

Significant Bits

Journal of Brisbug PC User Group inc

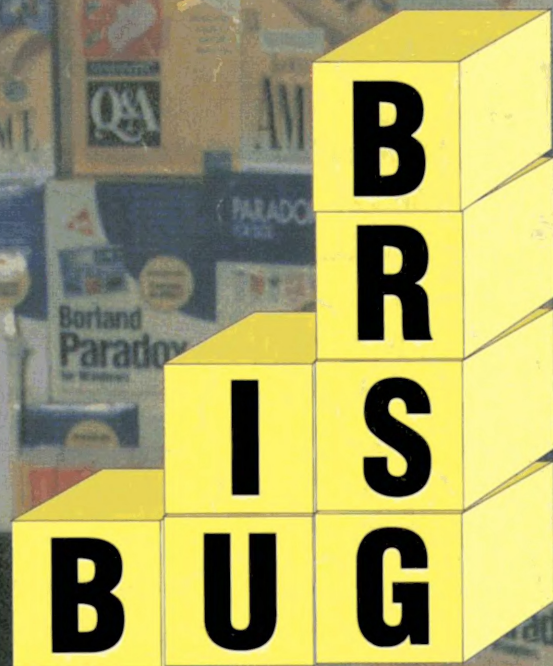
Next meeting Sunday, 17th April

Vol 9 No 5
April 1994
\$ 4.00

Main Event 1:30 pm
Lunchtime Special 12 noon

**WordPerfect
Internet**

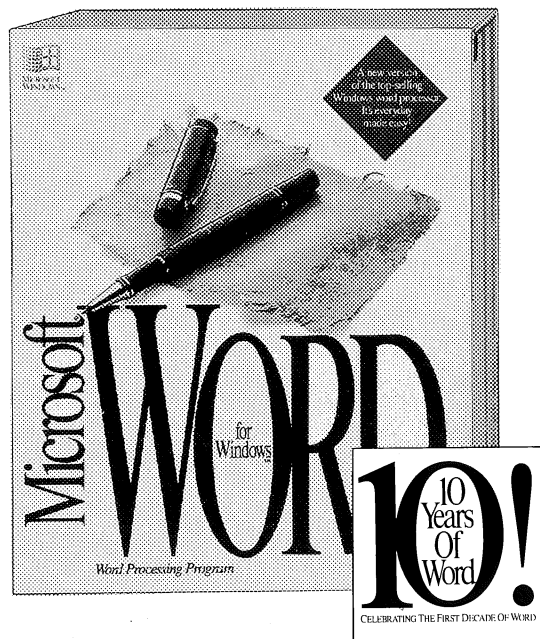
Membership drive launch



\$40 000 prizes to be won

details inside

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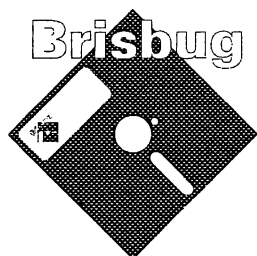
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WORDS B

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Program for Sunday, 17th April

9 am/ 10 am	CLASSES
9:30	Junior Club
12 noon	The Internet
12:15	New Members Orientation
1 pm	Brisbug Club Meeting
1:30 pm	WordPerfect
3 pm	New Members' Tech Chat
	SIGS

Brisbug recognises the generosity of our regular supporters:

Microsoft Corp	Compaq
Electroboard	Borland International
Computer HH	Cunningware
Ron Lewis Computers	Data Cabling
Ramware	Accord Computer Eng
Avcom Services	Lindsay & Nettle Bates

and the sterling job done by Marlin Printers of Caloundra.

BRISBUG PC USER GROUP INC

*The Brisbane group for users of
PC-type computers.*

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871-0298, 870-2972, 870-0653

Management BBS 209-4980

SOFTWARE LIBRARY SERVICE AND SHOP

Post Prepaid requests to:
Brisbug Software Library,
95 South Station Road,
Booval 4304

or phone: (07)281-6503
MONDAY-FRIDAY, 9am to 1
and 2 to 4pm ONLY!!

HELP LINES

Brisbug operates a system of
help lines for members only.
The telephone numbers for each
topic are listed at the back of
this magazine

From the Engine Room

Lloyd Smith

New Secretary joins the management team

Well we now officially have a new Secretary. Following the resignation of Chris Raisin last month, I now have the pleasure to introduce Neil Krause as our new Secretary. Although a relative new-comer to our ranks, Neil has had considerable experience in handling this time-consuming position and comes very highly recommended.

Once again, I must thank Chris Raisin for the effort he has put into this position over the past five years.

MEMBERSHIP DRIVE - NOW ON

The problems faced last month regarding the Membership Drive Promotion have been overcome and finally the Membership Drive is underway. For the next six months we will be asking you, the members, to introduce as many new members to Brisbug as you can. The aim is to increase our membership by at least 1000 members.

Each month we will be conducting a lucky draw for winners to receive a prize from the mountain of software generously donated for this promotion. Entry is simple - just introduce a new member and your name will go in the draw. There is no limit to the number of times you can participate. The new member will also be eligible for a prize.

At the end of

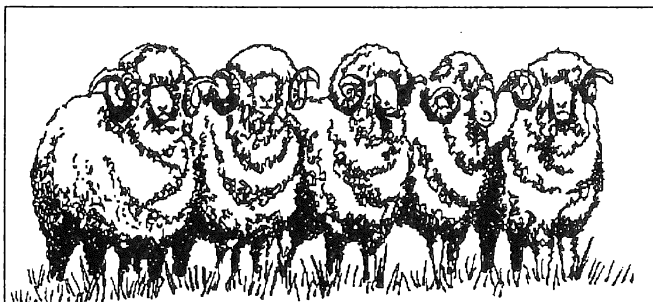
the six months, there will be a draw for major prizes of software and a Compaq 486 Laptop Computer will be won by one lucky member. The following month, a draw for the lucky new member will be conducted, and the major prize for this category is a BytePro 486 Desktop computer complete with multimedia hardware.

The success of this drive is up to you. Get your friends and acquaintances to join Brisbug and you could win!

HELP Listings

The familiar list of members offering help for particular software is being overhauled. It has been quite a while since we revised our list of members who volunteer their expertise to assist others when they have a problem with particular software.

If you are prepared to help others to overcome difficulties they have encountered with either software or hardware, and you would like your name and telephone number listed in our "Help Listing" please give our Magazine Editor a call or alternatively you can ring me on 281 6503 (Mon. to Fri.- 9am to 1pm or 2pm to 4pm) and we will arrange for the details to be placed in the list.



Which one of yous is the new secheterry?

From the Assistant Stoker

Graeme Darroch

Graeme goes West

Well this month I need to report to you on my trip to western Queensland.

We departed first thing Monday and set sail for Warwick, arriving mid-day. We were set up in the Warwick School support centre, and were visited by quite a few people from the surrounding area. This being my first trip like this I was not sure what to expect, and the people who arrived seemed to be interested in Brisbug and what it had to offer to the remote country member. A couple of existing members called in to say hello and an interesting time was had chatting about mutual interests, and programs.

Next day was Goondawindi and this time it was the local primary school we visited. I thought the attendance had been fair the day before but this venue had a lot of people attending our set up in the Library. We learned that there was to be a P&C meeting that night in the library so the opportunity seemed to good to miss. A couple of Pizzas were sourced and we hung around to see quite a few people who stayed after the P&C meeting to chat and get some info on all our wares.

At this point I should mention that I was traveling with Rob Neary of RAMWARE who kindly offered to make space available for me in his very

Continued on page12

MAGAZINE

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273-8946

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378-8534

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Contributions always welcome!

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Six reasons to switch to Microsoft FoxPro 2.5
#1: dBASE Compatibility.



For Microsoft® Windows™ users, FoxPro 2.5 is a true Windows-based database that lets you use your dBASE knowledge, data and applications.

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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 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.

Editorial - Where have

Ron Lewis

Before we moved from Bardon PDC to QUT, we had a serious problem accomodating all those who wanted to attend presentations in the main theatre. We hoped that the move to a larger venue, capable of seating an extra 180 people, would alleviate crowding.

It seems, from a casual glance at the size of audiences for the last couple of meetings, that we've almost been too successful — many empty seats, and a few familiar faces missing.

Where did they go? Or more importantly, why didn't they come?

Is the new QUT venue not as attractive as the old one at BPDC? Does having to register put some people off? (Remember, that's a QUT requirement, not Brisbug's). The program of presentations is superior to the one I was involved in, so that can't be the cause.

One of our thinking members suggested that the canteen area was too big, thus discouraging social interaction between members at lunch. (At BPDC, the tiny eating facilities meant very close contact... not to mention annoying queues of hungry people).

A cynical Editor, aided and abetted by the Sysop, has suggested that SigBits and the BBS are all members want (so we should be buying the 1200dpi laser printer and networking systems in their budgets, but on hold by order of the budget sub-committee).

A major disadvantage we have is that we don't really know what members want. Development Director, Carl Planting has identified this as a major impediment to improving member services, and will be addressing it as soon as he returns from his short sojourn in the land of soccer and sovereigns.

If the membership drive launched this month is as successful as it should

be, we need to ensure that the perceived needs and wants of the new members are recorded and acted upon.

At the risk of sounding like a cracked record (or should that be an endless program loop), this can only be achieved with extra workers, particularly those prepared to lead instruction courses, particularly for new users. The current "workforce" is already overworked, and the likely result of asking them to do more is burnout, producing less output.

But maybe we need to rethink our entire approach. As the "information superhighway" starts to reach a few destinations, maybe large convocations of people, once a month, are not what's needed. (My observations suggest that computer enthusiasts can be solitary beings when they want to).

In a brilliant piece of lateral thinking, one of our Associated Clubs is well down the track with an idea to use Amateur TV as the broadcast medium for recorded lectures, training videos, and other member services, and as an attractant for supporters, particularly distant ones.

Magazine articles are readily available from the management BBS, so you can have your SigBits in electronic form, albeit a little later than by post.

With the plummeting cost of rewriteable CDs, and the now widely available equipment to "roll your own", it is feasible to put the library on CD, online for access by modem for all members. The technology to charge users for downloads is already in use. Alternately, a complete set of library CDs could be supplied in encrypted format, with keys issued for specific programs on payment of the usual library charge. Don't laugh... this is already in commercial use for fonts to commercial typesetters, and with CDs

all the people gone?



costing only a couple of dollars each in bulk, you could buy the entire library for less than your current membership fee... and you wouldn't have to wait till the third Sunday to get the update to your favourite program.

The Help Line is already operated remotely, so no change is needed there.

With no venue security to satisfy, the registration procedure would be unnecessary, and with some extra programming, members would be able to ring the membership phone line, pay their fees by credit card, and have their membership card electronically endorsed "paid" for the next year. The membership database could then be updated automatically by the receiving computer.

Not much extra programming would be necessary to, using the latest in voice technology, get the membership computer to ring members and remind them when their membership is due.

The total bill for the extra equipment required is quite modest, and could easily be covered by savings in venue hire costs.

So why don't we start immediately and run our club entirely remotely?

To my mind, that would remove my primary motivation for belonging to Brisbug... the chance to interact, *personally*, with people who share my interest and hobby.

But am I being a troglodite, simply putting off the inevitable?

ADVERTISING DETAILS (cont'd)

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.

To meet Post Office requirements, they must have been printed in Australia or New Zealand.

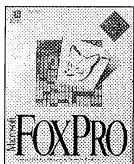
The required quantity of printed inserts are to be delivered to Significant Bits.

Quantity, delivery and other details will be advised on request.

Advertisers may contact Ron Lewis (07)273-8946, FAX (07)273-8954.

We welcome your decision to support your club by advertising in the magazine.

Six reasons to switch to Microsoft FoxPro 2.5 #2: Speed.



No PC database has the speed of FoxPro 2.5. On average, it's 30 times faster than dBASE IV 1.5! (Micro Endeavours Inc., Nov 92).

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Minutes - Meeting - Sunday 20 March 1994

Neil Krause — Secretary

Our President, Lloyd Smith, opened the March meeting of your club at 1.05 pm. There was an encouragingly large number of members in attendance.

The President's first task was to inform the meeting that Chris Raisin had resigned as Secretary, due to personal reasons. Chris has been the club's Secretary for over five years and has had a great deal of input into shaping the way the club operates today. Lloyd said that Chris has been a very efficient Secretary and has always carried out his Secretarial duties in a very efficient and business-like manner.

The President then thanked Chris for a job well done and the meeting showed its appreciation to Chris by enthusiastic acclamation.

I have been appointed by the Management Committee as your new Secretary. I must confess that I didn't realise what I was letting myself into. As Secretary, the incoming mail alone is fairly daunting.

I would certainly encourage members to get involved in your club's activities. I, for one, need all the help I can get!

Items of interest

The President reported that the settlement of costs in our club's favour in respect of the Delma May Patterson application to register the Brisbug logo and the name "Significant Bits" as hers, had been assessed at \$770 and this amount has been paid to our Solicitors. This has finally brought this matter to a satisfactory conclusion.

The television series "The Big Byte" is being shown on SBS Television on Thursday nights at 7:30.

The President also reported that the C++ course will commence on 24th April at Glenn Collins' home - 41 Watcombe Street, Wavell Heights, and not as advertised in the previous issue of Significant Bits.

(Note : this arrangement no longer stands... see Education news on page 12 for the latest position — Ed)

THE MEMBERSHIP DRIVE

The big news was obviously the Membership drive. The drive will now commence from our next meeting and continue for six months.

Your Committee, and Graeme Darroch in particular, has worked long and hard to gather together an amazing list of prizes. Its hard to believe, but the Club has on offer over \$40,000 worth of prizes. Current members who introduce a new member to join Brisbug will be in the running to win a 486 laptop computer with a colour screen donated to Brisbug by Compaq. This machine alone is valued at \$5050.

The major prize for new members will be a Byte Pro 486 desktop computer, complete with full multi-media set up - CD Rom, Sound Card, etc.

Also a huge amount of software is included in the prizes. This includes Microsoft Office Professional, Microsoft Office Standard, Lotus 1-2-3, Word Perfect 6 for Windows, AMI-Pro, Q & A for Windows, Borlands' Paradox, Borland C++ - the list goes on and on.

Each month the names of each new member and the current member who introduced a new member will be entered in a draw for the prizes to be allocated for each month. At the end of the membership drive - the 16th October, the draw for the laptop computer and the Microsoft Software will take place. At the following meeting, 20th November, the 486 Desktop computer with the multi-media equipment will be drawn.

Full details of the competition is set out elsewhere in this edition of Significant Bits.

Treasurer's Report

Max Kunzelmann presented the financial report. As at the end of February cash on hand amounted to \$9,743.

The present financial position of the Club is satisfactory but will be helped considerably if we all get behind the membership drive.

Magazine Report

Ron Lewis reported that the Help Listing was left out of the March edition of the Magazine simply because he ran out of space.

Whilst on the subject of the Help Line, Ron suggested that this list does not fully reflect the help which many of our members can offer to others with computer problems, be they hardware or software.

Letter to the Editor

I was reading an article by Dan Bridges in the Dec'93-Jan '94 edition re the lack of members submitting articles to the magazine.

This is my first, and not of a computer problem.

The idea is to encourage members to submit articles by enticing them through the Library. The committee will alter this to suit, however, here are the bones:

Let's say as the membership is renewed there is an increase of \$12.00 (I can hear the complaints already). However on the submission or acceptance of an article, there is a refund of \$6.00 / \$4.00 or whatever you prefer. However, so as no money changes hands, the \$6 is to be a voucher to be used through the library.

The other way of enticing more members to attend meetings is to pay them to attend. The current membership is \$40. Change that to \$500.00 (*sic*) and for the next 10 meetings, those attending receive a cheque for \$50. The club keeps the interest on the money invested, and that not claimed.

Of course some other arrangement will be necessary for out-of-zoners.

C. Seymour

378

This should
start a
discussion,
Cec — Ed

If you feel that you can offer some help to other members of the club, how about having your name listed in our Help List. Please contact Ron or myself if you are willing to do this.

Education:

Training Director Mark Mullins has been working hard on arranging earlier starting times for some of the classes. A wide range of classes will be available. See Mark's column for details.

Management BBS

The Management Information BBS is still chugging along - the phone number is 209 4980. The system is running under Maximus, so if you can log on to the other BBS lines you will have no trouble in getting to the MIS BBS. Don't forget - there are no files to download on the Management Information System.

If you have an interesting article to contribute to the magazine why not just up-load it to this MIS BBS for the Editor?

Library Report:

The President reported that the library continues to grow by leaps and bounds.

This month a new Kit has been added - PC-Write Advanced which sells for \$15.00. Also the latest version of QEdit Version 3.00C (without the bugs) is available from the Library.

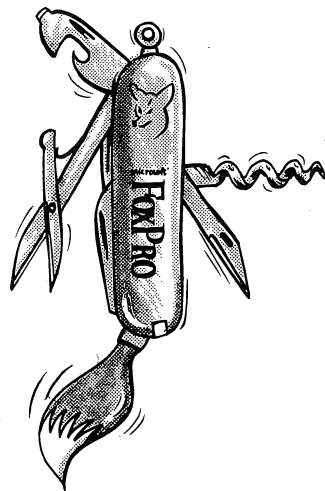
There is a great range of registered shareware available (the list was published in last month's magazine). There is also a good range of commercial educational software from Ramware available.

At 1.40 pm Lloyd closed the meeting and introduced David Cartwright from ALKIRA who gave a demonstration of his Company's Graphics Software. Thanks to Paul for donating some very popular Jurassic Park Graphics Software for our raffle.

In conclusion, let me urge you to take an active part in your Club and participate in our membership drive.

Six reasons to switch to Microsoft FoxPro 2.5

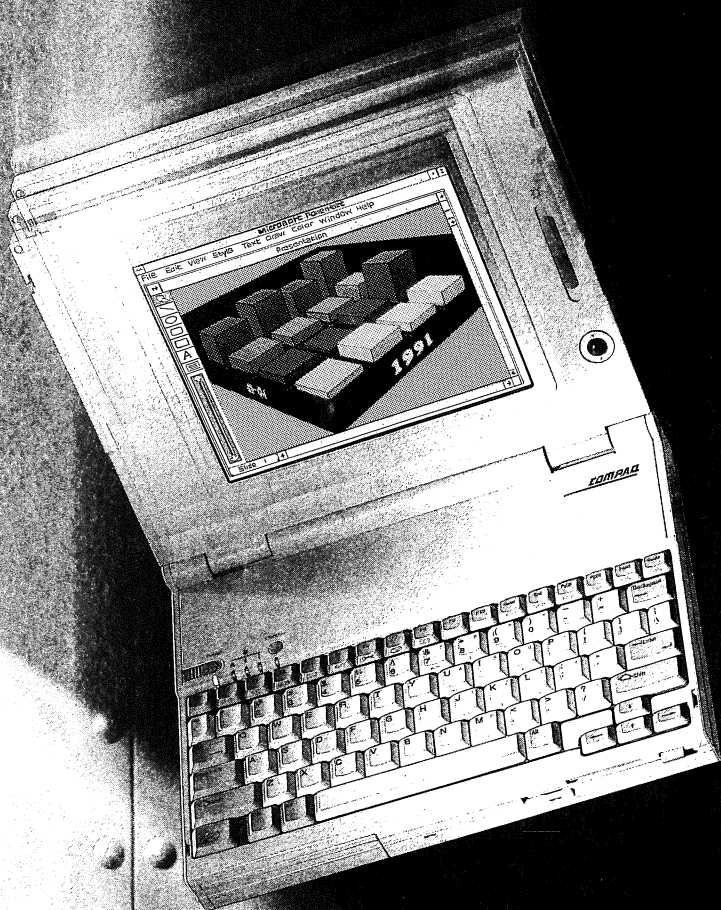
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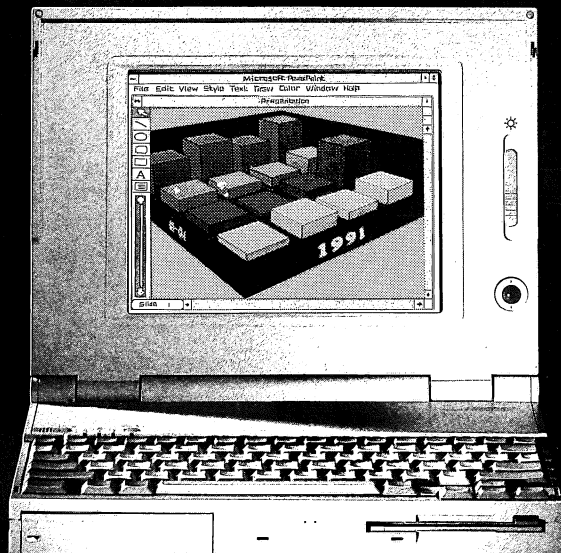
Then, they too, could offer a 3 year parts warranty, 12 months free on-site service and the backing of more than 250 support centres throughout Australia.

Or a support service staffed by technicians and systems engineers with instant access to a wealth of technical information.

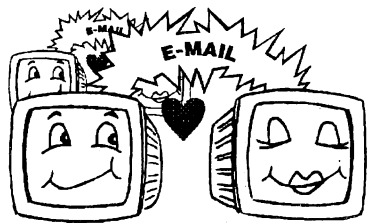
Or an on-line subscriber service which provides access to technical experts in more than 160 countries.

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All of which your Compaq reseller will be happy to expand upon whenever you have a few spare minutes. Or better still, a few spare hours. For his or her number, or for further information, phone Compaq toll free on 008 060 800.

COMPAQ

BBS News



Paul Marwick

The BBS' Modems

First, a word about modems. There seems to be a lot of confusion as to what is available from the various lines in terms of connection capabilities.

Line 1 uses a *Netcomm TR250*. This modem is capable of PEP, V32 (9600), V22bis (2400) and V22 (1200).

Line 2 uses a *Netcomm T1000*. This modem is capable of PEP, V22bis and V22.

Line 3 uses a *Telebit Worldblazer*. This modem is capable of TurboPEP, PEP, V32bis (14400), V32, V22bis and V22.

Line 4 uses a *Netcomm TR250*. This modem is the same as the modem on line 1, with the exception that it uses different firmware, and generates V25 tones during its answer sequence, which can make it difficult for some modems with poor tone discrimination to connect to it.

While we hope to be able to upgrade some of the modems during the year, for the moment, the capabilities listed above are what callers will get.

A couple of other points about the modems in use on the various systems. With the exception of the modem on line 3, all the modems answer with PEP tones first. This can cause problems with some older modems, since the PEP answer sequence is almost purely white noise. While the modems can be set to answer with PEP tones last, due to a bug in the firmware of the older modems, this causes problems, so none of them are set that way. The *Worldblazer* on Line 3 answers with V32bis tone first, PEP tone last.

It should also be noted that none of the systems accepts callers at 1200/75 or at 300. While the older modems are capable of these speeds, none of them work correctly when they are set with a locked DTE (Data Terminal Equipment) speed. For best performance, all the modems operate in locked DTE mode. As a result, any caller who gets a connection at either 1200/75 or 300 will NOT be able to access the systems. A message will be sent saying that no speed lower than 1200bps full-duplex is acceptable, and carrier will be dropped.

Given the amount of usage, plus the size of

BBS Modem Speeds

	1200	2400	9600	14400	PEP
Line1	○	○	○		○
Line 2	○	○			○
Line 3	○	○	○	○	○
Line 4	○	○	○		○

files now common on the systems, there is a good chance that 2400bps will become the minimum acceptable speed sometime this year.

Availability times

Also, a word about availability times. The BBS systems have a number of duties to perform that are not possible while the lines are in BBS use. As a result, there are a number of times when the systems are not available for human use. Attempting to call dur-

...none of the systems accepts callers at 1200/75 or at 300 baud

Six reasons to switch to Microsoft FoxPro 2.5

#4: Language Power.



FoxPro 2.5 is packed with over 100 new language features, which means you spend a lot less time writing code. Magic for developers!

Microsoft
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SIG News

SIG Co-ordinator: Dulcie Haydon Ph: 2737393

SouthSide SIG

The next meeting will be on the 26th April at 7:30pm

Venue:
114 Forestdale Rd
Forestdale

Agenda:
General discussion, problem solving (bring your own).

Contact:
Rex Ramsey
800 4927

OS/2 SIG

Meets on
Brisbug
Sundays at
QUT, Kelvin
Grove, 3pm for
relative
newcomers to
OS/2.

Also meets on
the Wednesday
night after
the meeting, at
7pm at Qld
Museum
(Dinosaur
Garden
entrance) for
more ad-
vanced users

Paul Marwick
8710611

Business & Finance SIG

Business and Finance Buffs "Cheque-It-Out"

Ian Freiberg presented "Cheque-It-Out", a shareware accounting programme, at the most recent meeting of the Business & Finance SIG on Sunday, March 20, 1994.

Ian pointed out that the name, "Cheque-It-Out" sounds Australian, but in fact the package is from the USA. Thus it contains some "quirks" which differ from Australian accounting styling.

Positive features of the programme are

- a user-friendly menu
- on-screen bank reconciliation
- a number of financial calculators
- suitability to the professional type of business where fees and administrative expenses are common
- a graphing facility including line, bar and pie charts
- an element of education which assists non-accountants learn accounting principles
- the low cost of registration, being \$115 from BRISBUG at the time of writing this report.

However, in Ian's view a few negative aspects are present, too. These include

- a working knowledge of debit/credit accounting principles is really useful
- the lack of a report writer that can be edited
- the lack of a depreciation schedule
- no Debtors or Creditors integration in the programme.

On this last point, Ian said that it could be handy to remember that "Cheque-It-Out" is the general ledger system of "Takin' Care of Business", which has modules for Debtors and Creditors.

The Business & Finance SIG meets in the Registration Room each monthly Sunday meeting at 3:15pm.

The SIG Group has made a very positive start to the year with two interesting and informative presentations having been made so far.

Participants have a general interest in

computing for business purposes. Levels of expertise range from novice to business professional.

Enquiries can be directed to the convener, Graeme Gardener on (07) 354 3237 (A/H). Better still, come along to our next meeting. It is quite free and you will be most welcome.

Genealogy Sig

WARNING new PAF 2.3

While I still believe PAF to be the best program I can only say this about PAF 2.2. There have been a log of disturbing reports given to me re bugs in the new 2.3 version they are:

1. problems in changing names after entry.
2. an out of environment space message when trying to check data prior to backing up.
3. problems in running under windows.
4. This one was not clearly explained to me but a problem in RDF (research data filer).
5. strange information in some printouts ie scrambling of upper and lower case. These problems have been passed on to the appropriate people and I am assured they are working around the clock trying to work out why and a fix for same.

If you are experiencing a problem do not do it in silence; contact me as I have an answer to some of them, and if it is a new one I will then pass it on and try to get an answer for you and others. My advice at the moment is to reinstall 2.2 and put the new 2.3 into a separate directory ie paf3 and use the same data base as many of the reports are improved and a lot of nice new features in it do work.

Visit to Toowong Library

What a lot of doom and gloom but now for the cheerful side we finally made it to the Toowong Library and Craig brought along a new computer program that will be released for use in June or July to the sextants in the Brisbane cemeteries the idea that a person will be able to locate the grave of an individual and some information by way of a certificate from any cemetery in Brisbane as they will all be able to search the other cemetery's as well,

NB. this does not include the private cemeteries ie small church.

OH! I forgot to tell you the cost for a search. \$50.

On this we all complained bitterly and the price may be reduced before it comes out.

Headstone directory

As promised here is a list of the libraries around Brisbane where you may see the listings of the headstones and associated information for the Toowong or Mt Cootha cemetery.

Annerley, Ashgrove, Bulimba, Corinda, Central, Everton Park, Fairfield, Garden City, Hamilton, Indooroopilly, Nundah, Stones Corner, Sandgate, Toowong, Wynnum.

We also had attending our gathering the editor of the *Australian Family Tree Connections*. This is a small booklet (issued once a month) of various people looking for information or connections in Australia and other information of publications that could be of interest to readers. The address is PO box 1133 Toowong 4066, and the cost is \$30 for 6 months or \$48 for 12 months. It is similar to the bulletin board in the message file area for the English Genealogical Connection.

New family history library

Enoggera Church of Jesus Christ of Latter-Day Saints located at 75 Gaythorn Rd Enoggera, Phone 355-0540, has now opened a family history library. The hours are from 7-9pm Tue 10-12am on Thurs and 10-2 on Sat. Do not forget to ring for a booking on the computer or the readers, and they even have room to park a semi, off road, and yes we will be having a visit there in the near future as soon as the staff there get a bit more experience. Cost of a disk to download info is \$2 and printouts are 10c per page (other donations gratefully received).

On Saturday 23rd of April I thought we might see if we could put to use the information we found and try to locate the actual graves of our ancestors and perhaps give them a bit of a clean and tidy up. I suggest that this should be from 10 to 12 with a *byo* lunch to follow in the botanical gardens. This will be discussed at our next meeting.

At the last Sunday meeting some of our members gave us a very interesting talk about the lives of their ancestors and we are actively encouraging them to put it into print for you to read.

LATE NEWS FLASH There is a BUG FIX DISK to be issued to all registered PAF users as soon as it available.

I can be contacted on 07-355-4982 or 018-077-636 Rob Gurney

WINDOWS SIG

The March meeting saw a very interesting demonstration of Norton Desktop version 3.0 by Mic Collis. This not only included all the new features of version 3.0, but probably more importantly, one man's ideas of how to utilise these tools effectively in the running of his business.

This coming meeting there will be a presentation of a series of interesting programs from a little known American software company, Parsons Technology. Parsons mainly specialise in Christian software, and have probably the best electronic bible available (Quickverse and all it's add-ons), but they also have a very extensive range of general interest programs, very suitable for home or small business use. I will be demonstrating four of these products, Announcements, Appointment Calendar, Address Book and Interest Vision Professional. One of the main features of Parsons software is the low price, most items are less than \$70, but this does not necessarily say they lack functionality for the low price. Come along and have a look, you may be pleasantly surprised at what you see.

I am still negotiating with some of the major software vendors for attendance at our SIG meetings, and hope to have Microsoft at the May meeting showing some of their latest Home range of software.

Pascal SIG

Meets Brisbug Sundays, 3pm.

Contact: Steve Cann (07) 245 4453

Gold Coast SIG

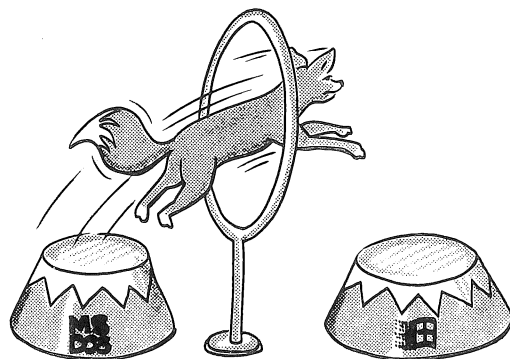
Next meeting is Tuesday, 3rd May, 7pm at Block "B", Merrimac High School, Dunlop Crt, Mermaid Waters.

Contact: Jo-anne Ellis (075) 710113

Continued over

Six reasons to switch to Microsoft FoxPro 2.5

#5: Transportability.



Available for MS-DOS® & Microsoft® Windows™, the cross-platform capability of FoxPro 2.5 lets you transport applications between them.

Microsoft
Making it easier

Visual Basic SIG

Last month I wrote about a Visual Basic SIG, there were a couple of people interested in this but I think we can get a few more. If you have an interest in forming a SIG for this excellent 4GL programming language, please get in touch with either myself, Graeme Darroch (07) 209 1999, or Alan Bridges (07) 801 3520. We will both be at the next meeting and please approach us at any time to discuss the formation of a VB SIG. If you have a modem you can contact me on the Management Information Service BBS (07) 209 4980. Please consider joining as we have been promised support from Microsoft for this SIG if we can get up and going.

If you have only heard about VB and thought I must look at that some day, come along, this will be your chance to find out what is all about, and what can be done with it. You will be amazed just how easy it is to create good looking windows applications, using VB. Another thing that makes this an important language is the fact that all Microsoft applications will in future be using VBA a derivative of VB for their Macro language. All round VB is an excellent product worthy of interest.

BBS News — Continued from Page 9

ing these periods will simply waste the caller's money.

All of the systems have a short period of maintenance at midnight. On lines 1 and 2, this can be up to about 15 minutes. On lines 3 and 4, it can be up to about 8 minutes. Calling just before midnight will result in very little online time being available.

All of the systems are unavailable for human use between 4am and 5am every day. This requirement is for Fidonet Zone Mail. Anyone calling at this time will not be granted access to any of the systems.

Line 1 has a mail period between midnight and 1am. While this mail period is 'dynamic' (ie, it will terminate when mail has been exchanged with the system in the US that we pick up mail from), it will refuse human access until it has completed that call.

Line 3 has a mail period from 10pm to 10:30pm every night. This is also a 'dynamic' event, but again, it will refuse human access until it has completed its mail calls. In addition, Line 3 has mail periods between midnight and 12:30am, and between 5am and 6:30am, during which times it will not accept human access.

Brisbug BBSs - Line Unavailability Times

Line 1	12—12:15 am	4—5 am	
Line 2	12—12:15 am	4—5 am	
Line 3	12—12:30 am	4—6:30 am	10—10:30 pm
Line 4	12—12:15 am	4—5 am	

From the Asst Stoker — Continued from page 3

comfortable Tarago. Rob deserves a hearty vote of thanks for his offer of this place and his good company on the trip.

St. George was our next port of call and we set up in the assembly hall. This venue again had a good amount of interest and a lot of people were very interested in Brisbug membership. The venue here was in the High School so most of the people were attracted by prepublicity done by Rob, our traveling companions from Brodie Dominie Colin Slatyer, and his father.

We moved to Roma next and again we were in the grounds of the local High School in the School Support Centre. Again the turn out was reasonable, and a fair amount of interest was shown in our club and what we can do for people in these more remote areas.

Then the floods...

Next day our move was to Dalby and we encountered the first problems we had had. I don't know if you will remember but the week of 7-11 March was a week when the areas "Out West" got their rain for the last five years in a couple of weeks. I am reliably informed that these areas have been dry and barren for more time than anyone cares to remember but during the week we were there the countryside looked almost verdant in its greenness. Flowers blooming everywhere and the local wildlife all sitting around with smiles on their faces having had the best feed of green stuff they had seen or a long time. Anyway we were on our way to Dalby and had got safely through to Miles but it looked ominous that there was a sign which told us that the road was blocked by water over the road 5 kms outside of Miles heading for Chinchilla. It proved correct and while we were sitting scratching our heads, we started yarning to the guy in the car in front, who was a local. Anyway we chatted for while and he offered to show us an alternative route around the blockage. He did and we were heading off again to Dalby where we arrived in plenty time to set up in the high school library. Our visitors that day numbered many and I made contact with Peter Allen who used to run a Computer group in Dalby but which has, unfortunately, folded recently.

On the whole the trip was I think a success for me and for the people who I made contact with. I think that the people in the areas visited have a great need for information, something that I think Brisbug could go a long way to supply.

We will be looking at ways to improve the movement of information out to these people and interesting more of them in Brisbug. ○

Brisbane & Gold Coast Computer Markets 3 Locations 3

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North Side
Pine Rivers Showground
Old Gympie Rd
STRATHPINE**

**Gold Coast
Albert Shire
Community Centre
Nerang-Southport Rd
NERANG**

**April 3rd
May 1st
June 5th
July 3rd
August 7th
September 4th
October 2nd
November 6th
December 4th**

**April 24th
May 22nd
June 26th
July 24th
August 28th
September 25th
October 23rd
November 27th
December 11th**

**April 10th
May 8th
June NO Market
July 10th
August 14th
September 11th
October 9th
November 13th
Dec NO Market**

Dates are published regularly in the Computer Section of Saturday's Courier Mail & Gold Coast Bulletin.

You too, can sell your *Unwanted Computer Treasures* at these Markets regardless of who you are, where you're from, or what type of organisation you represent... private individual, school principal, company executive, full time computer trader, or whatever. There are but few rules and no formalities. We supply tables and chairs. No need for signs unless you have a particular need. Just book a table and turn-up on the appointed day and your in business.

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Table Bookings & Information ... 07 254 1797

EDUCACHEON News

Mark Mullins — Education Director

New classes... note the start times

At 9.00 am Graeme Darroch will be giving a talk on introductory communications

At 10.30 a basic grounding on spreadsheets will be given by a yet unnamed lecturer

I happened to be watching TVTV on the national television broadcaster before I wrote this and was interested in their preview of 'The Big Byte' which is or has been televised on SBS depending on when you read this article. In fact if you look at your watch now and it says 24 December 1994 you have missed the show and a very merry Christmas to you and your family.

In any case, they briefly interviewed the author of a book who apparently predicted the concepts of virtual reality and interactive television. He has now written a book which is soon to be released where he espouses that children in the year 2005 will refuse to believe that there ever was anything like a television that could only be watched.

I am inclined to agree with his preconception of events because Australians have proved to be eager to adopt new technology such as has been the case with video cassette recorders and compact disk players to give but two simple examples. I feel that its a fair bet that some form of interactive television will be commonplace in the average home within five years.

New Introductory classes for new users

Why all this television stuff? Well I've got to write something in here you know, but interactive television all involves communication and forms of computing. At the meeting on Sunday April 17 the first of our specific grass roots lectures will be held. At 9.00 am Graeme Darroch will be giving a talk on introductory

communications which should run until around 10.20 or so. At 10.30 a basic grounding on spreadsheets will be given by a yet unnamed lecturer which should finish around noon. Whoever he or she is (stand by your phones) s/he will be using the shareware program 'As Easy As' as an example of the average spreadsheet.

You are encouraged to buy a copy of same from the Software Library on that day so that you can try out you newly learned skills when you get home. "As Easy As" is a very good value spreadsheet with many excellent features. No doubt, Graeme in his talk will suggest some shareware communications programs that you may purchase to enable a better understanding of computer communications.

Remember that these courses are for *new* users and I want to avoid constant departures from the topic which only tend to confuse those who need assistance most. If you have a specific question which you feel may require some in-depth discussion please wait until after the talk and then approach the speaker or track down one of the many knowledgeable people in Brisbug who will only be too pleased to help.

C++ start delayed

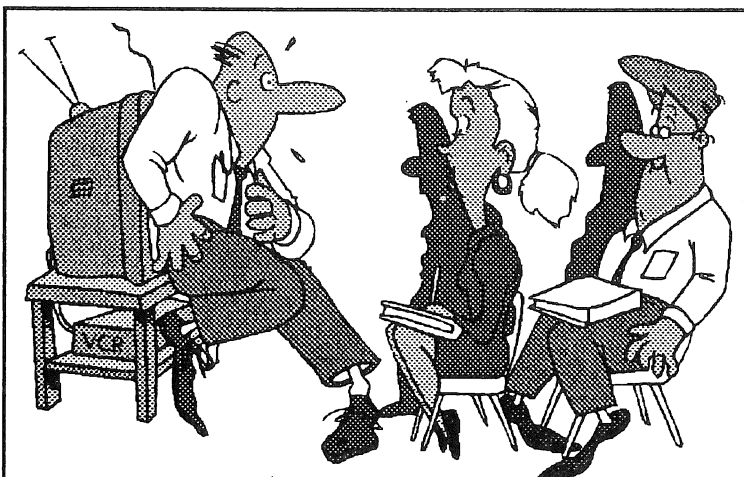
Geoff Baker has telephoned me to say that he is still having trouble with his equipment (computer that is). There is still a great deal of work to be done on getting the C++ notes, etcetera, together and Geoff with his professional approach to all things doesn't wish to commence until all is in place.

An exact starting date and address for the commencement of C++ classes will be given in the May issue of Significant Bits.

Geoff has plenty of able assistants, so thanks again to those who volunteered help after my last article but it is a case of "too many cooks get the pages out of order".

Leon Percy takes over xBase

Dan Emerson is leaving his position of xBase tutor due to study commitments that he has taken on this year. The able Leon Percy who has been a co-lecturer with Dan for a long time will now go solo.



Introducing our new interactive television

- **Earlier Start Times**
 - **New Intro to Comms class**
 - **New Intro to Spreadsheets class**

Class Times

9:00 am	Introductory Communications	Graeme Darroch	R315
	dBase	Leon Percy	R310
9:30 am	Junior Group	Les Cathcart	R301
10.00 am	BASIC Languages	Rex Ramsey	R309
	OS/2	Paul Marwick	R312
	Hardware	Ron Lewis	Theatre
10.30 am	Introductory Spreadsheets	Masked Tutor	R310
	Introduction to DOS	John Tacey	R315
12.15 pm	New Members Orientation	Rex Ramsey	R309
3.00 pm	New Users Tech Chat	Mark Mullins <i>et al</i>	R309

**COURSE
TIMES
HAVE
CHANGED
- PLEASE
NOTE**

Leon will be presented with his 'wings' at a special ceremony. I'm sure I speak on behalf of all members of Brisbug in thanking Dan for his time and effort in the past and we hope to see him at some meetings in the future. **Please note that the xBase class commences at 9.00 am.**

The New User's Technical Chat is getting too technical for me. We seem to be covering a bewilderingly large number of topics. I know there is some saying about 'skim not the waters of knowledge but drink deep' but I have drunk a ten gallon keg! To satisfy the cravings of the eager attendees I hope to be assisted by a panel of 'eminent persons' and have the odd cameo appearance so that a data base of knowledge will be on tap (sorry about the pun).

Q&A Column

As an adjunct to this column I would like to publish questions and answers to difficulties that are being experienced by new users.

I think that the Significant Interest Groups cover the more complex topics but there is plenty of room for us all to learn basics.

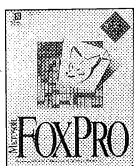
So write to me at P.O. Box 100, Rochedale South Qld. 4123 if you have a question or just some experiences you may have had in getting up and running on your PC and may wish to share. Your name will be omitted if you wish.

Six reasons to switch to Microsoft FoxPro 2.5

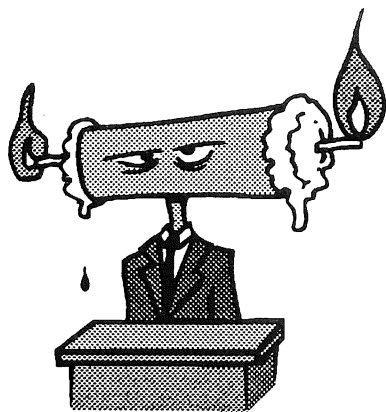
#6: Leadership.



Microsoft® has become the world's leading supplier of PC software by developing superior, rigorously tested products like FoxPro 2.5. For more information please call the Microsoft Sales Information Centre on (02) 870 2100.



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Commercial News

Graeme Darroch

This column will be a selection of the massive amount of news released in the computer industry from time to time. I can't promise to get everything, but I will promise that anything that catches my eye will be included.

Borland

Borland have announced that Ross Dembecki, Australian Product Marketing Manager has been promoted to manage the worldwide release of dBASE for windows. Dembecki was previously dBASE product manager for Australia. Dembecki's role in Australia will be taken over by Sharon Campbell.

Media Vision

Media Vision has announced RENO the first "Personal" CD-ROM player for MAC and IBM compatible computers. The multi-purpose portable CD-ROM player is a high-performance, double-spaced external CD-ROM drive enabling desktop and notebook PC users to run CD-ROM based multimedia software programs on the desktop PC and MAC or on the portable computer.

The RENO also enables the user to play audio compact disks in their offices, homes, or on-the-road.

Used in conjunction with Media Vision's Pro Audio PCMCIA add-in sound card, also announced today, creates the first personal, portable multimedia upgrade system for portable computers.

The RENO operates on rechargeable batteries or AC adapter included, and connects to the PC through a SCSI docking connector.

Media Vision announced the first PCMCIA sound card, designed to enable portable computer users to enjoy multimedia applications with sound.

The Pro Audio PCMCIA is the first device that is compatible with virtually all PC-based game software as well as business computing applications.

Symantec - PC Anywhere V5

Symantec announced the Norton pcANYWHERE for DOS 5.0, the new version of the best selling remote control software which offers easy, reliable access and control of the office PC from any location.

This new version is able to adapt to either the LAN access environment where field employees or satellite offices need to access the corporations networked data resources, or by the individual user who needs to remotely control their office PC.

Dell Moves Into Queensland

Dell computers has established an office in Queensland with the appointment of Scott Reid as Queensland Branch Manager. Reid will be responsible for Dell's major account program and the promotion of the Dell model throughout the state.

Hayes profit growth

Hayes Microcomputer Products Inc. Announced a first quarter growth of 33% for FY94. Contributing to this growth is the fact that Asia-Pacific region increased sales revenues by 126%, Latin America by 108%, and Europe by 35%. As a private company Hayes does not disclose net income but announced that 1993 represents the 15th consecutive year of growth and profitability for the company.

Artisoft Announces Lantastic Network Operating System v6.0

Artisoft has announced version 6.0 of its LANtastic operating system. This upgrade includes significant feature additions and enhancements. Including integrated groupware, modular structure and a new universal client technology.

The universal client technology provides seamless desktop connectivity to Novell, Inc, Microsoft Corporation and IBM corporation network servers. An integrated groupware system includes advanced

Digest

electronic mail, network scheduling, faxing and paging features.

The LANtastic v6.0 network also includes improved network performance and enhanced network management capabilities. This new version is expected to begin shipping during March 1994.

Symantec - Nortons Administrator for Networks Wins PC WEEK BEST NEW SOFTWARE

Sydney - Semantics' innovative network manager software product, Norton Administrator for Networks, won the coveted "PC WEEK Best New Software Product of PC'94" award.

"Norton Administrator for Networks provides network administrators with a lot of the functions that most other software companies are only talking about today" said Chris Bowes, PC Week's Editor, explaining the panels decision. "We were particularly impressed with the automatic software distribution capability, which can mean immense time saving for network administrators when upgrading and installing new software"

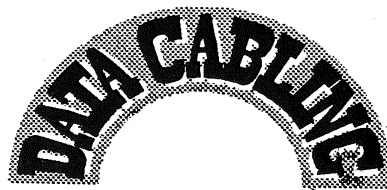
Symantec Announces Fastback Plus for OS/2

"This product takes full advantage of the multi-tasking OS/2 environment, offering valuable time and processor saving enhancements to users. Fastback for OS/2 also offers Symantec's built-in ease of use", said Garry Sexton, MD of Symantec. Full HPFS and FAT support allows the user to backup DOS and Windows files, and files with extended attributes and long file names.

Fastback Plus supports floppy disks, QIC 40/80 and SCSI tape drives, Bernoulli boxes and Syquest drives and allows backup to and from network drives.

The *Scheduler* can be set to run unattended backups. A backup speed of up to 28Mb/min is claimed when using the compression option.

Suggested retail price is \$325. Requires 2 Mb of disk space and a mouse. ○



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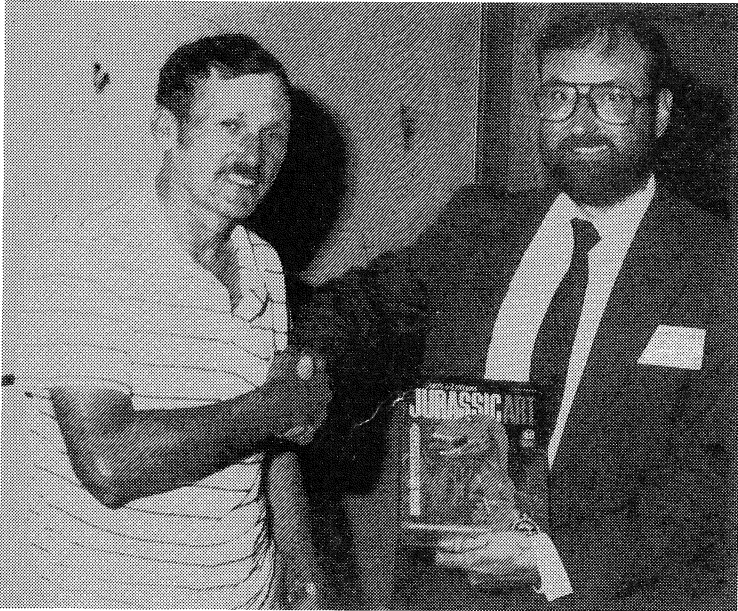
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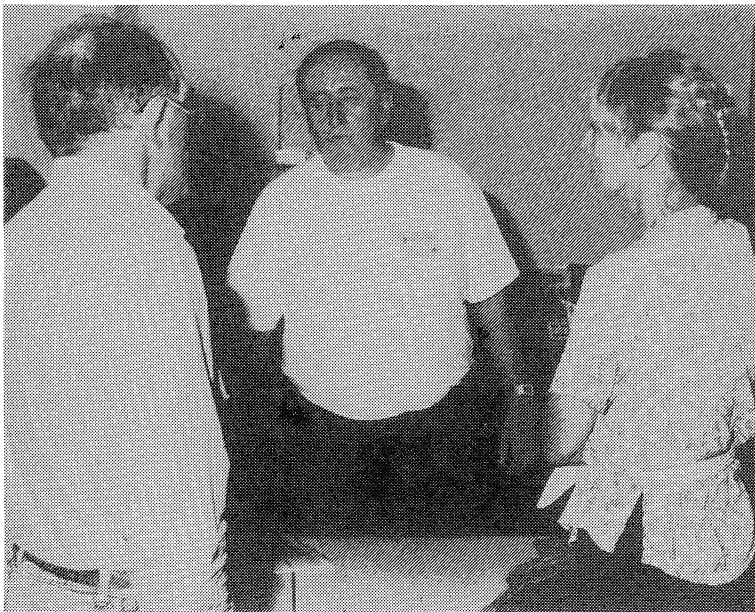
At the March Meeting

Reported by Ron Lewis



Above. Wally Graf, one of the ten lucky raffle winners, is presented with his copy of "Jurassic Art" by David Cartwright, Managing Director of Alkira Software Pty Ltd. The raffle raised a total of \$140, a welcome addition to the treasury. Winners also included this reporter, who is easily distracted by such innovative drawing programs

Below. Two new members find that you can get advice as well as software at the software shop. Kevin Joynes, like all the staff, is happy to help with selection of the right programs for the job... and maybe a tip or two on how to use it

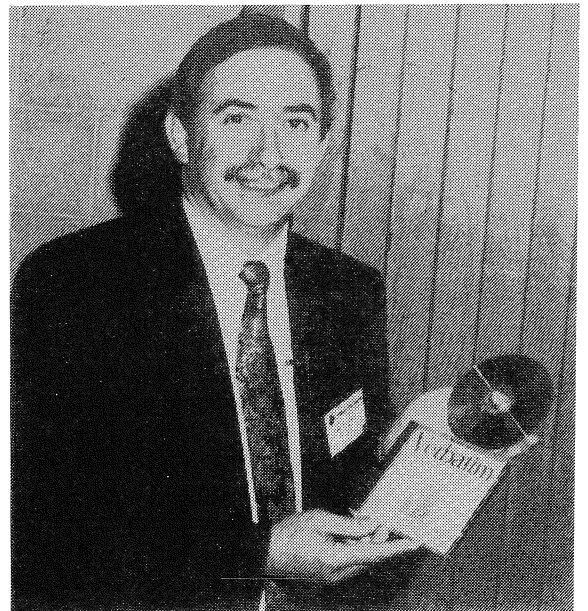


Another busy day at Brisbug! Junior Group started on time at 9:30, with the usual hoards in attendance, followed by classes at 10.

At midday, Brian Finch from Verbatim in Sydney, ably assisted by his Queensland Manager, Richard Conway, showed, amongst others, the (not very distant) future for mass permanent data storage — rewritable CDs. In pointing out the very rapid fall in cost, and increase in performance of this technology, Brian predicted an early demise for "flopticals" and tape technology, although his company is a leading player in both these areas. A very lively question time, cut short by the president so the club meeting could start just a little bit late, typified members' interest in this new technology.

After the club meeting (reported elsewhere), David Cartwright, MD of Alkira Software Pty Ltd, Sydney, demonstrated his company's suite of graphics programs. The low-cost *Jurassic Art* program, with its innovative animation ability was a big hit, particularly with those who won a copy of it in the raffle at the end of his presentation. Highlight however was the preview of "Express", Alkira's flagship graphics program, which is yet to be commercially released.

Below. Lunchtime Special presenter, Brian Finch, of Verbatim, displays an example of the future for permanent storage, the rewritable CD.



(in Pictures)

This is a very worthy addition to the spectrum of graphics omnibus programs with not only drawing capability, but image manipulation, and a huge library of good-looking clip art. My machine was used for the demonstration, and the screen redraws (the bug-bear of computer artists like me) seemed very, very slick... I'll look forward to getting hold of a copy to try in a "real" situation, like doing the cover for SigBits.

Although we'd forgotten them (at least as far as pre-publicity in this "rag" is concerned), BCF Bookshop, in the person of Michelle and Brett arrived (as programmed) with a huge selection of new computer books. BCF will be coming to every second monthly meeting, so note it in your diary.

Don't forget, this month several classes will start at 9am. If this early start time is successful, we'll be able to fit more, different, classes into the Sunday program. ○



Brett and Michelle were there from BCF Bookshop with a generous sampling of their new range of computer books to destroy your BankCard

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Ratty has more ideas in his head than Bosnian cease-fires. Just as he said "I feel like my head's going to explode", his cranium blew right off his shoulders. In a bid to get back to work on project 'Willawong' he has engaged a plastic surgeon to rebuild his face. The surgeon advises Ratty that he will unfortunately have a more feminine nose, his facial skin pigment will be lighter and his tone of voice will be higher as a result of the accident. Ratty is considering changing his surname to Jackson.

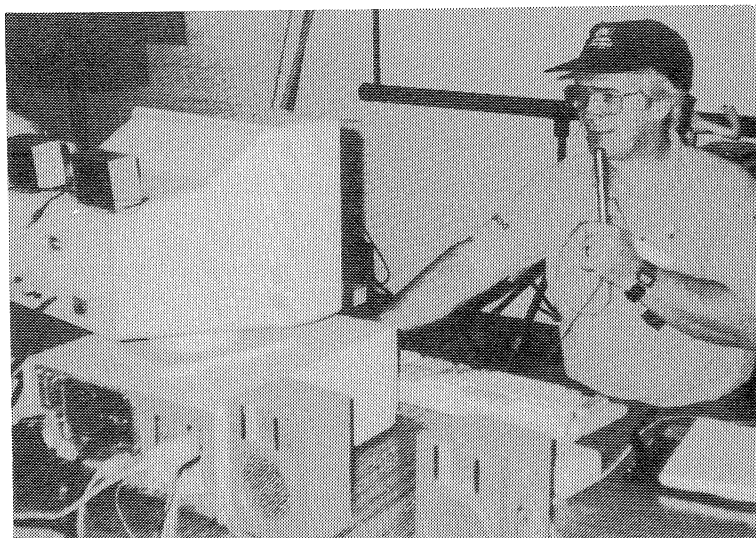
Help Ratty in his bid to buy the remains of the Elephant Man !! Get connected with these modems at these great prices!!

Maestro 9600 internal modem with EC\DC	\$ 425
Maestro 9600 external modem with EC\DC	\$ 495
Banksia Pocket external 14400 fax\modem	\$ 817
Maestro 14400 internal fax\modem EC & DC	\$ 499
Maestro 14400 external fax\modem EC & DC	\$ 592

**EPSON LX-400 9 PIN DOT MATRIX PRINTER
ONLY \$ 199**

RING RATTY NOW !!

New Comms Class



Starts this month

Junior Group News

Reported by Annette Bulmer

HI, BRISBUG JUNIORS

What should we call this section of the magazine?

There have been some suggestions such as

KIDS KORNER

MICROBITES

BRISBUG JUNIORS

COMPUTER WHIZZES

to mention a few.

Well Les Cathcart, the Junior's coordinator would like to know. So how about you Juniors making some suggestions not only for a name but also a logo.

Yes we want you! The Juniors to submit ideas and make the choice of both name and logo by way of a competition with the winner receiving a great prize. At this stage I don't know exactly what the prize is but I am sure it will be worth winning.

COUNTRY MEMBERS AND ASSOCIATED CLUBS INCLUDED IN THIS COMPETITION

Juniors in country areas whether Brisbug or associate club members, are welcome to join in this competition and we look forward to seeing many entries from outside Brisbane. All entries can be sent to Gordon Bulmer at the address below and must have name, address, membership number and age on them. Yes we know not many juniors have membership numbers but their parents number is fine.

The age for this competition has been limited to under 16 years. Please let us know if you use a drawing program to produce this logo, the name and version of the program e.g. CorelDRAW Ver 3.0.

The name "Brisbug" must appear in the name.

The competition is open immediately and will close at the July meeting. The winning name and logo will appear in the next month's magazine along with the winner's name (of course) and maybe a photo of the winner with some luck.

Organiser: Gordon Bulmer

"Hands-on" sessions are a feature of the Junior Group (which also makes it popular with parents). The photo below, taken at the March meeting shows a typical "mix" of participants in the activities. For the information of new members, the Junior group runs all day—in fact it's the first group to

start (at 9:30) and usually the last group to finish (except for the Windows SIG who have to be chased out of the theatre at 5pm. Activities vary from talks by members and invited guests, to demos, to instruction to just "mucking about" i.e. plain enjoying your computer. All members are welcome to "pop in" during the day for a chat.



Photo - Ian Adcock

Survey of JG Participants

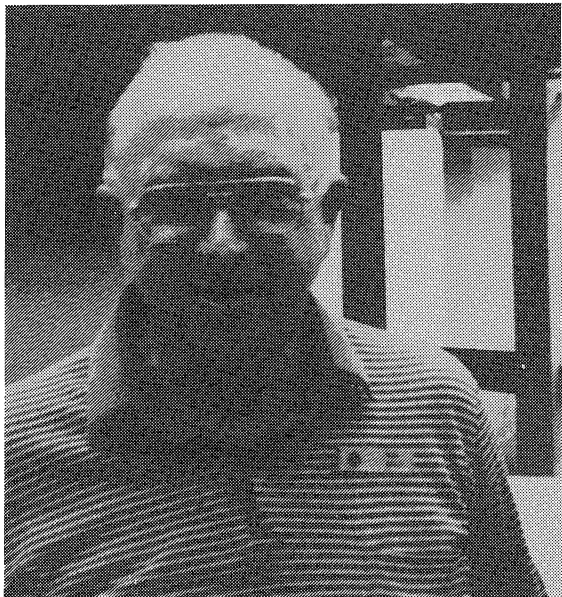
At the April Junior Group your child will be asked to complete a short membership data document. This will enable us to contact Parents or Gaurdians in the event of an emergency or accident. It will also help to keep interested parents and Juniors in touch with one another.

There will also be a space for new ideas and suggestions.

So please let us have your thoughts for future Junior's activities. Junior Member's contributions for publications are always welcome.

JEFF SOWDEN 3278

Thanks, Ron Kelly



A long-time champion of the Junior group within the committee, and lender of practical help and advice, Ron Kelly. He even provided three early members - his grandchildren

Just a short item, this is really a thank you and compliment to Brisbug. When we first started comming to Brisbug, we met a gentleman by the name of Ron Kelly. He answered all of our questions and made us feel very welcome.

Over the last three years, we have met other people who have made Brisbug great. It is people like Ron Kelly and other hard working members of the committee that make or break clubs like Brisbug. Thank you for putting a human face on a great club.

Current Affairs

It has been a very busy time at the last three meetings. We've had over fifty people at these meetings.

We, the members of the Junior Group thank Les for his his commitment to the Juniors. With out him the group would not function as smoothly. This is a plea to the rest of the members of Brisbug. The Juniors are not that hard to please. All they require is some one to keep them occupied for a while. With something different and exciting or just plain interesting. This is not to discourage people comming to give a hand or just to find out about Juniors. Please note the Juniors are not monsters they are just children.

Over the three years we have been going to Brisbug we have had a core of parents who have helped Les. This is a often thankless job so we say thank you to them also. Often this means bringing computers and missing out on the presentations at the meetings. Some of us are there because that is where we can help Brisbug. I do not know much about computers so I try to learn at the Juniors. Not that you get much time for that in the group. Often other things take up your time, and, before you know it, the day has finished.

Les often calls me the gate keeper— I guess it is because I am often found at the at the door. My husband Gordon with the rest of the helpers do what we can to make Les's job a little easier. There is a vast range of age differences in the Juniors. So it not easy to please every one but we try our best. Les aims to teach every one something useful. Our program for the day is never entirely predicatable. But we do have alot of fun. We also have DOS and Windows lesson every month. So the Juniors are learning something useful.

I think that actually having computers and hands on experience really helps you to learn. It also helps to keep people interested in learning about computers. It is more than someone just telling you about it .Instead you do it so the lesson means more. There is no criticism intended or implied.

The new time from 3 to 5 is only on a trial period at the moment. The room must be vacated at 5 PM so we will be packing the computers up earlier to comply with this rule.

At the April meeting Ramware will also be putting on a demonstration. Also I forget to say thank you to the Library staff and all people involed with that department. A big thanks to BRIAN STANFORD. Without the help of the library staff the Juniors could not function as well.

April Meeting PROGRAM includes

RAMWARE Demo of educational and entertaining software

Windows

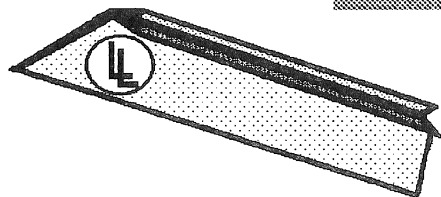
DOS

Fun Fun Fun

Helpers WANTED - Apply JUNIOR GROUP

Usual Brisbug Pay Rates apply

Lindsay's letter



Lindsay Bates

Practical Computing for Established and New Computer Users

Welcome to another edition of Lindsay's Letter! The year's moving on apace, it's getting cooler and the computer world continues it's head-long rush towards . . . well, 2000 and beyond.

Meantime we all get to enjoy the amazing things computers can do for us. For - in my view - computers are to be ENJOYED, as well as utilised for productivity and profit.

We're dedicated to helping you get the best from your PC in all of these areas. So I hope there's something below for YOU!

BATCH TO .COM - WOW!

Would you like to turn your batchfiles into fast, executable .COM files? The good news is you can. And it's easy to do, too! I recently checked out three batchfile compilers. Here are my findings.

BAT2EXEC

First up is BAT2EXEC (v1.3 released in 1990). It quickly and easily compiles a quite small .COM file from your batchfile:

bat2exec thisfile.bat
produces THISFILE.COM ready to run. It takes about a second to do a small file on my machine, and it all seems to be

quite simple to do. However, when I tried BAT2EXEC on my more complicated batchfiles, it bombed out time after time. Looks to me like this occurs as soon as you start to set environmental variables (using the SET command). So if you want to use this program, you need to check your batchfiles for the SET command. With this rider, I found BAT2EXEC easy to use and quite effective. Oh, and it does recognise ANSI characters, which the others do not.

POWERBATCH

POWERBATCH is a quite powerful program that compiles larger .EXE files for you (over 20K). Trouble is, you have to learn a new language (not as friendly as batchfiles) to use it. So it's not really a batchfile compiler at all. It has a number of inbuilt features that normal batchfiles do not. Things like checking if a file is in PATH and if a drive exists. It has beeps and boxes and text centring, good control over the visual display and excellent string manipulation. If you want to upgrade from batchfiles but not go as far as learning C, then POWERBATCH is definitely worth having a look.

TURBOBAT

This program produces a compact .COM file directly from your batchfiles. The compiled .COM file can run many times faster than the original batchfile.

It cannot be changed by the user, and 4DOS commands are supported. TURBOBAT adds a number of extra features which go towards making up for all those inherent and serious batchfile

weaknesses. For example, you can write a batchfile with break set to off so the user cannot break out of the file by any means (useful for passwording, for example).

"The compiled TURBOBAT file cannot be changed by the user, and 4DOS commands are supported."

Here are some of the extra goodies that really grabbed my fancy in TURBOBAT:

- . CDD changes drive and directory at once (beauty!)
- . Do all sorts of bells and whistles with BEEP (tunes too!)
- . Set (and reset) screen colours easily with the instruction COLOR BRIGHT WHITE ON BLUE (at last it's in English!)
- . With IF instructions add an ELSE also (wonderfull!) You can nest these, and nest FOR IN DO instructions also.
- . Then there's INKEY and INPUT for easy user input. And PAUSE (with or without message) and DELAY for a given time.
- . And how about GOSUB to a label, then return (- double wonderful!!)

- Between *TEXT/END TEXT* you can write as much text as you like for very fast execution - with *TURBOBAT* you can forget those frustrating lines of *ECHO*s.
- SCRPUT* allows you to put the text exactly where you wish and in the colours you wish, too.
- Finally, *ISDIR* and *ENVFREE* are very useful test utils for your batchfile, while *CLS* will clear the screen to the colour you specify.

One of the beauties of *TURBOBAT* is that you just write your batchfile as normal, then compile it with the simple instruction:

```
TURBOBAT MYFILE.BAT
```

Compilation is very fast and you end up with *myfile.com* to run instead of *myfile.bat* (but *myfile.bat* can stay on disk for modification as necessary).

You can then add any of the easy instructions specific to *TURBOBAT* (above) into your batchfile as desired. Because these won't work if running as a batchfile, at compiling *TURBOBAT* thoughtfully warns you about them. It really couldn't be easier!

Personally I have to wonder why a program like *TURBOBAT* hasn't been available to us long since (I'm sure the *TURBOBAT* writers will moan, and say: "But it has!").

About the only down side I could find to this marvellous program is that it doesn't recognise ANSI characters (which I use a lot). But even this isn't a problem, as *TURBOBAT* uses its own fast and easy-to-use ANSI sequences instead.

In summary, *TURBOBAT* is a classy and professional batchfile compiler that we've needed for a long while.

Wonderful program, highly recommended!

It's available on the new *Lindsay's Letter* disk from the Library, # 8606 or you can get a copy from me (phone number at end). You'll also find it on the BSS as TBT319.

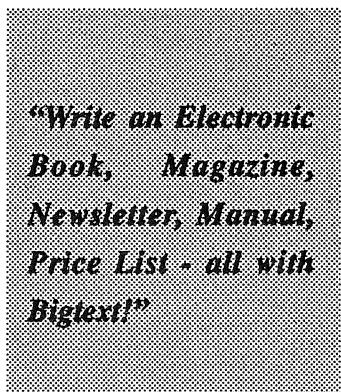
BIG, BIGTEXT!

It's hard to know where to start for this top Aussie (Brisbane) product!

For superlatives readily drop from the lips as soon as you start to talk about this amazing program. It's new, and it seems to be utterly unique.

At the simple end, it will do something many of us have wanted to do many times: turn a text file instantly into a self-displaying *.EXE* file!

Rather than having to *TYPE* or *LIST* some *.DOC* or *.TXT* file - you run it instead. Wow! And you can scroll up, down, do a find on any word or group of words. In fact, all the things you'd ever want to do with basic text.



NOW YOU CAN WRITE AN ELECTRONIC BOOK!

On the other end of the scale - and I freely admit it still amazes me - *YOU CAN WRITE AN ELECTRONIC BOOK USING BIGTEXT!* Or do a *Manual, or Catalogue or Magazine!*

And that's in colour, with graphic illustrations, tables, index, the works! (see what I mean!)

But there's much more. *You can*

run other programs from within your book as well!

So if you want to write that book - and not have to ever worry about the cost and hassle of publishing it - now you have the means (and no excuse for *not* doing it!)

And the brilliant news is that it'll cost you just \$30 for the program to make it possible! But you don't have to stop at electronic books: how about newsletters, training manuals, price lists - the uses for *Bigtext* are limited only by your imagination.

HOW IT'S DONE

Let me explain how all this magic happens. You start with basic text. In ASCII. Just write your blurb, and you're immediately ready for the simple, menu-driven compilation into a self-executing *.EXE* file.

Okay. Now to start on the extras. Add colour to your text. And it's easy to add a coloured front-end index/menu (up to 50+ entries) for those valuable first impressions.

Let's add some illustrations. You can display *.PCX* graphic files if you like. Or paint a fancy screen, or do large letter headings or set up tables or figures. Do the latter easily using *Text Paint*, by the same author.

Oh, and he's written a screen capture program, too (I'll review both soon). In fact, if you're good looking (which you are, right?) he may even throw in these programs for free in the thirty bucks! Want even more (as the best?) TV ads say) . . . No problem.

From anywhere in your text, you can go out and execute/run any other program or any DOS command. Now that's versatile!



Fig. 1. TurboBat will put all your batchfiles into turbo model

IT'S EASY And the best news I've saved till last. First, it really IS easy to use. And second, get all this amazing value for \$27 by quoting your Brisbug Membership Number. If you'd like to check out Bigtext, and Text Paint and Text Capture, they're on the new Lindsay's Letter disk 8606, available from the Brisbug Library, or ring me for a copy.

SOFTWARE

WOULD YOU BELIEVE?

A sharp-eyed reader spied a Symantec (Norton) ad which stated that The Norton Speedrive runs Windows 10 times faster and DOS 40 times faster. *Wow!*

It normally takes me just under 20 seconds to enter Windows, so with Speedrive Windows will load in, let's see, *about 2 seconds!...*

Which just goes to prove that it's not what you say but how you say it that counts. It would be good if Symantec spelt out *exactly* what it is that's going to run 10 times faster in Windows. Then the ad may make some sense.

Until then, my advice would be to not hold your breath about that 2 seconds. . .

COMPARING TWO TEXT FILES

Ever wanted to see the exact differences between two text files. Maybe you've modified one (a batchfile, for example) and wish to check exactly what's different. I hate the way modern programs are always modifying *CONFIG.SYS* and *AUTOEXEC.BAT*.

The badly behaved ones do this without even telling you! Sometimes they copy your old version as *AUTOEXEC.OLD* or *AUTOEXEC.BAK* or whatever (till you have a great proliferation of these on C:\)

And sometimes they get their changes in these important files just plain wrong! So maybe you need to check. DOS has a basic way of checking what the heck the program changed.

To do this just type

```
: fc autoexec.bat autoexec.old
```

to get a readout of the differences. If there are many lines different, then add the following to the end of the *fc* line above:

>changes

This will save all the differences into a file called *changes*.

View them with any textfile viewer (such as *LIST*, or Windows *Notepad*). But here's a much better way of doing this:

WINMATCH FOR WINDOWS

If you want to really check the differences between two textfiles, then the shareware program *WINMATCH* (*WINMAT1* on the BBS) may be the one to use.

I found *WINMATCH* easy enough to set up (relatively automatic), and to use. You designate the old file to compare, then the new one.

The differences display very clearly - the old in red, crossed out; the new in green.

Alt-N finds the next difference. You can display (tile) the two files vertically or horizontally; and even display them - including the differences - in just the one window.

When tiled, both windows scroll together, both up and down and left and right, so you can compare the two files directly, quickly and easily. *Recommended.*

DOS 6 DOUBLESPEACE

Many PC owners have taken advantage of the extra hard-disk space given them *gratis* by DoubleSpace. Here are some common questions and answers.

1. *I've heard that you can DoubleSpace floppy disks as well as the hard-drive.*

Many users don't seem to realise you can do this - you sure can fit a lot more on your floppies! Be aware however, that any DoubleSpaced floppy can only be read by a PC that's itself running DoubleSpace.

2. *Does installing DoubleSpace on your machine automatically mean you've doubled a 210Mb HD to 420Mb?*

It depends entirely what sort of files are on your HD. Drive C of our system has a lot of data files on it: DoubleSpace has more than doubled its effective size (compression ratio 2.3:1). Our overall HD compression ratio, though, is just 1.6:1, so we are nowhere near doubled on our drive.

3. *Once you've DoubleSpaced Drive C, at any time later is it difficult to add a D Drive?*

No. Many people choose to do this to put the kids games on, for example. You'll need some space spare on H. If there's no space there, then you must first pinch some from C to give to H.

This space can then be used to create a new Drive D. You could, of course, have chosen to create D when you DoubleSpaced C.

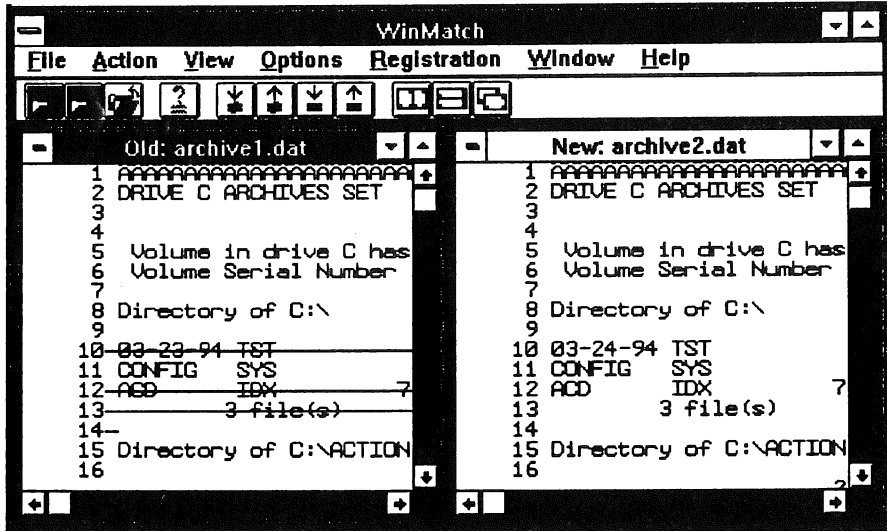


Fig. 3. WinMatch lets you check for every different in a textfile.

4. *So it is possible to alter the sizes of C and D later?*

Certainly. As long as there's some spare space somewhere on your drive, you can alter the sizes of C and D any time - to give more room for those big games on D, for example. Once again you'd pinch from C and give to H, then take that space for D. This ability to alter/manage drives on your HD is an amazing bonus with DoubleSpace.

5. *If I copy a file from my DoubleSpaced HD to a non-DoubleSpaced floppy, will it mess up?*

No. DOS will save it normally to the FD. 6. What about the reverse, then, if I save a non-DoubleSpaced file from a FD to a DoubleSpaced HD? Same again, George. DoubleSpace automatically compresses and uncompresses all files as needed. You don't even have to think about it!

7. *Will my computer run slower with DoubleSpace?*

Most times you'll not notice it even if it does, and the main reason for this is that any speed degradation is usually so slight. That aside, I have seen programs where I can see a difference, but most users are so grateful for the extra space as to not be concerned by this.

8. *If you haven't DoubleSpaced with DOS 6, should you upgrade to 6.2 before doing so?*

I'd say yes to this. The upgrade will cost maybe \$25, and for peace of mind is a must. You'll get extras goodies like *SCANDISK* anyway, so it's money well spent (*SCANDISK* can find and fix many HD errors).

9. *If you've installed DOS 6 DoubleSpace, should you upgrade to 6.2?*

If you've had no problem to date with DOS 6, then it would not be seen as a matter of life and death. Nonetheless, most of the comments above still apply.

10. *Any other plusses for DoubleSpace under DOS 6.2?*

Yes, the DOS 6.2 upgrade gives you the option of uninstalling DoubleSpace if you wish to do so - provided you have the space to fit the

compressed files, of course. You also have a different SMARTDRV which should be safer for most users. The latter, in fact, is a major reason for moving up to 6.2.



A WINDOWS RAMDISK?

I recently read an article in a commercial computer mag suggesting shifting many of the Windows files to a RAM disk at bootup.

The reason for this is that RAM will always give faster operation than any HD, and Windows does need all the help it can get.

But a RAM disk?

If you have a power failure, unless you're fortunate enough to own an Uninterruptible Power Supply, in an instant everything on the RAM disk flits off to never-never land.

If you have a lockup, same.

The article suggested that as you still have a copy of Windows on disk that's not too much of a problem. But we must take note that Windows spends a reasonable amount of time modifying various files. **The RAM disk suggestion thus seems to be another example of how to live dangerously in '94.**

It's certainly not for me.

HARDWARE

THE FAST PENTIUM

Okay, okay. I've been taken to task for appearing to say that the Pentium isn't fast (when everyone knows that it IS, right?)

Which was exactly my point. Of course Intel's P5 is a fast CPU, and if I

led anyone into thinking it is not, then I apologise.

But I'm interested in real-world speed. The P5 doesn't work without being on a mother-board running a hard-drive and monitor via peripheral cards.

For most of us, while 64-bit boards are on the way, it currently would on a 16-bit mother-board.

It would be used to run DOS and Windows and our favourite wordprocessor or spreadsheet (or maybe *Duke Nukem*, *Cosmo* or *Keen*) - all 16-bit programs. In this guise it is not going to run down an F111, as I said.

The reason for this is that - real-world, as most of would use a Pentium - it's raw speed will be tamed considerably by the many and various constraints of our software and our hardware.

But if you do want a F-A-S-T computer, I and others are only too happy to sell you a Pentium 60 or an even faster Pentium 66 (or even a . . . see below).

Unquestionably, it will run your computer faster than you ever dreamed possible (and have you ready for Windows 4 when it arrives).

After the caning I've taken, let's face it, I wouldn't dare say otherwise . . .

THE FASTEST PC!

On the question of speed, as I say elsewhere in LL, keeping up is mighty hard in the computer world.

This is nowhere more obvious at present than in the CPU stakes.

You rushed out and bought a P5-60Mhz Pentium? . . . sad in a way, because it's already been "left behind" (should you happen to not want it any more, my phone number is at the end of the article)!

So what's going down, as they say in the movies.

Well, new offerings from Intel will soon be upon us. First the 486 family. Soon we'll be able to have a faster 486 - faster, that is, than the present 486DX2-66. The new 486-DX4 chips will apparently be available in 75Mhz and 100Mhz (100 is MUCH tidier than 99, isn't it - the

speed Intel threatened us with earlier on)

As if that isn't bad enough, faster Pentiums are just round the corner also, with speeds up to 100Mhz; and maybe 150Mhz next year.

If that's all a bit confusing, consider the Pentium family as 586s.

We all know that a 486DX-33 is much faster than the earlier 386DX-33. Likewise a 66Mhz Pentium is considerably faster than a 486DX2-66Mhz, and a 100Mhz Pentium will be faster than a 486DX4-100Mhz.

And of course, it will just continue on from there. After the "586" Pentium, we can look forward to the next family of "686s". Do you think maybe Intel will call them Sexiums?

SECURITY

CHECK FOR VIRUSES

Do you keep a close watch so you don't catch a computer virus?

Give yourself some basic protection with *SCAN*. At time of writing it's on the BBS as *SCANV112.ZIP*.

You should do two things with *SCAN*. First, ensure that you do a *SCAN* on every floppy disk that you've not previously done this to - including commercial disks.

To do this, at the DOS prompt just type *SCAN A:* or *SCAN B:* as the case may be.

Second, run *SCAN* each time you turn on. You could use the command *SCAN C:* perhaps, to do this. Putting this command into your *AUTOEXEC.BAT* file will ensure it is never missed.

If you don't want to do it every time you turn on, ensure you have the program *DO-ONCE* in your utility directory and use the command:

DO-ONCE SCAN C:

This will do a scan just once each day. Finally, the best protection is to be vigilant as to what floppy disks you put into your PC, and what files you copy from them - this is the route you catch viruses by.

KEEPING UP

In order to be productive in the computer world, you have to keep up with what's going on.

And it all seems to happen so quickly: DOS 6 to DOS 6.2, Word 2 to Word 6, Office 4 to Office 4.2 (or is that 4.3??) *Good grief*

We recently caught up with an old customer and enjoyed a few minutes helping him with a problem he'd struck.

As he left, he said: "How do you keep up?" He was referring mainly to his computer I believe, but software's just about as hard to manage.

I suspect that many folk have not upgraded their computer simply because they're freaked out at what they need to get.

Do I need a 486 or a Pentium, PCI Bus or VESA; that sort of stuff really is pretty hard to handle.

Thing is, the PC world isn't going to stop it frenetic race for hardware and software profits, and we need to accept this.

Both personally and in LL, I do my best to help folk keep up - and to know HOW to keep up. I try to tell you the things you need to know in order to do this. But your needs may be different. If I miss something you specially need, feel free to ring and ask. I'll always help if I can.

ENGLISH AS SHE IS SPUCK

I've always loved SE Asian English. In a recent Manual relating to the new "Green" power saving in PCs, I thought points 8 and 9 were interesting. Relating to Standby mode we were informed that:

8. Hard disk motor will be spin on.

9. If standard VGA model, then will be into sleep mode.

I'm certainly glad about all that, aren't you?

THIS MONTH'S QUOTES

- The Computer User's Ultimate Day-dream - a bug-free application program!
- Distrust - vindicates itself.
- The future's so bright, I gotta wear shades! (*I don't believe it!!*)

'Bye for now! See you again next month.

Lindsay K. Bates Ph: (07) 808 9441 after 10am

Taglines

Collected from the BBS
by Ray Marsh.

CAUTION!!! Do NOT look at laser with remaining eye.

Toilet stolen from local Police Station! Police have nothing to go on

Are dog biscuits made of collie flour?

Noah: "Scattered Showers, my foot!"

Sir Edmind Hillary: "Why?? Cos it's there!!"

Pet Store: 'Buy one, get one flea.'

Mayor of Hiroshima: "What the Hell was that??"

The world is coming to an end.
Please log off.

Fur Sail Cheep:
1 Bran Nu Spel Chekker. Nevur Uzd.

If you don't like the weather in Melbourne, wait 20 mins

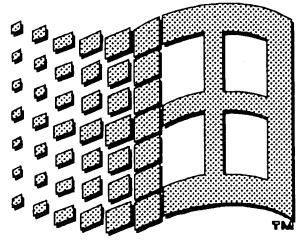
UnZip PANTS.ZIP - now THAT'S a command line!

Silence is evidence of a superb command of the language.

Get your mind outta the gutter!
And, pick up mine while you're at it!

I didn't DO IT! It's really San Andreas' Fault!

Windows Watch



An Occasional Column, compiled by Ralph De Vries

Computer Literacy and Windows

During the last few years a lot of new users have been sucked into the Windows environment because of its 'user-friendliness'. To some extent this is true, of course... until problems arise, and then the fat is in the fire. All of a sudden they discover that there are such things as a Dos prompt, Autoexec.bat, Config.sys, and .ini files, and lots of other assorted goodies. Somehow that once user-friendly computer isn't so friendly anymore; in fact it's becoming more like an enemy by the minute.

If the new user's friendly dealer can't (or won't) help, he/she may have a friend who can get them out of a pickle, or, if they are very lucky, they discover their local PC users group, which will get them going again, *provided that they are willing to put some time and effort into learning what makes their computer tick.*

To put it simply, there ain't such thing as a truly friendly and foolproof PC operating environment *at present*. To get the most out of your computer, you will not only have to attend Brisbug's classes, but you will also have to spend some time trying to put into practice what you have been taught at these classes.

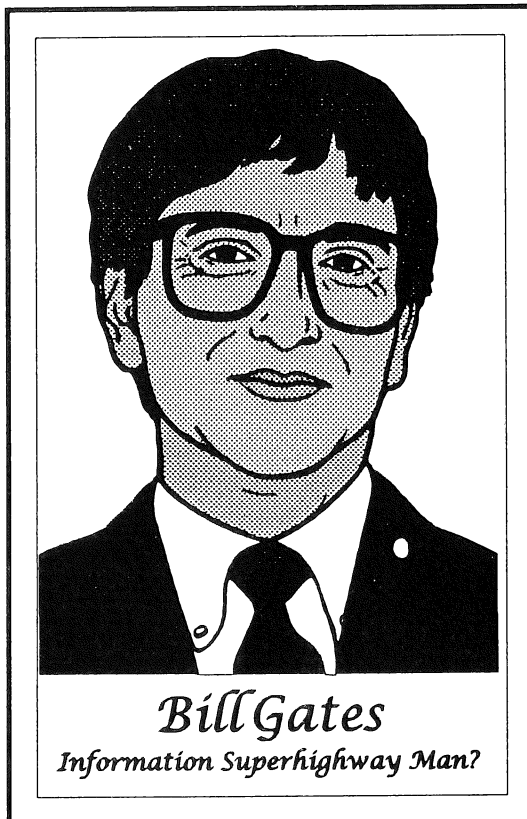
In a large users group such as Brisbug there is a core of (I was going to say 'old timers', but I'll get into trouble for that one!), senior members who came upon the PC scene before Windows and OS/2 and learnt about computers the hard way. They know about hardware and hardware modification, about MS-Dos and how to get the most out of it, about programming in Basic, Pascal and

other computer languages, database programming, about the writing of batch files and macros, how to control viruses, etc. etc. Some five or more years ago, the majority of Brisbug's members fell into one of the above categories. In 1994 the majority of these 'computer literate' people are still members (some of them teach in Brisbug's

classes), but their percentage has shrunk very substantially, because, right now, the majority of new computer users are no longer interested in finding out what makes the computer tick, but rather what they can do with that box of tricks. The latest software is getting so large and complicated, that many months are required just to learn how to use this software - there really isn't enough time to learn the ins and outs of a computer operating system as well.

As previously stated, current versions of Windows (and OS/2 for that matter) cannot really be

called truly user-friendly and fool-proof. In the case of Windows we have a reasonably nice graphics frontend, which sits on an antiquated operating system (MS Dos). Yes, it still falls over and locks up the system, depending on a variety of factors. To do certain tasks such as de-fragmenting a hard drive, you are forced to go back to the Dos prompt, which means going back to the past. OS/2, without a doubt a much more 'modern' operating system, suffers from a split personality, because it tries to be all things to all people (OS/2, Dos, Windows, and combinations of these). In the Feb'94 issue of *SigBits*, Dan Bridges gave us his impressions of OS/2 in a very well researched article. On page 35, under the



heading of *Flexibility*, he lists nine (9) different ways to operate OS/2! Wow..., that's great for people who have Dan's kind of computer background, but hardly a recommendation for newcomers.

Ideally we would like to see is an operating system which is truly user-friendly and fool-proof. In fact, *it should be possible to do everything from within the graphics users interface, without ever having to see a Dos prompt again*. By the same token, the computer literates should be able to have access to the underlying operating system - which means that they should be able to get back to their beloved Dos prompt!

So, will the next version of Windows (4.0?) offer us this kind of user friendliness? From the few snippets of information that have slipped out about the early gamma and beta versions, I very much doubt it, but I may be wrong, of course. If it's going to be as good as some commentators expect it to be, then Brisbug will only have to run monthly sessions to show off the latest in software and hardware, as there will no longer be a need for beginners classes. (Do I hear laughter?)

If the new Windows 4.0 doesn't turn out to be quite as good as we hope, then, perhaps, OS/2 Version 2.2 will have all the answers, provided, again, that it is used to run *only* OS/2 programs with a graphics frontend; forget about the other 8 ways to run OS/2. However, to do that, IBM should stop selling computer systems with Windows installed!

During February the 'gospel according to Bill Gates' has been preached in Australia. Sorry, St. Bill, but your *information super highway* sounds to me a bit like the Book of Revelations, and, as you know, they are still arguing about that one as well.

I know this makes me sound as if I am not one of your 'converts', and you would be absolutely correct. Rather than worry about your information highway, I would suggest that you and your programming teams go out of your way to make Windows a truly stable, friendly and foolproof integrated operating system. Going by your past track record, we won't see Windows 4.0 till 1995. If it lives up to my expectations, then I might even become a convert to to your information highway concept.

If these few lines have upset both Windows and OS/2 users, so be it (at least it cannot be said that I'm totally blinkered in one direction or another!). No doubt, the DOS boffins totally disagree with me, but

Graphics User Interfaces are here to stay. It's their implementation that concerns us all.

Back to the Present

I hope that most Windows users come to the Windows SIG (3 pm, after the main topic, in the theatre). At the Feb '94 meeting Brian Bere-Streeter and Bernard Speight looked at *Word* and *Excel*, and in the process managed to drop some very useful hints, which were very much appreciated by the audience.

Even if you didn't own either of the above two programs you would have been able to learn something. Keep up the good work, B.B-S!

_DATA

Bernard Speight offered this first rate tip for people who hate backing up their

hard drives on a regular basis. Create a directory with the name _DATA on your hard disk. Notice the underscore - by using the underscore this directory will appear at the very beginning of a directory listing.

Next you create subdirectories under _DATA for your application data files, i.e. Excel, Ami, Corel, Pics, etc. etc.

When you only want to do a regular backup of your most important files, it's a simple matter of backing up the whole of your _DATA directory. Other important files to back up regularly should include your config.sys and autoexec.bat files, and all Windows .INI and .GRP files.

If you have a hard disk crash, you can re-install DOS, Windows and your Applications from the original floppies (or CD-ROMs if you are lucky), and the 'vital' stuff from your backup set of disks.

Windows for Workgroups 3.11

As mentioned last month, I have installed the new WfW 3.11 on my stand-alone computer, and it appears to be working quite well, particularly the 32-bit file access. I feel that the figure I published last month about a 300% increase in disk speed probably looks rather excessive. In practical terms my overall performance increase is probably in the vicinity of 20%, which is nice all the same. Other new users may find that 32-bit file access will only give a marginal improvement, and with some hard drives (I am thinking of certain SCSI hard drives) it won't work at all.

Warning - if you use the new 32-bit file access, use UNDELETE only from the DOS prompt, i.e. get out of Windows, as it will not work from within Windows.

"Time was invented by an Irishman called O'Clock"

Tagline found on the Brisbug BBS

We believe that the same thing applies to other (non-Microsoft) undelete programs. Hard disk defragging can only be done through DOS as well.

Windows Version 3.11

In the USA (and probably here in Oz as well) Microsoft has released a minor upgrade of 'ordinary' Windows, which is also called 3.11 - talk about confusion! In the US it's available on Microsoft's bulletin board, and consists of about 10 files which are upgraded versions of existing files. Apparently the upgrades are only very minor (mainly software piracy protection), and don't offer any of the new features which are available in Windows for Workgroups.

Windows Games

I am not into games, as my reactions are far too slow for shoot'em ups etc., but I do enjoy the occasional game of Solitaire.

What surprises me is that so few specific Windows games are available. Microsoft has released a few, but, apart from a handful, there's very little from other sources. The reasons aren't hard to find; by writing games for Dos based PCs, the potential market is considerably larger than a Windows-only market. As a result most games have been written for the lowest common denominator, and work only in a low resolution mode and have that 'blocky' look about them.

With the huge growth of Windows, the time must now be ripe for Windows only versions of games, with a minimum of VGA resolution (640 x 480 x 16 colours).

Bargain of the Year?

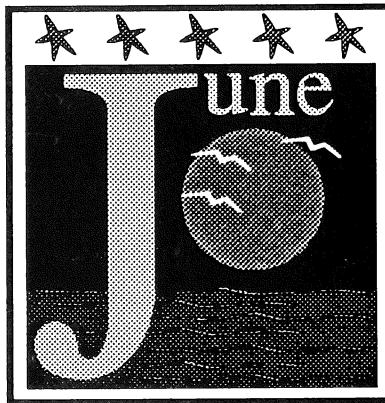
Some months ago, Micrografx came to the Windows SIG and gave us an interesting demo of their graphics programs, which included their entry level program *Graphics Works*. At a RRP of \$245, it offered serious competition to the earlier, but still current, Version 3.0 of *CorelDraw*. However, as *CorelDraw* appears to hold a similar position in the graphics world, as *WordPerfect* does in the world of word processing, poor old *Graphics Works* stood very little chance of succeeding (just try to find the program in Brisbane, and you will see what I mean).

But now Micrografx has reduced the package to \$155.00, and *Graphics Works* has become a real bargain, which is hard to resist at this price. As the package includes a CD-Rom with 10000 pieces of clipart and 1000 colour photographs in com-

pressed (JPEG) 24-bit format, I just couldn't pass this one by; after all, I can use all this lovely clipart in *CorelDraw*, *Word* and *Publisher* as well.

As well as *Draw*, the Package includes *Photo-Magic*, a bitmap image editor, and in my humble opinion a lot better than *Corel's PhotoPaint*. The other three modules, which I have not installed, are *OrgChart*, for designing 'tree type' charts, *WinChart*, a 'normal' charting program, and *SlideShow*, which is a presentation package.

When *Draw* was first released some 18 months ago I considered it a good buy at \$245.00; not as multi-faceted as *CorelDraw*, but a lot cheaper.



Micrografx Draw Clipart

But now, with all the other programs thrown in, and at the new RRP of \$155, it's a terrific bargain, even if you don't own a CD-Rom. However if you do have a CD-Rom you also have access to all the additional Clipart and fonts. Go and get it, before they put the price up again.

Next month I hope to take a look at a few new books written for Windows software.

Ralph

DOOM — A review of the

by Ian Adcock

First impressions

Welcome to HELL.

This is one of the most realistic future dimension killing sprees around. It's gory, violent, mean, fast, wild and totally BAD. I'm hooked and I can't get enough. The view is through the eyes of a lone soldier stranded with only a pistol for company.

Your view of the world is very, very realistic. Smooth scrolling graphics, with a quality good enough to touch, immerses you in a virtual battlefield.

The battlefield is the moons of mars in a future dimension. You move through the vast complex killing or being killed. Demons abound and they are after your blood. Secret rooms and passages are cleverly disguised and it's to your benefit to search for them. They contain much needed supplies and often the best weapons.

There are 3 levels with eight buildings to fight through on each level. From dungeons to castles and planet surfaces, each has a different look and feel. What doesn't change is the relentless attacking demon hordes.

The game...

I can confess to using an alpha version of *DOOM*. It was an unplayable demo but the feel was there. To say it was stunning is an understatement. It

has changed in small ways; but as for graphics, well I was, and still am, rapt. The actual specs are 320 x 280 resolution, but add 256 full screen colours and fast action, and it's as real as you can imagine. Nothing comes even close.

A reasonably fast computer and graphics card are needed along with a minimum of 4Mb of ram. The screen size and graphic detail can be adjusted to suit the computer. I am still getting frights as I round a dark corner to come face to face with a Baron of Hell.

Sounds

What would all the killing be without a catchy soundtrack and wild sound effects? The sound track changes to suit the mood and game level. It's not at all annoying either. All the weapons sound mean and realistic. You grunt if you jump down from a height, your breathing becomes laboured if you are injured and you have a blood curdling scream when you die. Believe me when I say you will die and often. Just try *NIGHTMARE* armed with only a pistol.

However my favourite sound is when you waste the bad guys. The Demons and Spectres grunt, snort then slide across the ground with a thud. *Very amusing*. Hit someone with a missile or hit a nuclear waste drum next to someone and they explode with a sickening *splat*. Sounds great, and looks ugly too.

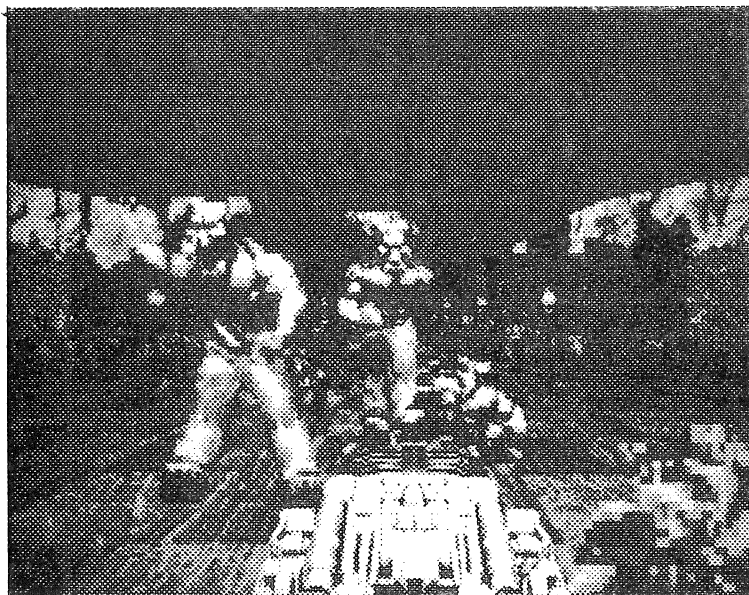
Playing around

When you first step out of the airlock you have no armour and only carry a pistol.

From there you must make your way through the various buildings killing all and sundry. Along the way there are many rooms to explore, all containing secret passages and cupboards. These contain ammo, first-aid kits, and weapons. However to make things harder you must also find keys, without which you "aint goin' noplase" in a hurry.

To help you during your quest is a display across the bottom of the screen. This lets you know how well you are and how much ammo your various weapons have left. Every time you are hit the health decreases and when you pick up first aid kits it increases in percentages. It also shows the available weapons and keys if you manage to find them.

If you are offended by Demons and bloody violence then you better lock away your monitor.



ultimate game

While searching you may also find supercharged and invisibility spheres just to balance the odds a bit.

Tips and tricks

A very handy feature is the automap. To know where you have been and are going to just hit TAB and up pops a great map. However it doesn't show the secrets unless you have found the computer mapping device. *Rats.* Of course ID has included cheat keys for you to work out. If you don't know already - they are \$\$\$\$ and &&&&. Hehehehe.

The ultimate game play

Doom is the best game released this year without doubt.

So what could possibly be better?

Try playing with someone else (the game that is). Beg, steal or borrow (make that buy)! a copy of *NETWARE Lite*, a couple of cheap NE2000 clone network cards and take a buddy to hell with you. It is absolutely COOL with a capital "K".

Up to 4 players can navigate the game at the same time. Each has their own trooper to move around and kill with. It's a blast to watch these little guys running and jumping across your screen blasting demons. As they fire, their guns come from the arms' position to firing from the hip, with yellow flashes and the sound of gunfire. Death comes to the careless, and what a way to die. He drops to his knees, hands clutching his throat finally falling face down with a blood curdling scream.

Hot from "the States" comes version 1.2. What this adds is the ability to run *DOOM* over a modem or null modem cable. Performance does not take much of a hit when playing over a network. Each player's computer handles their own game, with only the sprite of the soldier being transferred down the lines. I've yet to try over *OPTUS*!

Also with the new version is a new skill level. *Nightmare* by name and nightmare by nature. The baddies are quicker, fiercer and they swarm all over the joint. Just because you shoot a few don't get too happy. They also appear out of thin air all around shooting as they come. I've yet to play past the first



mission... it's that hard. Oh, and the cheat keys don't work here. Unfortunately there are no new levels added with the update this time. I wait with an itchy trigger finger for Version 2.

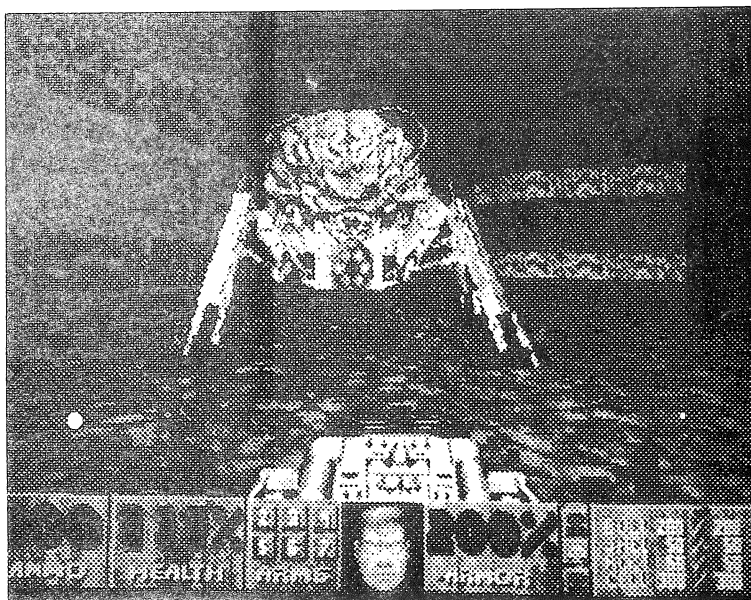
What's next

After you have disposed of the evil demon who spawned this disaster, there is, I think, a hint of what is to come. Earth is under attack. Maybe we will meet again in your suburb.

My dream would be for a CD-ROM version with video clips of the demons and soldiers, and fully rendered walkthru's.

Awesome is the only word I can find. ○

Doom is the best game released this year without doubt.



A Look into the Genealogy SIG

by David Thrupp

David Thrupp addressed the March meeting of the Genealogy SIG on the human face of tracing your family tree. SIG member Rita Copeland has summarised his story, which will interest any student of history or genealogy

My grandfather...

My grandfather, as I remember him, was an old man with a grey moustache. He wore a three-piece suit and a black hat, and caught the first train each morning from Shorncliffe to Ipswich. There he would change into his dirty work clothes and slog all day. He would not be home till 7 at night, again dressed in his three piece suit. He always spoke quietly. When he passed away I fulfilled my duty as a grandson and attended the funeral. I was surprised at the lack of grief among the family and wondered why.

Years later my wife and I bought a computer and started to trace our family tree. It was then I became aware that I knew very little about my grandfather.

Where to start?

Asking the surviving children gave few clues. They were reluctant to express their feelings. It was as if a great shame pervaded their lives. As he had lain ill in bed my grandmother had sent their adopted child in to spit in his face. What kind of life had he led that would merit such affront?

From bits and pieces we found that he was born in Wombye but there is no official birth record as far as I can find out. His parents worked on building the railway and moved camp every few months. Since the Clerk of the Court came round the small settlements only once a year families frequently missed him from one place to the next. And how many par-

ents may remember that their three year old child (or older) was the one that had not been registered?

The next record of him is a rumour that he ran away from Nudgee Orphanage with his brother, Tom, when he was 14 years old. They got a job on the railways building the line to Blackbutt - they drove the horse and dray. This construction job, I was led to believe, was the largest project in the state in those days.

It became obvious to my wife and me after a while that our investigations were teaching us a lot

about the early days that we had never stopped to think about before. For one thing, I found that the death toll on the job was very high. That wouldn't happen in these days without the Work Place Safety Committees closing down the site.

We learned of the various places where they had lived and about the travelling around. For the family these were not happy experiences as they lived in fettlers camps. You remember the canvas tents on the side of the

railway line and the men crying "Papers!?" We learned of the endless tin sheds with dirt floors - conditions which must have had a marked effect on them.

It appears the children did not go to school. The loneliness of bush camps did not teach them the basic skills in human relationships which we take for granted now. But we must also remember that they lived in different times. We shouldn't judge them by our standards or we lose sight of the historical mind

*From bits and pieces we
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official birth record...
His parents worked on
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moved camp every few
months*

set which would have evolved over the 70 or 80 years that have elapsed.

Some interesting digressions

We were being drawn down many interesting side roads along the way. A good example was when we went to the archives at Runcorn to peruse the inquests around that era. We figured that, since my grandfather had been in an orphanage, his parents may have been killed and there may have been an inquest. McCormack is an unusual name as names go so we were hopeful. In the time frame we selected there were only two of that name - a John and a Mary. Now, my uncle is John and my mother's second name is Mary so I thought, "This is easy. Right off, I have it all laid before me". (Now, don't laugh - I was only just starting out). These people turned out not to belong to my family tree after all but I became caught up in the saga of their lives in reading about them there.

The tale of John and Mary

John was a young man who lived in Gympie in the days of the gold rush and who died from a gunshot wound to the leg. Now you may think that "heros" do not die from gunshot wounds - you see them every night on TV - a shot in the chest, a dramatic moment, but our hero gets up and goes on conquering. But this was the 1900s and, reading on, I find that he got gangrene and took a fortnight to succumb to his injuries and I cannot help thinking that he must have wished he'd been shot in the head rather than die in such agony.

Moved as I was by this account, it was the plight of Mary which still brings me great sadness to think on.

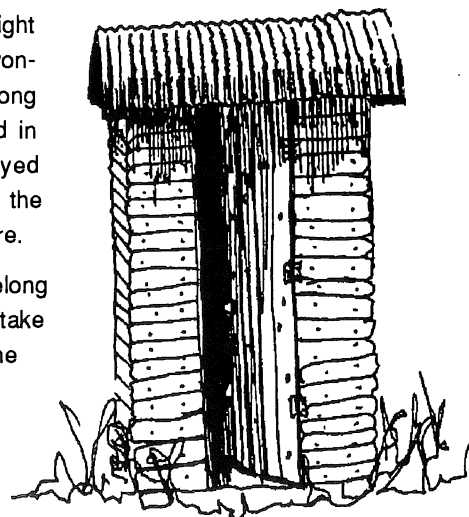
The time is 1890. Her husband is away working and she is among strangers in the Jondaryan Hotel. Miles from Dalby, miles from Brisbane, alone with a sick baby and not a doctor in sight. It has been a long night nursing the rising fever, the only medicine of those days a little bit of kerosene on a spoon of sugar. She is at her wits end. She calls the publican's wife and together the women watch over this small child and pray for the fever to break. It doesn't. The child chokes and dies.

What have I learned?

That women and men living in those times faced hardships scarcely understood by us who are only minutes by ambulance to medical care and in an era where ailments which once killed are only minor complaints today. I think of those two women out in the

bush hotel sitting by the light of a flickering candle and wonder whether I would be strong enough to have survived in those days. I have strayed down a path that showed the lives of people gone before.

But - they do not belong to my family tree. I must take up my search again for the life that was my grandfather's. His children have only talked of the hard times. My mother doesn't understand why I wish to know about her life - it has nothing but pain for her. And this doesn't help us on the road to gathering notes about our family tree.



What have I so far?

I have a man who is my grandfather with no birth certificate, who raised four children (and, I suspect, lost one or two still born), a few rumours but nothing that can be placed down in black and white. I remember him as my grandparent, an old man in a three piece suit to whom the world had given no laughter.

But I have a feeling of a man who tried to do his best.

In my endeavours to trace my family tree it is not the numbers of people who, out of the past, show me their lives and their personality, but the understanding of those people which has enriched my own. ○

*...together the women watch
over this small child and
pray for the fever to break.*

*It doesn't.
The child chokes and dies.*

*The Genealogy SIG is held at
3pm on the Sunday of the
monthly meeting.*

*Anyone interested in learning how
to prepare his/her own family tree
is welcome.*

*We help each other with computer program tips,
and assistance in solving computer related problems.
We give information about bulletin board sources, IGI,
Family History and GEDCOM files; we make group
visits to various research centres in and around Bris-
bane; and we exchange helpful hints on setting up
and getting the most out of family reunions.*

Come and join us.

Part 1—Modems

Ian Waters

More and more people these days are in the know, the era of telecommunications is now upon us in the 1990s. We live in the days where having a PC at home is just as common as having a microwave oven.

You can use it for work, the wife can use it for keeping the household budget in line and the kids can use it for either educational purposes or just for playing games that stretch both hand and eye co-ordination. However having a personal computer at home is just the first step in joining the information revolution, the next bold step is digging down deep and purchasing a modem.

Most people who own a PC have at some time encountered a problem either with a bit of software or some irritating hardware glitch, but nothing will prepare you for the (possible) nightmare ahead.

Data and fax modems must be one of the greatest causes of irritation and frustration to computer users on earth. I'm yet to discover a modem on the Australian market that can be pulled out of the box, plugged onto my PC and work *properly* the first time. If you're lucky the data function works but the fax doesn't or vice versa, the documentation provided with most of the modems is marginal to say the best. This is where that guy you know with a modem all of a sudden becomes your best friend and resident technical guru, until he fails and then the search is on. Who can tell you *how* to configure this #S#Q%! modem. The supplier can't seem to understand that *it doesn't work out of the box*, the manufacturer is most likely to be an overseas company or if they're local, out of business, on holidays or closed for Easter.

To whom can you turn, who can help at such a time of need? The answer

is right before your eyes; you can help yourself and join a User Group (such as Brisbug) that will most likely have a resident expert who can sit down with you at the meeting or on the telephone and sort out that little problem. But if you wish to do a little research prior to making the big move I suggest that you read on.

In The Beginning

The telephone has brought us all much closer. Alexander Graham Bell invented the telephone a bit over a century ago.

He envisioned a day when music

*Data and fax modems
must be one of the
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irritation and frustration
to computer users on
earth.*

and voices could be piped from one city to another, via telephone wires. The first telephones were expensive, used mostly by big businesses and very wealthy people. Today just about everyone has a telephone at home, in the car or hung from the hip. The personal computer appeared on the scene around the same time that the *baby boomers* who were turning into a generation of gadget fanatics by television and the electronic revolution that followed the 2nd World War.

When the possibility of a micro-computer was suggested hundreds and thousands of would be entrepreneurs jumped at the chance to strike it rich. Bill

Gates, a programmer on the Altair 8080, went on (as we all know) to become the billionaire head of Microsoft Corporation. Steve Wozniak, the brains behind the Apple computer (Apple II) made his millions, lost his millions and is now a teacher. His partner Steve Jobs, kicked in the teeth by the company he helped create, then moved onto producing the NeXT computer.

Through years of evolution, the smart computer user found the machines to be very useful, mainly for word processing, spreadsheets, databases, accounting and telecommunications. Over the years the telecommunications capabilities of the PC haven't changed all that much.

We now find that communications is on the rise and the general population is being bombarded with TV shows, news articles and magazines about PCs and telecommunications. Yet on the whole most people don't grasp the technology behind personal telecommunications. We all hear words like *Modem*, *ISDN*, *Basic Rate* and *Primary Rate* but who knows what it all means, your highly paid (*grin*) Communications Consultant/Expert does but in general you'll find that most people just like the *idea* of global, personal communications... the ability to go to America or Europe without leaving your family home.

Now We Have Today

Today we are at a stage in the evolution of personal communications where we are just about to make the next big move forward but we are not quite there yet. The market prices for high speed data and fax modems if hitting such lows that 18 to 24 months ago they cost more to make. The availability is far greater to the general public than ever before, we now have *CompuServe* and *Internet*

access available in Australia both promising so much.

We are now at the crossroads in technology where we will soon move from the current analogue method to a completely digital network. Some people, mainly involved within the telecommunications and network industry already have this new technology available to them, but for the majority of Australians the next *small step for man* is still a little further off.

The Basics of Data Communications

The current analogue telephone network cannot carry the DC voltage level changes required for pure digital data transmissions. Telephones are designed to carry voice-modulated information generated by a human conversation. Therefore, digital data must first be converted to audio tones so that the telephone lines can carry them.

This conversion of the digital 1s (5 Volts DC) and 0s (0 Volts DC) to audio tones is called *modulation*. The conversion process from digital back to analogue at the other end of the phone line is called *demodulation*. The device to perform such a feat is called a *modulator/demodulator*, which is shortened into the word *modem*.

A Little Bit of History

The first modem, developed in 1954 could send data from one computer to another over a standard telephone line at an amazing speed of 110 bps (bits per second). During the late 1970s a little company called *Hayes* came on the scene and we then had 300 bps (Bell 103) modems, and some that reached as high as 600 bps in proprietary modes. The main problem here is that 300 bps is *slow*; to transfer a 100 kB file, 1K=1024 Bytes, takes around one hour. The next in the modem world was the 1200 bps modem (Bell 212/V.22), this was a big jump in technology and speed. To transfer that 100 kB file at 1200 bps took about 17 minutes. Soon the now trusty 2400 bps modem (V. 22bis) made its appearance and a 100 kB file took only 7 to 8 minutes.

From this point on we are now talking about what are called *High Speed Modems*, anything above 2400 bps (*which many people said was the highest speed a modem would ever reach*) and they are referred to as HS modems. In the *high speed* range we first saw the 9600 bps modem (V. 32), this also came with a speed of 4800 bps. 4800 bps is a technical black hole, it was a little supported speed but nevertheless, it was a requirement in standard V. 32 or 9600 bps communications.

When one 9600 bps modem calls another 9600 bps modem the data rate initially established in the process is 4800 bps. The V.32 modem then *falls forward* to the full 9600 bps speed. Few if any modems check the performance of the connection at the 4800 bps speed before falling forward to 9600 bps. Our 100 kB file is now only taking us around 2-3 minutes to transfer from one PC to another over a standard telephone line.

Currently the fastest standard high

The first modem, developed in 1954 could send data at 110 bps... Currently the fastest standard high speed modem transfers data at 14,400 bps

speed modem is a V.32bis, this monster transfers data at a rate of 14,400 bps in standard mode. This would make a 100 kB file arrive at its destination in as little as one and a bit minutes.

Technical Lowdown V.22bis to V.32bis

The approved CCITT V.32bis standard for dial up modems includes some important technology improvements, but it also relies heavily on advancements made in the V.32 standard, approved by CCITT in 1986.

Prior to V.32 almost every dial-up modem that provided full-duplex, or simultaneous two-way, operation did so

through frequency division multiplexing. Although that technique works, it allows only half the available bandwidth to be used for communications in each direction.

The V.32 standard was the first to use echo cancellation and trellis encoding to provide data rates of 9.6 kbps at full duplex.

With echo cancellation, all the available bandwidth is used for communications in each direction.

The concept behind echo cancellation is simple. When the modem knows *exactly* what electrical signal it transmits on the telephone line, it can in effect cancel that signal from what it receives from the telephone line; the remaining received signal is what comes from the modem at the other end of the circuit. Although the concept behind echo cancellation is straightforward, its execution was not—until the development of powerful digital signal processors (DSPs). The availability of high-performance DSPs made low-cost V.32 implementation possible.

Echo cancellation was one part of the technology package that enabled V. 32 modems to achieve a data rate of 9.6 kbps. The other part involved a new way to encode the signal space used to transmit data. Modems encode the data to be transmitted into patterns called constellations. In V. 22bis communications, a constellation is made up of 16 possible points, with each point representing a specific 4-bit code. V. 22bis constellations are transmitted at a rate of 600 per second—this is the modems baud rate. Under V.22bis each constellation transmitted has only one point, representing four bits of data. Four bits times 600 constellations per second equals that data rate of the V. 22bis modem 2.4 kbps.

In the V.32 (and later in V.32bis) recommendation the constellation was made larger to transfer more bits each baud time. A V.32 bit pattern represents five bits (32 possible points), while a V. 32bis pattern represents seven bits (128 possible points). Unlike the V.22bis standard, V.32 and V.32bis include redundant information that allows for the use of a technique known as trellis coding. Trellis coding is based on the idea

that the most likely error at the receiving end of a modem would occur by mistaking one constellation point for an adjacent point. Trellis coding is not an error-control protocol; however, it does improve signal to noise ratio of the transmission. Each V.32 and V.32bis constellation includes a redundant bit of information that tells the receiving modem where the point of the next constellation is likely to occur. Drawing out on a piece of paper the successive constellations and the interrelationships of each constellation with the past produces a drawing that looks like a trellis—hence the name of the technique.

The amazing effect of trellis coding is that the use of that one redundant bit is more than compensated for by the improvement it provides in the signal to noise ratio. Trellis coding actually *increases* the throughput of the modem. In both V.32 and V.32bis modems, constellations are transmitted at a rate of 2400 times per second. In the case of V.32 modems, the remaining 4 bits times 2400 baud rate equals a data rate of 9.6 kbps. With V.32bis, the remaining six bits times 2400 equals the data rate of 14.4 kbps.

Technical Lowdown

MNP4/5 to V.42/V.42bis

The transmission rate of a given modem is the most obvious factor that determines the data throughput rate, but it isn't the only factor. Modems that are equipped with data compression, such as V.42bis technology, can have their effective throughput increased tremendously—sometimes by as much as four times.

Data compression increases data throughput by in essence tripping out any unnecessary bits in a transmission. For instance, many data transfers involve the sending of columns of numbers. Each digit is represented by four bits of data when sending ASCII code. Yet each number is sent as a separate byte, which consists of eight bits. A data compression engine recognises the four unused bits and eliminates them from the transmission.

This has the effect of doubling the data throughput — instead of represent-

ing only one digit, eight bits can represent two digits.

However, the gains in throughput provided by data compression are not as clear-cut as those that occur when transmission rates are increased. Assuming that the modem is operating properly, transmission rates are reasonably stable—a V.32 modem runs at 9.6 kbps. But data compression may or may not provide a higher throughput rate. Their success depends on the type of data transmitted. As was mentioned earlier, numerical data is easily compressed. However, if the data to be transmitted has already been compressed by the *data terminal equipment* (DTE) using programs such as PKZIP and ARJ, then the compression function in the *data communications equipment* (DCE) will do little to increase the data rate.

The V.42bis standard governs data compression that is done in the DCE. Prior to the development of the V.42bis recommendation, several other compression techniques were developed. One of these, Microcom Network Protocol level 5 (MNP5), developed a reasonable installed base.

The V.42bis compression function is capable of doing much more than just removing four bits from each eight bit number. Operating on the statistical properties of the data being transferred, it comes very close to providing the best compression theoretically possible for byte-oriented data. V.42bis technology is not as effective in handling graphical data.

Since the compression function removes almost all the redundancy from the transmitted data, any errors that occur would be very undesirable. A single error could make a significant part of a transmitted data file unusable. For this reason, a data link protocol is necessary to check and prevent errors. In the case of V.42bis, the V.42 data link protocol is used. With MNP5 implementations, the data link protocol is contained in MNPI through 4. V.42 also is compatible with MNPI through 4 data link protocols. This accommodation of the V.42 recommendation enables manufacturers to offer DCE that is compatible with both V.42bis and MNP5 equipment.

To Close—Some Final Words

Based on all the presented information it sounds like nothing could possibly go wrong with your data modem. This would be the case if we were in a Utopian world. However, because we are not, things can go wrong, as they often do. A few modem manufacturers think that they can sell DCE that *sort of* works with the CCITT standards. Most modems on the Australian market have done a good job at adopting and implementing all the required standards that enable their modems to talk to other modems correctly. However we also have some companies that *claim* their modems work properly, but they don't. They will communicate with modems of the same manufacture, but will not communicate with other modems as defined by the V-series.

The last word for now is—*buyer beware*, do a lot of research before running out and investing in a modem, I know it's sometimes hard to resist those \$300 14.4K with fax specials but I think you'll agree most people prefer to spend a little more and get a product that works. I see many modems advertised in magazines that I *know* don't work as they should, and when people ask for my advice I tell them the truth.

Modems can provide you with many hours of education, fun and plain old entertainment. It's worth looking a little harder at what you plan to buy before you hand over your hard earned dollars.

Reproduced from PCUpdate, Journal of the Melbourne PC User Group, with permission

Graeme Darroch's class on

Introductory Communications

starts this month at 9 am.

As the name suggests, it will assume no prior knowledge of communications



BRISBUG PC USER GROUP INC.

P.O. BOX 5000 BRASSALL QLD 4305

Phone (07) 201 5005

MEMBERSHIP APPLICATION FORM

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Please Print

Address: _____

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State: _____ Post Code: _____ Phone (Home): _____ (Work): _____

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Type of User: Business ☐ Educational ☐ Hobby ☐ Other _____

Type of Computer: XT ☐ AT ☐ 386 ☐ 486 ☐ Other _____

Screen Type: MONO ☐ CGA ☐ EGA ☐ VGA ☐ SVGA ☐

Hard Disk Drive: YES ☐ NO ☐ Size: _____ MB Memory: _____ MB

Modem: Yes ☐ No ☐ Disk Size Preferred: $\frac{5}{4}$ ☐ $\frac{3}{2}$ ☐

Operating System: DOS ☐ WINDOWS ☐ OS/2 ☐ Other: _____

Special Interests: _____

Membership Type: Individual / Family ☐ Educational ☐ Corporate/Associate Club ☐

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Tick Box



Expiry Date: ____ / ____

CARD NUMBER				
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CARDHOLDERS NAME: _____

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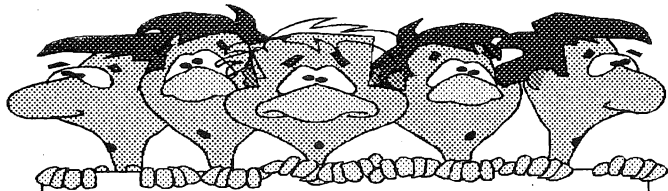
I / We hereby apply for Membership of BRISBUG and agree to abide by its rules.

Signature: _____ Date: _____

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Membership No.	Date Received	Receipt No.	Date Processed	Date Memb.Card/Catalogs Sent

The HUGE Membership Drive Competition

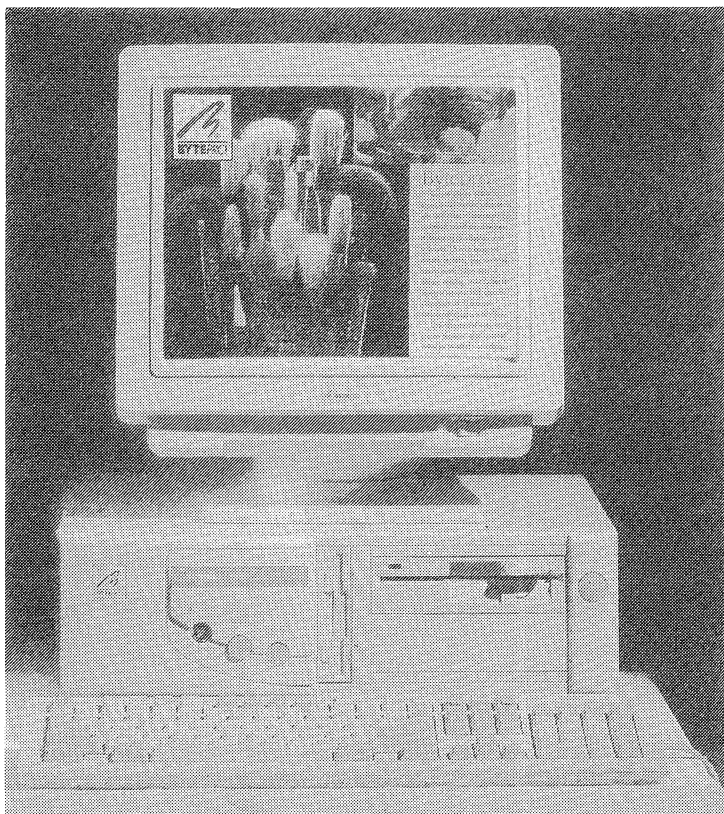


All members of Brisbug are invited to participate in a Membership Drive promotion to be conducted over the next 6 months from 17th April until 13th October 1994. Thousands of dollars worth of prizes can be yours for simply introducing a new member to Brisbug.

What you can win

The major prize you can win is a Compaq 486 Laptop Computer valued at \$5050. Other prizes including Microsoft Office Professional, Lotus 1-2-3, AMI-Pro, Q & A for Windows, Nortons Utilities, Borland C++, Paradox, Wordperfect and many others will be won by lucky members each month.

A BytePro
Desktop
'86



The new members introduced by you are not forgotten. The major prize for new members is a BytePro 486 Desktop computer complete with Multi-Media facilities valued at \$5000. Also new members will be eligible to win valuable software prizes.

When do I win

Each month during the competition, the names of both lucky members and new members will be chosen to receive a prize from the great range of software available.

To enter, simply introduce a new member to Brisbug using the membership form provided in this magazine, or obtain a form from the Membership Secretary or Librarian and you will become eligible to win a prize in the month the new member joins our club.

The new member will also be eligible to win a prize in the same month.

The Grand Finale...

At the General Meeting on the 16th October, all the names of members who have introduced new members will be placed in the draw for the Compaq 486 Laptop Computer, and the Microsoft software.

And Grand Finale 2

The following month at the General Meeting on the 20th November, the names of all the new members who have been introduced to and joined Brisbug will be placed in the draw for the BytePro 486 desktop computer.

There is no limit to the number of times you can enter - for each new member you introduce you receive an additional chance. So if you introduce 10 members, you get 10 chances, 30 members - 30 chances, and so on.

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Each month, at the General meeting, a draw for lucky winners will take place for the entries submitted in that month, for both existing and new members. If you can't get to the meeting, your prize will be forwarded to you. The names of the winners will be published in the succeeding months edition of SigBits.

The closing dates are:

Intermediate Win Competitions:

12th May 1994
16th June 1994
14th July 1994
18th August 1994
15th September 1994.

Main Competition -

13th October 1994.

The rules of the competition are:

You must be a financial member of Brisbug to be eligible to participate. (Associated Clubs, and Corporate Members are also eligible).

The introduced member must join Brisbug and must not have been a financial member of Brisbug for the previous 12 months.

You must use the special membership application form (or a good photocopy) to be eligible. (Additional forms are obtainable from the Membership Secretary or Librarian.)

The membership application must be in the hands of the Membership Secretary by 5pm on the closing dates listed. Applications received after the closing

date will be carried forward to the next month, but applications received after the expiration of the contest (13th October 1994) will not be considered.

The Judges' decision is final and no correspondence will be entered into.

The aim of the Competition is to expand our membership and by so doing, we can expand our services and benefits to all.

BRISBUG MEMBERSHIP DRIVE PROMOTION

CONDITIONS OF ENTRY

1. Information on how to enter and prizes form part of these conditions of entry.

2. Employees of L & L Electronics, the Brisbug Software Librarian, the Brisbug Membership Secretary, the agencies or suppliers of prizes associated with this promotion and their immediate families are ineligible to enter.

3. Entries close 5pm 13th October, 1994.

The draw for the 486 Laptop Computer valued at \$5050 and subsequent draws for Software including Microsoft Office Professional valued at \$1210; Microsoft Office Standard valued at \$1095; Microsoft Works valued at \$199 will take place during the Brisbug General Meeting to be held on Sunday 16th October 1994 at QUT Kelvin Grove Campus, Victoria Park Road Kelvin Grove.

The draw for the 486 Benchtop Computer with Multi-media equipment valued at \$5000 will take place during the Brisbug General Meeting to be held on Sunday 20th November 1994 at QUT Kelvin Grove Campus, Victoria Park Road Kelvin Grove.

Winners in each draw will be notified by mail and their names published in the Brisbug monthly magazine Significant Bits in the month following each draw.

Judges' decision is final and no correspondence will be entered into.

4. Each month during the promotion, intermediate draws for prizes

will be conducted. The closing dates for each intermediate draw will be 5pm on the following dates:

12th May 1994, 16th June 1994, 14th July 1994, 18th August 1994 and 15th September 1994.

The draw for each intermediate prize will be held at the Brisbug General Meeting on the Sunday following the closing date for each intermediate draw.

Judges' decision is final and no correspondence will be entered into.

Intermediate win prizes and their values are as follows: 1 copy Lotus 1-2-3 valued at \$735; 1 copy AMI-Pro valued at \$735; 1 copy cc:Mail valued at \$375; 1 copy Freelance valued at \$737; 1 copy Organizer valued at \$195; 2 copies O & A for Windows valued at \$399 each; 2 copies of Nortons Utilities Volume 7 valued at \$299 each; 1 copy Borland C++ with A/F valued at \$795; 12 copies of Paradox 4.0 for DOS valued at \$795 each; 16 copies of Paradox 1.0 for Windows valued at \$795 each; 2 copies of DR DOS valued at \$135 each; 1 copy WordPerfect 6 for Windows valued at \$695. Total Value of intermediate win prizes \$28293. Intermediate win prizes are not transferable or exchangeable and cannot be taken as cash.

5. During the period of the Membership Drive Promotion, all financial members of Brisbug with the exceptions as listed in condition 2, as above shall be eligible to enter the competition.

6. The following shall be the conditions of entry to the Membership Drive Promotion:

(a) During the continuance of this promotion, every financial member of Brisbug who introduces a new member who joins Brisbug

shall be eligible to participate in the monthly draw for intermediate win prizes for that month.

(b) The new members so introduced who join Brisbug shall also be eligible to participate in the monthly draw for intermediate win prizes for that month.

(c) The new member must not have been a financial member of Brisbug during the 12 months previous to the commencement of this competition.

(d) All entries shall be on the Membership Application Form available for the duration of this promotion.

(e) At the conclusion of the Membership Promotion, the winners of the major prizes shall be selected from the names of all introducing members in the draw for the major prizes to be conducted on the 16th October 1994.

(f) On the 20th November 1994 the winners of the major prizes for all the new members who have been introduced and have joined Brisbug shall be drawn.

(g) The prizes allocated for each intermediate win draw shall be decided by the Management Committee of Brisbug and such prizes cannot be exchanged for alternate prizes.

(h) The winners of each intermediate draw for prizes shall be eligible for the major prize in each category.

7. The promoter is L & L Electronics of 95 Station Road, Booval, QLD 4304.

Dr Don's Virus Clinic

Don Gringrich- Melb PC User Group

I have heard some stories recently that, I believe, show a lack of understanding of virus removal techniques. This month's column looks at disk structures and how this affects virus removal.

An unnecessary destruction

The worst instance was a case in which a user had Michelangelo virus on his hard disk. He spoke to a well-meaning "helper" who told him to *FORMAT* the drive. This was unfortunately the worst thing that he could have done in this instance. As a result he lost all the data on the drive. And worse, after the format the virus was still there, since format can't touch the location where these viruses reside on a hard disk.

To understand why this is true we will need to look at the structure of a hard disk. (See Figure 1.) First we will look at what happens when the PC starts, since the boot process affects boot sector and MBR (Master Boot Record or partition table) virus spread.

Starting the PC

As I mentioned in a previous column, the process of starting a PC involves a number of steps. They are (for a standard PC configuration):

- Run the POST (power on self test)
- Check for a floppy disk in A: drive. If floppy is present the BIOS will load and execute the

"Boot Sector" code. If the floppy disk has a boot sector virus on it the virus will load and execute at this point.

- If there is no floppy disk in A: drive then the BIOS will try to load the MBR from the first hard disk in the system. The MBR has the information necessary to find the boot sector of the primary partition of the disk.
- The program code in the MBR will then load and run the contents of the boot sector of the primary partition.
- The code in the boot sector finds the hidden operating system kernel files and loads them into the machine.
- The kernel files find the *CONFIG.SYS* file and load the device drivers listed in the file.
- Next *COMMAND.COM* (or another DOS shell) loads and executes the instructions in the *AUTOEXEC.BAT* file.
- Finally the DOS prompt or your menu or Windows or whatever system you specified in your *AUTOEXEC.BAT* file will appear on your monitor and your PC is "open for business".

Please note that the above procedure is for a standard PC. There are a number of variations in BIOS, etc. which may reseat in variations in the above sequence.

Please remember this sequence as we discuss the ways that boot sector viruses hide on disks.

Accessing the hard disk

Now we will look at the layout of a simplified "typical" hard disk. Disk structure is based on the methods used for disk I/O. These form a continuum from methods in which the programmer needs no knowledge of the actual structure of the disk to methods in which an intimate knowledge of the particular hard drive and controller is essential.

A read call from a high-level language to read a file or a DOS command to type or copy a file is the simplest way to read from a disk. The program uses the DOS file name for the file and needs no knowl-

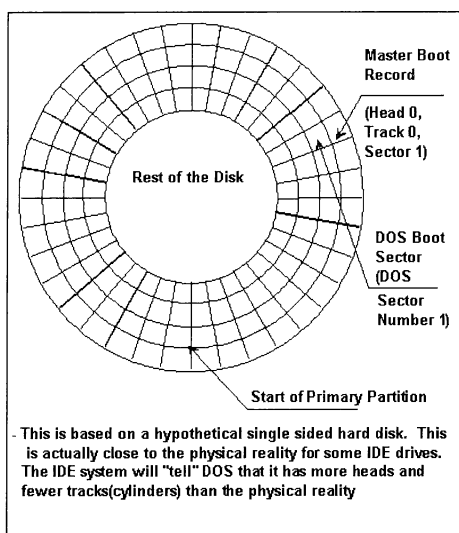


Figure 1. Structure of a hard disk.

edge of the disk structure. In most cases this is the safest way to read data from a disk.

With slightly more knowledge of the disk a program can use a DOS interrupt to read DOS defined sectors on the disk. This will not necessarily read a file in order unless the program can read directories and the FAT (file allocation table).

At a slightly lower level it is possible to read a disk using one of several BIOS interrupts. To read a disk this way requires the above knowledge plus an understanding of how the DOS disk numbering scheme maps onto the BIOS numbering scheme. On a hard disk this is the only way to read the Master Boot Record. Thus DOS programs like FORMAT that use DOS calls cannot access the MBR. This why formatting a hard disk doesn't touch a virus existing in the MBR.

The final way to access a hard disk is by directly accessing the controller. The controller has an address in RAM. It is possible to send data to the control registers of the controller directly and bypass all of the above systems. Some viruses actually do this as a method of avoiding detection by virus shells that capture DOS and BIOS interrupts.

The problem with this approach is that the program must supply all the BIOS and DOS level data and interpret it into the correct form for the disk controller. Also, hard disk controllers are not completely standard. Thus what works on one machine and controller won't on some others. This is not a big problem for virus writers since they don't have to guarantee compatibility. General purpose programs that need to be compatible should stay with the highest level access that will let them do what they need to do. As can be seen from Figure 1, there is an entire wasted track at the start of a hard disk. This is the location of the MBR. As an aside, most boot sector viruses relocate the program code from the MBR or boot sector. Also, the BIOS address of the first sector on the disk is the address of the boot sector of a floppy disk. Thus a boot sector virus can read either the boot sector or the MBR depending on the disk type.

If there is a boot sector virus (e.g. *Stoned* or *Michelangelo*) on a hard disk this is usually where it will reside. **NB-** I have heard reports of viruses which don't follow this rule, but I have not seen a confirmation from a recognised researcher and I have not seen it myself.

It is impossible to access the MBR of a hard disk with the use of a DOS call. DOS deals strictly with the logical disks. Thus sector 1 of any disk in the DOS numbering scheme is always the boot sector. As can be seen from the diagram the MBR is on the disk before DOS sector 1. (NB: track zero on a disk is always at the outside edge. Thus the critical data struc-

tures on a disk are stored on these outer tracks. This has a great advantage in increased security since these outer tracks have more disk media per byte than the inner tracks.) DOS disk read/write commands will not accept a negative sector number and thus cannot go back before the boot sector. *FDISK*, the one DOS command that does access this area of a disk does it by means of BIOS interrupts. This is also the access method used by products like The Norton Utilities.

Removing a boot infector virus

Now, onward to ways to get rid of the virus. The simplest way to get rid of an MBR virus is to use an undocumented switch in DOS 5 or 6. The method is simple. First boot the machine from a clean DOS floppy that has a copy of *FDISK* on it. Now do a directory of the hard disk. If the directory is OK then the partition table in the MBR is in the proper location. Now type *FDISK/MBR* at the DOS prompt. In a couple of seconds the virus will be gone. Note that the copy of *FDISK* must be from the same version of DOS as the version of DOS that you are using.

Next, the two more difficult cases. What do you do if you can't see the hard disk when you boot clean? Ideally, you should have saved a copy of the MBR before you got the virus. If you have this it is possible to copy it back to the hard disk and overwrite the virus. *End of virus.* There is a set of programs written by A Padgett Peterson on the Internet that will save and restore the MBR or boot sector of a disk. Norton Utilities can also both read and write a sector and access the MBR. I have not tried any other utility packages but I am sure that many others could do this trick. If you have a way of saving a copy of your MBR and boot sectors, do it now before you need the copy.

If you have a boot sector virus on a floppy disk you can save all the files easily. Simply use the DOS *COPY* or *XCOPY* command to move the files to a different disk. Then reformat the infected disk. Under no circumstances should you use *DISKCOPY* since this will also copy the infected boot sector to the new disk. I have tested this with DOS 6.2 (finally an intelligent *DISKCOPY*) and I can confirm that *DISKCOPY* copies the entire disk, including the boot sector. The new disk gets a copy of the boot sector with a new and different serial number.

You should be aware that, if you scan your computer's memory after copying the contents of a floppy disk with a boot sector infection the scanner is likely to report a virus in memory. Don't panic, if you have followed instructions, this virus report is a "ghost positive". For DOS to read a disk it first needs to read the boot sector to get the disk parameters. The executable code in the boot sector is not executed in this case, however. Thus the virus can do no damage

*Continued on
page 60*

The Boot Process

Examining the Master Boot Record

In last month's article on the *Michelangelo virus* we looked at a disassembly of the first 16 bytes of the Master Boot Record (MBR - the very first sector on a hard disk). This month we'll return and examine all of the MBR's code. (I couldn't find any dissertations on the MBR's operation but it's fairly easy to disassemble and follow.) In the process you'll learn a lot about assembler language, how to use *DEBUG* more effectively, the structure of the master partition table and exactly what fault produces which error message.

A BIG problem for the writer of regular computing articles is to cater for readers who have just started as well as for readers who are building on concepts introduced two or three years ago. I'm taking this opportunity to explain concepts in a little more detail than normal. Hopefully it won't bore the pants off the more-experienced reader.

The actual MBR code is unsuitable for user execution. It loads near the very bottom of DOS' memory map and its load position is later overwritten by DOS'

IO.SYS and *MSDOS.SYS*. So it's impossible to load the same code in *DEBUG* and execute it at a later stage. (Doing so will quickly lock the system up.) However we will come to grips with some sections of the MBR code by executing modified chunks of it.

The goal of the MBR code is to load the active partition's boot-sector and pass execution to it. Along the way a number of checks are performed. The boot sector could be from a different operating system than DOS, such as UNIX, but most of the time it will be the DOS boot sector that gets the nod.

First step: create a copy of the MBR by creating and running the *DEBUG* scriptfile shown in Figure 1.

Now, let's have a look at the complete operation of the MBR code. See Figure 2 and glance briefly at Figure 3. Don't worry if you don't understand certain sections yet - we'll come to them.

Points to note:

1. Why does the code copy itself from its loaded position at 0:7C00h to

0:0600h? The reason for this becomes clear when you look at the *Attempt_To_Read_Boot_Sector* section where the boot sector is copied to 0:7C00h in preparation for running. Before that occurs the boot-sector's "signature" word is checked. So the MBR code has to be moved elsewhere so that the boot-sector copying, checking and loading can occur.

2. Figure 4 provides a map of significant offsets in the MBR. Notice that 008B-00DAh and 01FE-01FFh is "data" (data is *read* or *written to*, and stores important values) while 0000-008Ah is "code" (code is *executed*, and may read data). Important points: trying to execute code will usually lock the system up; attempting to disassemble through a data section will usually result in *DEBUG* misinterpreting some of the data as code. This will produce disassembled code that looks very confusing, *and is*.

3. Compare Figure 5 with Figure 4. Notice that both the MBR and the boot sector contain identical signature words at the same offset. In the case of the

```
c:\dos>DEBUG < READMBR.SCR
```

```
A100      ;Enter into assembler mode. The code you create starts at 0100h.
PUSH BX   ;Fix for DEBUG. Store contents of BX register on the stack.
MOV AX, 0201 ;AH=2 (Function 2h - read sectors) & AL=1 (# of sectors to read).
MOV BX, 0200 ;ES:BX will be where the read is dumped. Make this offset 200h.
MOV CX, 0001 ;CH=0 (track #0) & CL=1 (sector #1).
MOV DX, 0080 ;DH=0 (head #0) & DL=80 (this is the BIOS num for the 1st HD).
INT 13     ;Perform interrupt 13h, Function 02h.
POP BX     ;Restore the original value of BX.
           ;Leave a blank line to terminate assembler mode.
G=100 110  ;Execute the code starting at 100H. Stop when you reach 110h
RCX        ;and show all registers. What's CX currently set to?
200        ;Set CX to 200 so when we later write to a file it will be
N MBR.BIN  ;200h (512 bytes or 1 sector) long. Name of file to load/write.
W200       ;Write to named file contents of memory at offset 200h (where
Q          ;the INT 13 read was dumped) for a length of 200h bytes. Quit.
```

Figure 1. The *DEBUG* scriptfile called *READMBR.SCR* reads the MBR sector and creates a file named *MBR.BIN*. Create this in a text editor (include no comments) and use the method shown at the top to run. Remember to press *ENTER* key after the last "Q" or *DEBUG* will hang.

boot sector, its signature word is checked by the MBR in the Check_OS_Signature_Word section.

The MBR's signature word is itself checked as the ROM BIOS loads the MBR. As an experiment I zeroed out the MBR's signature word (**DON'T DO THIS** unless you're very experienced and have a boot disk and either have Norton Disk Doctor/Disk Editor on floppy or are a *DEBUG* expert). My Phoenix BIOS told me that there was "No boot sector on hard disk". The use of the term "boot sector" in this error message is pretty confusing, in my opinion.

4. The only valid "active" partition boot indicator byte allowed under DOS is 80h. This is C: drive. Note that this does not need to be partition table entry #1. (OS/2 will allow booting OS/2 from partitions other than C:, such as E:).

5. DOS makes a big fuss about invalid boot indicator bytes. Only 80h and 00h are allowed. Even after it finds the active partition, DOS is still not satisfied. It still passes through the *Check_Other_Partition_Boot_Indicators* looking for invalid entries at the start of the remaining partition table entries.

6. The cause of the 3 possible error messages in the MBR code should now be obvious:

"Invalid partition table" - Invalid boot indicator byte.

"Error loading operating system"
- Probable bad sector in boot sector location since it couldn't load the boot sector after 5 attempts.

"Missing operating system" - Invalid boot-sector signature word.

7. The disposition of bytes in a partition table entry is quite deliberate. The ordering of a partition's start and end locations in Head/Sector/Cylinder order (happily, mnemonic to Australian readers as "HSC") means that only 2 *MOV* commands (at offsets 0635h and 0637h) are required to set up the DX and CX registers for an INT 13 Func 02h call to read the boot sector into 0:7C00h.

8. Notice how the interrupts used are ROM BIOS interrupts (INT 10-1Ah) rather than DOS interrupts (INT 20-27h). The reason for the use of low level in-

Starting Point:

MBR sector has been loaded by ROM BIOS at 0:7C00h.

Copy loaded MBR code/data to 0:0600h and jump to 0:061Dh (0:7C1Dh was the location of the next instruction to execute if the jump had not occurred).

Set up search point of 0:7BEh. This is the position of the first byte of the first partition table entry.

Search_For_Active_Partition:

Check first byte in this partition table entry.

Does the byte indicate an "active partition" entry?

Yes. Jump to Active_Partition_Found.

No. Continue.

Does the byte indicate a "non-active partition" entry?

No. Jump to Invalid_Boot_Indicator_Byte.

Yes. Continue.

Move on to start of next partition table entry.

Have we run out of entries to check?

Yes. No active partition was found so attempt to load ROM BASIC (only found on IBMs).

No. Jump to Search_For_Active_Partition to check this partition's boot indicator byte.

Active_Partition_Found:

From the partition table entry, copy enough info to locate starting point of this partition, into DX and CX.

Check_Other_Partition_Boot_Indicators:

Even though a valid active partition entry has been found, check the other 3 entries to see if they are properly marked as "non-active" (00h).

Move to the start of next partition table entry by adding 10h (16 bytes) to SI.

Have we run out of entries to check?

Yes. Jump to Times_To_Attempt_Reading_Boot_Sector.

No. Continue.

Is this entry properly marked?

Yes. Jump back to

Check_Other_Partition_Boot_Indicators to continue checking other entries.

No. Fall through to next section.

Invalid_Boot_Indicator_Byte:

A boot indicator byte other than 80h or 00h has been found.

Set SI to point to start of "Invalid partition table" message (068Bh).

Display_Error_Message_Loop:

Until the end-of-string character (00h) is found, use INT 10h Func 0Eh to display one character at a time to the screen.

Is character 00h?

Yes. Jump to Endless_Loop.

No. Jump to Display_Error_Message_Loop.

Endless_Loop:

Once here the computer is effectively stopped. Keep jumping back to Endless_Loop.

Times_To_Read_Boot_Sector:

Set DI=0005h so that up to 5 attempts will be performed to read boot sector code.

Attempt_To_Read_Boot_Sector:

Use INT 13h Func 02h to copy boot sector code into 0:7C00h. The CX (Starting Cylinder & Sector) and DX (Starting Side & Drive Number) values set in Active_Partition_Found are used to specify original location of boot sector.

Figure 2 - Continued over

Was the read successful?

Yes. Jump to Check_OS_Signature_Word.
No. Continue.

Decrement DI (times to attempt the boot sector read).

Have we run out of attempts?

Yes. Jump to Display_Error_Message_Loop with SI set to location of "Error Loading operating system".
No. Use INT 13 Fun 00h to reset drive and then jump back to Attempt_To_Read_Boot_Sector for another try.

Check_OS_Signature_Word:

In the copied boot sector, is the word at 7DFEh (the last two bytes of the boot sector) equal to AA55h?

No. Jump to Display_Error_Message_Loop with SI set to location of "Missing operating system".
Yes. Congratulations!

Jump to 0:7C00h and execute copied boot sector code.

Figure 2. Text description of operation of MBR code.

```

0000:7C00 CLI           ;Clear Interrupt Flag
0000:7C01 XOR AX,AX      ;Set AX=00h
0000:7C03 MOV SS,AX      ;Set SS=00h
0000:7C05 MOV SP,7C00    ;Set SP=7C00h
0000:7C08 MOV SI,SP      ;Set SI=7C00h
0000:7C0A PUSH AX        ;Put 00h on the stack so as to
0000:7C0B POP ES         ;pop it off into the ES register.
0000:7C0C PUSH AX        ;In a similar fashion,
0000:7C0D POP DS         ;set DS=00h.
0000:7C0E STI           ;Enable Interrupts again
0000:7C0F CLD           ;Set Direction Flag in the UP
                        ;direction so that SI & DI will be
                        ;incremented in coming MOVSW operation.
0000:7C10 MOV DI,0600    ;Set DI=0600h
0000:7C13 MOV CX,0100    ;Set CX=100h (Number of words to copy).
0000:7C16 REP NZ        ;Repeat the next operation until CX=0
0000:7C17 MOVSW         ;Copy word (2 bytes) from DS:SI -> ES:DI.
                        ;In this case: 0:7C00h -> 0:0600h
                        ;512 bytes will be copied (100h words).
0000:7C18 JMP 0000:061D ;10h is the offset to the next command
                        ;after this one. Perform a far jump to
                        ;that position in the copied code.
0000:061D MOV SI,07BE    ;Offset to start of partition table
0000:0620 MOV BL,04      ;Maximum of 4 entries (0-3) to check

Search For Active Partition:
0000:0622 CMP BYTE PTR [SI],80 ;Check the boot indicator byte.
                        ;Is this partition table entry the "active"
                        ;one?
0000:0625 JZ Active_Partition_Found
0000:0627 CMP BYTE PTR [SI],00 ;Does this non-"active" value
                        ;indicate a "non-active" partition?
0000:062A JNZ Invalid_Boot_Indicator_Byte
0000:062C ADD SI,10      ;Alter SI value to start of next partition
                        ;table entry
0000:062F DEC BL         ;One less partition table entry to check
0000:0631 JNZ Search_For_Active_Partition
                        ;If execution reaches here no active
                        ;partitions were found, so attempt to load
                        ;ROM BASIC.
0000:0633 INT 18         ;BIOS ROM BASIC Loader routine.

Active_Partition_Found:
0000:0635 MOV DX,[SI]    ;Copy 2 bytes starting at offset 0 in from
                        ;the start of active partition table entry.
                        ;DL=80h (Drive Number).

```

Figure 3

Continued next page

interrupts is simple: DOS has not loaded at this stage.

Segment:Offset Addressing

Let's see if we can get a handle on this. A pivotal concept with PCs is segment:offset addressing. The 8086 PC has 16-bit registers. But 16 bits can only cover 0-65,535 (2^{16} values). The real memory address range of PCs is 0-1,048,576 (2^{20} values - Note: an AT or better with DOS 5 or better can address up to 1,114,096 by "toggling the A20 address line" to append the "HMA" to DOS' 1Mb Real Memory map - but that's another story).

So the Intel CPU designers hit on the idea of splitting the 1Mb address range up into 64K segments, each of which could have an offset into the segment of up to 64Kb.

Now $1\text{Mb} / 64\text{K} = 16$. This means that, for the range of segment addresses to cover the 1Mb real memory expanse, each segment address would need to be 16 bytes apart. So was born the concept of the "paragraph". Segments 0000h and 0001h are 16 bytes apart and have "absolute" (2^{20}) addresses of 00000h and 00010h. (Note that absolute real memory addresses have 5 hex digits.)

As mentioned earlier, each segment could have an offset of up to 64K into it. So the first bytes in the segments mentioned above would be 0000:0000h and 0001:0000h or just 0:0h and 1:0h. Since segment:offset addressing always involves an offset address value within a segment it is also known as "relative" addressing.

So as not to make segment:offset addressing too easy, there is a fair degree of overlap involved in this. So an absolute real memory address such as 00100h could be expressed in segment:offset notation as 10:0h, 9:10h, 8:20h, ..., 0:100h.

To convert a segment:offset address to its absolute address is simple. First, let's image beer was sold in "ten-packs". Say we have 6 full packs and in the 7th pack we had two stubbies left. In pack:stubbie notation we have 7:2 beers. ("2" is our "offset" into the 7th

pack.) Counting from 0 (as all good computer *pointy-heads* do - why waste zero, it's a valid number) we have 6:1.

As a crisis situation approaches (a long weekend) we need to determine how many stubbies we have. So, to show that the high salaries we're being paid are justified (this is my fantasy - get your own), we undertake the complex conversion calculation:

6 packs * 10 stubbies/pack = 60
plus 1 stubbies = 61 stubbies.

Now the "pack" that segment addresses come in is paragraph-sized, so we multiply the segment by 16 bytes. Since we are working in hexadecimal notation (the only way to fly with 16-bit register-based calculations), we can convert a segment to its absolute address by adding a zero to the right of our segment address (just as in decimal-based calculations we multiply a number by 10 by adding a zero to the right of it).

Summarising - Method to convert 16:16-bit addresses to 20-bit addresses:

100:200h = 01000h + 200h = 01200h

Remember that 16-bit -> 20-bit conversion means multiplying by 4 bits = $2^4 = 16$. It is very easy to do this in the CPU since it has commands that move bits to the left or right.

For example, AX contains 100h. In binary that's "1" followed by eight zeros (or 2^8 i.e. 256). The commands

```
MOV CL, 4
SAL AX, CL
```

moves the bits in the number 100h four positions to the left so it becomes, in binary, "1" followed by twelve zeros (2^{12} i.e. 4,096 or 1000h).

CPU Register Refresher

Figure 6 (*overleaf*) shows the register structure that is of importance to all PC programmers.

As the name suggests, the CS register usually holds the segment address for a program's code, so a command involved with program execution, like *JMP*, will default to jumping within the current CS segment (although this can be altered by performing a "far" jump to an offset in a different segment). Similarly, the DS segment usually holds

Figure 3 -Continued

```

;DH=Starting Head Number (side).
0000:0637 MOV CX,[SI+02] ;Copy 2 bytes starting at offset 2 in
;from the start of active partition table entry.
;CL=Starting Sector Number of partition.
;CH=Starting Cylinder Number (track).
0000:063A MOV BP,SI ;Store Source Index value until finished

Check_Other_Partition_Boot_Indicators:
0000:063C ADD SI,10 ;Start of next partition table entry
0000:063F DEC BL ;One less partition to check
0000:0641 JZ Times_To_Attempt_Reading_Boot_Sector
0000:0643 CMP BYTE PTR [SI],00
0000:0646 JZ Check_Other_Partition_Boot_Indicators

Invalid_Boot_Indicator_Byte:
;Only 80h or 00h are allowable
0000:0648 MOV SI,068B ;Offset to "Invalid partition table"

Display_Error_Message_Loop:
0000:064B LODSB ;Load String Byte from [SI] to AL.
;After loading, increment SI.
0000:064C CMP AL,00 ;00h indicates the end of the string
0000:064E JZ Endless_Loop ;Jump when the end of an error
;message is reached.
0000:0650 PUSH SI ;Temporarily save Source Index value
0000:0651 MOV BX,0007 ;Display colour White on Black
;(in graphics mode only).
0000:0654 MOV AH,0E ;Video display AH=Function 0Eh
0000:0656 INT 10 ;Display Character from AL, teletype mode
0000:0658 POP SI ;Restore SI value
0000:0659 JMP Display_Error_Message_Loop

Endless_Loop:
0000:065B JMP Endless_Loop ;After displaying a fatal error
;message lock the system up.

Times_To_Attempt_Reading_Boot_Sector:
0000:065D MOV DI,0005 ;Prepare to attempt reading the
;boot sector up to 5 times.

Attempt_To_Read_Boot_Sector:
0000:0660 MOV BX,7C00 ;Offset destination of sector copy.
0000:0663 MOV AX,0201 ;Read 1 sector.
0000:0666 PUSH DI ;Save current Destination Index register
;value (INT 13 clears it).
0000:0667 INT 13 ;INT 13 Function 02h - Read Disk Sectors.
;Read boot-sector from active partition
;into memory address of ES:BX (0:7C00h).
0000:0669 POP DI ;Restore previous DI value.
0000:066A JNB Check_OS_Signature_Word ;Jump if no error occurs.
0000:066C XOR AX,AX ;AX=00h. If execution reaches here, an
;error occurred during the boot sector reading
;operation, so prepare to reset drive & retry.
0000:066E INT 13 ;INT 13 Function 00h - Reset Disk.
0000:0670 DEC DI ;One less attempt to read boot-sector.
0000:0671 JNZ Attempt_To_Read_Boot_Sector ;Jump if DI is not 0.
0000:0673 MOV SI,06A3 ;Offset to "Error loading operating system"
0000:0676 JMP Display_Error_Message_Loop

Check_OS_Signature_Word:
0000:0678 MOV SI,06C2 ;Offset to "Missing Operating System"
0000:067B MOV DI,7DFE ;Last two bytes of copied boot-sector.
0000:067E CMP WORD PTR [DI],AA55 ;Does it contain the Operating
;System signature word (the bytes AA55h)?
0000:0682 JNZ Display_Error_Message_Loop
0000:0684 MOV SI,BP ;Reinstate Source Index value. If execution
;gets to here all tests have been passed.
0000:0686 JMP 0000:7C00 ;Execute copied boot-sector code.

```

Figure 3. Disassembly of MBR code. Segment:Offset addresses shown on the left would be those used if the code was actually executing.

OFFSET

0000-008A	139 bytes of code to relocate MBR in memory, check partition table, load boot sector from the active partition and execute it.
008B	Start of error message "Invalid partition table".
00A3	Start of error message "Error loading operating system".
00C2	Start of error message "Missing operating system".
00DB-01BD	226 bytes of empty space.
01BE	Start of partition table entry #1.
01CE	Start of partition table entry #2.
01DE	Start of partition table entry #3.
01EE	Start of partition table entry #4.
01FE-01FF	MBR AA55h signature word.

Figure 4. Offsets to important parts of MBR sector.

OFFSET

0000-01FD	Boot sector code & disk parameters data.
01FE-01FF	Boot sector AA55h signature word.

Figure 5. Location of signature word in boot sector.

Data Registers

AX (Accumulator)	These registers are 1 word (2 bytes) wide but can be split into 2 single-byte registers, if required. When this is done with the AX register (for example) the two registers are known as AH and AL for the respective high and low bytes of the original AX word.
BX (Base)	
CX (Count)	
DX (Data)	

Segment Address Registers

CS (Code Seg)	These are 1 word wide and can not be subdivided further because a 0-64K number (16 bits) is required to express a segment address.
DS (Data Seg)	
SS (Stack Seg)	
ES (Extra Seg)	

Offset Address Registers

IP (Instruction Pointer)	Again, these are 1 word wide to express the 0-64K offset position into a segment.
SP (Stack Pointer)	
BP (Base Pointer)	
SI (Source Index)	
DI (Destination Index)	

Flags Register

Status Flags	DEBUG Terms:	Set/Clear
OF (Overflow Flag) - bit 11		OV NV
SF (Sign Flag) - bit 7		NG PL
ZF (Zero Flag) - bit 6		ZR NZ
AF (Aux parity Flag) - bit 4		AC NA
PF (Parity Flag) - bit 2		PE PO
CF (Carry Flag) - bit 0		CY NC
Control Flags		
DF (Direction Flag) - bit 10		DN UP
IF (Interrupt Flag) - bit 9		EI DI
TF (Trap Flag) - bit 8		

This 16-bit register is considered at bit-level with 9 of the 16 bits having significance on the 8086 chip.
They indicate whether a condition has occurred, is Set/Clear, is True/False.

the segment location of a program's data and commands associated with data often use DS. For example, the *MOVSW* command (Copy String Word) uses the DS register to indicate the source segment of data to be copied.

With simple programs, code will be in the same segment as data will be, as will be the stack (an important storage/communication area) i.e. CS = DS = SS. Sometimes another segment will be needed. This is the Extra Segment (ES). Unless stated, ES will be set to the same address as the other segments.

Within each of these segments there will be an offset to confirm to segment:offset notation. A standard register association is DS:SI (specifies source location) -> ES:DI (specifies target location) for string copying. This makes a lot more sense if you expand it to Data Segment:Source Index -> Extra Segment:Destination Index.

Another association is ES:BX for the resultant location of some interrupt operations that need to dump info (such as the current directory name) to some place.

As we will see next month, DX:AX can be used to hold the result of multiplication or division operations.

The offset registers have "Pointer" or "Index" in their name. The IP (Instruction Pointer) register contains the offset, into the code segment, of the next instruction to execute. This is fully specified with CS:IP.

There are two offset registers associated with the stack, BP (Base Pointer) and SP (Stack Pointer). The difference between the two is that SS:SP holds the location of the top of the stack and is not usually accessed directly but rather the SP will be altered by commands that use the stack such as *PUSH* and *POP*. BP can directly accessed. It occasionally has other uses. For example, INT 10h Func 13h writes a string to the screen. ES:BP points to the starting location of the string to be displayed.

The *Carry* bit (CY if set, NC if not) in the Flags Register is often used. Many interrupts will set the Carry bit if an error occurs during execution. For example,

Fig.6 The 8086 Registers and Flags.

look at the *JNB* (*Jump if Not Below*) command at offset 066Ah in the MBR code. This is *DEBUG*'s name for the machine code instruction (73h) found in the MBR code. There can be alternative mnemonic names for instructions. In the case of 73h it's also known as *JAE* (*Jump if Above or Equal to* - really the same as *JNB*) and known as *JC* (*Jump if Carry is set*). In the section under discussion, an INT 13h Func 02h operation has just attempted to read the active partition's boot sector into the address pointed to by ES:BX. If an error has occurred then the Carry bit will be set so, in this example, it would be more sensible to replace the mnemonic *JNB* with *JC*.

The CX register is usually involved with counting. For example, in a *MOVSW* operation, the number of words to copy is specified in CX. This register then decrements as each additional word is copied.

Copying A Block From One Memory Location To Another

Time to work through a code section. We going to see how to use *DEBUG*'s *Trace* (T), *Proceed* (P) and *Go* (G) commands. Refer to Figure 7.

Points to note:

1. We copy single bytes (*MOVSB*) rather than words (*MOVSW*) because we have an odd number of characters to copy. Each *MOVSB* instruction takes the same time to execute as *MOVSW*, but obviously *MOVSW* is doing twice the work in the same time so it's the preferred way to copy. Say you have 65 bytes to copy from one memory location to another. The best way to this would be (abbreviated):

```
MOV CX,20 ;32 decimal
REPZ
MOVSW
MOVSB
```

This would copy the first 64 bytes as 32 words and then copy the last byte using the *MOVSB* command. Note that the 386 & 486 have the *MOVSD* that copies 4 bytes per operation in the same time as an *MOVSB* or *MOVSW*. *DEBUG* doesn't support it, but a full-featured assembler such as MASM or TASM does.

2. *Tracing* is fine at times but often *Proceeding* is better because it charges

c:\dos>DEBUG

```
-F100 L0 0 ;Fill offset 100h, for 64Kb, with 0
-E120 1 2 3 ;Enter three hex characters at 120h
-D120 L3 ;Check.
OB19:0120 01 02 03
-A100 ;Assemble at 100h
OB19:0100 CLD ;Direction is UP for DI & SI
OB19:0101 MOV SI,120 ;String starts at 120h
OB19:0104 MOV DI,130 ;String goes to 130h
OB19:0107 MOV CX,3 ;# of characters to copy
OB19:010A REPZ ;Repeat next cmd while CX not equal to 0
OB19:010B MOVSB ;Copy one byte, then inc DI & SI, dec CX
OB19:010C ;Press Enter to terminate assembling
-U100 10B ;Check
OB19:0100 FC CLD
OB19:0101 BE2001 MOV SI,0120
OB19:0104 BF3001 MOV DI,0130
OB19:0107 B90300 MOV CX,0003
OB19:010A F2 REPZ
OB19:010B A4 MOVSB
-R ;Check registers before starting.
AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0000 DI=0000
DS=0B19 ES=0B19 SS=0B19 CS=0B19 IP=0100 NV UP EI PL NZ NA PO NC
OB19:0100 FC CLD
-T100 ;Trace a single instruction, starting at 100h.
AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0000 DI=0000
DS=0B19 ES=0B19 SS=0B19 CS=0B19 IP=0101 NV UP EI PL NZ NA PO NC
OB19:0101 BE2001 MOV SI,0120
-T ;Next instruction. Notice change in IP and SI.
AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0120 DI=0000
DS=0B19 ES=0B19 SS=0B19 CS=0B19 IP=0104 NV UP EI PL NZ NA PO NC
OB19:0104 BF3001 MOV DI,0130
-T ;Notice change in DI.
AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0120 DI=0130
DS=0B19 ES=0B19 SS=0B19 CS=0B19 IP=0107 NV UP EI PL NZ NA PO NC
OB19:0107 B90300 MOV CX,0003
-T ;Notice change in CX.
AX=0000 BX=0000 CX=0003 DX=0000 SP=FFEE BP=0000 SI=0120 DI=0130
DS=0B19 ES=0B19 SS=0B19 CS=0B19 IP=010A NV UP EI PL NZ NA PO NC
OB19:010A F2 REPZ
OB19:010B A4 MOVSB
-T ;Notice incrementing of SI & DI.
AX=0000 BX=0000 CX=0003 DX=0000 SP=FFEE BP=0000 SI=0121 DI=0131
DS=0B19 ES=0B19 SS=0B19 CS=0B19 IP=010A NV UP EI PL NZ NA PO NC
OB19:010A F2 REPZ
OB19:010B A4 MOVSB
-T ;Once more
AX=0000 BX=0000 CX=0001 DX=0000 SP=FFEE BP=0000 SI=0122 DI=0132
DS=0B19 ES=0B19 SS=0B19 CS=0B19 IP=010A NV UP EI PL NZ NA PO NC
OB19:010A F2 REPZ
OB19:010B A4 MOVSB
-T ;SI & DI now point past end of string.
AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0123 DI=0133
DS=0B19 ES=0B19 SS=0B19 CS=0B19 IP=010C NV UP EI PL NZ NA PO NC
OB19:010C 0000 ADD [BX+SI],AL
-D120 L20
OB19:0120 01 02 03 00 00 00 00 00 00 00 00 00 00 00 00
OB19:0130 01 02 03 00 00 00 00 00 00 00 00 00 00 00 00
-P100 ;Proceed through instruction at 100h
AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0123 DI=0133
DS=0B19 ES=0B19 SS=0B19 CS=0B19 IP=0101 NV UP EI PL NZ NA PO NC
OB19:0101 BE2001 MOV SI,0120
-P
AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0120 DI=0133
DS=0B19 ES=0B19 SS=0B19 CS=0B19 IP=0104 NV UP EI PL NZ NA PO NC
OB19:0104 BF3001 MOV DI,0130
-P
AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0120 DI=0130
DS=0B19 ES=0B19 SS=0B19 CS=0B19 IP=0107 NV UP EI PL NZ NA PO NC
OB19:0107 B90300 MOV CX,0003
```

Figure 7

Figure 7 - Continued over

Figure 7 - Continued

```

-P
AX=0000 BX=0000 CX=0003 DX=0000 SP=FFEE BP=0000 SI=0120 DI=0130
DS=0B19 ES=0B19 SS=0B19 CS=0B19 IP=010A NV UP EI PL NZ NA PO NC
0B19:010A F2 REP NZ
0B19:010B A4 MOV SB
-P ;Proceed "rushes" through repeats, subroutines, calls and INTs

AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0123 DI=0133
DS=0B19 ES=0B19 SS=0B19 CS=0B19 IP=010C NV UP EI PL NZ NA PO NC
0B19:010C 0000 ADD [BX+SI],AL
-G=100 10C ;Go from 100h. Set a breakpoint at 10C.

AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0123 DI=0133
DS=0B19 ES=0B19 SS=0B19 CS=0B19 IP=010C NV UP EI PL NZ NA PO NC
0B19:010C 0000 ADD [BX+SI],AL
-Q

```

Figure 7. DEBUG session that demonstrates difference between Trace, Proceed and Go.

```

c:\dos>DEBUG
-F100 L0 0
-E120 "A" ;Enter the character "A" (41h) at 120h
-A100
0980:0100 MOV SI,120 ;SI=120h
0980:0103 CMP [SI],40 ;Error because a byte (40h) is compared
                        ^ Error ;with a word-sized value.
0980:0103 CMP BY [SI],40 ;Works because "BY" tells DEBUG that the
                        ;value, pointed at by the address in SI,
                        ;is byte-sized.
0980:0106 JZ 130 ;Jump to 130h if 0 i.e. ZF=1 (Zero Flag is set)
0980:0108 CMP BY [SI],42
0980:010B JE 130 ;Alternative name for JZ. Jump if Equal.
0980:010D CMP BY [SI],41
0980:0110 JZ 130
0980:0112

-U100 111
0980:0100 BE2001 MOV SI,0120
0980:0103 803C40 CMP BYTE PTR [SI],40
0980:0106 7428 JZ 0130
0980:0108 803C42 CMP BYTE PTR [SI],42
0980:010B 7423 JZ 0130 ;Note rename
0980:010D 803C41 CMP BYTE PTR [SI],41
0980:0110 741E JZ 0130
-T=100 6 ;Just enough traces to fit on one screen.

AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0120 DI=0000
DS=0980 ES=0980 SS=0980 CS=0980 IP=0103 NV UP EI PL ZR NA PE NC
0980:0103 803C40 CMP BYTE PTR [SI],40 DS:0120=41

AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0120 DI=0000
DS=0980 ES=0980 SS=0980 CS=0980 IP=0106 NV UP EI PL NZ NA PO NC
0980:0106 7428 JZ 0130

AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0120 DI=0000
DS=0980 ES=0980 SS=0980 CS=0980 IP=0108 NV UP EI PL NZ NA PO NC
0980:0108 803C42 CMP BYTE PTR [SI],42 DS:0120=41

AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0120 DI=0000
DS=0980 ES=0980 SS=0980 CS=0980 IP=010B NV UP EI NG NZ AC PE CY
0980:010B 7423 JZ 0130

AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0120 DI=0000
DS=0980 ES=0980 SS=0980 CS=0980 IP=010D NV UP EI NG NZ AC PE CY
0980:010D 803C41 CMP BYTE PTR [SI],41 DS:0120=41

AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0120 DI=0000
DS=0980 ES=0980 SS=0980 CS=0980 IP=0110 NV UP EI PL ZR NA PE NC
0980:0110 741E JZ 0130
-T ;This trace jumps to 130h because the comparison is true.

AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0120 DI=0000
DS=0980 ES=0980 SS=0980 CS=0980 IP=0130 NV UP EI PL ZR NA PE NC
0980:0130 0000 ADD [BX+SI],AL DS:0120=41
-Q

```

Figure 8. DEBUG session to compare two bytes.

through the boring stuff like repeats, *INT* internal code, subroutines and calls. *Trace* and *Proceed* can be followed by a number to indicate how many times to repeat the command. So "T=100 3" would start tracing from 100h and would perform 3 consecutive traces.

3. Go can be used with a breakpoint list. Say you issued "G=100 200 220 240". Execution starts from 100h and stops before executing the instruction at the first break point reached (due to *JUMPS* and *CALLS*, this may not be at offset 200). You can *Trace* or *Proceed* from this point. There can be up to 10 breakpoints. Ensure that breakpoints are set at the start of commands, not part way through them.

4. I tried running the procedure presented in Figure 7 under DOS 5 and DOS 6.2. I also tried it on a 386 and two 486s. The 386 acted slightly differently from the 486s, regardless of DOS version. When it was tracing through *REP NZ MOV SB* it performed two *MOV SB*s in one trace whereas on the 486s it performed one *MOV SB* per trace, as expected. Regardless of *DEBUG* trace operation, the routine executed correctly.

Comparing Two Bytes

Refer to Figure 8.

Points to note:

1. "BY" can be used in place of "BYTE PTR". Similarly, "WO" is equivalent to "WORD PTR". These prefixes are used when working with differently-sized objects.

2. Note that SI=120h, but [SI]=41h. The first assignment is the word value stored in the SI register. The second assignment is the word value stored in the memory location whose address is stored in the SI register. So [SI] means "value of word at address pointed to by SI" rather than "value of SI".

3. If the result of a comparison is true then the result is 0 and the Zero Flag=1. This may seem confusing. Why not ZF=0? The reason is that ZF=1 means that the Zero Flag has been set. The ZF bit in the Flags register goes high to indicate this.

Notice how ZF changes from ZR (Zero) to NZ (Not Zero) after an unsuccessful comparison but gets set to ZR after the *CMP* at offset 10Dh is performed.

CF (Carry Flag) is also switching between NC (No Carry) and CY (Carry).

We're only dealing here with a straight equality comparison but often it's useful to know whether one value is greater than another or is greater than or equal to it. To understand the *CMP* instruction we need to know that it performs a temporary subtraction of the second operand from the first. So "*CMP AX, BX*" compares the result of *AX - BX* and sets flags accordingly. Figure 10 shows a chart of unsigned comparisons.

We won't bother with jumps using the Sign Flag here (*Jump if Greater* is different from *Jump if Above*) or with the various other types of conditional jumps.

4. Notice how *DEBUG* tries to help when it's about to trace the *CMP* instructions by displaying the "indirect" value of DS:[SI] i.e. DS:0120=41. This lets you see at a glance whether or not the comparison will succeed.

Writing A String To The Screen

The ROM BIOS and DOS provides a number of different ways of displaying one or more characters on the screen. We'll investigate the method used in the *Display_Error_Message_Loop*. See Figure 9.

DOS uses ASCIIZ strings. This is a string of characters whose end is signified by the presence of a 00h character. This is the character we've filled this segment with, so as soon as the text string ends the procedure will find one.

When I tried this with a visible character, I couldn't see the screen output in *DEBUG*. So I've settled on using the ASCII 7h character (BEL) so at least you can hear that the character is being "displayed".

Our routine uses *LODSB* which loads the AL register with a byte at the location pointed to by SI.

Figure 9. *DEBUG* session that uses *INT 10h Func 0Eh* to display a message.

```
-F100 LO 0
-E120 7 7 7 ;Three ASCII 7 (BEL) characters
-A100
0980:0100 MOV SI,120 ;Start of string to display.
0980:0103 LODSB ;Load String Byte from [SI] to AL
;After loading, increment SI
0980:0104 CMP AL,00 ;Have we reached the end of the string?
0980:0106 JZ 150 ;If we have, exit out of this section
0980:0108 PUSH SI ;Save SI in case the INT alters it.
0980:0109 MOV BX,7 ;Set character colour to white on black
0980:010C MOV AH,E ;Func 0Eh
0980:010E INT 10 ;INT 10h Func 0Eh - Display a char from AL
0980:0110 POP SI ;Restore SI
0980:0111 JMP 103 ;Loop back to LODSB to load next byte
0980:0113
-T=100 ;SI=120h

AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0120 DI=0000
DS=0980 ES=0980 SS=0980 CS=0980 IP=0103 NV UP EI PL ZR NA PE NC
0980:0103 AC LODSB
-T ;AL=7h. SI has been incremented.

AX=0007 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0121 DI=0000
DS=0980 ES=0980 SS=0980 CS=0980 IP=0104 NV UP EI PL ZR NA PE NC
0980:0104 3C00 CMP AL,00
-T ;ZF=NZ, so not equal.

AX=0007 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0121 DI=0000
DS=0980 ES=0980 SS=0980 CS=0980 IP=0106 NV UP EI PL NZ NA PO NC
0980:0106 7448 JZ 0150
-T

AX=0007 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0121 DI=0000
DS=0980 ES=0980 SS=0980 CS=0980 IP=0108 NV UP EI PL NZ NA PO NC
0980:0108 56 PUSH SI
-T ;Notice that SP has been decreased by 2.

AX=0007 BX=0000 CX=0000 DX=0000 SP=FFEC BP=0000 SI=0121 DI=0000
DS=0980 ES=0980 SS=0980 CS=0980 IP=0109 NV UP EI PL NZ NA PO NC
0980:0109 BB0700 MOV BX,0007
-T ;BX=7h

AX=0007 BX=0007 CX=0000 DX=0000 SP=FFEC BP=0000 SI=0121 DI=0000
DS=0980 ES=0980 SS=0980 CS=0980 IP=010C NV UP EI PL NZ NA PO NC
0980:010C B40E MOV AH,0E
-T ;AH=Eh

AX=0E07 BX=0007 CX=0000 DX=0000 SP=FFEC BP=0000 SI=0121 DI=0000
DS=0980 ES=0980 SS=0980 CS=0980 IP=010E NV UP EI PL NZ NA PO NC
0980:010E CD10 INT 10
-T ;Oops, we've traced into the interrupt's code. This can go on for ages.

AX=0E07 BX=0007 CX=0000 DX=0000 SP=FFE6 BP=0000 SI=0121 DI=0000
DS=0980 ES=0980 SS=0980 CS=FB4C IP=0CDE NV UP DI PL NZ NA PO NC
FB4C:0CDE FB STI
-G 980:110 ;Tell DEBUG to continue execution until it returns to
;our original CS. The offset was determined by working out
;the offset of the next instruction after INT 10 finishes.
;Since INT 10 (CD10 in machine code) is 2 bytes in size,
;the next cmd starts at 10Eh + 2h = 110h.

AX=0E07 BX=0007 CX=0000 DX=0000 SP=FFEC BP=0000 SI=0121 DI=0000
DS=0980 ES=0980 SS=0980 CS=0980 IP=0110 NV UP EI PL NZ NA PO NC
0980:0110 5E POP SI
-T ;We're baaacck! Notice SP has increased.

AX=0E07 BX=0007 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0121 DI=0000
DS=0980 ES=0980 SS=0980 CS=0980 IP=0111 NV UP EI PL NZ NA PO NC
0980:0111 EBFO JMP 0103
-P 9 ;Perform the 2nd loop with one DEBUG command.
;Intervening screens not shown.

AX=0E07 BX=0007 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0122 DI=0000
DS=0980 ES=0980 SS=0980 CS=0980 IP=0111 NV UP EI PL NZ NA PO NC
0980:0111 EBFO JMP 0103
-G 150 ;Perform the 3rd loop and continue on until it reaches 150h.
;To reach this point it must have found a 00h.

AX=0E00 BX=0007 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0124 DI=0000
DS=0980 ES=0980 SS=0980 CS=0980 IP=0150 NV UP EI PL ZR NA PE NC
0980:0150 0000 ADD [BX+SI],AL DS:012B=00
-Q
```

CMP Operand1, Operand2

Equivalent to the temporary operation: Op1 - Op2

Result of Comparison	Zero Flag	Carry Flag
Below: Op1 < Op2	NZ	CY
Equals: Op1 = Op2	ZR	NC
Above: Op1 > Op2	NZ	NC

Jump Instruction	Flag(s) Required
Below: JB, JC, JNAE	CY
Below/Equal: JBE, JNA	CY or ZR
Equal: JE, JZ	ZR
Above/Equal: JAE, JNC	NC
Above: JA, JNBE	NC and NZ

Figure 10. Some unsigned comparisons and conditional jumps.

OFFSET

01BE Boot Indicator Byte.
80h = Active partition
00h = Not active
01BF Starting Head Number byte.
01C0 Starting Sector Number byte.
01C1 Starting Cylinder Number byte.
01C2 System Indicator byte.
00h = Unused
01h = DOS (0 - 16Mb)
04h = DOS (16 - 32Mb)
05h = Extended DOS
06h = DOS (greater than 32Mb)
07h = OS/2 High-Performance File System
01C3 Ending Head Number byte.
01C4 Ending Sector Number byte.
01C5 Ending Cylinder Number byte.
01C6 # of sectors before this partition dword
(4 bytes).
01CA # of sectors in this partition dword.

Note: The above is not completely accurate. The ROM BIOS does not use 8 bits for a head and cylinder numbering. Instead it uses the lowest 6 bits from the head number byte for the actual head number (providing a span of 0-63). The 7th & 8th bits of the head number are added to the front of the 8 bits of the cylinder number to become the 9th & 10th bits respectively. 10-bit cylinder numbering allows a span of 0-1023. This is the cause of the DOS 1,024 cylinder limit. DOS can be made to believe that a disk with more than 1,024 cylinders has less by the use of special drivers (e.g. Disk Manager) or by using drive controllers operating in "translating" mode.

Figure 12. Layout of the 16 bytes of the first partition table entry. The other three partition table entries are similar.

As an exercise, I've traced into the interrupt's internals. If you wish, you can keep pressing "T" but you may be at it for a long time. When you want to return, issue "G CS:IP" where CS is your original CS and IP is the starting offset of the next instruction in the main procedure after the interrupt.

Just Stack Them There 'til I Need Them

As mentioned earlier, the stack is an important storage/communication area. In computing, a stack is accessed in a LIFO (Last data In is the First data Out) manner, as compared to a queue which is accessed in a FIFO (First data

In is the First data Out) manner e.g. a queue of print jobs in a print spooler.

In Figure 9 the stack was implicitly used as a temporary storage area for SI's contents by issuing the instruction "PUSH SI". But the stack was also used to store the location to return to after the INT 10 call had completed. Let's examine the stack's contents during the routine's execution. Refer to Figure 11 (opposite).

Start tracing through the routine again. After executing the "PUSH SI" issue "D FFEC L2" to see SI's value stored on the stack.

Trace into the start of the INT 10 call. You should now be somewhere in the Fxxx:xxxxh memory region. Most modern PCs will be operating with BIOS ROM shadowing turned on, so this memory area will be fast RAM holding a copy of the system BIOS. Without shadowing you would actually be reading and executing instructions from the relatively slow ROM chip itself.

In the previous section we calculated where to set Go's breakpoint by noting the size of the INT 10 instruction so that we knew where the next instruction would start. This time we'll use the contents of the stack. Issue "D FFE6 L4". (Even though we've changed our current CS, DS = SS = original segment. "D" with an offset address works from DS.) Remember that the Seg:Off address should be read from DEBUG's dump from the right to the left, so "10 01 80 09" would mean "0980:0110". We can even do this a little easier. DEBUG lets us use "SS" directly in the "G" command so to get out of the interrupt you could use just "D FFE6 L2" followed by "G SS:110".

Note that, besides the 4 bytes of the return Seg:Off address, the stack also stored the value of the Flags register prior to the interrupt's execution. This is because the computer needs to restore the Flag register to its status prior to the interrupt's invocation so operation continues normally. The Flags register value may not end up with EXACTLY the same value after the interrupt as it had before it, however. Many interrupts set the Carry bit in the Flags register value stored on the stack if the interrupt's execution did not go as expected. If you want to inspect the stored Flags value while you're in the interrupt in this example issue "D FFEA L2".

SP = Value in Stack Pointer Register = Address of "top" of stack. Stack grows downwards

Start	PUSH SI (SI=121h)	INT 10	After Returning From INT 10	POP SI
SP -> FFE0 0000	FFEE 0000	FFEE 0000	FFEE 0000	SP -> FFE0 0000
	SP -> FFEC 0121	FFEC 0121	SP -> FFEC 0121	
		FFEA 7202 - Save value of Flags Register		
		FFE8 0980 - Return Segment Address		
		SP -> FFEC 0110 - Return Offset Address		

Figure 11. Stack contents during operation of routine in Figure 9.

The Partition Table Structure

Since the MBR code works with the master partition table and its entries we should examine this as well. Figure 4 shows the starting offsets of each of the four possible entries while Figure 12 presents the structure of the first partition table entry. Since each entry is 10h (16 bytes) in length, it's easy to work out the offset addresses inside other entries.

Figure 12 also introduces the topic of ROM BIOS Head/Cylinder numbering being based on a 6/10 bit assignment rather than on 8/8 bits. This is not a problem when dealing with low values like the location of a partition's boot sector, but it's definitely important when you consider the end of a partition. For completeness, I've included Figure 13 so you can see how to calculate it.

Conclusion

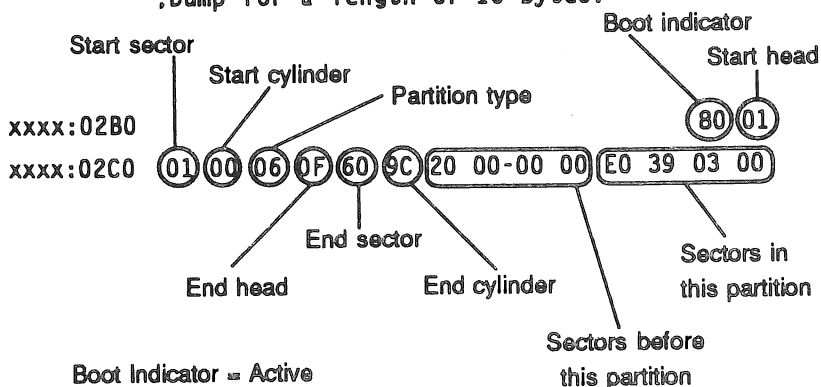
Well we've covered a lot of territory this month. By now, you should have developed some expertise at using *DEBUG*. Fancy programs like CodeView or Turbo Debugger can make some of the tasks we've covered a little easier, and *MASM* and *TASM* can make creating asm programs a LOT easier, but ultimately it comes down to possessing a good understanding of how the CPU functions. Hopefully, you've made significant progress down that path.

Next month

We'll create a .COM file that displays partition table values and their sizes. You will learn how to perform arithmetic and how to convert hexadecimal values to decimal in assembler.

c:\dos>DEBUG MBR.BIN

-D2BE L10 ;MBR code loaded at offset 100h so use 2BEh
;to dump start of partition table entry #1.
;Dump for a length of 16 bytes.



Boot Indicator = Active

Start = Cyl 0, Hd 1, Sec 1

Type = DOS greater than 32Mb

End = Cyl 412, Hd 15, Sec 32

Sectors before this partition = 32

Sectors in this partition = 211,424

Since each sector is 0.5Kb, the size of the partition = 105,712 Kb

In QBASIC's Immediate Window:

' Actual Sector Number.

' 63 = 2^5 + 2^4 + 2^3 + 2^2 + 2^1 + 2^0 = mask for lowest 6 bits.

? &H60 AND 63

Result: 32

' Actual Cylinder Number

' 192 = 2^7 + 2^6 = mask for upper 2 bits.

' Multiply result by 4 since these two bits are being promoted up two positions to become the 9th & 10th bits in a 10-bit number.

? (&H60 AND 192) * 4 + &H9C

Result: 412

' Number of Sectors In Partition

' DEBUG shows higher bytes on the right so "E0 39 03 00"

' becomes 339E0h. To convert this double word to decimal:

? &H3 * 65536& + &H39 * 256 + &HE0

Result: 211,424

' Note: the ampersand is needed with 65536& to ensure that the result is a long integer (in BASIC). Otherwise an overflow would occur.

Figure 13. DEBUG session to read first partition table entry in MBR.BIN. Also shown are the values encoded in this table entry and how to use QBASIC to perform the calculations.

The OS/2 Column

Paul Marwick

So much for my planned *REXX* tutorials. I'm out of time again, and haven't got started on it yet. Maybe next month...

the drivers for S3 cards also suffer from similar problems.

Creating a version 2.11 boot disk

Having installed the CSD, I needed an OS/2 2.11 (which is the version reported by the CSD) boot disk. Creating one turned out to be a lengthy and somewhat painful process.

Producing a single boot disk for OS/2 has never been a terribly simple process. Certainly nothing like producing a boot floppy for DOS, where a *'format a:/s'* does the majority of the needed work. However, producing a boot disk for the 2.11 CSD turned out to be even more complicated than usual.

In the past, I've used a very useful *REXX* procedure (*MAKEBOOT.COM*) to produce a boot floppy for a system. When OS/2 2.1 was released, that required a little bit of extra work, due to IBM changing the attributes of one of the needed files. With the release of the CSD, *MAKEBOOT* seems to have become unusable. The main reason being that running OS/2 from a floppy disk requires a small protected mode shell. In full releases, this is provided by *SYSINST1.EXE*. The CSD does not provide a copy of *SYSINST1*, and does not seem to be too happy running with the copy from OS/2 2.1 GA (though I may have made an error somewhere which caused the initial problems I had).

Having got started on producing a floppy boot disk, I was not going to give up. And I'm glad to say that my persistence paid off. I now have a 2.11 boot disk, and can produce more if I need to. I also have something that I've never had from an OS/2 boot floppy in the past - the ability to multitask while booted from floppy disk...

When I initially hit problems producing the boot diskette, I looked around for an alternative to *SYSINST1* (since that seemed to be the main cause of problems). And decided to try *TSHELL* (the text-mode replacement for *PMSHELL* that I mentioned a few months ago). After a bit of fiddling around, I got it to work. When booted from a floppy, instead of ending up at an A: prompt, I now end up with a very simple *TSHELL* menu, which offers the ability to start OS/2 sessions or to shut the system down. Using it, I can now start multiple OS/2 full-screen sessions from a

The OS/2 2.1 CSD

The OS/2 2.1 CSD is now available. There is also to be a CSD package for OS/2 for Windows, but it has not yet been released.

Generally, the 2.1 CSD seems to be stable and provides a large number of fixes (not that I'd found all that many problems with 2.1 itself). It is a large set, consisting of 21 1.44 megabyte diskettes. I've not seen it available in 1.2 megabyte format, but that may be available eventually.

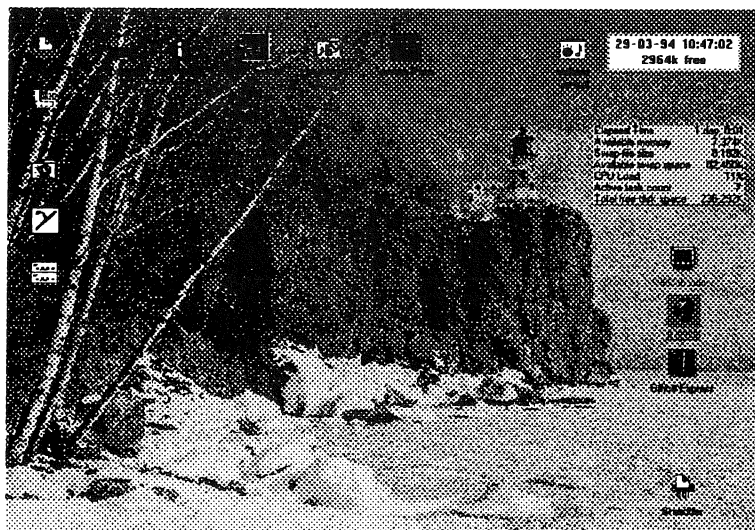
I haven't installed the CSD on any of the BBS machines yet (haven't had enough free time to do so), but I have it up and running on my office machine. It seems to be a bit faster in operation than 2.1 was, and also to use a little less memory.

The only problem I've encountered with it involves the video drivers. I've been using a *Cirrus Logic* video card in that machine, and was using drivers released late last year for the card. The CSD includes replacements for those drivers, but they do not work as well as the drivers that I was using. I found that I was getting screen corruption when switching from a full-screen DOS session to the WPS. As a result, I've reinstalled the earlier video drivers, which work fine with the CSD and get round the corruption problem. From a few reports I've seen, it seems that

The 2.1 CSD provides a large number of fixes

It is a large set, consisting of 21 1.44 megabyte diskettes

An attractive OS/2 screen saver



floppy. While its restricted in use (there's not a lot of room left on a 1.44 Mb disk by the time you've got all that is necessary to run OS/2 on it), it works and works well. If you take a reasonable amount of care, you should be able to run 2 or 3 sessions while booted from floppy, which should make emergency repair work easier to do.

I've written a replacement for *MAKEBOOT*, and I'm testing it at the moment. Its a bit long to reproduce here, but it should be available from the BBS by the time you read this. Hopefully, it should work whether its run from an OS/2 2.10 or 2.11 system. I've yet to add much in the way of support for different hardware, but that shouldn't be too hard to do.

I've also found something else which is made almost unusable by the CSD. I've been using *Sentry*, from the Gammatech Utilities to backup the Work Place Shell (which has been very useful, since I've ended up reinstalling OS/2 several times in the course of giving basic OS/2 lessons).

Using *Sentry*, its relatively easy to save all customisation done to the WPS and restore it by booting from floppy and using *XCOPY*. However, under the CSD, the two all-important *INI* files (*OS2.INI* and *OS@SYS.INI*) now have the system attribute set, which means that they cannot be copied under normal circumstances (at least, not without changing their file attributes first). While *Sentry* continues to back them up, it has become difficult to restore from the *SENTRY* backup. The first time I tried, I found that not only could I not copy them directly, but that the OS/2 2.1 boot diskette that I'd used to boot the machine wouldn't allow me to use the *ATTRIB* command to make it possible to copy the files. This seemed to be because the boot disk was an OS/2 2.10 disk, and the *ATTRIB* command was from the OS/2 2.11 utilities.

ROBOSAVE... a better SENTRY

With the usefulness of *SENTRY* reduced considerably, I looked around for other alternative methods of backing up the WPS. In doing so, I found a program called *ROBOSAVE*. *ROBOSAVE* is the work of an IBM employee, and has been released under the IBM EWS scheme. As such, it's freely available. After trying it out, I've come to the conclusion that it's well worth using.

ROBOSAVE uses utilities provided with OS/2 itself to produce a copy of the the active elements that make up the WPS. That copy can be directed to either a directory on your hard drive, or to a floppy



Figure 1. ROBOSAVE in action

disk. *ROBOSAVE* can be set to save a configurable number of generations, which allows you to skip any problems if you've made changes to *WPS* and saved them. Its easy to set up, since it uses a simple text configuration which can be quickly edited to suit any individual system.

When run, it produces a *REXX* restore procedure which can be used to restore all objects and settings to the OS/2 desktop. To do so, it deletes the existing Desktop directory structure, and replaces it with data from the saved files, producing an image of the Desktop as it was when *ROBOSAVE* was run.

Since OS/2 doesn't save all WPS settings until a system shut down is performed, it's suggested that after making changes, you perform a shut down, then run *ROBOSAVE* as soon as the system is brought back up. You could include the *ROBOSAVE* command in *STARTUP.CMD* or create a WPS object for it and put that in the startup folder.

ROBOSAVE has several advantages over *SENTRY* (apart from the fact that it costs nothing, while *SENTRY* is part of a commercial package). Since its configurable, you can use it to save things that would not normally be saved by a *SENTRY* desktop save. For instance, *SENTRY* only saves *OS2.INI* and *OS2SYS.INI*. There are a number of programs that use their own *INI* files (the *Enhanced Editor* and most of the other applets provided in the OS/2 Productivity Folder for example, along with many programs from other authors). *ROBOSAVE* can easily be configured to save the *INI* file used by these programs, and will also save things such as *CONFIG.SYS*, *AUTOEXEC.BAT*, *STARTUP.CMD*, etc. I use *DeScribe*, a native OS/2 word processor. It has two data files which it places in the OS2 directory, and which I've ended up losing a couple of times. I now have *ROBOSAVE* saving them when it saves the WPS settings.

If you need to make use of the *ROBOSAVE* restore process, you will have to boot from a floppy

SHIFTRUN provides the ability to interrupt the OS/2 boot process before the system has fully loaded

disk, since the desktop cannot be active when the *ROBOSAVE restore* is run. Or you can use another IBM EWS product to allow the restoration to take place before the desktop is active.

SHIFTRUN, boot Interrupter

This is a utility called *SHIFTRUN*. *SHIFTRUN* provides the ability to interrupt the OS/2 boot process before the system has fully loaded, allowing a number of things to be run which would otherwise require booting from a floppy disk because of the interprocess protection provided by OS/2. To invoke *SHIFTRUN*, you need to add a line to the OS/2 *CONFIG.SYS*:

```
CALL=<path>\SHIFTRUN.EXE <timeout> <program>
<parameters>
```

The timeout value is the time which will be allowed for the user to start the program specified. Doing so is achieved by pressing and holding the left shift key. By putting (for example)

```
CALL=C:\OS2\SHIFTRUN.EXE 5 CMD.EXE /K
```

into *CONFIG.SYS*, it becomes possible to start a full-screen OS/2 command line session by pressing the shift key when the *SHIFTRUN* prompt appears during system boot. Pressing the *ESC* key will bypass the *SHIFTRUN* delay and continue with the full OS/2 boot. If the user has not responded in 5 seconds, the boot will continue also.

The *ROBOSAVE restore* can be run from this prompt (as can other things which would not be possible once the system has fully booted). When you have finished whatever work is needed, entering 'exit' will allow the full OS/2 boot to complete.

While there are still a number of things which cannot be done from this point in the OS/2 boot, it saves the time involved in booting from floppy disk

for a number of tasks. And is quite unobtrusive when you don't need it.

One thing that has always annoyed me about the WPS is the fact that it can be difficult to make it look just the way you want it to. When OS/2 installs, it installs objects at various positions on the Desktop. As you add other objects (or move existing ones), the Desktop can become very cluttered. It is also difficult to arrange objects in the position that you want them to occupy. If you want to arrange them, you have to move them and position them by eye, which can be difficult to do. In addition, since there is a boundary around all desktop objects, small incremental adjustments to get the position of a folder or program object just where you want it can be difficult or impossible to make

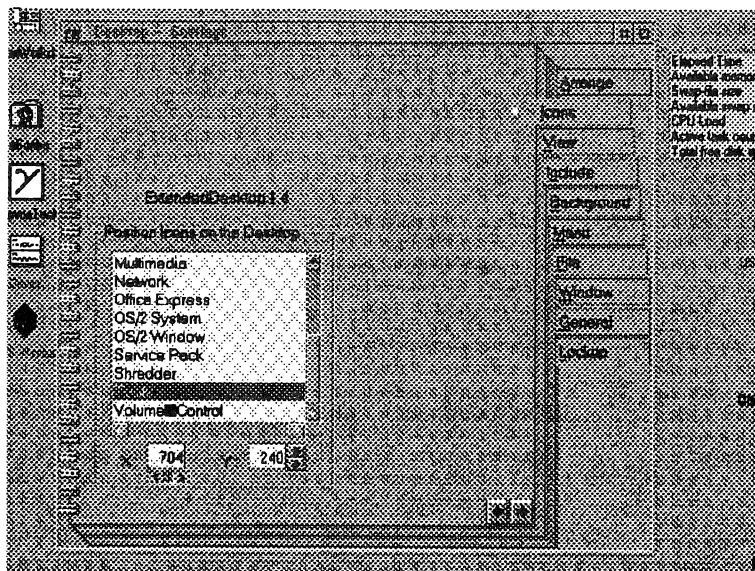
If you change screen resolutions (by installing high resolutions drivers), new objects will be created in a slightly different alignment than that used when objects were created by the original installation. This can add up to make the WPS look decidedly untidy. My desk is bad enough, I don't need the same thing on my computer screen as well...

The WPS offers a number of options when it comes to arranging the desktop. One of the menu items offered is 'arrange', which will react in different ways, depending on whether you have the view set to 'Flowed', 'Non Flowed' or 'Non-Grid'. With the default settings, if you use the arrange function from the menu, all desktop objects will be arranged in one or more rows at the top of the desktop. Not the most attractive arrangement around by any means.

Unfortunately, it's all too easy to use the *arrange* function accidentally. At which point the WPS will happily destroy any work you may have put into arranging objects where you want them, and move everything to the top of the desktop. The only means of recovery from this sort of accident is to use *CTRL-ALT-DEL* to perform a soft reset on the system. This is the only time you don't want to perform a system shutdown, since doing so at this stage will save the new object positions and lose any custom arranging that you've done. While it's reasonably safe to use *CTRL-ALT-DEL* (when the soft reboot is performed, OS/2 always flushes the disk cache before it reboots), it's not ideal, and it's likely to be a nuisance having to reboot for this purpose.

Under OS/2 1.3, there was a utility called *GRIDLOCK* which allowed objects to be positioned on a grid, allowing easy positioning and also obviating most of the pain involved in an accidental arrange. However, it doesn't work under OS/2 2.xx. There is another utility available (*Intercept*) which will intercept an arrange command and ask for confirmation before it's carried out, but that doesn't provide a complete answer by any means.

Figure 2. Extended desktop's install screen



EXTENDED DESKTOP... Preserve your desktop layout

Enter another IBM EWS program. *Extended Desktop* is an extended WPS object class. It is easy to install, and just as easy to remove. Once it's installed, you no longer have to worry about accidentally arranging your carefully laid out desktop - the arrange option is no longer present on the desktop menu.

ExtendedDesktop replaces several of the notebook pages which apply to the WPS setup. It produces three notebook pages of its own, which cover settings that control how it operates.

The first of these pages has three check boxes. (refer to Figure 4). One enables arranging/sorting of desktop objects. The second enables arranging of minimised windows, and the third enables 'snap to grid'. By default, only the third is active on installation, but the others can be enabled if needed.

Notebook page two allows you to specify the grid spacing that will be used for 'snap to grid' operations, allows setting whether objects will be deselected after an alignment operation has been carried out, and also allows specifying whether even spacing should be used for objects on the grid.

The third notebook page presents a list box with all the desktop objects shown (refer to figure 5). Below this is an X and Y positional readout, which can show where each object is located on the desktop. By highlighting an object, you can see what its X/Y position is, and can make incremental adjustments to that position.

The WPS popup menu no longer has an arrange option. Instead, it has *Snap to Grid*, *Select*, and *Align Selected* options. The *Align Selected* option allows for horizontal or vertical alignment of selected icons. These allow you to make a variety of different arrangements of objects on the desktop, and allows them to be quite easily made as well. The *Select* option allows all desktop icons to be selected or deselected.

This setup allows a great deal of flexibility in arranging your desktop. You can select groups of icons, using one of several different methods, and

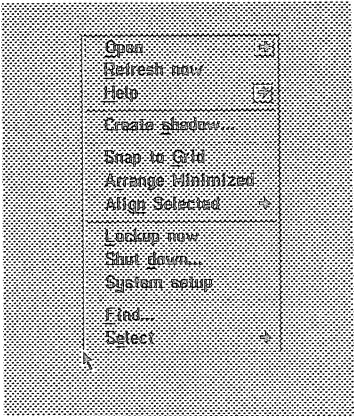


Figure 3. Installation menu

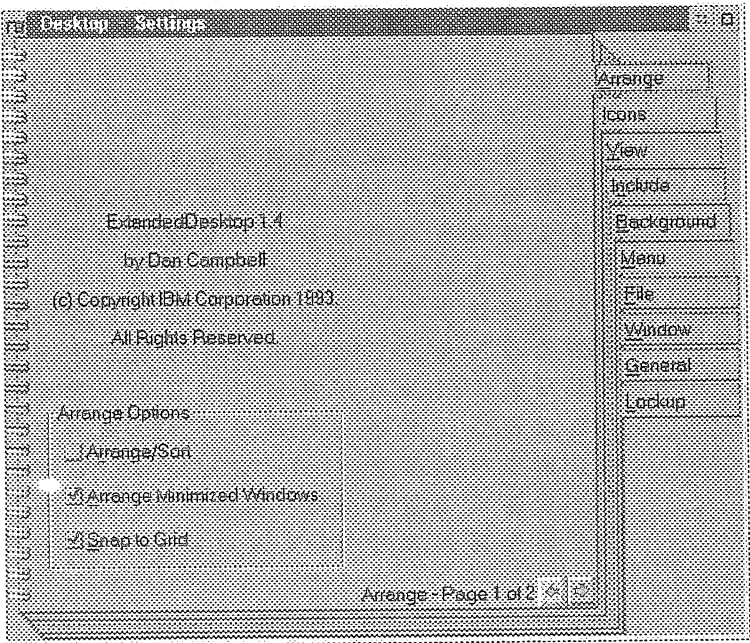


Figure 4. Notebook page one

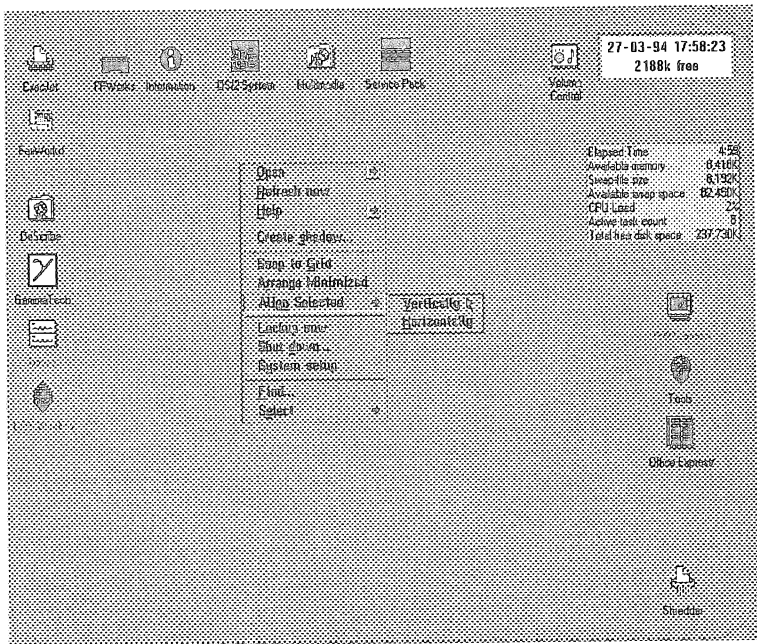


Figure 5. Positioning icons with Extended Desktop page 3

then use the *Align Selected* option from the popup menu to align the group either horizontally or vertically.

With *ExpandedDesktop*, it's possible to arrange the WPS desktop just the way you want it. And it's possible to do so quite easily, without having to worry about the results of an accidental 'arrange'. ○

Next Month

Paul will introduce the promised REXX Tutorials

With Expanded Desktop, it's possible to arrange the WPS desktop just the way you want it.

"To Upgrade Or Not To Upgrade", *That Is The Question*

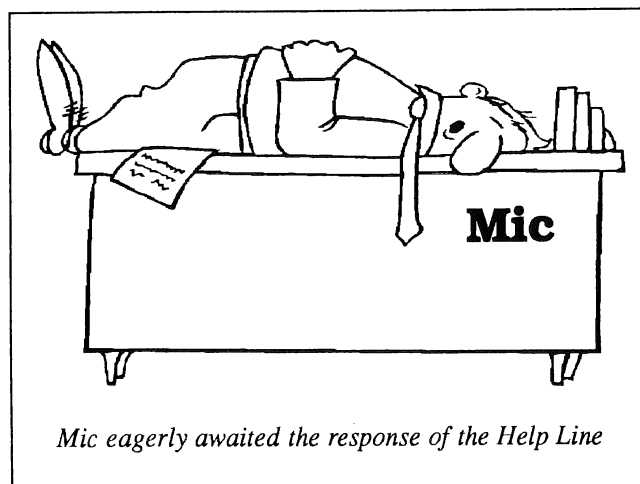
by Mic Collis

Today I received my February 1994 copy of Significant Bits and read with interest and amusement Ralph De Vries' *Windows Watch* column. What an intelligent and wily computer user he is, by limiting himself to only a couple of upgrades from the Christmas offering.

I, on the other hand, do not look so intelligent in hindsight. Sure, I upgraded to the new DOS 6.2 *step-up* as well. Sound move, *Doublespace* even appears to work properly. However I also upgraded to Microsoft Office 4.0 from Word for Windows 2.0 (thus providing me upgrades of Word 6.0, Excel 5.0 and Powerpoint 4.0 when they are released). I also upgraded to Windows for Workgroups 3.11, and Norton Desktop for Windows 3.0.

Quite a few upgrades there, and they all pretty much arrived within a 6 week period.

Now if you are a regular attendee of Ron Lewis' morning class for those who know a bit more than those who know not as much about their computers, you may remember Ron's maxim: *NEVER buy or upgrade to any software version ending in point zero*. Always wait for the next version so the bugs will be ironed out.



Oh! guru Ron, if only we your humble students always listened to you. (Bill Gates and Peter Norton would be slightly poorer men than they are today.)

In some respects new upgrades can be wonderful. In most respects they crash your system, are either bug ridden, incompatible with other software you are running, use heaps more hard disk space, much more memory, take a lot longer to start up, run slower, are incompatible with files, functions and macros of their previous versions, or part or all of the above. You name it I've had it recently. Together with the time it takes to read manuals (I *know* nobody reads the manuals), find where on the new menu your old favourite function has been hidden, decipher new toolbar icons and try to find things using convoluted help systems.

But now I should return to Ralph's article; I can only agree what a great support scheme *Communique* is. In the past I would have been lost without the free telephone support it provided. But now we must pay Microsoft for support, if we use more than our 5 coupons allotted to us as *Communique* members.

This commenced in Australia on 1 January, 1994. (around the time that most of Microsoft's new upgrades were released.) Of course bugs and setup support are not supposed to be included as part of the 5 coupons.

My first call to the *Communique* 008 number this year was interesting to say the least. After 15 minutes of waiting, I put the call on the speaker phone and went on with my business. I have call waiting so I was able to hear any other incoming calls. I terminated the call after two and a half hours, boy I'm glad I didn't pay for that one.

I finally got through another day, with a problem with Excel 5.0 not recognising the function `MROUND()` in my Excel 4.0 spreadsheets. The solution look up `MROUND()` in the help section and it will tell you that you must install the Analysis ToolPak add-in macro and goes on to tell you how to accomplish this task, fair enough! One-nil to Microsoft you may think!

Well I don't think so, installing said Toolpak does not fix the problem. New MROUND() functions work brilliantly, but the existing ones in Excel 4.0 sheets go looking for the old path of the Excel 4.0 Analysis Toolpak which isn't there anymore because Excel 5.0 installation changed it all.

My solution: use *Edit/Replace* to replace all occurrences of the path with absolutely nothing in all spreadsheets experiencing this problem.

Microsoft support staff person's response when I rang the next day to tell them? "No that can't be right". Then after testing it themselves, "I didn't know about that, I'll write a release to all the other support staff".

My response: "So these calls on this matter will not go against my five allowable calls per year as this is a bug or at least an annoying feature".

Microsoft: "You should have read the help section and installed the Toolpak. So it is your problem and the call does go against your 5 calls per year".

I take some exception to this:

1. MROUND() was not in the help section of Excel 4.0.
2. Microsoft did not provide a function reference manual with Excel 5.0.
3. The solution they offered did not work in the case that I rang about.
4. The Toolpak in question was obviously installed in Excel 4.0, why didn't the Excel 5.0 installation program see this and install the same Toolpak automatically in the new version.
5. I offered them a solution to what is obviously a bug between Excel 4.0 sheets and version 5.0.

Not very satisfactory is it? But at least Microsoft are providing support even if you do have to pay \$40 per year for 5 calls. Which brings me to Symantec.

Support, what support? I am supposed to be presenting Norton Desktop for Windows 3.0 at the Windows SIG in March. Boy, is it going to be some presentation. This great new version is loaded with such great new utilities and functions I'm just busting out of myself to show everyone how I cannot get most of them to work.

On top of this, many of the viewing modules (for previewing files without opening the programs which created them) are out of date. Not surprising with all latest releases of software, and so are the macros provided to help run utilities such as *Fileassist* with such programs as *Word for Windows*. Have Symantec provided updates for these items? If so "where do you get it" (to quote the old advertising slogan). Symantec in Sydney either don't know or are not interested enough to tell me.

Disk maintenance programs such as Norton *Disk Doctor* and *Speedisk* are now provided as Win-

dows versions but will not work with *Windows for Workgroups*' 3.11 new 32 bit file access. Nor will *Smartcan* for that matter.

You have to look really hard at Norton Desktop for Windows 3.0 to find any value in upgrading from a previous version. At least Norton *Backup* still works, but then it worked in the previous version.

As far as Windows for Workgroups 3.11 is concerned, maybe Symantec know something the rest of us don't. I seem to get a lot of cross linked files and inaccessible sectors and clusters when I do use 32 bit file access. Also I'm not so sure it is really any faster than *Smartdrive* as a disk cache anyway.

Also I had previously used *Lantastic Z* to connect my notebook computer to the desktop at the office. But in the October 1993 copy of the *Communique* magazine I read the second last paragraph on page 23.

"Finally, a new facility in Windows for Workgroups lets users set up very simple two-node networks. This link works through the PCs' serial ports, and is ideal for connecting laptops to desktops in an informal mini-network."

I can find nothing in the manual to describe how to accomplish this and so far the support staff at Microsoft have been unable to help.

I really should say that I have had previous dealings with Borland and WordPerfect and have been similarly disillusioned. About the only major dealer I haven't dealt with is Lotus.

I could go on and on really, but then it would just be the ranting of a madman. Mad because I paid good, hard earned money for these upgrades, and mad because the manufacturers seem quite willing to take our money for the software, and then take it again and again in order to help us find our way around all the problems they have created.

By the way Microsoft have already announced a maintenance upgrade of Word for Windows 6.0a. (6.0 just doesn't seem to be their number really.) I'm sure there will be lots of such upgrades of other programs by the time you read this.

I should point out that these few examples in no way demonstrate the depth of problems, bugs or relearning I have encountered. They are simply a couple of examples.

Good luck with your computing I hope it runs better than mine.

○

This great new version is loaded with such great new utilities and functions I'm just busting out of myself to show everyone how I cannot get most of them to work.

Beginners' Bytes — Part 6

Ron Wilby - Melb PC User Group inc

Welcome again to all you beginners and to any experts among our readers. If you read this month's "Beginner's Tale" you will see how "experts" can get into trouble too. Here we're going to talk about applications programs, since many people have phoned me seeking this sort of information.

And in the Beginning ...

In my early days I had reached the lofty heights of owning a working XT and a book on DOS—what next? For me, this was the time to start making contact with the world of computing out there. I decided to subscribe to one or more monthly magazines and to join Melbourne PC User Group. Picking a magazine or two is not too easy. Most of those on the newsagent's stands are of overseas origin and are of little use to the small-budget user who, I hope, is reading this series. Many of the local products are aimed at big-budget up-market users. Try to find something aimed at users like yourself. There is no decision involved in joining Brisbug PC User Group, you are reading our magazine and it is essential you join. As a member you should attend as many SIGs as you can. You will learn a great deal very quickly and make some good friends with whom you can exchange useful information.

Applications Software

At this stage I dearly wanted to "do something" with this computer now dominating the "office" (spare bedroom). The original motivation was a wife who wanted to write (short stories, creative writing etc.), thus I was told a "Word Processor," whatever that may be, was the next requirement. In those days, standard software for a respectable PC was:

Wordstar	A word processor
Lotus 1-2-3	A spreadsheet
dBASE	A database

By courtesy of ex-colleagues, I found myself in possession of two 360 kB floppies, my entire software library, and with no idea which program did, or might do, what. Perhaps you "Beginners" need some help here too.

What Is a Word Processor?

There are very satisfactory dedicated word processor machines (they are not computers) on the market for those who need nothing more. I am assuming that you, our readers, are going to use your computer for many different things, and hence that you will buy a word processor software package as a part of your final computing setup. Many "levels" of word processors are available commercially, from the quite basic program to the "high end" product that does everything except cook your breakfast. Also, a search through Brisbug's shareware library may give you what you need at lower cost. Because of the great variety of users needs and of software to meet them, this series will not attempt to "choose" applications programs for you. I will, however, try to give a brief description of what each of the main categories of program will do.

Word Processor Features

A word processor is for composing, writing, editing and polishing text that may then be formatted and printed in a way suitable for whatever purpose you intend. It is the modern version of a typewriter, but performs so far beyond a typewriter as to lead you into a whole new world. You are given a blank screen on which to "open a document file." Type whatever you wish any way at all and you can save it to disk and print it. If you don't like what you've done, alterations are easy. There are menus and help screens when you need them. Some other features worth mentioning are:

Errors. If you make a "typo," just overwrite it (on screen) then save the revised version of your document and your error is gone for ever. No white paint, no error correction paper, no retyping pages.

Word Wrap. As each line ends the word processor "wraps" the text to the next line. No need to press a carriage return, it's all taken care of, and if you decide to add extra words, just type them in and the words already there will "move up" to make room.

Block Operations. Whole blocks of text you have typed can be marked and moved around your document and you can even save them for use in a totally different document. Also you can delete (and undelete)

○ Word Processors

○ Spreadsheets

○ Databases

Ron learns about

blocks or move them to another position in the text.

Format. Margins and tabs can be set along with paragraph indenting. You are able to create "paragraph styles," with margins and indenting varying throughout the document. It is possible to have a whole library of these styles. You can have right justification (straight right edge) to your text either turned on or off, page numbers automatically printed and lines of text centred.

Printing. With most printers, a variety of enhancements are available, such as italics, boldface, underline, sub- and super-script. Character sizes and line height and spacing are under your control. There is much much more to a good word processor than I have been able to cover here and you should be aware that a considerable learning curve is involved with all but the most basic word processors.

Wordstar

My software "library" at this time consisted of two scruffy-looking 360 kB floppies, one of which purported to contain *Wordstar*, a hoary old version that had been released about seven years earlier. Of course, with no manual, progress was infinitely slow, with a great many phone calls to the ex-colleagues. So, into the city again, and back home with another paperback called "*Wordstar Tips and Techniques*."

Alas, I now discovered that my single *Wordstar* floppy contained but the bare bones. All the nice features like Spelling Checker, Thesaurus and MailMerge were missing. Time to take the hint and go out and buy the program!! I thus came into possession of *Wordstar 4.0*, a better paperback book and some idea of what I was taking on.

At this stage I went off for a 2-week holiday at Apollo Bay, without computer but with paperback book ("*Using Wordstar*" by Steve Ditlea, Que Corporation), that contained 500 pages of clear concise learnable information. I soaked it up!

My First Hard Disk

Readers of the "Beginner's Tale" may remember I was using a 2-floppy disk computer (with 640 kB of RAM, thought to be hot stuff back then. Most machines were sold with only 256 kB). Suddenly I

was confronted by a program that occupied six 360 kB floppies. My normal procedure up to this time had been to use the A: drive for the program disk and the B: drive for the output (data, text, whatever). How can you then run this six-floppy *Wordstar*? Two weeks at the beach with paperback revealed that this could (just) be done, but was going to involve an awful lot of floppy-swapping and would be very slow.

The awful truth loomed! A hard disk had become a necessity for *Wordstar*, and probably for other applications programs, such as Lotus 1-2-3. So back to my original supplier and quote of \$600 for a fairly slow 20 MB hard disk, which was duly installed (I recently bought a 250 MB hard disk for much less than \$600). Oh joy, oh joy, the speed and convenience of having the whole of *Wordstar* at one's fingertips with all its bells and whistles was new and exciting for me. But the excitement brought with it some dangers. I had to learn all about directories and partitions. I had to learn how easy it is to use the *Format* command to destroy the contents of your hard disk. And virus infection, until now something which happened to other people, became a real threat to me because I owned a hard disk (they were not very common in those days). Now, let's go back to telling you about application programs.

What Is a Spreadsheet?

A Spreadsheet is an electronic worksheet and replaces the broad, sometimes double page sheet of paper on which people used to record all sorts of data. For example, the wages sheet for a business would contain information about employee names, department and hours worked. Probably the hourly pay and the total wages would be included. Or maybe a person has a number of investments and wants to keep records of their value over a period and perhaps graph the results. These and many other applications need a spreadsheet.

The great advantage of an electronic spreadsheet is that it does all your calculations for you. In the old days, if one piece of data on your spreadsheet changed, you had to work through all your calculations again. Not any more, now when you change something, the spreadsheet will do all the recalculation for you instantly. This makes "*what if?*"

predictions easy. What if the interest on my investment changes, where will I be in five years? Change it and see, you can easily go back to where you were.

The spreadsheet contains rows and columns, 8192 rows and 256 columns in Lotus 1-2-3. This means the sheet is divided into cells, at the intersection of a row and a column. Thus a cell might have an address like C35, meaning the 35th row and the third column. Cells can be linked together by formulae, so C35 could contain the sum of A35 and B35. Virtually any mathematical relationship between cells is possible and many cells can be involved. For example, as Treasurer of an organisation, I prepare my monthly report using a spreadsheet. I have a blank sheet already prepared with headings etc. and all I have to do is enter the appropriate amounts and all the totals and differences are automatically calculated. One column contains the cheques issued for the month, and as I fill in the amounts a running total is displayed at the bottom. Every possible type of graph can be produced (the program I am looking at has fourteen types), with the spreadsheet program doing all the hard work of creating the axes and labelling them.

What Is a Database?

A database is any collection of information. Common examples of "paper databases" are the telephone book or a dictionary. Many databases used to consist of a metal box with index cards, usually alphabetical. An electronic database is any collection of information stored in a computer. Using your computer has enormous advantages over a card index because your stored information can be sorted and recovered in any way you wish.

You can analyse the stored information and use it to create and maintain mailing lists. Specific groups can be targetted by telling the database to only send mail to customers who spent more than say \$1000 last year or who live in a particular suburb or both of those. The program will print mailing labels for you.

The database stores information in fields and records. A record is a group of fields containing related pieces of information, for example, the name, address, phone numbers and other details about a particular customer. The fields contain the separate pieces of information, so fields would be provided for Surname, Initials, Street Address, Town, and so on. The user has to create the database structure by specifying the names and lengths of fields. This would be called a "flat file" database. Two or more of these can be combined to form a "relational database," which is more powerful but more complicated, being able to handle, for example, detailed company records for stock control and accounting.

That's all for now, be with you again next month. ○

Continued from page 41

Dr Don's Virus Clinic

since it does not run. This effect is not the same as a false positive, however, since in this case there really is a virus on the disk.

File Infector viruses

The really hard case is a file infected by a file virus. The best solution for this is to delete the infected file and replace it from an archival copy. This is fine for most users. It is also the only absolutely certain method of virus removal. The above methods of removing MBR and boot sector viruses are essentially this method applied to the special cases.

I have heard of someone with an 8 GB hard drive. In this case, deleting and restoring might be a bit tedious. The problem with using a software cleaning program is that the program must exactly identify the virus that it is removing to be successful. As variations continue to proliferate this will become more difficult. The possible outcomes are:

1. A file that is identical to the pre-infection file;
2. A file that has a few bytes different but still functions exactly like the pre-infection file;
3. A file that has one or more bytes changed that crashes sometimes;
4. A file that has one or more bytes changed and doesn't work at all.

Of these outcomes, the most dangerous possibility is number 3 since the file seems OK in most cases but really isn't. This can result in long-term data loss.

I have seen advertising for so called "generic disinfectors" for file viruses. In particular, some claim that they allow the virus to run until the virus disinfects the file. This is something that does happen with most viruses since the virus goes off and does its own thing and must leave behind a correct copy of the program code so that the program can run. The problem with this approach is that DOS has a very limited level of program containment. I believe that there is an unacceptably high probability of the virus escaping and doing damage or infecting further files. For the record, any probability greater than 0 is unacceptable since there are absolutely safe methods available.

In conclusion I would remind you to make sure that your virus detector is up-to-date. Also, now is the time to get a utility program and make a copy of the master boot record from your hard disk. At the same time, make copies of the boot sector of each logical drive on your machine. If you take these steps and make regular backups, viruses will not be a problem.

Programming the VGA

by Mark Dixon

If you know some Pascal, you can have some fun playing with the colours on your VGA...

The VGA is one of the hardest PC devices to program. There are hundreds of registers and attributes that modify the way the card behaves. However, the card can produce some stunning results with limited knowledge of how it works. This article will cover the basics of programming the VGA, using my favourite language, Turbo Pascal, with a bit of Assembler thrown in for good measure!

Getting Started

Firstly, you need to move from the standard TEXT mode to the VGA 256 colour mode. This is achieved by calling a video interrupt. If you don't know what an interrupt is then, for our purposes, think of it as a "procedure" that has been built into the VGA card.

The video card has many video modes, but we are only going to work with mode 13h (that's 13 hexadecimal). This is because it works on all VGA cards, and provides 256 colours at a resolution of 320 by 200. The following Turbo Pascal procedure will initialise the video mode. Don't worry if you're not sure what it does, you only need to know that it switches the video card into graphics mode.

```
PROCEDURE InitVga; ASSEMBLER;
ASM
    mov ax, 13h
    { Load register AX with the value 13 hex }
    int 10h
    { Call the interrupt, to set the video mode }
END;
```

If you want to get back to text mode again (you should do this at the end of your program) then you can use a similar procedure:

```
PROCEDURE InitTEXT; ASSEMBLER;
ASM
    mov ax, 03h
    { mode 3h is the standard text mode }
    int 10h
    { Call the interrupt, to set the
      video mode }
END;
```

Plotting Pixels

The next step is learning how to plot pixels on the VGA. The screen is represented by the memory locations from 0A000:0000 to 0A000:FFFF. Each byte

of memory represents the colour of one pixel on the screen, so that the byte stored at 0A000:0000 will be the colour of the pixel at 0,0. The byte at 0A000:0001 defines the colour of pixel 1,0 and so on.

When you initialise graphics mode (using the *InitVGA* routine) the VGA card automatically assigns each number in a byte (from 0 to 255) a red, green and blue (RGB) value. This list of colours and their RGB values are stored inside the VGA card, and is called the palette. It is possible to modify the palette, as we will see later, but for now we will work with the default VGA palette.

When we plot a pixel, we are in effect simply changing the colour from black (colour #0) to another colour. In order to plot a pixel, we need to know the screen coordinates of the pixel we wish to modify, and the new colour for the pixel. We then simply modify the memory location corresponding to the coordinates of the pixel. The following procedure is a simple (and slow) way of plotting a pixel.

```
PROCEDURE PlotPixel( X, Y: Word; Colour: Byte);
    { X should be between 0 and 319 }
    { Y should be between 0 and 199 }
    { otherwise the pixel will not be on the
                                          screen }
) BEGIN
    if ( X > 320 ) then
        if ( Y > 200 ) then
            Mem[SA000: Y*320 + X] = Colour
END;
```

This routine checks to make sure the pixel is located within the screen, then modifies the memory location of that pixel to the new colour. The memory location is calculated by the equation $Y*320 + X$.

Test Program

Okay, now that we know how to initialise graphics mode on the VGA card, and how to plot a pixel, let's do something practical with it.

The following program will draw a white line across the middle of your screen.

```
PROGRAM VGA_TEST;
    { You will need to add the three routines above }
    { into this program either by typing them in }
    { Just below, or by placing them into a unit }
VAR
    LoopX : WORD;
```

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the
Canberra
PCUG,
with
permission

```

BEGIN
  InitVGA
  { Change into graphics mode }
  For LoopX :- 0 to 320 do
    { for each position across the screen }
    PlotPixel (LoopX, 100, 15) ;
    { plot a pixel in colour white (15) }
    { in the middle of the screen (Y n 100) }
  READLN;
  { Wait for the user to press ENTER }
  InitTEXT; {
  Go back to TEXT mode }
END

```

Colours

As mentioned earlier, the VGA card defaults to a standard palette. The first 16 colours (numbers 0 to 15) are the same as the standard EGA palette, with black being 0 and white being 15. The other 240 colours are different shades of the first 16 colours.

Whilst the default palette will meet some needs, you will find that you often need colours that are different to those in the default palette. Solution? Let's learn how to change the VGA palette!

Firstly, each colour is defined by its basic red, green and blue (RGB) colour components. There are 64 levels (0 to 63) of brightness for each of the basic colours (which provides 262,144 different colours, though still only 256 at any one time). The VGA Palette uses 3 bytes for each colour (one each for the red, green and blue values), which means we can define an array for our palette:

```

TYPE
  Palette_Zntry = RECORD
    R, G, B: Byte;
    { Red, green, and blue }
  END;
  Palette_Type = Array[0..255] of
    Palette_Entry;

```

This array is for our use only. In order to "set" the palette (that is, tell the VGA card what the new palette is going to be), we need to call another procedure:

```

PROCEDURE SetPal( Palette: Palette_Type); VAR
  PalPtr : POINTER;
BEGIN
  PalPtr := @Palette;
  asm
    mov ax, 1012h
    xor bx, bx
    mov cx, 0100h
    les dx, PalPtr
    int 10b

```

The above procedure is slow, but will do for now. The main problem with it is that it will set every single colour in the palette variable. So if you just want to change one colour, you are resetting the entire palette. If you want to change one colour, or a few colours,

you can use another routine to set an individual colour without using the Palette variable:

```

PROCEDURE SetColor (ColorNo, Red, Green, Blue:Byte);
BEGIN
  PORT[$3C8] := ColorNo;
  PORT[$3C9] := Red;
  PORT[$3C9] := Green;
  PORT[$3C9] := Blue;
END;

```

The VGA Palette is difficult to understand. It is best if you simply sit down with the above routines and play around until you feel you know how to use them properly.

Fast Pixel Plotting

If you find the first PlotPixel routine too slow for your needs, try this. The following is a much faster routine simply because it makes use of fast assembler mathematics. The routine works in exactly the same way as the first routine; it calculates $Y \times 320 + X$ as the memory location and then stores the colour value there.

```

PROCEDURE
  PlotPixel(X,Y:WORD;Colour:Byte);ASSEMBLER;
ASM
  push es
  push di
  mov ax, Y
  mov bx, ax
  shl ax, 8 { Y * 256 }
  shl bx, 6 { + Y * 64 }
  add ax, bx { = Y * 320 }
  add ax, X { + X }
  mov di, ax { = Pixel location in memory }
  mov ax, $A000
  mov es, ax
  mov al, Colour
  mov es:[di], al
  { Put colour in pixel location }
  pop di
  pop es
END;

```

This is as far as I will go with this article. The topics I have covered so far are enough to get you started with graphics programming. The routines are by no means fast, but they are simple, and they work.

I have uploaded two files, SLDEMO.ARJ and DISKMAG.ARJ, to the (Canberra) PCUG BBS. These files contain examples and source code of some VGA programs which you might find useful if you found this article easy.

If there are any members interested in VGA programming, I would like to set up a SIG, either for graphics or games programming.

I can be contacted on (06) 231 2000 (7.00pm to 8:30pm) or via the BBS if you are interested. ○

New Library Listings



BBUG 3200 VGA-RENU Ver 2.0

*CLASSIFICATION * Games * Floppy Disk * VGA * Mouse*

VGA-RENU is a variation of the game of Go, an ancient game from the Orient. Go has been played for at least 2000 years and is considered the most popular game in the world today. VGA-RENU is a two player game. Player 1 is always a human but Player 2 may be either a human or the computer. Players alternate placing stones on the board. The object of the game is to either capture five of your opponent's pairs or to form a five stone chain (a contiguous line in any direction). A variation of the game eliminates the pair capture option, in which case the game is won by forming a five stone chain.

BBUG 3201 PEGASUS Ver 2.0

*CLASSIFICATION * Games * Floppy Disk * VGA * Mouse*

PEGASUS is based on a game of Solitaire that is thought to have been invented in the early 1700s by Frenchmen imprisoned in Solitary confinement. Although that is disputed, it is known that the game was very popular in England by the end of the 1700s.

PEGASUS includes two games: Classic Solitaire (made famous by the commercial versions) and Fox & Goose, a less known but equally fun game. Both games are played a board with 33 holes.

BBUG 3202 WORD HUNT Version 2.0

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

WORD HUNT - a word Search-and-Find type puzzle program. The program can create an extensive number of puzzles at different skill levels from it's stored word database. The skill levels cover puzzle blocks of 10 by 10 to up to 20 by 20. The skill level also determines the number of directions the words can be placed in the block. There are options for saving and restoring a puzzle from a

file, changing the screen colors, using a mouse, and printing out the puzzle.

In addition, the user can enter his own selection of words from which to create a puzzle. A "Boss" key is available to bring up a fake DOS screen (for those who like to play at work).

BBUG 3203 MAZE MASTER Version 1.01

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

MAZE MASTER is a classic maze solving game, with a computer twist. The computer can solve the tough mazes, too! You are the mouse, peeking over the maze to study it, getting down on all four legs to run through it some, then peeking again!

Start with the easy mazes, then move all the way to the very tough Monster mazes! Then raise the walls so you can't peek!

You get points for solving the maze, and bonus points if you solve it quickly. Score enough and you can make the list of the top 5 all-time players!

Traveling and not near your computer? Print out a book of mazes to entertain the kids (and yourself)!

BBUG 3204 PUZZY Version 1.01

*CLASSIFICATION * Games * Hard Disk * VGA * Mouse*

So you like jigsaw puzzles, and you are looking for something different to beat. Well, you haven't yet tried PUZZY.

With a surprising selection of colour pictures, PUZZY lays out the puzzle pieces much as you'd lay out a jigsaw puzzle on a card table. You spread the pieces around the edges of the table (the

STASHES) and clear a spot (the GRID) in the middle, where you assemble the pieces. Use your keyboard or mouse to move around the STASHES and select and insert pieces.

Playing PUZZY is much like building a jigsaw puzzle, but PUZZY adds a few wrinkles. PUZZY clocks your speed and keeps track of your guessing errors. So, when you complete a puzzle it reports your TIME and gives you a SCORE. Then PUZZY combines your TIME and SCORE to get a PERFORMANCE RATING that places you on an 8-point scale ranging from NOVICE (lowest) to TOP GUN (highest), with such things as SLOW POKER and LOOSE CANNON in between.

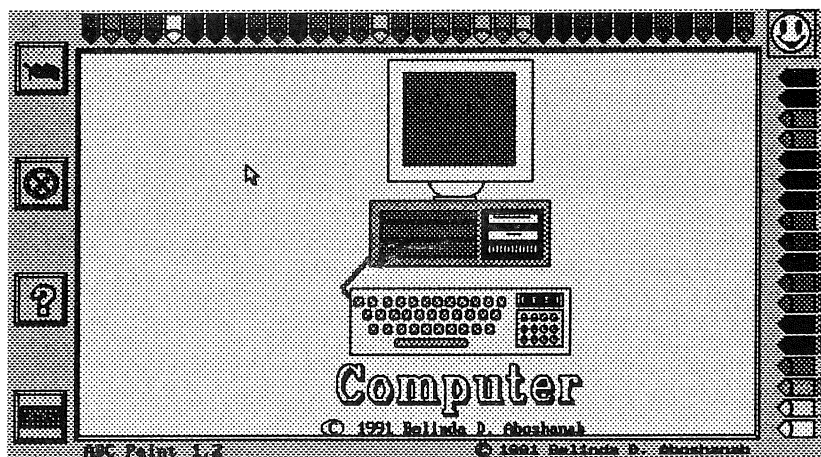
WARNING: PUZZY IS ADDICTIVE — At first, you'll probably find it challenging just to assemble the jigsaw puzzles. Later, you'll want to work for a better SCORE, TIME, and PERFORMANCE RATING. Once you've earned a higher rating, like "Over-Achiever" or "Top Gun," you'll want to organize PUZZY TOURNAMENTS among your family, friends or co-workers.

BBUG 3205 FREE & EASY Version 1.11

*CLASSIFICATION * Finance/Spreadsheet * Hard Disk*

FREE & EASY is designed to make your calculations and what-if analysis easy to set up and easy to follow. You are not forced into a grid of rows and columns as in a spreadsheet. Instead you use a freestyle, user defined structure. Start with a blank sheet, then add cells (similar to cells in a spreadsheet), descriptive text, variables and ranges on the sheet wherever suits you. It is you who define the structure of the sheet.

Over 200 on-line context sensitive and



hyperlinked help topics are available within the FREE & EASY environment. The FREE & EASY package comes with tutorials and Instruction Book- both of which can be accessed inside or outside the FREE & EASY environment. These features, along with the freestyle design of FREE & EASY make learning fast and easy.

The user can set how FREE & EASY does calculations. Several sheets and windows can be opened at one time. "Make" files can be saved so FREE & EASY can remember where you left off in your last session. All common editing features (search and replace, cut and paste) are included. A DOS shell and screen blanker as well as several sample sheets showing various applications are also included. Registered users receive a FREE & EASY newsletter periodically containing sample applications, author feedback, users letters, questions and answers.

BBUG 3206 PERSONALIZED TRAINING DIARY Ver.1.01 (Disk 1 of 2,also 3207)

*CLASSIFICATION * Sport * Hard Disk * Printer*

PERSONALIZED TRAINING DIARY (PTD) was developed to help track those elusive factors that affect performance. As someone involved in endurance activities such as running, cross-country skiing, or biking, you appreciate how equipment, weather, or route conditions can change your outcome. Cross-country skiers, as an example, must take into account such factors as temperature, humidity, course profile, and type of wax.

PTD helps you review training performance of any endurance activity, based upon self-determined categories and attributes. You can define a category such as weather and then identify

attributes such as rainy, humid, hot, cold, etc. By tracking these attributes, you will find it easier to study the impact of various conditions. You can study the effects of humidity, temperature, or brand of running shoe, bicycle or ski you use.

PTD helps you explore athletic performance in new ways. By design the program will enable you to think and perform smarter. It helps you determine what conditions enhance or hinder performance.

PTD can also be used as educational software. The program adapts well for use in a school setting, enabling integration with learning experiences. PTD can integrate what a student does in physical education class with computer sciences as well as with other sciences and math classes, allowing the student to begin to analyze his or her physical performance. PTD can bridge the gap between courses of study the student may feel are unrelated.

BBUG 3207 PERSONALIZED TRAINING DIARY Ver.1.01 (Disk 2 of 2,also 3206)

BBUG 3208 FILEMAN Ver 2.40

*CLASSIFICATION * Utilities * Windows * Hard Disk*

FILEMAN is a WINDOWS file manager for copying, moving, renaming, and deleting files.

Other utilities include the ability to change file attributes, to rename or delete subdirectories, perform file searches, and to format diskettes. FILEMAN includes support for graphics import filters to allow viewing some files in their native format.

BBUG 3209 COLORVIEW Version 0.97

*CLASSIFICATION * Viewer * Windows * Hard Disk * VGA*

COLORVIEW is a high Speed JPEG/JFIF, GIF, BMP Viewer. (JPEG is a highly compressed 24 bit "True Color" picture file format which has more colors and a smaller file size than GIF files.)

COLORVIEW is designed to view and manipulate color images in the Microsoft Windows environment and provides for HSV and Gamma correction.

Two versions of the software are available: ColorView '286 and ColorView '386. The latter is optimized to make use of the Intel 80386 instructions to improve performance of JFIF conversions. Both versions support the same formats and provide the same features.

BBUG 3210 PERSONAL NUMEROLOGIST Version 2.11S

*CLASSIFICATION * General * Hard Disk * Printer*

PERSONAL NUMEROLOGIST is an easy-to-use program which produces surprisingly accurate, in-depth personality reports based on names and birth dates.

Professional looking reports run 6 to 8 pages and reveal the most intimate traits and desires of yourself, friends, family and lovers. Uses advanced techniques to integrate all related numbers, similar to what professional numerologists do when performing personal readings.

Accurate, relevant reports include detailed descriptions of the Life Path, Expression, Soul Urge, Birthday, Master Numbers, Repeated Numbers, Karmic Debts, Karmic and Modified Karmic Lessons and Intensity Points.

Reports can be read on your screen or printed.

BBUG 3211 OVERKILL

*CLASSIFICATION * Games * Hard Disk * CGA/EGA/VGA * Sound Card * Joystick*

OVERKILL is a fast-action arcade game. On your journey through this shareware version, you'll visit the first two planets in the six-planet OVERKILL saga!

You arrive at your home planet after a long space flight, only to find it has been destroyed by a demonic warlike alien race that kills for sheer pleasure. You are now the last of your race and out for revenge.

Your single minded quest is to destroy the alien leader's heavily armored Battle Star at the end of planet 6. But before you reach the Battle Star you will have to battle your way through massive levels packed with danger, freeing six other planets from the tyranny of these creatures.

Some of the dangers you will face include meteor storms, space forts, hideous creatures and strange space ships of incredible power, piloted by aliens who will do anything to stop you.

Although you have limited fuel and weapons supplies, both can be collected on your long and perilous journey by picking up pods from the remains of alien crafts and creatures you have killed before reaching your ultimate goal.

If you are lucky you will have collected enough pods to have built the ultimate battle cruiser, a craft of immense fire power and capable of mass destruction, yet even this craft may not be enough when you reach the final battle ground.

BBUG 3212 PCBOARD Version 14.5A (Disk 1 of 4, also 3213, 3214, 3215)

*CLASSIFICATION * BBS * Hard Disk * Modem*

PCBOARD is a fully functional demonstration copy of PCBOARD Bulletin Board software.

While there are some limits built-in you can get a good feel for PCBOARD and how it operates.

Full documentation including setup and operation is included.

BBUG 3213 PCBOARD Version 14.5A (Disk 2 of 4, also 3212, 3214, 3215)

BBUG 3214 PCBOARD Version 14.5A (Disk 3 of 4, also 3212, 3213, 3215)

BBUG 3215 PCBOARD Version 14.5A (Disk 4 of 4, also 3212, 3213, 3214)

BBUG 3216 TOUCH TYPE TUTOR FOR WINDOWS Ver 1.0

*CLASSIFICATION * Tutor * Windows * Hard Disk*

A super-easy-to-use, full-featured TOUCH TYPING TUTOR for Windows.

Whether you want to rate a professional typist's speed or learn to touch type from scratch, this program has it all! Intelligently customizes to learner's skill level, ensuring the fastest learning curve.

Suitable for individual use, for teachers

and for employers.

BBUG 3217 LASER LETTERHEAD PLUS FONTS

*CLASSIFICATION * Desktop Publishing * Hard Disk * Laser Printer*

LASER LETTERHEAD PLUS assumes that you have some PCL bit map soft fonts. However, if you do not have PCL Bit Map Soft Fonts, this disk will give you enough fonts so that you may start using Laser Letterhead plus immediately.

The fonts on this disk have already been entered into Laser Letterhead plus' SETUP program, so you may start using LLHP immediately after installing these fonts. Extra fonts have been supplied so you may change the point sizes and switch typefaces to suit your taste.

BBUG 3218 I'M MOVIE (Disk 1 of 6, also 3219,3220,3221,3222,3223)

*CLASSIFICATION * Screen Presentations * Hard Disk * VGA * Sound Card*

Much like its sister product - "Side Show", I'M MOVIE is a fully functional multimedia program. With I'M MOVIE you create multimedia presentations with everything from stereo sound, full motion video, and laser disc players to CD ROM and VHS tape recorders.

I'M MOVIE also offers the dimension of interaction. That means the person viewing what you've created can take part in the presentation and literally control what happens.

Starting with something called a script, you list what you want to be displayed, as well as for how long. You can learn a lot from the demos provided with the program, too.

I'M MOVIE can display eye-catching screens, including windows for .PCX graphics files. I'M MOVIE also runs under Windows. A runtime version of the program is provided, so you can create and distribute your own multimedia presentations.

BBUG 3219 I'M MOVIE (Disk 2 of 6, also 3218,3220,3221,3222,3223)

BBUG 3220 I'M MOVIE (Disk 3 of 6, also 3218,3219,3221,3222,3223) BBUG

3221 I'M MOVIE (Disk 4 of 6, also 3218,3219,3220,3222,3223) BBUG 3222

I'M MOVIE (Disk 5 of 6, also 3218,3219,3220,3221,3223) BBUG 3223

I'M MOVIE (Disk 6 of 6, also 3218,3219,3220,3221,3222)

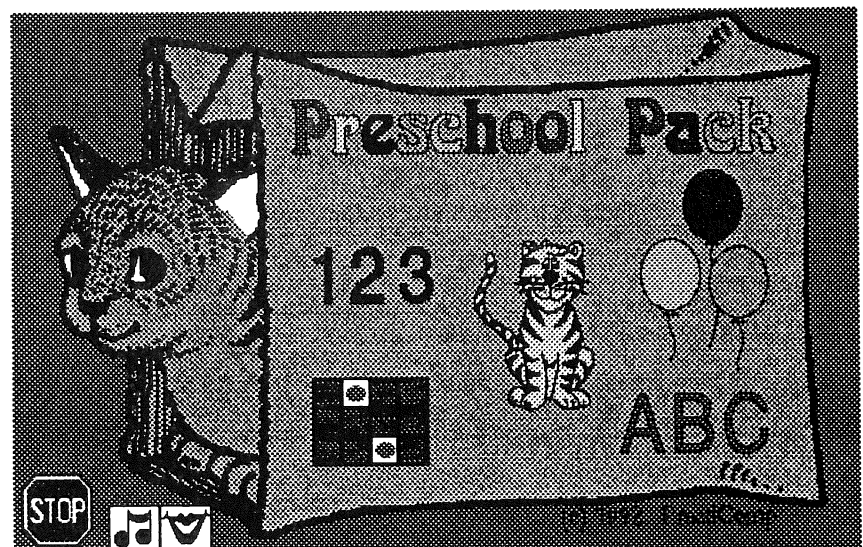
BBUG 3224 SIDE MOVIE

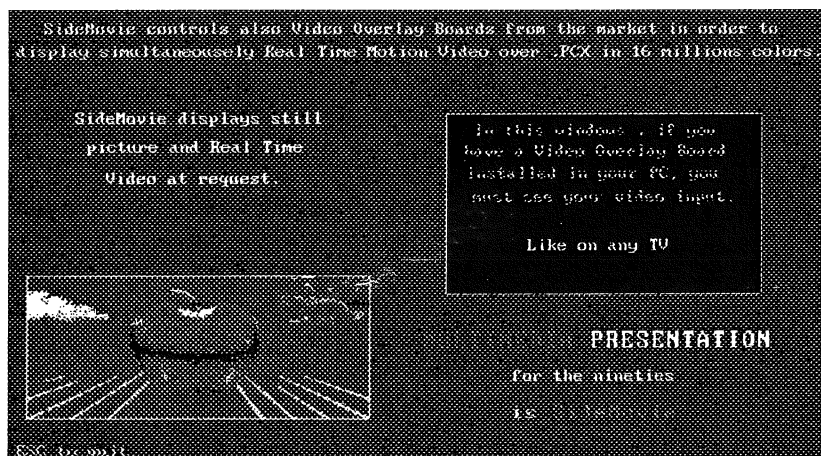
*CLASSIFICATION * Screen Presentations * Hard Disk * VGA * Sound Card*

Here's your chance to try your hand at multimedia complete with remarkable sound. SIDE MOVIE provides you with the capability to create full blown multimedia presentations with everything from stereo sound, full motion video, and laser disc players to CD ROM and VHS video recorders.

What's nice about the power of this program is that it is easy to get started and learn, then when you're ready, the program can handle the more advanced options.

SIDE MOVIE works in much the same way as current desktop presentations. You create a script of what you want shown as well as how long to show it. Demos are included to help give you an idea of what to do. The program is ideal for creating demos and presentations that don't require any user interaction. The finished product runs from start to finish and can be repeated as often as you like.





Using SIDE MOVIE you can create dazzling screen displays, including windows for .PCX graphics files and even full motion videos, provided you have the proper equipment. SIDE MOVIE will also run under Windows, too. A runtime version of the program is provided so you can create and distribute your own multimedia presentations.

BBUG 3225 CONTACTS UNLIMITED Version 1.0

CLASSIFICATION * Business * Database * hard Disk

CONTACTS UNLIMITED is a contacts database system with context-sensitive help that allows for an unlimited number of contacts for any one company whether it be one or ten thousand. Companies can be placed in up to 4000 categories. Companies can be seen in either Company or Category order. Shows all contacts of company selected on screen at one time with full name, title and extension.

The program also produces Form Letters and labels as required and Auto dialing for the company selected or direct dial contact.

CONTACTS UNLIMITED is easy to use and provides a short learning curve.

BBUG 3226 LA GRANDE ARMEE Version 1.01 (Disk 1 of 2, also 3227)

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

LA GRANDE ARMEE is the ultimate Napoleonic campaign game. You control all the action from the inhospitable Iberian peninsula to the frozen Russian hinterland. Recreate the epic and fiercely fought battles of Friedland and Waterloo. Build infantry, artillery and cavalry to conduct campaigns abroad or defend your capital. Grande Armée gives you

all this in an easy-to-use format plus great graphics.

Each player assumes supreme command of the French, Allied or Neutral forces in Europe during 1805-1816. Players can choose from three scenarios (register today and get 4 addition scenarios) or a previously saved game. Players that perform better than their historical counterparts will normally win and those that under perform will lose.

BBUG 3227 LA GRANDE ARMEE Version 1.01 (Disk 2 of 2, also 3226)

BBUG 3228 OPEN INSTALL Version 1.0

CLASSIFICATION * Installation Program * Hard Disk

Anyone who does programming will be interested in OPEN INSTALL, because it is a tool you can use to create a professional installation program for your software. OPEN INSTALL will save you all the time it would take to create an install program from scratch.

All you need to do is determine how you want the screens to look and the rest is automatically taken care of for you. Designed to help you create an easy-to-use installation routine for your programs, OPEN INSTALL works from script files you create. Then, when you distribute your program, you just include the INSTALL.EXE program generated by OPEN INSTALL with it.

A demonstration program is included with the package so that you can get a good overall view of how things work. Features include: Auto detection of users system and monitor, which version of DOS is being used, complete copying and verifying of files, modification of AUTOEXEC.BAT and CONFIG.SYS if required, and backup copies of original files, cold reboots and handling of self-extracting files.

OPEN INSTALL relieves the burden of creating install packages, so that you can concentrate on the sometimes overlooked aspects of getting the program out the door.

BBUG 3229 SYNC-IT Ver 11/92

CLASSIFICATION * Utilities * Windows * Hard Disk

SYNC-IT is the ultimate file transfer and synchronization program. It is a 'must have' program for those of you who use more than one computer and need to frequently transfer files between them, without the hassle of connecting cables.

SYNC-IT is the perfect program for computer users who frequently switch between portables and desktops and need the latest versions of their important files updated on both PCs.

Or, if you frequently transfer files between PCs... desktops, notebooks/laptops or network whether at home or in the office, SYNC-IT is the answer. Better yet if you frequently transport files between offices, it's the ideal solution.

Connecting cables or a modem is often impossible, cumbersome, inconvenient or impractical. SYNC-IT eliminates the tedious task of transferring files between PCs using cables, modems or DOS commands.

With SYNC-IT you can use any removable media such as floppy disks as a transfer media. It even keeps track of files which have been deleted from one PC with the option to delete these from your other PC as well. This is ideal if you use programs such as a personal information manager and need to keep these files completely synchronized (identical) on two PCs.

BBUG 3230 WORDSTALK Version 1.00

CLASSIFICATION * Games/Educational * Windows * Hard Disk

Working with letters displayed on a 4x4 grid, your task with this very challenging game is to see how many words you can spell. While it might sound easy, after you've put together what amounts to "the easy" word combinations, it gets tough to extract more words. Of course, it only seems that way until time runs out and then you get to look at the many words you missed!

WORDSTALK is an intellectually stimulating game that keeps you on your toes. After a few rounds you'll find that your score actually improves and you do

find more words. To make things even a little more difficult to form words, letters must be adjacent and each letter can only be used once in a word. The game is played in timed rounds against the computer and play continues until you or the computer reaches 250 points.

There are four different skill levels, and if you're smart, you'll start with the beginner level because it causes much less damage to your pride.

BBUG 3231 KOMPUTER KITCHEN Version 1.0

*CLASSIFICATION * Cooking * Windows * Hard Disk*

Keeping track of all your recipes is easy with this program. And, it's just as easy to print out a copy of your favorite recipe for a friend. KOMPUTER KITCHEN comes with a good selection of recipes which you can modify or add to. There are five categories of recipes: Entrees, Bread, Desserts, Side Dishes, and Appetizers. You can search for recipes by name, category, or key items.

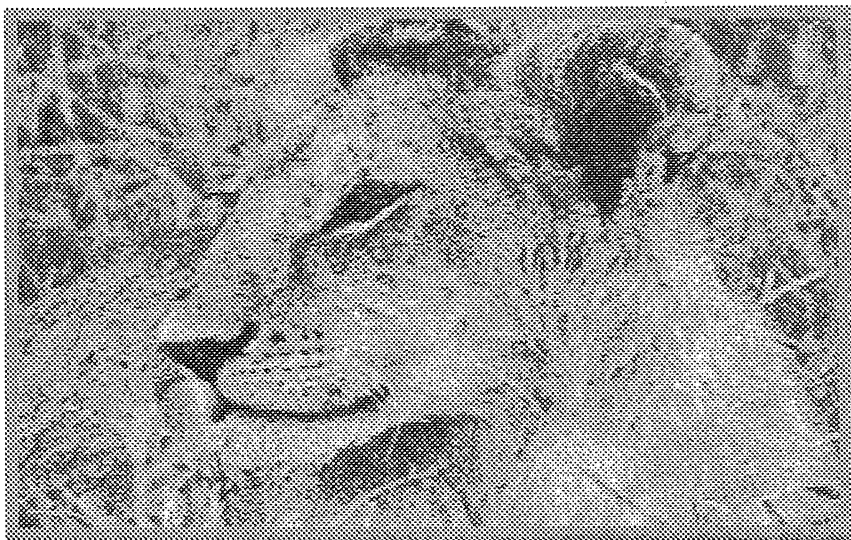
Two nice features of KOMPUTER KITCHEN are that you create shopping lists and adapt the recipes to the exact number of people you plan to serve. What recipes you plan to use can be quickly translated into shopping lists, which you can then edit. Changing the serving number on any recipe will then make all the necessary changes on the amount of ingredients. In other words, if you are only fixing dinner for five people and the recipe calls for eight, when you change the serving number to five, KOMPUTER KITCHEN automatically recalculates what's needed for the ingredients.

BBUG 3232 COLLECT! Ver 2.0

*CLASSIFICATION * Business * Hard Disk * VGA * Mouse * Printer*

At first look, COLLECT! appears to be just another database program you can use to keep track of things you collect. A closer look, however, reveals a well thought out program loaded with incredible power, but still simple to learn and easy to use.

It doesn't take long to figure out why the program calls it "Intelligent Collection Management." Anyone who is a collector can use COLLECT! because of its built-in flexibility and dazzling features. Imagine not only being able to keep track of your collection, but being able to search on any and all fields for matching, less than, greater than, or as a range of values. Add to that statistical analysis



capabilities for graphing buying habits and item appreciation.

Should you need any help there is an excellent on-line help feature. Sample databases have been included which helps you quickly grasp the depth and power of this program. In addition to being ideal for individual users, COLLECT! also fits the bill for small dealers of items like baseball cards, antiques, comic books, video and audio tapes, records, fine arts, and books and magazine.

COLLECT! presents everything on one screen where you can work with a mouse, light bars, or highlighted letters. Most functions can be activated by using the keyboard, but the "point and click" of a mouse is much faster.

There is also a text-based version for anyone who doesn't have VGA.

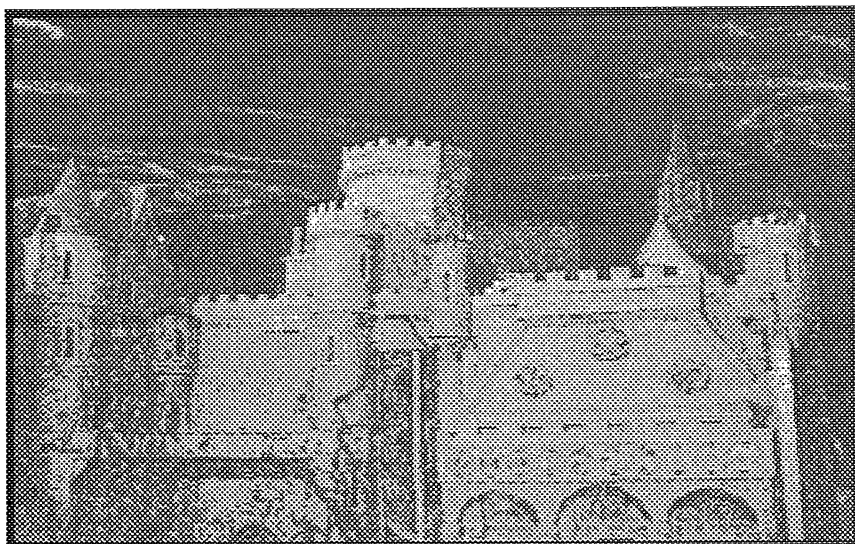
BBUG 3233 INSTA-PAY Ver 1.27

*CLASSIFICATION * Business * Hard Disk * Printer*

This payroll program puts the emphasis on ease of use as well as providing a complete audit trail through the use of several detailed report options. You don't need to know anything about payroll tax forms, payroll deposit requirements, or even payroll processing. All instructions for using the program and entering information correctly appear on each screen.

Using is as simple as entering the payroll information and then selecting the required report using the space bar or arrow keys. Pressing one key then processes the information, taking care of everything for you.

Printing paychecks complete with stubs is just as easy to do. Again it all comes back to you only needing to enter the information, selecting what you want the program to do, and then having INSTA-PAY process it for you.



**BBUG 3234 DAYO SALES
MANAGEMENT SYSTEM
(Disk 1 of 2, also 3235)**

*CLASSIFICATION * Business * Hard
Disk * Printer*

Creating price books, sales quotes, and orders is the basis for DAYO SALES MANAGEMENT SYSTEM. You can also manage contacts and keep track of calendar events, too. This program can be used by almost an unlimited number of users on a network.

As part of the Dayo integrated business application offerings, this program allows you to keep track of customer information. You can view or edit information to create profiles, price books, order quotes, or to maintain a record of sales contacts. The calendar is handy for reminders and deadline dates. You can also run special reports and mailing labels.

**BBUG 3235 DAYO SALES
MANAGEMENT SYSTEM (Disk 2 of 2,
also 3234)**

BBUG 3236 KBDOCK Ver 2.0

*CLASSIFICATION * Utilities * Windows
* Hard Disk*

KBDOCK is an application bar that lets you create menu and program selections that you can execute right from your Windows desktop. If you wish, KBDOCK can scan all your Windows program groups and create menu entries and selections for each. Programs can be added to KBDOCK using drag and drop right from Windows File Manager. Each

menu item will display its own icon if it's a Windows program; for DOS programs you can specify an icon of your choice.

KBDOCK sits on your desktop ready to execute the programs you've added to it at the touch of a button. A nice feature is that you assign a title to each icon you create, which means you don't have to memorize what each icon stands for. It should also be noted that you can create multiple levels of menus, providing an excellent way to bypass the Program Manager and run many programs right from your desktop. You can move KBDOCK to any area on your screen and it will always remember where it's supposed to go. You can delete buttons, add new buttons using drag and drop, rearrange the order of existing buttons, change the size and style of fonts used by the program, and alter the colors of the text bar at each menu level. KBDOCK is an excellent utility for Windows that gives you quick access to your programs.

**Requires VBRUN200.DLL - BBUG
Disk # 9083**

BBUG 3237 TRASHMAN Vers 1.1

*CLASSIFICATION * Utilities * Windows
* Hard Disk * Sound Card (optional)*

TRASHMAN is a utility designed to work with the Windows File Manager. TRASHMAN lets you drag and drop files into a Mac-like trashcan; it even bulges when you put trash in. In effect, dropping a file in TRASHMAN deletes it, but not quite. The files you drop into TRASHMAN stay there until you decide what to do

with them. It is indispensable for deleting files, deleting directories, and also restoring selected files. You can even exit Windows, and whatever you leave in the trashcan will still be there the next time you return. A very slick program.

TRASHMAN lets you assign a different .WAV file for each of the following actions: trashing files, restoring files, and emptying the trash.

TRASHMAN is the best drag and drop utility around for deleting files and directories with the option of restoring them. It gives each user the choice of an icon, the ability to utilize sound, and the flexibility to position TRASHMAN where you want it. Its many configurable options make it the best utility of its kind!

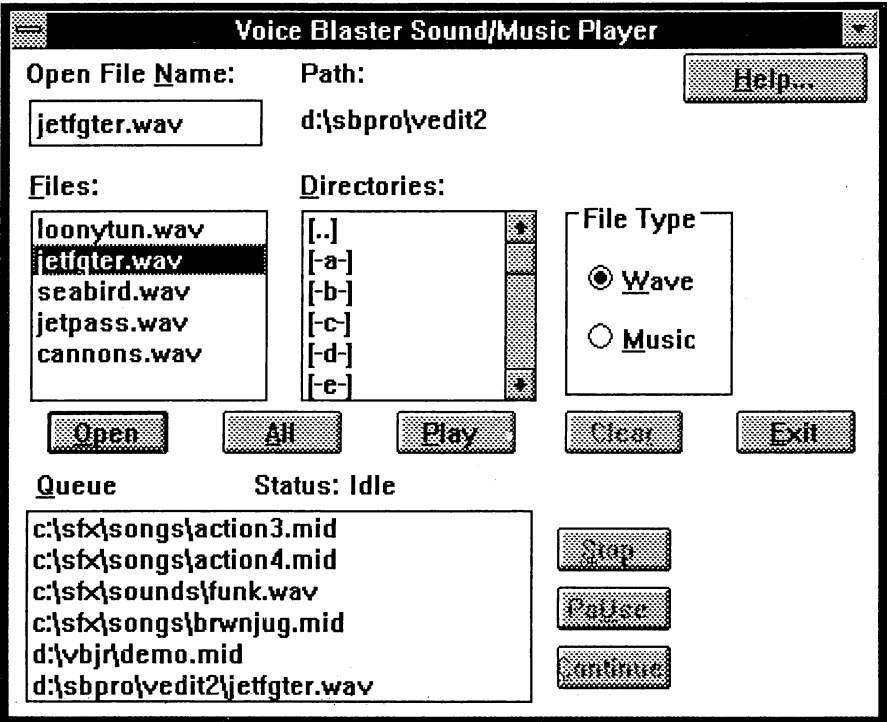
BBUG 3238 MEGA EDIT Ver 2.07

*CLASSIFICATION * Editor * Windows *
Hard Disk * VGA * Mouse*

MEGA EDIT is a powerful ASCII text editor that is designed for use with Windows. MEGA EDIT allows you to edit multiple files at one time as well as very large files. MEGA EDIT utilizes virtual memory which allows you to edit files that can be as much as four times the size of the amount of physical RAM installed on your machine. For those who need to edit several files at once, MEGA EDIT allows you to load as many as 25 different files at one time.

While MEGA EDIT is an excellent ASCII editor for Windows, it's also much more. It's the only editor that can automatically recognize and load Macintosh and Unix, as well as standard DOS text files. MEGA EDIT's Export/Conversion feature, for example, lets you load a DOS text file, edit it, and then export it in Macintosh format under a different filename, while retaining the original! In addition, MEGA EDIT supports the use of multiple fonts in a variety of sizes.

MEGA EDIT gives you the standard functions that most people expect in a text editor. You can mark blocks, cut, copy, and paste. You can set the size of tabs, toggle word wrap on or off, and toggle whether or not you want .BAK files created. You can also determine the colors that the program uses. MEGA EDIT utilizes good search and replace routines; you can configure the program to start at the top of a document, prompt you on replacements, be case-sensitive, and look only for whole words. The program also provides a DOS shell, the ability to import other files into your current editing session, a listing of files being edited, and more. MEGA EDIT also lets you view binary files



automatically loading them at 72 characters per line. Please note that binary files can be viewed but not edited. Finally, MEGA EDIT has an easily accessible help system to answer all your questions on the fly.

BBUG 3239 PROFESSIONAL CAPTURE SYSTEMS Ver 1.02

*CLASSIFICATION * Graphics * Hard Disk * Windows (optional) * VGA*

PROFESSIONAL CAPTURE SYSTEMS presents two extremely useful programs for providing screen captures under either DOS or Windows. WINCAPTURE is the ultimate utility for capturing screens in Windows, and DOSCAPTURE, the DOS version is specifically designed for capturing screens in the DOS environment. It's like getting two packages in one.

WINCAPTURE is designed strictly for capturing screens from Windows and saving them in a wide variety of formats. Captured screens can be saved in .BMP for OS/2, .BMP Windows Compressed, .BMP Windows Uncompressed, .GIF, .PCX, .PIC, .TIFF Compressed, .TIFF Uncompressed, .WPG 5.0 and .WPG 5.1. Once you load WINCAPTURE, its icon appears on your desktop. Click on the icon once and you gain access to some of its many features. Note that you can select the type of capture you want to do: Window, Full Screen, Area, or Client Area. These options allow you to vary the amount of screen you capture.

You could use WINCAPTURE to create your own personalized wallpaper, or grab a graphic to use in WordPerfect. Another nice option is that WINCAPTURE lets you decide if you want to have your capture go to a printer, a file, or the clipboard. If saving as a file, you can tell WINCAPTURE exactly which drive and directory to use, an easy way to keep track of where all of your captures are. The View Last Capture option is a nice one, too. Let's say that you've just captured a screen. You can select the View Last Capture option and immediately the actual capture appears on your screen. This saves you from having to use some other program to view your captures.

WINCAPTURE and DOSCAPTURE are excellent programs for capturing screens from both Windows and DOS. It allows you to configure the program in a number of ways, establish a default directory for your captures, lets you choose the amount or portion of the screen you want to capture, and gives you a wide variety of file formats to choose from. Great for

creating WordPerfect graphics files, customized wallpaper, and much more.

BBUG 3240 ABC PAINT Ver 1.2

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

ABC PAINT is a good way to expose children to computers. At the same time they will be learning the alphabet and getting exposure to 50 colors, not to mention development of hand/eye coordination. This program is basically a flashcard, coloring exercise. Kids won't ever feel like they're learning, because this program is too much fun! There couldn't be a simpler program to use.

Once you start the program, the alphabet song, accompanied by the display of the letters (carefully timed to the music) is presented until you press any key. Then you're into the main program, where you make your selections by pointing and clicking on icons. The Wheelbarrow icon is where you load pictures to color, which are all presented in smaller form so you can clearly see your choices. You make a choice by pointing and clicking on it. The full size picture then fills the work area in the major portion of the screen. At that point you just click on whichever crayon color you want to use. That color remains active until you select another color. To "color" you just point to where you want the color and then press the mouse button.

The term "so simple a child could do it" definitely applies here; and is what makes this a program most children will spend a great deal of time with. The pictures represent the letters of the alphabet and the key word is displayed in large letters on the screen (which can also be colored). It's easy to erase all

colors and start over again. That's part of what makes this so much fun, because a child can see what different colors look like together.

BBUG 3241 HYPEROID Ver 1.1

*CLASSIFICATION * Games * Windows * Hard Disk*

The one basic goal of HYPEROID is to shoot everything! Though the ultimate objective here is somewhat obscure, you'll get to zip your way through asteroids and a whole lot more. The numeric keypad provides directional navigation as well as all the thrust you'll ever need. Once again, the space bar is your trigger for firing shots all along the way.

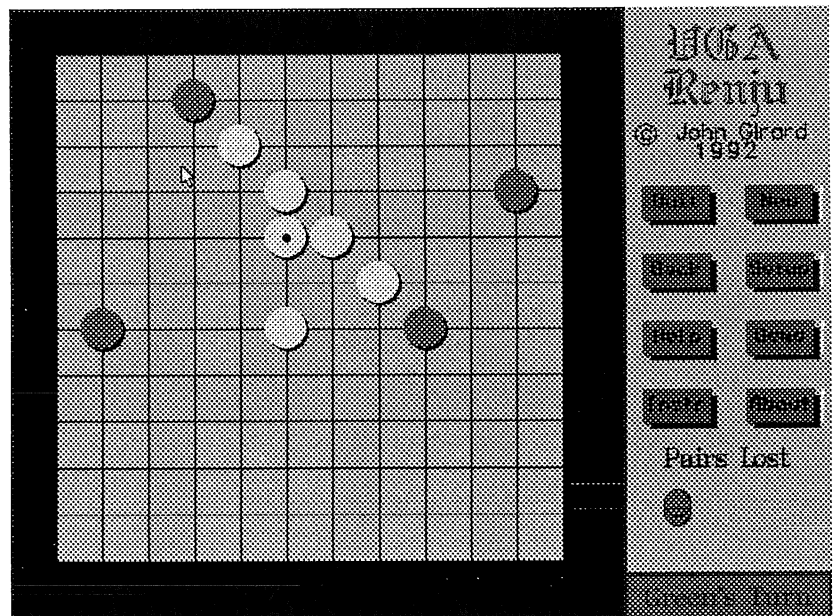
Your score is displayed at the top of the screen as are other indicators for shields and the standard space ship life support. There is no help or instructions on line, so you're on your own to master this game. However, it won't take long to figure out the basics.

BBUG 3242 MAH JONGG FOR WINDOWS Version 1.0

*CLASSIFICATION * Games * Windows * Hard Disk*

MAH JONGG FOR WINDOWS brings this twenty-five centuries old game to new heights. The bone and bamboo tiles are simulated superbly in this new version of the game. There are 42 different tiles used in Mah Jongg with 27 suit tiles (nine tiles in each of three suits), three dragons, four seasons, and four flowers.

Each game board consists of 144 tiles made up of four of each type of type except for the Seasons and Flowers of



which there is only one of each. The tiles are laid out randomly in a formation called a dragon. The object of Mah Jongg is simply to remove all of the tiles by matching pairs.

BBUG 3243 DRAG AND ZIP Version 1.8

*CLASSIFICATION * Utilities * Windows
* Hard Disk*

DRAG AND ZIP works with any file manager that supports Drag and Drop and makes it into a manager for Zip files. Tag files in the file manager and drag them to a zipper icon and run PKZIP on them. Double click on a Zip file in the file manager and a window with the contents of the Zip file pops up.

From the Zip file viewer you can tag files for extraction or deletion. You can view a file of any size in Drag And Zip's built in file viewer. Double click on any file in the listing and it is temporarily extracted and run along with its associated program. If you make any changes to the file while in the associated program, DragAnd Zip will give you the opportunity to rezip it into the archive. If you have a copy of ZIP2EXE.EXE, you can also make self extracting executables with DRAG AND ZIP.

Also included is Fileman Launcher. Fileman Launcher runs Windows File Manager and DZ together. It closes DZ when you close File Manager. Nine additional programs may be added to Fileman Launcher's INI file.

Requirements PKZIP/PKUNZIP BBUG # 8981.

BBUG 3244 EXECUTIONERS Version 9/92 (Disk 1 of 2, also 3245)

*CLASSIFICATION * Games * Hard Disk
* 386/486 * VGA * Sound Card * Joystick*

This is Shareware Version of the tremendous game known to mortals as EXECUTIONERS, with limited levels and not as many features as the registered version. This is perhaps one of the most violent and goriest games that shareware has ever seen, yet it has excellent graphics and intense real-time action for one or two players.

Using the keyboard or joystick, you can move your executioner to jump, kick and punch a variety of disgusting characters and monsters. The enemies you will encounter are so ugly that you will have to play the game to see what they look like. Some of the scenes will make you wonder just where did the authors of this

game get their sick sense of humor.

Due to the violent subject matter of this game it is not recommended for children below the age of 13. However, this is one of the best arcade games around and its awesome detail competes with many other commercial games.

**BBUG 3245 EXECUTIONERS Version
9/92 (Disk 2 of 2, also 3244)**

BBUG 3246 VOICE BLASTER JR Version 2.0

*CLASSIFICATION * Multimedia *
Windows * Hard Disk * Sound Card*

This program is strictly for Windows with multimedia extensions. Voice Blaster Jr. works Sound Blaster, Thunder Cards, Pro AudioSpectrum Series, and any other sound card that has Windows multimedia drivers for support of music and digitized sound.

VOICE BLASTER JR. was developed to work with the multimedia extensions that are part of Windows 3.1. Using this program you can queue up any combination of audio wave (.WAV) and music midi (.MID) files. That means you can listen to hundreds of music and audio files while running other Windows applications. You can even play wave file over the regular PC speaker.

BBUG 3247 COMPREHENSIVE EVALUATIONS OF EDUCATIONAL SOFTWARE Version 1.3

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

This program helps parents and educators find the educational software to best meet their needs. Each educational program is evaluated on learning quantity, learning quality, competitiveness, user friendliness, color/graphics/animation, extent of target audience, motivational value, monetary value, sound and music, and documentation. Additionally, some 20 other aspects of the various programs are considered and discussed.

COMPREHENSIVE EVALUATIONS OF EDUCATION SOFTWARE is easy to install and quite simple to use. The information is displayed on the screen, which can be paged up or down for scanning and reading. The evaluations are very detailed and provide what appears to be a considerable amount of information you wouldn't be able to find elsewhere. Therein lies the importance of this program: it saves you time in

attempting to review so many different educational programs.

The educational software categories reviewed with this program are: Language, Mathematics, Early Childhood, Games, Adventure Games, Graphics and Drawing, Data Processing, Crafts/Music/Home, Economics, Sports, Problem Solving, Science/Technology, Social Science, and Utility Programs.

BBUG 3248 THE VOCABULATOR Version 2.17

*CLASSIFICATION * Education * Hard/
Floppy Disk*

With THE VOCABULATOR, you can learn the following nine languages: Afrikaans, French, German, Italian, Portuguese, Slovak, Spanish, Tswana, and Zulu. THE VOCABULATOR focuses on teaching the correct pronunciation and structure of 500 words for each language chosen. Working from a unique flip card display of common words and phrases, you simply respond to each card as it is displayed. The arrow keys are used to move around the screen. You can edit and view data, and online help is accessible.

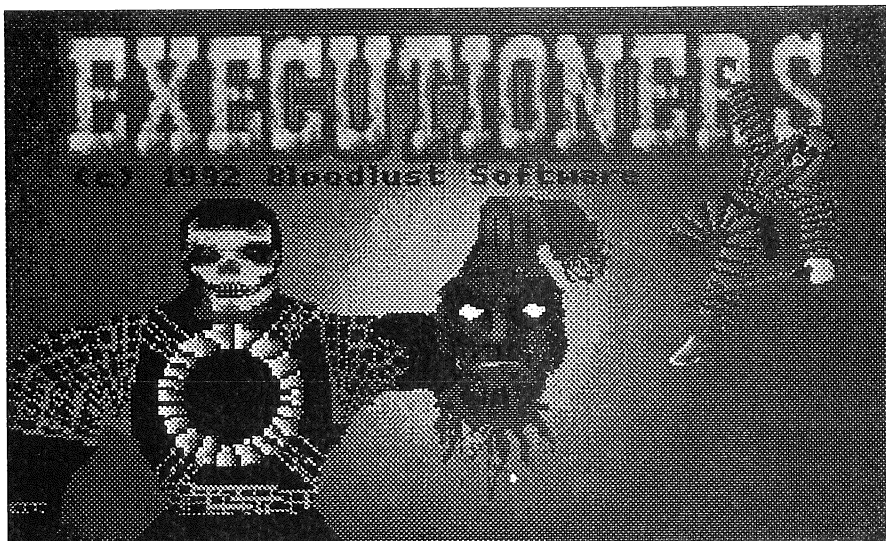
You have the option of being prompted for answers in either your own language or the foreign language you are learning. The speed at which you are prompted can be adjusted according to your preference. You also have the option of generating your own new language databases, and printing any VOCABULATOR database.

BBUG 3249 PRESCHOOL PACK Version 1.0 (Disk 1 of 2, also 3250)

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

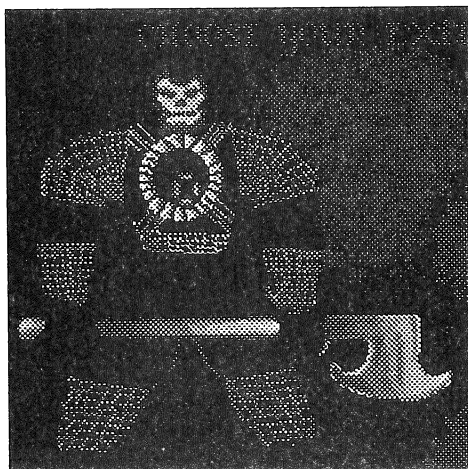
PRESCHOOL PACK is an educational program which is sure to capture the attention of your preschooler. Through five different and entertaining activities, your preschooler will learn about counting, number recognition, the alphabet, colors, matching, and classifying. There are colorful graphics and many songs that your child will love.

From the main menu screen, which features a cat who meows and winks when clicked on, to the bee who frowns when a mistake is made in the matching game, you and your preschooler will appreciate the careful design and attention to detail of PRESCHOOL PACK. Your child will be entertained while learning.



BBUG 3250 PRESCHOOL PACK
Version 1.0 (Disk 2 of 2, also 3249)

**ALL WINSIG DISKS
 ARE HIGH
 DENSITY ONLY**



BBUG 6806 WINSIG GAMES # 2

*CLASSIFICATION * Games * Windows
 * Hard Disk * VGA * Sound Card
 (optional)*

ALIEN FORCE Version 1.0, is a simple "blast everything that moves" game for Windows. It is a Packman chase capture type of game. When you start the game, the playing grid will be displayed, with your ship in the lower right corner and a row of evil dudes along the top row. The arrow keys move your ship. The "S" key (or the number-pad "5" key when NUM-LOCK is on) stops your ship, and the "R" key reverses its direction. The space bar fires a missile (you can fire only one at a time). **ALIEN FORCE** has several levels of increasing difficulty.

BATTLES IN A DISTANT DESERT Version 1.0, is a collection of battles which could have taken place during Operation Desert Storm. Each battle is presented in the form of a scenario which can be selected by you. Although this game presents a common interface for each battle, each is unique in the use and types of units involved, as well as the strategies and tactics needed to win. The game is played by each player, moving all, some or none of the player's units in alternating turns. Each scenario

has specific victory conditions and a set number of turns to play. The Bermbusting Scenario as supplied with this disk, is based in the Kuwait Saudi area. Extra scenarios are supplied with the registered version.

In **BLOCK BUSTER** Version 1.2, a ball bouncing off a mouse controlled paddle knocks out bricks in a wall. **BLOCK BUSTER** is a good clone of a popular commercial program. A mouse is

necessary to operate this game. A left click to start moving the ball, and the right click to pause. Maximizing the window may make it easy to operate since the mouse cursor must be in the window otherwise paddle control stops. There are three kinds of blocks: Gold blocks never break, Gray blocks break after attacked three times, Normal blocks break by one attack.

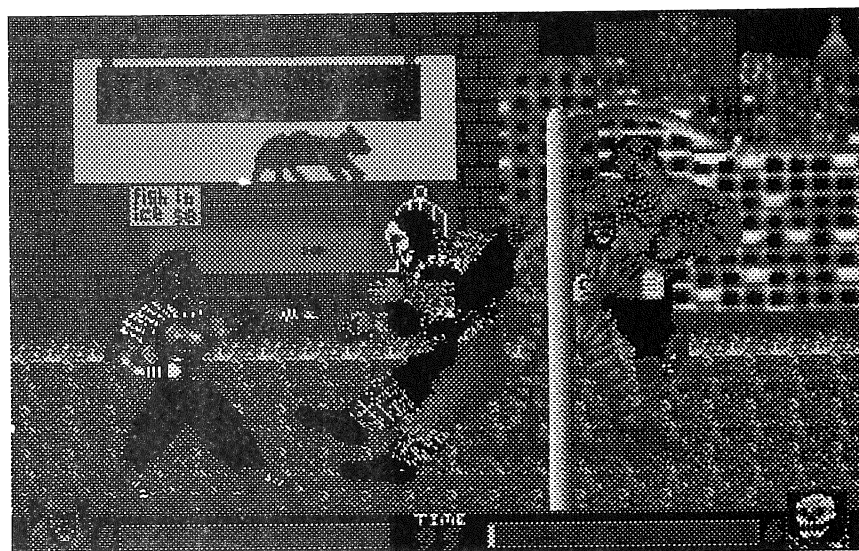
There is a total of ten stages. An extra ball as a bonus will be added when clearing the third and eighth stages. **HINT** do not waste any balls in the early stages as there is no save facility and when all the balls are used its back to stage 1.

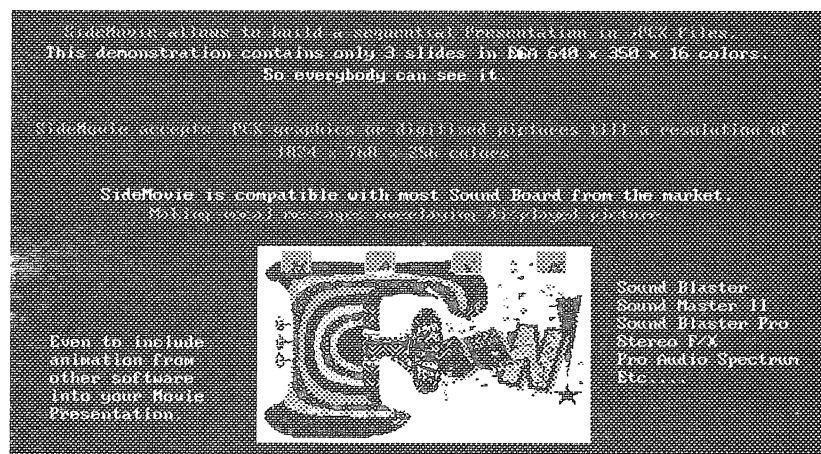
BLITZER Version 1.1, is an air encounter and battle game where the Earth is overrun by aliens. You have to find and rescue a team of scientists who are held captive in underground caverns as these people are the only ones who can save the planet. In **BLITZER** your rescue machine has to be fueled and reshielded as you proceed on the mission. Use a mouse or the arrow keys to navigate the ship and control your armory with keyboard keys.

BRICK Version 3.0, uses a mouse controlled bat to bounce a ball against a brick wall to knock out the bricks. **BRICK** is similar to other commercial and shareware clones of this game idea. However **BRICK** would appear to be a more juvenile one level game with an unlimited supply of balls.

The aim in **BUTTON MADNESS** is to turn all the buttons in a 4 X 4 matrix from the original green colour to red. Easy??

SOLITARY CROQUET allows YOU to play croquet with one ball, a mallet, and nine arches. The object of the game is to hit the ball with the mallet by selecting the distance and direction that the ball





will take to go through an arch. The ball must go through the arches in sequential order. However, at least 20 shots are allowed to hit the ball through the 9 arches.

In **GOLD HUNT** Version 1.1, you are in search of a treasure hidden underground. You must try to find the treasure before you run out of energy and in the least number of tries possible. Use the mouse or the cursor keys to position the "X" in one of the squares. Press the left mouse button or the space bar to dig a hole. If where you dug is not where the gold is buried, the computer will let you know how many steps you are away from the gold. One step is equal to one square and you may step horizontally, vertically, or diagonally. There are three levels of play.

The object of **GRADITOR** Version 1.0, is to destroy as many enemy bases as you can. The game is over when you crash into the ground, or if an enemy bullet hits you. Use the appropriate keyboard controls to rotate the spaceship left or right, to accelerate the spaceship and to shield the craft. Several levels of play are available and you may have to turn off the turbo to complete all levels.

TARGET, Version 2.1, is a darts game which doesn't require much skill to play.

S.S.BATTLESHIP Version 1.1A, is a Battleship game where you play against the computer. Although this is not the full version, you get bonus games where you can deploy mines, islands, submarine, and a variety of ships in a half-screen, grid layout. The aim is to use your shots to sink the computers' navy before it does a search and destroy of yours. The game has a score board, which makes it easy to keep track of your hits.

WPYRAMID Version 1.0, **PYRAMID SOLITAIRE FOR WINDOWS** is played by trying to clear all the cards from a

pyramid. You clear cards by selecting pairs of cards that total 13. That is about the skill required -to be able to add two numbers to make 13. Only uncovered cards in the pyramid or stacks can be selected. Note that a new directory has to be made under the **WINDOWS** directory and the **VBRUN100.DLL** file is required. **WPYRAMID** is available as Freeware.

BBUG 6807 WINSIG GAMES # 3

*CLASSIFICATION * Games * Windows * VGA * Mouse * Sound Card (optional)*

BANG Version 2.0, was probably written as a tension relief. Click on the left mouse button and splat two black splotches on the screen. The right button is for the grenades and give one larger splat. But to really get into the action try it with your sound card full blast. This is one for those who like noisy non-think games.

BANG!BANG! Version 1.0, is a cannon-fire game for one or two players. In this game, each player owns a cannon, which is generally aimed at the opposing player. Players take turns firing their cannons at the opponent until one of the players is hit and destroyed. Angle of firing and projectile velocity are under the control of the player. Wind speed and direction and cannon locations are set by the computer. **BANG!BANG!** is the Windows version of an older popular game called **EGABOMB**. A captivating game that is well documented without hang ups.

BANG SOUNDS consists of two additional .WAV files for the **BANG** game program also on this disk.

GNU CHESS Version 3.21, is a communal chess program. Contributors donate their time and effort in order to make it a stronger, better, sleeker program. These contributions are then distributed to the large user-base so that all may enjoy the fruits of labor. The

original and continuing purpose of this project is to permanently end the rampant hoarding of computer chess software that has been the case for the past 20 years. Many people have contributed to **GNU Chess**. Their contributions have improved the program from being a patzer (weak program) to being a grandpatzer (decently strong program). In its growth since initial release, **GNU Chess** has gone from approximately class D to strong master strength.

All chess players should look to having a copy of this program. It is well documented with a large Help list. It will even give hints for the next move for the learner player.

JEWEL THIEF, Version 1.2A. The country's jewel collection has been stolen and scattered all over the world. Your mission is to steal back all of the jewels and avoid being hit by the guards or leaving the playfield.

KNIGHTS TOUR is another difficult puzzle. Try to get your knight to land on every square on the board.

KYE, Version 2.0. Solve the puzzles to collect the diamonds and avoid being eaten or getting stuck in a trap.

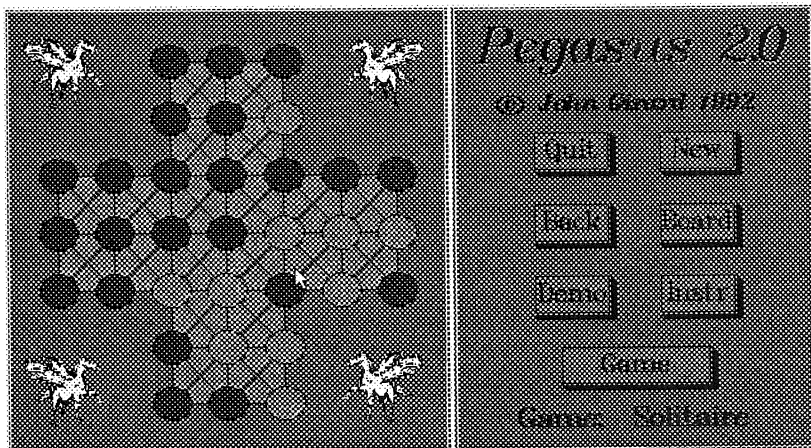
ELECTRIC LIGHTS, Version 1.21, is a simple drawing program where you draw a program where you draw pictures by placing light bulbs into sockets on a peg board, then switch the lights on to view your picture.

LAN BATTLESHIP, Version 1.0, is a version of the battleship game you can play against the computer or a human opponent via a LAN. The program has several stealth features so that, when it is installed on a LAN, only those people who know what it is can run it. Requires **VBRUN100.DLL**.

LOOPZ, Version 1.1, is an extremely addictive game with good sound effects. This game is Freeware not Shareware so you don't need to register it. **Loopz** will run on a 286 but a 386 SX16 with a multimedia sound card is the minimum recommended.

THE LOST TRAIL, Version 1.0, is a very difficult puzzle to solve. The goal is to move the large red square from the top center of the playfield to the bottom center of the playfield.

MACBLAST, Version 1.10, is a space invaders type game with a twist. You have to destroy the evil fruit empire by firing rotten apples at their computers, mice and self destructing copyright lawsuits. This game could prove



hazardous to the health of your cursor keys or mouse.

MAGIC, Version 1.0, is a game of dominoes where the aim is to place your dominoes on a grid so that they add up to a chosen value horizontally, vertically, and diagonally.

MILE BONES, Version 2.0, is a card game which simulates a driving trip with mileage cards, hazard cards, remedy cards and safety cards.

The object of **SPACE WALLS**, Version 3.0, is to shoot all of the spinning walls from your space ship while avoiding hitting the walls or the homing UFO's.

If you don't have enough room or money for a real pool table then **WINPOOL**, Version 1.0, is a good simulated pool game for two players.

WINTREK, Version 2.0, a totally different game of Star Trek from the version on BBUG # 9118 currently in the library. In this version, you have to do the thinking and planning.

BBUG 6808 WINSIG GAMES # 4

*CLASSIFICATION * Games * Windows * VGA * Hard Disk*

MERLIN (THE QUEST FOR THE WAND), Version 1.0 is a board and dice game for up to 4 players.

NCC1701, Version 1.00 is a good windows version of the classic Star Trek game.

In **OH MY WORD**, Version 1.0E, the aim is to guess a five letter word that the computer has chosen at random from its dictionary of five letter words.

PANZERKRIEG, Version 3.01, is a strategic war simulation based on the second world war for two players via modem, LAN or wire link between 2 computers. You can play a variety of scenarios for either the Americans,

Germans, Russians, or the Japanese.

SECOND CONFLICT, Version 1.01, is a strategic space game of colonization and conquest. The emperor has died without leaving an heir, bringing chaos and war to the galaxy. Players must restore peace to the galaxy. Nice background graphics.

BBUG 6809 WINSIG DESKTOP #3

*CLASSIFICATION * Desktop Applications * Windows * Hard Disk * VGA*

MWFISH Version 3.0, is an Aquarium Simulation for Windows. You have the choice of seven different fish to swim about on your screen. Friendly little fellows. MWFISH is presented here with it's source code as an example of a Windows application written in Modula-2. The program runs best in standard VGA resolution.

DESKTOP NAVIGATOR Version 2.4, is a comprehensive, yet easily understood file and directory manager for Windows. DESKTOP NAVIGATOR is an application program that combines several important and time-saving features into one cohesive, menu operated program. You can quickly change drives, directories, or process files. Powerful features such as the ability to move an entire directory tree to another directory and/or drive are also included. Display options include a 12 or 24 hour clock on screen, a memory display that details both DOS and Expanded EMS RAM, an edit field which lets you specify the type of file to be displayed, a graphical directory tree, and a comprehensive file display. DESKTOP NAVIGATOR uses about 30K of memory.

NEW SCREEN PEACE - Not an application but an add on to SCREEN PEACE as two new screen savers "Solids and Dragon Kites".

NEWTON Version 1.0, is a Newtonian

motion simulator in which you can construct your own planetary or solar system, and experiment with things like binary and trinary stars, the slingshot effect, retrograde motions, energy transfer in near collisions, and a whole lot more. NEWTON provides a user-friendly system for simulating the motion of masses (referred to in this program as bodies) in space.

The user may easily create and modify the starting positions and velocities of bodies in space and allow the user to easily change characteristics like mass and radius. The user is provided with an information bar at the top of the screen indicating the position of the mouse, the position and velocity of an object and the scale of grid used in the simulation. The simulation may be navigated by using the right-hand mouse button or by keypad.

To really enjoy **NEWTON**, use it in conjunction with any good book on physics, astronomy, the solar system or space science, or just watch the heavenly bodies go round and round.

NINE INCH NAILS cover to their "Pretty Hate Machine" has been converted to a .BMP file.

NEVER NEVER CONTROL PANEL APPLETS are a collection of add in's to the Control Panel to start programs from the Control Panel.

Included are: NNATM.CPL - to start Adobe's ATM control panel, NNSOUND.CPL - to start the DSOUND control panel, NNREGED.CPL - to start the Registration Information Editor, NNSYSED.CPL - to start the system Configuration Editor. These collections of CONTROL PANEL APPLETS are FreeWare.

NEWSPAPER Version 2.0, changes your desktop wallpaper for you each time you run windows. So, you can have several wallpaper files in either your windows subdirectory, or any other subdirectory. Each time you run windows, a different wallpaper will be selected. To install NEWSPAPER modify your WIN.INI as detailed in the program and then every time you run windows, you should get a different desktop wallpaper. NEWSPAPER is supplied as Freeware.

BTNBAR - OWNERDRAW BUTTONS and BUTTON BARS is an easy way to create what the program says. Some information required to use BTNBAR.DLL is in the TEST application source files. Over 20 buttons can be called up from .BMP files and modified with the Paintbrush program. The C source programs are included on the disk.

DONT PANIC - Screen Saver is a a colourful Screen Saver showing green frogs on a black background. The program is offered as Freeware.

PCX2BMP converts both **WAYS** the most universal clip art formats for Windows .PCX and .BMP files. You can use it to convert just one file, or an entire directory of files at one lick. It requires that a copy of VBRUN200.DLL be in your main Windows directory. You'll also need to have Windows PaintBrush (PBRUSH.EXE) installed in your Windows directory, since PCX2BMP uses PaintBrush to do its conversions.

PHOTOLAB Version 1.0, is an image processing system that allows you to view and modify scanned or digitized images on your PC eg TIFF, GIF, BMP, DIB files. The program includes such features as: crop, rotate, mirror, flip, negative, color - brightness - contrast adjust, resize, and resample, as well as a variety of effect filters. HP ScanJet IIc scanner support is also included.

PIXEL CHARACTERISER Version 0.34, maps each pixel of a small bitmap picture to an ASCII character of your choice. The default character is the asterisk * . You can then place or edit the character graph into a non-graphic text or terminal. Pictures/icons/signatures can be placed into regular text files. This version can also do the reverse i.e translate the ASCII character texts to Bitmap pictures. The author developed this program so that he could transmit Chinese characters in ASCII text form that could be restored as wanted. **Wants VBRUN200.DLL to work.**

PIXFOLIO Version 2.0.79, is designed to assist the user in managing a collection of graphics images so that they may be readily retrieved when desired. PIXFOLIO has the ability to read a variety of different graphics formats produced by many popular programs. Also of major value to users is the ability to convert images from one format to another.

The central theme of PIXFOLIO is the concept of the "Catalog". A catalog is like a disk file directory in that it is an index to a file. But PIXFOLIO catalogs go beyond being just a simple index. PixFolio allows the user to annotate catalog entries with his own comments. The user can supply keywords to a catalog entry so that searches can be made to select images meeting the search criteria. While PIXFOLIO possesses a number of editing tools that can be used to manipulate images in various ways, it's main purpose remains that of cataloging and keeping track of

images. Images can be rotated, resized, flipped about an axis, cropped, expanded and dithered. To print out pages of postage stamp size thumbnails of your clip art etc is a great way to keep a handy visual record of a graphics collection. PIXFOLIO prepares these thumbnail pages and the program is recommended to anyone who collects graphic images and would like to get some system of order and cataloging for the collection.

PROGRAM MANAGER MODIFIER

Version 2.01, is a utility which allows you to add your own custom menu items to any Windows application which has a menu. PROGRAM MANAGER MODIFIER allows frequently used applications to be quickly launched from the keyboard, without having to cycle and search through PROGRAM MANAGER folders. Installation requires the creation of a PMM.INI file, with an ASCII editor, in the Windows directory. Information is included to produce this .INI file.

BBUG 6810 WINSIG UTILITIES # 2

*CLASSIFICATION * Utilities * Windows
* VGA * Hard Disk*

ACCENT Version 2.0A, is a Diacritic Key Translator for Windows that enables the input of special characters that are not normally found on a regular keyboard. These characters include accented characters, called diacritics, and other special symbols such as the copyright sign or the trademark sign.

Although Windows supports diacritic characters and extended symbols through the use of foreign keyboards, only one of these can be installed at a time and keys assigned to the diacritic characters or extended symbols cannot be used to display the standard character they normally represent.

ACCENT allows you to virtually enter all the special ANSI symbols directly from your standard keyboard by using a two-key combination. Since Accent can be customized, it will also allow you to make key assignments that are consistent with the layout of your keyboard.

ADDMENU Version 0.4.1, is designed to add options to Window's system menus: e.g. if you use the File Manager all the time and get tired of always double clicking on the appropriate icon, ADDMENU allows the File Manager to be put on system menus. Thus, you can access the desired programs from any menu.

The general idea of the program is that you specify some menu text (that will show up on the menu) and then specify

the command line (the program name plus any options). When you select "Save", ADDMENU will add that command to all system menus. When running, it "hooks" into the system menus to add the specified options to all menus and executes them when selected from the menu. Note that the program makes additions and changes to existing Windows files.

RUN Version 0.2.0, is a small program designed to mimic the behavior of the Program Manager's "Run..." command. It can provide functionality of the program manager's "Run..." command from all system menus by using AddMenu to add the program RUN.EXE to your system menu.

GRAPHIC WORKSHOP, Version 1.1, is a program for working with computer bitmapped graphic files. It will handle most of the popular file formats. Using GRAPHIC WORKSHOP, you can have your image files in the formats that your software recognizes, all without keeping track of numerous utilities.

In addition, using the halftoning and dithering facilities of GRAPHIC WORKSHOP, you can convert full colour digitized photographs for use as superb black and white clip art, suitable for inclusion in your documents. Graphic Workshop will handle image files of any size your computer has enough memory to work with.

IMPOSTER, Version 1.01, is true Windows program which acts as if it was a Dos command interpreter that attempts to closely mimic command.com. Using IMPOSTER allows you to use Windows as a superior operating system but retain all the familiarity and utility of the Dos command line. Imposter supports the entire internal Dos command set, as well as most external commands. Imposter works just as well in Standard Mode as in Enhanced Mode. It can run Dos or Windows applications from the command line, just like in Dos. Can execute .PIF files and file extension associations. Finally it provides a mechanism for running batch files under Windows.

JPEG FILE VIEWER, Version 0.9, File Viewer provides a fast viewing capability for JPEG image files under Windows. Support is provided for 256 shade gray scale, 256 quantized colors, and 24-bit color. It will save images into Windows Bitmap files (BMP) only. It supports exporting of the uncompressed image to the clipboard and comes with on-line help. It doesn't create JPEG files, it only displays them.

PAINT SHOP Version 2.02, was designed to convert one picture format to another. But Paint Shop goes beyond that. In its simplest form PAINT SHOP can be used as a picture viewer. Taking it a step farther, PAINT SHOP may be used as a file format converter. Recognizing the need for some picture manipulation, PAINT SHOP includes the capabilities to alter the picture and its colors. And finally, for those with specialized needs PAINT SHOP can be used as a screen capture utility. Picture formats supported include BMP GIF IMG MAC PCX PIC RLE TIFF WPG. An extensive manual is included with the program and on line help is available. A useful program for all Windows users.

PAINTSHOP PRO Version 1.02A, converts one picture format to another. The graphic formats it can manipulate include BMP DIB GIF IMG JAS MAC MSP PCX PIC RAS RLE TGA TIFF and WPG. PAINTSHOP PRO also provides the facilities to adjust the RGB picture components, rotate, flip the picture etc., adjust picture size and operate on selected parts of the picture. The program is supported by comprehensive help support and can be mouse or keyboard controlled. PAINTSHOP PRO is recommended to all Windows users who dabble in graphics programs.

QUICK RESTART Version 1.0, is a utility that simply restarts Windows in the current mode. It is probably useful for restarting Windows after manual changes have been made to the configuration (modifications in WIN.INI, SYSTEM.INI, etc.).

LISSAJOUS Version 0.2, is a program that draws Lissajous-type figures with a click of the left mouse button. It does nothing useful, productive or scientific, it just draws some nice graphic figures which are fun to watch.

SCRIBBLE Version 1.01, is a drawing program. Instead of attempting to compete with commercial applications like Corel Draw, SCRIBBLE can be used in place of a doodle pad, to replace pen and paper for your artistic creations. Requires VBUN100.DLL.

BBUG 6811 WINSIG UTILITIES # 3

*CLASSIFICATION * Utilities * Windows * VGA * Hard Disk*

4WIN Version 1.1, is an application that is a replacement for COMMAND.COM and would appear to be similar to the 4DOS program. Programmer claims that 4WIN can avoid the problems and inefficiencies associated with running DOS applications under Windows.

BIZ WIZ, Version 3.0, is a financial calculator to replace Windows Calculator. It simulates the popular HP12C calculator with a few extra features. This is a great calculator if you don't mind using reverse polish notation.

Beyond the limits of information and networking connections there is BLINC, Version 2.04 a mailing list manager. What makes this different from other mailing list managers is the inclusion of a relationship manager which provides (you fill in the blanks) details about the links a person has.

BOOKBASE, Version 1.0, is a completely functional shareware database for managing collections of books or magazines.

BLOOD PRESSURE PLOTTER, Version 1.0, keeps track of your blood pressure and pulse rate on line graphs. This program ports the graphs to the Write program so you can print the graphs out and keep a hard copy.

LOGOGO, Version 3.1, allows you to change the Microsoft Windows startup logo to one of your choosing, and goes one step further, by automatically providing a new startup screen each time you run windows.

The program works provided your windows setup is the way the program expects it to be. Your windows directory must be c:\windows and your system directory must be c:\windows\system. A sample file containing alternate startup logos is supplied. Creating your own logo can have its problems but this is comprehensively covered in the documentation. PKzip & PKunzip are also required for the program to operate.

PROFFT Version 1.0, stands for PROject Fast Fourier Transform and is the result of a project developed by five students learning C++ at the Norwegian Institute of Technology. The program allows to transform bitmap (.BMP) pictures using the fast fourier transform. The resulting pictures will be displayed as according to the mathematical formula $[Greyscale\ Intensity] = \log_{10}(1 + ABS(Z))$ where Z denotes the complex number after transforming the picture. There is an option which allow the transforms to be shifted to the center of the window (centered lower frequencies). You can also filter the pictures using lowpass, highpass, bandpass, bandstop, butterworth lowpass and highpass filters. In addition there is a "freehand" filter which allow you to zero out certain frequencies in the transformed picture. Finally the manipulated complex pictures can be transformed back again. The

transformed pictures can be saved to disk or pasted into other applications by using the clipboard.

POWERSTRIP is a user interface shell for Windows that takes up only a small space on the screen. There are no visible menus, no scroll bars, no borders—just a strip of icons. POWERSTRIP itself can be iconized into a single, small pyramid in the lower right corner of the screen; leaving the screen clean for applications. Once POWERSTRIP is customized to the users design the management of programs is simple.

SECUREGROUP Version 1.1, protects the program manager by protecting its groups with passwords and setting restrictions to the functions of the program manager.

With SECUREGROUP choose which program manager group you want to protect with passwords. and then if you want to open a protected group you have to enter a password. The administrator of the system sets up as many usergroups as he likes. Each usergroup has a password and for each usergroup the administrator says which program manager group a member of the user group may open. Now if a member of a usergroup opens a protected program manager group he has to enter the group password and if his usergroup has the right to open the program manager group he has access to the program items in this group.

SIZEIT Version 1.0, is for use on those programs that on starting up, gobble up the whole screen space. You spend the first few seconds moving, sizing and tweaking the window - and you do the same thing everytime. Well SIZEIT will put a stop to that, or will start to do that. It will size it and size it right where you want it on start-up each time.

WINQVT, Version 4.78 is a DEC VT220 terminal emulator. In addition it offers file transfer facilities using Kermit, XMODEM, YMODEM, ZMODEM, and CompuServe B-Plus as well as auto dial, auto login and background operation.

BBUG 8606 HOTDISK NO # 4

*CLASSIFICATION * Utilities * Hard Disk (HIGH DENSITY DISK ONLY)*

BIGTEXT will turn textfiles into stand-alone, self-executable files - in a flash! These .EXE files can contain graphics, tables, figures, and even run other programs! Use BIGTEXT to write that book, newsletters, flyers, tutorials, manuals - you're limited only by your imagination. Written by a Queenslander.

BIGTXT26 also contains graphics files to get you started; JOIN (join numbers of textfiles into one); and EXEMENU - gives an instantaneous menu in any directory. Highly recommended!

CONTROL 3 can be described as the best utility program for PC's and superior to XTREE! and like Norton Commander but faster. Displays 3 directories at once, with all manner of wonderful features. Excellent! With CONTROL 3 is ACD, to get you quickly and easily to any directory on your hard-drive. Works with networks too.

TPAINT is a wonderful adjunct to BIGTEXT. Use TPAINT to create coloured screens, with or without spectacular in-built text fonts! With TPAINT you can make your PC - and your textfiles and batchfile - really come alive!

Also included is **TCAPTURE**. This memory resident program will capture - in full colour - any text screen image.

These may then be viewed, and modified with TPAINT.

TURBOBAT will turn your batchfile into a stand-alone .COM executable file in an instant. This is THE recommended program for the task, and it also includes in its code many of the extras that DOS batch files forgot. Highly recommended!

BBUG 9168 QEDIT Ver 3.00C

*CLASSIFICATION * Editor * Hard Disk*

QEDIT ADVANCED - Blazingly fast, multi-file, multi-window, compact DOS text editor, both powerful and EASY to use. This is the long awaited upgrade of the well known QEDIT Version 2.17.

Includes macros; column blocks; variable, smart, and fixed tab support; basic word-processing features. Configurable, including keyboard, colors, and initial settings.

Data Based Advisor Readers Choice as

Best Program/Text Editor. Over 120,000 licensed users in 70+ countries prefer QEDIT!

BBUG 9169 VBRUN 100

*CLASSIFICATION * Utilities * Windows * Hard Disk*

VBRUN100.DLL is the runtime module necessary for various programs written in Visual Basic to operate under Windows. Simply copy this file to your Windows sub-directory to enable programs written in VB to function.

BBUG 9170 VBRUN 300

*CLASSIFICATION * Utilities * Windows * Hard Disk*

VBRUN300.DLL is the runtime module necessary for some programs written in Visual Basic to operate under Windows. Simply copy this file to your Windows sub-directory to enable programs written in VB to function.

More Taglines

The problem with political jokes is that they keep getting elected!!!

Annoying totalitarian inclined fools, is worthwhile casual sport.

Australia is *already* vastly overpopulated.

Don't leap a chasm in two jumps

Money can't buy friends, but you get a better class of enemy

Don't worry. We're on a mission from God.

All true wisdom is discovered in tag lines.

Suspect the motives of those who disarm the masses but not themselves.

SUBLIMINALsendmoneyTAGLINE But wait, you also get this fabulous knife!!!!!!

Real Programmers use EDLIN!

This kkkkkkkkk kkkkk k key is a pain!

Harleys Don't Leak Oil... They Just Mark Their Territory!

Abort, Retry, Ignore? An optimist picks Retry

"42? 7 and a half million years and all you can come up with is 42?!"

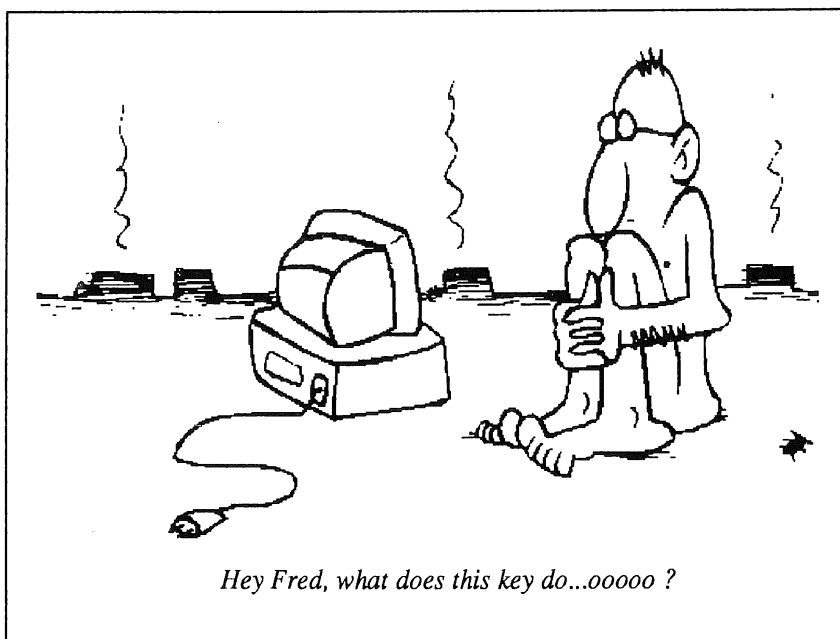
I know it all. I just can't remember it simultaneously.

Don't force it, get a larger hammer.

Hell hath no fury like the lawyer of a woman scorned.

DOS never says "EXCELLENT command or filename"...

What makes teflon stick to the pan?



ASSOCIATED CLUBS DIRECTORY

Club Name	Centred in	Telephone	Contact
Coffs Harbour Computer User Group	COFFS HARBOUR	066-538283	Janell Rose
Gold Coast SIG (of Brisbane)	MERRIMAC HS	075-710113	Joanne Ellis
Dalby PC Users Group	DALBY	076-621381	Peter Allen
Beaudesert Computer Club	BEAUDESERT	075-411050	Bernie Williams
Pine Rivers IBM Compatibles C C	STRATHPINE		R Cunningham
Sunshine Coast Computer Users Group	CALOUNDRA	074-914680	Ernie Camilleri
Landsborough Computer Club	LANDSBOROUGH	074-923205	
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Fraser Coast Computer Club	HERVEY BAY	071-212394	Steve Bottom
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Gladstone QRI Computer Club	GLADSTONE	079- 723083	Dave Franklin
Gladstone Computer Users Group	GLADSTONE	079-783941	Cec Wilmott
Rockhampton Group	ROCKHAMPTON	079-282554	Nick Quigley
Mackay Computer Users Group	MACKAY	079-573998	Gabriel Barbare
Burdekin Computer Club	AYR	077-834630	Rod McRae
Townsville Computer Users Group	TOWNSVILLE		
Johnstone PC User Group	INNISFAIL	070 -671301	Lyndelle Coianiz
Cairns PC User Group	CAIRNS	070-577997	John Hampson

DEALER ENQUIRIES

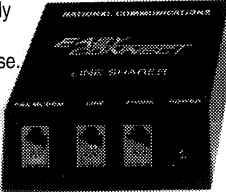
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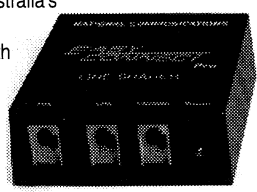
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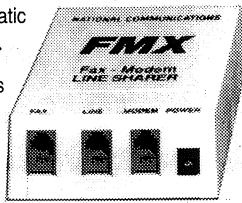
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—PC Magazine, May 11, 1993

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dBASE IV Speed Chart

dBASE IV v2.0

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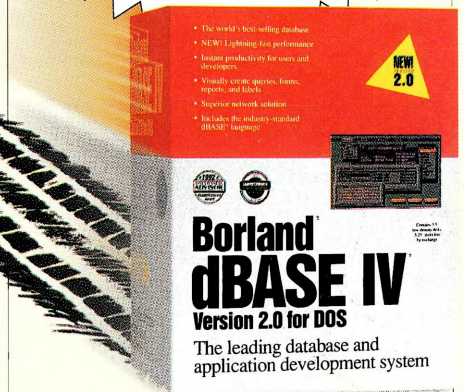
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