

Significant Bits

Magazine of Brisbug PC User Group Inc

Volume 8 No 8

July 1993

\$ 4.00

**We're moving
to QUT Kelvin Grove
July 18th**

Lunchtime Special 12 Noon

VirusBuster
Leprechaun

Main Event 1:30 pm

The Pentium Chip
Intel Aust.

Inside

OS/2 - A different view

Library kits revisited

President's farewell message

Profile - Chester Lemon

Lindsay's Letter

MultiMedia

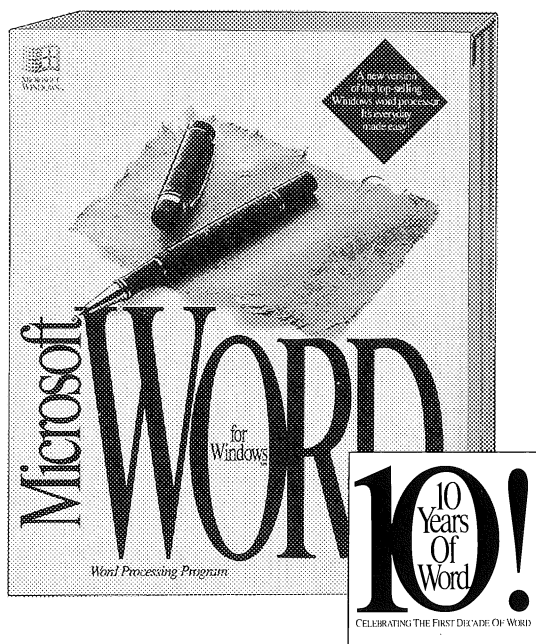
Environment Monitoring

*'Not all members are grey-haired old blokes'
- Alison*

Member No 64



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Table of Contents

The BIG Move	3
The RAPCUG Conference - <i>Graeme Darroch</i>	4
From the Engine Room	3
Editorial	5
Minutes of the June meeting -- <i>Chris Raisin</i>	6
Editorial Policy	7
Letters to the Editor	8
ETFax PC-Fax System - <i>Geoff Harrod</i>	9
Computing in Paradise, Profile of the Lemons - <i>F. N. Karmatz</i>	12
Workstations vs PCs - <i>Geoff Harrod</i>	15
Review - Compel and MediaBlitz - <i>Ash Nallawalla</i>	19
Review - Mix Power C - <i>Geoff Harrod</i>	21
The Semware Editor - First Peek - <i>Roger Fidler</i>	23
SIG News	24
Review - Borland Pascal with Objects, V7 - <i>Richard King</i>	25
Review - Xtree for Windows Version 1.5 - <i>John Massey</i>	28
A June Xmas Party? - <i>Ron Lewis</i>	30
Brisbug Library Kits - Full List	32
Review - Microsoft MultiMedia - <i>Ash Nallawalla</i>	35
Lindsay's Letter - <i>Lindsay Bates</i>	39
The OS/2 Column - <i>Paul Marwick</i>	45
New Additions to the Library Catalog	47
dBase Notes - Indexes - <i>Raman Vasram and Dan Emerson</i>	54
Software Library News	58
Help Lines	59
Pocket Program for 18th July, including Room Allocations	60

Index to Advertisers

Accord Computer Engineering	IBC	MultiCAD Magazine	44
Borland International (Aust) P/L	OBC		
Computer HH&BW Services	IBC	Ron Lewis Computers	29
Elmer Haag, Network Consultant	4	Swap Shop	34
MicroSoft Australia P/L	IFC	Software Direct	7

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BRISBUG PC USER GROUP Inc.

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Significant Bits Magazine

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Deliver disks, artwork or copy to:
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Advertising

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 usually 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 a minimum charge of \$5.)

FORMAT

The magazine is A4 size, offset printed and saddle stitched. 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

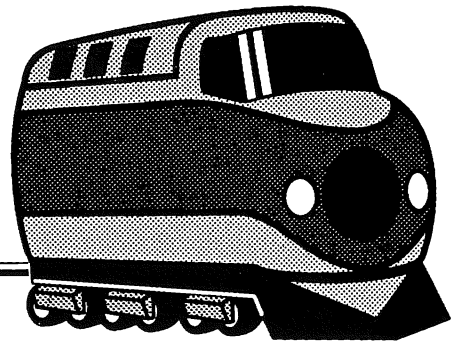
RATES

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 times 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 Ron Lewis (07)273-8946, FAX (07)273-8954.

The BIG MOOVE



to QUT Kelvin Grove

18th July

Brisbug makes a major move this month, with a transfer of venue to the Kelvin Grove Campus of QUT. The move off "the mountain" will not disrupt our normal Sunday, but a few things have changed. To help smooth the transition, the following information should help:

Program

Its all as normal...

Classes 10:00 - 12:00
Junior Group 12:00
Lunchtime Special 12:00
Orientation Talk 12:15
Club meeting 1:00
Main Event 1:30
SIGs 3:00

Food and Drink

The refectory will be open from about 11:30 to 2:00. It supplies hot and cold food and non-alcoholic drinks.

Alcohol is banned on campus.

Eating in lecture areas is not permitted, nor is smoking allowed indoors.

Junior Group

The Juniors will use Room 301, at the rear of "B" block, next to the rooms used by classes and SIGs.

The library

The software library and shop will set up in Room 340 (on the right immediately as you enter "B" block. Operations will be as usual.

Classes and SIGs

Check the notice board at the entrance to "B" block for room locations. Education News in this issue also shows room allocations.

Registration

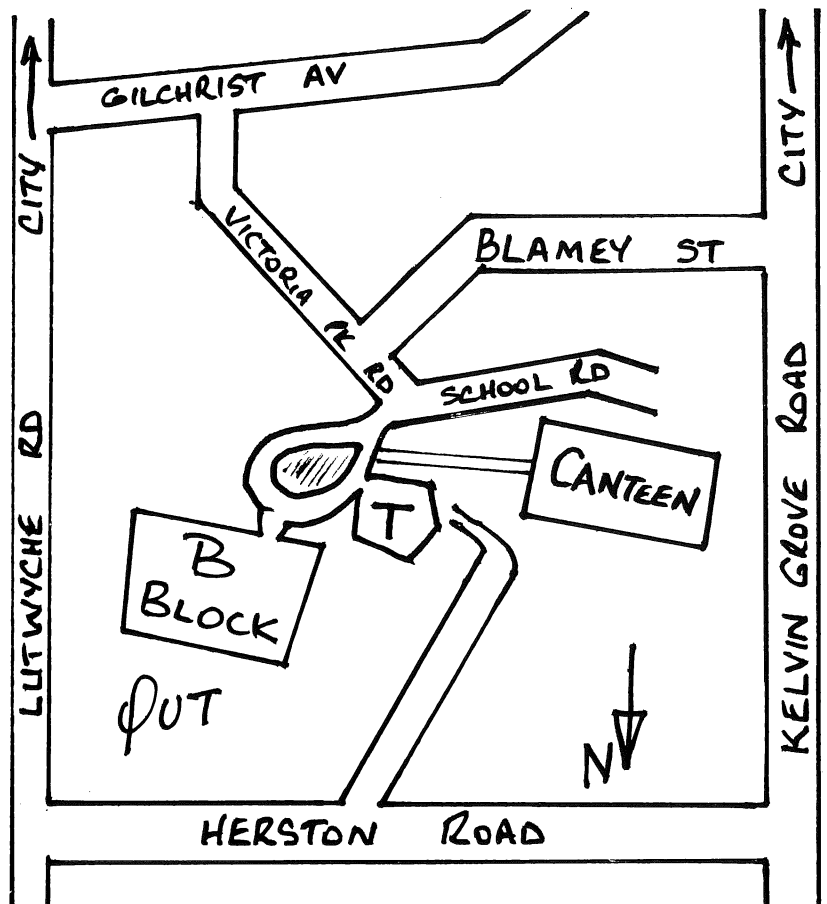
Campus security requires that all persons on campus wear identity tags. Our membership desk, in the entrance to "B" block will issue these to members and visitors. If you intend to go to the main presentation, please ask for your entry "dot"... because seating is limited (to 430) we might need to limit access on a "first-come first-served" basis. Please wear your tag at all times.

Arriving by car

Please park in the designated areas (many of you got maps of the site at last meeting). Do not park in the roundabout area in front of the theatre, as this has to be used for loading and unloading by the library and lecture staff. Please observe Speed Limits on site.

Arriving by public transport

Take the 172 bus, and alight at Red Rooster in Kelvin Grove Rd. The 172 goes from Chermiside Shopping Centre, into the city via Fortitude Valley, then out to Enoggera (red coded stops in the city)



STOP PRESS

The RAPCUG Conference

Just a couple of quick paragraphs to report on the Second Australasian Regional User Group Conference, which I attended in Sydney this week (30th June and 1st July).

The conference was sponsored by Microsoft Australia, and was held in their corporate headquarters in North Ryde Sydney. There were representatives from 9 different users groups and one from APCUG (the Association of PC User Groups, which is worldwide).

Many matters were discussed including proposals for a regional alliance to represent Australian User's Groups to Governments and larger bodies as one cohesive group, with a representative voice of Australian computer users.

Other matters discussed included how groups attract new members, retain existing members, reward volunteer helpers, run meetings, attract top line speakers, generally run their clubs and keep people interested. The Groups represented were Melbourne PCUG, Sydney PC UG, Adelaide PCUG, Perth Windows UG, Perth PCUG, Brisbane Windows UG, Brisbane New Zealand PC Assoc, and APCUG.

Microsoft were very efficient in their organisation of the conference, and gave all attendees a detailed run down on Microsoft's operation in Australia.

The representatives were addressed by,

Gary Jackson - Managing Director
"Vision Microsoft Direction"

Tony Frazer - Marketing Director
"Products over the near Future"

Robert Vogel - CTSG End User Manager
"Direction of Support"

Robyn Peters - "Sales Information Centre"

John Dwyer - Applications Dev Manager
"Info Tech Group"

Paul Brennan - Operations Manager
"Order Entry and Warehouse"

Vance Gledhill - Director Microsoft Institute - "Microsoft Institute"

Peter Hoadley - Director Microsoft Consulting - "Operations of MCS"

To finish off this presentation there was a guided tour of Microsoft headquarters, showing the warehousing facilities through to the Customer Support areas.

Some of the interesting little snippets we were informed of were:-

Microsoft last year in operations had a staff of 11 and made 15780 outgoing calls, took 144,000 orders were Qantas's largest cargo customer had a container shipping every 8 days were the largest importer from the USA West Coast recently placed an order for 19,500,000 3.5" floppies to handle the distribution of NT shipped 290 semi-trailer loads of orders to customers, weighing 4,500 tonnes.

Yes I know "useless" facts but still interesting to get an idea of scale.

In next month's magazine I will go into more detail of the discussions but thought I would get this first few paragraphs off to start with.

Graeme Darroch

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Environmental Sensing Notes

Dan Emerson

This month :

Using Electronics to Modify the Output of Sensors

Pat Andersen, QUT lecturer in electronics, is building us an electronic interface to place between the sensor and the computer. He is planning to present it to us next time. The interface will enable the output from the transducer to be scaled and zero points set. A typical transducer will change temperature into electrical resistance and can measure several hundred degrees. We may wish to measure a limited range, say body temperature. Pat's device will allow the amplification of the sensor signal of from the limited range to match the games port input. Pat runs these beautiful introductory electronics sessions through South Brisbane TAFE.

Remember: Find out about the Wheatstone Bridge before next time. The Wheatstone bridge is a vital item in the electronic sensing tool kit.

Dale Whitenall (student of John-Paul College and the author of a basic routine a couple of meetings ago) brought his fascinating gadget he had made from Leggo bits. He powered it from the five volt supply in the games port and it reads punched hole tape. It read in a byte through the games port. We are looking forward to the next instalment. ○

FROM THE ENGINE ROOM

And still more Changes

Nothing ever seems to stay the same these days. We just settled down to another year of stable management, when "Pow!" right out of left field we have a resignation of one Committee Member, Chip Karmatz, and then a Double Whammy! -the resignation of Ron Lewis as President.

Ron's resignation was a surprise to all. The reasons, he assures us, are purely personal, and I recollect that prior to the elections last January, he steadfastly maintained that he had intended to wear the President's hat for a two year period only, but was convinced by myself and others that he should stand for the further period. Many of us have looked to Ron as a father figure of Brisbug. He has been largely responsible for the way Brisbug operates today. His personal input and enthusiasm has guided the Committee to shape and mould our club into an organisation we can all be very proud of. My sincere thanks to you, Ron, for all you have done for Brisbug, and I only hope that I can confirm your trust in me.

This month we change our meeting venue from Bardon PDC to QUT Kelvin Grove. I recommend to all that you carefully read all the details regarding the change in this issue. Take particular notice of the new requirements for member registration as it is very necessary that you collect your identification badge before proceeding to classes or the main meeting.

Lloyd Smith

From the Editor's Desk

Rather than Lloyd's "changes", I like to call them "innovations". And still they come!

This month's cover represents a distinct (some may label it radical) change from previous covers. Before I am taken to task by our more vocal feminist members, let me say the model is someone very near and dear to me and I would be the last one to exploit her. I have deliberately used the image of a glamorous young woman to typify the changing face of Brisbug over the time that I held the reigns. We are no longer the mass of "grey-haired old bug-gers" that predominated the membership as little as two-and-a-half years ago. A great deal of work has been put in by a number of contributors, like Les Carthcart, to make Brisbug a truly *family* club. Now we have a goodly proportion of lady members actually attending meetings, and their offspring joining the Junior Group. Dan Emerson's Introductory dBase class has broached the "generation gap" and caters to both adults and young members.

Our cover model, Alison, also represents the new generation of potential members for Brisbug. She has grown up with computers, regarding them as both a useful tool for schoolwork and an entertainment medium. My generation, which has

wondered at the ever-more-capable "electronic brain", with its promise of intelligent robot (now there's a conflict of terms) *Nirvana* has a quite different attitude to the PC. Most of us "oldies" can, and do, (if only for recreation) program in one or more languages. Despite the much larger proportion of the young generation who have had some formal programming instruction, it seems only a few will program for recreation or reward. They are much more interested in *applications*, rather than the craft involved in producing them.

If we look at the evolution of classes within Brisbug, the trend has been to application classes, rather than the hardware or software "guts" examination typified by my Sunday morning class. The popularity of Dan's Environmental Monitoring SIG illustrates the attraction of *useful* classes. Bob Gurney's SIG uses computers as a tool to facilitate a hobby which predates the computer by a long margin.

Over the last two-and-a-half years, Brisbug has expanded and changed from a Sunday mid-afternoon single presentation to an all-day, continuous entertainment extravaganza. If we are to attract new members from a "market" which no longer regards the PC as a "Gee Whiz!!!" device, we also have to fit our style and approach to the

The Cover

The background was digitised from a colour photograph on an Epson 6000 flat bed scanner to a 24-bit true-colour TARGA format. Low resolution of 150DPI was used both to produce the "look" of a computer image and also to maintain file size at a manageable 4.8Mb (at 600DPI file size was a whopping 67Mb ... far too big to handle - or transport - in real time).

The cover was then assembled using CorelDRAW both to mask the background off the model and add the text. The completed cover was proofed on an HP Desk Jet 550C colour ink-jet printer. After approval, it was "separated" for printing using CorelDraw. The final file size of the cover was 5.5Mb, which was "packed" using LHARC to 2.5 Mb. It was then DOS backed-up onto 2 floppies for transport to the Separators.

Thanks to Colorama Studios, 164A Adelaide Street, Brisbane and Alison the model, for permission to use the photograph free of charge, and to Queensland Business Magazines for the colour separations.

Designed by Ron Lewis

new climate.

When I first joined Brisbug, it comprised some 100 people, many of them familiar with mainframe computers, but all novices in the new PC area. We learnt a lot from mutual interaction. Now we have an interesting mix of highly skilled and newcomers. The essential element of learning by interaction has not changed, and, in my opinion, to survive Brisbug must continue to encourage that bi-directional exchange of skills in an atmosphere where the novices do not feel threatened or inferior.

We are a social club ... we've worked very hard to foster the friendly image and make it a reality. I hope we continue in this direction ... SigBits will continue to innovate, and whilst striving for accuracy, education and excellence, try to remember we have to be entertaining also.

Ron Lewis

Minutes

June 20th, 1993

Brisbug General Meeting - 20th June, 1993 Minutes by Chris Raisin - Secretary

Ron Lewis opened what was to be an evenful General Meeting of the Brisbug Group at precisely 1-05 p.m. (although he said he was opening it on time!)

First up Ron apologized to all members who did not receive their magazine on time - there was a problem with the delivery arrangements (mainly with those lucky people living in beautiful downtown Ipswich) - and ALSO the printer had a "bug" in his system and we ended up with fewer magazines than normal. (Sorry!)

Some membership fees increase

A more formal bit then started, with Lloyd Smith presenting to those present three motions which were put to the notice of members in the June issue of Significant Bits. To make the matter legal these motions are presented here for the record:

MOVED Jan Ausburn **SECONDED** Lloyd Smith **THAT** Members attending this June 1993 General Meeting of Brisbug accept the Management Committee recommendation that Membership Fees for Ordinary (Corporate) Members be set at One Hundred and ten dollars (\$110.00) to join and One Hundred dollars (\$100.00) for renewal **CARRIED**

MOVED Jan Ausburn **SECONDED** Lloyd Smith **THAT** Members attending this June 1993 General Meeting of Brisbug accept the Management Committee recommendation that Membership Fees for Ordinary (Associate Club) Members be set at One Hundred and ten dollars (\$110.00) to join and One Hundred dollars (\$100.00) for renewal **CARRIED**

MOVED Jan Ausburn **SECONDED** Lloyd Smith **THAT** the increases in fees be effective from the first day of July 1993, provided that wherein a member has pre-paid Membership Fees before that date, such increase in fees shall not become effective until the next payment of renewal fees is due **CARRIED**

On to brighter things! From the next

meeting (18th July, 1993) the venue for our normal monthly meeting will be at the campus of Q.U.T. Kelvin Grove. The venue has a new 430 seat theatre with state of the art equipment which will rival (if not outdo) Bardon.

On the day, each person attending the meeting is required to obtain an identity badge from the Membership Secretary (or her helpers). There is strict security on the grounds and the security firm has advised anyone without this formal identification runs the risk of ejection (or 20 years in the slammer).

Each member will get a members badge to which "booked in" identification will be attached. The form of identification will change from month to month, and so you MUST "report in" every month when attending a meeting. The badge alone is not sufficient to enable you to avoid the clutches "Le Securite". (Sounds sinister!)

Visitors will also have a different (not as pretty) badge. Once you have the badge and all its dangling appendages you can then proceed in to "B" Block to attend the meeting. Seating at the meeting MUST be restricted to the available number of seats, so "first in (with appropriate ID) best dressed". If the theatre is full, late comers cannot gain admittance.

Ron Kelly (literally) tripped on to the scene to talk a bit about the move. Ron holds a vital role covered by the latin phrase "MOVERUS WITHOUT INTERRUPTUS". He is the man in charge of ensuring the smooth transition to the new quarters. Being a man of few words, Ron gave his short spiel and was thankful when the other Ron (Ron Lewis - el Presidente) ordered the sound room to cut audio so that the first Ron (confusing aint it!) would have an excuse to leave. With a finger hooked through the back of his trousers belt, one Ron dragged the other from the stage kicking and shouting (you had to be there!)

All fun aside, we then moved in to doom and gloom. Yes folks, Max Kunzelmann (the Treasurer) was about to give his report. "Income to date \$22,968. Expenses

to date \$11,264. Balance to date \$11,703."

Ron Lewis thanked Max for his enlightenment, and then gave a BBS report on behalf of Paul Marwick (who was somewhere else, obviously). Don't forget there is a new line 4 on the board (don't all these lines now "fly" under OS2??) and there is a "Guide for BBS users" selling at \$10-00 in the software shop. Thanks to Graham Darroch for putting it together and to Lloyd Smith for organising the printing (top job, lads!)

Bernard Speight then gave his usual SIG report, which included a "Happy Birthday Gold Coast SIG" message (he didn't sing it tho', thank goodness)

Deja Vu! "He's Back...." Yes, our friend Ron Kelly ran back on stage (he'd be a great tap dancer!) to give his Education Report. It was very informative (as it always is) but readers are better left to browsing through this magazine (yes the one you are holding now) to see what is happening this month in the Education sphere.

Ron Lewis then returned to the stage to give a few short announcements.

Firstly, the club is sorry to have received the resignation of the Magazine Editor, Chip Karmatz. To fill an empty position on committee caused by this resignation, Management has appointed Graham Darroch as a "Committee Member" and has approved the appointment of Ron Lewis to the position of Magazine Editor.

Ron himself then gave us the news that he has resigned as President effective as at the end of this meeting. The demands of being President of our now large (but efficient!) group have taken a heavy toll on his personal life, and Ron felt that he could safely hand the reigns over to our Vice-President, Lloyd Smith, to "steer the ship" until the next AGM.

Lloyd Smith gave a short speech thanking Ron Lewis for his time as President and the many hours of hard work he has put into the club. There were a few damp eyes and Ron received a tumultuous ovation from the group - he went out in style!

A short Question and Answer time followed and then Alan Waite (Systems Specialist from IBM Australia) gave an excellent presentation of the newly released OS2 v 2.1, in this writers opinion the best thing since sliced bread (or even unsliced!) ○

EDITORIAL POLICY

Your committee has determined the following guidelines for the Editor of "Significant Bits". The Editor endorses them wholeheartedly.

"SIGNIFICANT BITS" is the official magazine of the Brisbug PC User Group Inc. ("Brisbug") and is the property of the members of Brisbug.

The magazine is produced by the Management Committee of Brisbug for and on behalf of the members of Brisbug.

"Contributions" to the magazine include all editorials, articles, series, letters, notices, program listings, cartoons, drawings, advertisements and inserts.

The editor of "Significant Bits" is appointed by the Management Committee and is responsible to the Management Committee for the collation, preparation and layout out of the magazine.

Although the person appointed is called "the editor", he or she is not solely responsible for the magazine's content. That responsibility is shared between the editor, the magazine sub-committee and the Management Committee, nor does the editor have any right to use the magazine as a platform for expressing his or her own views or beliefs.

The magazine is to be printed by a professional printer selected by the Management Committee.

The content of the magazine, in the form of contributions, shall be left to the discretion of the editor, except that:

1. No article containing any libellous, defamatory or injurious statements shall be published.
2. No article of a sexist, racist, religious or party political nature shall be published.
3. All contributions shall be the original work of the contributor and shall not contain (either in whole or part) any material the copyright of another. If any contribution does contain any copyrighted matter, the written permission of the owner of the copyrighted material is required. In this case the article shall include a notation that permission to reprint the copyrighted matter has been given.
4. Contributions must present a balance view of the subject matter, based on the

author's experience and after a reasonable trial period. Any contribution that is considered to be excessively critical, emotive or not based on reason, shall be rejected. The author may be requested to submit the contribution to the manufacturer, dealer or distributor for comment or reply. The response received is to accompany the contribution if resubmitted. If the contribution is published, the publication of the response (in whole or part) shall be at the discretion of the editor and magazine sub-committee.

5. No anonymous contribution shall be published. All contributions must show the author's name, address and telephone number. An author may request anonymity and such request will be considered by the editor. Any decision is left to the editor's discretion.

6. Any contribution whether submitted by a Brisbug member or any member of the Management Committee or not, shall not be published in the magazine if such contribution is, in the opinion of the editor or the magazine sub-committee, not in the

best interests of Brisbug or its members in any way. Such contribution shall be referred to a meeting of the Management Committee for consideration. The decision of a majority of the Management Committee shall be final.

7. All editorial material shall reflect and promote the policies and best interests of Brisbug and its members. It shall not be a platform for the personal opinions of the author.

Published by authority of the President, L. K. Smith

**Don't forget
we've moved to
QUT Kelvin Grove
this month**

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Letters to the Editor

The facetious genealogist

RE: Letter to the Editor from Jemma Usher

I read with great interest the letter to the editor last month (June issue of Significant Bits, p.29) and was quite confused that it seemed to have three distinct parts: Part one spoke about computer software, and mentioned accounting software. I don't believe that the club "teaches the subject of accountancy". I think that we can happily leave that to the universities! Part two made reference to the "Brisbug's expert on genealogy" and his talk to the Gold Coast Brisbug meeting. Part three resorted to a vague analogy, that was interesting, yet its relevance to the previous sections of the letter was unclear to this reader and to many others. Were these three segments supposed to be related to one another, or were they just three files that came together by chance from three different sources?

The second section of the letter referred to a prominent member of Brisbug. This gentleman is one of the most generous people who assist members through the club help lines. He is generous with both his time and his knowledge. The only complaint I have ever heard about him, is that he is so eager to help fellow club members that when you ring him to gain some advice on a computing problem, he is highly likely to drop in to help you sort it all out before you hang up the telephone. He often rings to see how you are getting along once he gets things working again for you. He never expects anything in return for his generous assistance.

In fact, this "Brisbug expert on genealogy" is almost as helpful as other higher profile experts in the club, such as the President himself and the great Dan Bridges. We do not throw brickbats at people of this quality, particularly when they are working FOR US AND FOR NOTHING. People like this are the lifeblood of the club. We would not function the way we do without these people, and without the hard working executive that we have.

It is difficult to understand how this

"genealogy expert" could be guilty of answering with either "flippancy or facetiousness". Yes, I did look it up in the Macquarie Dictionary! It means: "characterised by a shallow or disrespectful levity OR just tending to be amusing". I find it difficult to understand what is meant by "family legend" that he is supposed to have spoken about instead of "genealogy". Many members in Brisbane and in outlying areas are very appreciative of all he has done to start us on the road to genealogical research and have benefited from the doors that he has opened for us during our research. I know of no instances of flippancy, andwhat is that other word again? But, I was not at the meeting! Perhaps he changes his personality when he crosses the Logan River on the way to the Gold Coast. Maybe everyone is deadly serious at the Gold Coast and would prefer an accountant to address them instead. We could possibly do this if the club takes to teaching the subject of accountancy....or, am I addressing this subject in a FACE-TIOUSNESS manner?

John Ferris.

I am submitting this letter as member #64, not as editor, and not as ex-President.

I think that Jemma Usher has missed an essential characteristic of Brisbug. We are not, nor do we purport to be, academia. We are a social club of enthusiasts who enjoy using our computers and sharing our knowledge of how they work and what they are useful for. The rigorous standards of proof and logical argument associated with academia are no more essential to this enjoyment than it is to be as skilled as Greg Norman to enjoy a round of golf.

To use Ms Usher's analogy of crossing the Broadwater, some of my most pleasurable memories of a mis-spent youth involve the hire of very modest row-boats on warm summers days. The last thing on my mind was actually arriving at the other side ... going round in circles, much splashing, the occasional sinking, and much creasing of sand-bars added to the enjoyment ... a competent rower, or imperious captain, would have been as useful as an ash-tray

**Don't forget
we've moved to
QUT Kelvin Grove
this month**

Notes for letter writers

Letters must conform to the guidelines for the Editor published elsewhere in this magazine.

Any topic of interest will be published. Brisbug reserves the right to edit letters, but will usually confine such editing to rectification of spelling errors

on a motor-bike. It's very much a case of "horses for courses".

I have a cousin who is "into" genealogy in a big way, and spends a great deal of his time carefully researching his branch of the family tree, and considerable money on documentation. Some of the "family legend" which he has yet to properly document is just as fascinating (like the forebear who outlived two wives, only to blow himself up in his goldmine).

What I've seen of the Brisbug genealogy SIG suggests Bob acts as a facilitator and pointer to resources. I think it would be presumptuous of him to impose "quality control" standards on the members of the SIG.

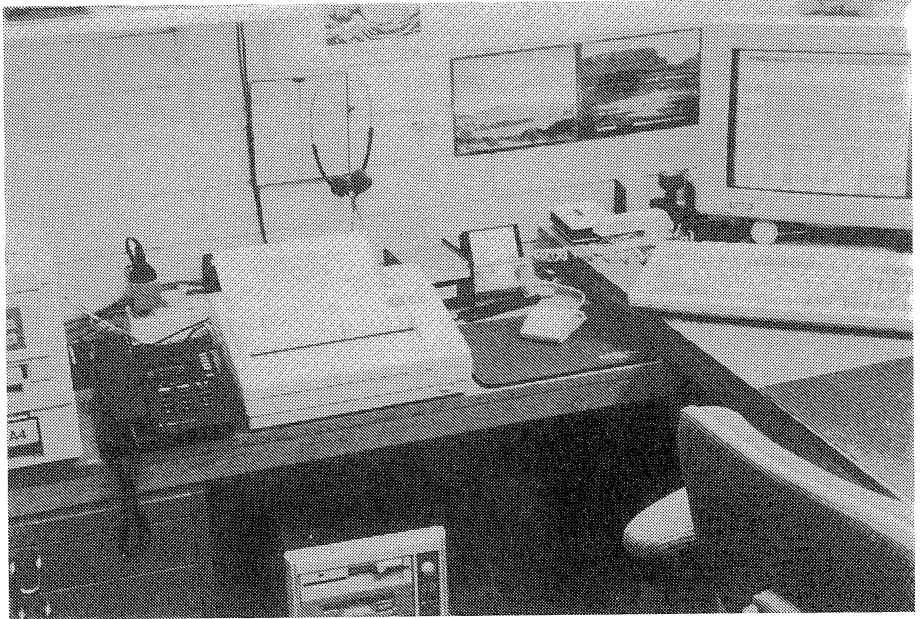
Those of us who do "serious work" with our computers during the week appreciate the opportunity to simply enjoy them at Brisbug on Sundays. I see this informality as no less "legitimate" than my revenue-generating activities.

Ron Lewis

ETFax PC-Fax System

Review by Geoff Harrod

The ETFax system combines a Fax machine with software to give the advantages of both a self-contained fax machine and PC faxing.



FOR some time we've had the option of using a normal self-contained Fax machine or a Fax-Modem with a program in our PC. The latter allows convenient faxing direct from our word processor etc, but is a problem when we want to fax a paper document unless we have a scanner.

It also requires our PC to be on and the background fax program to be running at all times if we are not to miss incoming fax calls. The latter can be a problem sometimes, and there is also the possibility that the background fax program may conflict with some programs we want to run. Many people have found a fax modem and PC program to be an incomplete solution and still need a normal fax machine also. This ETFax system provides a complete solution, combining the best features of both a PC based and a self-contained fax machine.

GUIS ETFax

The system comprises a fax machine called the GUIS ETFax 7 and a package of PC software called Full-Link. The ETFax 7 is like a typical manual fax machine with pass-through scanning and thermal paper output. On its own, the ETFax 7 can function as a typical "manual" fax machine -- you can attach a telephone, dial a number and press the start button, and incoming fax calls get printed on its thermal paper roll in the usual way.

The extra item is a connector for a cable to a PC's serial port. This provides two-way data flow and signalling in conform-

ity with the CAS fax interfacing protocol recently established by Intel, and now accepted as the de facto PC-fax interface standard.

Full-Link software

The other part of the system is the software for the PC. This is similar to other PC fax-modem software, but has specific features for the ETFax's CAS linkage. The software comprises several interacting elements, but a single menu driven install program makes it a simple task to set it all up. The three main elements are memory-resident device interfaces, a set of DOS utility programs and a Windows program.

The resident software manages all fax reception and storage as a continuous background task, and also provides the final device interface for both sending and receiving faxes.

The DOS utility programs that are provided enable all fax operations to be done from the DOS command prompt without running the Windows program but not very conveniently and with a need for considerable operator expertise.

The Windows program makes all basic facilities easy to use and adds several significant extra conveniences.

Resident drivers

The resident interfaces must be loaded from DOS before the software fax system can operate. Then they handle all incoming faxes regardless of what DOS or Windows programs may be running, and Windows may be started and terminated as often as desired.

Without the resident interface software loaded, but with the PC running and the cable connected, the system behaves as though the PC was not there or switched off. Any incoming faxes (assuming the ETFax machine is turned on!) will get printed on the Fax machine's thermal paper just like any ordinary fax machine. To send a fax you insert a document in the machine, dial a number on the handset and press Start.

When the resident interface software is loaded, the PC will also be able to answer fax calls, so the software is set to answer on the first ring and the ETFax machine is set to answer on the second ring. Then the PC will get the call if it is running, and the resident software will answer the call and use the ETFax machine's modem to get the data. It stores the faxes as TIF or PCX files (whichever you set it up for), devises its own filenames (consisting of alphabetic gibberish) and keeps a log file of all calls.

The resident interfaces must always be loaded for the PC to work with the fax. No manual switching is needed to change between stand-alone and PC-hosted modes -- as soon as the PC resident drivers are loaded the fax works through the PC. If the PC is switched off and the fax machine remains switched on, the fax reverts to stand-alone operation. The Windows program only needs to be run to make it easier for you to be able to manage the received fax files (print, view, rename, delete) and to send faxes directly from programs.

The system uses DOS resident software for the essential background fax tasks rather than using the multi-tasking facilities in Windows, which means that fax operation is not affected by starting or stopping the Windows system. This is an important advantage for the large majority of PC users whose work is not entirely Windows based.

Loading the drivers

There are two DOS resident drivers, and they require cryptic command line parameters to set them to suit your PC, but the install program asks you some questions and creates a batch file to install them with the appropriate options. It also offers the option of adding the commands directly into the AUTOEXEC.BAT file. Otherwise you need to run the LFAX.BAT file to load them when desired.

One driver can be set to load in base memory, UMB or HMA. The less base memory is used the more will be available to DOS programs. However, UMB and HMA options are usually not available in

practice due to high loading DOS etc..

The other driver does not have any UMB or HMA options, but can be made to load into EMS memory. It is regrettable that they have not supported XMS memory, as used by Windows. Most 386 systems set up for Windows use will have all extended memory configured as XMS. For use with Full-Link it is best to load EMM386 with its RAM option to provide some EMS for Full-Link's MUX driver.

On my 386DX-33 with 256k EMS and the Fax drivers loaded, the available base memory is 560944 bytes. If EMS is not set up the available memory is 524560 bytes, which is likely to be a problem for some programs. On a 286 PC the EMS option is not available, so, as with most new Windows based systems, this really needs a 386 with a good amount of memory.

The DOS utility programs

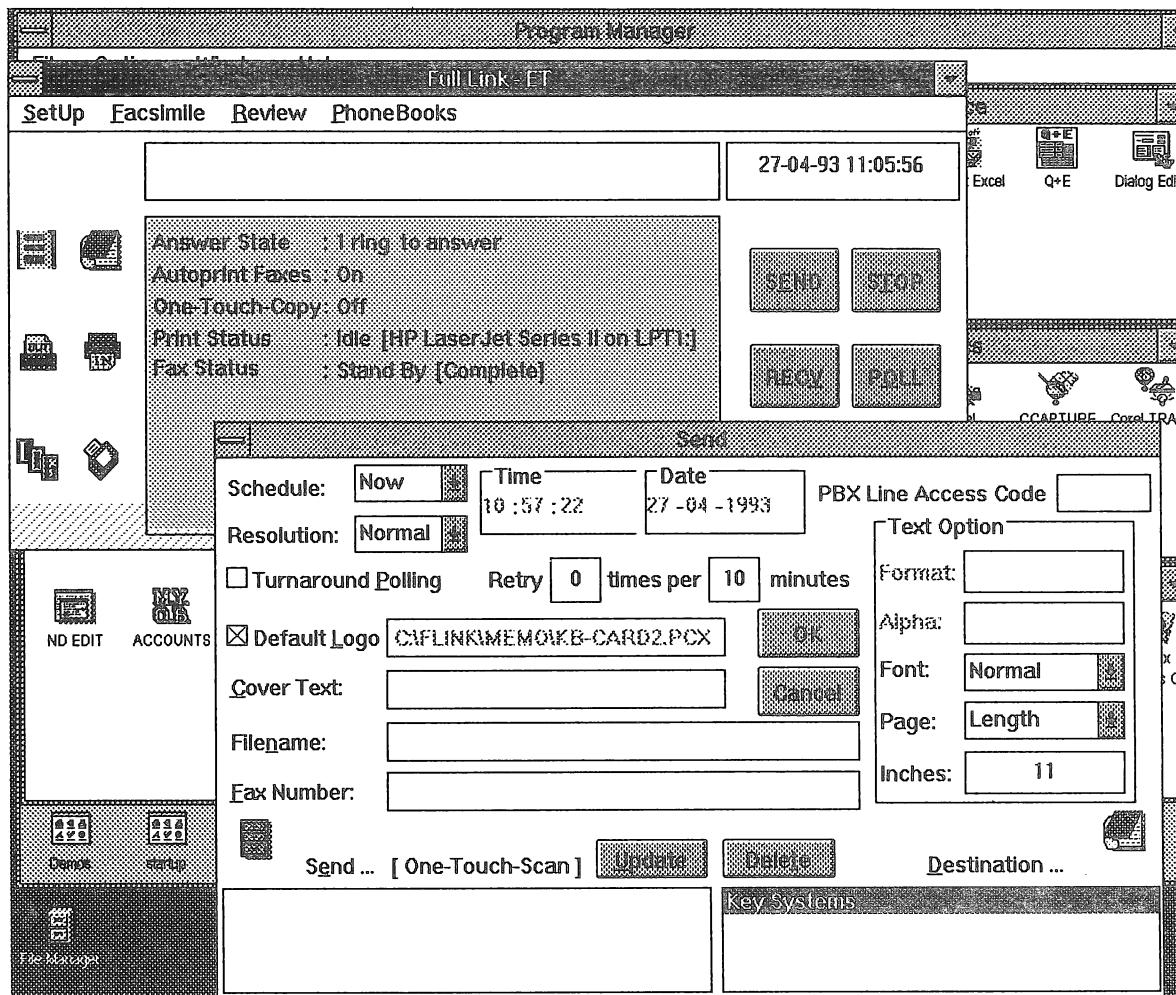
These provide for management of the received fax files and for sending faxes from ASCII text files or from PCX or TIF binary image files, or from text files in 2-

byte Chinese character format. To use these DOS programs requires familiarity with typical command line driven systems using cryptic option codes and complex command line parameters, and they are not suitable for most business users who are not computer enthusiasts. It would be possible for a programmer to "wrap" the utility programs in a more friendly menu but that is not provided.

Without Windows it is not possible to fax direct from a word processor. Text files to send must be plain ASCII. To fax direct from a DOS program would need a special CAS fax printer driver for each DOS program, and I don't think any are available.

The Windows system

This is what makes the whole system a joy to use. Fax output is implemented as a Windows printer driver, so you can send a fax directly from any Windows application by that application's normal print commands and selecting "GUISETFax" as the printer. The receiver gets a very clean sharp copy with all the graphics and text fonts exactly as on the Windows



The Full-Link main dialog box & dialog box for sending a fax

screen, including TrueType or Adobe Type Manager fonts, and all graphics no matter what file format the application uses for storing them normally.

The inherent limitations of the typical Fax 200 dpi resolution is not so apparent as when scanned from a printed document by a normal Fax machine. In particular, rectilinear lines as on forms come out perfectly, instead of the ragged stepped effect usually obtained due to the difficulty of feeding the document squarely into the scanner, and the lettering appears to be formed by a much finer resolution dot pattern than normal, even though they aren't.

The only trap to beware of is due to a deficiency in certain Windows application programs. Some Windows applications allow you to select a "particular printer" from the list of installed printers instead of the current default printer. Those are good in this situation and cause no problem. Others, oddly including the latest and greatest Microsoft Word, change the default printer to the one you select. This is a trap, as it is easy to forget to reset the printer to normal, and from then on, all printing gets sent to the fax! In the case of Word, it is possible to write a macro for sending a fax, which swaps printers and resets afterwards. This problem would apply to all Windows Fax programs obviously.

The only limitation I found was that the printer driver did not work with Pagemaker 4.0, causing either blank output or a lock-up. Aldus blamed the driver and the ETFax suppliers are investigating that. (Pagemaker 5.0 ??)

The Full-Link Windows application

So much for faxing direct from word processors, spreadsheets, and drawing programs. While you are doing your things, faxes get received in the background and stored away as graphic image files with weird names. The only indication is flashing lights on the ETFax machine and quiet beeps from it. To see, print and manage those files there is a Windows application called Full-Link. If it is kept running but iconised it can also automatically print incoming faxes on your laser or whatever, as they arrive, as well as keeping the image file.

Full-Link pops up as a series of dialog boxes mainly. There are easy to use facili-

ties for looking at the lists of received files, viewing them, printing them, purging them or moving those you want to keep to an appropriate directory and with a meaningful name. Files can be printed to your normal printer or to the fax machine's thermal printer, and you can set all options that affect the way the system operates. (That means it would be possible to use the fax as an emergency printer for any program.) There is a phone book system for listing your regular destinations together with their addresses and voice phone numbers, as well as fax numbers. You can pick fax destinations from the list without having to type the phone number.

There are full polling and broadcast facilities, and you can queue files to be sent at specified times automatically. The system can be set to automatically retry every so often until it succeeds in sending a file. That avoids having to waste your time when the called number is busy or out of paper or whatever.

You can scan a document in the ETFax machine into memory, either to use for sending as a fax or to use as a graphic image file in any Windows program. So it serves as a general scanner too, even though a fairly coarse quality one compared to separate expensive scanners. It is adequate for many things though.

The Full-Link application also has a "Memo" facility. This is for typing quick messages to be faxed. It has no choice of fonts but has a predefined header (To: From: etc) that can be automatically filled in with sender and date etc if the phone book is used. You can also append your "real" signature if you scan it into an image file and specify it as the standard signature file. Most users seem to prefer to send all faxes directly from their Windows word processor however.

The main dialog box lets you specify a standard header file and a logo file. The header text must be a plain ASCII text file. The logo must be an image file of the appropriate format. Of course if you wanted the header to have fancy fonts in it they could be included in the logo image. The system will then always prefix faxes with the logo and header file as page one.

During testing I had some problems getting image file formats right, so that they were useable. If you create a logo in an unsuitable file format it sends many pages

of ASCII garbage instead of politely complaining that the file is invalid. That is a programming oversight that needs correcting as it can cause a lot of annoyance to the unfortunate recipient. I was using PCX format, but it seems only one combination of options is valid: 2-step black & white, 200 dpi. I was told later that the easy way is to get F-Link to generate the correct file format automatically by printing to fax but saving instead of sending; so that tip is worth noting.

In Use

Apart from the two traps mentioned above, the system performs very reliably and unobtrusively. I did not notice any foreground task degradation, but that could be more significant on a slower PC. The main things that a user would need to always be aware of would be to check for new received faxes and to do regular housework on the fax files otherwise they would accumulate alarmingly. The system automatically purges outgoing image files every few days, as those are presumed to be copies of other format files elsewhere or of paper documents.

Purging of accumulated incoming image files is the user's responsibility as human viewing and decision making is needed. With the increasing proliferation of fax junk mail this is a vital task if you leave the PC on over nights and weekends when the cheap broadcast fax rates apply. The program has facilities to ease the task. The thing to do if you leave the PC Fax system running all the time is to check the "in tray" every morning, view the files, print most of them, delete any junk, and rename anything to keep. The log file lists events in time sequence both sending and receiving.

However, unlike most PC Fax systems, with this one you don't have to keep the PC running continually. You can turn it off when you go, and just leave the actual fax machine on. It will continue to receive and print faxes just like any ordinary fax. This system gives you the best of both approaches to faxing. The cost of the machine and software is less than many fax machines and not a lot more than most of the cheaper ones. The complete system is priced at \$1600, and is distributed by *Key Systems* of Sumner Park, Brisbane, who also sell the *Easy-Connect* telephone line sharer that works well with the ETFax.

□

Computing in Paradise – The Lemons

Chester and Norma Lemon are Brisbug's most remote members. They live on Prince of Wales Island, population about 100, a couple of kilometers away from Thursday Island. Remote, however, doesn't mean they are without creature comforts. They have virtually built their own house, generate their own power, catch their own water, grow most of their own food and in general are quite self-sustaining.

Reported by F. N. Karmatz

Computers in the Islands

Just as there are a group of radio amateurs sprinkled among the islands, so it is with computers, with most likely concentrated on Thursday Island, being used for business purposes. Just so that one doesn't think being remote is primitive, the nearby town of Bamaga uses computers in its school curriculum, with a Brisbug member teaching computing.

quirements. Like everything else done on Prince of Wales, sometimes he works without the help of manuals. He prefers to work with WordPerfect for Windows and Excel 4 And has learned computing and the care and feeding of the computer himself. He's thinking of upgrading and would like to add a CD-ROM, "but has other more practical priorities at the moment." His most recent accomplishment, however, has been to produce Norma's recipe books, using WP 5.1. There are 14 booklets averaging 20 pages. They include their favourite recipes, collected over 50 years, some from the places they visited around the world. A brief example is shown in the box.

Their freezer, for instance, is usually filled with crayfish and mackerel. Their tanks hold a year's supply of water, for their crops and themselves, and they can run everything on either 240VAC or 12VDC power. Power comes from the wind, solar panels and batteries or a diesel generator when needed. They have a modern kitchen, including a microwave and an entertainment area that includes a stereo CD player, TV (for two local channels), an AT computer and a multi-band transceiver for Chester's international communications.

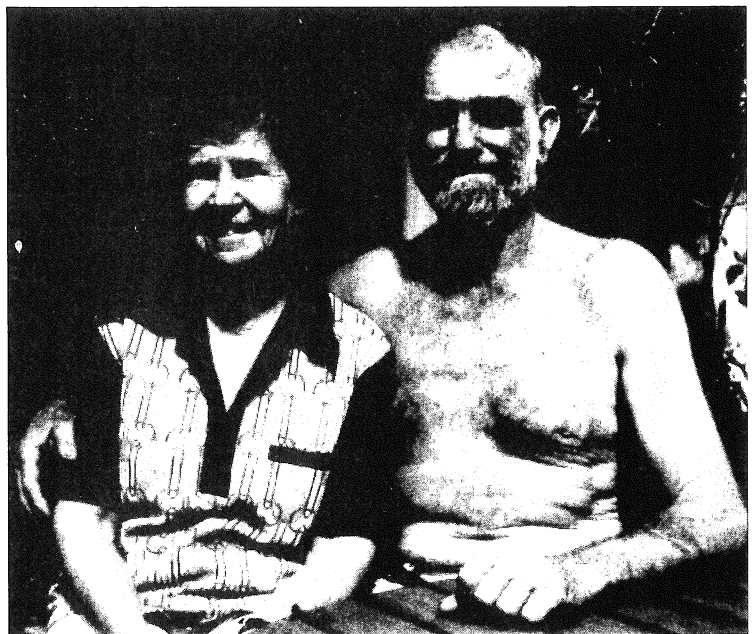
Chester doesn't have a great deal of time for his computing and usually puts aside 30 minutes in the early morning for taking care of his word processing or spreadsheet re-

An early start to the day

Daily life begins around dawn, with Chester and Norma starting a work routine

Life on Island Time

Remote, however, doesn't mean alone or lonely. Remote, indeed, means they are often sought after. Chester is a ham radio operator and other radio amateurs are forever seeking contact (QSO) post cards from him with his PoW logo and Thursday Island postmark. Besides this kind of contact, Chester has his radio network friends, people from around Australia with whom he talks almost every day on a regular schedule. He also has a two meter radio for local communion with fellow ham operators on TI, as it is called, and also Friday Island. Telecom also provides a regular telephone service for PoW and in fact some of the basic maintenance on the exchange is done by Chester. So with gardening, new projects, maintenance, radio and computing not much is left of the day. It pays up there to be a "jack-of-all and master-of-none".



Amongst Brisbug's most remote members, Chester and Norma Lemon live on Prince of Wales Island in the Torres Strait

that city people would find hard to match. They garden before the sun gets too hot, then breakfast and start their daily projects. There are projects such as taking their four-wheel drive into the bush and dragging rocks back to the house. These in turn are hand split into flagstones for the courtyard. Most recently, Chester and Norma have constructed a "chook" pen, never having had chickens here. Most of the materials have come from Chester's scrap heap, but the coop will look "manufactured" by the time it's completed. It's quite elaborate and large, with a wired-in run for the fowl. It has auto egg-collectors, watering and feeder stations. Another recent project was installing an additional 11,000 gallon metal and plastic membrane water tank, which arrived in a "knocked down" kit. He and Norma have also built a lessor capacity concrete tank after the style of ferro-cement yacht hulls, "NEVER AGAIN!" say both. "Chester's projects are rarely simple," one of his infrequent visitors said.

Gardening, too, isn't that simple in this climate, plus the island is mostly sand and rock along the populated foreshore facing Thursday Island. Chester and Norma have literally built up the soil, composting almost all the vegetation they use, plus using readily available seaweed. They are great followers of Bill Mollison, the maverick Australian organic horticulturalist who has developed ways for anyone to grow self-sustaining and self-perpetuating vegetable and fruit gardens. Recently, they started their own

little worm farm, which is now devouring all their food waste and providing a steady supply of enriched soil. And not so long ago, Chester and Norma visited a light ship that had been towed in for refitting. "We collected 37 bags of seabird guano (droppings)", Chester said, "enough for several years".

The practical aspect of gardening is that fruit and vegetables from Thursday Island are likely to cost three or four times as much as in Cairns or Townsville. Most of these perishables are shipped up from there. There is among the little group living at Muralug Village on PoW some informal trading. That is, anyone with food surpluses usually passes them around to his or her friends. This applies to not only fish, crayfish, goat, fruit and vegetables but to many other things as well.

They usually pick up their mail from Thursday Island mid-week. They motor across in their 14 foot dinghy, a trip that takes about 6 minutes, and if windy a wet 15 minutes. They pick mail up then, because the mail and goods barge, having left Cairns on Friday, arrives at the Island

SEAFOOD with BLACKBEAN SAUCE

Marinate 8 oz. seafood in 1 clove garlic, 1 teaspoon grated ginger & 1 tablespoon white wine while preparing other ingredients.

Mix together 1 tablespoon chopped blackbeans, 1 teaspoon chilli sauce and 2 teaspoon hoisin sauce. Let stand. Cut 1 red capsicum & 1 green capsicum into squares, Stir-fry for 2 minutes in 1 T hot oil. Move to side of pan. Add seafood + marinade to pan & stir-fry for 2 minutes. Add 1 T more oil to pan. Add blackbeans sauce to the oil. Stir over heat for 30 seconds. Mix all together & fry for a few seconds till everything is covered with blackbean sauce. Garnish with spring onions & a finely chopped birds-eye chilli.

on Monday. Once every three months they pick up staples and supplies ordered from Cairns.

Relaxation time only comes after a long day outside. They often play badminton just before the sun sets and have an hour or so to listen to jazz or read—both are avid readers and Chester has a excellent collection of South Pacific World War II books—before retiring, a time when most city people are just getting into the evening TV feature film. Chester claims he's retired, but one would have to question him on that. They retired to this place in 1985, buying a property with an old house on it. Chester has been modernising and adding to it ever since. Virtually all the furniture was made by the pair, some from recycled timber. A spare bathroom, patio lounge and other extensions have been added. A naturally heated spa now occupies a corner of the newly flagstoned patio. The gardens are pretty messy according to Norma but are begining to get rock walls and terraces in them now. They also serve a very practical purpose in that they retain up to 300mm of leaves and mulch both to feed the plants and to preserve and carry the moisture as far as possible into the annual 5 months drought, from May to



With the trailer hooked up to the 4WD, the Lemons are ready to go fossicking in the bush

October, that they have every year.

From WW2 to Prince of Wales

Chester just didn't happen on PoW. It was a 45 year travelogue to get there, starting in 1942, when the US Navy sent him to the South Pacific. He first saw Australia and met Norma in Brisbane in 1943. They married in 1945 after he was discharged from the Navy and intended to return to the US, but never did. Instead they ran several farms, raised crops and children until 1969. Chester said with Norma's agreement that "Australia was in its golden age during that time. Everyone was working, the Lemons were young, enjoying what they did and able to stay ahead of the bank just far enough not to become complacent".

A Life-style Change

Life changed at that point. When Chester reached age 45, they sold their dairy farm, shifted to a small house on Victoria Point and bought a 27 foot sailboat. The sailing life agreed with them, having sailed as far North as Bowen and the Barrier Reef by 1971. At this point, he went for a larger yacht of GRP, which took him two years to build at a local boat yard. Chester built Honeymead, a 45 foot blue water yacht. They tested it out with a sail to Lizard Island, back to Brisbane and then to Lord Howe Island, 300 nautical miles off the NSW coast. Navigation in those days was done with a sextant, a reasonably good time keeper, radio time signals and dead reckoning. Radar aboard yachts was rare and satellite navigation was only talked about. Marine radio was the only coastal communication and amateur radio, which was now solid state, the way most blue water sailors kept in contact.

Feeling confident with Honeymead, in 1974 they set off on a four year voyage around the South and North Pacific. Actually they set off to go to New Caledonia, the Solomons and PNG, a nine months cruise. (They were easily led). It was the sweet age of cruising the South Pacific, before the new politics and the new wave of tourism and development hit the islands. They first visited New Caledonia, the New Hebrides and New Zealand. From there they went eastwards to the Austals, Tahiti, Tuamotus, Hawaii, Alaska, Canada, the USA and Mexico. On their way back, they stopped at Tonga, Fiji, Vanuatu, New Caledonia and finally back to Brisbane in

1978. When asked why they went cruising they replied : "In a word we must have been pretty damned romantic. It wasn't adventure, because that is when you wish you were home in bed".

Chester spent a year refitting Honeymead, new sails, rigging, a refrigerator and a general clean up before they set off on their next voyage, a six year cruise up and down the western Pacific. This brought them to Papua New Guinea, Micronesia, the Philippines, Hong Kong, Japan, Borneo, Singapore, Malaysia and Indonesia.

From there, they crossed over to the Indian Ocean, cruising to the Chagos, Rodriguez, Mauritius, Reunion, Comoros, Kenya, the Seychelles and then back across the top of Australia where they stopped in the Northern Territory, Weipa and finally Thursday Island. Fourteen years of sailing ended. There was a tremendous amount of pleasure and a very small amount of uneasiness and an even smaller amount of fright (terror?). The final few years of sailing were to meet people, who are mostly wonderful everywhere. "One of the highlights was friends and relatives being able to fly to see and sail with us for short periods." They liked Japan best, nine

months there, with Alaska second, six months there, but said everywhere was interesting.

In all their cruising, they only knew for sure what their next destination was and that was usually decided on after talking to other cruisers of like mind.

They happened upon Prince of Wales Island, by chance. It was the kind of place they had talked about getting when their sailing days were over. And it was adjacent to where they were anchored. By coincidence, as many things happen in life, a couple with an old, run down shack really, wanted to buy "Honeymead" then

and there. And what is more, wanted to pay with land and shack and money for the privilege. The Lemons got their near beachfront property in 1985. Except for brief visits to the mainland, Chester and Norma have spent their time gardening and building up their land and property. Sailing hasn't ended, however. They have a much smaller yacht now and occasionally sail and fish for a few days at a time around the top end.

"Seventy years passes too quickly," he says. "but together, Norma and I are generally enjoying life." ○

*"We must have been
romantic. .. It wasn't
adventure, because that is
when you wish you were
home in bed"*



Norma and Chester take time out to boil the billy and chat to neighbour, Nouma, during one of their rock-collecting expeditions

Workstations -v- PCs

Geoff Harrod

Our user group is, by definition, devoted to PC users. Well, just what is a PC? It really just means Personal Computer of course, but we normally mean a class of small computers normally running MS-DOS, based on the original design of IBM's PC.

Then what is a Workstation? Basically a computer on a network, but it also has another connotation. The term commonly refers to a class of powerful individual computers, usually graphic.

Let's look at the history of these two and see how they currently relate to each other.

Before PCs there were basically three classes of computers -- the big mainframes such as were pioneered by IBM, Univac, Sperry and others; "mini-computers"; and "micro-computers".

The mainframes were usually extremely large, and commonly occupied a whole floor of an office tower. The one computer served hundreds of users simultaneously at remote terminals all over the building and beyond, maybe all over the country or even the world. They were, the product of the original computer development path.

When they were developed, the first commercial computers, computer hardware was so expensive, and needed so much specialised maintenance and building services such as special air conditioning, that the only practical way was to have one very large central system. The speed of data processing being so much faster than

typical human input/output capability, it was easy to have it time-slice its operations to give hundreds of users a few milliseconds each in rotation, so that they all seemed to be running concurrently. So the "multi-user" system developed.

It was very good for text based and financial tasks such as databases and accounting. For enterprise-wide database and accounts it is still the best solution. In fact, any operation that demands a single central record-keeping depository with transaction operations conducted from numerous widespread locations, it remains the only way. Bank ATM and EFT-POS systems could not work any other way.

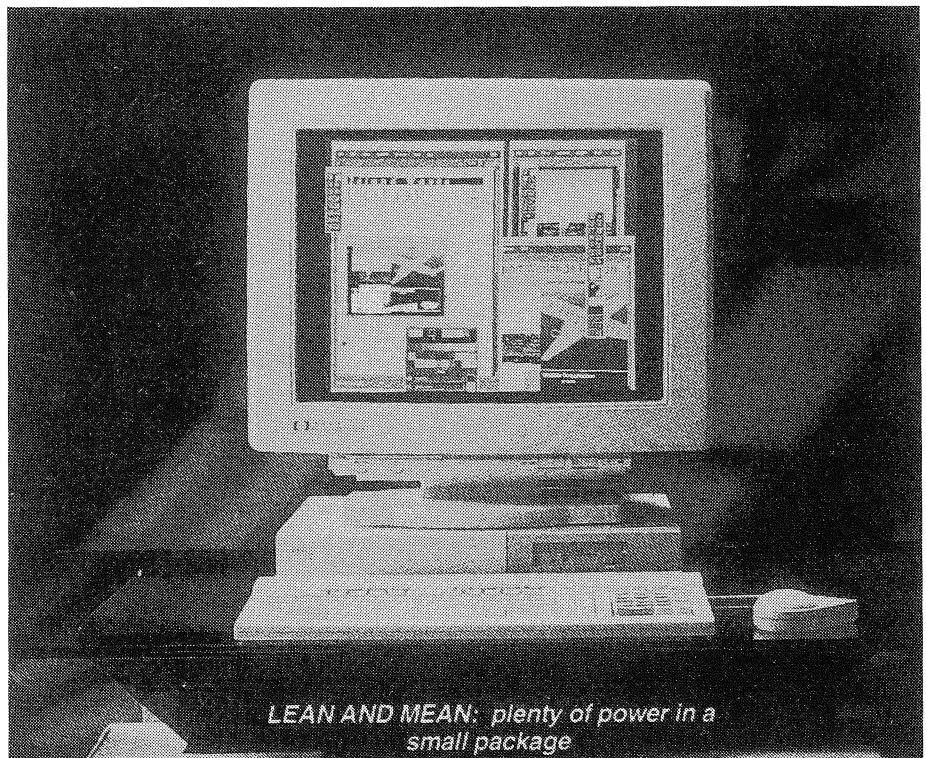
Not all that long ago, like 10 to 20 years, many big businesses still could not conceive of computing being done any other way. This attitude tended to be entrenched by the empire-building aspirations of their central data processing chiefs. They resisted the introduction of small stand-alone systems because they undermined their control. As a result, some firms attempted to continue implementing word processing tasks on mainframe systems long after it was no longer the only way

and had ceased being the best way. Word processing is a task that requires a continual stream of user interaction and constant, preferably very rapid, screen updating, which remote terminals are not good at.

Minis

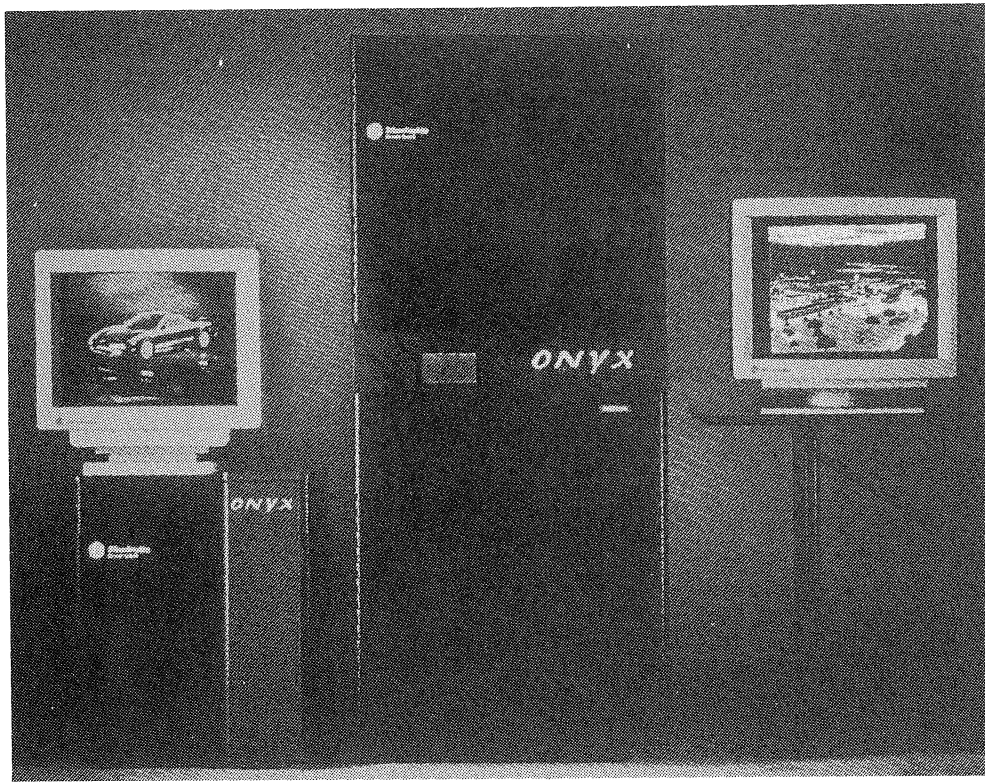
Even more than simple word processing, the tasks that engineers began using computers for -- complex design calculations impossible without a computer -- did not work all that satisfactorily on the mainframes. They demanded so much continuous processing time that they tended to stall the other users and often had to be run as overnight batch tasks. The engineers didn't find that very convenient, and as more and more of that kind of use came to be wanted, the design teams demanded their own isolated computing resources. To satisfy that need, the mini was developed.

These were usually boxes about the size of a 2-drawer filing cabinet, some the size of a wardrobe. Their circuitry was based on mainframe practice mostly, scaled down, and they were a very expensive



LEAN AND MEAN: plenty of power in a small package

The Hewlett-Packard Apollo 700 Workstation



The Silicon Graphics Onyx -- SGI's latest Supercomputer workstation. 5.4 Gigaflaps performance, 18 parallel processors, based on the 64-bit MIPS R4000. 320 Mbits/sec I/O system, 3.8 Terabytes hard disk, 1.2 Gigabytes/sec display card channel. Cost? \$500,000.

item for one person's use. Common makes were DEC and Wang. Often they were used with a small number of terminals in the one design office, rather than only one, as they retained the multi-user capability. Quite a lot of these units can be found today in design offices, but often now little used, or converted to running the office multi-user accounting system.

Micros

Meanwhile, computing began to move into the hobby area as very small systems with extremely crude and limited facilities. Most were either games toys or for technical experimenters. There were no common standards and each make could only run programs written specially for that type. These were called micro-computers.

The advent of the Apple-II micro and its widespread acceptance enabled large scale program writing and distribution, and it proved useable for minor office tasks, and ideal for education. It became so popular that a huge Apple-II copying industry grew up based in Taiwan, and, despite Apple's efforts, flourished.

A rival stream of development based on the Intel 8080 8-bit chip led to the CP/M system being developed primarily for business use. A lot of business software grew up around that system, including

WordStar, SuperCalc and dBASE-II. It was always rather restricted though by its 64k memory limit, but less so than the Apple's 48k. The Apples were adapted to run CP/M also.

MS-DOS

When Intel introduced their 8086 and 8088 16-bit chips with 1 Megabyte memory addressing capability, it promised much more effective business capability. Initially the various makers who adopted it followed the usual computer design concept of not worrying about standardised hardware and memory addressing schemes, but relying on the operating system program to provide a standardised programming interface.

The only problem was, the operating system interfaces as provided by MS-DOS, resulted in rather slow screen updating. It was faster than had been common on remote terminals, but by no means instant. The system also did not suit very fancy screen operations. Programmers soon found they could achieve much snappier displays by writing directly to the system hardware addresses and chip registers -- a thing that had never been possible on machines using terminals. This only worked on any one particular make of machine however, as they were all arranged slightly differently.

IBM-PC & Clones

Such was the stature of IBM in the computing world that their 8088 machine, the IBM-PC, became the most common in business. A new software company, Lotus, introduced a spreadsheet (123) that vastly out performed the others, but it achieved much of its speed through being specific to the IBM-PC hardware. That more than anything established the IBM-PC as the only PC to use, and very quickly the others fell into oblivion.

Now the "clone-makers" abandoned the Apple-II almost overnight, and the new IBM-clone industry soon far outstripped the former Apple-clone industry. The whole basis of this was exact duplication of the IBM's hardware design and memory address scheme, so that the IBM-PC software would run on it.

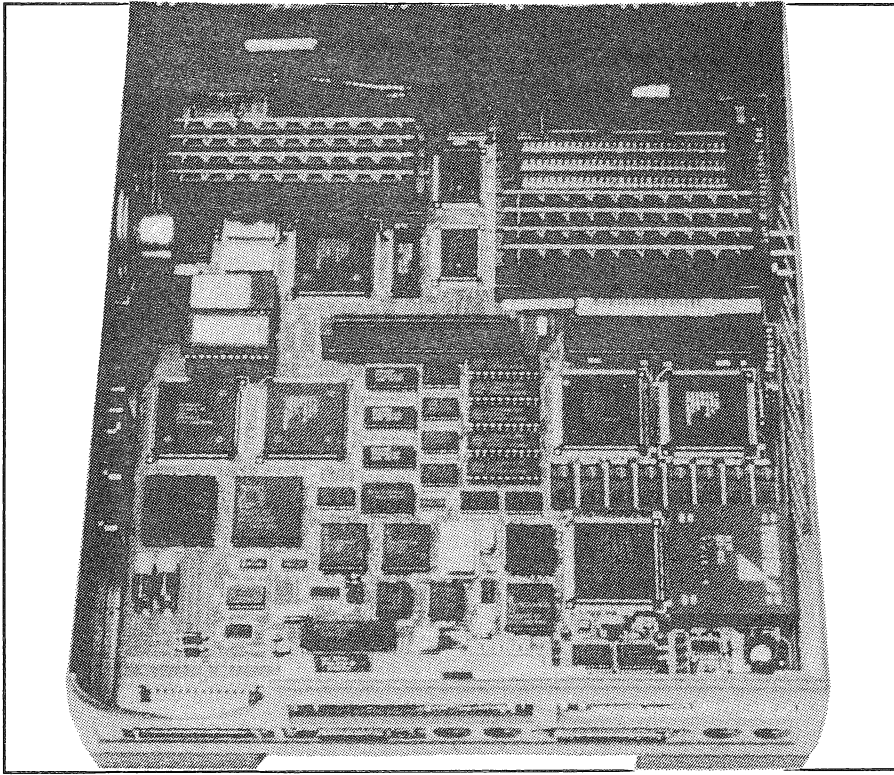
Tail wags the dog

This was an unusual criterion for computer design. Previously, software had not been tied into details of hardware so much. The result was that from that time on to the present, the further development of the PC range had to be constrained to remain compatible with software written to match the original PC design.

As the new 80286 Intel chips extended the memory range beyond 1Mb it all got a bit complicated. The original MS-DOS system had been closely modelled on CP/M, with its concept of loading user programs at a fixed address near the bottom of memory, and placing system code and work space right at the top of memory "out of the way".

That idea had some validity when programs had to load and run at a fixed memory address, as in COM programs, and there was a definite "top" to possible memory. But the concept had become outdated. MS-DOS's EXE program structure could load anywhere, and the "top" of memory had become a moving target. The result was the present awkward arrangement with system memory between 640k and 1Meg, and the consequent division of useable memory.

Obviously a new operating system that didn't plonk itself in the middle of the memory map was needed. Also, MS-DOS had been very closely based on the 8088



Inside a Sun Microsystems SPARCstation. Note the number of large special chips and large memory banks. These machines have been nicknamed "Pizza Boxes" due to their shape & size!

chip's memory addressing system for 1Meg, and wasn't amenable to being extended beyond that. The new chips used a different addressing system to suit the larger memory and also introduced systems for protecting areas of memory from trespass by other processes, as had always been normal on bigger systems.

Real & Protected

In order to be able to run the old PC software they provided two modes of operation; "real" mode to emulate the 8088, and "protected" mode to use all the memory and the new facilities. In "real" mode they had to still suffer the same 1Mb address limit of the 8088 chip.

MS-DOS was irrevocably tied to that 8088 mode, and so all sorts of rather weird systems were developed to adapt it to the the newer chips' capabilities. So we got EMS memory, XMS memory, unmanaged extended memory, Upper Memory Blocks, High-loading, High Memory Area and DOS-extendors. What a mess!

Introducing a new operating system to sensibly use the new chips proved elusive. So much software existed that was tied to the old system, and compatibility with it was demanded.

When the 80386 chips were introduced, Intel built into them the capability of re-mapping memory to suit programs, so

that a program written for the 0 to 640k area only could actually run in higher memory. This made it possible to set up several "virtual" 8088 machines of 640k extent within the memory range of the 80386 chip, and provided a way around the mess, if something could be added to DOS to allow that.

Now Windows 3.0 and later (which is a sort of DOS-extender), and OS/2 were able to emulate the 8088 and run multiple MS-DOS programs, while making more sensible use of the chip and memory for programs written for themselves.

A design set in concrete

Despite the virtual capabilities of the 386, the details of the hardware scheme of the old PC still restricts PC development. IBM had a very limited vision of its future when it was designed, and built in several very limited hardware features. Its interrupt scheme and input/output arrangements in particular are poor, and, as long as MS-DOS is involved, the system memory scheme is inadequate for modern peripherals.

The original plug-in bus is still with us (now called ISA), extended to 16-bit from the 286 onwards, but still designed around the 8088 capabilities, and too slow for modern systems. IBM tried to make a

new start with the PS/2's Microchannel bus (MCA) but the demand for compatibility with old plug-in boards largely killed it. Compaq and others developed a new EISA bus to add improved bus operation and 32-bit data width while preserving plug-in compatibility with the old ISA boards, but that has proved rather troublesome. Now "Local Bus" has been developed as extra sockets to the ISA sockets, and looks much more hopeful, once the standards have been completely established. Intel are proposing a new 32-bit bus standard for their new chip, the Pentium. Without one, its power will be hamstrung.

So with the current high speed 486s we are really pushing the poor old PC design beyond reasonable limits. This shows up as reliability problems and in compatibility problems with peripherals and plug-in boards.

Workstations

Meanwhile, in the other camp... the minis had not been static either.

Their operating systems, usually Unix, had always been multi-user oriented, and as such were inherently capable of multi-tasking, unlike DOS. When used in a mini, the users could, and often did, use multi-tasking. They could start a program that would take some time to run without needing human interaction, such as a design calculation, and let it run while they continued to use the machine for other tasks.

Multitasking

This was often managed by prefixing the command with some symbol such as &, so that the operating system started the program but immediately returned the prompt for the user to give further commands while the program ran in the background. The sort of program run that way would typically read prepared data from a file and write its final output to another file without any need for message displays or user input. Then the user could periodically give a command to report on the status of current tasks, and when it was seen to have finished, could access its output files to view its results.

An alternative scheme allowed several "virtual screens", and the user could switch between them, so that one task was on screen and had keyboard access, at a time. This was all in text mode.

As design programs became more complex and began to involve graphics, the need arose for more than one task to be visible concurrently, and in graphic mode.

So, multi-windowed graphic displays were introduced on the Unix workstations before they became big news on the Mac and PC-Windows. The main difference is that usually basic system tasks have to be done by typing Unix commands in a text window.

However, each workstation maker added graphics in their own way. The result was that although they nearly all ran Unix and in theory all of them could run almost any text based Unix program, graphics programs had to be specially written or adapted for each make of workstation. The Unix system provides a standard text interface for programming regardless of the individual hardware design but does not provide for graphics.

More recently some standardisation has emerged with the X-Windows system.

Consequently there was never the wide choice of programs as had grown up on the PCs. The cost of workstations plus the restricted software limited their acceptance to those organisations that needed their high performance, or needed a particular program that would only run on a particular workstation.

They had always provided a far greater level of performance than the PCs. This was helped by their use of an operating system that had no preconceived limits on memory size, or magnitude of hard drives and directories, did not obstruct the memory map by its own location, used a far more efficient and secure file management method, and provided inherent pre-emptive multi-tasking. (That means task-swapping is not dependent on the programs having been written in a cooperating manner, as is the case with MS-Windows on the PC.)

1280x1024 resolution with finely graduated colour (256 or 64000 colour steps) became the standard, using 19" or 21" screens. A 3-button mouse is usually attached to the keyboard. These Unix graphic workstations were the hosts for the development of most of the CAD systems, and are ideal for CAD.

Most of them used the Motorola 68000 series chips, but later their makers began to develop their own RISC chips to boost performance further. The unconstrained

hardware design allowed this, coupled with the adaptability of Unix. Of course there was never the interchangeability of parts that is taken for granted in the PC world. For each machine you have little choice of option parts; usually only the maker of that machine. There are some alternatives for the more popular makes such as Sun SPARCstation. There are now even some Sun SPARC "clones".

However, you don't have the compatibility uncertainties common with optioning-up PCs. They come as a standard proven outfit with high-res big screen video, and proven standard options for tape backup or co-processed video etc. Networking is not an add-on that is often hard to coordinate & get to work. It is built-in, and you usually do not need a dedicated file server computer.

Super-computer Workstations

The design concept allows for almost unlimited extension, unlike PCs. Some extremely high performance specialist workstations have been developed, notably by Silicon Graphics. They pioneered RISC chips and parallel processing with specialist chips designed for particular sub-tasks. Some models have as many as 15 parallel processing channels, with various RISC chips specialised for hidden line removal, ray tracing and surface shading.

They can achieve real-time surface rendering of objects being moved arbitrarily under operator control! They can have a Gigabyte or more of memory, and are as powerful for their graphics tasks as a Cray. They were used for the NASA space simulations, and are the preferred systems for movie animations such as in *Terminator-II*.

Such systems require specially written programs to take advantage of their capabilities however. Here we are looking at machines with price tags in the hundreds of thousands.

The two camps come closer

As the PCs have increased so hugely in power to the present 486s they have begun to rival the workstations particularly in routine CAD applications. CAD systems on the PC are now almost on a par with the commonly used Workstation CAD systems so far as speed is con-

cerned, though not in operational conveniences yet.

In fact, most of the popular CAD systems are offered on both. AutoCAD is unusual in that it grew up from rather inadequate beginnings on the XT to full professional capability on 386s and spread to some workstations. The other CAD systems developed on workstations and some have spread to PCs as the 386 began to provide adequate support for them.

A 486DX2-66 with local bus video and hard drive and 32 Meg memory rivals the speed of the more popular workstations. The workstations offer more reliability, both of the hardware and file system, inherent networking and windowed multi-tasking. The latter can be a significant productivity factor.

PC users look to Windows for the multi-tasking capability but the present MS-DOS+Windows 3.1 is not a very sound vehicle for the task. It usually imposes a speed penalty and has definite reliability problems due to its complex linkages to DOS and mixed Real-mode/Protected mode operation. Windows-NT is awaited eagerly by the PC CAD community.

Bridging the gap with NT

But NT is more than a proper 32-bit protected mode, multi-tasking, windowed operating system for super-PCs. Its most notable features are actually its ability to run on widely-dissimilar computers with differing processors, and its ability to manage parallel processing environments without needing specially written application programs. Its impact may be more profound on the workstations than on PCs. It might even spell the end of the road for the old PC design in high end use like CAD and engineering.

An interesting recent development is DEC's Alpha chip that can run PC program code as well as being a RISC processor. Their Alpha workstation is being offered now with either Unix or NT.

The effect of Intel's Pentium chip and its associated hardware developments, and of Sun Microsystems' SOLARIS operating system, remains to be seen.

It will be an interesting next year or so.



Compel and MediaBlitz!

by Ash Nallawalla

MultiMedia upgraded

I had used early versions of some presentation packages, including *Make Your Point!* from Asymetrix, which is famous for its *ToolBook* products. It has been replaced by *Compel*, a multimedia presentation package that will retail for \$275 until 31 July; thereafter it will cost \$695. Compel enables you to use sound, video, animation, and graphics in your presentations. (A "presentation", in case you have not heard the term in this context, is a slide show usually performed with an overhead projector and transparencies.) The modern equivalent is a program such as Compel and a projection panel (such as the Kodak DataShow) placed on top of an overhead projector. You eliminate the step of making transparencies.

Requirements

You need Windows 3.1, a 20 MHz 80386 PC, and 4 MB RAM as a bare minimum; for the sound and clip art you will need a sound card and a CD-ROM player. It works well with my 33 MHz 80386.

Compel

The first time my colleague and I used Compel's predecessor, we knocked up a multimedia presentation in about an hour, excluding time spent making the individual frames. For an important presentation you would want to take more time. Compel has a graphics creation facility, with the usual colours, shapes and fills that you will find in many such programs. The CD-ROM contains 100 MB of sound, animation and video clips. From a single presentation you can make interactive screen shows, transparencies, handouts, speaker's notes, and 35 mm slides. The clip art uses vector images, which you can edit as you wish. The problem with this is that you need to convert vector pictures to bitmaps so that they are displayed rapidly on the screen. You don't have to paint your own template backgrounds unless you want to, because over 100 samples are supplied. A charting facility enables you to enter spreadsheet

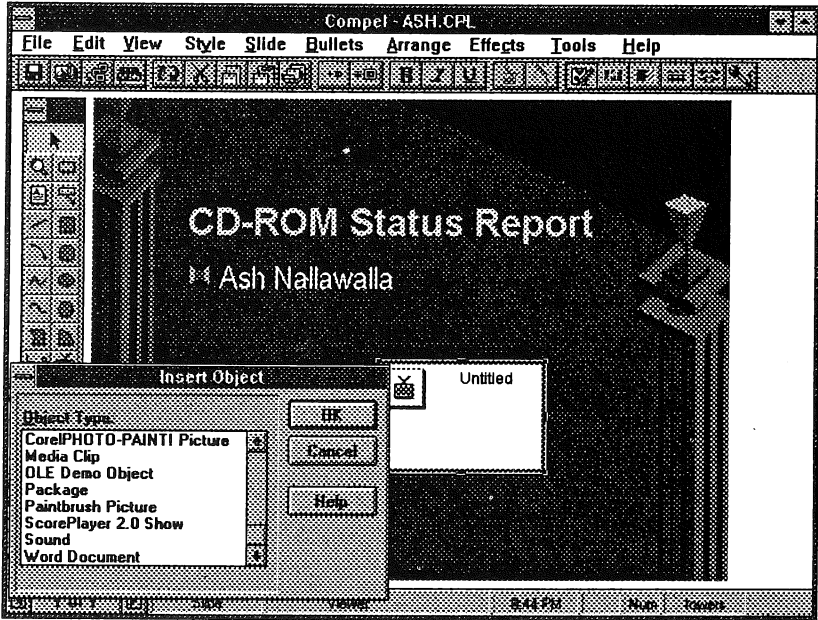


Figure 1. Showing preparations to insert an object (in this case a PCX picture) into a Compel Presentation

data manually, or from an ASCII source. It does not have any spreadsheet calculation capability. You need *transitions* to impart a professional image. The bullet points

can float in from several directions; you can grey the topics you have covered or hide them; and you can control the speed of such effects. The slide transitions are the special effects such as the

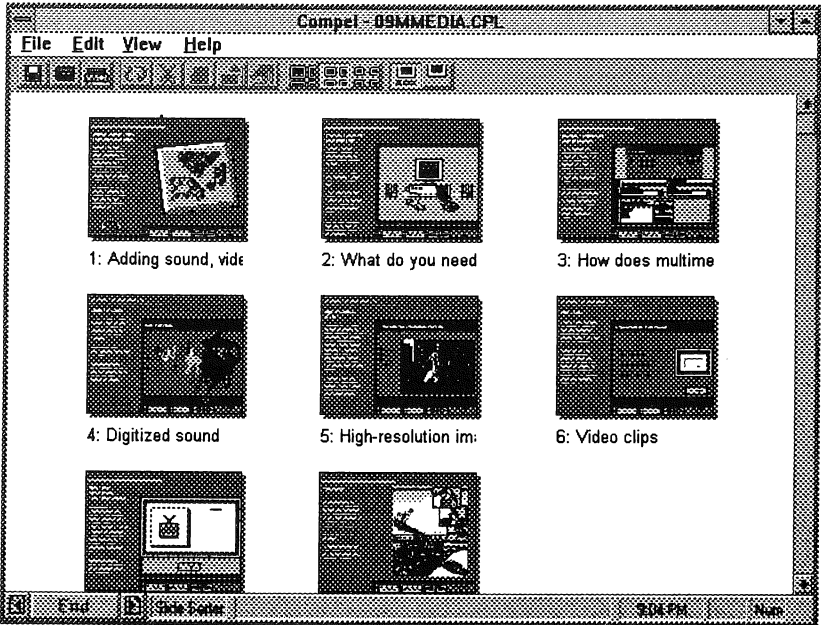


Figure 2. Showing the Slide Setter being used to arrange the elements of the presentation in the required order

ones you see on TV. You can use dissolve, wipe, spirals and other clever effects to blend the next slide with the one that has just ended.

You can create buttons and hotwords that trigger other events such as a video clip, animation or spreadsheet display. Special effects can be synchronised, such as playing **TADA.WAV** every time a bullet point slides in (that would soon get irritating). You can play audio CD music during the presentation too.

Simple animation is available in the form of resizing an object, moving it across the slide, relocating it, and so on. It is not true frame- or cast-based animation such as is possible with Autodesk Animator and others. A small library of 20 animations is supplied.

A typical audience will have some attentive listener who asks something that was covered ten slides ago. Compel's *TwinClick* feature lets you press both mouse buttons simultaneously, leading to some useful actions. You can blank the screen, move to any slide, pause, and so on.

At work we find that we need to use a slide in several presentations. Compel enables you to paste a slide into another presentation and then you can edit it to match the background of that template. Instead of pasting a slide you can also link slides in two presentations.

Compel Show

Compel Show is the run-time module that you can give away freely with your presentation files.

This is particularly useful for the travelling executive who does not want to fill his laptop with unwanted files and for the creation of simple demonstration disks.

A handy "Package Presentation" command enables the creation of a *single* compressed file containing all the files that a distant recipient needs.

MediaBlitz!

Where does MediaBlitz! fit in? It is a free-standing package that is compatible with Compel (and packaged with it) but neither needs the other. MediaBlitz! enables you to assemble multimedia elements, such as video, audio, graphics, text, and animation into a smooth, continuous presentation. MediaBlitz! facilitates the job of choreographing the images and sound clips, because the timeline oriented interface of ScoreMaker is very logical to use. You need another product such as Compel for creating the graphics; *Microsoft Video* for video clips; *Macromedia Director* for animations; and so on. Informative

three ScorePlayer files to the recipient. This is done a little more easily in Microsoft Mail.

MediaBlitz! retains closer links with ToolBook than does Compel. A chapter in the manual is devoted to its incorporation with Multimedia ToolBook, with the required OpenScript language examples. Compel is never mentioned in the manual.

Conclusion

Compel and MediaBlitz! make a fine pair. All these fancy effects will not help a sloppy presentation technique or one where every available effect has been used to

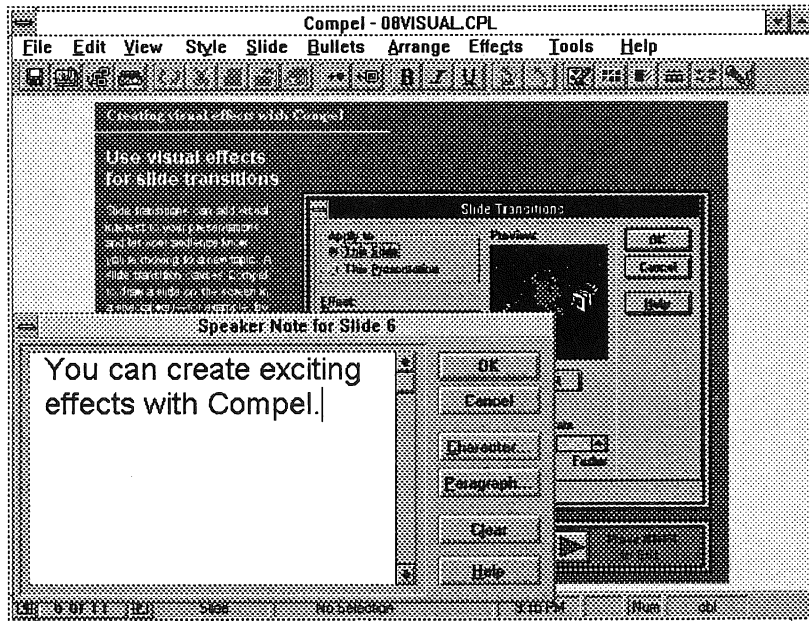


Figure 3. Compel allows the addition of Speaker's Notes to presentations.

presentations such as kiosk applications or tutorials are examples of its use.

ClipMaker is the tool for snipping segments from a larger clip medium, such as a fanfare from an audio CD-based classical performance.

ScoreMaker enables you to synchronise all your clips. You import a clip into the tool and then place it at a certain time indicator. For example, you could start an audio timeline with a fanfare, followed by voice clips interspersed with classical music. There could be still photographs, video clips or animations introduced at various times.

ScorePlayer is the freely distributable runtime module but here you don't get a single-button packaging option. You can, however, assemble all the required files automatically into an empty directory. Then you send your assembled files with

distraction. Asymetrix provides useful tips throughout the manuals to counter that situation. This package will also avoid the programming knowledge required by ToolBook if it is used to make a presentation, making that technology available to more people. I found MediaBlitz! to be more appealing to me, for it did not care where the images had come from. I could have created them in plain old Paintbrush for all it cared. The ability to arrange scores so easily was very pleasing.

Availability

Compel is available from Solutions P/L, PO Box 146, Ashmore City, QLD 4214. Phone (075) 395 422; Fax (075) 393 482. They also provide support via CompuServe Pacific. Type GO SOLUTIONS at the ! prompt. Its GUICare service offers 24-hour support for Mac and Windows software for \$299 per annum. ○

**The ultimate bargain
-- a \$20 C compiler!
(US \$)**

**Despite the price,
this is no toy -- a
fully featured,
quality compiler for
all memory models
with full and ANSI
standard library,
and several low cost
special purpose
add-ons.**

MIX Power C

Geoff Harrod

The PC C compiler market is totally dominated by Microsoft and Borland, except in the protected mode 32-bit field. Why is this MIX product so incredibly cheap? What's wrong with it?

Basically, nothing at all! The only reasons seem to be (a) Mix need some noteworthy selling point over the big boys; (b) it hasn't been updated to follow the trend to object oriented C++ and Windows support. But if an "old"-style C compiler for DOS will do your job, it's a genuine bargain. That's not to say it's outmoded, unless you're only interested in Windows.

For anyone wanting to try their hand at C or learn the basics of C this can't be beaten.

If you want to write programs for Windows, then unless you are into it very seriously as part of a major programming team, the C++ and Windows SDK approach is not a worthwhile method, even with the help of pre-written "Foundation Classes" or whatever. Visual Basic or Visual Quick-C would be more appropriate. Visual Basic is easiest and quickest but the more limited.

However, there is still a lot of useful things that can be done (so much more easily) in DOS with plain ordinary C. The trend now is to write DOS programs in a Windows-like way as far as the user is concerned, with dialog boxes, buttons and pull-downs etc., but using text-mode line graphics characters instead of a true graphic interface as in Windows. Several

new versions, like Fox-Pro database, come in both DOS and Windows versions, so similar that users can switch between them without any relearning. With Mix Power C and its optional Window toolkit that sort of text based Windows-like programming is quite feasible.

Even though I have the full Microsoft C/C++ 7.0 I couldn't resist finding out what Mix was like for 20 US dollars, and I have been using it for a while with complete satisfaction. I had previously used Mix's C/Database Toolchest with my Microsoft compiler.

Unlike previous cheap compilers, this one provides for most memory models -- Small (near code & data); Medium (far code & near data); Large (far code & data). "Near" restricts that aspect to 64k maximum; "far" allows up to 1 meg. There is no "Tiny" where both code & data are in the same 64k segment -- not usually needed, and there is no "Huge" model, but huge data can be specified by the "huge" storage modifier prefix on any data items in any model, which provides all the "hugeness" ever needed in practice.

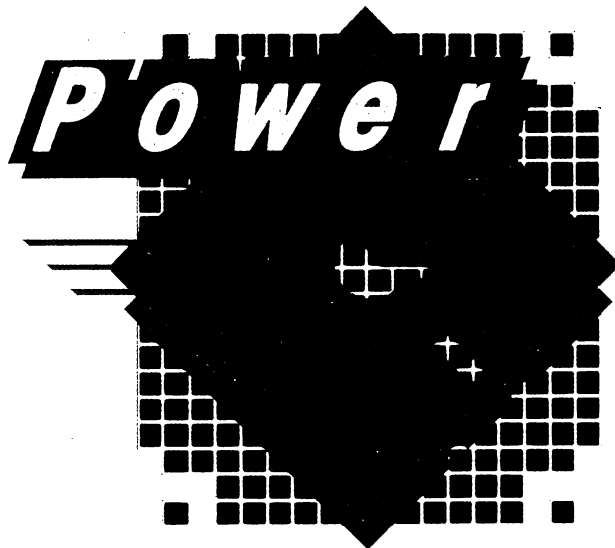
"Huge" is the same as "Large" in that 32-bit pointers are used, but Huge always

keeps the segment:offset combination "normalized" to permit address calculation across segment boundaries, and so allow single objects such as arrays larger than 64k. "Large" permits the aggregate of data objects to exceed 64k but individual objects must be less than 64k.

This memory model mumbo-jumbo is unique to the Intel processor systems with their strange segmented memory addressing. The best way is to just always use Large and forget the rest, and declare any very big objects Huge if ever needed. The supposed speed penalty over Small is inconsequential. Anyone learning C at College on Unix or VMS never encounters memory models.

Mix (or Power C as they now call it) comes with a basic library that naturally includes all the Kernigan & Richie "Standard" C elements. It also includes the ANSI C standard library items, and Unix system V functions. There are about 400 functions.

As usual in a PC compiler, it also has numerous PC specific things. Mercifully, unlike BDS and suchlike, it has not devised its own unique functions for those. Due to the dominance of Borland and Microsoft, there are two very well estab-



lished sets of PC specific libraries. They have a lot in common but significant differences in naming and argument order etc.

Mix Power C uses the Turbo set, so if you use third-party supplementary libraries you will need to select the Turbo version unless they accommodate both. In the graphics area it also adds a few of its own, but that's not a big problem area. It also has the ANSI library items, and the reference manual marks the K&R, ANSI and PC-only items so that you can ensure the desired degree of portability in your code.

I recompiled some of my existing programs that I had written for Microsoft C 5.1 without much difficulty. Those that involved PC functions that differed in MSC and Turbo needed changes to the function calls. Instead of actually changing the code however, I did as is often done in pre-written libraries -- added conditional #defines to redefine the function calls to suit at compile time. Many bought libraries do that and work with either compiler. I compiled some code that used such libraries quite successfully.

The main difficulty in using external libraries is that Mix doesn't use the Intel OBJ format or either the Turbo or MSC LIB format. So you need the library source code to be able to recompile the library and build a Mix library file. Libraries that don't supply the source code would therefore be a problem.

The manual is a bit out of date and doesn't have anything about any library maker, but the details are in the update documentation on disk.

Power C claims very efficient operation (unlike the reputation of earlier Mix compilers), and I found its code size and execution speed compared quite well with MSC 5.1 -- certainly lots better than Quick-C. In most cases however, degree of optimisation doesn't actually matter very much.

Power C includes IEEE floating point and full coprocessor options. The actions normally provided by Make utilities are built in and can be controlled by project files.

It does automatic register allocation and quite good code optimisation. Basic graphic functions provide for CGA, EGA, VGA and Hercules standards. It does not use any "Integrated Development Environment" as featured by Turbo and Quick-

C. You use your own text editor and run the compiler and linker from the DOS command line the traditional way, or from within your editor if it supports that. That's fine by me as I never like the IDEs or the editors in them.

Extras

C/Windows Toolchest is a text-based window display library that provides a good set of tools for creating attractive and functional displays with minimum programming effort. It compares very well with the CXL library I have used a lot.

There are routines for horizontal and vertical menus including pull-downs, with mouse support, data entry forms and dialog boxes with all the usual controls over data entry for validity checking, entry masking etc. Window panels can move, overlap, pop on and off or zoom, and the getkey routines allow for the PC's extended keys like arrows.

The C/Math Toolchest is a maths library for both engineering and financial work, and includes a set of data graphing routines. I haven't seen this toolchest so can't say very much.

The C/Database Toolchest, is very well done and interesting. It provides an ISAM system and efficient B+ tree indexing, with an unusually efficient variable field length file system. It comes with an example complete simple database manager, although it is capable of much more complex tasks.

It is a very interesting implementation of variable length data storage, and, unusually for such systems, does not accumulate masses of redundant space in the data file as things get altered.

Many variable length database systems use the simplistic technique of always appending altered records to the end of the file and leaving the old data where it was, every time it is altered.

This one re-uses vacated space due to data getting lengthened whenever it needs to re-store a record that will fit. The result is usually more compact files than with fixed length systems like dBase. It also includes dBase import and export modules.

C/Utilities Toolchest appears to be a DOS implementation of a set of typical Unix utilities for text operation and file handling, and a Bourne command shell.

They also offer a split screen editor and a Power C Trace Debugger but I haven't seen those.

Documentation

The Power C manual is reasonably compact (one volume of 660 pages), but quite thorough, and, unusually, includes quite a lot of tutorial matter.

Mix Software also offer several books to get new users going, including the Waite Group's Workout C and Master C, DOS programmer's reference (to DOS interrupt calls etc), and New C primer Plus. There are bundle deals for the compiler, debugger and the book Master C, and for the compiler, debugger and the book Workout C.

I can recommend Mix Power C. I think it is only obtainable direct from Mix software in America as detailed in the panel.

Mix software
1132 Commerce Drive,
Richardson,
Texas 75081 USA.
Tel: 0011-1-214-783-6001
Fax: 0011-1-214-783-1404
Visa, Mastercard, Amex accepted.

*Power C compiler & library ...	\$19.95
library source	\$10.00
Power C Trace Debugger	\$19.95
Split screen text editor	\$19.95
C/Windows Toolchest	\$39.95
source code	\$10.00
C/Database Toolchest	\$19.95
source code	\$10.00
C/Utilities Toolchest	\$19.95
text modules source	\$10.00
file modules source	\$10.00
Bourne SHell source	\$10.00
C/Math Toolchest	\$29.95
math source code	\$10.00
graphing source code	\$10.00

Books:

Master C (Waite Group)	\$29.95
Workout C (Waite Group)	\$29.95
DOS programmer's Ref	\$19.95
New C Primer Plus	\$19.95
Master C, compiler, debug	\$59.90
Workout C, compiler, debug ...	\$49.95

Overseas shipping costs:

\$20 for 1st item and \$10 each additional item, except Workout pack \$35, Master C pack \$30.

All prices are in US dollars.

Review

TSE - a Quick Peek

Roger Fidler takes a look at The SemWare Editor

The Old ...

Over the past few years, most of the time I have spent at a computer I have spent pushing numbers around a screen making the output from some piece of geological equipment fit the format required for something else. Mostly, files tend to be on the largish side and relatively few genuine editors deal satisfactorily with them, since most most I have used work in memory and have to share the 640Kb of "DOS RAM" with DOS, TSRs and the data, limiting the size of file that can be sensibly worked on to a few hundred kilobytes. Word processors, used in ASCII mode, frequently get pressed into service and my favourite has been an old version of WordStar (version 4.0) which although large and fairly slow as editors go, is not as big and unwieldy as its more modern counterparts and will tackle a file of practically any width or length, a feature not common among editors (of the inanimate sort). However, some of the smaller editors boast a range of highly desirable refinements which are not to be found in the venerable version of WordStar.

So in the last few weeks I have been trying a pre-release edition of TSE (The SemWare Editor), produced by the same people who wrote QEdit. It was reputed to be able to handle a good-sized file and I hoped would have some of the features of its predecessor. TSE is not a replacement for QEdit which will continue as a separate, and deliberately smaller, program.

TSE ... the New

TSE differs from WordStar in the way it handles large files in that it is able to use both extended and expanded memory, providing appropriate drivers are present. Thereafter, it uses a disk swap file, up to a combined maximum of 32Mb. If the RAM you have exceeds the size of the file you wish to edit by a comfortable margin (and is less than 32Mb) editing progress is generally not hampered by extended periods waiting for disk writes. The first

file I used TSE on was a 1.96Mb data file (a little over 10,000 lines, 2 screens wide) which I had edited 2 days previously and taken 14 hours. Unfortunately the data was faulty and it was necessary to start again. This time it took me 6 hours. Some of the improvement was no doubt due to my increased familiarity with the file but I attribute most to the considerable reduction in disk operations required. While it is very close to twice the size of QEdit, and a bit larger than WordStar, the executable is still no heavyweight at 94768 bytes. It

*TSE handles files
up to 32 Mb ...
yes 32Mb*

retains the dual menu/keystroke alternative system used in QEdit with most of the key sequences being the same but the pulldown menu at the top of the screen although similar, has been revised.

"File" still contains common housekeeping operations,

"Windows" (nothing to do with the program of that name) for working on multiple files,

"Block" for operations on parts of files and so on, more or less as before but there has been some change in the distribution of functions and names and there are two newcomers:

"Clipboard" and "Util". The operations of the former were present in part, in QEdit as buffer operations ie the capacity to temporarily (or more permanently) put aside parts of the file and recall them as required but it now has its own menu system while latter contains a miscellany, mostly new.

The "File" area contains the fundamental file loading and copying type of operations with a few additions but to me these are convenient rather than significant and

fairly standard. The "Block" functions too, are not greatly different to those in QEdit allowing "cut and paste" type operations based on blocks marked in lines, columns and characters. Additions allow the the case of characters within the block to be changed or the the block to be filled with a given character (which I have found more useful than I at first thought). The most important change is in how blocks and other commands can be combined. Searches/replacements may be confined to some part of a file or sorting (under "Utils") may be carried out on the basis of the contents of a block. (See later).

The next menu item is "Text" (which corresponds approximately to "Editing" in QEdit. A few refinements have been added in what is loosely the word processing area but it is in the "Search" functions that there have been some interesting additions. The range of search options has been very widely enhanced so that apart from what might be regarded as the standard functions, you can now have a list of all the occurrences of whatever you are interested appear in a window as an alternative to moving from one occurrence to the next or carry out an "incremental search". The "incremental search" involves the continuous movement of the the cursor to appropriate positions in the file, progressively, as you add or subtract characters to or from, the search string.

Note for Intending Authors

Roger wrote this on his portable in a geological camp on the edge of the Tanami desert in the far north of South Australia.

What's your excuse??

The search string can now also include positional options so that a word, for instance must be the first or last in a line (or column), allow for variations in spelling in a variety of ways, permit you to say, reorder lines containing: given name, family name, address and phone number to any order you like, without the information being in columns and at least twenty other new operations (depending on how you define new). I suspect that C programmers will find some of what would be regarded as the more esoteric strings, of value. Realistically, I suppose I will never use even most of these and I further suppose that few people will have as much use for them as I, but the time saved using the ones have used has been worthwhile.

Multiple File capacity

The capacity to work on or from multiple files ("Windows") was one of the attributes I liked most in QEdit, however, since I frequently worked with columns of data I found the horizontal windows limiting by the time I got to three. The introduction of vertical windows as well as horizontal, has made quite a difference.

Word Processing functions

The word processing functions under "Print" and "Options" headings have also been improved so that headers, footers line numbers and the like can be automatically added, control codes more easily sent to the printer and a variety of tab types used. I must confess I write letters with an editor (or at least in "non-document mode" with a word processor) rather than with a word processor, proper, which my wife has more than once suggested is a measure of my perversity, but it shows it can be done. However, but I don't think there is any pretence that these are intended to do other than get what you have produced to hard copy, with the minimum of fuss.

Other inclusions from the "Utils" area are "bookmarks", menu-making facilities with screen drawing capacity and a few bells and whistles to make life easier.

Command line variations

The command line variations have also been enlarged. I suspect that most people would use these extensions in batch files rather than directly (although they are not particularly difficult) as a means to quickly set up the editor for different purposes.

Macros can be loaded and executed, a given line moved to on opening, various file pick lists shown, binary loading of files is possible (ie lines of fixed length are loaded regardless of line termination characters) and the and quite a few others.

Macros

This then brings me to "Macros". The "keyboard macros" of QEdit have been retained and polished up somewhat and I have found them particularly useful, but a new "compiled macro" has been introduced. That which I have skimmed over to this point occupies about a third of the instruction book while the remaining 220 pages are largely devoted to this, probably the principal, innovation. It makes it possible to write your own functions, including menus, compile them and have the the object file executed. The general appearance of the example source files is somewhat C-like.

Would I buy it?

I would buy TSE simply for its capacity to deal with large files in a reasonable way but it is also remarkably versatile and has a lot to offer, with or without the macro-programming language. If you begrudge the extra 40 odd Kb this takes over QEdit (or 17Kb in my case, over WordStar), then this may not be for you. But if you need something that can deal with a "real file", quickly, do a lot of editing, or want a Swiss Army knife of an editor, give it a look. It really is good.

I do not know what the price will be (the pre-release version was US\$29-00) but being larger, having greater capacity and being new, it would be reasonable to expect it to be released at some premium over QEdit.

SIG News

Accounting SIG

Ian Haly has written a most comprehensive Accounting System which would serve any business as effectively as the most expensive commercial program I have seen. It should be considered if you are buying for any medium to large business. We have received a book and disk on cost accounting as a donation from Mick Noble of the Gold Coast which we will be reviewing at the next meeting. Many thanks, Mick.

We will also hear about the disks from the Brisbug Library on "PCGL14 General Ledger" and "Professional PC Accounting System".

Anyone looking for a simple General Ledger accounting System they can use on their computer should try Disk No 7467 from the library. Just read and understand the manual, you will not need to be a qualified accountant to keep your accounts

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Ian Adcock, 14 Helmsley Court
Yamanto QLD 4306 Ph 2886919
#3412

Borland Pascal with Objects 7.0

Richard King

This year marks the tenth anniversary of Borland's release of Turbo Pascal 1.0. Coincidentally or not, Borland has decided that their top-selling Pascal compiler will now carry the Borland name. This is no doubt to make the product sound more professional, as happened a while back with the change from Turbo C/C++ to Borland C++. Affectionados of the Turbo name will be pleased to know that the Turbo qualifier lives on in the Debugger, Profiler and Assembler as well as in Turbo Pascal for Windows 1.5, now relegated to the 'entry-level' Windows programming market and Turbo Pascal 7.0, the DOS only equivalent.

What's in the box

In addition to the compiler you get the following tools to assist with application development:

for both DOS and Windows: an IDE, TurboDebugger, Turbo Assembler, Turbo Profiler, hyper text help files for everything; for DOS only: Turbo Vision application framework, DOS extender; and for Windows only: Object Windows application framework classes, WinSight (Window's message watcher), Winspector (UAE/GPF analyser), the latest version of Borland's Resource Workshop, Microsoft's Resource and Help compilers, Hotspot editor and Multiple Resolution Bitmap Compiler. The WinCrt library is also provided to quickly move DOS apps to the Windows environment.

The source to the Object Windows application framework library is included along with megabytes of examples programs (including a very attractive and capable chess program).

In addition there are eleven manuals totaling over 3800 pages of documentation.

Installing BP 7.0

An application development environment that is this rich is not small. If you are developing software for both DOS and Windows then installation of all components with all the examples and libraries will devour up to 27MB of your hard disk! Installing a workable subset for Windows programming still requires that you have about 10Mb free prior to installation.

WinDOS

Borland's current marketing strategy provides both Windows and DOS products in the one box. As has been spelled out above, Borland Pascal with Objects 7.0 has followed this trend. This may be good for buyers, but not so good for trees and reviewers.

Consequently, the Windows capabilities of the package have been reviewed by Richard King and the DOS capabilities by Daryl Impey.

Installing for Windows development

The installation program, though only DOS based, is a vast improvement over that provided by the Borland C++ 3.1 compiler. Although it still fails to inform you of how much disk space will be taken by the options you have selected it presents the choices in a far clearer and more logical manner. You now get to choose at an early stage whether you want Windows, DOS real mode or DOS protected mode compilers and utilities (or any combination thereof). Overall I found the installation process painless. Unfortunately there is no Windows hosted installation, unlike TPW 1.x.

New manuals

The new manuals are a welcome improvement over those included with TPW 1.0 and 1.5. The Object Windows manual has a much more comprehensive example and the Resource Workshop manual has additional chapters covering the Borland Custom Controls. Why do we still not get the three Windows programming guides as standard. Is Pascal still not professional enough?

A Better Pascal

Borland continue to improve the Pascal language. This may not impress purists but like it or not, Borland are defining the future of a very useable Pascal for the masses. New keywords added in this version are inherited and public. The former is already found in products such as *Think Pascal* on the Macintosh and allows inheritance trees to be adjusted without disturbing the code in existing methods.

Pascal with Objects

Borland Pascal with Objects, the latest update of the compiler that established Borland as a major supplier of PC language products back in 1983, is a complete DOS and Windows development system rivaling Borland's latest C++ version 3.1. Both products are capable of generating DOS or Windows executables from either host environment. Borland Pascal adds some exciting new capabilities, especially for the developer writing software for both environments.

Version 7.0 is completely compatible with Windows 3.1 and also fully capable of producing executables that take advantage of this environment. For the developer of DOS software you can now produce protected-mode applications capable of breaking the 640K barrier with the supplied DOS extender.

New standard procedures are continue and break which provide the functionality provided by these keywords in C/C++. I am certain Borland has included these keywords/procedures in Pascal so that they can more easily and quickly translate a program from Pascal to C++ and vice versa.

Windows IDE

Colour highlighting of syntactical elements is the same as that provided in TPW 1.5. The toolbar now has two additional icons: one to make and run a program and the other to make and run a program under Turbo Debugger. As in the Borland C++ package the toolbar can now also be made to float freely or be displayed horizontally or vertically or (to regain precious screen space) turned off altogether.

Borland have introduced their right button property inspector concept to the IDE with this version. If you click with the right mouse button on a word you can choose on the fly what you want to do rather than have only one setting in effect as with TPW 1.x or BC++ 3.1. Choices include opening a file (e.g. an include file), cutting, copying, pasting text; opening an object browser window and invoking on-line help. This is very nice.

Improved Compiler

The compiler provides lots more options. Even though you may only choose to install one version of the compiler you can still compile for different target environments. Thus, even though I only installed the Windows IDE I can still create programs for the two DOS modes.

The compiler can generate code that detects at run-time whether a 386/486 is present and then automatically makes use of 32 bit instructions to improve program performance.

Of the programs I had previously written and compiled under TPW 1.5, I was slightly surprised to find that the resulting code size is slightly bigger!

All generated code segments are now moveable, discardable and preloaded by default. With TPW 1.5 the \$C directive only gave your code modules these attributes. The libraries (unless you had the source) were not marked as being discardable.

Borland's C++ compiler originally introduced a smart callbacks option. This option avoids you having to do a MakeProcInstance/FreeProcInstance pair of calls around functions that you want to pass to Windows

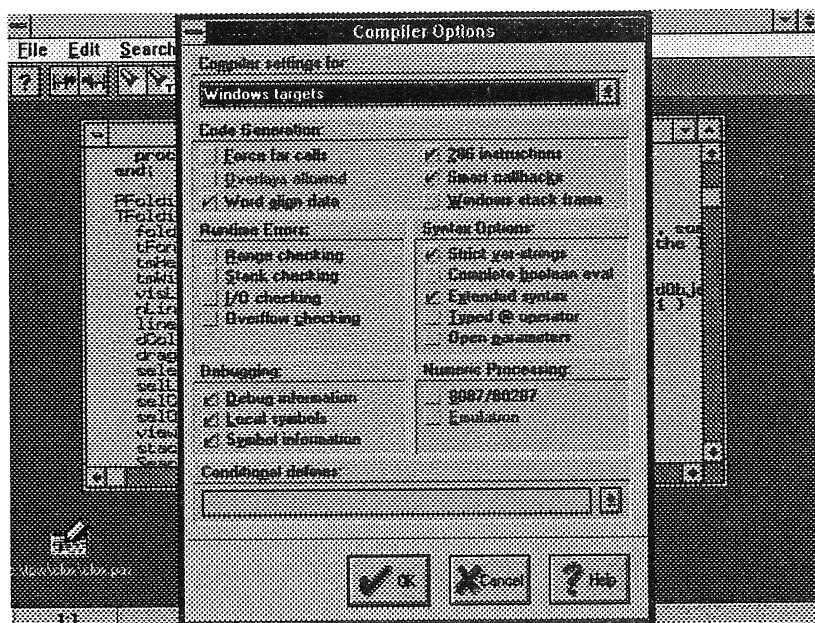


Figure 1: Compiler options for Borland Pascal 7.0

itself. This option is now available in Borland 7.0.

Object Browser

This is an integral part of the IDE but is so capable that it is worth describing separately. The Object Browser allows you to browse the class hierarchy and the objects of a chosen class. The class browser has a very nice interface which lets you select from many combinations of filters. The interface is very much like that of a bank of switches on a hardware card you might be configuring.

Extended Object Windows

The Object Windows class library has been extended and requires that you make slight changes to existing code.

My experience is that it is only a matter of changing the unit names on the *uses* line. Additionally, in one case a method of mine had to be renamed as it clashed with a new Windows Object method.

Object Windows has now added printing and data validation to the programming tasks that it simplifies.

Objects to simplify printing are a welcome addition, as anybody who has tackled printing under Windows will vouch for. The data validation classes are elegantly designed and are compatible with the picture strings in Borland's Paradox product, from which they probably originated.

WinSight and WinSpector

WinSight allows you to spy on Windows messages as they "drive" your program's event handlers. For anybody new to Windows, it is an excellent program to learn about the underlying stream (flood?) of messages a Window's program receives.

Winspector is a completely different utility which if running helps you to pick up the pieces after your program UAEs/GPFs. I have not needed to use this with TPW or Borland Pascal as the ability to search for the source statement from an address provided when a program GPFs has proved to be quite adequate.

Turbo Profiler for Windows

The version provided with the C++ product has always been able to profile Pascal source as well. Profilers are probably of more use than most programmers realise when developing for an event driven environment as you are not conscious of the number of times an event handling routine is called until you profile the program. This was brought home to me when I discovered that I was calling a particular function whenever ANY key was pressed on the keyboard as I was inadvertently calling this function from the *wm_keyDown* event handler when I only really wanted it called if a cursor key had been pressed.

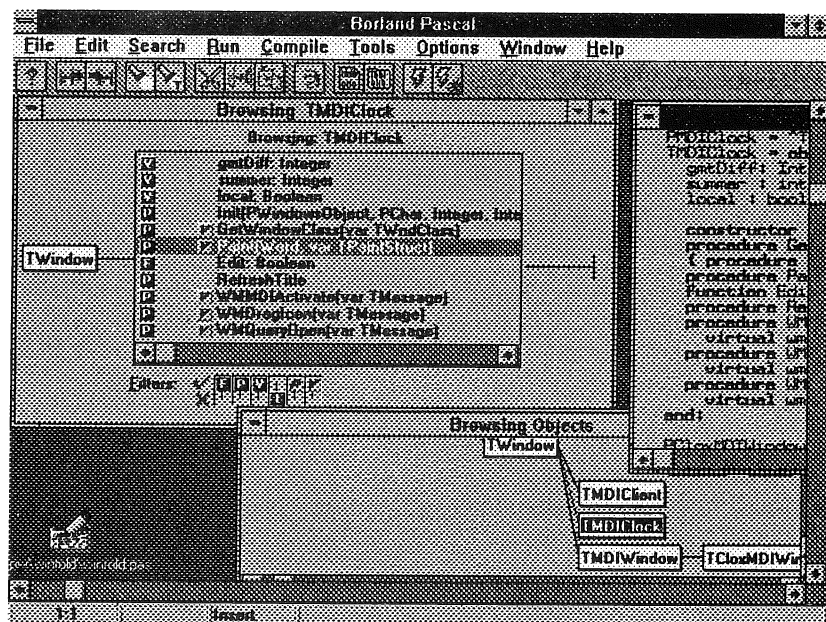


Figure 2: Browsing a class hierarchy with Borland Pascal 7.0

Example programs

The package includes a large number of sample programs covering many facets of Windows program development, including example programs for all the Windows 3.1 features.

Other very useful example programs are a Grep and Heapspy - a match for Microsoft's HeapWalker found in the Software Development Kit.

There is the source for a terrific Windows chess program with a very nice user interface. Its primary purpose however, is to show off building a DLL that can be shared by executables in both the Windows and DOS environments without having to be recompiled. This is a great technological advance and demonstrates how competent Borland are getting at cloning the protected mode environment that Windows runs in under DOS.

As a further demonstration of the compiler technology that boosted Borland to the leader of the pack compare the compile times for the functionally equivalent chess programs provided with Borland C++ 3.1 and Borland Pascal 7.0. BP 7.0: Twenty seconds to compile the chess executable itself (mainly the user interface) and fifteen seconds to compile the move engine DLL. BC++ 3.1: around ten minutes!! Admittedly I didn't turn on the precompiled headers in the BC++ but it demonstrates the penalty imposed by having to adhere to the Microsoft object file formats and linking conventions.

Summary

If you or your company feels it must conform to the de facto C/C++ 'standard' for PC software development then you can pick from a growing set of vendors products. However, if you're developing software for both DOS and Windows then this is the product of choice.

More specifically, if you want the most productive Windows development environment then there is no match for Borland Pascal with Objects 7.0.

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Xtree for Windows Version 1.5

File Manager, Desktop, Launcher, and Link program

John Massey

If I remember correctly, I commented that the first version of Xtree for Windows did not receive the accolades enjoyed by the DOS Xtree versions and compared the DOS version to a comfortable chair or fishing shirt that is used forever and never discarded!

An improved version

Xtree for Windows Version 1.5 incorporates the comments made by users for editing and printing features. Version 1.5 is three separate programs; a file manager, a command centre and the Xtree link program to link two computers.

This review offers an overview of the functionality of the file manager and command centre. The link program is a useful addition and will be covered in a later article. To outline and comment on all the features and functions offered by each module would need a forest of paper.

System Requirements

As a minimum, an AT system or 100% compatible with 2 Mb of RAM, DOS version 3.3 or higher and Windows 3.1 or Windows for Work groups is required. A 486 DX33 system with 8 Mb of RAM, MS DOS 6.0, Windows 3.1, a Tseng ET4000 video card at 800x600 x 16 colour mode with 120 Mb of programs and data on a single, unpartitioned drive was used for the evaluation. Xtree for Windows file manager uses just over 4.8 Mb of hard disk space and the Command Centre about 1.5 Mb.

The Method

The manufacturer's product information sheet provided an overview and key strengths from the marketing side. The program manuals were "visually skimmed" to extract any hints or essential information and get a general feel of the concept and operation of the programs. As an afterthought, the readme file included

with the program was read for supplementary information.

The time initially allocated to review the programs was four hours; it ended up at over eight hours including the initial write up of this article. To explore each and every feature within a short time frame was impractical. As I worked through the programs, I recorded my comments to aid in writing this article. This proved to be a useful method of reviewing and learning the program.

The Manuals

Four manuals - Upgrade Guide, Xtree for Windows User's Guide, Xtree for Windows Command Centre User's Guide and the Xtree Link manual - detail information on each program module. The Upgrade guide provides the overview of new and changed items.

The manuals are well written but often superfluous description hides the key information and the English tends to confuse the issue. I like the concept of a first page summary of contents for each section. Like any program, new terminology is present -command bars- and a listing of terminology in an Appendix would assist the new user.

Sections explaining the real meaning of error messages in English are most welcome. In some instances, the reader is offered suggestions and advice to correct the problem. A few hints in the manual suggest that the program is optimised for Windows NT, with one error message identifying the need for a 32 bit operating system.

Xtree File Manager

Items in the drop down menus in Xtree File manager have been relocated into associated menus. With the updated EXE file for version 1.0, I had become used to the location of items and needed to relearn

their location. File manager provides the standard tasks: copy, move, print, delete, edit ... It is Windows for Workgroups aware with connection to network drives and a mail feature when Windows for Work groups or Microsoft Mail is installed on the system.

By default, the windows notepad is the installed editor but may be changed by the user. Search, edit and print features work quite well with document files on my system. Print works for word processing documents and graphics files for which there is a viewer installed on the system.

Zip is a strong feature to "pack up" files and save hard disk space or collect files of various types into a single zipped "packet". Xtree Gold users are provided with a command bar setup with macros mapped to the Windows program. Confirmation to delete a file, within Set Options, removes the delete confirmation tag from the operation. Recovery of deleted files is possible with the Windows Undelete/Sentry system provided in MS DOS 6.0 with Delete Sentry selected as the option.

Search function works for text strings and sets up a "results window". In combination with autoview, it provides a "poor man's ISYS" to locate files by keywords and view their contents.

Command Centre

The Command centre loads custom designed command bars and is promoted as the partner for Xtree for Windows File manager. The Command Centre can be used as a direct replacement for Windows program manager. Command bars are controlled by the command centre and can be linked to specific Windows applications to extend the toolbar or set across the desktop as a standard item. The user should be familiar with the Windows environment and program manager before delving into the depths of the command centre program. The concept needs to be

clear before one can hope to gain effective use from the program.

It offers a method to record and edit macros and insert them into command bars. An event scheduler runs selected applications at pre-determined times. Macros and I don't seem to have much fun so I deliberately stayed away from this feature. The editor looks impressive but one hint of DimDlg and so forth sees me scurrying for a pre-set icon or routine.

Command bars contain the program icons and act as launch pads. On installation, the command centre automatically builds custom command bars from your Windows group files. Each command bar can be configured to shape, size, password protection, icons, icon size, text heading and much more...

Command bar icons can be configured to provide pop-up descriptions when the mouse cursor is positioned over the icon. Quite often icons can be confusing, one icon showing a collection of wires all over the place was not visually identified as "Sort by Extension". A printer, pencil or a magnifying glass icon convey their visual message and association. Buttons running macros do it so fast that it's hard to set the results of their actions. Look at the

properties of the button and features of the macro.

Post installation of the command centre as the shell involved editing system.ini. After some searching, I could not readily find a section in the manual or help file for this "after installation" configuration. Also the autoloading feature is not well described. Mind you, the information is probably all there, it's just that I looked for the wrong terms or in the wrong place.

The concept offers a powerful and flexible method for desktop configurations. The potential for business applications and networks is considerable given that a command bar can be specifically designed for a single end user to let them use selected applications and avoid the Windows environment. One click and they're into Word or Excel without knowing about Program manager or groups.

No major dramas occurred using the command centre as the shell for the desktop or auto loading the command bars and positioning them to my requirements. An autosave on exit, saves the configuration. Scheduler works quite well to launch applications at selected times.

Xtree Link

I confess that I've only used the Xtree link program on one occasion and don't have the expertise to comment in this area. The program worked well when I used (and connected) the right cable to both computers: *Funny, it should have told me that one end was not connected and offered to plug it in for me.*

Summary

In summary, I like the File management features of Xtree for Windows Version 1.5, I liked Version 1.0 primarily for the "prune feature" and ZIP file management. In the world of alternative desktops, file managers and program launchers, Xtree for Windows and the Command Centre tend to grow on you. With the Windows Utilities from MS DOS 6.0 seamlessly invading the Windows file manager, the race is on for powerful programs packed with features and Xtree for Windows offers a multitude of features and combinations.

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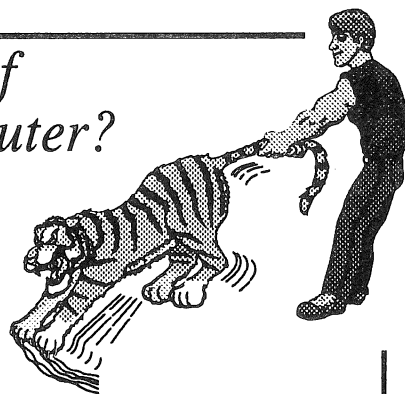
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Social Activities

A June Xmas Party?

Not really a Xmas party in June. Recently whilst browsing in Brisbug's photo archives I came across some shots taken at the 1992 committee and Workers Xmas party last December. Some of them show spouses of well-known members. I've published them here with a note of thanks to all the long-suffering "family" members.

L to R. Kate Kunzelmann, assistant to the Membership Secretary (and boss of the Treasurer), shares a drink with Jan Ausburn, Membership Secretary and her husband Mal while the kids try to look inconspicuous. Pauline (sometime helper to her mum on the membership desk but better known as the mass duplicator of disks for the library), didn't quite succeed, although her younger sister, Sarah, maintained her anonymity.



Above: Rita Copeland (Club Statistician, educational helper and general voice of reason) chats to Earl Grey (Library copier)

Below: Earl Grey's mum and chief supporter shared a joke with Dot Kelly, mentor to Educational Services Co-ordinator, Ron Kelly



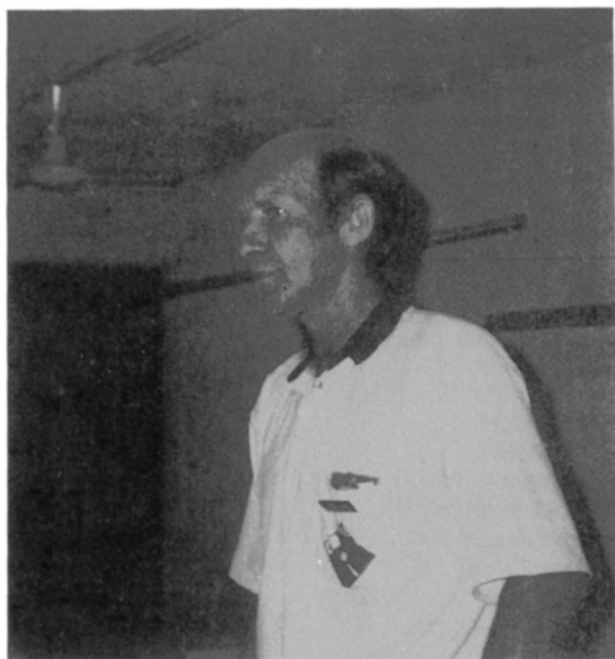


BBS assistant sysop, and newest committee member, Graeme Darroch, is pictured here with BBS "boss", Paul Marwick, and educator extraordinaire and help-line guru, Dan Bridges. Dan is about to tell Paul he's just crashed all four BBSs .. Graeme obviously is in on the joke

David Ritter, library helper, and Robert Bromwich are seen here talking "shop"



Above: Then President's wife Elanne Lewis and library helper, Ted Wrathmall, deep in discussions with other guests



Right: However Les cathcart, Junior Group leader, was still busy at work

BRISBUG LIBRARY KITS

Way back in April 1990, the first Brisbug kit appeared in the library. This was the FIRST AID KIT containing a collection of anti-virus programs to remove and protect user's computers from all types of viruses.

Resplendent in a drab grey cover complete with a "BAND AID", the disks were copied and the kit assembled by Trevor Frelberg and myself on the Saturday afternoon preceeding the April Sunday meeting. The FIRST AID KIT proved to be an immediate success with members. Our initial stock of 30 kits went in little under an hour.

Since then more than 50 different kits have been released, most of which are still available from the library. Prices range from \$6.00 to \$20.00 and all are value for money, especially considering today's economic conditions.

From this simple beginning over a thousand of these "LIBRARIANS CHOICE KITS" have been produced by myself and other willing library helpers and available to all members and Associate Member Clubs. The BRISBUG KITS have gone to all parts of Australia and also to some overseas members.

KITS CURRENTLY AVAILABLE

4DOS - \$6.00

Replace the standard DOS command processor and give yourself a complete, compatible new interface right from the DOS prompt. 4DOS adds over 40 new commands to make the command line a friendly and powerful place to work.

ARCHIVE KIT for DOS - \$12.00

Set yourself up with the complete Archive Kit. No more problems when you download a program from a BBS - you can handle all types of archives. Back up your files by archiving - it's simple and safe. Kit contains archive shell program and all the archiving programs - LHARC, PKPAK, SDN, ARJ, PKZIP and ZOO as well as LIST and the powerful text editor QEDIT.

BROTHER'S KEEPER - \$12.00

In the hobby of Genealogy, you never know just who or what you'll find once you start tracing back your family tree! BROTHERS KEEPER allow you to gather and organise the tidbits of ancestral history you uncover and will print the information in a variety of helpful ways.

BBS USER'S KIT - \$10.00

A re-release of this kit containing three of the most popular communications programs from our library. TELIX is favoured by those who want fast, multi-transfers using Z-Modem protocol. The program has its own very powerful script language, which enables the user to automate most operations. PROCOMM is slightly less sophisticated but is ideal for use with main-frame communications BBS's.

COMMO is an easy to use and setup program for BBS users. A light-hearted booklet as an introduction to the BBS and how to set up your modem is included in this kit.

NOTE: Re-Release date - Early August.

COUNT BASIL - \$12.00

No longer will you need to wear many different hats to do your small business accounting. COUNT BASIL, the Business Accounting System with Integrated Ledgers, means that when you invoice a stock item to a debtor, your stock levels and sales figures are updated immediately and the debtors account is updated on completion of the invoice. COUNT BASIL will help your cash flow as you'll be able to better manage your stock levels and debtors.

CHEQUE-IT-OUT - \$6.00

Here, at last, is a complete personal bookkeeping system that doesn't expect you to be an accountant to use it. Keep track of your finances, balance the books and generate impressive statement of net worth, profit and loss, etc.

DAYO - BUSINESS APPLICATION PROGRAMS - \$20.00

DAYO is a collection of multiuser business applications that provide a means of managing inventory, purchasing, invoicing, customers, vendors, sales and more. DAYO applications include: Inventory, Quotes, Back Orders, Reports, Accounts receivable and payable and much more.

NOTE: Currently being upgraded - New version available August 93.

DOS NUTS - \$10.00

The DOS NUTS collection includes 3 training disks for new computer users. Programs selected include DOSHELP, PC-LEARN, PC-HELP and a Tutor.

DOS TUTORIAL - \$10.00

Learning how to handle your new computer and why you do certain things can be very daunting for a new user. The DOS TUTORIAL is a complete set of lessons which will teach you the How, When, Where, and Why of computing. Teach yourself at your own speed how your computer works.

FILE EXPRESS - \$10.00

FILE EXPRESS is an easy-to-use menu-driven database management system. A mailing list and report generator is included as well as an on-line comprehensive manual. You can

prepare customized form letters with FILE EXPRESS and merge names from the database with the letters.

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Kit 3 deals with "FINDPOLY" - information about selected polynomials. "TWIDDLE" - graphing curves and "twiddling" parameters, "PLOT" - plotting curves and "SURFACE" - a comprehensive linear algebraic package for matrix and vector manipulations.

MODEM COMMS - \$10.00

MODEM COMMS is a comprehensive modem tutorial which gives the user an on-screen tutorial of modems and BBS's. Also included is a popular communications program.

MOKE - \$20.00

MOKE, which stands for Mark's Own Kanji Editor, is a Japanese Language editor which allows input of English, Hiragana, Katakana and Kanji and enables the user to edit the input. A comprehensive Japanese/English dictionary is included.

PASCAL TUTORIAL - \$6.00

This is a collection of Pascal tutorials collected from some of the Brisbug Pascal courses.

PC-KEY DRAW - \$10.00

PC-KEY DRAW is a graphics program that can be used by anyone and everyone. It includes many features designed specifically for a mechanical engineer, such as calculate and measure. Also included are many features designed for artists.

NOTE: New Release version - now available.

PC-WRITE - \$10.00

Not sure of what word processor - writing program you should use. This recently upgraded version of one of the most popular word processors is a must for budding authors.

PC-FILE - \$10.00

This latest version (6.5) of the powerful shareware database program is extremely powerful and easy to use. If you want to set up your own data bases for business or private use, you should give PC-FILE a try.

SLUG KIT - \$20.00

S.L.U.G. stands for Starters and Learners User Group and this collection of software was assembled by Dan Bridges when he conducted the SLUG classes. Containing a useful set of utility programs, this kit is a must for new users.

STARTER KIT - \$40.00

Containing 9 disks of programs and the well known publication "Getting Started with Computers: by Dr. David Parker, this kit contains a Word Processor, a Spreadsheet, Database, and disk of utilities and more.

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TELEMATE is a multi-treading communications program featuring a terminal, an editor, a viewer, a backscroll buffer, a clipboard and many more functions. TELEMATE is a powerful communications program suitable for all power BBS users.

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When you are a beginner and you are searching for a word processing program, the list of programs available seems endless. Adn obtaining a registered version of a US program has its problems. WORD FUGUE is an Australian program written for Australians - easy to use, with installable keyboard commands, an Australian dictionary, point-and-shoot file loading list with descriptions, Autosave, and many more advanced features.

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ADVENTURE GAMES KIT NO. 4 - \$10.00

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**ARCADE GAME KIT NO 2 -
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LADDER MAN - a problem solving puzzle
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(EGA/VGA required).

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nent. (CGA/EGA/VGA required)

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get their maths right. (CGA/EGA/VGA re-
quired)

**CHILDRENS GAMES KIT NO. 2
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cally for the very young. PAPER-SCISSORS-
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PER, PANGO - a collection of adventure/
arcade games. (CGA/EGA/VGA required.)

**EGA/VGA GAMES KIT #2 -
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CD-MAN - a sophisticated Pac-Man game;
PICTURE PUZZLE - match the pictures to
win; STRATEGY - an early war game. (EGA/
VGA required)

**EGA/VGA GAMES KIT #3 -
\$10.00**

DRAWPOKER - a super card game; SOLITTLE
- a game of Solitaire, but with tiles (like
Marjong); DANGEROUS DAVE - a game to
test your keyboard dexterity; HUGO II - the
second in the Hugo series. (EGA/VGA
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OTHER BRISBUG KITS

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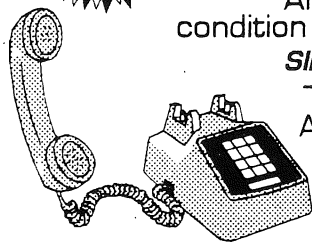


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Microsoft Multimedia

by Ash Nallawalla

Over the last few months, Microsoft has released several new products in the category of multimedia and I have had the pleasure of using some of them. I could not cover these products for our so-called multimedia issue last year, for they arrived later, and cannot wait for the September "Multimedia Special" meeting, as the products might get out of date by then! I did not get to see Microsoft Video although I had a taste of it in another product: "Asymetrix Compel".

Equipment

To get good value from a multimedia product, you need to exceed the so-called MPC specification listed on any MPC product (I shall not waste space by repeating it here). Although a 386SX with 2 MB RAM is recommended, I found that my 386DX with 4 MB (total) RAM was barely adequate in some situations. What is not stated is that your Windows permanent swap file also needs to be of reasonable size. I had just 1.5 MB there because I miscalculated my DOS 6 DoubleSpace figures and I was getting the occasional "Out of memory" error. I am careful not to load unwanted TSRs: once I increased the swap file to 4 MB, the problem disappeared.

I have a generic Super VGA monitor that came with my system. Although it is usable, it has this tendency to flicker on the side nearest the CD-ROM player. That is a sign of poor shielding, something that you cannot check easily when making the purchase. Some people seem to buy "a system at a good price" but discover later that the dealer cut corners to offer that good price. Today, I'd save for a noninterlaced monitor in the NEC FG series. I have a Boca SVGAX3 accelerator card, but PC Magazine rated it as pretty average.

Although the MPC specification specifies a 150 kB per second data transfer rate, I found that my NEC CDR-74 CD-ROM reader with its 300 kB per second rate performed better than a Mitsumi drive on another machine that just met the specification. You might notice that the so-called multimedia upgrade kits just fall within the guidelines and you may not get top performance from them.

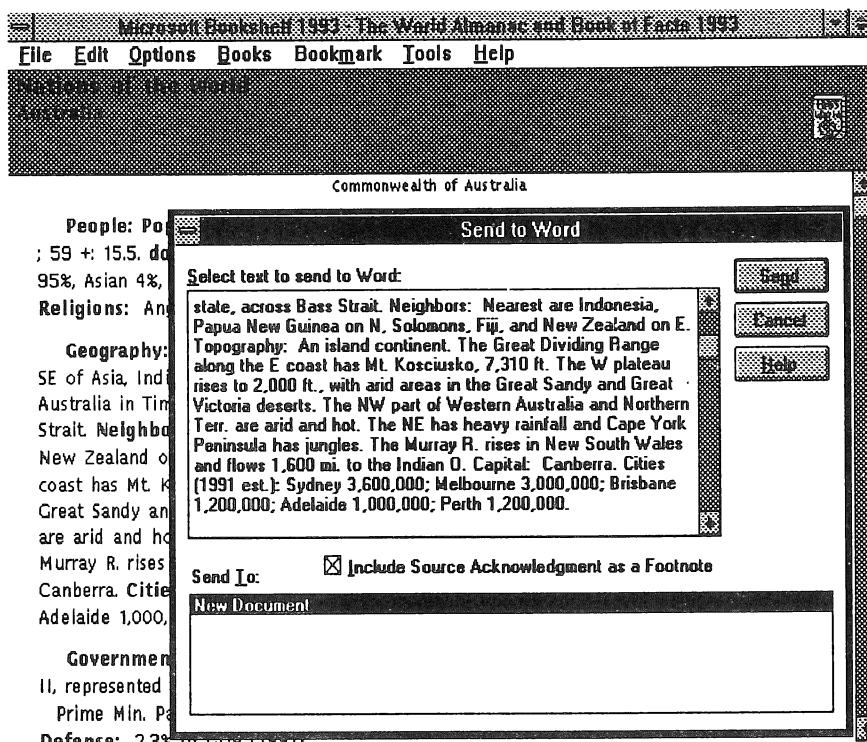
The CD-ROM medium holds about 600 MB, so it is supposed to free up space on your hard disk. Unfortunately, many CD-ROMs want to store some software on your hard disk, ranging from 1 MB to 30 MB! That is in the interests of access speed (the hard disk is a faster device, and the file index is best kept there. I am finding that my 200 MB "DoubleSpaced" drive isn't large enough to support several CD-ROMs. My other dream is for a jukebox with a capacity of 100 discs) if you have

to load a disc in the caddy each time you want to use it, (and worse, reinstall it) you won't use it often. I still reach for my paper dictionary unless I am looking for a detailed description.

Another dilemma in this industry is that upgrades seem to arrive just after you have made the decision to buy something. The NEC CDR-74 has already been superseded by a minor update that gives it full Photo-CD compatibility. If you have not made the multimedia plunge, this seems to be a good time to join the fray.

Microsoft Cinemania, 1992

For the movie buff who wants an interactive movie guide, *Microsoft Cinemania* is the answer. It is a CD-ROM packed with 19,000 capsule reviews of many popular movies, biographies of the stars and those not so famous, articles on directing, special



The Microsoft MultiMedia bookshelf includes the World Almanac and Book of Facts 1993

effects, and the histories of major studios. Like other Microsoft CD-ROM offerings, this one lets you define your search criteria, so that the desired information can be found. There is a list of the Academy Awards from 1927 to 1991; there is a small multimedia gallery of photographs and sound clips; there are definitions of film terms.

It is easy to forget that colour and video data consume large chunks of CD-ROM real estate, but I was disappointed to not see even one movie clip and there were relatively few colour images, even where the movie was in colour. Nonetheless, this is a worthy example of the medium and worthy of serious consideration. RRP is \$115.

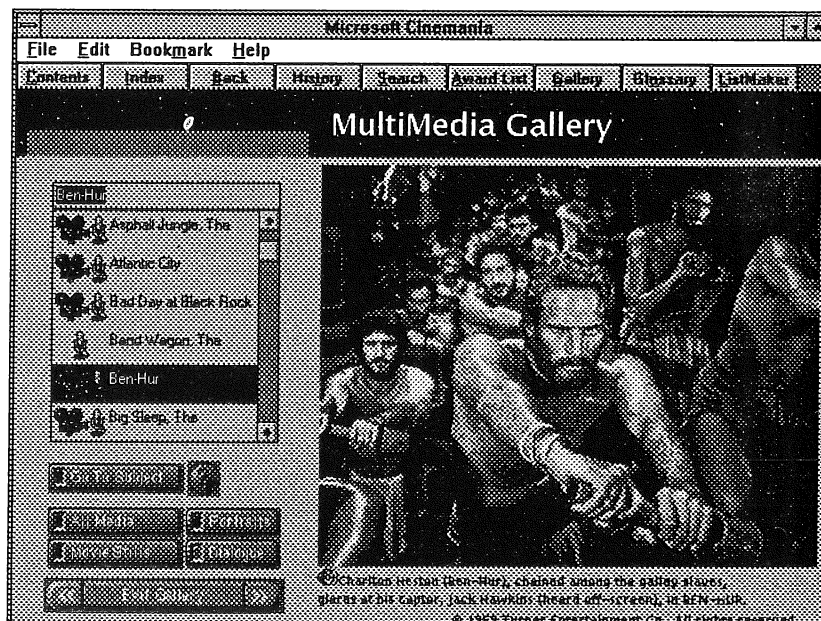
Microsoft Bookshelf, 1993

I previously reviewed Microsoft's *Multimedia Beethoven: The Ninth Symphony* (PC Update, Jan/Feb 93). At that time we were low on space in that issue and I did not publish my review of *Microsoft Bookshelf 1992 Edition* because it was rather negative. Although those critical comments were limited to the *Concise Columbia Encyclopaedia*, its other modules provide good value. The 1993 edition has just been released, and most of the errors have been corrected.

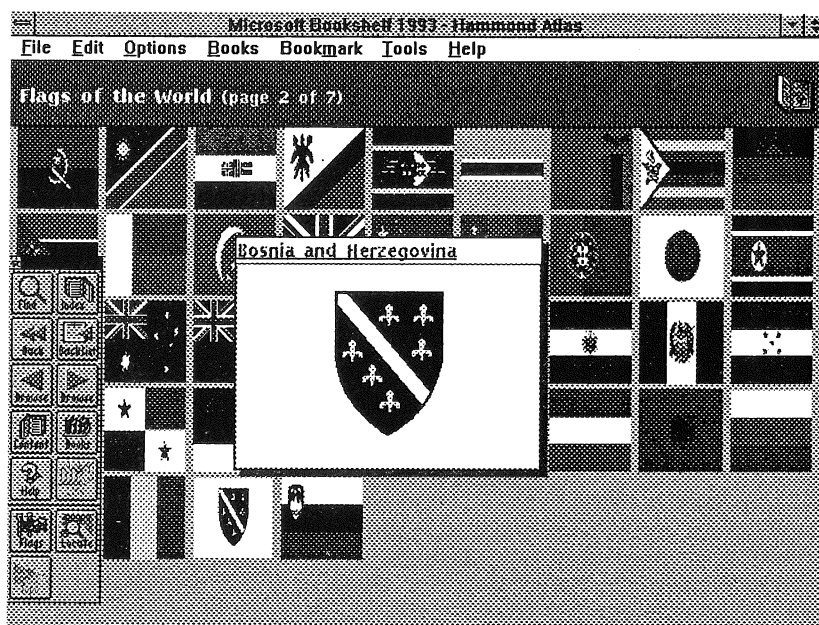
Its American "*Heritage Dictionary*" gives 65,000 entries, each pronounced, and nearly a thousand illustrations. You need no introduction to its *Roget's II Electronic Thesaurus*, for you might have used the paper version at some stage. Its *World Almanac and Book of Facts 1992* gives you facts and figures about every nation. If you want to look up a quotation, you can use its *Bartlett's Familiar Quotations*, which has 22,500 entries in chronological order and by author name, or you can look up the 6000 entries ordered by subject in *The Concise Columbia Dictionary of Quotations*. The *Hammond Atlas* provides maps of the world and plays many national anthems.

The 1993 edition was mainly updated in the Almanac section but the encyclopaedia has also become a poor person's Encarta. Some of the animations are the same or similar but, in general, you would not be buying this for the encyclopaedia alone. The other modules, particularly the quotations and the dictionary are the strength of this disc. You can export text to the Clipboard or to Word for Windows. You can copy an audio pronunciation and images too. Bookshelf represents good value.

RRP is \$300, with an academic edition priced at \$169.



Come boating with Charlton Heston in MicroSoft's Cinermania



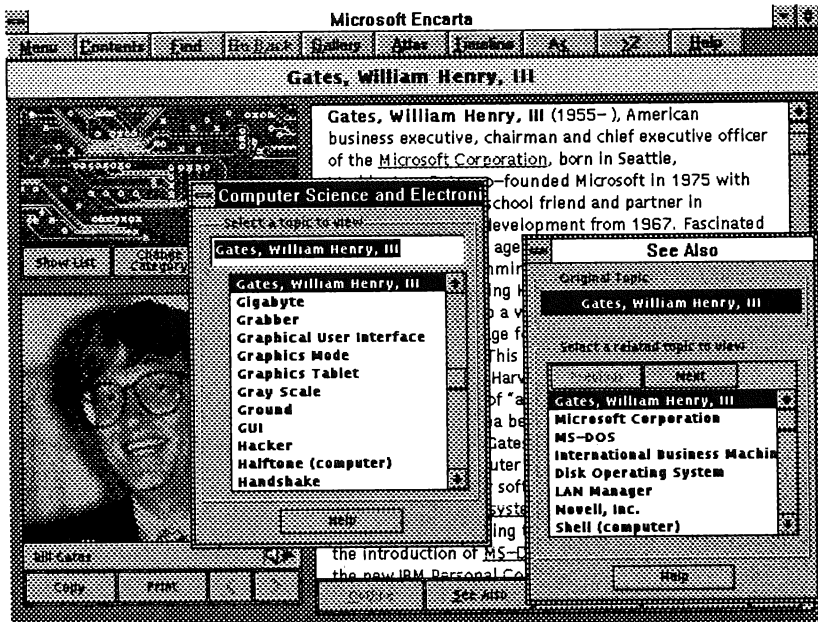
Or check a flag in the Hammond Atlas

Microsoft Encarta

If Microsoft Bookshelf fell short of my mark, *Microsoft Encarta* has well and truly exceeded it. I am truly excited by this 29-volume encyclopaedia that does not try to be anything else. Its sculpted packaging contrasts with the cheap boxes of Cinemania and Bookshelf, and is an indication of the awe we are about to experience. It has two manuals that are aimed to attract the interest of a teenage audience, yet not insult an adult. The second manual is dedicated to *Research*

Ideas and Copyright Responsibilities, which alerts the user to the dangers of plagiarism, because it is very easy to extract text and graphics when creating a school project. I sure could have used a multimedia setup and a colour printer in the 1960s!

The text comes from Funk and Wagnalls New Encyclopaedia, and is remarkably up to date in some places. Bill Clinton is the current US president, and the CIS republics are all in place. I found some typographical errors and the Southern



Get the facts on PC-Computing's richest man

My Kiwi nephew was visiting us when I was evaluating Encarta, and asked for a printout of the Australian data. I stopped the printer after about 60 pages! That is just one of some 25,000 topics you can find, but you don't need to be alarmed by the length of the articles. You can quickly call up the article's "outline", which shows just the major headings and you can go quickly to the detailed information that you need.

In another dimension, you can explore the Earth's Timeline, and look up historical events. You can study musical instruments and hear a sample; there are samples of musical categories and the voices of famous people; listen to hundreds of bird and animal sounds.

If all this sounds like hard work, you can play the MindMaze Game, where you answer questions and choose the right door to navigate through a maze. If you have looked up at least a dozen topics, you get the choice to play the Quiz or the Game.

Microsoft has designed this product to work with VGA monitors but recommends that you upgrade to a VGA+ monitor and a 16- or 24-bit graphics card. That will give you the best available images. It also recommends a double-speed CD-ROM drive [such as the NEC CDR-74/84], which will speed up large full-colour images. Annual updates are promised.

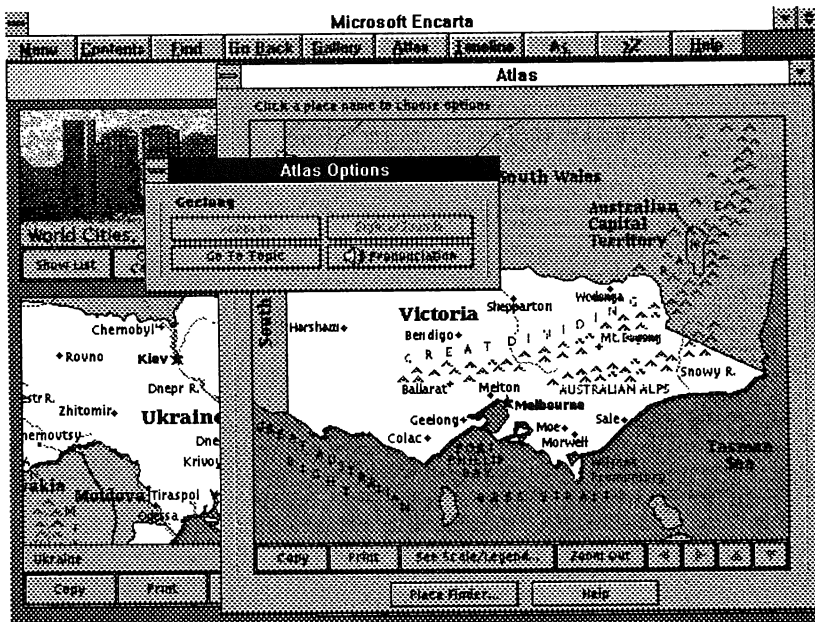
At around a street price of \$350 (RRP \$599), you cannot afford to miss this one.

Microsoft SoundBits

Forget the beeps and chimes of Windows 3.1 ...you can let the Marx Brothers insult you with "Just a moment, fruitcake" while your application loads; let Myrna Loy shriek "You're driving me crazy" when you make a mistake; or let Cary Grant exclaim "I've had enough stimulation for one day" as you leave Windows. Microsoft SoundBits is a collection of 50 Hollywood movie audio files that you can assign to Windows events. You will need a good sound card; cheaper substitutes such as your PC speaker or even the plug-in Disney Sound Source will not work easily, if at all. It's a good gag and worthy of an inexpensive gift for the movie buff but I soon got tired of the clips. You do not need a CD-ROM drive, for it is disk-based. It is worth a look. RRP is \$59.95.

Microsoft Windows Sound System

Microsoft recently launched *The Windows Sound System* (WSS), which not only emits melodious "business audio" but enables you to control your



Or the facts on Australia's brokest state

Cross on the Australian flag was a bit askew, but nothing worse. Encarta is memory-hungry and I found while preparing this review that there wasn't any spare RAM to load my preferred screen grabber, so Clipboard had to suffice.

Apparently, Encarta took seven years and 100 people to complete, and is a product that makes you want to keep exploring. It boasts some seven hours worth of audio, thousands of photos

and drawings, 100 animations, maps, and more. It is integrated with an Atlas, where you can zoom into any part of a continent, look up the detailed topic of a given city, hear how its name is pronounced, see colour photographs, take a hypertext jump to a related topic, listen to a MIDI rendering of the national anthem, listen to common words and phrases spoken in one of 45 foreign languages, etc.

applications by voice. Yes, you can talk back to the PC.

Business audio is Microsoft's way of saying that "WSS is different from other sound cards." WSS is targeted at business users, and is not an entertainment product. Yet, it is compatible with all games written to the "Ad Lib" sound card de facto standard. It is not Multimedia PC (MPC) compliant, for it lacks a joystick connector, a MIDI connector, and a SCSI connector. The first two will not be missed by a business user, and the last is debatable. SCSI connectors are not all alike, and you need to match the CD-ROM player with the connector.

WSS requires Windows 3.1 and a minimum of an 80386SX processor and a VGA video adapter. The sound card itself does not require Windows, and I found that I could run all the DOS-based sound programs I could throw at it, as long as they supported the AdLib system. Beware of salespeople who bend the truth about this card. I attended a dealer presentation where the presenter said that it did not play MIDI files. It certainly does. The only attention it needed was to alter the MIDI Mapper settings so that the defaults that pointed to other cards now pointed to the WSS.

Full marks to Microsoft for listening to users. You don't face the trauma of trial-and-error jumper settings as you might with other cards. (What are jumpers? You'll find out if you need to know.) If your other cards object to the newcomer, WSS sidesteps, electronically speaking, and shows a picture of a jumper and where to move it. My PC is quite full of cards and I had to change their sequence until I found the best one. The supplied tutorial is short but precise enough to make the manual redundant. The online Help file is also helpful, as it should.

WSS focuses on business productivity. Make WSS read back the figures in the spreadsheet you just keyed in. Use the supplied headphones and be a good neigh-

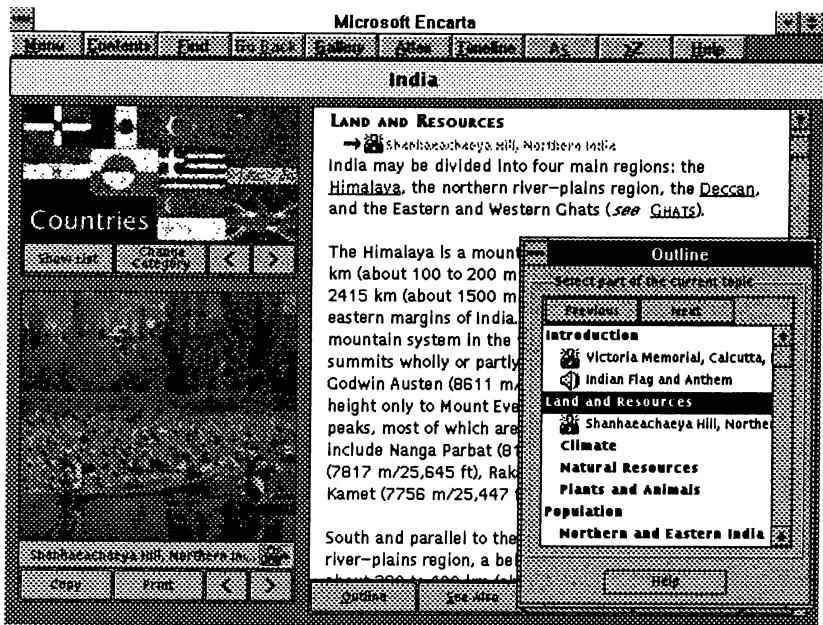
bour. Use the supplied microphone to record your voice, embed it in an icon, and drop it in a document, typically electronic mail. Its recipient can then enjoy your dulcet tones by clicking on that icon. You may well ask "Why would I not key in my thoughts instead of recording them?"

splashing out \$4 for a pair from <MI>The Reject Shop. I found little or no improvement in using some of the amplified miniature speakers costing several tens of dollars -- you might as well get a proper amplifier and quality speakers if you wish. It cohabited well with my NEC CD-ROM

player and even played audio CDs in the background. You will need to buy a cheap, easily available cable for the latter (two RCA plugs at one end and a stereo 3.5 mm plug at the other), as you would with other cards. I am quite satisfied with WSS as a business product.

It retails for \$425 from most Microsoft resellers. It is also available bundled with Windows 3.1 for \$525.

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Or some facts on the mighty Himalayas

Perhaps you want to enclose a snippet of music, or you need to swear in Japanese ...let your imagination run riot.

You can control several Windows applications by voice, and the software can learn your accent. 64-word-per-application vocabularies are supplied with WSS for programs such as Word for Windows, Excel, Lotus 1-2-3 and 12 others. Microsoft admits that this voice control is "limited" and I concur. Many of us in Australia do not speak consistently; the "voice pilot" had trouble deciphering certain words such as "file" and "find" and did not like background noise. I was more productive using my fingers than my voice. Even if the speech recognition were improved, one would need to put down the microphone to use the keyboard. A headset and boom mike would be better. This feature is best treated as a gimmick for now.

You can tailor the audio to remove pauses, add ominous echoes ("You are fired!") and generally jazz it up. The controls resemble real volume control sliders and buttons, making WSS intuitive to use.

A set of unamplified stereo speakers gave me ample volume and clarity. I confess to

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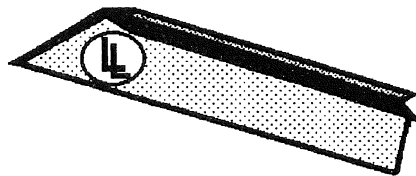
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this month

Lindsay's Letter

Lindsay Bates



Welcome once again to all LL readers, new and old (well, not old - 'been around awhile'; maybe that's better)!

As usual the computer world continues its mad pace towards . . . well, wherever it's heading! Which leaves many people pretty confused, to say the least.

But just stay cool, read the Mag. ask questions, and, above all, don't be rushed into stuff that's still new.

Congratulations to our outgoing President. Thanks for the wonderful job done to help many members, Ron. And a big welcome now to LLoyd - the new man in the hot-seat!

Hope there's something in LL for you this month. Happy computing. See you again next time!



- Good news for pick-and-peck one-finger typists. Voice recognition software is becoming more sophisticated, and it's getting cheaper and cheaper all the time.

There's little doubt that the day will soon come when those of us who hate the keyboard can throw a party and safely consign it to the bin for ever.

- Good news also for those who've laid out the cash to install a CD-ROM on their system. Already the software houses are beginning to supply business software on CD-ROM rather than on floppy-disks - in fact, some come only on CD.

Before too long the latter can be expected to become the norm, and software for the non-business sector will likely follow in due course.

- Amongst all the goings-on about our software being too dear in Oz, the software houses are now set to start *charging* for the traditionally free phone support.

Microsoft have already announced their intentions in this regard, and others will certainly follow.

If you were already not too enthused about the level of help you've got in the past, then it's probably not going to bother you much. But hopefully when it's actually paid for, the quality of support is going to improve.

- Did you read the one about the bank PC in the US which ran amok and insisted on continually sending out demands for payments that were not due to be paid?

Finally in court, the judge let his sense of humour run riot and fined the PC 50Mb of hard-drive and 10Mb of RAM.

In due course, the court received payment by way of a hard-drive and a number of memory chips.

Let's hope the PC has learnt its lesson.

- We've only just got used to the sight of the new Pentium flexing its pectorals in front of us (to convince us it is oh, so powerful) when along comes news of another addition to the Intel 486 line.

It's reported to be a DX running at a fast and furious 99Mhz. Why 99, rather than 100? Beats me.

- Apparently we'll soon be able to pay for our KFC and Big Macs with a Smart Card thought up by the NSW Government.

At the till, the \$20, \$50 and \$100 cards will have the amount reduced until you've used up all the credit.

In these days of Big Brother getting bigger and smarter all the time - and knowing more about me than I know about myself - the great news about the Smart Card is: no PIN number, no connection to BB at all. It's totally anonymous!

More of the same, please.

SMARTDRV

SMARTDRV is Microsoft's disk-caching program.

As a Read Cache, it uses some of your system memory to store the next bit or bits of information you may need. This means the info is available *much* more quickly (saves the need to access the disk again, also).

As a Write ("write behind") Cache, it stores the information and writes it to disk when the computer is less busy. This means more efficient operation.

SMARTDRV as supplied with DOS 5, DOS 6 or Windows 3.1 is used by many of us as our disk cache. It's efficient and effective, but there are some things you need to know about it.

Geoff Harrod has already written riders about the write-behind facility. Here are some further guidelines to help.

1. **Don't ever turn off the computer immediately.**

Count off at least 6 seconds, to allow SMARTDRV to complete all its writes to disk. If you don't, you may lose data. Watch the disk light and you'll see it do

the write. Sometimes it does this immediately, sometimes it seems to take an age.

2. Similarly, count 6 seconds or so before you ever press the Reset button.

Same as above.

Pressing Ctrl+Alt+Del, however, is okay. If there's material in the cache waiting to be written to disk, you'll get a message "Waiting for System Shutdown" and it *will be written* before the warm boot is done.

If you absolutely cannot wait the 6 seconds or so, you can type SMARTDRV /C to force the program to finish its writes.

(It's actually only 5 seconds I read somewhere, but it's silly to take chances of scrambling stuff of the HD by turning off in the middle of a write.)

3. Seriously beware all setup programs which, when they're completed, ask if you want to reboot!

This includes Microsoft's own programs - and it's a DREADFUL trap which has caught me over and over. Wait the 6 seconds, *then* tell the bally thing it can reboot! Definitely NOT before.

4. Some users may need to turn off the writebehind feature of SMARTDRV.

Most should not, however, as it will almost certainly slow down computer operation.

Just heed the above warnings and all should be well.

SMARTMON

DOS 6 adds a natty Windows utility called SMARTMON. It aims to help you get the best from SMARTDRV, and also help you fine-tune it.

Run SMARTMON from the Windows command line (Alt+F R then type in SMARTMON), then use Help to read what it will do - you'll probably want to iconise it so you can read Help. The other place you'll want to look is in Options.

You can actually watch Cache Hit Rates (it was already in the cache) by leaving SmartDrive Monitor on the desktop. It stays over your program (though there's an option to stop this), and can be moved out of the way as normal.

For example, as I'm typing this, I've got an 86% hit rate, showing in red down below. If I iconise SMARTMON it takes

up less room, but still show the 86% (now up to 87)!

You can use this utility to fine-tune cache parameters for best results - and the program will even write these into AUTOEXEC.BAT for you.

New Users Guide

THE WINDOWS 3.1 FAMILY

Do you like the way the very first version of Windows NT is 3.1? Microsoft are working hard at getting all PC users right into Windows. The question is: what Windows flavour is right for me?

Windows has become the accepted way to run New Technology programs, and for many users *the* way to operate their computer.

The reason for this is perfectly simple: in a still quite unfriendly computer world, Windows is about the easiest way to make it all come together.

When the new Windows NT ships in July, in Windows we'll have up to 4 different flavours to choose from:

Plain Vanilla Windows 3.1

Windows for Workgroups 3.1

Windows NT 3.1, and

Windows NT 3.1 +

So which of these should we order, and what are their relative strengths and weaknesses?

WINDOWS NT 3.1

This latest output from the Microsoft mill is for 386 and above computers - this because, like IBM's OS/2 2.x, it's a full 32-bit operating system.

Again like IBM's offering, Windows NT (Next Technology) is effectively a DOS and a Windows rolled into one. It is a powerful version of Windows designed especially for particular market niches.

Microsoft did a brilliant job of promoting this product long before it was ready for the retailers' shelf. They did this by what they said, by what they didn't say, and especially by what they led us to believe.

For one thing, Microsoft said NT is for 'the power user'. Don't you love it? What better way to convince the average computer user that this combined Operating System and GUI is a must-have!

But the average user does not need NT. It's aimed at corporate markets and at networking and at grabbing a market share of the next wave to come (soon), of considerably more powerful computers and Operating Systems to handle this power.

This is not to say that the average user cannot decide to become an NT power user. He can.

To do so he'll need to outlay even more dollars than for programs like MS Word and Excel, for all this new power at the fingertips does not come cheap.

He'll a lot of RAM, too - probably 16Mb and - to be realistic - a 486 or Pentium computer.

With NT he'll be able to run all his current application programs, plus the new ones being written to take advantage of a 32-bit operating system written for 32-bit and above computers.

Provided the product does match the hype, he'll certainly have a powerful new platform from which to run all his applications, and a good leg into the way of computing as we move towards 2000.

WINDOWS FOR WORKGROUPS 3.1

Does Mr Average User need to upgrade to Windows For Workgroups then? Again the answer is No - unless he wants to network two or more computers, that is.

WFW is getting a lot of good reviews when considered as the logical extension of using Windows across a number of networked computers.

Even in it's least expensive guise, WFW still costs more than regular Windows; for the money you get a number of extras virtually all aimed at LAN use.

It's strength is the remarkably easy path it gives to those wanting to connect multiple computers - with the right WFW package you get everything you need to set up a network there and then.

The further plus - as for all of the Windows 3.1 range from regular up to the server NT version - what's on the desktop still looks and feels like Windows. It's a BIG plus.

Which is exactly what Microsoft is aiming for. They know that if they get us comfortable with what we presently have, they can continue to extract the dollars from us, over and over as the years go by.

But we gain, too, with ease of use and ease of upgrading, and a computing platform with in-built standards that makes the whole PC world run just that much more smoothly and effectively.

VANILLA WINDOWS 3.1

So we end up back where we started - with Microsoft's award-winning "yes I can take over the PC world, thank you very much" Windows 3.1.

This remains where it's at for most of us. In time, 3.1 will itself be upgraded to 3.2 or 4.0. That will be when it's right to make the change.

For the time being, we neither need, nor should, consider upgrading from our current Windows package.

For this, our pocked-books will be eternally grateful.



DOS 6 is continuing to rampage across the PC world, in the process adding - probably quite unnecessarily - to Bill's \$7.4 billion fortune.

First of all, a couple of hints I thought worth mentioning.

MOVE

The new MOVE utility should have been in DOS for years. Now that they finally did it, be aware that it will blithely overwrite a file of the same name in the destination directory.

That's the same as COPY of course, but it's sure dangerous if you don't realise what could happen.

SETUP /E

Secondly, suppose you installed DOS versions of Anti-Virus, Backup or Undelete. Now you want to add the Windows version.

No problem. With the DOS 6 install disk in the floppy-drive, just add /E after SETUP on the command line, and follow the instructions.

DOUBLESPEACE

Last time I promised recommendations of a good way to use DoubleSpace on your computer.

There are plusses and minuses for having, for example, Drives C and D on your hard-drive, as opposed to one large Drive C. I personally don't like massive directory trees on one drive, so I usually run Drives C, D, E, and F.

On one drive (C) I put things that change every day (like ALL data files), and that's the drive I backup daily.

Drives D and E have large programs on them (I run Windows from D) while F is for morgue files and bits and pieces. For most people, starting with just C, or C and D, would be fine.

In the past, whether you had one big drive C, or some smaller ones, you were stuck with what you had - stuck with a capital S. But DoubleSpace has changed all that.

With it, not only can you now ADD another drive or drives (and later remove them), you can dynamically manipulate the SIZE of each drive according to need.

And that's the plus for the concept of using multiple DS drives. Suppose I have the following compressed partitions on a 210Mb HD:

- Drive C - 50Mb (20Mb left)
- Drive D - 150Mb (10Mb left)
- Drive E - 150Mb (70Mb left)
- Drive F - 50Mb (40Mb left)

So there's a pile left on E, but only 10Mb on D. Trouble is, I really DO want to put Corel Draw on D. Easy fixed. I pinch 30Mb from E and simply add it to D (see below for how this is done). Problem solved!

1 x 2 = 2

SETTING UP SOME DOUBLESPEACE DRIVES

Here's how I set up four compressed drives using DoubleSpace. The real-life details may help some newcomers who are a little hesitant about setting up DS.

I did the job on a computer with a 210Mb hard-drive which had one large Drive C partition in common with most users.

First of all I typed DBLSPACE at the command line. I then let the program go ahead and compress Drive C. It does this rather automatically, and I doubt many users would have any problems.

When the task was completed, I had a drive that DS reported would hold over 400Mb of files! In the process it had made another uncompressed drive of just 2Mb, which it called Drive H (yours could be different).

If you're content with just one compressed drive, then that would be it for you.

Remember, it's easy to add another compressed drive later, - provided you haven't used up all the space, i.e., create the new drive before you start to run out of room.

The drive I'd just compressed had only 21Mb of files on it - and would never hold many - so my next task was to reduce Drive C to a much smaller size.

I again ran DBLSPACE from the command line, and with "C Compressed hard drive" on screen I pressed Enter, then Alt+S to change the size of C.

In the Change Size dialog box I typed 160 to see what the changed sizes would be. It reported 51 on C (compressed) - leaving the full 160 uncompressed on H, of course.

I knew I could adjust this later anyway. Here's the rule. Say you have a 20Mb partition and it's nearly full. You can easily *increase* this (provided there's unused space left on your drive), but obviously you cannot *decrease* it without taking files off.

Back on the main screen I typed Alt+C then C to Create a new drive, then pressed Enter. I highlighted G: (yours may be different), pressed Enter, then highlighted D, because, logically, I wanted D as my next drive.

I highlighted the free space on H and changed it to 110. If you wanted just

drives C and D, this is about where you'd stop.

From there I repeated the dose to create Drive E, then Drive F. When I went to do the latter, I was told that all the memory that was reserved had been used, and that to get more I had to allow the computer to be rebooted.

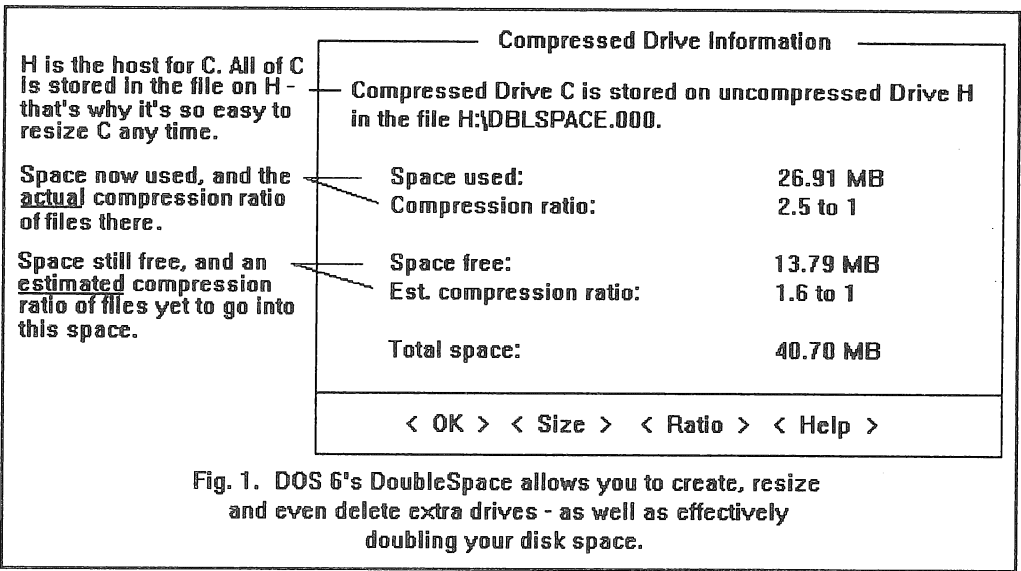
After waiting for SMARTDRV to stop (see SMARTDRV above), I let the computer reboot. I then found that I had to run DBLSPACE again manually (not good enough - this should be automated).

After completing all the drives I wanted, I went back and tidied up their sizes. A glance at Figs. 1 and 2 may help you with this, and also to understand more of how DoubleSpace actually works.

I also chose to change the estimated Ratio back to a conservative 1.6 to 1, rather than what DS wanted to use. As a guide, a drive with a lot of programs managed 1.8 for me, while drive C - mainly data - managed an amazing 2.4 to 1.

WARNING! A serious word: *beware shifting programs from C to D unless you're perfectly sure you know what you're doing.*

Many - probably most - modern programs do not take kindly to a move to another drive. In fact, it's highly likely they will fail. The way to go is to add, say, compressed Drive D, then install *new* programs onto this drive as you get them.



That would run Windows and immediately take you into Backup. But unfortunately it would do this every time you started Windows. A way round this would be to use DOS 6's CHOICE - but I want it totally *automated*.

To do it **ONLY** the first time you run Windows in the day, use DO-ONCE (see *Lindsay's Letter*, March '93). The lines I'd use then could be:

```
do-once set bkp=mwbackup full.set
win %bkp%
set bkp=
```

'Full.set' in the first line is an MWBACKUP Setup File you've prepared which does a Full backup.

DO-ONCE can easily be used to do a full backup on the weekend, and a differential or incremental other days. Just use different Setup Files (see Windows Backup Help) and put them in the command lines above (see Help for this, too), e.g.,

```
do-once set bkp=mwbackup inc.set
```

SOLUTION # 2

But you can automate it **TOTALLY** if you wish, and are into batch-filing. The program to use is called WINBATCH, #8594 available from the Library (or Batch Builder in Norton Desktop for Windows).

I'm currently playing with WINBATCH, having a pile of fun, and expect to write an article on it soon.

With WINBATCH/Batch Builder you can do your very own Windows menus in dialog boxes. You can then program to run various Windows games, for example. Or you can run programs exactly where you want the window and the size you want it to be.

You can run programs automatically, setting all the switches beforehand to ensure it all works. You can write files to do things like changing the wallpaper automatically according to the day of the week.

And much, much more.

This program is an excellent way to do *Windows batch-filing* (it will run DOS programs from Windows, too) and so to regain some control over the Windows environment. It will be great news for some!

\$50,000 FINE!

The Business Software Association of Australia have hit on a new way to stop people illegally copying commercial software.

The fine for the latter can go as high as \$50,000. Now the BSAA are offering \$2,500 to those who report illegal copying - providing a successful prosecution stems from this.

The aim is to stamp out copyright cheating, said to be rife throughout Australia, in business, privately, and also in Government.

Those who illegally copy can save themselves hundreds and hundreds of dollars for each PC; to date the danger from doing this may not have been too great.

However the "dob in a pirate" campaign may well change this. And it may mean that, for some, the PC has just become dearer to buy and run.

4MB TO 8MB OF RAM MEMORY

If you're getting a new computer, and you want to run Windows 3.1, you should consider installing 8Mb RAM (rather than 4Mb) at time of purchase.

New Windows programs are increasingly requiring 8Mb to run with any sort of facility. It will usually cost less to go the whole hog when getting your new system - plus save you the trouble later on.

If you have only 4Mb now, and are considering 8Mb, there are a few things to consider.

Firstly, just in case you're wondering, few main-boards I've seen will allow anything in between 4 and 8. The reason for this is that most boards take 4 SIMMS per RAM bank, and you have to fill a bank for the computer to work successfully.

Thus 4Mb will normally be 4 x 1Mb chips, filling one bank. The good news here is that the empty 2nd bank means you can just purchase the 4 x 1Mb chips to fill the other bank for your 8Mb total.

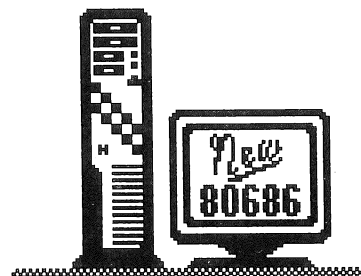
For many of us, it will be another story when we eventually have to upgrade above 8Mb. This time the jump will be from 8 to 16. With both banks full, the bad news is

that we'll have to throw away the 8Mb and start again with 4Mb chips! (won't apply to those fortunate enough to have 4 banks).

So why not anticipate this and do the 8Mb now as 2 x 4Mb chips? Mostly this is not possible, because 2 chips won't fill the bank, right? It's important to check your manual to see the config. of your particular main-board.

If your 4 x 1Mb chips are slower 80ns chips, it's normally okay to get the next 4 as faster 70ns (check with your supplier). Just ensure that you always completely fill any bank with the same speed of chip.

If you choose to do the job yourself, there are various things to watch out for. Don't take risks: RAM is too dear to mess with - as is your computer.



COMPUTER OF THE MONTH

THE 486DX2-66

Recommencing the highly popular Computer of the Month, which looks at a possible computer configuration for those currently in the market looking to buy.

No doubt the popularity of COTM is that it gives buyers a base from which to consider their options, including what they need to do the job, what's currently available, pricing guide for a quality system, and suggested configuration.

CPU - Intel 486DX2-66Mhz

INTERNAL CACHE - 8Kb

EXTERNAL CACHE - 256Kb

LOCAL BUS - 2 x VESA slots

RAM - 8Mb memory fitted

HARD-DRIVE - 260Mb IDE

FLOPPY-DRIVE - 1.2Mb or 1.44Mb

MONITOR - SuperVGA 14" Colour, Non-interlaced, 1024 x 768

MONITOR CARD - Windows Graphic Accelerator, 24-bit, 1Mb, 1280 x 1024, 16.7M colours

PORTS - 2 Serial, 1 Parallel

KEYBOARD - tactile, 101-key enhanced

CASE - Desktop

EXTRAS INCLUDED - MS-DOS 6, User Manuals

PRICING - at least \$3,700 for a decent quality system

FOR - anyone who wants plenty of speed; also CAD users, and the like

OPTIONS - 24-bit VESA Local Bus Graphic Accelerator Card (add about \$100)

- VESA Local Bus controller (add about \$60)

- VESA Local Bus Caching Controller, 512Kb (add about \$300)

- 15" non-glare, flat screen, 1280 x 1024 (add about \$200)

COMMENTS:

1. A system for the computer rev-heads! - it's not a Pentium but it still flies! You will pay a little less for a comparable non-Local Bus system.

2. As a Local Bus system, it will run similar to non-LB. However, Local Bus options of Graphic Accelerator (Monitor) Card, and (IDE) Controller Card, 4 times regular speed, will considerably increase the effective speed of the system.

For top performance, the Caching Controller, 10 times regular speed, will take things even further.

3. 8Mb RAM is the amount to fit today to run New Technology programs.

4. This system will handle all of today's programs and Operating Systems and


would not need to be upgraded for a considerable time. Likewise, resale should be quite reasonable.

Overall, this PC has to be ranked very highly, and is excellent value for money.

Well, that's it for another month. I'll catch you again soon. Have a good one!

~ Lindsay Bates

Ph: (07) 808 9441 after 11am



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The OS/2 Column

Paul Marwick takes a hard look at the competitive position of OS/2

I don't want to start a war, or for that matter, stir up a lot of controversy. However, after reading Geoff Harrod's article on Windows NT in last month's *Significant Bits*, I'm afraid that I can't let some misconceptions go uncommented. Especially since I suspect that I'm probably responsible for at least some of them in the first place...

WPS or no WPS?

Geoff talks about a significant number of people using OS/2 without the graphical interface, as though that was a general preference, or something that is imposed by the operating system. From my extensive contact with people running OS/2, in both production environments and in home use, the vast majority of OS/2 users DO make use of WPS. Only cranks and performance freaks like me don't do so. Even I use WPS in some environments.

Far from this being indicative of a shortcoming in OS/2, it is much more indicative of one of OS/2's greatest strengths - its flexibility in allowing the end user to customise it to suit their own needs.

I've written several times about methods of disabling WPS to reduce system overhead and free up memory and processor resources. However, the applications that I run on my own machine are very timing critical, and I need to maximise resource use wherever possible. I'm also quite at home in a command line environment, and haven't fully adjusted to the GUI way of doing things.

Most people with machines which are basically capable of running OS/2, find the Work Place Shell is more than acceptable as a user interface. The fact that I'm more adapted to a command line interface and as such prefer that type of environment should not be taken as an indication that others share my tastes. From what I've seen, the majority of OS/2 users make use of WPS and are quite happy doing so.

For the vast majority of users, WPS provides one of the most effective working environments available. Its object orien-

tation allows many tasks to be performed much more simply than they can be in any other environment (with the possible exception of the Macintosh environment).

With a little bit of work done in setting up associations and templates, the end user need never worry about where a program is again. Once an OS/2 machine is set up, the end user need never again worry about the nuts and bolts of where a file is located, and what program is needed to access it. At worst, it becomes a matter of finding the right object, then dragging and dropping it on the right icon. It is quite possible to set up an OS/2 machine in such a way that the end user doesn't even know what programs are operating - so far as they're concerned, they simply double-click on the icon representing their data file, and everything else is done for them, quite transparently. With some additions (such as lockable folders), it is quite possible to produce a machine which is effectively usable by a complete computer novice, with no more than basic keyboard skills and the ability to use a mouse. In this way, an OS/2 machine can become the ultimate in menu driven environments, with much reduced needs for training operators and end users. So long as there is an administrator to set the system up, a novice can then begin to make productive use of it in record time, and with much less trauma than is associated with almost any other computer operating system.

Advantages of the common user interface

The use of a common user interface is an added attraction for this type of use. I can remember (all too clearly) the effort needed to learn how to use a number of different computer programs (the one which springs to mind is WordPerfect, which has one of the least intuitive interfaces around, but there are a number of other, similar instances I could name...). The fact that the majority of OS/2 Presentation Manager packages use essentially the same set of operational menus and share a very similar user interface makes the job of training

a novice user a great deal simpler (not to mention making the life of that novice user a great deal simpler as well).

OS/2 vs DOS vs Windows NT

Geoff also makes references to IBM targeting OS/2 as a competitor to DOS/Windows or Windows NT.

I can't say that I've ever seen anything to indicate that they are doing, or have ever done any such thing. OS/2 is more than capable of standing on its own merits, and does not need to be looked on as a competitor to NT. Indeed, I'd say that trying to position it as a competitor to NT is doing OS/2 a singular disservice. NT has a number of strengths (well, it would be more correct to say that MicroSoft claims that NT will have a number of strengths - the beta versions that I've seen don't possess very many of those strengths, but MAYBE the final release version will...), but it also possesses a number of very significant weaknesses. It has not even attempted to provide the backward compatibility that OS/2 provides, and it will be entirely dependant on developers coming out with NT specific versions of their products, where OS/2 will happily work with existing products, allowing the poor end user the chance to migrate their applications gradually, rather than having to suddenly find a great deal of money to move their applications to a new platform.

In one sense, I almost wish that IBM had not taken so much care to provide backward compatibility. It has become far too easy for developers, when asked about OS/2 versions of their products to say "oh, our DOS (Windows) software works fine under OS/2, so we're not going to bother developing an OS/2 version". While this may be quite true, it doesn't really help the end user (or the developer for that matter), since the DOS or Windows version will not be able to take full advantage of the strengths of OS/2, which means that the end user is very likely to go looking for a less hide-bound developer who is prepared to put the effort into developing true native OS/2 applications, which can take full advantage of the strengths of an excellent operating system.

As to OS/2 being a competitor for DOS/Windows, that one is laughable. OS/2 is far more than just a competitor. Preemptive multitasking, plus the ability to handle tasks from a DOS environment, a Windows environment and its own native

environment clearly make it far more than any DOS/Windows combination.

The changing positioning of Windows NT

I notice that MicroSoft have gradually changed the emphasis of NT. Where it was originally touted as the answer for the desktop of the future, now it is being aimed much more at the server market, and at top end desktop systems.

The emphasis on the server market makes no sense whatever to me. I disable as much of the graphic interface of OS/2 as I can. I do this for performance reasons, since doing so allows me to put a bit more of the power of my machine into useful work, rather than into driving graphics for which I have little or no use. It seems to me to be completely nonsensical to design a network server which uses a CPU and disk hungry graphical interface. A server is there for one reason, and one reason only - to provide the maximum resources to the network. Why on earth would you want a fancy graphical interface to such a device? Why waste resources that could be better used to maintain the network? To me, using a graphical interface to something of that sort is a significant waste of resource that could easily be put to better use in maximising network performance. Oh well....

At present, it's not possible to completely disable the graphics environment of OS/2. At least, not if you want to multitask. There is some possibility that a text-based task switcher may become available. If it does, it seems to me that it would be perfect for use in an OS/2 server, since it will allow maximum resource utilisation for the network, without having to use resources to drive a graphical interface which should have very little function on a server at the best of times.

As to NT's use in top-end desktop systems, that one puzzles me a great deal as well. I can't really see the advantage, especially given the very limited backward compatibility that NT currently possesses. To make use of NT on that type of machine, not only would I have to be prepared to invest a great deal in hardware (since NT's requirements are significantly higher than the requirements of OS/2), but I will also have to be prepared to make a large investment in software to replace the majority of my applications, where with OS/2, I can make that investment

over time as the need arises.

Geoff also talks about users and developers waiting ("sweating on" are the words he used) for the arrival of NT. I can't say that I've seen that at all. I do contract work for a number of firms involved in engineering work, and involved in extremely powerful CAD applications. None of them are "sweating on" the release of NT. A few of them are vaguely interested in NT, but little more than that.

Workstation operating systems

Given the recent reductions in prices for machines which fit squarely into the workstation market, most of them are moving away from PC based machinery, and investing in Unix boxes such as Sun or Silicon Graphics. These types of systems offer all that NT offers, but they offer it NOW, and with a mature software base which can be put to immediate productive use. The PC CAD package Microstation provides a good example of this - it was developed originally on VAX hardware, and is now available on PC, VAX and workstation platforms. There are a number of organisations which use all three platforms to cover their needs. I don't see them worrying much about when NT is going to be released... There are a number of similar packages and situations. In all of the ones I've encountered, the move is towards Unix and the workstation for the top end users, not waiting for NT to arrive.

I'd like to think that I have an open mind where NT is concerned. Obviously, I'm more than a little biased in favour of OS/2. However, I've never been all that good at waiting for things. I'd far rather have something that I can make use of NOW than wait around for something that I'm told will do marvelous things for me when it comes out. Especially when that wait is ex-

tended, over and over again...

I'll most likely try NT when it finally arrives, and I may well find that it is every bit as wonderful as MicroSoft has been telling me it is. However, I remember all too clearly how often MicroSoft has failed to live up to their promises, either in terms of performance, or in terms of delivery dates. At the moment, I'm at a loss to understand why there are so many people prepared to take MicroSoft's word that NT is going to be the perfect answer to their computing needs. I think its best summed up in the words of an advertisement that has been appearing in the US press for a while - "NT - Not There".

Meanwhile ...

In the meantime, OS/2 provides me with most of the things I need RIGHT NOW. It provides a stable, multi-tasking environment, a reasonable (though as yet limited) software base, and the ability to run existing applications where I have to. I've never been much on pie-in-the-sky, and, at present, Windows NT bears far too much of a resemblance to pie-in-the-sky for my tastes....

○

BBS News

For July

In the very near future, a new version of the Maximus BBS software will be appearing on the systems (it may well have been installed before you read this, at least on lines 3 and 4).

The new version offers a number of extensions to existing capabilities, including new file transfer protocols, more flexible control over QWK mail packing, and a number of other new features.

However, it should be noted that this is a beta test product. As such, it may well have some problems (especially since it is a considerable development from the current version of the software).

If anyone experiences problems, please leave me a message with as much information in it as possible as to the circumstances and appearance of the problem - that gives the best chance of bugs being tracked down and fixed.

Hopefully, the new version will offer a great deal of enhancement to the existing service.

NEW ADDITIONS to the Catalog

BBUG 9029 QUICK FORMS Version 2.1

*CLASSIFICATION * Business Forms * Hard Disk * Printer*

QUICK FORMS is an easy to use, comprehensive program, that will have you designing your own Professional Quality forms very quickly. QUICK FORMS allows you to move, copy, erase and draw lines and has an automatic grid maker.

Full access to the IBM extended character set allows you to create master forms and fill them in. You can also print on pre-printed forms and make templates for later use. Forms up to 63 rows by 136 columns can be produced. A date and time stamp is also included.

Easy to use 'context sensitive' help screens are provided and QUICK FORMS supports dot-matrix and HP Laser printers. You can print bold, italic, underline, condensed, double width, double height and much more.

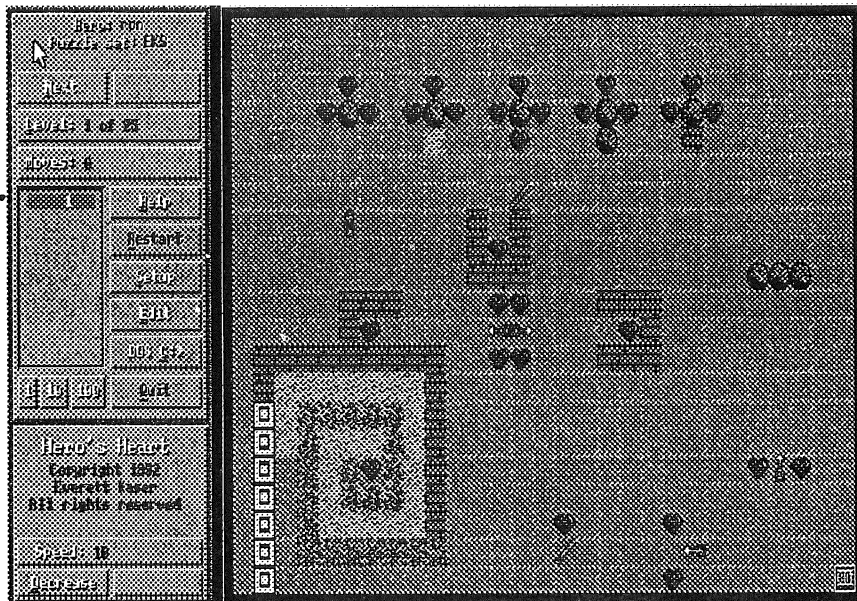
To make using QUICK FORMS even easier, there are Lessons that you can load in, and then following the instructions on screen, you will get 'hands on' experience using some of the functions of QUICK FORMS.

BBUG 9030 SAVINGS ACCOUNT MANAGEMENT Version 1.0

*CLASSIFICATION * Accounting * L/Floppy/ Hard disk * Printer*

The SAVINGS ACCOUNT MANAGEMENT Program manages your savings account. It's primary functions are: Enter information on transactions, Figure and display the current balance, correct any information on transactions, Delete transactions, and Generate reports. Transactions include deposits, withdrawals, autoteller transactions, interest and bank charges.

Reports generated include: Transaction Register - listing all transactions within specified dates. Regular Withdrawals Only - listing all withdrawals within specified dates. Deposits Only - listing all deposits within specified dates. Automatic Teller Transactions - listing all automatic teller deposits or withdrawals within specified dates. List All Budget Categories. Transactions in a Category - listing all transactions with the same, specified, budget category within specified dates. Transactions



Hero's heart is a game of deduction and strategy, played over 25 levels and with a built-in editor to allow you to produce new puzzles

in Category/All Categories - listing all transactions with same budget category within specified dates. Each budget category begins a new page. Annual Expenditure Report - Table of expenses totaled by month and budget category, with totals for each month and category. Annual Income Report - Table of deposits totaled by month and budget category, with totals for each month and category. Summary Report - Summary of total amount deposited and withdrawn from the account by month, for a year.

Up to fifty (50) budget categories can be maintained for reports. Categories are not defined in advance, but are added to the list as they are entered on transactions.

BBUG 9031 BUSINESS PLAN MASTER Version 2.1

*CLASSIFICATION * Business * WP51/LOTUS/ASEASYAS * Hard Disk * Printer*

BUSINESSPLANMASTER gives you a structured framework for developing your own professional business plan. Jump start your thinking!

Most of the work has already been done for you. Using WP51, LOTUS 123 or even ASEASYAS you can fill in the blanks or edit the text you want from these formatted templates. Enter your projections and the

spreadsheets generate full financial reports and analysis (income statements, balance sheets, cash flow, ratios, etc.).

You can save days of work and have a comprehensive business plan to show your business or company's growth!

BBUG 9032 HERO'S HEART Version 1.1

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

Hero's Heart is a puzzle game requiring careful, logical thinking. High resolution color graphics provide a friendly user interface and a large playfield upon which many different types of objects are carefully arranged. You control the movement of the Hero. Each time you move the Hero, all of the other "objects" on the playfield get a chance to move; some will, some won't.

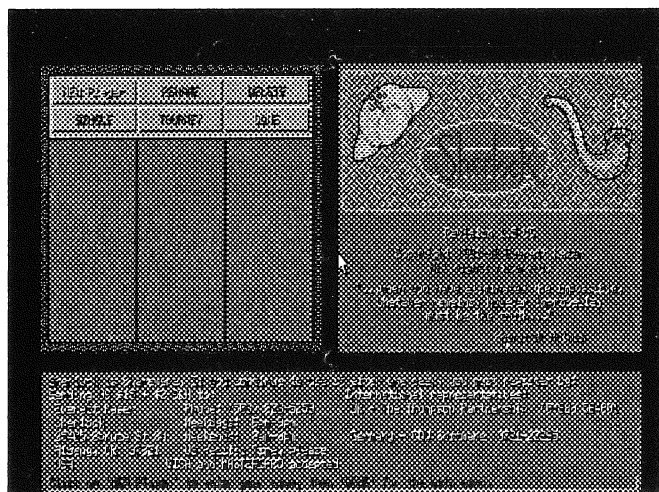
Your goal is to pick up all of the Hearts and then reach the Exit. Each level is a stand-alone puzzle. There are 25 different levels in the game, and an editor is built into the program for you to create new puzzles with which to challenge family and friends. Quick reflexes are not needed (nor will they do you any good). A sharp mind, however, and the ability to see relationships and causes & effects WILL help.

BBUG 9033 SHERLOCK
Version 1.50

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

SHERLOCK is a game of deduction. It is your task, based upon the information available in provided clues, to determine the locations of 36 blocks. Every puzzle can be solved by using the clues to eliminate possibilities until the location of a specific block can be determined.

SHERLOCK may be played by a SINGLE person, or a TOURNAMENT may be set up, with each person in the TOURNAMENT attempting to solve the same puzzle as quickly as possible. A TIME LIMIT may be set if desired.



Sherlock provides clues to the whereabouts of 36 missing blocks. Can be played by one or many players

BBUG 9034 FIXED ASSET
PRO Version 1.0 (Disk 1 of 2, also 9035)
BBUG 9035 FIXED ASSET PRO
Version 1.0 (Disk 2 of 2, also 9034)

*CLASSIFICATION * Business * Hard Disk * Printer*

Who can use FIXED ASSET PRO? This program will prove invaluable for small, medium and large businesses that must track equipment both for tax and financial purposes. The program also will be effective for Accountants and Bookkeepers that have many different clients that must track equipment records.

FIXED ASSET PRO is a comprehensive fixed asset management system. Simplified operation is a keynote and by using pull down menus the program calculates depreciation on multiple bases, applies tax limits, performs projections and comparisons. The results can be either displayed on the screen, or sent to a file or printed out by your printer.

Fixed asset management can be a complex task considering all the information that you must maintain for one asset and all the tax complications you must address. Whilst the program is designed for US conditions, significant proportions can apply to Australian conditions to make the program worthwhile.

BBUG 9036 CHARGE
ACCOUNT MANAGEMENT
Version 1.11

*CLASSIFICATION * Home Finances/Charge Accounts * Floppy/Hard Disk*

The CHARGE ACCOUNT MANAGEMENT Program is a full-featured charge card manager. It's primary functions are: enter information on transactions, figure and display the current balances, correct any information on transactions, delete transactions, and generate reports. Transactions include charges, payments, credits, and interest.

Reports generated include: Listing all Transactions, Charges, Credits, Payments, Interest and Budget categories between dates. Also it will also list all transactions between dates for a specific budget category, list all transactions between

dates for all budget categories, list all charge account names currently in use.

The CHARGE ACCOUNT MANAGEMENT Program will produce; an Annual Expenditure Report - Table of expenses totaled by month and budget category, with totals for each month and category; a Summary Report - Summary of total charges, payments, and interest for set of accounts by month, for a year, and a Current Status Report - summary of total charges, payments, interest, and current balance for all current accounts.

Reports can be generated for a single account or for combined accounts.

Up to fifty (50) budget categories can be maintained for reports. Categories are not defined in advance, but are added to the list as they are entered on transactions.

Up to fifty (50) accounts can be maintained for reports. Account names are not defined in advance, but are added to the list as they are entered on transactions.

BBUG 9037 CHECKBOOK
MANAGEMENT Version 5.03

*CLASSIFICATION * Accounting * Hard/Floppy Disk * Printer*

The CHECKBOOK MANAGEMENT Program is a full-featured checkbook manager. It is essentially a checkbook register with the following capabilities:

1. Create all the data files needed.
2. Enter all forms of checking account transactions, including: Numbered checks, Deposits, Automatic Teller withdrawals, Automatic Teller deposits, Bank charges, Interest for NOW accounts.
3. Correct any portion of any of the above transactions.
4. Reconcile a bank statement, clear transactions, find any errors that may show up as a result, and print a list of the transactions just cleared.
5. Delete transactions. Transactions may be either deleted singly (for example, a voided check) or as a group (all transactions before a given date).

Reports that can be generated by this program are: Check Register, deposits, list of Automatic Teller deposits and withdrawals, list of all bank transactions as well as uncleared transactions, an annual expenditure report as well as many other reports.

Up to 50 budget categories allowed.

BBUG 9038 DIMANAGE
Version 3.0

*CLASSIFICATION * Business * Hard Disk * Printer*

DIMANAGE is a rental property management software system designed to run on IBM compatible computers. Although it was designed for use with residential property, it should be adequate for management of commercial properties as well. There are very few limitations in DIMANAGE. You may use it to manage as many properties, with as many units, as your hard disk and your patience will tolerate.

The system was designed to make property management record keeping as simple as possible. You can post rent with as little as five keystrokes, use a popup list to see who owes rent, automatically update rent due, measure your progress and prepare tax information with eight different reports — all without having to worry about an accounting system!

DIMANAGE is based on the idea that property owners and managers want to manage property, not do accounting. The philosophy of DIMANAGE is that a property manager would prefer to have an easy way to prepare data for an accountant and not have to worry about the boredom, drudgery and frustration of journal entries, trial balances, etc. Most often, the document sought from an accountant will be a tax return, and the system is designed to provide a quick and easy way to get informa-

tion organized for the accountant to use, while still allowing the property manager to work with data quickly and to see the information presented in a useful way. Accordingly, there is no need to design or maintain a chart of accounts, or to maintain journals, ledgers, etc. Moreover, the data files are compatible with dBASE III. This means that the user may easily design special reports if desired, import data to spreadsheets, or conduct special analysis using dBASE III or other compatible software.

The program uses series of menus and pop-up windows, so that the user need only press a few keys to complete a specific function. In this manner, for example, an ordinary rent receipt for a tenant can be recorded with only five to seven keystrokes.

**BBUG 9039 FUND
RAISER'S ASSISTANT Version
3.0 (Disk 1 of 2,also 9040)
BBUG 9040 FUND RAISER'S
ASSISTANT Version 3.0 (Disk 2 of
2,also 9039)**

*CLASSIFICATION * Business * Hard Disk *
Printer * 386 Computer recommended*

The FUND RAISER'S ASSISTANT is a vertical market database system designed specifically for fund raisers that makes it easy to record and access financial, demographic and proprietary information. Contributions are entered along with the campaign "activity" which raised the money. The fund-raiser can see how much money was raised by each activity and who gave how much. Groups of people can be selected and targeted using a wide variety of criteria. Individual contribution histories are easily looked up and displayed on the screen. Targeted mailings can be prepared and management reports are available.

The program includes 2 automated demos, a tutorial and an 80 page manual on disk. Emphasising the ease of use will be of most interest to people using home-brew systems written in dBase, Foxbase or Paradox or who have become frustrated with the cryptic nature of their high powered system.

However, it has been used by very sophisticated fund-raisers who used it for its power. It is written and compiled in Clipper 5.0 and the files are dBase 3 compatible.

The FUND RAISER'S ASSISTANT has been helping fund-raisers cultivate donors and increase contributions since 1986. Although the FUND RAISER'S ASSISTANT started out as a package for political fund-raising, non political fund-raisers and other campaign workers started using it because of it's easy to use structure and powerful list management, selection and reporting capabilities. Many of them have made useful suggestions which have been incorporated into this latest version.

DOCUMENTATION MADE EASY

(or "HOW TO DOCUMENT AN APPLICATION WITHOUT
REALLY TRYING")

by Philip Hurley

Chapter 1 OVERVIEW: This chapter contains useless information which you already know because you bought the product. It details how this product is better than everyone else's.

Chapter 2 INTRODUCTION: This chapter gives you just enough information to get you in trouble. The commands are explained with such brevity that it is impossible to execute them successfully much less understand them.

Chapter 3 UTILITIES: This is the chapter which probably should have been an introduction. Complexity is such that if you dig very deep and add what little you gleaned from the first two chapters, you may begin to understand how to exit the application. Just enough information was scattered in the first two chapters to make it impossible to skip them and start with this one.

Chapter 4 EXTENDED FEATURES: Now we're getting somewhere. This is the most useful and therefore longest chapter in the whole book. It contains everything you really need to know with the exception of the details on how to exit/quit/abort which was in the first three chapters.

APPENDICES (or THE REAL MANUAL)

Appendix A ERROR MESSAGES: Deciphered form of the encrypted messages you see on the screen. This does not however imply that these explanations are any more understandable than the encrypted messages you see on the screen.

Appendix B TECHNICAL NOTES: Always precede this chapter with the following note: (NOTE: THIS INFORMATION ONLY INTENDED FOR A PROGRAMMER, I.E., HACKER. IF YOU READ THIS MATERIAL YOU WILL BE BORED TO TEARS AND MAY EVEN SCREW UP THE APPLICATION. WE WILL BE UNABLE TO HELP YOU IF YOU DO THIS.)

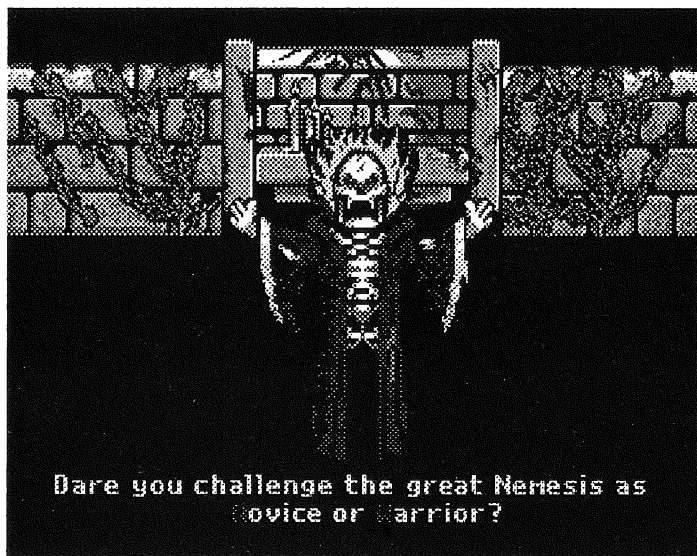
Appendix C SUGGESTIONS AND TIPS: This is filled with all the useful commands and hints which you already know by having dug them out of chapters 1-4. When the writers of this documentation tried to use this manual, they put what they learned in this appendix.

Appendix D DIFFERENCES BETWEEN THIS VERSION AND THE LAST VERSION: Boring, nitpicky changes which you already know about—that's why you're using this version and not the old one.

Appendix E USING THIS APPLICATION WITH OTHER WELL KNOWN APPLICATIONS: Impossible claims of compatibility with highly sophisticated and very popular expensive word processors, spreadsheets, databases, etc. This chapter also contains disclaimers about this application and that application running on your particular computer.

Appendix F INSTALLATION: What you should have read from the very beginning.

Appendix G GLOSSARY: The reason we bought an expensive, well-known third party product for word processing which generates this nifty, keen glossary.



Catacombs Abyss (#9074), is a fantasy adventure game set in the caverns inhabited by all manner of weird beings

BBUG 9041 TALKING TEACHER Version 1.3 (Disk 1 of 2, also 9042) BBUG 9042 TALKING TEACHER Version 1.3 (Disk 2 of 2, also 9041)

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

Imagine having the computer talk to your children with your own voice and use your voice to teach your children (age 1-17) how to pronounce words, the abc song, the alphabet, how to find letters on the keyboard, how to spell words, reading, writing, counting, learning phone numbers, addition, subtraction and much much more. Also, imagine having the computer teach and test your child on their weekly spelling words.

Through the miracle of TALKING TEACHER for SOUND BOARDS you can now customize this revolutionary educational package to match your children's learning needs. You can change the spelling words to match your child's weekly spelling words. Lead your child into the next century with this package.

The object of TALKING TEACHER is to TALK TO YOUR CHILD, to help them learn how to talk, read, learn the alphabet, spell and interact with a computer. For children ages 1-3 TALKING TEACHER will teach your child to say the EARLY WORDS (HI, BYE, MAMA, DADA, PLEASE, THANK YOU DRINK, etc.) and how to interact with a computer. For children ages 3-5 TALKING TEACHER will teach them to say and understand the alphabet, how to recognize letters in words and how to use the keyboard. For children age 5-17 TALKING TEACHER will teach them how to spell basic words. Also included in this package is the ABC SONG and EASY DRAW for your child's CREATIVITY. Your child will love the stunning graphics in this package.

TALKING TEACHER was designed to be an INTERACTIVE and CREATIVE. This is not a standard type of educational program. This program was created with the concept of having the computer TALK TO YOUR CHILD to teach him/her the basics of talking, learn the alphabet, spelling and how to use a computer. Lead your child into the next century with this revolutionary new package.

BBUG 9043 PC PROOF Version 1.5

*CLASSIFICATION * Educational * Hard Disk * Mouse*

PC-PROOF is a commercial quality grammar checker that can detect many subtle and complex errors such as dropped words, extra words, or words which have been misspelled into another word. These are embarrassing errors that the other grammar checkers miss. It can also detect many other grammar errors including subject/verb agreement, missing articles, commonly confused words, double negatives, and passive voice.

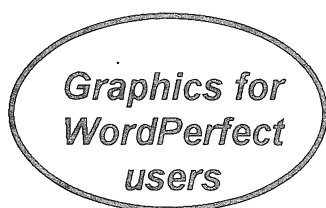
PC-PROOF is compatible with WordPerfect, Word, Works, WinWord, ProWrite, PC-Write, WordStar and other word processors. Full mouse support is provided for the windows-like interface. If you've been waiting for a program that can actually check your grammar (instead of just your style), PC-PROOF is the grammar checker for you. This ain't no style or readability checker, PC-PROOF knows English!

This is the grammar checker you've been waiting for.

BBUG 9044 CLYDE'S ADVENTURE Version 2.0

*CLASSIFICATION * Games * L/Floppy/Hard
Disk * EGA/VGA * Sound Card*

CLYDE'S ADVENTURE - Help Clyde on his quest for lost treasure through 16 deadly castles. Game play features four way smooth scrolling, animation, traps, puzzles, twists and hilarious surprises at every turn. Challenging and amazingly addictive! This game requires EGA/VGA graphics and a 286 processor or better. Supports the Adlib music card. Digitized voices and sound effects for SoundBlaster — don't miss this game!



BBUG 9045 WORDPERFECT GRAPHICS FILES NO #1

*CLASSIFICATION * Graphics * Hard Disk *
WordPerfect 5.0/5.1*

Disk #1 of a collection of Animal Graphics suitable for use with WordPerfect.

This disk contains: Alligator, Beaver, Bumblebee, Cardinal, Cat, Cow, Dinosaurs, Dog, Dolphins, Dove, Ducks, Elephants, Falcon, Fishes, Frog, Gazelle, Giraffe, Gorilla, Hen, Heron, Horse, Horsefly, Leopard and Moose

BBUG 9046 WORDPERFECT GRAPHICS FILES NO #2

*CLASSIFICATION * Graphics * Hard Disk *
WordPerfect 5.0/5.1*

Disk #2 of a collection of Animal Graphics suitable for use with WordPerfect.

This disk contains: Mosquito, Owl, Pelican, Penguin, Pigeon, PolarBear, Rabbit, Red Fox, Rhono's, Rooster, Seahorse, Skunk, Snail, Sparrows, Stag, Swan, Swordfish, Tigers, Toucan, Turtle, Wasp, Worm, Zebra.

BBUG 9047 WORDPERFECT GRAPHICS FILES NO #3

*CLASSIFICATION * Graphics * Hard Disk *
WordPerfect 5.0/5.1*

Disk #3 is a collection of Grocery Graphics suitable for use with WordPerfect.

This disk contains: Banana, Bleach, Bologna,

Bottle, Bread, Cabbage, Cans, Cheese, Cherry, Cones, Corn, Cornstalks, Dish Soap, Drumstick, Eggs, Grapes, Hotdogs, Lunchbox, Milk, Mouthwash, Mushroom, Onion, Peanut, Pear, Picnic, Roll, Sausage, Sundae, Turkey, Wheat.

BBUG 9048 WORDPERFECT GRAPHICS FILES NO #4

*CLASSIFICATION * Graphics * Hard Disk *
WordPerfect 5.0/5.1*

Disk #4 is a collection of hand sign Graphics suitable for use with WordPerfect.

This disk contains: Armwrestling, Fingerpointing, Fist, HandDown, HandShake, Pointing Hands, Thumbs up, Writing and others.

BBUG 9049 WORDPERFECT GRAPHICS FILES NO #5

*CLASSIFICATION * Graphics * Hard Disk *
WordPerfect 5.0/5.1*

Disk #5 is a collection of Graphics suitable for use with WordPerfect.

This disk contains: Adventure Graphics, Airplane, And, Announce, Applause, April, Arrows, August, Award, Badnews, Barbara, Beach, Bells, Blowfly, Big Swing, Book, Border, Briefcase, Calculator, Camel, Canes, Cat, Champagne, Cheque, Coatroom, Confidential, December, Desktop, Donald, Drafting, February, Flag, Floppy Disk, George Washington, Film, Goodnews, Hand, Home Bar-B-Que, High Kick, Hoagie, Hotstuff, Houreglass.

BBUG 9050 WORDPERFECT GRAPHICS FILES NO #6

*CLASSIFICATION * Graphics * Hard Disk *
WordPerfect 5.0/5.1*

Disk #6 is a collection of Graphics suitable for use with WordPerfect.

This disk contains: January, July, June, Key, Learning, Leaves, Map Symbol, March, May, Mickey and Minney, Moving Van, Navigate, Newspaper, New York, No1, No Smoking, November, October, Openhouse, Pandas, PC, Pegasus, Pen and Ink, Pencil, Phone, Pointsettia, Pointer, Present, Quill, Quote, Reindeer, Reunion, Report Card, Santa.

BBUG 9051 WORDPERFECT GRAPHICS FILES NO #7

*CLASSIFICATION * Graphics * Hard Disk *
WordPerfect 5.0/5.1*

Disk #7 is a collection of Graphics suitable for

use with WordPerfect.

This disk contains: Santa, Schools, September, Skates, Sleigh, Snowman, Thinker, Tree, USA, USA Map, Wreath, Window.

BBUG 9052 WORDPERFECT GRAPHICS FILES NO #8

*CLASSIFICATION * Graphics * Hard Disk *
WordPerfect 5.0/5.1*

Disk #8 is a collection of Tools and American Presidents Graphics suitable for use with WordPerfect.

This disk contains: Presidents: Adams, Bush, Carter, Ford, Jefferson, Madison, Regan, Washington.

Tools: Anvil, Board, Can, Clamp, Circular Saw, Cord, Hammers, Hand Saw, Nail, Oil Can, Plane, Pail, Paint Brush, Paper, Pick, Pliers, Saws, Scissors, Screwdrivers, Shovel, Sledge Hammer, Spark Plug, Staple Gun, Tacks, Trowel, Wrenches.

BBUG 9053 WORDPERFECT GRAPHICS FILES NO #9

*CLASSIFICATION * Graphics * Hard Disk *
WordPerfect 5.0/5.1*

Disk #9 is a collection of Places and other Graphics suitable for use with WordPerfect.

This disk contains: Alamo, Arch, Barn, Beach, Belgium, Buildings, Boston, Bridges, Bus, Castle, Chapel, Chicago, Church.

BBUG 9054 WORDPERFECT GRAPHICS FILES NO #10

*CLASSIFICATION * Graphics * Hard Disk *
WordPerfect 5.0/5.1*

Disk #10 is a collection of Places and other Graphics suitable for use with WordPerfect.

This disk contains: Cities, Dallas, Desert, Earth, Eiffel Tower, England, Farm, Farm House, France, Houses, Island, Indehal, JFest.

BBUG 9055 WORDPERFECT GRAPHICS FILES NO #11

*CLASSIFICATION * Graphics * Hard Disk *
WordPerfect 5.0/5.1*

Disk #11 is a collection of Places and other Graphics suitable for use with WordPerfect.

This disk contains: Jefferson Memorial, Las Angeles, Library, Light House, Lincoln Memorial, London, New York, Paris, River, SanFrancisco, Sea, Skyscrapers, Stone Henge,

Store Front, Stream, Sunset, Winter, Windsurfing.

BBUG 9056 WORDPERFECT GRAPHICS FILES NO #12

*CLASSIFICATION * Graphics * Hard Disk * WordPerfect 5.0/5.1*

Disk #12 is a collection of Places and other Graphics suitable for use with WordPerfect.

This disk contains: Alps, Austria, Bagpipes, Boat, Castles, Cathedral, Courtyard, Denmark, Gatehouse.

BBUG 9057 WORDPERFECT GRAPHICS FILES NO #13

*CLASSIFICATION * Graphics * Hard Disk * WordPerfect 5.0/5.1*

Disk #13 is a collection of Places and other Graphics suitable for use with WordPerfect.

This disk contains: Gaurds, German Buildings, German Church, Germany, German Eagle, German Hat, Greece, Hills and Cows, Ireland, Italian River, Italy, Lipzner.

BBUG 9058 WORDPERFECT GRAPHICS FILES NO #14

*CLASSIFICATION * Graphics * Hard Disk * WordPerfect 5.0/5.1*

Disk #14 is a collection of Places and other Graphics suitable for use with WordPerfect.

This disk contains: Luxembourg, Netherlands, Netherlands House, Palace, Pompeii, Portugal, Ruins, Scandanavia, Ship, Spain, Spanish Arch, Spanish Fan, Spanish Horse.

BBUG 9059 WORDPERFECT GRAPHICS FILES NO #15

*CLASSIFICATION * Graphics * Hard Disk * WordPerfect 5.0/5.1*

Disk #15 is a collection of Places and other Graphics suitable for use with WordPerfect.

This disk contains: Spanish Plaza, Swiss Alps, Switzerland, Tower, Tower of Pisa, Windmills, William Tell.

BBUG 9060 BOOKBILD Version 1.0

*CLASSIFICATION * WP Macros * WP5.1 * Hard Disk*

BOOKBILD is a macro package that converts a formatted two-across booklet into a camera

ready document, with all the pages printable in the correct sequence for printing. Any two-across format can be used, in either portrait or landscape mode. Pages are rearranged into the order needed to create camera-ready copy for bulk printing. The instruction manual steps users through the conversion process.

Also included in the package are a series of BOOKBATS graphics for marking the ends of chapters.

BBUG 9061 GRAPHCAT Version 2.1

*CLASSIFICATION * WP Macros * WP5.1 * Hard Disk*

GRAPHCAT is a package of WordPerfect macros that reads any disk or directory, and creates a pictorial listing of all the graphics found. New in version 2.1: DOS Wild Cards are now available when choosing a file extension to inventory. Along with the macro are a selection of Wood Clips graphics samples of woodcut engravings, useful for learning to use GRAPHCAT, or for desktop publishing. (An additional disk of Wood Clips graphics are sent to all registered users.)

Also included in the package are the INDEX, INDEX5, and INDX4DOS macros, which can read any file directory, and convert the directory listing into a comma-delimited mail-merge file for use by PC-File, or most other database programs.

BBUG 9062 THE LETTERHEAD KIT Version 2.0

*CLASSIFICATION * WordProcessing * WP51 (Dos Version) * Hard Disk*

THE LETTERHEAD KIT is a package of WordPerfect macros, graphics, and forms that can retrieve a letterhead form, combine it with a fax cover sheet or an invoice, and can create enlarged print on nearly ANY printer. Several sample letterheads are included to use as templates.

Also included are thirty graphical business messages to print on any document, such as "Confidential," or "Next Day Air," or "Your payment will be greatly appreciated," and three macros retrieve the images automatically.

LETTERHEAD

KIT files may be shared with the Windows version. Installation is easy, and there are twenty additional graphic messages.

BBUG 9063 THE LETTERHEAD KIT Version 2.0

*CLASSIFICATION * WordProcessing * WP51 (Windows Version) * Hard Disk*

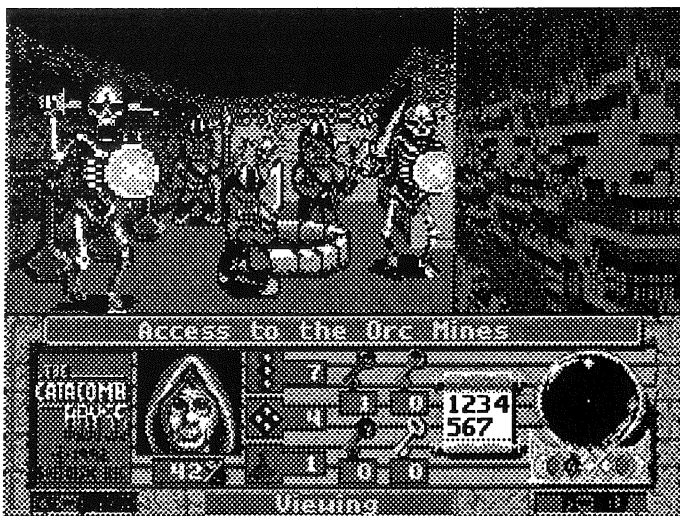
THE LETTERHEAD KIT is a macro package for WordPerfect 5.1, WINDOWS version. The April 92 release, or newer, of WP/WIN is required. It can retrieve a letterhead, fax cover sheet or an invoice.

Also included are thirty graphical business messages to print on any document, such as "Confidential," or "Next Day Air," and three macros retrieve the images automatically. A button bar and a help macro assist in usage and setup. Graphics and letterheads may be shared with the DOS version of the Letterhead Kit.

BBUG 9064 ZONE 66 (Disk 1 of 3, also 9065, 9066) BBUG 9065 ZONE 66 (Disk 2 of 3, also 9064, 9066) BBUG 9066 ZONE 66 (Disk 3 of 3, also 9064, 9065)

*CLASSIFICATION * Games * Hard Disk * VGA * 386 or better*

You have landed in a clearing. Frantically, you rush through the woods toward the lights of the city far off in the distance. A vision of your family dances in your head — your wife and the newborn daughter you have not yet seen. You must save them. As you finally scramble to a bluff panoramically overlooking the city, you see the lights in the sky and you realize it is too late. The flash nearly blinds you, and when vision returns, you feel nothing but anger as the massive mushroom cloud looms



Beware the inhabitants of the catacombs - GAME OF THE MONTH - includes sound card support

over the city. You are too late to save your home, but other cities remain, and they are vulnerable. It is up to you alone to unravel the plot and hold back the enemy attackers.

ZONE 66 is an ultra high-tech 32-bit arcade game for 386 and faster computers. You pilot your fighter jet through a huge 360-degree scrolling playfield that's jam-packed with 256-color enemies and terrain. Inflict massive damage on the enemy bunkers, artillery, and industrial sites, leaving craters and devastated earth in your wake.

Featuring a state-of-the-art digital sound track for the Sound Blaster and Gravis Ultrasound cards.

Note: You must have a 386 or better to run this program, and the system cannot be under the control of a protected mode program! You must have 640k total low memory to run this program, and have at least 512k of extended memory free. This program can not run with an XMS driver!

BBUG 9067 PHYLOX

*CLASSIFICATION * Games * Hard Disk * VGA*

As your crippled space ship heads for the barren planet of PHYLOX, you safely eject and land on the surface only to find that the surface is unstable and you sink into the caverns below. Your trusty space suit is equipped with steerable jets and your laser gun is fully charged.

Armed with your laser gun and a small supply of grenades you proceed to explore the underworld caverns in search of the guardians.

This version of the game PHYLOX is limited to only two levels. The registered version provides you with all the levels with full Sound Blaster support. It is a true shoot-em-up featuring 256 colour graphics (Real ones!) and some of the best animated characters you have ever seen.

It is a blast from the past with a 90's feel about it. Play it with the lights out to get the most out of it.

*For the Ham
radio enthusiast*

BBUG 9068 GRAPHIC PACKET Version 1.01

(Disk 1 of 2, also 9069)

**BBUG 9069 GRAPHIC PACKET
Version 1.01 (Disk 2 of 2, also 9068)**

*CLASSIFICATION * Communications * Amateur Radio * Hard Disk * EGA/VGA*

GRAPHIC PACKET (GP) is a terminal program for Amateur Radio using the host-mode

of the WA8DED software or firmware. Any other TNC-software can be used too, providing it supports the KISS mode. In this case however you will need the program TFPCR by DL1MEN. You can even dispense with a TNC altogether, if you have "TFPCX" by Y51GE and a suitable modem. GP differs from other terminal emulators in that it has a GUI and thus is user-friendly. Icons are provided for all important functions, which you can select with the mouse. Should you not have a mouse, or not want to use it, you can activate the functions by using hotkeys.

GP offers up to 10 QSO-channels, not all of which need to be selected however. There is a useful feature for mailbox operation: It stores a "DieBox" checklist (the list appearing when entering the command "(C)heck") in a special buffer. Afterward you can select from this list, whichever text you want. The same feature is available for the "(L)ist" command. In addition GP features a simple editor, with which you can edit text files (for instance the configuration dataset).

BBUG 9070 RUNE MANIA

*CLASSIFICATION * General * Floppy Disk*

Welcome to RUNE-MANIA a game of chance based upon the ancient Celtic Runes. We hope this will be a positive and fun experience.

In playing RUNE-MANIA you will be casting runes to get either a 1-Rune, 3-Rune or 6-RUNE reading. Each will include a short explanation, but in all cases try to have a question in mind when you make your selection. Relax, keep an open mind, and take time to read each screen and think about it.

Celtic Runes have been used as a form of divination for centuries.

BBUG 9071 APAY Version 2.3 (Disk 1 of 2, also 9072)

**BBUG 9072 APAY Version 2.3 (Disk
2 of 2, also 9071)**

*CLASSIFICATION * Accounting/Business * Hard Disk * Printer*

APAY is an Australian program written for Australian conditions to assist you to handle the chore of recording details of pay, annual and sick leave payments, superannuation payments and contribution and more in respect of employees.

APAY will: Keep a record of all Month to Date Totals for both the Employer and each individual Employee. Keep a record of all Year To Date Totals for both the Employer and each individual Employee. Enable you to process or un-process a pay for either an Individual Employee or All Employees. Automatically store Sick Leave Credits and calculate Sick Pay. Automatically store Annual Leave Credits and calculate Holiday Pay and Holiday Pay Loading.

Automatically store RDO Credits and calculate RDO Pay. Automatically calculate Coinage for each pay period. Automatically advise Employment Anniversaries and Birthdays. Automatically save a copy of Aged Data until the next ageing. Enable the calculation of Termination Pay. Print details or produce a diskette to enable direct payment of wages to bank accounts. Print details to accompany payment of employer super contribution. Print details to accompany payment of employee super contribution. Print details to accompany payment of union dues. Print Group Certificates.

APAY will not Calculate Tax for Medicare Levy Adjustments, or Print cheques.

To utilise APAY you must have valid Tax Scales, at least one valid set of Award data and at least one validly entered Employee.

BBUG 9073 BRIX

*CLASSIFICATION * Games * Floppy/Hard Disk * VGA * Mouse * Sound Card*

Hey puzzle fanatics! BRIX is a new, mind-warping, and terribly challenging game. You'll progress through the 112 unique levels of BRIX by moving blocks around, utilizing elevators, lasers, acid pools, teleporters, and many more tricks and traps.

BRIX presents a new style of game, which requires fast thinking and a good brain in addition to fast reflexes. Tetris meets Mario Brothers!

With the smoothly-animated 256-color VGA graphics and excellent Sound Blaster music and digital sound, you'll be amazed at the beauty and complexity of this game. The first few levels are easy for any beginner to learn, and the last 112 levels will drive you nuts!

BBUG 9074 THE CATACOMB ABYSS 3-D

*CLASSIFICATION * Games * Hard Disk * EGA/VGA * Sound Card * 286/386/486*

THE CATACOMB ABYSS is a captivating tale of wizards and fantasy trips into other dimensions. Among the very best 3-D perspective graphics and animations available on the market today! You are the mighty wizard who has been called upon to perform feats of magic and courage against the workings of your arch-rival, Nemesis.

Your quest will lead you into the dark realms of the underworld where you will discover a myriad of bizarre and intriguing creatures set against you. Armed with your wit and the power to hurl powerful magic weapons at your opponents, you embark on an unforgettable adventure into the 3-D realm of the Abyss.

**(AVAILABLE ONLY ON 3.5" 1.4M OR
5.25" 1.2M DISKS)**

Dbase Notes : Indexes

Raman Vasram and Dan Emerson.

My first database

My first experience in computing (1984) was with an Apple II that I purchased with the sale of my bee hives. My purpose (including sheer curiosity) was to explore the potential of creating a database to store the audio visual listing for work. This was to save the effort of typing the items up each year to produce a catalogue. Armed with Apple Basic and the manual I went to work. Big Mal Cockburn gave the project a move along by tossing me a thousand lines of code by Allan Marshall that he called Datamanager. The thing could save lines of text as records and do sorts on substrings within the record, and then print out a filtered list of records.

I thought it was great.

(What has this got to do with dBase?).

The database had about one thousand records. Printouts required to be produced included a list by accession number, a list by video title and a list by subject. (sounds familiar!). This posed a number of problems. Space... Datamanager read the entire database from the 128kb diskette into memory. The Apple had only 64 kilobytes. Sorting the items has to physically rearranged to be placed in order within the list. Datamanager had a built in bubble sort which quite efficiently dispatched lists of up to three hundred records into the required order. Our list taxed the resources of the system. The data and program came within a whisker of filling memory thus leaving little resource for the Apple to create work space. The sorts took so long that you would put one on and go to bed. If the machine had not gone into a seizure or the power had not gone off then, with a bit of luck, the list would be ready for printing in the morning.

Enter the index

A great breakthrough came with an article in Apple Incider. It was a code listing for a program that created indexes. These indexes were similar in concept to index cards kept by libraries of the day and were used to find items in a large collection.

The book stayed in the same location on the shelf and a number of index systems were maintained e.g. title, author, subject. A worker could search the index by name, find the index card, note the location of the document and retrieve the document. The indexing program was an electronic version of the card index.

The Apple Incider index program took the information from the desired field (Title, Type etc). The data from the field is called a key. It wrote a separate array of these keys. To create an index the program started at the first record of the data table and read each key in turn and placed it in order in the index array. When completed the index was composed of keys and record number of their associated record in the data table. With a bit of fiddling of the code was adapted to leave the data table on the disk and only have the index in memory. Further development allowed the whole exercise to be managed on disk. Our data sorts went from one thousand overnight to ten thousand in twenty minutes. Joy...Joy!!

How do indexes work? When the program wants to insert a new key in the index, it does a binary search. It looks at the key in the middle of the list and

compares it to the key it wants to insert. If the key needs to be inserted above the mid point record, the program then looks at the record mid way in the top half of the index and compares. It continues this process of narrowing down the segment of the list by half until the correct spot is found. Records below the insertion spot are shuffled down and the key and record number are inserted. Modern indexing systems use special linked lists called btrees to do the same task. Once created the index provides two main advantages. It orders the output reports and views of the data table and makes searching very efficient. The maximum searches needed to find a key in a binary index is calculated by taking the power of the number of items in the list to base 2 and adding 1. e.g. a list with 512 items (2 to the power of 9) would take, at the most, 10 search steps. An item in a list with 16000 items could be found in 15 or less search steps. With quick clock speeds and fast disk drives a search can be conducted in a fraction of a second. Modern programs take only a few seconds to index thousands of records.

Look at the example below in Figure 1. A data table of employees had two indexes; one for employees names and one for employee type.

Data Table: Employees				
Recno	Rep	Business	Salary	Phone
1	John	Maintenance	55000	xxx-xxxx
2	Fred	Sales	47000	xxx-xxxx
3	Mary	Administration	60000	xxx-xxxx
4	Allison	Sales	53000	xxx-xxxx
5	Bill	Sales	40000	xxx-xxxx
6	Raman	P.R.	59000	xxx-xxxx
Indexes				
Index	Rep	Index	Business	
Recno	Key	Recno	Key	
4	Allison	3	Administration	
5	Bill	1	Maintenance	
2	Fred	6	Sales	
1	John	2	Sales	
3	Mary	4	Sales	
6	Raman	5	P.R.	

Figure 1. An example of an indexed data table

Once indexes are created they take over the ordering of the database. Only one of the indexes could be active at one time. If, for example, the Rep index was made active then all output from the data table would be in rep indexed order. Output screens from list and browse commands would be in alpha-numeric order by rep. A search could be conducted to find, say, John. The records in the data table stay in the same order. If the business index was made active all output would be in business order.

When dBase came on the scene it took all of the pain out of indexing. (It provided more relief than the cup of tea, Bex and a lie down that was needed frequently in the old Apple Basic days). In dBase IV there are two main types of indexing and each of these have a number of methods of execution.

The first method (inherited from dBase III+) creates a separate file for each index. Each index needs to be created or opened by a command once the data file has been opened. These earlier indexes are recognisable by their .NDX extension. In the example below the data table SUPPLIER.DBF has three index files SUPPSUPP.NDX, SUPPTYPE.NDX, SUPPCITY.NDX. The strange file names are selected by the user. (A convention that has proved valuable is to create the index name by selecting the first four letters of the table name and adding to it the first four fields of the field name).

To create indexes the dBase command INDEX ON <FIELDNAME> TO <FILENAME> is used. Examine the record structure of the Supplier data table.

SUPPLIER	LOADPLAN AUSTRALIA PTY LTD
TYPE	
STREET	215 MORAY STREET
CITY	SOUTH MELBOURNE
POSTCODE	3205
POST_ADDR	
POST_CITY	
POST_PCODE	
PHONE	03 690-0455
FAX	03 690-7349
CONTACT	
CODE	000277
QA_EXPIRY	/ /
CURRENT	T

Three indexes are to be created; one for ordering by supplier, one by type and one by city. Note the user selected filenames SuppSupp, SuppType and SuppCity.

```
. use supplier
. index on supplier to suppsupp          <- user typed command.
100% indexed      277 Records indexed    <- computer generated response.
. index on type to supptype
100% indexed      277 Records indexed
. index on city to suppcity
100% indexed      277 Records indexed .

Command |D:\wdata\w40\SUPPLIER   |Rec 51/277 |File | |   Ins
```

Usually the indexes are created when the data table is created. From then on the indexes are usually opened with the data table. Provided the indexes are opened then they will be updated with changes and updates to data. A typical sequence to

```
. Use Supplier
. set index to SuppSupp, SuppType, SuppCity
```

All indexes are opened and will be updated when changes are made to the table however only the first index will influence the output order of the table.

To change the active index the SET ORDER command is used. To make the third index SuppCity active the command SET ORDER TO 3 would be used. The natural order of the data table can be obtained by using the command SET ORDER TO 0

Frequently there is a need to include two fields in an index. In the example above the SuppCity index would list suppliers within the same city together but not alphabetically. To have the suppliers themselves listed alphabetically within city groups the command would need to be retyped with two field names concatenated.

INDEX ON CITY + SUPPLIER TO SUPPCITY.

The fields must be of the same type. Functions can be used to convert fields to the same type if need be.

If the data table is viewed unindexed using the browse command the view would be like this;

Records Organize Fields Go To Exit

SUPPLIER	TYPE	STREET
AUDIO TELEX COMMUNICATION	LABELS BATTERIES AUDIO-VISUAL EQUIPMENT A.V. EQUIPMENT STATIONERY PHOTOGRAPHICS STATIONER/PRINTER	P.O.BOX 871
AVERY LABELS		P.O.BOX 65
BATTERY KIOSK		LEVEL 2 INDOOROP. SHO
B & H AUSTRALIA		lower level, 64 MACGR
BURGESS ILLINOIS (AUST).		P.O.BOX 78,
C.C.S.		SHOP 2 59 BARRY PARAD
ENERGY CONTROL INTERNAT.		P.O.BOX 6502,
FORDIGRAPH SALES		393 ST PAULS TCE
GESTETNER\NASHUA PTY.LTD.		1 MAYNEVIEW ST
HANIMEX PTY.LTD.		17 DOVER STREET,
AWA AUSTRALIA		P.O.BOX 156
PANASONIC		P.O. BOX 260
LAMINATING WHOLESALERS		32 VULTURE ST,
N.T.T. SUPPLIES(QLD.)		P.O. BOX 692
P.C.WAREHOUSE		CNR. MAINS & KESSELS
MULTIFORM BUSINESS SYSTEM		P.O.BOX
PHILIPS LIGHTING		P.O.BOX 204

Figure 3. Showing the BROWSE view of the table before indexing

Browse D:\wdata\w40\SUPPLIER Rec 1/277 File Ins

By setting the active index to the SuppSupp index with the command; . set index to SuppSupp,SuppType,SuppCity the view would be sorted by supplier.

Knowing about this older method of indexing is useful because many other forms of the dBase language still use this as their way of indexing and many applications

created in this way by dBase III+ are lurking about in dark places.

The second way that indexes can be created is new with dBase IV. This method builds all indexes into a single file that is opened automatically when the data table is opened. It is given the same name as the data file with an .MDX extension. The

data table Supplier.Dbf would have the index Supplier.Mdx. One method of defining the indexes is to use the file structure specification form accessed through the MODIFY STRUCTURE command. In the example below the table SUPPLIER.DBF is opened and indexes defined on the form. Examine the right most column to see the fields selected for

Num	Field Name	Field Type	Width	Dec	Index
1	SUPPLIER	Character	30		Y
2	TYPE	Character	25		Y
3	STREET	Character	40		N
4	CITY	Character	17		Y
5	POSTCODE	Character	4		N
6	POST_ADDR	Character	40		N
7	POST_CITY	Character	17		N
8	POST_PCODE	Character	4		N
9	PHONE	Character	12		N
10	FAX	Character	12		N
11	CONTACT	Character	25		N
12	CODE	Character	6		N
13	QA_EXPIRY	Date	8		N
14	CURRENT	Logical	1		N
15	B	Character	1		N

Figure 4. Index fields defined on the form.

Records	Organize	Go To	Exit
SUPPLIER	LEWIS, RON		
TYPE	BRISBUG		
STREET	12 FIRELIGHT ST		
CITY	SUNNYBANK		
POSTCODE			
POST_ADDR	12 FIRELIGHT ST		
POST_CITY	SUNNYBANK HILLS		
POST_PCODE			
PHONE	07 273-4556		
FAX			
CONTACT	RON LEWIS		
CODE	000066		
QA_EXPIRY	/ /		
CURRENT	T		

Edit D:\wdata\w40\SUPPLIER Rec 66/277 File

Figure 8 (text opposite). A selected record on view


```
indexing.  
    . use supplier  
    . mod1 stru
```

The indexes are automatically created and saved to Supplier.Mdx. Browsing the table shows that it is still in unsorted natural order. (See Figure 3, opposite)

The SET ORDER TO command is used to define the index that is to be active. The index is selected by the field name of its key. In the example there are three index keys defined in the MODIFY STRUCTURE process. They were supplier, type and city. In the example below supplier index is selected. (See Figure 5)

```
    . set order to supplier  
Sorting by TYPE is now required.
```

```
    . set order to type  
Master index: TYPE  
    . browse
```

(See Figure 6)

Other output commands such as LIST and EDIT have their ordering of records influenced by the indexes.

Finding items in an indexed table is quick. In our example finding a key from the TYPE field is possible since the index selected relates to that field. Starting from a closed database table the command sequence would be

```
    . USE SUPPLIER  
    . SET ORDER TO TYPE  
Master index: TYPE  
    . FIND BRISBUG  
    . ?  
FOUND()    <- optional:
```

this is a function set automatically when a find .T. is executed. It is set to true if the find is successful. It is useful in programming. (See Figure 7)

EDIT command can be used to veiw and modify the record . edit In the event that a key was not found then Found() function is set to False

```
    . FIND XBUG Find not successful  
    . ? FOUND() .F.
```

Indexing provides quick, convenient and powerful features for finding and organising data. Indexes are used to link tables in multi-table databases. It is vital to understand the essence of indexing as it underpins the operation of database management

Dan & Raman.

Figure7 (right). The database ordered by TYPE

SUPPLIER	TYPE	STREET
AUDIO TELEX COMMUNICATION	LABELS	P.O.BOX 871
AVERY LABELS		P.O.BOX 65
BATTERY KIOSK		LEVEL 2 INDOOROP. SHO
B & H AUSTRALIA		lower level, 64 MACGR
BURGESS ILLINOIS (AUST).	AUDIO-VISUAL EQUIPMENT	P.O.BOX 78,
C.C.S.		SHOP 2 59 BARRY PARAD
ENERGY CONTROL INTERNAT.		P.O.BOX 6502,
FORDIGRAPH SALES		393 ST PAULS TCE
GESTETNER\NASHUA PTY.LTD.	A.V. EQUIPMENT	1 MAYNEVIEW ST
HANIMEX PTY.LTD.		17 DOVER STREET,
AWA AUSTRALIA		P.O.BOX 156
PANASONIC		P.O. BOX 260
LAMINATING WHOLESALERS	STATIONERY	32 VULTURE ST,
N.T.T. SUPPLIES(QLD.)		P.O. BOX 692
PHILIPS LIGHTING		P.O.BOX 204

Figure 5. Showing the data table after indexing, but still un-ordered

SUPPLIER	TYPE	STREET
AUDIO TELEX COMMUNICATION	A.V REQUISITES	P.O.BOX 871
AUDIO VISUAL IMPORTS		16 LONDY ST OFT
AUSTRALIA POST		B 598402
AUSTRALIAN BUREAU OF STATISC		U/9 1
AUSTRALIAN STATE DISTRIBUTORS	COMPUTER SUPPLIER	717
AUSTRALIAN TEACHERS CHRON	COMPUTER SERVICE	P.O.BOX 65
AUSTRALIAN TECH SUPPORT		P.O.BOX 156
AVERY LABELS		lower level, 64
AWA AUSTRALIA		P.O.BOX 168
B & H AUSTRALIA	AUDIO-VISUAL EQUIPMENT	LEVEL 2 INDOOROP.
BARKER AUDIO		19 DOGETT ST
BATTERY KIOSK		ALAN'S HOME
BERWICK		134 BRISBANE RD, BOOV
BIZ QUIP	CATERING	
BOOVAL BOWLES CLUB		
BOOVAL PET SHOP		

Figure 6. Showing the data table after ordering by SUPPLIER

SUPPLIER	TYPE	STREET
SPECIAL EQUIPMENT (AUST) P.L.	ART	32 AQUARIUM AVE, HEMM
NEC HOME ELECTRONICS	AUDIO VISUAL	20 ACHIEVEMENT CRES
PHILIPS CONSUMER PRODUCTS	AUDIO VISUAL	10 GRAYSTONE ST
B & H AUSTRALIA	AUDIO-VISUAL EQUIPMENT	lower level, 64 MACGR
BATTERY KIOSK	BATTERIES	LEVEL 2 INDOOROP SHO
COMBINED TECHNICAL SERVICES	BOOT PROM	2 /11 MELBOUTRNE ST
LEWIS, RON	BRISBUG	12 FIRELIGHT ST
PIONEER COACHES	BUS LINE	
AMBERLEY ROSEWOOD BUS CO	BUS LINE	
SUNDOWNER BUS LINE	BUS LINE	
DAVE'S BUS LINE	BUS LINE	
DALMAC CABLES	CABLING CONTRACTOR	23 SHEEHY STREET
DATALEC	CABLING CONTRACTORS	15 HEATHER ST
LANGFIELD INDUSTRIES	CABLING CONTRACTORS	52 DOUGLAS ST
ANDERSON CAMERA REPAIR	CAMERA REPAIR	14 HERRIT ST
BOOVAL BOWLES CLUB	CATERING	ALAN'S HOMEPHONE 281
TODD, DON, PHARMICIST	CHEMIST	14 BRISBANE ST

SOFTWARE LIBRARY NEWS

Lloyd Smith

The Big Move

This month will herald a big change for the Software Library - We are moving to QUT Kelvin Grove Campus. The Library will be set up in room 343 together with the Membership/Reception area. Room 343 is the first room just inside the entrance to "B" block at street level.

Members will be required to register and receive their identification badge before proceeding to classes, so it will give you a good opportunity to deposit your software orders with the library whilst you are attending to registration.

Have a little patience with the library staff, as things will be quite chaotic for a while until they get themselves sorted out on the first meeting at our new home. Allow at least one and a half hours before calling to collect your orders. They will probably need the time this meeting.

Help Wanted

Library help, especially at meetings is always required - to unload the vehicles and carry our "goodies" inside and after the meeting to take out the surplus stock for transportation back to the store room. By the time Brian Sanborne collects the stock, loads his car, unloads the stock at the meeting and sets up at the meeting, he has been on-the-go for approximately 2 hours. A little help from the early attendees would be appreciated.

Volunteers to assist Brian and learn the 'modus operandi' of the Software Shop at meetings are always welcome. If you are interested in helping, even for a couple of hours, talk to Brian (if you can catch him in a quiet time) and offer your services. Terry Tuttle is always looking for volunteers to help with the copying etc. so if you don't want to stand behind the Shop counter(???) and sell, have a word with Terry and he will put you to work in the library.

MAIL - PHONE ORDERS

Due to the pressure of my own work, and with all the changes that have been happening in Brisbane over the last couple of months, copying and dispatch of software orders has been delayed more than usual. Please allow at least two weeks for

dispatch of your order (there aren't enough hours in the day (or night) anymore - maybe we should have 'daylight' extensions in the winter).

SCAN & CLEAN

These two programs are becoming larger and larger each time a new version is released. Because of their size it is no longer possible to include both SCAN and CLEAN with the 5.25" catalogs. There is still sufficient room to put both programs on the 3.5" disks, but for how long, I don't know.

Also, an additional program to deal with boot sector viruses has been released - M-DISK.

From next month, August, SCAN, CLEAN, M-DISK and VSHIELD will no longer be released with the catalog disks. To facilitate distribution of these programs to members, two (2) 5.25" 360K or one (1) 3.5" 720K or one (1) 5.25" 1.2M disk will be available from the library for the initial charge of \$4.00 for each format type.

Thereafter, upgrades will be available for \$2.00 for the "SCAN DISKS".

To assist in preparation of sufficient quantities of these disks, it will be necessary for you to notify the library staff as to the format you require. Preparation of high density disks takes more time for each disk than 360K disks.

All that will be necessary for you to do this meeting is tell the library staff your membership number and the format that you require, so that sufficient disks can be prepared for the August meeting. ○

DISK PRICES

5.25" Disks - \$4.00 each

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Up to 8 disks \$3.00
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CATALOG DISKS EXCHANGE

At meetings or when
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If ordered separately \$5.00

There are 5 - 5.25" disks or 3 - 3.5" disks in our catalogs. Don't forget to allow for these when calculating postage.

CREDIT CARD MINIMUM - \$25.00

BBS GUIDE

Supplies of this long-awaited book have now been received and copies can be purchased from the Software Shop -

\$10.00

or ordered by mail \$13.00 posted.

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	Weekends
Accounting	Ian Haly	870-1463	After 5:30 & W/Ends
	Victor Kydd	870-9516	
As-Easy-As	Dan Bridges	345-9298	Anytime
	Dan Emerson	288-6070	
Assembly	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 Emerson	288-6070	
	Mike Theocharous	824-1450	Anytime
CodeBase	Ian Haly	870-1463	After 5:30 & W/E
Communications	Ron Lewis	273-8946	8am-8pm
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	Evenings
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	Leon Percy	808-1570	Evenings
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
	Ron Lewis	273 8946	8-8 weekdays
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	Evenings
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 Manage- ment & 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
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
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

QUT KELVIN GROVE CAMPUS
Victoria Park Road
Kelvin Grove, Brisbane 10am to 5pm.

Brisbug occupies the main theatre and several other rooms. Please note that other groups are usually using the campus at the same time, and that parking is permitted only in the designated areas. Disabled access is available

Food and refreshments are available 11:30-2:00. Alcohol is not permitted.

Members and visitors must wear an identity badge available from the Membership desk.

Program for Sunday, 18th July

10:00	CLASSES		
	Introduction to DOS	John Tacey	R315
	Introduction to dBase IV	Dan Emerson	R302
	Hardware	Ron Lewis	Th
	QBASIC	Rex Ramsey	R309
	C++	Geoff Baker	R313
	xBase	Leon Percy	R310
12:00	VIRUSBUSTER		Th
12:00	JUNIOREDUCATIONAL GROUP		R301
12:15	NEW MEMBERS ORIENTATION		R310
1:00	CLUB MEETING		Th
1:30	INTEL - THE PENTIUM CHIP		Th
3:00	New Members Discussion Group		R301
	Info Retrieval with a PC	Dan Emerson	R302
	New Users Course	Chris Raisin	R309
	SIGs (Check Notice Board for Locations)		

PH: 07-3660623

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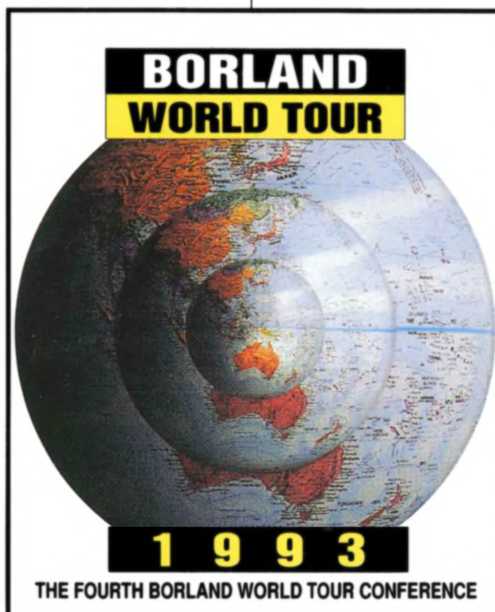
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