDATE . DATin the root directory. The first time it is run that file will not yet exist, so in that case it only checks for 1-1-1980. It doesn't check the time setting.

In all displays it uses the common international date format ''day-month-year'',

```
' CHKDATE.BAS    Geoff Harrod  2-Mar-93
' For Microsoft QuickBASIC 4.5 or DOS-5's QBASIC.

DECLARE SUB showdatim (mdy$)
DECLARE SUB getdatim ()
DECLARE FUNCTION valdate! (mdy$)

    PRINT "CHKDATE 1.1 G Harrod -- Checks for sensible system date."
    ON ERROR GOTO err1
    OPEN "\lastdate.dat" FOR INPUT AS #1
    last$ = INPUT$(10, #1)
    CLOSE #1
resume1:
    mdy$ = DATE$
    pre = valdate(last$)
    now = valdate(mdy$)
    IF (last$ = "01-01-1980") OR (now < pre) THEN
        PRINT "********* THE CLOCK NEEDS SETTING! **********"
        BEEP
        showdatim (mdy$)
resume3:
        ON ERROR GOTO err3
        getdatim
    END IF
    mdy$ = DATE$
    showdatim (mdy$)
    ON ERROR GOTO err2
    OPEN "\lastdate.dat" FOR OUTPUT AS #1
    PRINT #1, DATE$
    CLOSE #1
    SYSTEM
END

err1:
    IF ERR > 51 THEN
    '-- There is no prev date stored so get current date instead.
       last$ = DATE$
       GOTO resume1
    ELSE
       ON ERROR GOTO 0
    END IF
    SYSTEM
END

err2:
    IF ERR > 51 THEN
       PRINT "*** Error writing date check file \LASTDATE.DAT "
       PRINT "*** Date check system will not be fully effective."
       BEEP
    END IF
    SYSTEM
END

err3:
    IF ERR = 5 THEN
       PRINT "*** Bad time or date entry. Try again"
       BEEP
```

Listing continued next page

used in Australia and nearly everywhere except America. To absolutely avoid any confusion it gets the date entered by prompting separately for day, month and year.

Please note this will not work with XT computers, even those that have a battery clock. Those use various non-standardised add-on clock systems activated by a program file, as the XT design did not make provision for an automatic battery clock. This program depends on the standardised clock system built into the BIOS of PCs of the AT (286) type and later. It might do something undesirable if run on an XT; I just don't know.

It is desirable to use this as a compiled program produced from QuickBASIC 4.5, but it works OK through the QBASIC interpreter. The only disadvantage is that using QBASIC to run a program by the command

```
QBASIC /RUN CHKDATE
```

causes the program code to be momentarily displayed in QBASIC's full screen editor just before the program runs, which is a bit annoying and rather silly. It is also slower of course than the compiled program but that's really of no consequence for this.

I had to add SYSTEM statements to the code so that QBASIC wouldn't stop with the code on the screen after running it until the operator exitted by Alt-F,X. For compiling with QuickBASIC the SYSTEM statements are not needed, but do no harm.

If you have access to QuickBASIC 4.5 you can compile it to an EXE file by BC CHKDATE or by picking "Make EXE" from the "Run" pull-down. That normally produces an EXE program that needs the QuickBASIC run-time support module BRUN45.EXE to be accessible on the PATH at run-time. To make a self-sufficient EXE program you need to pick "Full menus" from the "Options" pull-down, and then click "Stand-alone" in the "Make EXE" dialog box.

I'll put the self-contained compiled EXE file together with the code on the BBS, and I've arranged with Lloyd to add it to that existing disk of my odds and ends #8452 "Knightsbridge Utilities" in the library. But it's short enough to just type it in and try out QBASIC.

❑

CHKDATE.BAS listing continued

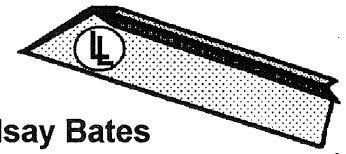
```
      GOTO resume3
   ELSE
      ON ERROR GOTO 0
   END IF
   SYSTEM
END


SUB getdatim
inval:
   DO
      INPUT "Enter day number ---------> ", d$
   LOOP WHILE (d$ = "") OR (VAL(d$) < 1) OR (VAL(d$) > 31)
   DO
      INPUT "Enter month number -------> ", m$
   LOOP WHILE (m$ = "") OR (VAL(m$) < 1) OR (VAL(m$) > 12)
   DO
      INPUT "Enter year ---------------> ", y$
   LOOP WHILE (y$ = "") OR (VAL(y$) < 93)
   IF (VAL(m$) = 2) THEN
      IF ((VAL(y$) MOD 4) > 0) AND NOT ((VAL(y$) MOD 1000) > 0) THEN
           IF (VAL(d$) > 29) THEN
                PRINT "*** Invalid day for February!"
                BEEP
                GOTO inval
           END IF
      ELSE
           IF (VAL(d$) > 28) THEN
                PRINT "*** Invalid day for February!"
                BEEP
                GOTO inval
           END IF
      END IF
   END IF
   IF (VAL(m$) = 4) OR (VAL(m$) = 6) OR (VAL(m$) = 9) OR (VAL(m$) = 11) THEN
      IF (VAL(d$) > 30) THEN
        PRINT "*** Invalid day for month no ; m$"
        BEEP
        GOTO inval
        END IF
   END IF
   mdy$ = m$ + "-" + d$ + "-" + y$
   now = valdate(mdy$)
   IF now < pre THEN
        PRINT "*** Date cannot be earlier than last time!"
        BEEP
        GOTO inval
   END IF
   DO
      INPUT "Enter time as HOUR:MIN ---> ", t$
   LOOP WHILE (t$ = "")
   TIME$ = t$
   DATE$ = mdy$
END SUB


SUB showdatim (mdy$)
   y$ = MID$(mdy$, 7, 4)
   m$ = MID$(mdy$, 1, 2)
   d$ = MID$(mdy$, 4, 2)
   PRINT "Current date: "; d$; "-"; m$; "-"; y$; " (d-m-y)  Time: "; TIME$
END SUB


FUNCTION valdate (mdy$)
   chk$ = MID$(mdy$, 9, 2) + MID$(mdy$, 1, 2) + MID$(mdy$, 4, 2)
   valdate = VAL(chk$)
END FUNCTION
```

Lindsay's Letter



Lindsay Bates

A big welcome to all! Here goes with another edition of LL! Thankyou to those who've commented on the new format. Your calls are important to help me know what you want to read. Suggestions welcome . . . To new readers (and old hands, too) computers can be pretty difficult at times. Just take it easy - but determine that you WILL learn to use your PC, no matter what! Brisbug is dedicated to helping you with that task.

◆ 1993 is shaping up to be a busy PC year. We're looking at an MS DOS 6.0 release before too long and it's going to be very interesting to see if they've done the necessary work to get the bugs out prior to release.

For many, the biggest news with the new DOS will be the in-built file compression which they promise will effectively turn your 105Mb hard-drive into a 200Mb monster.

◆ Our fastest computer is currently the DX2-66, now becoming more and more available locally. This latest CPU from Intel's 486 family brings a speed increase over the DX-50 and it's close relative the DX2-50.

◆ Also due this year is the next Intel family of CPU's. The long-awaited 586 is called the Pentium, and will bring the next major speed increase over the 66Mhz speedster mentioned above.

◆ 1993 is shaping up to be the year of the Network. In time, this is going to do some good things even for home computers.

Perhaps the major news in this regard is that Microsoft has just got into networks - their blurbs are calling Windows for Workgroups "the next version of Windows"!

Be that as it may, once Big Bill gets onto a given bandwagon - and they've now climbed firmly aboard the network wagon - we can expect an early increase in its popularity. For more details, see The Year of the Network below.

◆ Computer prices have been up and down (as opposed to the usual downward procession) these past few months. If the $A stays a little more stable, maybe things will settle down once more.

Meantime, some manufacturers seem to have had various supply problems (hardware and software), including Intel CPU's. In a fast-moving market like computers, such hiccups are probably inevitable.

WOW, DID YOU SEE THE NEW - - - ?

No. And interestingly, many people I talk to don't want to - well, not for a while, anyway. So what are the chances of the new gizmo working well if I buy it early on?

I'm often asked the question: "What do you know about the - - - ?" And I KNOW why you're asking; it's because it's still new.

Consider the software market for a moment.

DOS 4 was released to an unsuspecting computer public too early. The bugs you copped if you bought "brand new" DOS 4 had to be fixed with release 4.01. Many users contended that 4.01 still had bugs, anyway!

Lotus 123 v1.0 for Windows was one of the very late releases of all the new programs written for the Windows 3.x environment (so it should have been bug-free).

Here they didn't release v1.01 to fix all the bugs that were released in version 1.0. Instead they just tagged an A on the end of 1.0 instead (tricky)!

We could go on to talk about early buggy releases of PC-Tools and Norton Utilities - but it isn't always that way. MS DOS Version 5.0, for example, was released virtually bug-free (hope v6.0 is the same).

The lesson here is fairly clear. If you get the thing when it's brand new, you may have no trouble at all. But you may be one of the ones to help them find the bugs they missed! - and in the meantime have a lot of problems you could do without.

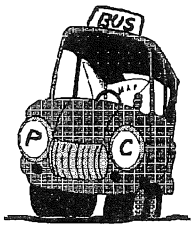
Okay, is hardware the same as software? Software bugs often - though not always - get the publicity they deserve. So many times we KNOW about the problems. Conversely, hardware "bugs" usually don't much publicity at all. And that's a pity.

Fact is, virtually anything that's new in the computer world is still on trial. Much new stuff comes from factories in S.E. Asia who sell by being first to market. They don't take time to get it right, and they cut corners to beat their rivals.

The PC world runs faster than a speeding bullet. Everything - be it software or hardware - is done FAST. So if you personally rush out and buy something that's new, you're certainly taking a risk.

As for me, I have enough trouble keeping my computer all functioning as it is, without adding in the imponderables of a product that's just hit the market for the first time.

Over the years, I've used three words that have helped me a great dealt: "I'll wait, thanks." Simple - yet very effective.



What's New

THE LOCAL BUS

The Local Bus is one of those new market products mentioned above. Are we ready for it yet?

Contrary to popular belief, the local bus is not what the housewife next door gets to transport her to the supermarket - though there may well be some similarities.

It took a long while for all but the technologically knowledgable few (phew!) to realise something very important about our 386's and 486's.

We all knew that they were 32 bit machines, speeding their data round the place in a path that's 32 bits wide. This means they do everything in the computer at 32 bits, right?

Well, no, it's not quite that simple. Consider the 386SX. Some of us had gotten straight the fact that this clever machine runs a mixture of 32 and 16 bits, but functions *as if it were a full-blown 32-bit machine.*

So the SX is a 16/32 mix, but the DX's, they're all 32-bit, aren't they? In the CPU, yes. But hang about - what's that 8-bit parallel card doing there in the 486DX-50? And next to it is a 16-bit monitor card! What are THEY doin' in a fast 32 bit machine?

Indeed! What's happened is that while the CPU's have gone from 16 bits to 32 bits, the rest of the computer has all manner of 16 bit paths and even 8 bit, all slowing down a task that started out *FAST*, right down to keep pace with the proverbial tortoise.

That's one powerful reason why a 486DX-66 does *not* run your programs a million times faster than a 386SX-33 - the CPU may have the capacity to do this; the 16 and 8 bit paths effectively short-circuit that capacity.

So along comes the idea of the Local Bus. Here we have the CPU talking back and forth with (mostly) the monitor card at 32 bits, not 16.

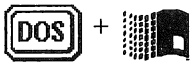
Pity the monitor card itself is still 16, but. One more time the PC world does us all a disservice by lagging way behind CPU technology.

And it's also taking awhile for the manufacturers to decide on a *standard* for the local bus. We need this so that everything in the computer - the mainboard, the peripheral cards, the peripherals - all work with it, to actually give some real speed improvement.

At time of writing some of the better PC manufacturers here are just starting to look at Local Bus technology. I look forward to being able to check this out in due course, and will keep you posted.

Meantime, in line with my "I'll wait, thanks" procedure above, I'll stick with the tried and proven mix of 8, 16 and 32 bits in my computer.

Practical Help Spot



RUN ALL YOUR DOS PROGRAMS FROM WINDOWS

If you regularly use Windows 3.1, why not run ALL your DOS programs from Windows? It's a breeze to set them up. Then you can easily run more than one of them at once as well.

Maybe you're like me, and never quite decided to run Windows - it just sort of happened over a period of time.

Recently I realised we do just about everything from Windows (including running many DOS programs), so I finally bit the bullet and changed the 'puter so it boots up straight into Windows. But more of that later.

CLICK AND DRAG WITH A MOUSE

If you're not sure how to click and drag with a mouse, now's the time to learn, so we can proceed to getting our DOS program into Windows.

Go to Windows Program Manager. Here you can use your mouse to resize the windows that reside there. Put the mouse cursor on the side of a window somewhere: the cursor changes to a double-headed arrow. Click and hold the left mouse button, and move the mouse; release the button.

You've now done click and drag! You may like to grab that side now, and put it back where it started from.

RUNNING A DOS PROGRAM FROM WINDOWS 3.1

Here's what to do to put your favourite DOS program as an Icon into Program Manager (Windows 3.1), so you can run it from there.

First of all, run File Manager, and find the DOS program you want to run. You need to do 2 things here: (a) find the Directory it's in, and (b) find the file that's used to actually launch the program. I'll use Lotus 123 as my example.

I've found the Directory, and it's called 123 (now there's a surprise!), I've found its program file to launch Lotus 123 also, and its name is 123.EXE.

Now stick with me here. It may not

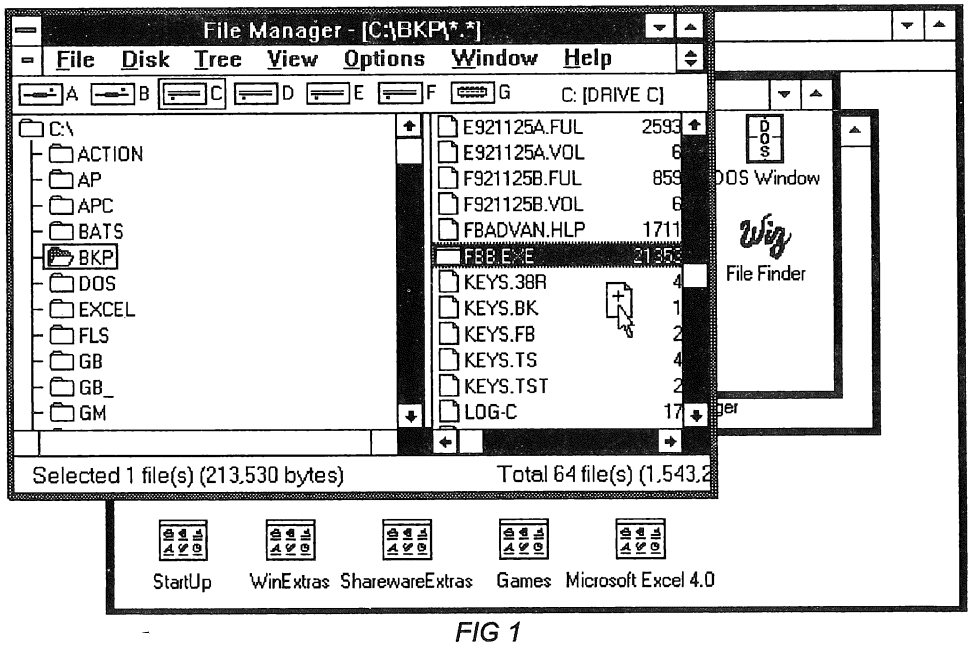


FIG 1

sound so easy as you read it - but actually doin' it really is a cinch.

We use our window-grabbing technique above, and move one side or other of the File Manager window, *until we can see just a bit of one of the windows in Program Manager.* As you do this, check that you can still see the file we found in (b) above.

If it's disappeared, you may need to juggle the window a bit. Ready now to do it?

Use click-and-drag again. This time put the mouse over the file, then click and drag it to one of the windows in Program Manager (any one will do), and release the mouse button. While you're dragging a little "document" with a + sign will come with you *(see Fig. 1).*

Click back into Program Manager and find your new Icon. It will have the name of the file under it, and will probably be an MS DOS Icon. And that's it! You can repeat this for as many DOS programs as you want (but the more you do, the longer Windows will take to bootup).

A final word. What do you do if your Icon ended up in the wrong window in Program Manager? Just use click-and-drag to take it from that window to the one you want it in. *Voila!*

THE YEAR OF THE NETWORK

Currently there are two major movements slowly building up a head of steam in the PC world. One is MULTIMEDIA; the other is NETWORKING. Both will affect our home computers.

There's no question that all of us will end up running multimedia on our computers. In its present stage of development this means a CD ROM Drive and a Sound Card (and, to be realistic about it, Windows as well).

To date it's added about a grand to the cost of our computer to go into multimedia. We can certainly expect prices to drop this year, and to see more and more developments in this exciting area.

1992 seemed to be the year when multimedia started to get going; 1993 looks to be the year for networking. Like multimedia, networking has also been a costly, as well as complex, exercise to date - but there are quite dramatic moves afoot to change all that.

We can look at networking on two very broad fronts: the larger commercial networks, and the smaller home or small business networks. The big move in the commercial front has come from - surprise, surprise! - Microsoft. With totally unaccustomed *lack* of fanfare, MS quietly called their new *Windows for Workgroups* (WFW) " the next version of Windows"!

WFW is a way of networking PC's and connecting that group to virtually any other network. It is a MAJOR innovation (a) because it's in the Windows environ-

Lindsay's SOAP BOX

I read that Microsoft expect to have Windows sold with 85% of new computers by the end of this year (you can't say that this Corporation doesn't know how to make money)!

Now maybe it's good for most computer users to have Windows on their machine. What bothers me about that thought is the complexity, and thus the sheer fragility of Windows 3.1.

Fact is, back in good ole DOS days, we all got a keyboard lockup once in a while. With Windows it seems to be worse - more things to go wrong; more things going wrong, more frequently.

Take the case of last month's Lindsay's Letter. I loaded it into the (Windows) word-processor to check on a graphic, and was promptly faced with a Protection Error which would NOT let me continue, but threw me out of the word-processor instead.

Now I know from bitter experience that continuing after such an occurrence is too much of a risk: safety says to at least exit and reboot Windows or else reboot the whole computer.

After I'd been thrown out for the 4th time (I had 3 documents on the desktop, and had to reload them after each reboot - DOS never had those complications!) I was beginning to get desperate. Fact was, I could not re-enter the document!

A lot of wasted time later, and just the odd rude word directed at Bill Gates, I finally got into the document by the ridiculous expedient of renaming it (no, I didn't believe it, either)!

But the point is made: Windows 3.1 (and the programs run under it) is just too complex and fragile to be the platform taking us toward the turn of the century.

Microsoft themselves point up this truth. Ever had occasion to ring their help line? Now I, for one, thoroughly applaud any software house who give you assistance with the package you paid them so much for.

If you've rung the MS help line, you probably had to wait an age to get through. Finally connected, the operator is likely to try and duplicate your problem on their computer, trusting it will play up for them as well.

It seldom does. The reason for this is clear: you have many programs on your computer that they don't. You probably have dozens of different files in the Windows directories. You have a considerably different config. to what they have.

Trying to duplicate your problem is largely an exercise in futility. So most likely you'll talk to them once or twice, then give up. Windows and Windows programs are just too, too complex.

There's no space to go on to speak of hardware problems experienced with Windows, where lockups and rebooting problems are just too frequent to be reasonable. In truth, such problems should be infrequent, or never.

I had more than the odd word to say about the appallingly poor programming of Windows v3.0. I've been, and continue to be, much, much kinder to v3.1. But the sad truth is that this version has a long way to go as well.

If Microsoft are serious about the Windows platform - and especially when used for business - it seems to me they still have a lot of work to do.

ment, and (b) because reportedly it's actually simple to implement. Networks have been notoriously difficult in the past. WFW seems set to change all that, and give a relatively cheap way of networking PC's as well.

NETWORK JUST 2 COMPUTERS

While WFW is still too expensive to use for networking two home (or small business) computers, there have been very interesting developments in this area. To date, mainly they enabled us to copy and manipulate files on the other computer. Now we finally have a cheap and relatively uncomplicated way of *truly networking two computer*s - and for a low cost (all up, $150 to $295).

Many people already have two computers at home or in a business. Via networking, you can share all the facilities of both computers. For example, you can load/run a program from the other PC, save files on the other hard-drive and share a printer and other peripherals.

Once you let your mind run riot about the advantages of having two computers connected, you'll understand something of the excitement this new development has engendered. I'll share more on this with you next month.

DOS *Practical Computing*

SOME GOODIES FOR YOUR BATCHFILES

All the following utilities are on Brisbug disk 8603, available from the Library.

1. BEEPS.

There are numbers of places where a beep is very helpful: as a warning, to tell you something's finished, and so on. I've used a little utility called BEEP.COM for years now, but BATCHMAN's BEEP is much more versatile - as well as being easy to use. Here's a simple beep. Run it from the command line, or in a batchfile:

```
batchman beep 300,1
```

To make the beep longer, increase the 1. To make it higher/ lower, increase/decrease the 300. Easy! You can stack the beeps. I use this as a warning in my AUTOEXEC.BAT:

```
batchman beep 400,1;400,1
```

You may like to try one of these:

```
batchman beep 200,1;300,1;370,5
batchman beep 200,1;300,1;370,1;250,1;370;4
```

You can even play tunes with this great little utility. Get the disk from the Library if you want to try (details at start of section).

2. DO IT ONCE

For those who found the Once-a-Day file in the Dec/Jan issue just a bit too daunting, here's an oldie that may fit the bill for you. DO-ONCE is an easy-to-use program to automate anything you want to do just once per day, on any day you want. Just put the file you want to run, after DO-ONCE in your AUTOEXEC.BAT.

So, to do a virus check first time you turn on each day (but only the first time):

```
do-once scan c:\
```

Or use it to do a backup of selected files (or whatever). Recently, I used DO-ONCE to set up a full backup regime for a customer - the whole disk each Friday and just changed files Monday to Thursday. For example, this will do a Fastback backup on Mondays:

```
do-once @Mon fb
```

This will do a backup on or after Saturday (i.e. on Saturday, or, if you don't happen to turn on that day, the very next time you do - it's the + that does the trick):

```
do-once @+Sat fb
```

You could use DO-ONCE to run a short batchfile to remind you to put out the rubbish on Thursdays:

```
do-once @Thu rubbish
```

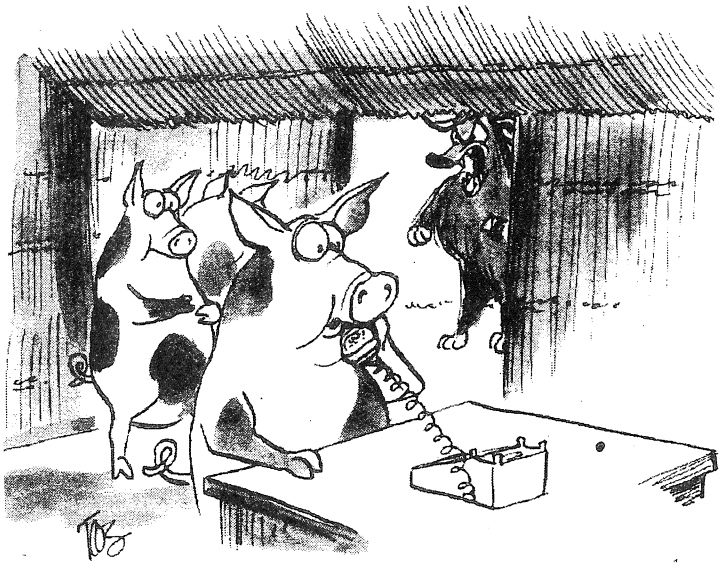
You can also do things on a certain day in the month, and so on.

About the only thing to note is that whatever you tell DO-ONCE to do, it will do immediately, the very first time you run it (to initialise itself). After that, however, it will work as expected. Enjoy!

Next time we'll look at a one-key option of booting straight into Windows, or just to DOS.

Finally, the above is a sort of return to the original HOT days!. If you'd like more of this sort of thing in LL, please give me or Nettie a buzz to let me know. 'Bye till next time. Till then, be happy!

-Lindsay Bates Ph: (07) 808 9441 after 11am.



"I need software for laying out the blueprints of a brick house, and could you hurry?"

General Protection Faults and How to Run Them Down - Part 2

F N Karmatz

Windows hangs ...

If Windows 3.1 hangs up going into the enhanced mode, it is usually at three points

—after you type WIN and hit enter, it returns to the DOS prompt;

--it defaults to the standard mode when you type WIN;

--you get a message from DRWATSON while attempting to run an appli cation, which indicates a general protection fault.

You may get the first two if you are not running an 80386, don't have 200K of free memory, lack 1024 of free extended memory, or don't have 2MB of free disk space. So check these first. (I have found temp files clogging a partition on my hard disk, which resulted in Windows not running an application).

The Troubleshooting Procedure

Microsoft's troubleshooting procedure, as outlined in its Product Support Services Application Note (WW0525), for the enhanced mode is first to try and force Windows into the enhanced mode by typing `WIN/3`. If this works, you likely don't have 1024K of extended memory required. Solution: make sure you use Windows `HIMEM.SYS`, not the one in DOS or some others that are available on BBSs. (The same holds true for `EMM386.EXE` and `SMARTDRIVE`—the Windows ones are faster and more powerful.)

Next, try starting Windows either with a boot disk or `REM` out all terminate-and-stay resident (TSRs) and all other programs that are required to run your operating system. You can also free up extended memory by reducing the size of any disk cache, RAM drive (and `SMARTDRIVE`).

Microsoft then follows a procedure similar to that discussed in Part 1. Try to start Windows by using the upper memory block switches (UMBs). `WIN/D:XVS`. If this is successful, try each one to see where the conflict location is.

That is, `WIN/D:X` switches the entire upper memory block region from A000-EFFF. It is the same as adding

```
EmmExclude=A000-EFFF
```

to the [386enh] section of your `SYSTEM.INI` file. (Note—be sure first to disable the `EMM386.EXE` in your `CONFIG.SYS` file.)

`WIN/D:V` switch is equivalent to adding

```
VirtualHDIrq=OFF
```

to the [386enh] section of your `SYSTEM.INI` file.

`WIN/D:S` switch is equivalent to adding the line

```
SystemROMBreakPoint=OFF
```

to the [386enh] section of the `SYSTEM.INI` file.

Whichever of these switches allows Windows 3.1 to start in the enhanced mode, use an editor such as Notepad to incorporate the correct switch in the `SYSTEM.INI` file.

Before trying to run Windows, change to the Windows directory to check for file locations that Windows needs to start. When Windows reads its .INI files, it looks for specified files in the following locations:

1—the current directory
2—the Windows directory
3—the Windows\System directory
4—all of the directories listed in the path of your `AUTOEXEC.BAT` file
5—all of the directories mapped for a network

If there is a dated mouse driver, for example, Windows may not start.

Try Standard Mode

Verify that Windows can run in standard mode by typing `win/s`. If Windows can run in the standard mode , you could have a keyboard, video, or printer or mouse driver designed for a previous version of Windows. To change a printer driver,

If you start Windows by typing Win/b, you will create a file called BOOTLOG.TXT in your Windows directory. You can view it with any text editor. Windows creates a list of basic Windows drivers in this file as they are loaded. If you have a problem with any drivers while loading, a statement appears in this file showing which driver didn't load. Thus, you can see what isn't functioning properly and take an appropriate action, such as investigating whether it is creating a GPF. (Delete BOOTLOG.TXT each time you have finished reading and using it, so it doesn't add new information to an existing file.

The following is a list of error codes that may appear in the BOOTLOG.TXT file:

0	out of memory
2	file not found
3	path not found
5	attempt to dynamically link to a task
6	library requires sepa rate data segments for each task
8	insufficient memory to start application
10	incorrect windows version
11	invalid .EXE file (either a non-Windows .EXE file or an .EXE image error
12	OS/2 application
13	MSDOS4.0 application
14	unknown .EXE file type
15	attempt in protected mode load an .EXE file created for an ear lier Windows version (in standard or enhanced mode)
16	attempt to load a second in stance of an .EXE file con taining multiple writable data
17	attempt in a large-frame EMS mode to load a sec ond instance of an appli cation that links to non-sharable DLL's already in use
18	attempt in real mode to load an application marked for protected mode

start the Control Panel and click on the Printer icon. To change keyboard, video or other drivers, choose run from the Program Manager, type setup, choose OK. This brings up the System Information Screen. from the Options menu, click on Change System Settings.

Check the Hardware Compatability List

Also check the hardware compatibility list, a .TXT file that comes with Windows. Obviously, if there is a driver listed as non-compatible, take it out. You can go down the list of drivers listed in BOOTLOG.TXT eliminating all but a minimum of drivers. Another way is to delete Windows and reinstall it using the setup/I switch, if you can't find which component is preventing proper operation.

Disable the auto sensing or auto switching on your video card, if it has those features. And disable the video ROM shadowing if used on your system. (It is assumed you are using DOS 5.0 in this procedure.) Also confirm that you are using a BIOS dated 1988 or later (The BIOS date should appear on your screen when you first boot up.)

Ensure that your HIMEM.SYS loads successfully. If it does not, try all A20 handlers available to that version of the HIMEM.SYS in your CONFIG.SYS file. Include a /M switch, such as

```
DEVICE=C:\HIMEM.SYS /M:x,
```

where

x denotes a handler number—
M stands for your machine name,
ie.g., Toshiba=8.

Thus it would read

```
DEVICE=C:\HIMEM.SYS/M:8.
```

See page 545 in the Windows User's Guide for all the codes.

Finally ...

The last step, if none of the above sequences work, is to remove all additional hardware, such as mouse, modem, FAX board, network card, etc., to see if there is an IRQ conflict. As with software, reinstall each item and run Windows to see whether an interrupt request (IRQ) exists. If one does, usually the IRQ can be changed by changing a jumper on the board of the hardware item. Usually, the instructions for installation show the jumpers and suggest how to change them. But thatÆs outside the scope of this article.

The above sequential approach is what Microsoft suggests for Windows startup problems. Microsoft claims that this procedure works for almost all machines that have ever run Windows.

Experiences with Multimedia Capture and Storage

Sylvia Willie, Michael Middleton, Alan Wheeldon and Colin Canfield

Over the past few years, various colleagues and I have been interested in the problems associated with graphics, particularly bit-mapped graphics, incorporated in documents and teaching materials. During the past six months we have been involved in a project which has a long term goal of improving the quality of teaching and student learning through use of innovative computer technologies. We want to create a database of teaching and learning materials which can include text, drawn graphics, photographs, animation, sound and video in a machine readable form. Much of the research and testing to date has focused on the capture and storage of these materials on both PCs and Sun Workstations.

Many issues of the use of multimedia have become apparent. The main ones are the large quantity of storage space required and the limited availability of adequate production tools.

One focus of our work during the past six months was to look at various options for image materials mainly in terms of standards, storage requirements and ease of processing. We also directed some attention to potential adaptability, retrieveability and efficiency for presenters and their audiences. We concentrated on solving the problems with conversion of current data to computer readable form so it can be stored in an accessible form on QUT's Pathworks network. Some lecture and teaching materials which were originally in paper form were converted to character format or image format for electronic storage and the outcomes measured.

We also looked at the potential for classwide collaboration via electronic messaging (e-mail).

Storage requirements.

Storage space for learning materials is a major consideration as it affects the quantities of storage required and costs of storage devices, floor space requirements as well as query and retrieval capabilities.

Character format (most commonly ASCII) is the most compact way to store information. However, it can only be comprised of letters and numbers. This is the form which has historically been used in computer storage.

A typical single spaced page contains approximately 2,500 characters and the common 3½ inch high density floppy disk can hold 1,440,000 characters or approximately 575 pages of textual information.

Better teaching materials also use graphic images to illustrate relationships between concepts, to show hierarchies, flows and phases. However, graphic images such as line drawings and photographs cannot be described with the same 256 unique codes used for text and there is currently no single agreed form in which to store graphic materials.

Lecture materials vary in their use of graphics. Some would have none while others would benefit from use of many images. Among the tests we carried out, we took a typical set of lecture notes with 7 pages of text plus two half pages of graphics, 8 pages in all. Space requirements for this 8 page document, depending on the storage method selected, were as follows:

Storage requirements for one lecture (no motion or sound)	Size in Bytes	Number of 3½" disks required
1. ASCII (no formatting, graphics not stored)	17,003	.01
2. Wordperfect (formatted but graphics not stored)	19,779	.01
3. Wordperfect (formatted with 3 text boxes added)	50,629	.04
Wordperfect with 2 half page graphic images		
4. - in Encapsulated PostScript (EPS) format	147,872	.10
5. - in Wordperfect (WPG) graphic format	162,929	.11
6. - in MS Windows (BMP) format	553,723	.38
7. Scanned PCX image for all pages	1,689,424	1.17
8. Scanned TIFF image for all pages	8,397,168	5.83

Table 1. Storage requirements for one lecture (no motion or sound)

Looking at Table 2, we can see that ASCII format lecture notes are certainly feasible in terms of disk storage, although not as useful as lecture notes which incorporate illustrative graphic materials. Where the majority of the material is stored as some form of text (we used Wordperfect as a surrogate for any of the modern word processing forms) and graphic formats are used only for non-text, storage requirements are still practical as only two diskettes are required per subject.

Standards for Graphic Image Storage

Bit Mapped Formats.

Six major families of bitmap image storage standards are in general use on the DOS operating system, PCX, DIB, TIFF, GIF, EPS and FAX. Each is a format for storing and recreating the colour and position of each pixel of an image displayed on a screen (its bitmap). Different approaches are used by these storage formats which have their respective advantages and disadvantages. Compression achieved depends on the initial image but the typical range is from 2:1 to 5:1.

Bitmaps have some major shortcomings such as susceptibility to device dependence particularly as regards colour, implied resolution and aspect ratio and large storage requirements. A new internationally agreed standard, JPEG, is emerging which overcomes many of the problems encountered by the traditional bitmap based systems. However, very little support for the JPEG format currently exists in hardware or software used at QUT.

Systems which store information about a drawn image such as that created in Wordperfect Corporation's DrawPerfect, CorelDraw or CAD usually require less storage space. We investigated the Wordperfect graphic storage format (WPG) and Encapsulated PostScript.

When we scanned all pages of the lecture notes, creating a stored picture of them, storage requirements were not practical.

Multimedia materials include not only still images but materials which change over time such as animations, videos and sound. Data storage requirements for moving photographic media such as video become large extremely quickly. For a large size image (640 x 480 pixel), stored at only one frame per second approximately 20 Megabytes per minute of storage is required without sound. The Australian video standard, PAL format, displays 25 different frames per second so full motion would require 500 Mbytes per minutes plus sound. Uncompressed video storage in not even remotely viable because high capacity disks such as the newer disks on the QUT VAX Cluster each holds only 2,000 Mbytes (2 Gigabytes) and CD-ROM disks can only store a maximum of 650 Mbytes. This is 4 minutes and just over 1 minute of uncompressed video respectively.

The time varying compression standards, MPEG, DVI and CD-I, are addressing this problem by compressing the information, mainly by accepting extended processing time during compression, but providing for very rapid decompression on playback to achieve moving video. All three currently are achieved with special hardware which compresses the materials to as little as 1% of the original requirements, but allows high quality playback. They all make use of the fact that adjacent frames of a movie, video or animation are largely identical. A complete image is stored, then just the differences from that image are recorded for subsequent frames. This is what allows them to achieve such high compression ratios while maintaining high quality images. Obviously, these methods can only be used for active images which exhibit these characteristics.

Unfortunately, like still images, no agreed single standard exists. The major software scheme for the future appears to be MPEG. This can achieve 320 x 200 pixels (1/4 screen) by 25 frames per second using around 8 megabytes of storage per minute. The standard for this format is still being discussed although finalisation is expected within 1993.

Hardware compression using DVI hardware in Intel standard personal computers is also available. This achieves 640 x 480 pixel, 25 frames per second (full screen, full motion video on a Video Graphics Array (VGA) computer monitor) at 10 megabytes per minute with CD quality sound included. Our Multimedia Research Group does not have compression yet so we have used a strategy of providing 1 frame each second which delivers useful visual information, but in a very crude, jerky form.

Storage requirements for one semester (no motion or sound)	Number of 3½ disks required: One Subject	All 95 FIT Subjects
1. ASCII (no formatting, graphics not stored)	.17	15.7
2. Wordperfect (formatted but graphics not stored)	.19	18.2
3. Wordperfect (formatted with 3 text boxes added)	.49	46.8
Wordperfect with 2 half page graphic images		
4. - in Encapsulated PostScript (EPS) format	1.44	136.6
5. - in Wordperfect (WPG) graphic format	1.63	154.9
6. - in MS Windows (BMP) format	5.54	526.3
7. Scanned PCX image for all pages	16.89	1604.6
8. Scanned TIFF image for all pages	83.97	7977.2

Table 2. Storage requirements for one semester

AVI for Microsoft Windows machines and Quicktime for Macintosh are becoming prominent. They are both efficient and well integrated into their respective operating systems but are not available across platforms.

MPEG players are becoming available on all platforms but capture is currently limited to a few systems. DVI capture and play has been available on the Intel/PC platform sing 1989 and is in development on additional platforms. When we have DVI capability (within the next month) we will be able to report more accurately on its potential. We also plan to have at least some of the MPEG standard implemented for comparison.

Production Tools

Substantial work has also been carried out during the semester to solve the problems with synchronisation of sound with the moving image. Commercial MPEG and DVI video capture systems cater for this. However the system we put together in the past six months needs more work to achieve satisfactory outcomes. Our current sampling of one image per second is dictated by our current equipment and software. We find exact time placement of the image difficult. This problem is compounded by the unpredictable nature of timing requests on available operating systems.

When a compression scheme is incorporated the problem becomes even greater. Human vision merges discrete images into an apparently moving image (a characteristic which is the basis of cartoon animation and indeed the movie industry). However our hearing picks up short discontinuities in sound. Further development of tools (either here or elsewhere) will produce products to help produce seamless combinations.

Extremely good tools for image manipulation, format conversions, 'slide shows' and compression have been obtained from the public domain. A set of utilities called Maestro enable sound recording, some editing, controlling of video cassette machines and laser discs, text documents and slide shows but as of yet it does not support digitised videos. Maestro has been built with extendability in mind so building a digital video/sound synchronisation extension tool may be possible.

The portable bitmap utilities on Sun allow complete still image conversion for most known formats. In the future these may be extended to assist in moving image conversion. Manipulation and viewing is possible using xv, a public domain Sun based product; Digital Photo, a commercial product, also allows this. We are maintaining a watch for the release of further tools being developed at major sites around the world which should become available in the near future.

Delivery of motion images in on-line interactive learning materials has severe limitations at this time because of the storage and transmission limits. However, the decreasing cost of storage and processing, improved compression and higher processing speeds will combine to bring the goal within reach probably within the next two years.

Ease of Processing for Presenter and Audience

If a particular word processing or desk top publishing package (and version) were truly to one organisation such as a University standard licensed to all staff and students, attention could be tightly focused to only those standards used by that application. The truth is that Wordperfect, the official standard, is not universal even at administrative staff level. Additionally versions 4.2, 5.1(DOS), 5.1 (Windows) and 5.2(Windows) of Wordperfect are simultaneously in use. While similarities are greater among versions of Wordperfect than between Wordperfect and, say, Microsoft Word or Xi-write, a document produced in Wordperfect 5.2 is not useable on 4.2 although the reverse is not a problem.

During the last half of 1992, lecture materials for a third year subject in the Faculty of Information Technology were produced in printed and two machine readable forms, ASCII and Wordperfect 5.1(windows). The printed form included all graphics, the ASCII form had no graphics and the Wordperfect format contained some of the graphics. (We did not have a scanner capable of producing useable graphical images until late in the year.)

These materials were made available to students in the library (printed form) and on copyable disk or downloadable from the etwork form (both machine readable formats). A large proportion of students accessed the materials prior to class.

Students most commonly used the ASCII format although a few students used the Wordperfect format which had a better layout. Students reported satisfaction with all formats even though the ASCII text often wordwrapped inappropriately so it was more difficult to pick out cues to major points from the layout.

This was not a problem, at least for English speaking students, because they could add appropriate highlighting based on their lecture notes. Further investigation is needed to determine the key factors which make electronic documents useable.

Printer capabilities also constrain the useability of graphics which are transferred from one application to another then printed at the low resolutions achievable by common dot matrix printers. More work needs to be done in this area to determine reasonable limits which maximise the proportion of students who would be able to use an electronic document which included graphics.

Transmission across networks

QUT Network services utilise fibre optic links between the various QUT campuses and faculty nodes. These fibre optic links are capable of supporting data transmission rates of 10 Mb/s (Million bits per second). Off-campus services are provided by dial-in modem connections operating at 2400 bps (bits per second) located at the computer centre. The Faculty of Information Technology proposes 9600 bps modem connections, but hacker attacks last year have delayed their use.

Transmission of course materials across networks has been considered from two perspectives, on- and off-campus. each of which is subject to two usage types, downloading data and interactive applications.

On Site Data Extraction Case	Data Size (bytes)	Time in seconds to transmit (@10 Mb/s)
1. ASCII, no graphics	17,000	0.0136 x 3 = 0.04
5. Wordperfect, graphics	162,929	0.1304 x 3 = 0.39
8. TIFF image	8,397,168	6.7176 x 3 = 20.15

Table 3. On-site Data Extraction Rates

Downloading data on a Campus or within an organisation

We looked at the time it would take a student to download our typical lecture using an on-campus site for three representative formats in the original data (as shown in Table 1) with the results shown in Table 3.

All three cases indicate the on campus network is capable of providing a satisfactory service where information such as lecture notes are retrieved from the network by a student.

Organisational Interactive Applications

Interactive learning materials which are largely text based with a few graphic images are feasible with our current technologies. However, when these materials need motion images and sound the networks will need to be greatly enhanced and viable compression techniques utilised.

Downloading from Off-Site

Based on the same three cases as before and assuming students would use the commonly available 2400bps modems, retrieval of the same one lecture's worth of material from their home would require times as shown in Table 4.

For case 1, an ASCII file with no graphics, the current modem connection is capable of providing a satisfactory service.

For the Wordperfect with graphics document (Case 5), the current modem connection is capable of providing a satisfactory service as measured from student reaction to participation (semesters one and two, 1992) in transmitting similar volumes of data via the Internet e-mail service using a modem connection. Students with modems did connect for 27 or more minutes.

For Case 8, the current modem connection would not provide a satisfactory service for either the University or the student as it would require more than a 23 hour connect time. Using the faster 9600 bps modem would still not give an acceptable solution to this problem although the time required would drop to a little less than 6 hours and the cost of a modem capable of operating at 9600 bps. is prohibitive for most students. The earlier comments regarding printer limitations are also relevant as the network is not the only limiting factor for image based storage.

Interactive Applications from off-campus

Based on general observations of interactive application programs running over 2400 bps connections, it is unlikely a satisfactory service could be provided except for ASCII (text, numeric) based applications of a question/answer or query/list type.

Interactive applications will need to be downloaded by the student then run on their local computer. Where these materials are developed under Educational-site-license agreements, this arrangement poses no problem. Where software publishers require a license for each machine on which the software may run, extraction from university networks to run on an off-campus computer is financially unworkable.

Looking at the four scenarios considered, the overall picture is favourable. All on campus network links are capable of providing a satisfactory service and, in practice, extramural network links are also capable of providing a satisfactory service for downloading largely text materials.

Important network issues not considered so far include the Integrated Services Digital Network (ISDN) and aspects of multimedia such as volume and transmission speed of data and the development of industry standards addressing such issues. ISDN with its 2B+D channel offerings (2 x 64 Kbps for data + 1 x 16 Kbps for signal) encompassing a switched multi-megabit data service (SMDS) and leading eventually to a broadband ISDN (BISDN), a two way 150 Mb/s service, should be capable of providing the network capacity to enable satisfactory transmission of educationally desirable materials to off campus students. A limiting factor here may be the cost of equipment required to connect to such services.

Off-Site Data Extraction Case	Data Size (bytes)	Time in seconds to transmit (@2400 bps)
1. ASCII, no graphics	17,000	56.66 x 38 = 170 (2m50s)
5. Wordperfect, graphics	162,929	543.1 x 3 = 1,629 (27m9s)
8. TIFF image	8,397,168	~28000 x 3 = 84,000 (~23hrs)

Table 4. Off-Site data extraction times

Complimentary to the expectations of ISDN capabilities, work on compression and retrieval standards, as discussed earlier in the document, indicates that multimedia applications (text, audio, still image and moving image) will require less network bandwidth in the future.

Retention and reuse of good illustrative material.

Assuring reuse and retention of good illustrative material through electronic storage is not as simple as it first seems. Longer term, the solution appears to lie in object-oriented systems where we can define the object as the image together with the processing required to display it.

Experience of the significant Intermedia project at Brown University has shown the vulnerability of electronically stored materials which are dependent on particular hardware and software. The world wide move to open computing systems from traditionally proprietary ones is a reflection of this problem in the commercial world.

The most efficient short term solution which can only be provided on a single platform can be uneconomical in the longer term. In the case of Intermedia, educational materials developed by George Landon and Paul Kahn which provided collaborative student directed learning, are no longer useable because they relied on proprietary software which is no longer supported. Some efforts are now being directed toward moving portions of those materials to other systems.

Paul Kahn sees the ideal solution as an information operating system which ensures maintenance of information and the highly interactive capability which proved so useful to student learning. However, this flies in the face of the move to more open systems and would require a large commitment on the part of the university to long term human resources to maintain the system as hardware became obsolete.

Our approach has been to look even closer at what international standards are currently available or under discussion, what their benefits and shortcomings are, and how they fit with QUT or other large community systems.

/over

GLOSSARY

ASCII: American Standard Code for Information Interchange. A long established 7 or 8 bit format for representing English characters and numbers. This is a widely used format. Formatting codes for page layout are not standardised among word processors and are not included in ASCII code.

AVI: Audio Visual Interactive.

CD-I: Compact Disk-Interactive is a Philips product which also uses proprietary hardware to compress images and replay them. Compression hardware for personal computers is not available. The main thrust of this standard is toward delivery of home entertainment and some education.

DIB: Device Independent Bitmap is the bit-mapped image storage standard for Microsoft Windows. As various resolutions are used, the MS Windows system converts bit-maps from one resolution to another as needed, overcoming one of the major problems with bit mapped images.

DVI: Digital Video Interactive is an Intel product which uses proprietary hardware to perform the time varying compressions to achieve useable to professional quality video and sound in 1/100th the storage required for uncompressed equivalents. The compression hardware for 'real time video' is available for the PC platform and is under development for other operating systems.

EPS: Encapsulated PostScript. PostScript is a page description format placed in the public domain by Adobe Systems. It is based on vector descriptions which can be used to exchange data between applications. It has the advantage of producing highly scalable images. Not all software can produce, export or import the format. There are currently few PostScript display monitors available except in Unix workstations. If this changes, the format has great promise as it allows formatted text, graphics and even photographic images to be transferred from one platform to another.

FAX: This is a lossless, black and white image compression family. Some formats support grey-scale image as well. Fax image is used in some commercial document image storage systems because the document can be output to FAX machines. Unfortunately, there is no discernible support for FAX formats in standard applications.

GIF: This is a lossless bit-mapped image storage standard which was developed for CompuServe networked bulletin boards. The image quality and compression are impressive, but the format is seldom supported by commercial products.

Hypermedia: Visual, textual and audio data in an interconnected network of nodes.

Hypertext: Textual data stored in a network of nodes interconnected by linkages which allow user to move along a conceptually connected path.

JPEG: The Joint Picture Expert Group standard is a lossy (some detail is lost when the image is compressed) but internationally agreed standard. However it attains superior compression for colour photographic images. The compression attained for black and white text is not as good as most of the bit-mapped standards.

PCX: Originally created for PC Paintbrush graphic files. The widely used bit mapped image standard was created by ZSoft Corporation. This is a family of bit-mapped image storage standards which are supported in all major DOS applications which handle graphics. The family of standards has members which support images from simple, low quality black and white to near photographic quality colour.

Continued

Continued

Not all member formats are supported by all applications and transferring a full colour image to black and white entails substantial degradation. However, the PCX formats generally use efficient and lossless compression algorithms. The image can be stored in reduced form, and decompressed to its original clarity so long as the hardware and software used for compression and redisplay are compatible.

MPEG: The Motion Picture Expert Group has developed a new internationally agreed standard, but for compressing time varying data such as video image and sound. As such it would not be used for learning materials which did not require a motion component. It is said to achieve a compressions of 50:1.

Multimedia: Visual, textual and audio electronically stored data used together to enhance communication of information.

TIFF: Tag Image File Format is commonly used for storing and interchanging scanned images. It is particularly suited to gray-scale graphics. Importantly it can be used for both DOS and Macintosh platforms as well as some Unix and mainframe applications. While desktop publishing applications can handle TIFF images, reasonable quality is difficult to achieve, even on a laser printer.

WPG: The Wordperfect graphic format used by Wordperfect and Drawperfect is a vectored image storage system and achieves similar storage efficiencies to EPS. The format is only supported by Wordperfect although some other application programs, such as CorelDraw will export this format.

Develop appropriate indices using existing techniques

Traditionally, indexing of text material such as books or articles for later retrieval using database and information retrieval software has been done either manually or by computer-assisted text analysis.

When the material to be retrieved combines text and images, initial prototypes have relied on manual indexing to both the text and software. One of the prototypes, the VTLS Infostation, permits text-based retrieval from a multimedia database and automatically starts the appropriate program to show any of the media as they are retrieved.

Automatic image analysis for indexes is desirable and some work is being done on this around the world. An interim approach is to use Optical Character Recognition technology to extract a textual (i.e. ASCII) representation from a structured part of an image - perhaps an index term box.

It is preferable to be able to create multimedia databases that permit text or image retrieval but a controlled and mergeable index language for both text and images is required. If the image index is to be created automatically it requires prior definition of significant structure (silhouettes) for objects of interest, followed by application of automatic pattern recognition to find these silhouettes in the images to be indexed.

The most promising avenue appears to be to use a variety of existing database and pattern recognition and retrieval software that can run on either the PC or Sun hardware we have available. We have been locating and evaluating existing software to see what may be useable and useful on the hardware platforms available to us.

Materials available for Takeaway use and across multiple platforms

Our ideal is to have all electronic learning materials available from QUT networks. FIT, CBE and Computer Services are all working toward these goals. However, the intense hacker attacks sustained during the past semester have actually decreased or eliminated access to networks by students. An optimistic forecast is for this access to be restored in full. More realistically, stricter security always decreases accessibility with the ultimate in security disconnection from any outside

In our project, an average week saw our CSO spending at least a day dealing with hacker attacks. In bad weeks, most of his time was spent rebuilding our small network and instituting better security including tracking mechanisms. This same activity was necessary across all systems at QUT so the manhours lost during the semester were enormous. It is unfortunate that a very small proportion of students can so effectively eliminate services to the majority.

Text and graphic materials will be the easiest to make available across multiple platforms. In fact the links between VAX-Pathworks, DOS and Unix are currently in place for text materials.

VAX-Pathworks and DOS will be used in the coming semester by one of our subjects to provide students with access to Microsoft Works. They will be able to use this from at least two locations at Gardens Point as well as other campuses.

Interactive instructional materials are currently distributed on disk to students through the computer laboratories. While network availability would be preferable, this may not be possible within the next six months.

Conclusion

Multimedia is an exciting and rapidly changing field as well as being the 'darling' of the advertising industry this year. At present, working with images, sound and video still requires high end equipment such as 486DX machines with very large hard disks. The hardware is available for around $3,000 so long as you are not heavily involved with video. Working seriously with video capture requires at least 500 Mb of disk space and hardware for capture, compression and reply. These items are still expensive and would add nearly $10,000 to the price of the computer.

Computers sold with sound cards and CD-ROM players have been available for at least 2 years and are now becoming more common. The price of sound cards has dropped from $1500 to around $300, while their capability has increased. CD-ROM drives have come down from over $2,000 three years ago to under $1,000 (far cheaper than the first 20 Mb hard disks). ○

BRISBUG EDUCATION NEWS

Ron Kelly

For members interested in communicating with me between meetings, you may call on (07) 399 5406 between 7 pm and 9 pm most evenings.

Lectures of ' Special Interest '.

At the February Club Meeting, Ron Lewis discussed computer viruses — 'How to detect and eradicate'.

Throughout this year - 1993 - Brisbug will offer a number of 'Special interest' lectures,each of which will mainly be of a one lecture duration similar to this one.

It is intended that if the lecturers could again offer members - his/her services, a repeat of these 'Special interest' lectures will be offered later in the year, if possible at a different time slot. This should assist members unable to attend the earlier session and members who would like to just ' go round again'.

NEW MEMBERS ORIENTATION GROUP 12.15pm - 12.45pm

Prospective new members will meet between 12.15pm - 12.45pm on the steps to the foyer. This meeting is very informative and will give you some indications as to what Brisbug is all about.

A separate meeting is also held from 3.30pm to 5.00pm at the rear of the library. Items such as how to extract your catalogs onto your hard disk, order software from the library etc. are demonstrated.

EDUCATIONAL PROGRAM FOR MARCH MEETING

Programed Time for Lectures : 10.00am to 12.00pm

NEW USER GROUP

John Tacey - Room S5

This month lesson 5 : Batch Files, Autoexec.Bat, Config.Sys - will be discused.

NOT SO NEW USER GROUP

Ron Lewis — Main Auditorium

Operating Systems

ADVANCED GROUP

Rex Ramsey - Room S4

Title : Quick Basic.

This will be the second lecture in a series of lectures for ' Basic ' programs. Rex has structured his lectures to allow for ample revision . This will ensure that should a member be unable to attend a previous lecture he/she will not be disadvantaged.

Course : "C " also "C + +"

Geoff Baker

Members who are interested in this Course should take particular note of the following

(a) The next three (3) Lecturers will be
(1) Final Course Lecture for 'C ' . — March Club Day.
(2) Review of ' C ' Course . — April Club Day.
(3) Lecture 1. ' C + + ' — May Club Day.

The lesson times and places of Lectures 2 and 3 could be subject to change , dependent on the result of the following clauses.

(b) With the completion of ' C ' Geoff has offered his time and energy to research ' C + + ' , write a manual as he did for ' C ' , and offer a course of lectures for ' C + + '.

(c) Geoff is of the opinion that for 'students' to obtain an acceptable standard, 'C++' should be held more frequently. This could be each fortnight or maybe each week.

If Geoff believes this is the way to go then, I believe it is the way to go.

Some points to be considered —

(i) Number of students wishing to attend.

(ii) Weekly or Fortnightly classes.

(iii) Evening or Weekend classes.

(iv) Suitable available class room.

(v) Costs involved.

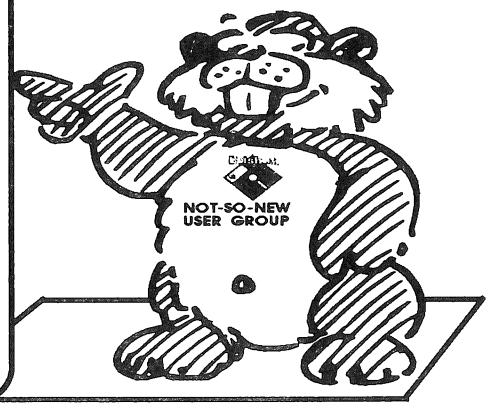
NEW CLASS

Dan Emerson

Environment information monitoring and analysis using the microcomputer.

Sensors attached to the Games Port of your computer can monitor such diverse activitities as a rapid chemical reaction or slowly changing temperatures throughout your house. Dan's project is to collect and analyse these data.

Four lectures, commencing March. Time 3:15 - 5:00.



As you would appreciate Management Committee is required to approve all Brisbug activities. It is responsible for security, insurance, and welfare of members taking part in approved Brisbug activity. The need for such activity or possible alternatives. Assurence that a sufficent number of members will enrol and then continue with this course. Is accommodation required for 15 or 40 ?

An additional course fee may be required to cover costs - if this is necessary it should be a minimal amount. It is important that members interested in studying this course attend Geoff's lecture this month or if unable to do so contact me in person or by phone.

New Group

Following a request from parents and members of the Junior S I G Group which was fully supported by group organiser Les Cathcart, Management Committee approved the introduction of a Junior Educational Group and to discontinue the Junior S I G Group.

The Junior Educational Group 12.00pm to 3.00pm

Les Cathcart — Room S14

Lesson 1. File compression.

Les will cover most programs which are used to compress and decompress files.

An Addition Time Slot for Education

Programed Time for Afternoon Lectures

I have had a number of approaches for afternoon lectures . As a result of my submission Management Committee has approved the introduction of afternoon education lectures on a virtual trial basis.

A commencing time of 3 15pm has been nominated but will depend a lot on the popularity of the ' Main Event ' which is held in the Main Auditorium following the General Meeting. This 'popularity' can extend its finishing time .

To allow sufficient time for members to move between activities, afternoon Lectures will commence within about 15 minutes of the ' Main Events ' finishing time.

It is also important that 'education' does not interupt the clubs popular S I G activity.

With this in mind the following afternoon program will commence at this months -

March - meeting

(i) A 'New User' Course by Chris Raisin

(ii) An 'Advanced'Course by Dan Emerson .

The afternoon New Users Orientation Group will also continue to meet .

Programed Time for Lectures : —— From about 3.15pm to 5.00pm

NUTS GROUP

(New Class)

Chris Raisin

Lesson 1 — The ' N U T S ' course

This is a new course for this year, but Chris developed his popular 'NUTS' course some time back and has previously presented it to Brisbug Members.

ENVIRONMENT GROUP

New Class

Dan Emerson — Lesson 1.

Subject : ' Information retrival using the microcomputer'.

The title self explains this interesting subject area.

This months lecture will be the first of four lectures. Dan will present Lectures 2, 3 and 4 at Brisbug's monthly meetings of— April , May and June.

FUTURE COURSES

Next Month (April)

NEW USER GROUP

John Tacey - Lesson 6

Topics : BATCH FILES WITH REPLACEABLE PARAMETERS - DOS BACKUP - RESTORE COMMANDS

As part of this - April - lesson John will explain the reasons why we should 'BACK UP', also where ' CMOS ' fits into the eqaution.

Members who have been attending this course will be aware that this lesson - Lesson 6 - is the final lesson of John Tacey's Course for the ' NEW USER GROUP '.

NOT SO NEW USER GROUP

Ron Lewis

Topic:Demonstration of building a computer

ADVANCED GROUP

Rex Ramsey — Lesson 3.

Topic: Visual Basic for Dos .

C CLASS

Geoff Baker

Topic: Review of ' C ' .

The ' N U T S ' course

Chris Raisin — Lesson 2

ENVIRONMENT GROUP

Dan Emerson — Lesson 2.

Topic: Information retrieval using the computer

The Junior Educational Group

Les Cathcart — Lesson 2.

Topic: Loading and Unarcing Library Games Disks to both Hard and Floppy Disks.

COMING UP

NEW USER GROUP

John Tacey - Lesson 1

The good news is that John has, once again, offered members more of his time and energy to recommence his ' NEW USER GROUP ' Course with - Lesson 1 - commenceing at the May Club Meeting.

Brisbug members who have just recently included the world of computing to their way of life and are becoming frustrated with THAT xyz 'DOS" Manual, or members who - like me - have become accustomed to moving around our screen with - ' XTREE ' - or a similar command orientated program and our memory (our memory not the computers) has developed blank spots, when we are confronted with simple computer ground rules, well — there is light at the end of the tunnel —

John Tacey will give you all the answers with his 6 Lesson Course which recommences - with Lesson 1 — May club meeting.

The OS/2 Column

Corrections

First, a couple of corrections from last month's column.

In it, I mentioned an error message generated by starting OS/2 with

SETRUNWORKPLACE=C:\OS2\CMD.EXE.

I've now found out how to avoid that error message. If you use the /K switch on the end of that line in CONFIG.SYS, the error message no longer appears. You also don't end up with an OS/2 window. Instead, you end up with a blank desktop. So it becomes doubly important to ensure that you have a STARTUP.CMD to start at least one task, otherwise you have no way of launching any tasks at all..

The second item is use of FDFORMAT. I stated that it worked fine under OS/2, even without the DOS TSR that is normally required under DOS. This is true, but, unfortunately, it leaves the floppy disk drive in a strange state. If you attempt to use FDFORMAT a second time, it will report a high density drive (such as a 1.44 meg floppy drive) as being a double density drive and come up with errors. You can only clear those errors by resetting the machine. So, it works fine, but only once.

I'm now running my own machine in the fashion described in last month. So far, it works well. There are a few things which are either difficult or just plain impossible to do (I've yet to find a way to change printer settings without having the WorkPlaceShelll running, for instance), but for the most part, it is probably quicker running this way than it is running with the WPS enabled.

There are a number of new and interesting programs coming for OS/2. This month, I'm going to look at a couple. One is going to be commercial, the other will be shareware/freeware (I'm not quite sure how the licensing for the original version relates to the OS/2 port).

The Graham Utilities

The first is a set of utilities called the Graham Utilities. These are written by Chris Graham, and are in many ways, a clone of the Norton utilities. They provide a set of utilities which can replace most of the functions of the Norton utilities under OS/2, and include a menu-driven front end very similar to the Norton Integrator (appropriately called the Graham Integrator...).

The utilities included can be seen from the screen capture of GI. They provide a wide

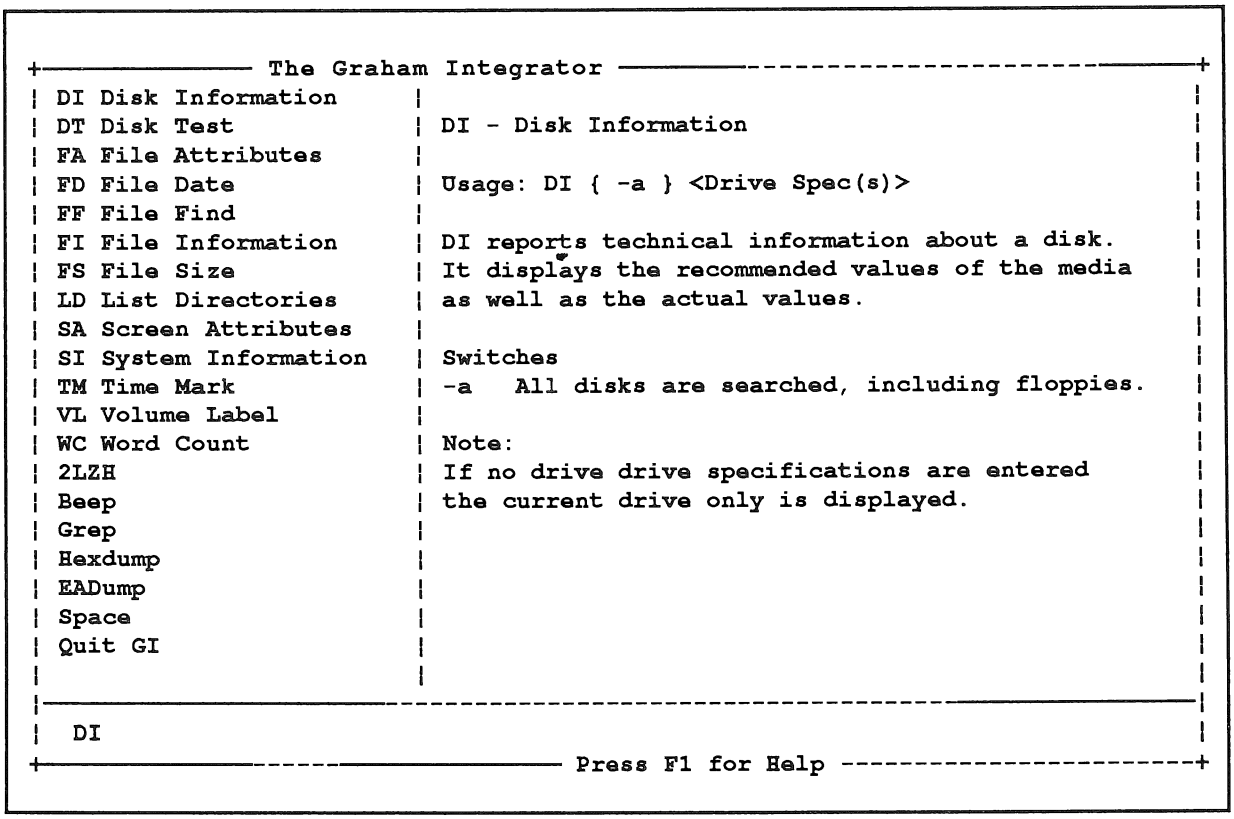


Figure 1. The display provided by Graham Integrator. The botttom line provides a command prompt to allow you to add parameters to the command

range of options, some more useful than others. They are also not yet complete, since the software is currently in beta test, and other utilities may be added before they are released.

Most of the utilities are self-explanatory, and very similar to the versions found in the DOS Norton Utilities. There are some differences, and some extensions, to take advantage of things that OS/2 can do which DOS cannot. For instance, FI, as well as displaying the normal file information (size, date and time, etc.) also allows for the display of some extended attributes, which can be used to provide a comment field for each file. In addition, FI can be used to enter file comments, which will then be displayed.

This provides the useful ability to place a description against any of your files (and will work on both FAT and HPFS drives). At the moment, the ability to add comments is a little bit restricted, since you must enter "FI -e" and step through all the files in a directory until you get to the one that you wish to add or edit the comment on, rather than being able to specify the -e for an individual file. Hopefully that will change before the final release.

SPACE provides a very useful display of the usage statistics of all hard drive partitions (as a text display only at present, though a graphic display is probably going to be added.

At present, DT only tests file integrity. This will most likely be added to before final release.

Of the utilities which have no direct equivalent in the DOS Norton Utilities, EADump provides a means of examining the extended attributes associated with a file (and can be redirected to a file for more detailed examination. 2LZH allows for archive conversion, and will take most common archive formats and convert them to .LZH format. This is somewhat limited at present, partially because the names of the archiving programs are hardcoded into 2LZH, and partially because there are no OS/2 versions of some of the common DOS archiving programs.

In addition to the programs reachable through GI, the Graham Utilities also provide a quick directory changer similar to NCD. A sample of the display produced by GCD is also provided.

Distribution and cost for the Graham Utilities has not yet been finalised.

The other OS/2 product I want to mention is rather different. Many programmers will have made use of the BRIEF editor for DOS. Brief is a very powerful, programmable editor, capable of editing multiple files and displaying multiple edit windows on screen. It has a very extensive, C-like macro language which can be used to cutomise almost all aspects of its behaviour. The DOS Brief was recently purchased by Borland, and is now being marketed as a Borland product. Since the Borland purchase, both DOS and OS/2 versions of Brief have been bundled together, so purchasing one version will automatically get you the other.

Quite some time ago, some Unix programmers got together to produce a Unix Brief-look-alike editor. This was initially

```
[D:\DOC]fi -e
[FI-File Information,V1.00 - 08/02/93 - (C) Chris Graham - WarpSpeed Computers]

+-------------------------------------------------------------------------+
|  Directory: D:\DOC\                                                     |
|  File Name: 7101.SUP                                                    |
|    Comment: Supplement to Worldblazer 7.101 firmware report             |
|                            Press ESC to Exit                            |
+-------------------------------------------------------------------------+
```

Figure 2. Showing the interactive edit mode of F1, allowing entering or editing of file comments

```
[D:\DOC]fi os2.feb
[FI-File Information,V1.00 - 08/02/93 - (C) Chris Graham - WarpSpeed Computers]

Searching Drive D:

D:\DOC
os2.mar              5,031 11:17  06-03-93  OS/2 Column for March Sig Bits

    1 files shown
```

Figure 3. Showing the display produced by F1, with the file comment contained in the extended attributes

```
[Space, V1.02 - 22/12/92 -
              (C) Chris Graham - WarpSpeed Computers]

Type        System   Label          Total            Free
-------------------------------------------------------------
LOCAL  C:   FAT      OS2          52,291,584       20,676,608
LOCAL  D:   FAT      PDM_2       125,548,544       54,282,240
LOCAL  E:   FAT      PDM_3       125,548,544       19,810,304
LOCAL  F:   FAT      PDM_4       120,315,904       23,087,104
LOCAL  G:   FAT      PDM_5       136,146,944       14,532,608
LOCAL  H:   FAT      PDM_6       136,146,944       23,437,312
LOCAL  I:   FAT      PDM_7       136,146,944       53,022,720
LOCAL  J:   HPFS     PDM_6       133,152,768       54,337,024
                                 -----------      -----------
                                 965,298,176      263,185,920
-------------------------------------------------------------
```

Figure 4. Graham Utilities, SPACE, displaying used and free space on multiple hard-drive partitions

```
+-------------------- Graham Change ---------------------+
|                                                        |
|   +-BIN                                                |
|   +-CMD                                                |
|   +-INSPECT                                            |
|   +-LEXAM                                              |
|   +-MDLL                                               |
|   +-NDLL                                               |
|   +-NOWHERE                                            |
|   +-OS!2_2.0_D                                         |
|   |  +-INFORMAT                                        |
|   |  +-NETWORK                                         |
|   |  +-OS!2_SYS                                        |
|   |     +-COMMAND_                                     |
|   |     +-DRIVES                                       |
|   |     +-GAMES                                        |
|   |     +-MINIMIZE                                     |
|   |     +-PRODUCTI                                     |
|   |     +-STARTUP                                      |
|   |     +-SYSTEM_S                                     |
|   |     +-TEMPLATE                                     |
|--------------------------------------------------------|
|C:\                                                     |
|                                                        |
+------------------------------- Press F1 for Help -+
```

Figure5. Display screen produced by Graham Change Directory

released under the name of GRIEF (at least until Underware, the original Brief producers threatened legal action), and then changed to CRISP (Custom Reduced Instruction Set Programmable editor) and was released as shareware to the Unix market (in full source form). Not only does Crisp look and work very much like the DOS Brief, it is in some areas so close to Brief that macro source code from the DOS Brief can be taken and compiled under the various U*ix flavours of Crisp.

CRISP for OS/2

There was always provision for an OS/2 version of Crisp, but until recently, I'd been unable to locate it at all. Then I had a bit of luck... David Nugent is beginning the job of porting quite a lot of his software to OS/2 (starting with InspectA), and found that he was unhappy working with any of the editors for OS/2 that he had access to. So he took a bit of time out from the porting of his own software, and ported Crisp to OS/2. The job is not yet completed, but should be soon. Already, he has produced the best text-mode OS/2 editor around. While doing the job of porting the original Crisp 2.2 sources to OS/2, he's also cleaned up a number of bugs in the original, which makes it very much more usable.

Crisp offers an enormous range of features. It can edit files of almost any size. It has full regular expression search and replace functions. It has full undo and redo. It can display multiple windows on-screen, and can call external programs (such as compilers and spell checkers). Its macro programming language is very powerful indeed, which means that if it doesn't have a feature that you need, you can most likely add the feature in by writing a macro to do the job. While it is largely command line and key driven, many of its inbuilt functions can be reached through pop-up menus (useful when you can't remember the keystrokes necessary to activate a feature).

CRISP vs BRIEF

In several areas, Crisp is considerably better than Brief. For instance, both the DOS and OS/2 versions of Brief are hardcoded for screen size. They will handle different screen sizes, but they have to be set for a particular screen size,

and will convert the display to that screen size when operating. Crisp (at least in David's version) is screen-smart. So, if you are in 50-line VGA mode, it will start in that mode, but if you are in normal 25-line mode, it will start in that mode. And it does not change screen modes on exit.

Its also a full 32-bit application (compiled using the EMX C compiler). At the moment, its limited to being installed on an HPFS partition (this is due to its U*ix origins rather than anything else, since it creates two files (.crinit and .crisp which store default values) which cannot exist on a FAT partition. David is working on this at the moment, so hopefully this limitation will be removed shortly.

Since the editor has been compiled under EMX, it should also be possible to produce a DOS version (by default, all EMX compiled programs are bound, so they should be able to operate under either DOS or OS/2, so long as there is nothing specific to the operating system in them).

A DOS version of Crisp would lack a few of the features of the OS/2 version, but should still be a very powerful editor. Compared to some of the other full-featured editors around, its really quite tiny. Including the full source for all the standard macros, plus the macro compiler, it occupies around 2 megabytes of disk space (a lot bigger than something like Qedit, but then it does an enormous number of things that Qedit can't do).

Hopefully, Crisp for OS/2 should be available from the BBS and from the Software Library soon.

Using REXX

One final item for this month. I'm slowly beginning to learn REXX, the procedural language provided with OS/2. REXX is very much like an extension to batch file processing, but can do a great number of things that cannot be done with a simple batch file. I'm learning it slowly, partially due to lack of time to devote to it, and partially due to the fact that there aren't many good references for it (there are a number of books on the subject, but I haven't managed to get a good one yet). While the online REXX reference provided by OS/2 is very comprehensive, it assumes a certain amount of knowledge, which I don't yet have. However, I'm beginning to get some work done using REXX.

```
| +---------- CRISP Features ----------+     |
|     |ASCII Chart                          ascii |
|     |Ansi mode toggle                      ansi |
|     |Auto indent                       autoindent |
|     |Auto wrap                           autowrap |
|     |Buffer List                         <Alt-B> |
|     |C Hierarchy chart                      hier |
|     |CRISP Demonstration                    demo |
|     |Calculator (infix)                     calc |
|     |Center text                          center |
|     |Change Log                           change |
|     |Color mappings                     setcolor |
|     |Define abbreviation                  abbrev |
|     |Delete blank lines          delete_blank_lines |
|     |Delete trailing space     delete_trailing_spaces |
|     |Document options                    <Ctrl-O> |
|     |Edit file again                   edit_again |
|     |Explain CRISP macro                  explain |
|     |Find function                            tag |
|     |Find manual entry                    apropos |
|     |Format Region                       <Ctrl-F> |
|     |GREP                                    grep |
|     |Game of Tetris                         tetris |
|     |HP Calculator (RPN)                    hpcalc |
|     |Help                                <Alt-H> |
|     |Indent region                        shiftr |
|     |Interactive Search                   i_search |
|     |Join next line             <Ctrl-A><Ctrl-J> |
|     |Keyboard Summary                 kbd_summary |
|     |Keystroke Library                   <Alt-F7> |
|     |Lint                                    lint |
|     |List functions/sections             <Ctrl-G> |
|     |Literal display mode                 literal |
|     |Lower case region              block_lower_case |
|     |Mail                                    mail |
|     |Make buffer writeable            make_writeable |
|     |Make                                    make |
|     |Manual page                              man |
|     |Match brackets                      <Ctrl-^> |
|     |Outdent region                       shiftl |
|     |Pipe region                <Ctrl-A><Ctrl-P> |
|     |Print buffer                     print_buffer |
|     |Save window layout                 save_state |
|     |Scroll lock window               <Keypad-Scroll> |
|           +-------------------------+     |
+-------------------------------------------+
<Alt-H> help; <Enter> select <Alt-S> search  Line: 1 Col: 1
```

Figure 6. Showing some of the menu selections available

One useful utility that I had under DOS was AT (a utility from Bob Stout's MicroForm Toolkit). AT allows a command line lateral directory change to be made, including the ability to change to another drive. I used to use it in a batch file called GO.BAT under DOS, which allowed me to ensure that I first moved to

the root directory of whatever drive I was on, then moved to another directory, either on the same drive, or on another drive. I used something similar as an alias under 4DOS. Under 4DOS (or under 4OS2 for that matter), and alias defined as:

```
alias go cd\ ^ cdd %1
```

would do what I wanted.

When I moved to OS/2, that alias or batch file was one of the first things I missed. I could get it back by running 4OS2, but I've hit a few things which don't' work correctly under 4OS2, so I'm not using it. As a result, I needed a substitute (it was getting very boring having to enter

```
cd\ d: cd\junk
```

any time I want to move from one place to another. REXX to the rescue. I now have a (very) simple REXX .cmd file which does just about exactly what I want. As below:

```
/* GO.CMD - Quick Drive/
     Directory jump routine
*/ arg cmdline '@cd\'
IF LENGTH(CMDLINE)=0 THEN
                SIGNAL FIN
rq = "DIRECTORY"(CMDLINE)
FIN:
```

This is very simple indeed, but does what I want. GO entered without any arguments will simply drop me to the root directory of the drive I'm on, while entering

```
"GO <drive>:\<directory>'
```

will take me to any valid drive and directory.

I've yet to work out a way of including error checking (well, a sensible way that is - I managed to include some error checking, but it would come up with spurious error messages if I entered a path without a drive, even while happily changing to that path...).

I've got a long way to go in learning to make full use of REXX, but the above may demonstrate just how flexible REXX is.

Paul Marwick

BBS News

New files flood in

New files are arriving in large quantities. They will be spread about a number of different areas. You should note that in many cases, the filedate displayed for the new files does not reflect their true date -due to processing requirements, all the new files on the system are having their dates "touched" before being processed.

Due to the influx of new files, some areas are growing so fast that it is almost impossible to keep up with them. Some housekeeping is urgently required, but will have to wait until I have sufficient spare time to do it (which may be never, at the rate I'm currently going).

The new files which are appearing at the moment are the result of SDN-SDS distribution on tape. There will be additional new files appearing once the tapes sourced from South Australia start to become available (I've got to catch up with the SDN-SDS distribution first, so don't hold your breath waiting for the South Australian files...).

Given the sheer volume of files coming in, 1 Gigabyte of disk space doesn't look all that big anymore. Oh well, it was nice while it lasted...

Despite repeated warnings, it seems that many people have still not taken note of system availability times. Frequent attempts at BBS calls during periods when the systems will not accept BBS calls are seriously affecting the systems' abilities to perform other necessary functions.

Since it appears that warning have no effect, other measures have now been adopted. *Anyone who calls during non-BBS times will now have their access to the systems reduced for a period of one month. Repeat offenses will result in permanent loss of access.*

So far, only one member has suffered reduced access, but, unless people wake up and follow the access times outlined, this number will certainly increase.

SYSTEM UNAVAILABLE TIMES

Once again, the access times for the systems are as follows:

Lines 1, 2 & 3 are ALL unavailable for human use between 4am and 5am

Line 3 is additionally unavailable for human use until 6:30am

Line 3 makes outgoing mail calls between 10pm and 10:30pm, and is unavailable for human use for at least part of that time.

Lines 1, 2 & 3 have a maintenance period at midnight, which usually lasts around 5 minutes.

Lines 1 & 3 make outgoing mail calls immediately after midnight maintenance, and may not be available for human use until 1am

All the times specified above override human use of the systems. As a result, if you call shortly before any of them, your online time will be reduced.

It is the responsibility of *all* BBS users to make sure that they know when the systems are unavailable, and to ensure that they do not interfere with operations which do not permit human use.

As of now, such interference will result in loss of privileges.

ATTRIBS.LSP

An AutoLISP program example

Geoff Harrod

As a follow-on to my article on setting up for AutoCAD programming, I thought Sig Bits readers might be interested to see an example of Lisp code.

AutoCAD is unusual in using Lisp as its programming language, so most general computer users, even programmers, are not familiar with it. If there seems enough interest, I could write a fairly lengthy explanation of the system. This example is quite short but employs some fairly advanced techniques. AutoCAD users who make use of attributes (and all really should, even if only for title blocks) might like to try it out.

Some cryptic explanations for readers who know other languages --

EVERY statement begins with the "verb". So (- a b) is "subtract b from a". (/ a b) is "divide a by b". All statements return a result value which effectively replaces the whole statement if it is embedded inside another.

The 'if' statement has one 'true' action statement followed directly by the 'false' action, without any 'else' word. To use more than one statement for either case you have to use the 'progn' function to join them into one.

The (assoc key list) function is a table look-up, that returns the value stored in the 'list' for keyword 'key'.

The 'entget' function gets a table of details about a drawing object.

The 'tblnext' function steps through the drawing's tables of non-displayed data & gets the next entry for the type of object specified.

Values are stored in a variable by (setq varname value ...).

Does anyone want more on this? Let me know on (07)379-1747.

```
;--- ATTRIBS.LSP   25-11-90
;--- Geoff Harrod, Knightsbridge Software Developments,
;--- 672 Sherwood Road, Sherwood, Qld 4075. Tel:(07)379-1747
;
;--- Program to display list of all blocks within a drawing that have
;--- attributes, and display the attribute tagnames, modes, values.
;--- Values, where displayed, are default or constant values that are stored
;--- in the block & attribute definition. If defined without any default or
;--- not a "constant" or "preset" type, no value is shown, since the actual
;--- attribute values only exist in each insertion of the block & are usually
;--- different for each insertion.
;--- This provides a quick & compact listing of what attributes are available
;--- for extraction in a particular drawing & shows the tagnames to use.
;
;--- Does not store any function in memory. To run, use
;---    Command: (LOAD "ATTRIBS")
;--- at the Command prompt. Add path or drive prefix to name as reqd.
;--- To avoid needing path prefix, copy file to the ACAD support directory.
;--- Redirect output to printer with Ctl-Q if desired.

(textscr)
(setq x (tblnext "BLOCK" 1)  n 0)
(write-line (strcat "\nDrawing: " (getvar "DWGNAME")))
(write-line "List of blocks with attributes.")
(write-line "Format: (Invis Const Verify Preset) Tagname = \"Value\"\n")
(while x
    (setq t (cdr (assoc  2 x))
          f (cdr (assoc 70 x)) )
    (if (= f 66) (progn
        (write-line (strcat "Block: " t))
        (setq en (cdr (assoc -2 x)))
        (while en
            (setq ed (entget en)
                  v  (cdr (assoc 0 ed)) )
            (if (= v "ATTDEF") (progn
                (setq n (1+ n)
                      v (cdr (assoc 1 ed))
                      t (cdr (assoc 2 ed))
                      f (cdr (assoc 70 ed))
                )
                (if (= (logand f 1) 1) (setq fi "i") (setq fi "."))
                (if (= (logand f 2) 2) (setq fc "c") (setq fc "."))
                (if (= (logand f 4) 4) (setq fv "v") (setq fv "."))
                (if (= (logand f 8) 8) (setq fp "p") (setq fp "."))
                (if (> (strlen v) 0)
                   (setq v2 (strcat " = \"" v "\""))
                   (setq v2 " ")
                )
                (write-line (strcat "   (" fi fc fv fp ") " t v2))
            ))
            (if (setq en (entnext en)) (setq ed (entget en)))
        )
        (terpri) .
    ))
    (setq x (tblnext "BLOCK" NIL))
)
(write-line (strcat "---- Total no. of attributes: " (itoa n)))
(setq x  NIL t  NIL f  NIL en NIL n NIL ed NIL v NIL v2 NIL
     fi NIL fc NIL fv NIL fp NIL)
(princ)

;------- end of file ATTRIBS.LSP --------
```

Consultant's Notepad

Geoff Harrod

When disaster strikes...

We've all suffered from lost data -- all of us who've been in computing for any time anyway.

That means if it's never happened to you, it probably will sometime! I don't mean losing floppy disks with files that you want. I mean the situation where you work away on some project, and then something happens that causes your work to vanish off the face of the disk.

This nightmare usually happens when you've all but completed the job, and most often when it has to be handed in for something vital within an hour or so. Murphy's law that the worst thing will always happen at the worst possible time is, sadly, not just some cynic's death wish; it is all too often proved true.

Maintaining a positive mental attitude may possibly make its occurrence a bit less likely than being a prophet of doom, but the only sensible thing really is to always guard against these things. Then you can hold an expectation of no problems with some confidence.

The fact is, the normal functioning of computers can be fairly easily upset, even though they mostly keep in line very well. If your PC does often shows signs of erratic behaviour, then of course you should not rely on it much when doing important work, and preferably get it fixed. I'm talking about normally reliable machines.

You can probably sense that I'm about to climb onto my well worn backup soapbox. Members who have been reading this journal for a year or so now, might be excused for thinking I've got a phobia about backup. The thing is, I come into contact with so many "desperate situations", where people have struck trouble and lost work without having anything to fall back upon.

I have written before, more than once, about backing up the hard disk data as a regular task. Everyone always says "Yes, I know that's essential and sensible", but barely 20% of users ever do it! But I'm not going to go over all that again here.

Quite apart from periodic backups, I want to stress the need for more immediate backup when working on important things.This situation applies particularly to students using PCs for assignments. They are almost always pressed to get them finished in time to hand in. I well remember working through the night on things to be handed in the next morning.

Vulnerable when hurried

No matter how rushed you are, those situations are the times when more than ever you need to safeguard your work. Even if there is no power failure to interrupt disk access and invalidate the disk's file allocation table and no hardware defect develops, you are more likely than normal to do something silly or fumble the keys, click on the wrong line of a menu, confirm some warning message without properly reading it, or suchlike.

It is very easy to lose chunks of text when moving it around through the clipboard or a cut-&-paste buffer. You mark a big slab of text to move it somewhere, cut it to the clipboard so that it disappears from the document, and then while sorting out where to put it you notice some other thing that needs altering and do some operation that, without asking, replaces the contents of the clipboard, thereby losing all your big block of text. It's a bad weakness of that system.

I suggest you never use Cut, but always Copy, and then go back and delete the original location after. It's slower, but can save a lot of tears. I like editors where you can mark a block and directly write that block to a disk file, and then insert the file somewhere.

Other gross upsets can happen by getting confused about filenames. There are so many possibilities of erroneous action when you are getting tired and desperate. The only safeguard is frequent saving. It's very easy to lose track of how long you've been editing the one file. Systems that can automatically do periodic saves or "mini-saves" are good, and you should enable that option if it exists. Otherwise remember to save frequently. It's usually only a single command or one mouse click. When things are getting critical you should save about every 15 minutes; certainly not over 30.

Some word processors surprisingly don't keep the customary previous version BAK file whenever you save. The widely-used WordPerfect (that I do not recommend) won't do that unless invoked as a setup option. It is advisable to always enable these last-version backups. Every little helps when it comes to the crunch.

Save to floppies

Besides frequent saving to the hard disk, it is wise when working on something which will give rise to much grief if lost, to also periodically save to floppy disk as well. Some editors are a bit annoying in that if you use Save-As to do this, they change the currently active drive to the floppy, which is undesirable. In that case, check if you can mark all the text in one hit and write the marked block to a file. I suggest a hard disk save every 15 minutes plus also to floppy every hour. Those annoying beeping wrist watches can be a help here. Get up and do a dance while the floppy is working; that helps too! (..provided you don't shake the floor or fall onto the computer.)

If you are making frequent substantial changes to a document as you try to decide what is the best way to present the stuff, it is wise to save the work to other filenames at various stages or before rehashing it again. Then you can easily back-track if you later decide it was better the way you had it an hour earlier. I often write the whole thing to different filenames, usually the same name with numerical incrementing suffixes. You can erase the redundant versions when it has all been put to bed successfully.

For critical things it is wise to save to more than one floppy, as floppy disks are fairly prone to problems, particularly the five inch type. They're cheap enough to have duplicates. You'd think a floppy disk cost $20 the way some people skimp

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SOFTWARE LIBRARY NEWS

A Guide to Ordering from the Library

SOFTWARE LIBRARY ORDERS

Many members take advantage of the Mail/Telephone ordering service instead of placing their orders on a Sunday Meeting, and this has its advantages.

Firstly, you don't have to be there and place your order at the meeting.

Secondly, you can browse through the listings in the magazine and even spend time looking through your catalogs to select your order in the leisure of your own home and at your own speed.

Thirdly, you can talk to me over the phone and possibly pick my brains in relation to some of the programs and I may be able to assist you with your enquiry.

But sometimes the disadvantages outweigh the advantages.

Firstly, the delay in getting your ordered software - Software is only copied on a weekly basis and is done by voluntary helpers. Software orders received during the week are handed to the copiers every Thursday, and the completed orders are returned to me for invoicing and packing the following Thursday and are posted on the following day. Unfortunate delays occur if your order is received on the day after the orders are handed to the copying team.

Secondly, sometimes when a Brisbug member phones me, I have to place their call on hold whilst I attend to my customers, or attend to a customer on the second phone line.
Asking me to check the catalog listings for a particular program means that I have to leave what I am doing at the time, go to the library computer and personally search the listings for the program requested. This takes up valuable time. I have no objections to taking an order over the phone if you know what you want.

Thirdly, whilst I am fairly familiar with a great deal of the software available from the libarary, I do not profess to know all about everything in the library. If I have the time, when you call, I will try to assist you in your program selection or in relation to a particular program, but this will depend on my business demands.

PHONE ORDERS

If you wish to order software by phone there are a few simple steps to follow:

1. Identify yourself by name when you call - just don't tell me you are a Brisbug Member and make it necessary for me "drag" your name from you.

2. Have your Membership Number handy, give me your address if you require your disks to be sent to an address other than the address that your magazine is sent (your membership number will only call up the address in the membership database).

3. Have a list of the disks you wish to order ready, preferably in numerical order (this helps trèmendously in disk selection by the copiers).
It does not matter if disk 1234 is disk 1 of a set and disk 2345 is the second disk. All our disks are stored in numerical sequence and very often an upgrade to a program will be split up all over the place. CHECK YOUR CATALOGS - if a program is listed as Disk 1 of 3, also 2324, 2876 - you must order all three disks to get the whole program.
The copiers try to supply the additional disks if it becomes obvious that the member has missed the third (or whatever) disk of a program, but cannot always be relied on to catch a missing disk.

4. Have your BankCard, MasterCard or VisaCard handy to give me your card number, expiry date and the cardholders name.
You may call yourself "Bob Smith", but the card may say "James R Smith" and at various times the bank will reject the credit card because the details - Number, Expiry Date or Name are incorrect.

Sorry, you cannot have the disks sent to you on a charge invoice - payment must be made with the order. If you order by phone and advise that a cheque will be sent for the order, I will hold the order until your cheque is received.

5. There is a minimum charge for credit cards - Your order must be at least $25.00 (including postage) or the difference will be charged to your credit card.

MAIL ORDERS

Much of what I have said before relates also to mail orders. You can use the order form on the back of your magazine mailer or print out the order form supplied with your catalogs - "ORDER.FRM". Fill out the details, if possible, list your disks numerically, stipulate the disk size either 5.25" or 3.5" and total up the amount payable (don't forget packing and postage) and post the order together with your cheque or money order to:

BRISBUG SOFTWARE LIBRARY
95 STATION ROAD
BOOVAL QLD 4304

Avoid sending the order to P O Box 985 TOOWONG as this places more work on the Secretary who has to forward your order to me and will cause additional delays in processing the order.

Additional order forms can be collected at the meetings and a blank form will be sent with each order.

Allow at least 10 days for processing of software orders and Orders to be collected at the next meeting must also be received at least 10 days prior to the meeting.

Don't forget to put your membership number on your order.

DISK PRICES

As from 1st Febuary, 3.5" disks will now attract customs duty. Apparently some 3.5" disks are now being assembled in Australia and as a result the "manufacturer" has applied (and received) tarrif protection which means that 15% duty will apply to all imported disks. Prices will invariably increase as new stocks are imported into Australia. Watch this column for further details. No duty is applicable to 5.25" disks at this time.

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VIRUSES

With each new issue of catalog disks, the latest SCAN and CLEAN programs are supplied. You must copy the two files from the catalogs to your hard disk drive and extract the programs individually. The installation program supplied with the catalogs does not extract SCAN and CLEAN to your hard disk.

There are a number of very nasty viruses floating around at the present time, I have recently had a member with KMART (X-FUNGUS, 1427) on his computer which infected quite a large number of files. SCAN detected the virus but classified it as FamN (FN) virus, but CLEAN was unable to remove it. VIRUS BUSTER from Leprechaun Software soon discovered it and successfully removed all traces of the virus from the computer.

How did it get on to the computer? Well, apparently his young son 'borrowed' a program from a "friend?" and did not SCAN it before running the program and as a result - problems! Don't take chances - check every disk for viruses before you install them on your computer.

Details of KMART (X-FUNGUS,1427) virus are:
Infectious, resident, stealth -attacks all executables (including .SYS) files and originated in Australia. The virus adds approx 1400 bytes to each file it infects.

Other viruses very prevalent are NO FRILLS virus which makes every infected file 843 bytes bigger and the new VZ P6Z MK II which adds between 11 and 13Kb to infected files. This is the one that upset Telecom's computer network down south.

on them and wear them to death even for important work.

But the single most important precaution even for not so vital material, is to always save to floppy everything you changed in that session before switching off.

If you are working on an important project that involves a number of files, it is a good idea to create a directory for it at the outset so you can easily see everything that is involved with it. It also makes it easy to be sure of copying all files involved to backup floppies while working, and for the final product. There's nothing worse than hurriedly copying the final job to floppy to hand in right on the deadline, only to find when you get into the city with it that you've omitted a vital file. How do I know?

Don't jolt it!

One of my clients suffered a rather terminal data loss through a moment's carelessness.

The papers he was working from wafted under the front of the PC box on the desk top. Without thinking about it, he put his fingers under the front edge and lifted the box up so he could get hold of the papers with the other hand. As he lowered it back, the PC slipped from his finger-end grip and dropped the four or five centimetres he had lifted it. That was enough of a jolt to bounce the hard drive's heads onto the disks, and the drive has never divulged any data since.

So... ***NEVER*** move the computer or bump it when it is running. Almost always it would be all right, but it's not worth the risk, because it has spelt the end on occasions.

Viruses

The other thing that cripples students in particular, is virus infections. University and school PC labs are notorious for viruses, and most students glibly shuffle free disks of games around between them. Even if a student is personally careful, it only takes one use of their project disk in an infected machine to get infected. If they have younger siblings sharing the home PC it is likely to be worse.

Viruses very often destroy students' assignments, usually when almost completed. They need to be super careful, have an up-to-date scanning disk, and always scan anyone else's disk that goes into their machine. About 10% of assignments I've had to mark have been on infected disks. Most were OK after I cleaned the virus off, but some assignments were mutilated or could not be marked at all.

A lot of problems can be avoided by always rebooting a PC that was already running when you go to use it, preferably by power-off for half a minute or so to discharge all the memory cells. Never let anyone boot your machine from a floppy disk, or if it doesn't have a hard drive, then not from any boot disk except yours. As well as that, a startup scan is a good idea.

The use of the resident "watchdog" type of virus protection is more extreme and most users find them too much of an interference to normal work. If you control what gets copied in and run on it there should be no need for those measures, but in situations where adequate access control cannot be maintained they might be warranted.

Passwords

If you have your own PC and are worried about others using it and infecting it when you are not around, most of the recent PCs have a BIOS that can be set to use password protection. Unlike add-in password programs, this is very effective, as it is done by the BIOS ROM and cannot be bypassed by booting from a floppy. It asks for the password right after the memory check and before it checks the drives.

Be sure to use a password that has no discernible relationship to you or your family, your birthday, your friends or your known interests. It is a good idea to embed numbers in it. You could use your bank PIN number if you have one, filled out to the maximum allowed length with letters.

So, be prepared! And remember you are always most vulnerable when hassled and hurried. Take a moment to do some stretching and deep breathing. Keeping a clear head could save you lots of wasted time later. 'Been there; done that.

Geoff

NEW LIBRARY LISTINGS

BBUG 8975 PERSONAL PRO Version 2.01

*CLASSIFICATION * Sporting * Hard/ Floppy Disk * CGA/EGA*

Most existing golf instruction shows you how to build a swing by taking you through an explanation of the perfect grip, address, backswing, downswing, and follow-through. With PERSONAL PRO you will be using a different approach. It recognizes that you have problems — problems that may be changing from round to round — and that you need immediate help in diagnosing and correcting those changing problems.

The expert golf knowledge contained in PERSONAL PRO represents years of research involved in gaining an understanding of the proper golf swing.

PERSONAL PRO uses artificial intelligence techniques to represent the expert knowledge of several of golf's best resources, organized in such a way that their collective advice can be applied instantly to your particular golf swing problem of the moment. PERSONAL PRO gathers symptoms of your problem, performs a diagnosis, and recommends corrective changes in your swing.

BBUG 8976 PERSONAL GOLF TRACKER Version 2.1

*CLASSIFICATION * Sport * Hard/Floppy Disk * CGA/EGA * Printer*

PERSONAL GOLF TRACKER has been designed to provide an easy way to keep track of your golf scores. As the program expanded I wanted to know more than just my scores. Now you can know much more about your game than just what you shot.

Some of the features of PERSONAL GOLF TRACKER include: Keeping track of your scores. Display your personal best on each course you play. Display average scores on par 3's, 4's and 5's. Compare your scores to Par, Bogey or Double Bogey. Graphically Show the percentage of time you shot Par, Bogey or Double Bogey. Show percentage distribution of Eagle, Birdie, Par, etc. Graphically display your high, low and average hole by hole. Track six special aspects of your game of your choosing. Graphically display your trends of six aspects of your game of your choosing. Print a hard copy of the rounds you've entered. Print summaries of your performance on all courses or all golfers on a single course. Analyze rounds before and after a given date. Calculate handicaps for nine and eighteen hole rounds, and much more.

BBUG 8977 SAVE THE PLANET Version 2.10

*CLASSIFICATION * Educational * Hard/ L/Floppy Disk * EGA/VGA*

SAVE THE PLANET is an educational program explaining Global Warming and Ozone Depletion, using graphics, text, and maps. It features a handy built-in word processor for writing quick letters to your parliamentary representatives.

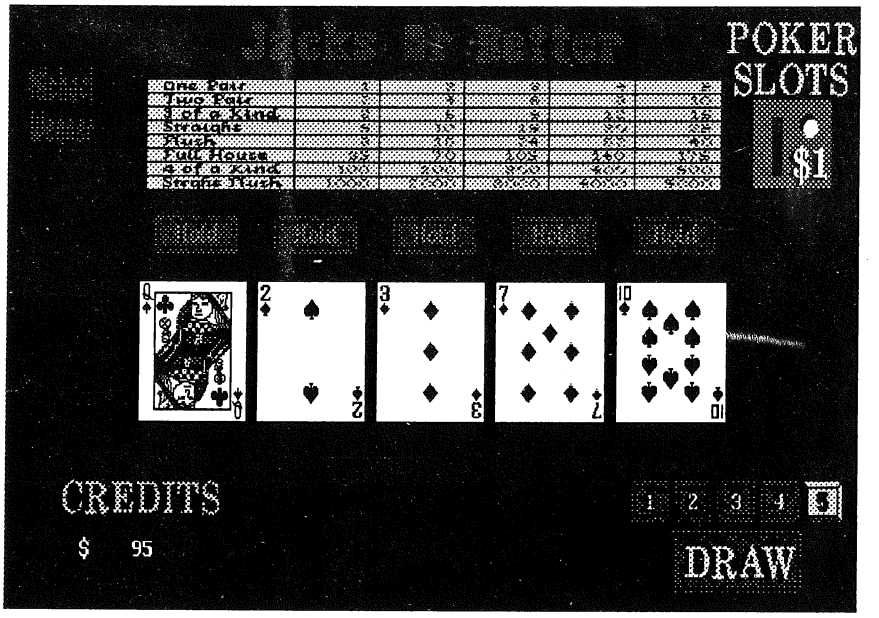
SAVE THE PLANET includes "Global Roulette", a global warming simulator game that explores future global temperatures. Energy saving tips, recycling, green investing, green BBS systems, and many more resources. Very easy to use.

BBUG 8978 ADRESS MASTER Version 1.03

*CLASSIFICATION * Word Processing * Word Perfect 5.1 * Hard Disk * Printer*

ADDRESS MASTER is a relational database which can accomplish many everyday tasks for you. For starters, ADDRESS MASTER is a great program for keeping track of people and information. For every record, you can input a persons name, address, home-work- fax phone numbers, birthdate, anniversary date, notes (24 lines worth), a selected status, and a group number. ADDRESS MASTER can then create a secondary merge file for merging in WordPerfect using any or all records. ADDRESS MASTER has several other built in facilities, including an automatic dialer (registered version only, and with a Hayes compatible modem), and many printing and displaying options.

ADDRESS MASTER allows you to break down your database of records into smaller versions with the grouping and selecting options. You can define up to 1100 different groups, such as family, friends, clients, club members, etc..., and store individual records in anyone of these groups. These grouped records can then be printed or



For the card gambler, Mules End Poker

merged separately. The selecting option lets you "tag" files that you want to print or display separately.

ADDRESS MASTER will help you become more efficient at: Addressing letters and envelopes, dialing phone numbers, managing information on people, etc.....

BBUG 8979 WEDDING ORGANIZER Version 2.5

*CLASSIFICATION * General * Hard/ Floppy Disk * Printer*

Is someone in your family getting married in the near future and you have been given the task of organising the reception? WEDDING ORGANIZER may save you hours of work, endless lists, and best of all save you from forgetting something important.

WEDDING ORGANIZER features a comprehensive Invitation manager, budgeting spreadsheet, an important "To-Do" list, a vendor notebook, sex lessons (Va-Va-Va-Voom!) and most important - it is all menu driven.
The INVITATION MANAGER Automatically: Alphabetizes guest lists, Tallies RSVP's, Tracks gifts and thank you's, Sorts and prints guest lists, plus MANY MORE features.
The BUDGETING SPREADSHEET Lets You Create a budget, with up to 45 expense categories, Compare actual costs vs. budget, Keep track of who paid what, Keep track of vendor contracts and what needs to be paid, Easily add and change category names to suit your needs and Print out a copy of the spreadsheet.

The TO-DO LIST Preset with all standard wedding tasks, Edit, add and delete tasks, and Print lists of your tasks.
The VENDOR NOTEBOOK is made to Keep track of all the vendors (florists, caterers, etc.) that will be involved in your wedding. Besides contact names, addresses and phone numbers, you can also enter free-form information on cost estimates, promises made, or anything else you want. Have the computer dial vendor phone numbers for you.

The SEX MANUAL lets you learn everything you ever wanted to know about the birds and the bees, more or less???

BBUG 8980 CUMBERLAND TREE Version 3.3

*CLASSIFICATION * Genealogy * Hard Disk * Printer*

CUMBERLAND TREE - The Easy Family Tree Program is a program for doing genealogy work. It allows entry of individual names, birth, christening, marriage, death and burial dates and places tying them all together automatically as a family and extended family structure.
Features include: Friendly pop-up menus and screens with extensive on-line help. Much easier to use than other genealogy programs which use the old fashioned menu driven approach. No other program contains as much on-line help. Surnames are allowed at beginning, middle or ending of name for full international compatibility. This feature is unavailable in other programs. People from Asian descent CANNOT use any other program without changing the order of their names. Automatic entry of father's surname when a child is added. Automatic entry of child's surname when a father is entered. This feature is unknown in any other program. Enter place names only once! The ability to enter a place name once and select it from an easy to use pop-up window forever after is unknown in any other program. Printing of pedigree charts, descendants, family group sheets, individual and marriage listings, birthday, anniversaries, ordinance check lists and other reports. Includes on-screen viewing of printed reports.

BBUG 8981 PKZIP 2 Version 2.04E

*CLASSIFICATION * Archive * Hard/ Floppy Disk*

Welcome to PKZIP 2 - The next generation in compression software This release continues the high performance tradition of previous versions of PKZIP, with a host of new features. In addition to an improved reference section, this manual contains a step-by-step tutorial. By following the Installation, Tutorial and Advanced Features sections in order you will learn how to use PKZIP to your best advantage. Use the Command Reference sections in your day-to-day use of PKZIP. Convenient indices to these sections are printed on the inside of the front and back covers.

PKZIP is a powerful program. It has many options, but it is possible to make use of PKZIP by knowing only a few simple options. You can start out with a basic understanding and learn more if and when you need to use additional features.

The PKZIP 2 software utilities include many features. Here are just a few of them:

Improved Compression. PKZIP 2 implements a new compression algorithm called Deflating. Deflating has varying levels of compression and speed available, allowing you to specify the method of compression to be employed. Both the speed and amount of compression are improved over previous versions of PKZIP.

Multi-volume archive support. PKZIP 2 can create .ZIP files larger than a single floppy disk.

Subdirectory storage. PKZIP 2 can find and store subdirectory pathnames within a .ZIP file. Files can then be restored to their original subdirectories, or they may be re-created. Storage includes empty subdirectories.

Automatic detection and utilization of 80386 and 80486 CPU's, EMS and XMS memory, Novell Netware, and 32-bit DPMI. PKZIP 2 gets the most out of your machine by using the power of modern CPU's. EMS and XMS support offer the ability to process more files with less available conventional memory. Novell Netware and 32-bit DPMI support offer speed improvements.

The above features also allow you to get the best performance when in a DOS session under OS/2 or Windows. OS/2 and Windows offer EMS, XMS and 32-bit DPMI without your using extra drivers.

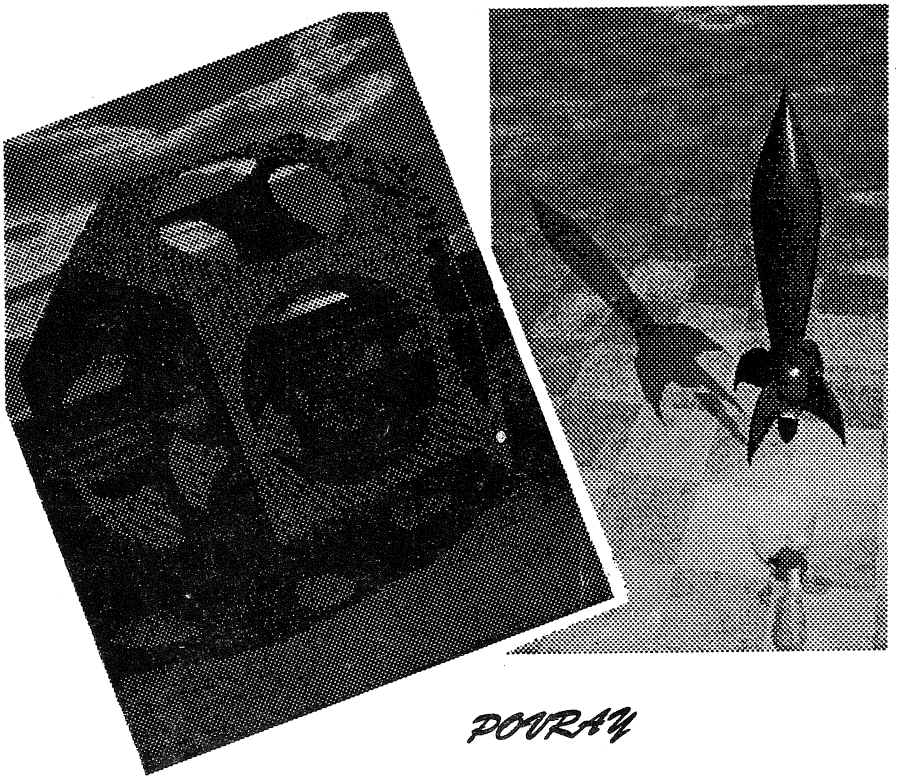
SUPERB GRAPHICS AND SOUND

BBUG 8982 MEGATRON Version 3.05 (Disk 1 of 2, also 8983)

BBUG 8983 MEGATRON Version 3.05 (Disk 2 of 2, also 8982)

*CLASSIFICATION * Games * Hard Disk * VGA/SVGA * Modem * Mouse * 286/ 386/486 Computer*

The year is 3015 and as the commander of an elite unit of MEGATRON BattleMechs,



POORAY

you've been chosen to enter the labyrinth combat zone and hunt down the adversary. At your disposal are two standard omni-field mechs (Mad Cat and Vulture) equipped with high yield Thorn Missiles and Pulse Disrupters.

Enter the world of MEGATRON and experience the highest level of virtual reality combat available to date. MEGATRON uses a combination of ray traced and hand drawn imagery coupled with AdLib/ SoundBlaster synthesized sound effects to bring to life the ultimate modem combat experience. Use your skill at piloting your mech and your raw courage to defeat your adversary and bring glory to your unit.

This is a two player game, but it can be played in a single player mode with a synthetic adversary generated by the computer. For the best results it is recommended to use two computers.

The object of the game is to hunt down and destroy your adversary. This is not an easy task, as at the start of each game, both you and your adversary are placed in the labyrinth at random positions. You don't know where your adversary is hiding. All you have to work with is a 3-D view of the corridor you are standing in, a top down view of the labyrinth, and a changing sonar blip that can guide you to your adversary if you interpret it properly. If you are in a hurry, you can use your area radar to search for your adversary. The down side to using radar is that you don't always locate the enemy, but the enemy always locates you.

To win the game, you must hunt down your adversary and attack him with your lasers and rockets until he runs out of energy and is destroyed. There is only one problem, this is a real-time game, and while you are shooting at your adversary, he gets to shoot back at you. Whoever is fastest with their weapons and has the strongest nerve wins. If you lose your nerve, you can turn and run away. Sometimes this is not a bad idea.

To play in head-to-head combat you need an open serial port with a modem or null-modem cable connect to your adversaries computer.

BBUG 8984 WINDOWS CLIPBOARD UTILITIES

*CLASSIFICATION * Windows * Utilities * Hard Disk*

ACCCLIP "Ack Clip" - Version 3.1 is a Text format Clipboard Stack saver that needs no other program to operate. ACCCLIP is a very tiny and very fast program. ACCCLIP will also perform simple math calculations pasted to the clipboard. This program builds an Accesses.INI file if one does not exist.

CLIPSTAC Version 1.0. The Windows Clipboard over writes its entire contents the moment you copy a fresh piece of text or cut a second image to it. The Clipboard can hold one and only one item at a time; it is absolutely unforgiving. And, as you may have found, it takes just one accidentally lost cut to make you wish the Clipboard could accommodate multiple items. CLIPSTAC eliminates this dangerous limitation. CLIPSTAC creates a stack, or history list, of all the texts and bitmaps that any program cuts or copies to or from the Clipboard. It saves all these items in a file, CLIPSTAC.DAT, from which you can copy items back to the Clipboard by selecting the desired entry from a list box.

Thus, anything you put on to the Clipboard can be retrieved and reused, day after day, from one Windows session to another. This not only safeguards your work, but makes the Clipboard a natural place to store and access frequently used logos, boilerplate texts, and the like. CLIPSTAC works equally well with both Windows 3.0 and 3.1.

CLIPMATE Version 1.11 - Clipboard Enhancement captures all text items that appear on the Clipboard and keeps them for later retrieval. There are many functions to help you retrieve and manipulate clipboard data, such as Concatenate, Re-Flow Paragraph, Word Find, and Magnify. You can edit the clipboard data, and you have configurable options for short-term and long-term storage. The ultimate Windows power tool, with easy-to-use Icon ribbon, and Windows Help.

HE'S BACK BETTER THAN EVER

BBUG 8985 COMMANDER KEEN 5

(AVAILABLE ONLY ON 3½" 720K OR 5¼" 1.2M DISKS)

*CLASSIFICATION * Games * Hard Disk * EGA/VGA*

COMMANDER KEEN 5 - THE ARMAGEDDON MACHINE

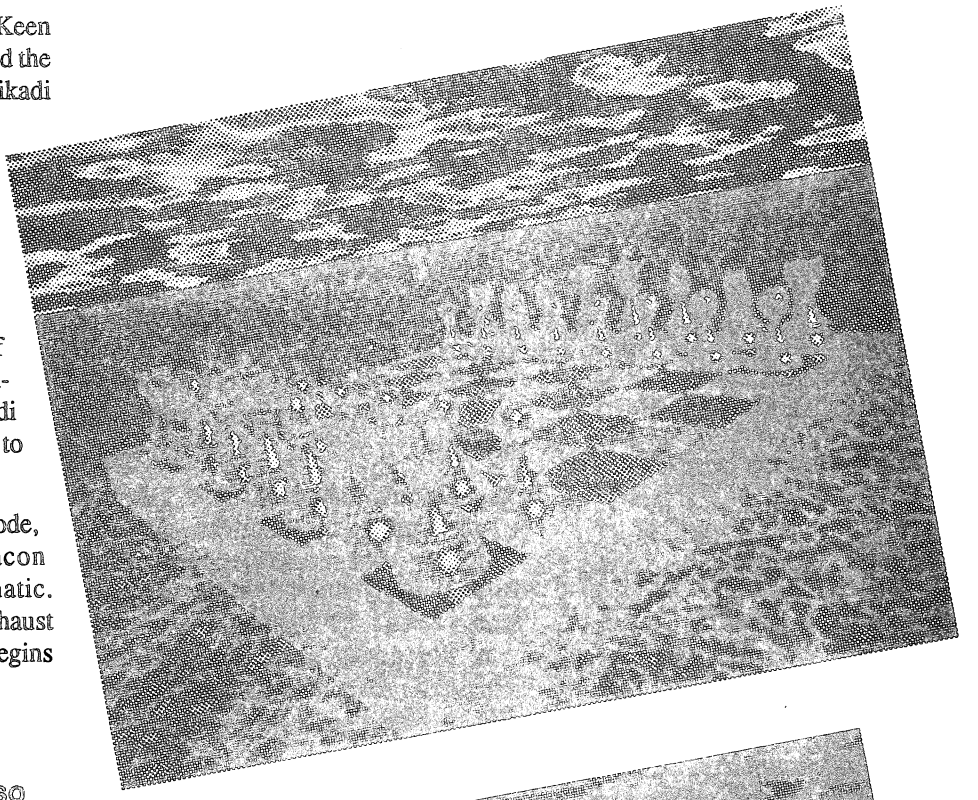
Last episode, our hero Billy blasted off in search of the mysterious Shikadi, who serve "the Gannalech" and plan to destroy

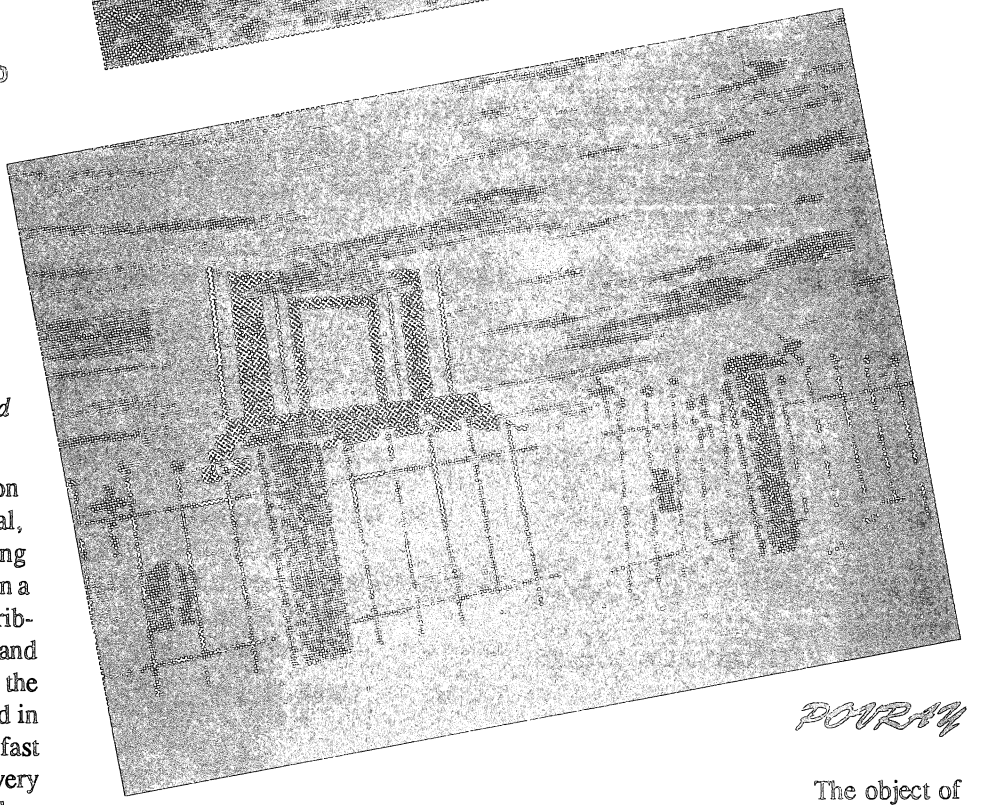
the galaxy! After a short delay, Keen rocketed to Gnosticus IV, only to find the Council Members missing. The Shikadi kidnapped 'em!

Keen flew to the Shadowlands, faced horrible foes, and rescued the kidnapped ancients.

After Keen freed them from their imprisonment, the immortal Council Members activated their source of galactic wisdom, the Oracle. The Oracle informad Keen that the Shikadi had nearly completed a machine to obliterate the galaxy!

This episode finds Keen in stealth mode, sneaking his Bean-with-Bacon Megarocket up to the Omegamatic. Securing his Attach-O-Ray to an exhaust port, Keen enters Omegamatic and begins his most dangerous adventure yet!





POVRAY

BBUG 8986 POVRAY Version 1.0 (Disk 1 of 3, also 8987,8988)

BBUG 8987 POVRAY Version 1.0 (Disk 2 of 3, also 8986,8988)

BBUG 8988 POVRAY Version 1.0 (Disk 3 of 3, also 8986,8987)

*CLASSIFICATION * Graphics * Hard Disk * VGA * 386/486 Computer*

POVRAY - The Persistence of Vision Raytracer creates three-dimensional, photo-realistic images using a rendering technique called ray tracing. It reads in a text file containing information describing the objects and lighting in a scene and generates an image of that scene from the view point of a camera also described in the text file. Ray tracing is not a fast process by any means, but it produces very high quality images with realistic reflections, shading, perspective, and other effects.

The POV-RAY package includes detailed instructions on using the raytracer and creating scenes. Many stunning scenes are included with POV-Ray so you can start creating images immediately when you get the package. These scenes can be modified by the user also so they don't have to start from scratch.

In addition to the pre-defined scenes are a large library of predefined shapes and materials that can be used in your own scenes by just typing the name of the shape or material.

POV-RAY is easy to use, and also includes many advanced features like bezier patches, blobs, height-fields, bump mapping, and material mapping.

BBUG 8990 EMERALD HUNT

*CLASSIFICATION * Games * Floppy Disk * EGA/VGA*

The object of EMERALD HUNT is to collect as many emeralds and diamonds as possible without being killed in the process. Once your score reaches the goal amount you then proceed to the exit. You score 1 point for an emerald and 5 points for a diamond.

Events that will kill you are: Any falling object hitting you on the head, or A bomb or grenade exploding next to you, or A bug being within a 1 unit radius of you. Objects that fall due to gravity are: boulders, emeralds diamonds and bombs. Any piece of dirt, bricks, stone and yourself will

support any number of these objects. However, some objects on top of other objects are unstable and thus they roll off each other. An object is unstable if it is resting on a non-flat surface, and there is nothing supporting the object either to it's left or it's right.

EMERALD HUNT is an Australian game curiously addictive, not a shoot-em-up or mindless action game, but it requires some intelligent moves and skill and is essentially simple to understand.

Suitable for disabled players.

BBUG 8991 ARCMASTER FOR WINDOWS Version 1.10

*CLASSIFICATION * Archive * Windows * Hard Disk*

ARCMASTER FOR WINDOWS is a Windows 3.1 program designed to make the management of file compression systems and the files they produce much easier. In addition, ARCMASTER FOR WINDOWS offers normal file management capabilities such as file copy, move, and deletion, directory tree management, and more.

Programs Needed to Operate ARCMASTER FOR WINDOWS - You will need at least one of the following archive programs in order to utilize the full capabilities of the program: ARJ, LHA, and ZIP. If you anticipate the need to manipulate files compressed in the ARC format, you should also have ARCE.

While not absolutely essential, the user might have available a full-featured file browse utility which ARCMASTER FOR WINDOWS can call to view/browse the contents of a compressed file existing inside an archive. (e.g. LIST)

If you choose not to interface with a separate Windows file browser, ARCMASTER FOR WINDOWS has an internal barebones file browser that will suffice for viewing normal and compressed files.

BBUG 2593 PERSONAL CALENDAR Version 14.20

*CLASSIFICATION * Desktop * Hard Disk * Printer*

PERSONAL CALENDAR is a program that graphically displays a running clock, the current three months of calendars, and *your* appointments, on the screen. The current month's calendar is in the center. The calendar's months can be scrolled back or forward a month at a time or moved to *any* date in a 10,000 year range, instantly, with the touch of a key. The calendar's digital and analog clock updates every second, and displays the date and time in 12- and 24-hour formats, and also shows the Julian Date.

Provision is made for a window of notes (those things you want to be reminded of that aren't tied to a certain time), and a window of events (those that *are* time oriented).

The print capability will print a list of events separated by weeks, notes and history, along with the three current calendars, just perfect for folding up into your pocket or purse! Print options work well with single sheet, or fanfold paper too. Support for the newest HP and IBM laser printers is also included.

BBUG 2600 GRAPHIC WORKSHOP PLUS

*CLASSIFICATION * Desktop Publishing * Hard Disk*

GRAFCAT Version 3.0. Print a visual catalog of your image files, sixteen to a page. Drive all LaserJet and PostScript laser printers, and work with any mixture of.GIF, .MAC, and .IMG files.

CROPGIF (GIF FILE CROPPER) Version 1.3 Crop smaller fragments out of your.GIF files. Use the GRAPHIC WORKSHOP to convert other formats into .GIF files for cropping. CROPGIF uses a simple mouse interface to make cropping image fragments no more complicated than using a paint program.

See also BBUG # 2277

BBUG 2714 GEDIT Version 1.61

*CLASSIFICATION * Text Editor * Hard/Floppy Disk*

GEDIT is a powerful text editor designed for use by programmers and those providing technical support to multiple computer users. It is useful for writing source code and batch files; word processing; creating, maintaining, and repairing data files; recovering files from damaged diskettes; and exploring computer memory.

GEDIT provides all of the standard word processing functions such as formatting text; justification; automatic wordwrap; printing attributes such as bold, underline, italics, sub/superscript; user-defined attributes; and line drawing capabilities.

GEDIT supports an edit file size limited only by the available memory, up to 640K. Text files can have a preset or unlimited line length. Split-screen editing is possible for two files. Cut and paste columns. "Undo" an edit action. Edit in either 25 or 43/50 line mode on EGA/VGA monitors.

GEDIT differs from other word processors by keeping a running total of available memory as well as its ability to explore and edit memory segments and display hexdumps of files on disk and in memory. Compare two text files and append files in memory.

An additional feature is the ability of GEDIT to directly edit dBASE III and WordStar files.

BBUG 1944 PELTON'S FINANCIAL UTILITIES Ver. 1.61 (Disk 1 of 2, 2819)

BBUG 2819 PELTON'S FINANCIAL UTILITIES Ver. 1.61 (Disk 2 of 2, 1944)

*CLASSIFICATION * Accounting/Business * Hard Disk*

PELTON'S FINANCIAL UTILITIES is a collection of full-color, computer programs driven by a fancy menu, part of which is the "Selection Guide." The utilities solve many time-value financial problems encountered in business. Typical problems are distribution of funds from a sum, money growth with or without deposits, IRA's, and many types of simple and complex loans.

The Selection Guide steers the Pelton user to the appropriate financial utility to make it easy to get a quick and accurate answer for almost any unknown quantity. Full and abbreviated professional-looking chedules may be displayed or printed. The program is amazingly fast and truly easy to use. A things-to-do list manager which you'll find useful, helpful, convenient, and fun is also included.

[Note: This is a new program which replaces the earlier PELTON COMPUTER CONSULTANTS on BBUG Disk # 1944. Order both disks to obtain the complete program.]

BBUG 2839 THE LAST HALF OF DARKNESS(Disk 1 of 2, also 2840)

BBUG 2840 THE LAST HALF OF DARKNESS (Disk 2 of 2, also 2839)

*CLASSIFICATION * Games * VGA * Hard/Floppy Disk*

Do you like graphic adventure games with sharp pictures, mouse support, save and restore game functions, and spine-shivering puzzles to solve? Then THE LAST HALF OF DARKNESS is for you!

When the game starts, you find yourself in front of your recently deceased aunt's mansion. In order to gain the title to her fortune and estate, you must find the ingredients to a potion she was working on before she was killed. It won't be easy as there are many strange denizens in the old mansion. Some will help you in your quest, while others would just as soon finish you off!

Choose one of the listed commands with either the keyboard or mouse. Use speaker sound or Covox's Speech Thing. Examine everything, take what you can, and don't forget to save your game before you do anything dangerous which, in this game, can be a frequent thing.

What are you waiting for? Dust those cobwebs off your trusty old map notebook and take a journey to THE LAST HALF OF DARKNESS!

NOTE - EGA version is on BBUG #2438, CGA version is on BBUG #2573.

BBUG 2856 PC HUNTER Version 5.2

*CLASSIFICATION * Utilities * HardDisk*

Hard disk getting to cluttered and you can't find the file that you know is somewhere on your drive?

Well PC HUNTER is here to help you. All you need to do to set up PC HUNTER is copy all the necessary files to your root directory, specify the file name (either partially and use a wildcard) or even mention some text from the file and PC HUNTER will search all the directories on any drive to locate the file.

Then, to make your life easier, it lists the files, and their locations or displays the text you have been searching for.

BBUG 2583 TESSERACT CXL LIBRARY Ver. 5.52 (Disk 1 of 3, 2583, 2857)

BBUG 2584 TESSERACT CXL LIBRARY Ver. 5.52 (Disk 2 of 3, 2583, 2857)

BBUG 2857 TESSERACT CXL LIBRARY Ver. 5.52 (Disk 3 of 3, 2583, 2584)

*CLASSIFICATION * Programming * C * Hard Disk*

The TCXL library is a supplement to your C compiler's standard run-time library. It contains over 375 multipurpose functions which provide a variety of capabilities. It is available for several popular C compilers including Microsoft C, QuickC, Turbo C/C++, and Zortech C/C++

These routines were written in highly-optimized C and assembler code, ensuring maximum program speed, minimum program size, easy modification and increased portability.

Use customized bar menus to create pop-up, pull-down, and Lotus-style menus, as well as any other custom menu that you can define. Features full mouse support, non-selectable items, global hotkeys, and more.

Multi-field formatted data entry creates data entry forms with one or more input fields. You have full control over user input and can tie validation functions into each input field.

Context-sensitive Help can index Help files for speed, category, and cross-referencing. Help can be applied at the global, window, menu item, and input field levels.

TCXL has scrollable pick menus to select from a list of items. Full mouse support and scroll bars are used in a dedicated file picker.

Full-featured window control allows as many open windows as memory permits. Windows can be stacked, tiled, shadowed, moved, resized, and changed in many ways. There are more than 75 functions designed to handle windowed output.

User-defined input system provides a consistent interface between the hardware-dependent input devices and TCXL's output systems. Features both formatted and unformatted user input, with varying levels of output control.

Nonstandard video sizes EGA 43 and VGA 50-line modes are supported.

TCXL has a full set of routines for access to Expanded Memory through the EMS specification, and for access to Extended Memory through the XMS specification. TCXL also recognizes the presence of advanced memory management schemes such as VCPI and DPMI.

BBUG 2858 QUICKSTART Version 1.10

*CLASSIFICATION * Utilities * HardDisk * CGA/EGA/VGA * Mouse*

QUICKSTART is a power Windows-like disk management utility program and is much faster and easier to use than Windows. QUICKSTART allows you to access and start any program on any drive or directory in a flash. It is so easy to use that even small children can locate and start the programs that they want to use.

QUICKSTART automatically decompresses archived files and loads them into a temporary work area where you can run or edit any or all of the files contained therein. After you have finished, QUICKSTART gives you the option to either update the original archive file, or to leave it unchanged. You define the archive utility program that you want to use with QUICKSTART.

With QUICKSTART you can Copy, Move, Edit, Delete, and Run files quicker and easier than ever. You can also create and delete directories. QUICKSTART will automatically load the text file you select into your word processor at the press of a button. No more typing in directory or file names. Unlike menu programs, there is no setup required other than the initial installation of QUICKSTART onto your hard drive.

BBUG 2859 123-TALK Version 2.2

*CLASSIFICATION * Educational * Hard Disk * EGA/VGA*

123-TALK is a terrific talking teacher that will TALK TO YOUR CHILD to help teach them how to say numbers, count, add, subtract and how to interact with a computer. For children ages 1 to 4, 123-TALK will teach your child to say the numbers 1 to 10 and how to find numbers

on the keyboard. Also they will learn how to sing the 123 SONG.

For children ages 4-7, 123-TALK will teach them counting, addition and subtraction. Also they will learn how to draw with EASY DRAW II. Your child will love the stunning graphics in this package.

BBUG 2860 POWERBASIC LIBRARY (Disk 7 of 8, also 2631 to 2636, 2861)

*CLASSIFICATION * Programming * PowerBasic * Hard Disk*

POWERBASIC BBS LIBRARY contains the following set of programs and routines for POWERBASIC:

FONTB	Power fonts for PowerBASIC
FONTC	Perma fonts for PowerBASIC
HPII	Reads PowerBASIC screen 9 Graphic Image and prints
MCINFO	Documentation of all TC settings
NEWLOC	Set number of lines in EGA or VGA
NISTYS	NIST-Sync program
PB-EDIT	Edit program for PB Tools and PowerBASIC
PMWIND	Poor man's Windows routine
PRINTE	Substitute for Lprint
SCANP2	Scan 640 x 350 EGA screen and print
TSSVCOPY	High speed video page copy routine
VAL	VAL and numbers in PowerBASIC

These programs and routines are designed to save you programming time, and give you examples of code that can be incorporated into your application.

BBUG 2861 POWERBASIC LIBRARY (Disk 8 of 8, also 2631 to 2636, 2680)

*CLASSIFICATION * Programming * PowerBasic * Hard Disk*

POWERBASIC BBS LIBRARY contains the following set of programs and routines for POWERBASIC:

ASSEMBLY provides examples of how to interface PowerBASIC programs to assembly language routines. KEYINCL1 contains the demo programs and their associated BAS files. INCLUDE.DOC explains the function of the INClude files and the Operation of the demo programs.

PB-FMT	PowerBasic formatting.
QB2TB	Quick Basic to Turbo Basic.
TBC2PB	Turbo C to PowerBasic.

These programs and routines are designed to save you programming time, and give you examples of code that can be incorporated into your application.

BBUG 2862 ASTROMEEUS Version 0.9

*CLASSIFICATION * Astronomy * Windows * Hard Disk*

This is a Windows based astronomy ephemeris program. In addition to producing the traditional sun, moon and planets phenomena charts, ASTROMEEUS will also produce a monthly calendar of astronomical events with sunrise/set, moonrise/set for each day, the phases of the moon, and the time of any equinoxes, solstices or eclipses. The calendar uses Windows vector fonts and can produce some very attractive output, suitable for hanging on the wall.

ASTROMEEUS is based on the book Astronomical Formulae for Calculators by the renown Belgian astronomer Jean Meeus. The calculations in his book yield very good results and are applicable for a wide range of dates, not just for the 20th century.

The easy-to-use Windows interface provides hypertext help, list boxes with over 150 cities to set the longitude/latitude configuration, scrolling output, colorful icons and dialog boxes for converting Julian dates to calendar dates and many other functions. Calculations and charts displayed on the scrolling window may be saved to an ASCII file.

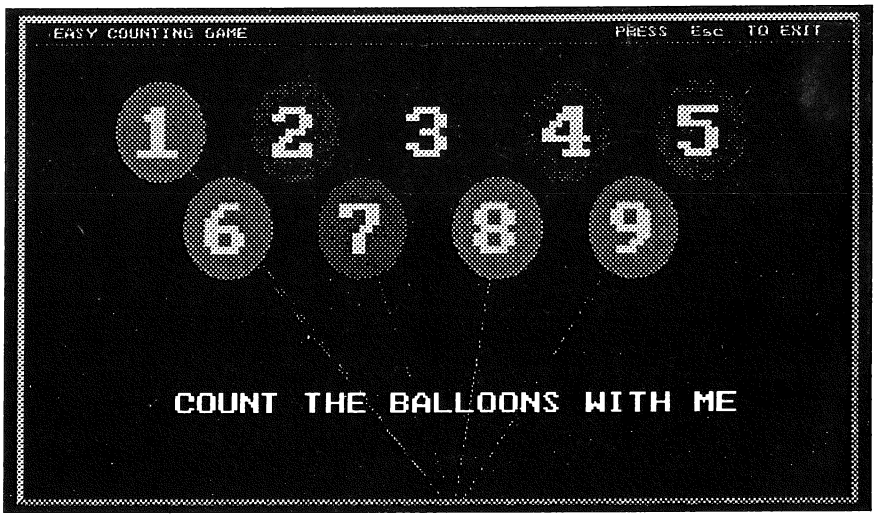
The following calculations are available: Position of the Sun (apparent or geometric) Times of sunrise, transit, sunset and twilight (Civil, Nautical or Astronomical) Equation of time Equinox and Solstice times Position of the Moon Times of moonrise, transit, moonset and phase Graphic display and readout of the position angle of the moon's bright limb Times of full moon, first quarter, full moon and last quarter Eclipse times Positions of the planets (heliocentric and geocentric) Rise, transit and set times for the planets The phase or illuminated fraction for each planet

BBUG 2864 MATH CASTLE Version 1.5

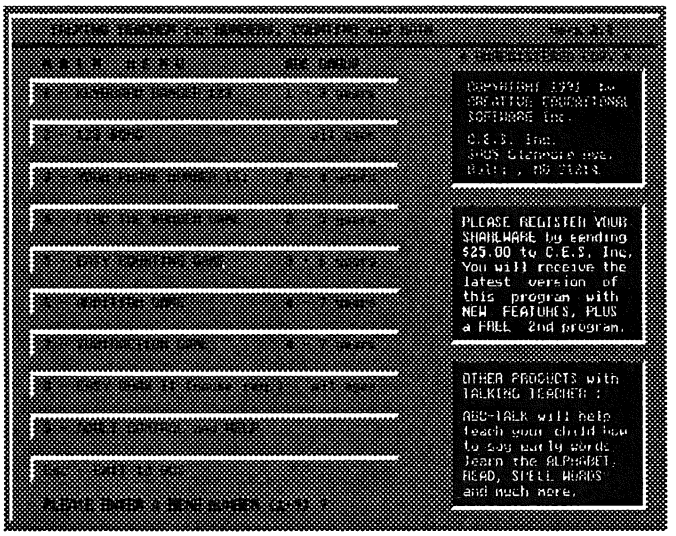
*CLASSIFICATION * Educational * Floppy Disk * Graphics Monitor*

You are the wise King of the Land of Given where you and your loyal subjects have developed and employed the latest scientific weaponry in defense of your castle. You and your subjects enjoy peace and prosperity under your reign.

Then one day, your minister of defense informs you that your castle is being approached by a large number of alien spacecraft. You rush down to the Castle Defence Center only to find that the math co-processor chip on the computer that fires the Super Energy Beam is not functioning. There is only one thing left to do - you must enter the required computations by way of the keyboard.



Maths Castle - fun with numbers for the younger fry



Only you can save your castle, but can you enter the required computations quickly and accurately enough?

MATH CASTLE is an educational math program that uses an exciting video arcade game format to teach children or adults their basic math facts. MATH CASTLE has two play modes and 40 levels of play. You can enter your own problem sets, or have MATH CASTLE randomly select them for you. MATH CASTLE can be configured so that even small children can use it, or on its higher levels, it can be a challenge for exceptional children or adults.

BBUG 2315 $HAREWARE MARKETING SYSTEM Ver.92.01 (Disk 1 of 2,also 2865)

BBUG 2865 $HAREWARE MARKETING SYSTEM Ver.92.01 (Disk 2 of 2,also 2315)

CLASSIFICATION General * HardDisk*

The $HAREWARE MARKETING $YSTEM is a detailed two-part resource for shareware authors who need creative ideas and a RATED mailing list of over 800 major shareware distributors, large computer clubs and recommended BBS systems. The first part of the package, the shareware distributor's database, contains mailing addresses, phone numbers, a Shareware Distributor Rating and other detailed data which can be used to prepare envelope mailing labels or BBS calling uploads.

The database file is rated by shareware distributor so you can mail your shareware to vendors rated A, B or C. The database file is supplied in standard file formats such as dBASE and 1-2-3 which can be directly imported into your database! Sort lists of shareware distributors by zip, state or other criteria. Foreign and U.S. distributors and computer clubs are included.

The second part of the package is a detailed newsletter and marketing strategy guide, prepared by an established shareware author. It contains dozens of creative tips, tricks and traps which every shareware author should know. Written by the author of the PC-LEARN computer tutorial, the $HAREWARE MARKETING $YSTEM provides detailed and valuable information in a frank, candid and sensible style.

BBUG 2866 SAVE-A-SCREEN

CLASSIFICATION Utilities* HardDisk*

SAVE-A-SCREEN is a collection of screen savers for your computer.

QUIXX is an interesting and optionally colorful screen saver featuring a revolving rectangular pattern of lines moving, bouncing, and twisting all over. This "genie's blanket" display is rather captivating, and almost hypnotic.

EXPLOSIV is a nice screen blanking program that shows a fireworks display in 16 colors on EGA and VGA systems. A number of command line switches can be chosen when the program is started, among which include: screen blanking delay time, number of simultaneous explosions, speed of explosions, choice of color(s), and number of text pages to be saved in memory.

SCRUTIL, this screen program blanks the screen, all right. There are no fish swimming around, no fireworks exploding, or quixx quixxing. If you are one of those kind of people who want a screen blanking program to just blank the screen, SCRUTIL will do it.

LUMEN provides a series of ever changing screens which can be speeded up or slowed down according to your wishes.

TUNNEL is a series of concentric circles dissapearing into infinity.

VGAMOIRE - You've probably seen a lot of other screen savers, and you're probably not very impressed. Many are boring and just blank out the screen—which can even be annoying, because sometimes it's hard to tell if the machine or the monitor are even on! Other screen savers may save the display in memory and draw a moving design until a key is pressed. I have yet to see any other screen saver that saves the FULL display configuration and restores it. Other popular screen savers have a number of tiny but very annoying flaws.

The moire pattern design was inspired by Magic! (for Microsoft Windows) and Moire (for the Macintosh), two other well-known screen savers.

Real time, accurate to within five milliseconds, can be obtained by using the program TIMESET that will call by modem the atomic clocks of the U.S. Naval Observatory or the National Institute of Standards and Technology. After your computer is set up with "real time" for a couple of days and RIGHTIME has had a chance to analyze your system clocks, RIGHTIME will automatically take steps to regularly set your CMOS clock. (RIGHTIME supports only clock boards or computer motherboard clocks that emulate the PC/AT hardware clock and its BIOS support precisely.)

BBUG 2867 TIMESET AND RIGHTIME

*CLASSIFICATION * Utilities * Floppy/Hard Disk * Modem*

For those who desire or require the "real time" on their computer, TIMESET, Version 6.00A, will set a computer clock to within five milliseconds of true time through a six-second telephone call from your modem to the atomic clocks of the U.S. Naval Observatory in Washington D.C. or the National Institute of Standards and Technology in Boulder, Colorado. TIMESET can then be complemented by RIGHTIME, a program that analyzes how much your system clock drifts and then regularly resets it.

Highly regarded programs, TIMESET, along with RIGHTIME, are used by organizations such as NASA, the Jet Propulsion Laboratories, power companies, the military, radio and TV stations, etc. who depend on time accuracy for technological

or legal purposes. They are also used by some of the rest of us who simply want a convenient way to set our computer to a standard we know is right.

RIGHTIME, Version 1.1 is a 3K TSR program for MSDOS v3.0+ and DRDOS, regulates both the CMOS and DOS clocks, and can keep both clocks accurate to within a fraction of a second for weeks at a time. Once loaded into memory, RIGHTIME compares how far your CMOS clock is drifting from your more accurate DOS clock, and then compares how both of them are drifting from the "real time."

Real time, accurate to within five milliseconds, can be obtained by using the program TIMESET that will call by modem the atomic clocks of the U.S. Naval Observatory or the National Institute of Standards and Technology. After your computer is set up with "real time" for a couple of days and RIGHTIME has had a chance to analyze your system clocks, RIGHTIME will automatically take steps to regularly set your CMOS clock. (RIGHTIME supports only clock boards or computer motherboard clocks that emulate the PC/AT hardware clock and its BIOS support precisely.)

BBUG 2868 CHECKMATE PLUS Version 1.01A (Disk 1 of 2, also 2869)

BBUG 2869 CHECKMATE PLUS Version 1.01A (Disk 2 of 2, also 2868)

*CLASSIFICATION * Accounting * Hard/2 Floppy Disks * Mouse support*

CHECKMATE PLUS is a "checkbook-based" accounting package that's easy enough for home use and powerful enough for business. CHECKMATE PLUS helps you to easily and accurately maintain your cheque accounts (including simplifying regular monthly transactions).

You can pre-define cheques that you write often, and even have CHECKMATE PLUS remind you when they're due. When your statement arrives, CHECKMATE PLUS will even help you reconcile your account!

Printed reports are a breeze. CHECKMATE PLUS has many standard reports easily customised or redesigned. You can preview your reports on the screen, write them to disk, or send them to the printer. And CHECKMATE PLUS has powerful "search and filter" functions to let you zero in on key data.

Since CHECKMATE PLUS is a real double-entry accounting system, you can generate balance sheets, income statements, and budgeting reports. And don't forget the high resolution color graphics. The besst feature? Ease of use! CHECK_MATE PLUS sports pull-down menus, pop-up windows, and context-sensitive help.

BBUG 2870 PAINLESS PAYROLL FOR WINDOWS

*CLASSIFICATION * Accounting * Windows * Hard Disk*

PAINLESS PAYROLL FOR WINDOWS is a fully integrated payroll system designed for Windows.

The modules included consist of: Payroll Generation, Reports, Files, Closing, and Utilities. Some of the major features include: Automatic interface into Painless Accounting, On-Line Help, Password Protection, and more.

BBUG 2871 PAINLESS ACCOUNTING FOR WINDOWS Ver. 1 (Disk 1 of 2, 2872)

BBUG 2872 PAINLESS ACCOUNTING FOR WINDOWS Ver. 1 (Disk 2 of 2, 2871)

*CLASSIFICATION * Accounting * Windows * Hard Disk*

PAINLESS ACCOUNTING for WINDOWS is a full featured accounting system, designed for use with Windows. Modules include: Files, Ledger, Billing, Checks, Reports, Utilities, Budget, and Closing.

The files are stored in .dBASE-III format for easy access by other applications. You can print client invoices, and statements to plain paper or pre-printed forms. Also, prints checks and many other reports including a Trial Balance, Balance Sheet, and Income Statement. You can also track your budget and compare your actual figures to your budgeted figures.

BBUG 2873 SNARF Version 2.02

*CLASSIFICATION * Games * Floppy Disk * EGA/VGA*

SNARF's are nasty little characters. They chase you round and round the various mazes trying to tag you. Each time you're touched by a SNARF, you're "tagged". You start with a "tag count" of 50. Each time you're tagged the count is decremented. If you get tagged when the

count is 0, the game is over. You can get "healed" at a first-aid station (your tag count is pumped back up to 50). First-aid is only available every two to four mazes.

Your part in all this is you have to run around through various mazes (levels) picking up treasure (rings and crowns) while avoiding the SNARF's. You can shoot the SNARF's, but you only get points for the treasure, not for the SNARF's.

This version of SNARF allows you to create new levels for the game.

BBUG 2874 SHOW TALK Version 1.3

*CLASSIFICATION * General * Hard/ Floppy Disk * EGA/VGA*

Did you ever see the candid camera show where there is a guy hiding in the mail box talking to people as they walk by? Well, that is what this program is. It is intended to be used to attract people to the computer.

SHOW TALK will draw fancy collages and about every 30 seconds it will say catch phrases (in real human speech), to try and catch the person's attention. Some of the phrases are: Hello, is there anyone out there? Hey there, good looking (female voice); Hey you over there, come on over here; Please et me out of here; Try pressing a key; and many more. When the person presses a keyboard key, SHOW TALK will say a joke or sing a song or play Name That Tune. This is a great customer catcher for your next show. You can also use this in a retail store or to play jokes on your friends. Try it, it really works!!

BBUG 2875 SW-TALK Version 2.1

*CLASSIFICATION * General * Hard/ Floppy Disk * EGA/VGA*

SW-TALK, THE VOICE LIBRARY is a new product for shareware authors and programmers. The library consists of over 100 words that can be used to spice up your programs and increase your registrations. Excellent voice quality that works through the PC speaker.

The voice commands can be added to any batch file (*.bat) and/or added to your programs. This package is very easy to use, all that is necessary is to type SW-TALK at the DOS prompt, followed by the words you would like to say (example: to say "Hello!" type in "SW-talk hello"). Also included in this package is a PCX display program that can be used to display pcx pictures. This will allow you to design a fancy introductory screen for your program or create a talking slide show capability.

BBUG 2876 MULE'S END POKER 21 Version 1.0

*CLASSIFICATION * Games * Hard/ Floppy Disk * EGA/VGA * Mouse*

MULE'S END POKER-SLOTS is the typical poker slot machine with a difference - check out the cards! Check out the machine itself! Besides the great graphics, this game comes complete with instructions, easy-to-use (and learn!) keypresses, and support for a Microsoft compatible mouse. Drop a buck in the slot and give it a try!

MULE'S END 21 has all the options of a Las Vegas 21 game without any of the headaches. Double-down, split a pair, take an insurance bet - it's all there. And there's a difference between this game and all the other 21 games on the market - besides terrific graphics, it tells you all the options you have at any given moment! If you have a pair, it asks if you'd like to split. If you have the money to double-down, it will ask if you want to! Insurance? Just a yes or no will do it! Same great graphics as MULE'S END POKER-SLOTS!

BBUG 2877 DOS UTILITIES BY RO-SOFT Version 3.6

*CLASSIFICATION * Utilities * Hard/ Floppy Disk * Color Monitor preferred*

DOS UTILITIES BY RO-SOFT offer the user a valuable collection of utilities to make your computer more useable. While some of the programs are TSR, others can be called simply from the DOS prompt (e.g. DDIR - lists files of a directory in two columns and uses a color scheme to team up files within the directory; DEFRAG - frees up space on your drive by defragmenting the files; DISKSCAN - scans all disk drives for read errors).

Utilities available include: ANSI.EXE - Displays Ansi Files at Selected Baud Rate/ Continuous, CALC.EXE - TSR, Dec/Bin/ Oct/Hex Base Conversion Calculator, CHNGMENU.EXE - Users Formatted Shell Menu Editor, CLK1.EXE - TSR, Compact Clock With Optional Location, COLRTEXT.EXE - Display Color Text Files at Selected Rate/Continuous, DDIR.EXE - Color Double Dir List/Print/ All Dirs, DEFRAG.EXE - De-Fragment Disk Files, DISKSCAN.EXE - Scan All Disk Sectors For Read Errors, DOSCOMM.EXE - TSR, Assign DOS Function Key Commands/Command Edit, DOSHELP.EXE - TSR, Pop-Up to Display/Create .HLP/.CLP Files, DOSHELPM.EXE - TSR, Pop-Up Help For Mono System, EDIT.EXE - Programmers Editor With Many Special Features, EQUIP.EXE - List Your Systems Installed Equipment, FILMAN.EXE - File Management System With Mouse Menu, MEMMAP.EXE - List Your Systems Memory Allocation, PALETTE.EXE - TSR, Change Color Systems Color Palettes, POPCAL.EXE - TSR, Moveable Pop-Up Calendar With Clock & Alarm, POPDIR.EXE - Dual Mode Directory Window, List/Execute Files, REPTCOMM.EXE - Repeat a DOS Command in All Directories, SCRNCLK.EXE - TSR, Movable Clock Display With Alarm and Message, SHELL.EXE - Main DOS Shell Routine, Loaded By SHELLC.EXE, SHELLC.EXE - Compact Memory Resident Portion of DOS SHELL System, SORTDIR.EXE - Permanent Sort & Compacting of Disk Directories, TREE.EXE - List/Print Directory Tree With File Totals, UNDELETE.EXE - Recover Deleted Files, WHERE.EXE - Locate Files Using Wild Card FileSpec.

BBUG 2878 ORION ODYSSEY Version 2.0 (Disk 1 of 2, also 2879)

BBUG 2879 ORION ODYSSEY Version 2.0 (Disk 2 of 2, also 2878)

CLASSIFICATION * Games * Hard Disk * EGA/VGA

ORION ODYSSEY is a graphical arcade adventure style game which involves a space flier (Wally, as he has become to be known) who flies around using a jetpack strapped to his back and tries to accumulate as many points as possible while destroying alien beings, finding and using artifacts, and monitoring his life status, fuel consumption, ammo, etc.

The Ankh has been stolen by the overlord Bytor. For it is said that whosoever controls the powers of the Ankh controls the

universe. Bytor has assigned his supreme wizards to the task of unlocking its magical powers. Your job is to find the Ankh before Bytor and his supreme wizards discover its powers.

The fate of the universe lies in your hands....

BBUG 2880 QUATRIS II Version 1.0D

*CLASSIFICATION * Games *Hard/ Floppy Disk * EGA/VGA*

QUATRIS II is not like any other games where you play just for the fun or the pleasure of it. QUATRIS II can actually exercise your brain in visualizing objects. Once your brain is trained to visualize each of the blocks shown and its four rotated forms, QUATRIS II becomes easier to play.

QUATRIS II is a Tetris-like game, easy to operate and play while at the same time exercising your brain to visualize and measure objects and space. If you know Tetris, QUATRIS II shouldn't be any problem for you.

This game has 3 complete levels and 40 extended shapes to play with. QUATRIS II will automatically save your game, allow you to redefine your keys, track both your score and the number of lines left, and is provided with a grid to help you more accurately drop the blocks.

A unique feature that can improve your score by giving you another chance is the ability to enlist bombs that will either wipe out a line, wipe out particular pieces, or wipe out everything on the screen, provided you have enough "energy." Challenge of the playing field changes from level to level with the fluxuation of the two-dimensional "well" where the blocks fall.

QUATRIS II will provide you with more fun and addiction than Tetris or any of the other tetris-like programs.

BBUG 2881 PCX-SHOW Version 4.0

*CLASSIFICATION * Graphics * Hard Disk * EGA/VGA*

PCX-SHOW is a highly stylized screen presentation program from PC WEST Software & Services of Phoenix, Arizona. The program allows the user to create customized screen presentations using pictures/screens saved or captured in the PCX file format. PCX-SHOW features include multiple screen fades and segues, special effects, kaleidoscope screen effects, text display using customized and computer fonts, border and screen clearing effects, and more.

Once you have created or captured the PCX screens you wish to include, you need to tell PCX-SHOW when and how you want them displayed. You interface your PCX files/screens with PCX-SHOW using a proprietary Script format. The Script format is simply a set of one or two word commands that tells PCX-SHOW what you want to do.

BBUG 2886 ZILCH Version 1.1

*CLASSIFICATION * Accounting/Business * Hard/Floppy Disk*

ZILCH is a debt liquidation program designed to help you get out of debt as quickly as possible. It provides you with a tool for paying off your debts in the most efficient manner possible.

ZILCH examines your financial situation when you supply it with information about your creditors; Name, Annual Percentage Rate, Balance and Payment. You then select the Start Month, Plan and Pledge Money and ZILCH does the rest. ZILCH assigns a priority to each creditor, performs its calculations and provides you with a payment schedule for getting out of debt. In most instances you can become debt free in half the time it would normally take.

ZILCH is the only product that gives you this expert financial help in the privacy of your own home. ZILCH is easy to use and extremely flexible. The File Save/Retrieve option allows you to maintain separate accounts within the same household. This option also lets you make changes to your financial profile whenever the need arises. ZILCH is confidential, efficient and it works.

BBUG 2887 HAVE YOU READ THAT MOVIE and COMPUTER TRIVIA QUIZ

*CLASSIFICATION * General * Floppy Disk*

HAVE YOU READ THAT MOVIE? Version 1.0 is a game of trivia on movies and related literature. The questions are multiple choice, and there are three levels of difficulty. The game has 91 easy questions, 141 medium questions, and 136 hard questions.

The game can be played by one or two players. In two player games you can alternate turns or compete on each question simultaneously. The game can be set up so that you may have up to three tries before guessing the right answer. After the correct answer is given interesting facts are displayed about the movie or literature that should enhance the knowledge of all trivia buffs and movie fans. The game has pull down menus and online help.

COMPUTER TRIVIA QUIZ Version 1.0 is a learning game for people of all ages, computer skill, education level, and user experience. The program allows the user to test his/her knowledge of computer terms, computer history, our famous and not so famous founders, ground-breaking events, etc. COMPUTER TRIVIA QUIZ is written for those who wish to become more computer literate.

COMPUTER TRIVIA QUIZ is organized as a multiple choice game in which up to six players can play. When answering a question, the player can look at the "hint". The hints are full of useful information and make an enjoyable reading and learning tool! Questions, hints and answers (correct and incorrect) were written with the intended goal of increasing the user's understanding of computers, no matter what level of computer knowledge and sophistication the individual user possesses.

BBUG 2888 TEXT-SHOW Version 4.0

*CLASSIFICATION * Graphics * Floppy/ Hard Disk * Color Monitor * Printer*

TEXT-SHOW is a highly stylized screen presentation program. The program allows the user to create customized screen presentations using text or ASCII graphic screens saved or captured in the Library or SCR file format.

TEXT-SHOW features include multiple screen fades and segues, special screen effects, text display using customized and computer fonts, border and screen clearing effects and more.

Once you have created or captured the text screens you wish to include, you need to tell TEXT-SHOW when and how you

want them displayed. You interface your files/screens with TEXT-SHOW using a proprietary Script format. The Script format is simply a set of one or two word commands that tells TEXT-SHOW what you want to do.

BBUG 2889 PREP Version 1.3

*CLASSIFICATION * General * Hard/2/ Floppy Disks * Printer*

PREP can be used to create multiple choice, true/false run-time programs on any subject. It is an excellent study aid for students. Menu-driven with context sensitive help throughout, PREP provides extensive review opportunities for student/group results. Question sets can contain up to 200 questions with 5 possible choices and responses for correct and incorrect answers. In addition, PREP allows the user to analyze both group and individual results.

Question sets prepared with PREP can be printed out or sent to a disk file for use with a text editor or wordprocessor.

BBUG 2890 STOWAWAY AND OTHER UTILITIES

*CLASSIFICATION * Utilities * HardDisk*

STOWAWAY Version 1.80 frees space on hard disks by archiving inactive files and directories from hard disks to a library of offline archive disks. Use its directory manager to select data to be archived. It works like a backup program to move the files to diskette while indexing them on your hard disk. STOWAWAY has data compression, automatic diskette formatting, viewing of files prior to archival and much more.

If you haven't used a disk cache because you need more memory for RAM disk, or RAM disk because you need more memory for disk cache, give COMBI-DISK, Version 0.30, a whirl. COMBI-DISK gives you both a RAM disk and a Disk-Cache at the same time in the same area of extended memory!

LCD - Version 4.0B - LED'S CHANGE DIRECTORY helps you quickly and easily change between directories on your hard drive. A work-alike to Peter Norton's NCD command, LCD also acts as a total replacement for DOS's CD, RD, and MD commands. A real time-saver! Features bigger pop-up window, speed search, mouse support, renames directories, and more shortcuts.

PCD Version 2.0 is a utility program designed to make changing directories much quicker and easier. This is especially significant with larger drives with multiple partitions.

SCROLL BACK! Version 6.4 is a 7K TSR program that gives you bi-directional scrolling capability in DOS. Now you can view an ASCII file screen by screen or view a long directory without employing a larger text or word processor utility (each screen holds 2.5K).

BBUG 2893 FAST INVOICE WRITER Version 4.91 (Disk 2 of 2, also 1147)

*CLASSIFICATION * Business * Hard/L/ Floppy Disk * Printer*

FAST INVOICE WRITER is just what the small businessman ordered. A winner for everyone from landlords to health professionals!

This program provides invoices, purchase orders, requisitions, or any document similar in format to an invoice. Compute taxes or bill by the hour — the program does all the calculations.

Produce a numbered, professional-looking document in about 60 seconds and print as many copies as you want. Then print your mailing labels and inserts for 10-inch window envelopes. Your firm's name, address, and phone number are printed on the invoice in large letters. Taxes and shipping charges are handled. The program contains a customer database routine and cashbook file for printing periodic summaries.

BBUG 2894 BLANKS AND XDISK

*CLASSIFICATION * Utilities * HardDisk * Expanded Memory*

BLANKS has some useful features never before associated with screen blanking. It's a memory-resident utility that blanks the screen after a user-defined amount of time (1-60 minutes), but also gives you the option of parking hard-disk(s) heads at the time of blanking. BLANKS also offers manual blanking at the press of a hot-key and password protected unblanking. All this with an efficient use of conventional or high memory.

ANYKEY is a non-resident, EGA/VGA screen blanking utility that displays intermittently the prompt: 'Press Any Key...' on different parts of the screen. The original contents of the screen are restored upon any key-press.

XDISK Version 3.20 generates RAM-disks in expanded memory. What's unique is XDISK'S ability to vary the amount of memory allocated to the disk(s) without rebooting the computer. The RAM-disk can even be completely collapsed to free all EMS for other uses. Conversely, the RAM-disk can be expanded to use all of the available EMS or an intermediate size. Security features include Read-Only, locking/unlocking, and user-defined password checks.

BBUG 2895 DOS MASTER Version 1.30A

*CLASSIFICATION * Utilities * HardDisk * CGA/EGA/VGA*

DOS MASTER is an intuitive, mouse supported disk/file manager that has a split-screen display of directories with a point and shoot interface. It contains the standard copy, move, rename, and delete functions as well as a complete mouse-aware text editor supporting block highlighting and a split- screen file viewer/ browse utility for examining large files.

In addition, the program contains a text search utility, a file-find feature, a four way sort function, a comparison of directories, a graphic directory tree display to help navigate a drive, and the ability to enter commands on the DOS command line, shell out to DOS or launch an application. DOS MASTER continually displays the bytes free on the current drive as well as the total size and number of selected files. You can even delete entire directories that contain files or sub-directories.

BBUG 2896 STATLINE Version 2.5

*CLASSIFICATION * Utilities * Windows * Hard Disk*

STATLINE is a small utility for the Windows 3.0 environment that, though similar to other such programs, adds a little uniqueness all its own.

The program provides the bottom of the Windows desktop with a nice status bar that tells you the Windows' operating

Windows desktop with a nice status bar that tells you the Windows' operating mode, day, date, time, and amount of free RAM and virtual RAM.

The extra touch is five icons to the right side of the status bar from where you can launch other Windows applications, keep a small notepad with cut, copy, and paste capabilities, exit Windows quickly, and delete files.

You can even keep a menu of your five favorite programs at your fingertips. Added to this, STATLINE uses just over 20K when it's loaded and is updated about every 12 seconds.

BBUG 2899 DAYO INVENTORY Version 3.95 (Disk 2 of 2, also 2401)

*CLASSIFICATION * Business/Accounting * Hard Disk * Printer*

DAYO Inventory is a Multiuser inventory control, purchasing, and vendor maintenance application.

Use DAYO INVENTORY to create and maintain an inventory of any product. Create and print purchase orders on a standard printer or a Hewlett Packard LaserJet. Receive purchase orders into inventory with the option of printing receivers and inventory tags/price abels. Maintain a vendor database complete with the vendor's purchasing history. With the exception of ongoing data entry of new products and vendors, DAYO INVENTORY is totally menu driven. Since DAYO INVENTORY is multiuser, it is capable o networks; i.e., Novell. Other features include reports, labels, lists, and a graph. A simple database management module is also included to provide you with additional means to modify, view, and report your data.

BBUG 2902 CRISP-R Version 1.21

*CLASSIFICATION * Accounting * Floppy/Hard Disk * Printer*

CRISP-R REAL ESTATE ACCOUNTING SOFTWARE is a bookkeeping system for up to 100 or more different properties or activities for one year using just one bank account (or up to three bank accounts) for all properties. It is perfect for property management of multiple commercial, investment, or residential properties. CRISP-R is designed for strict separation of accounting for each property with separate bank accounts for each property.

CRISP-R is menu-driven. You select the year regarding which you want to perform bookkeeping and then make entries for one property or allocate entries between several properties. The journal of receipts and disbursements for each year may contain up to 9,999 entries. There is a property list of up to 250 properties, a chart of accounts of up to 250 accounts, and a payor/payee list of up to 250 names (plus unlimited special payor/payees).

CRISP-R enables the user to print cheques (with or without payee's address for window envelope), reconcile bank statements, backup all data for a chosen year to another disk for safekeeping, and have instant access to bank balances, property balances and account totals. For any one property (or for all properties in one year), the user can create annual and monthly account reports, and display delinquency reports to see which of previously designated payor/payees have paid rent. CRISP-R makes written reports including reports of all transactions, selected transactions, and annual and monthly totals of accounts. In addition, CRISP-R exports files of up to a year of monthly account totals to Lotus 1-2-3 for one property or for all.

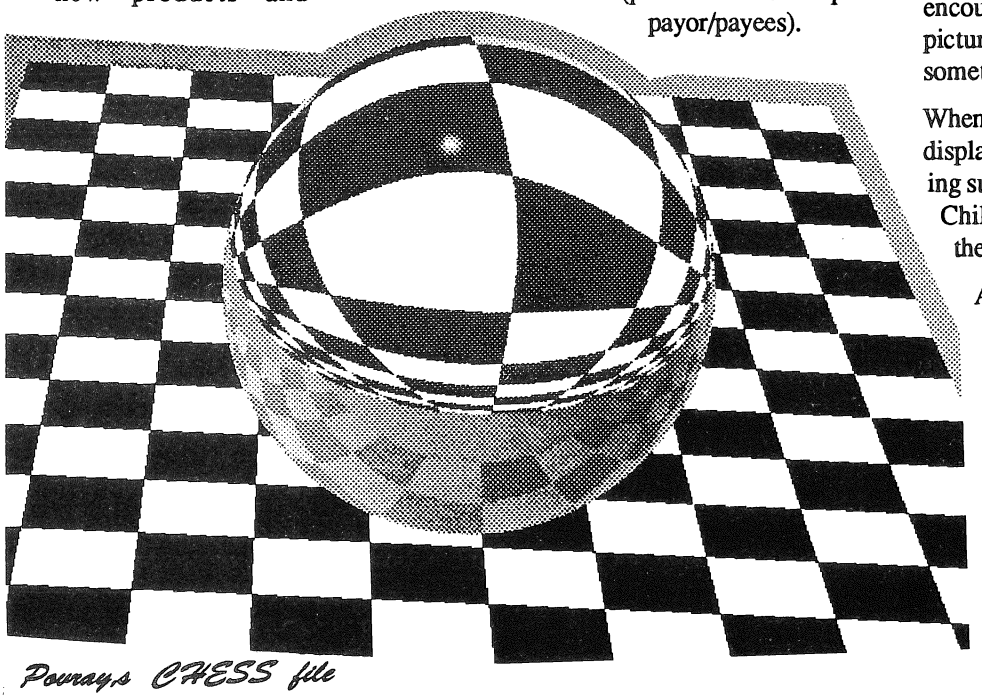
BBUG 2903 BERT'S DINOSAURS Version 12/91

*CLASSIFICATION * Educational/Games * L/Floppy/Hard Disk * VGA * Mouse*

BERT'S DINOSAURS is an enjoyable coloring program for children of all ages, but is especially useful for introducing young children to the computer. BERT'S DINOSAURS was designed by educators to be used by young children with a minimum of assistance by adults. As a coloring program BERT'S DINOSAURS is superior to many other children's coloring programs in that it allows the user to place the various dinosaurs, all in four different sizes, on a variety of backgrounds. This encourages children to create their own picture before coloring and gives them something to take pride in.

When first started, BERT'S DINOSAURS displays a title screen and then the drawing surface with eight buttons on the left. Children can operate the program with the mouse alone.

A window is provided which allows children to write a short story about their picture using the keyboard. The fact that they created the picture will help provide the motivation to write about it. One of the best ways for children to learn to read is to write, even if their initial attempts include phonetic spelling. They will love creating a setting, writing their own story, and printing out a copy.



BRISBUG HELP LINES

The following members have generously offered to give telephone assistance on the topics listed. Please be sure to observe the restrictions on times specified by each person. This service is not intended to serve as on-going training or a substitute for reading the manuals, or for not having manuals. It is for assistance with particular difficulties and for general advice such as when considering becoming involved in that topic.

New offers of help are always welcome, and there are some topics absent from the list.

Subject	Name	Phone	Days & times
4DOS	Chris Raisin	379-1415	Any time
	Dan Bridges	345-9298	Anytime
Accounting	Ian Haly	870-1463	After 5:30 & W/Ends
As-Easy-As	Dan Bridges	345-9298	Anytime
	Dan Emerson	288-6070	
Assembly	Paul Gear	263-5269	After-hours
	Scott Hendry	245-1330	After-hours
AutoCad	Geoff Harrod	378-8534	Evenings,W/E
C language	Danny Thomas	371-7938	Mon-Fri 6pm-9 & W/E
	Ian Haly	870-1463	After 5:30 & W/E
Clarion	Ray Creighton	354-1107	eve & W/E
Clipper	Chris Raisin	379-1415	Evenings
	Don Andersen	881-2432	after 7pm & W/E
	Dan Emmerson	288-6070	
	Mike Theocharous	824-1450	Anytime
CodeBase	Ian Haly	870-1463	After 5:30 & W/E
Communications	Ron Lewis	273-8946	9am-9pm
Corel Draw	Scott Hendry	245-1330	After-hours
Dataflex	Tony Obermeit	2875534	Mon-Sat A/Hrs & Sun
dBase	Ian Haly	870-1463	After 5:30 & W/E
	Mike Theocharous	824-1450	Anytime
	Sylvia willie	393-3388	Evenings
	Bob Boon	209-1931	M-F 8am-5pm
	Chris Raisin	379-1415	Any time
	Dan Emerson	288-6070	
DBXL	Ian Haly	870-1463	After 5:30 & W/E
DisplayWrite 4	Mike Lester	275-1742	(343-5703 a/hrs)
DOS	Dan Bridges	345-9298	Anytime
Forth	Danny Thomas	371-7938	M-F 5-9, W/E
Fortran	Cec Chardon	870-1812	Evenings
	Rob Andamson	266-8353	Evenings
Fox/Fox-Pro	Geoff Tolputt	016-783111	M-F 9-6
Genealogy	Rob Adamson	266-8353	Evenings
	Colin Cunningham	263-3005	9-9 all days
	Bob Gurney	355-4982	Mon-Sat 8-8
Hardware	Chris Ossowski	274-4144	9-9 all days
Help!	Dan Bridges	345-9298	Anytime
	Scott Hendry	245-1330	After-hrs
Meta 5	David Shaw	870-3633	9-9 all days
MS Word	Chris Raisin	379-1415	Any time

Multimate	Frank Mehr 397-3984	Anytime
Multi-user DOS	David Shaw 870-3633	9am-9pm
Novell Netware	Dan Emerson 288-6070	
Open Access 2	Cec Chardon 870-1812	Evenings
OS/2	Alan Gibson 207-2118	6:30-9:30pm
PostScript	Danny Thomas 371-7938	M-F 5-9 & W/E
PowerBase	Mike Lester 275-1742	(343-5703 A/hrs)
Project Management & planning	Brian Doyle 355-1328	9am - 9pm all days
Quick-BASIC 4.5	Harry Strybos 288-5145	4pm-7pm Weekdays
Q&A	Dan Bridges 345-9298	Anytime
Q-Edit	Dan Bridges 345-9298	Anytime
Quicksilver	Ian Haly 870-1463	M-F after 5:30 & W/E
R-Base	Tony Luck 279-3033	9-9 all days
Reflex	Ron Lewis 273-8946	9-9 all days
Spreadsheets	Sylvia Willie 393-3388	Evenings
SQL	Cec Chardon 870-1812	Evenings
System Manager	David Shaw 870-3633	9-9 all days
True-Basic	Bob Gurney 355-4982	Mon-Sat 8-8
Unix	Paul Watts 892-2226	Mon-Sat a/hrs & Sun
Virus problems	Dan Bridges 345-9298	Any time
Windows	Bernard Speight 349-6677	6pm-9pm
WordPerfect	Geoff Tolputt 016-783111	Mon-Fri 9-6
Wordstar (all ver)	Neil McPherson 075-971240	A/hrs
Wordstar-2000/4	Bob Boon 209-1931	Mon-Fri 8-5
Xenix	Paul Watts 892-2226	Mon-Sat a/hrs, Sun
	Mike Lester 275-1742	(343-5703 a/hrs)

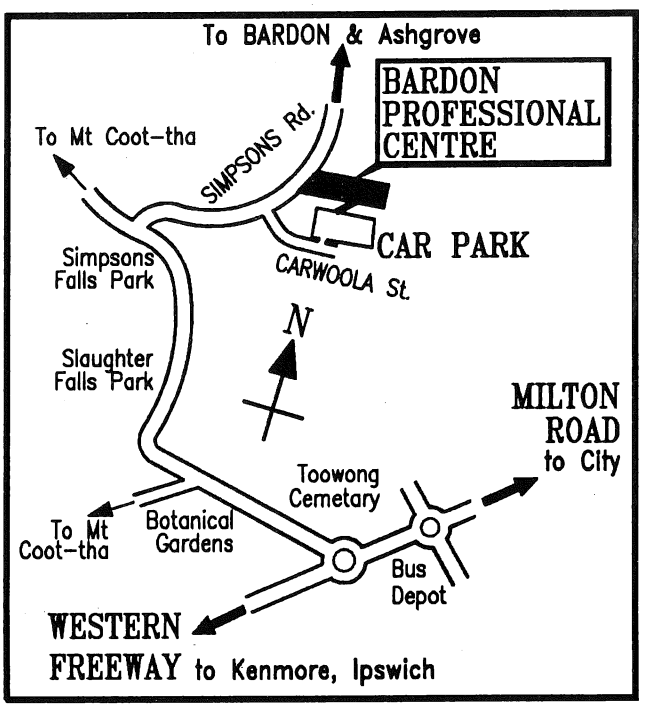
MEETINGS

Meetings are held on the 3rd Sunday of every month, except under unusual circumstances, at

BARDON PROFESSIONAL CENTRE
Simpsons Road,
Bardon, Brisbane *10am to 5pm.*

Brisbug occupies the main theatre and several other rooms. Please note that other groups are usually using the centre at the same time, and that parking is totally prohibited around the buildings and driveways, and the upper level car park is strictly reserved for staff and for exhibitors with specific prior permission.

There is a large car park off Carwoola Street with a footbridge over the creek and a pathway to the centre.



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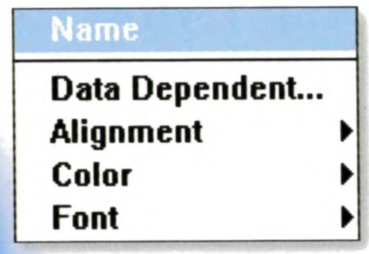

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