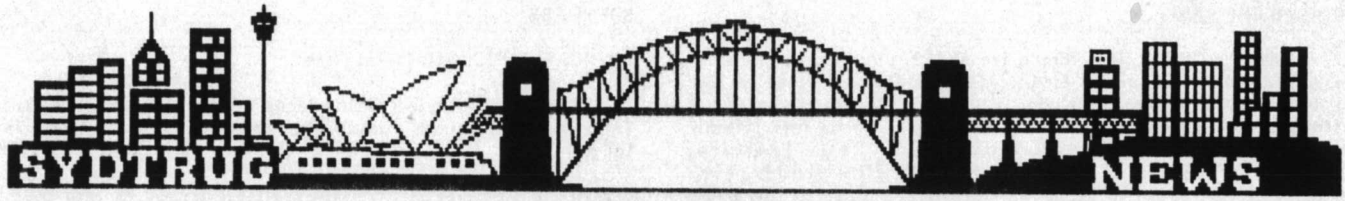


NEWSLETTER OF SYDTRUG INC.
SYDNEY TRS-80/MS-DOS USERS' GROUP
P.O. BOX 75, PANANIA 2213
AUSTRALIA

Volume 15 Issue 6 JUNE 1995 Price $2.00

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## MEETING ARRANGEMENTS

Meetings will be held on SECOND and FOURTH Saturday afternoons each month commencing at 1:00 P.M. at the 1st Sefton Scout Hall, 4 Waldron Road, SEFTON

Meetings will be held on
10th and 24th of June
8th and 22nd of July
12th and 26th of August

## Bulletin Board

Arrangements have been made for SYDTRUG members to access the Night Rider Bulletin Board on (02) 570-4242 (See overleaf for details).

## CREDIT CARDS

We have the facility to charge your membership fees, or renewal fees to either BANKCARD, MASTERCARD or VISA. Additionally, purchases made on your behalf by the group may also be charged to your credit card. If you wish to use this service, please quote your card number, type of card, expiry date of card, and **SIGN** your request.

## Closing Dates for Newsletter Copy:

**July 1995** - 10th June 1995 -

**August 1995** - 8th July 1995 -

**September 1995** - 12th August 1995 -

## WHO'S WHO

| | | |
|---|---|---|
| President | Denis J. PAGETT | (02) 772-4848 |
| Vice-President | Peter WIGNELL | (02) 759-8024 |
| Secretary | Bruce RAMSAY | (02) 660-7248 |
| Treasurer | Tom FOLEY | (02) 389-6157 |
| Public Officer | Tom FOLEY | (02) 389-6157 |
| Hardware Co-ordinator | Errol ROSSER | (02) 796-1185 |
| Membership Secretary | Peter WIGNELL | (02) 759-8024 |
| MS-DOS Software Librarian | David SUTTON | (02) 771-5482 |
| Newsletter Editor | John MERCER | (02) 579-2915 |

# SYDTRUG Inc. Information

**MEMBERSHIP FEES:**

There is a ONCE ONLY joining fee of $20, plus, for single membership, $45 per standard financial year (July to June) or, for family membership (which includes all family members living at the same address), $55 per standard financial year. These fees fall due on 1st July each year and are payable by Cash, Bankcard, Mastercard or Visa Card. They cover the cost of the monthly newsletter and admission to Saturday meetings, access to the group library, and reinking of fabric printer ribbons.

For those who wish to insure against possible future fee increases, payment of $200 for single membership, or $250 for family membership, will cover five years fees. This represents a saving of $5 per year and any increases which may occur during the five years.

**Our NEWSLETTER ("SYDTRUG News"):**

Distributed on a regular basis, it includes group business information along with software and hardware articles and information from local and overseas sources. Contributions from members are always welcome. See below for advertisements.

COST: Included in your membership fee. Back issues available at $2.00 ea plus postage (within Australia) $0.70.

**Other NEWSLETTERS:**

We receive numerous exchange newsletters from similar groups, both locally and from overseas. See the resume which appears regularly in "SYDTRUG News".

**DISKS:**

Floppy disks are purchased in quantity to enable members to benefit from the resulting price saving. Members may buy them by contacting our secretary, preferably at group meetings, but, for those unable to attend meetings, Bruce may be contacted by phone at the number shown on the front cover to make arrangements.

The prices, per ten (10) disks, are as follows:

5.25 DS DD (360K) $6.00
5.25 DS HD (1.2M) $10.00 (Unboxed)
5.25 DS HD (1.2M) $11.00 (Boxed)
3.50 DS DD (720K) $11.00
3.50 DS HD (1.4M) $15.00 (Preformatted)

**FABRIC RIBBON RE-INKING:**

Most printer ribbons can be reinked quite successfully, so long as they have not been thrashed. There needs to be a reasonable fabric base to absorb the ink. NOTE: **Fabric ribbons only**, carbon film ribbons **cannot** be reinked. If given to the reinker person at meetings they will normally be ready at the same meeting of the next month. By mail, send them to the Group P.O. Box in a padded jiffy bag. Before you mail it, get it weighed and pop postage value of stamps into the bag before you seal it so that we can return it.

COST: This service is free to members, but postage and packing charges will apply where applicable.

**LIBRARY:**

We maintain a library of interesting books, mainly at present on TRS-80 matters, along with most issues of "80-MICRO". There are a number of other magazines available as well as copies of some local computer magazines. These are available for borrowing from the group for one month at a time.

**ADVERTISEMENTS:**

Members may place "For Sale", "Exchange", or "Wanted" advertisements in "SYDTRUG News" There is no charge, but inclusion is dependent upon space being available. The editor reserves the right to amend advertisements as thought fit.

**SOFTWARE:**

MS-DOS Public Domain/Trial Ware:

We have an ever increasing range of MS-DOS Public Domain and Trial Ware disks from a number of sources. Watch the newsletter for details.

COST: The software is normally available on a 5.25 inch 360K disk format for a cost of $5, plus postage and packaging if applicable. Alternatively, the software can be supplied on a 3.5 inch 720K disk for an additional $1.00. Two programs normally available on two 360K disks can be supplied on the one 3.5 inch disk format for the cost of two 360K disks plus $1. The group does not charge for the software but charges a disk purchase price to cover the cost of the disk medium and the cost that SYDTRUG Inc. has to outlay to maintain the software library. Members have the option of picking the order up at a SYDTRUG meeting (provided the order is placed 5 days in advance) or having the disks posted to them in a disk mailer box.

The additional cost of postage and packaging will vary depending on the destination and the current charges are as shown:

| | | |
|---|---|---|
| 1 - 5 disks: | Within Australia: | $2.00 |
| | Overseas Airmail: | $5.00 |
| 6 - 10 disks: | Within Australia: | $4.00 |
| | Overseas Airmail: | $10.00 |

TRS-80 Public Domain:

A huge range of TRS-80 Public Domain Software is available for Mod I/Sys 80 along with Mod III, 4/4P. See our catalogue disks for details, if you don't have them write and ask, including $8.00 to cover disks and P/P. Be sure to let us know in what format you require the catalogue disks written.

Members are reminded that this software has been acquired over the years from a multitude of different sources and, in common with a lot of P/D software, does not always spell out exactly what system resources are required to run it successfully. In many cases further development is required to suit the user's specific system. This being the case, SYDTRUG Inc. cannot offer any guarantee as to the suitability of any particular program to any specific purpose. Having said that, there is still a lot of very useful material in the collection.

COST: $3.00 per disk, plus postage and packing as for MS-DOS disks above.

**BULLETIN BOARD:**

Arrangements have been made for Group members to have access to the Night Rider BBS on **(02) 570-4242**. This is an independent bulletin board and is in no way answerable to, or under the control of, SYDTRUG Inc. This board carries mainly MS-DOS shareware and e-mail. Initial contact should be made on the phone number given above and those making their first call will be required to supply certain information to arrange registration.

This board uses 8 DATA bits, 1 STOP bit and NO Parity and supports speeds from 1,200 to 14,400 bps. Once members have been registered, they will be permitted access to a second line which supports speeds from 1,200 to 28,800 bps. The numbers for both lines are shown in the opening screens each time you log on.

This service is FREE to MEMBERS, who are welcome as guests on the board and should behave accordingly. After registration members are allowed 90 minutes per day but are requested to limit calls between 7:00 am and midnight to no more than 60 minutes. If they wish, they may log on again and use up the rest of their allowed time. This gives other callers a chance to log on. Between the hours of midnight and 7:00 am callers may take their full time allowance in one session if they wish. This service is provided for members to use and enjoy, however, the sysop reserves the right to deny access to those who abuse their privileges.

## DISCLAIMER:

## Editorial Comment

Members will find included with this month's newsletter, a form for nominating a candidate for election as a committee member at the AGM to be held in September. Nomination forms should be returned, not later than 8th July (the first meeting of the month) so that proxy voting forms may be prepared to be included with the formal notice of the AGM in the August issue of "SYDTRUG News". Let us have some display of interest in the running of the group by the nomination of candidates for committee membership.

The committee wish to thank those members who have paid their membership renewals promptly, and to remind those who have not yet done so that time is getting short and payment is due by the end of June. For those who have not yet paid, another renewal form is included with this issue.

At the last meeting of the committee, there was was much favourable comment about the review by Brian Keegan of the Semmware Editor which appeared in last month's issue of "SYDTRUG News". On behalf of the committee, many thanks Brian for a good job, very well done.

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## Treasurer's Report for April 1995

by Tom Foley - SYDTRUG

| INCOME: | April | | Year to Date | |
|---|---|---|---|---|
| Members' Subscriptions: | | | | |
| Renewals: | 45.00 | | 1,340.00 | |
| New: Joining Fees | 0.00 | | 100.00 | |
| Annual Fees | 0.00 | | 180.00 | |
| 1 year subs in adv. | 270.00 | | 270.00 | |
| 5 year Subs to 1999 | 0.00 | | 200.00 | |
| | | 315.00 | | 2,090.00 |
| Software - Deposit | | 0.00 | | 300.00 |
| Members' Purchases: | | | | |
| MS-DOS Shareware | 0.00 | | 0.00 | |
| TRS-80 Software | 0.00 | | 80.00 | |
| Blank Disks | 0.00 | | 296.00 | |
| Hardware | 0.00 | | 22.00 | |
| Sundries | 0.00 | | 70.00 | |
| | | 0.00 | | 468.00 |
| Other Receipts: | | | | |
| Sundries | 0.00 | | 15.00 | |
| TOTAL INCOME | $ 315.00 | | $2,873.00 | |
| EXPENDITURE: | | | | |
| Newsletter Costs: | | | | |
| Printing | 160.00 | | 1,680.00 | |
| Postage | 52.95 | | 481.60 | |
| Other | 0.00 | | 91.15 | |
| | | 212.95 | | 2,252.75 |
| Meeting Costs: | | | | |
| Rent | 0.00 | | 500.00 | |
| Insurance | 0.00 | | 397.38 | |
| | | 0.00 | | 897.38 |
| Purchases for Members: | | | | |
| Software and Manuals | 0.00 | | 80.00 | |
| Blank Disks | 0.00 | | 255.00 | |
| | | 0.00 | | 335.00 |
| Admin Costs: | | | | |
| Bank Charges and fees | 2.73 | | 71.47 | |
| Committee Expenses | 0.00 | | 62.15 | |
| Post and Telephone | 0.00 | | 271.50 | |
| Photocopying Costs | 0.00 | | 29.00 | |
| | | 2.73 | | 434.12 |
| Bulletin Board Running | | 0.00 | | 269.40 |
| Capital Expenditure | | 0.00 | | 200.00 |
| TOTAL EXPENDITURE | | $ 215.68 | | $4,388.65 |

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## Unblock Your System

by Jan Wikstrom

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37 - 43 Alexander Street, CROWS NEST NSW 2065, AUSTRALIA
"SYDTRUG News" input by courtesy of David Sutton]

To upgrade or not to upgrade can have the best of us mumbling indecisively like Hamlet. We usually start thinking about upgrading because the system has grown tight across the shoulders (or maybe somewhere else) and there's a shortage of performance, especially when running large Windows applications. That doesn't have to be the fault of the hardware; a very common cause of Windows constipation is simply that your SYSTEM.INI and WIN.INI files contain too much junk. A lot of programs leave bits and pieces of themselves sprinkled all over, and drivers and TSR's can be loaded long after the programs that use them have gone to that big computer in the sky. Programs like Delta and WinDelete can help you with this, but only if you start from a clean system. Uninstaller is good at removing unnecessary files, but SYSTEM.INI and WIN.INI can only be cleaned up by hand, and it's an expert's job. If you don't have an expert handy, the easiest thing may be to delete your whole Windows directory and reinstall Windows and all your applications. It's a big drag, all right, but nothing beats being sure.

Another very common cause of Windows constipation is memory starvation. The clearest symptom of this is when the hard disk light keeps flickering, even when you're not loading or saving a file. This is virtual memory in action as Windows tries to substitute disk space for RAM - which is, of course, a lot slower. If this happens on a 2Mb machine, well that's simply what you get for having a system that's short of RAM. If an 8Mb machine behaves like that, however, something is seriously wrong. In one case I looked at. It was simply that someone had set aside a lot of RAM as expanded memory in order to run high-end DOS-based games. This locked the RAM away from Windows, which needs extended memory and was effectively running on a 2Mb system.

That's the bad news. The good news is that the cure is simple: you can set up two different memory manager (either EMM386 or a third-party one) command lines in CONFIG.SYS, one with 6Mb reserved as expanded memory and one with 100 per cent extended memory. You can then arrange a start up menu as described in the DOS help file and manual, so you can choose whether to run DOS games or Windows. To go from one to the other, just reboot.

There's a sneaky way to get the memory setup command lines you crave. First, run MemMaker (or equivalent) and select the amount of expanded memory you want. Copy the resulting CONFIG.SYS to, for example, EXPAN.TXT. Now run your memory customiser again, this time instructing it not to set up expanded memory at all. Load CONFIG.SYS and EXPAN.TXT into two separate instances of Notebook. You can now set up the menu like this example, adding the EMM386 command line from EXPAN.TXT :

```
[MENU]
menuitem=BiGames, Run EMS memory for DOS games
menuitem=GoWin, Run Windows

[BiGames]
device=c:\dos\emm386.exe [upper memory switches]
include=derest ---- the rest etc

[GoWin]
device=c:\dos\emm386.exe noems [upper memory switches]
include=derest ---- the rest etc

[derest]
dos=high
DEVICE=C:\DOS\SETVER.EXE
COUNTRY=061,437,C:\DOS\COUNTRY.SYS
FILES=30
BUFFERS=10
```

You can of course add all sorts of neat details to this, such as special colours and maybe another couple of options. The main thing is that you give your system the right memory setup for the programs you intend to run.

==========

```
**************************************
*          In Memoriam               *
*                                    *
*   Alex Zui's father passed away    *
* recently after a prolonged illness.*
*                                    *
*   On behalf of all the members of  *
* SYDTRUG Inc. we wish to extend our *
* deepest sympathy to his family in  *
* their bereavement.                 *
**************************************
```

## RAM and Extended RAM in TRS-80 Model 4/4P

by Ivan R. Kennedy - SYDTRUG

The TRS-80 Model 4/4P microcomputer is now more than ten years old and the Model III closer to 14. I have been using several Models 4s and 4Ps since 1987 and still do for over half of my keyboard time. If you're interested, you can usually tell just how long a particular unit has existed from hand-written pentel pen markings on the interior of the case, put there by workers on the assembly line around 1983 and 1984. The Model 4D, produced up to about 1986, was never sold in Australia.

Back in those olden days, Tandy-Radio Shack designed the basic units to have 64 KB of random access memory (RAM) where the routine reference information for the thinking of the Z-80 microprocessor of a Model 4 is stored and updated from time to time. Everything written in RAM disappears when the computer is turned off, though you can often access RAM again with its contents intact even if the computer crashes if you keep the power on in rebooting. Programs like Allwrite! and ScripsitPro allow these RAM contents be re-accessed if you use a special procedure on reloading the program (see appropriate manual).

In the RAM, various drivers such as those controlling access to disk drives, hard drives, extended memory and so on are stored just above Hex '08F0' in around 2 KB of the RAM space. Some other drivers can be stored in high memory just below Hex 'FFFF'. The TRS-80 line of computers were actually made with such potential for new devices that the space allocated for such drivers in the DOS was rather limited; when additional hardware and software devices such as the XLR8er board, hard drives, virtual RAM drives, background programs (TSR's) like PROWAM and DoubleDuty [were used], conflicts from competition for the available space emerged. Great ingenuity was used by programmers to design software RAM drivers that used an absolute minimum of code since only about 2-3 KB are available in total.

Higher in the RAM (above Hex'3000') machine language programs or basic programs are loaded as well as the files on which these operate, such as word processor text files or spreadsheet files. TRSDOS and LS-DOS both address this RAM in a fairly logical fashion (more so than MS-DOS), with a 32 KB space for the main workings of the operating system and the upper 32 KB as the program operating space. All this is fitted into 64 KB of memory, the natural range that the Z-80 microprocessor can address at once (as an 8-bit microprocessor).

Did this mean that the Model 4 could only use 64 KB of Ram ? Not at all. Tandy provided sockets on the mother board for eight more RAM chips amounting to a second 64 KB, enough for two more 32 KB banks. Even Tandy provided some programs that could use these two alternative banks (e.g. VisiCalc, DoubleDuty) and many of the non-Tandy software programs utilised this additional in-memory (therefore rapidly accessible) space. The DOS also included a MEMDISK driver that allowed you to configure a disk drive in RAM including one that could act as the system drive. This provided a significant advantage in releasing both disk drives for data and greater ease for backing up files. There was also a noticeable increase in speed of the computer, since the system files could be accessed in a flash without the need to read overlays from diskettes. Direct reading of RAM is about 10 times as fast as reading from a disk drive.

Allwrite!, the TRS-80 word processor with all the power and facilities of the IBM mainframe program, SCRIPT and based on it, uses the alternate banks to allow you to have two other files loaded at the same time and ScripsitPro required the extra 64 KB to operate at all.

By switching or swapping the top 32 KB of RAM with new banks of 32 KB, it was theoretically possible to store accessible data in almost as much RAM as you cared to imagine. Tandy had provided the possibility of two, but it was obvious that this could be expanded. Around 1986, Alpha Technology provided Model 4 users with kits allowing up to 512 or 1024 KB of RAM, requiring on-board soldering and substitution of the RAM chips with 256 KB chips. To the Model 4 user, this was heaven and many SYDTRUG members of about nine or ten years ago took soldering irons to their Model 4/4P boards, now and again with disastrous consequences! With so much RAM, it was possible to set up /CMD program files and their data files in RAM, perhaps on a RAMdisk, so that loading and saving to files from a program could now be done in a flash. It then became essential to save all data files to diskette in a physical disk drive from time to time, to guard against loss of data. Otherwise, a day's work could disappear into vapour when the computer was switched off or simply failed.

In 1987, the XLR8er board appeared, with an additional 256 KB of RAM on board, making a total of 384 KB. This board also ran the Model 4 faster (or the Model III), since it used the Hitachi Z180 microprocessor with an equivalent clock-speed of 8 MHz compared to the Z-80's speed of 4 MHz. In theory, the Z180 could have addressed all this extra RAM and more directly without banking, but in practice the extra 256 KB was addressed as eight additional 32 KB memory banks, giving a total of 11. These extra banks were set up when a patched version of the DOS booted up the computer.

This additional RAM operated in a very straightforward fashion, since all the drivers were stored in low memory and the new RAM was simply added in 32 KB slices at the top. Nowhere was this fact more obvious than with the Model 4P, which was supplied with nothing at all in RAM when you switched it on. Its RAM was blank! You first had to load into RAM the file MODELA/III that contained the code stored in a ROM chip in the Model III or the Model 4 to provide the system's basic operating functions. By contrast, the management of additional RAM above the basic 640 KB in 16-bit MS-DOS IBM and compatible microcomputers was a mish-mash and a horror house, providing extraordinary problems of memory management that are just now being solved, and at great cost in terms of RAM, hard drive space and microprocessor speed.

Anitek in Florida extended the concept of additional RAM in a Model 4 (or a Model III), almost to a practical absurdity. Apart from an updated version of the Alpha Technology 1 MB called the SuperMem, they provided the HyperMem board (up to 1 MB) in 1990 and then the ultimate MegaMem (no soldering and using 1 MB SIP modules that simply plug in), allowing up to 8 MB or even 16 MB of additional RAM for the Model 4 user. This amounts to a limit of 256 or 512 additional 32 KB RAM banks. I bought a MegaMem board with just 2 MB of additional RAM (i.e. 64 additional banks). I may add to this later up to the 6 MB that my version of the MegaMem board allows, but I'm not sure why I would need to. The main advantage of the extra RAM is the possibility of loading a RAMdisk and all your software program and working files (e.g. a word processor such as LeScript into RAM at once. This makes the operation of the computer lightning-fast. Indeed, my Model 4 set up this way using Model 4 programs is usually several times faster than using equivalent Windows-based programs in an MS-DOS computer, at least up to 80486 speed.

I'm actually writing this article in Allwrite! but using the latest Model 4 emulator loaded onto the 810 MB hard disk of a T4900CT Toshiba laptop, a recent acquisition for work. This is because I'm away from home. The first thing I did when I acquired the new laptop last month was to load the emulator so that all my TRS-80 programs and files would be accessible wherever I was. This 75 MHz colour screen computer has a Pentium microprocessor and Jeff Vasavour's Model 4 emulator (CN 80 product) performs superbly in this environment. The 1.44 MB 3.5 in disk drive of the Toshiba can read and write some of my 80-track TRS-80 formatted diskettes of the same diameter as they were formatted in the Model 4s and if the diskettes are formatted as TRS-80s in the Toshiba using either FORMAT or FFORMAT (Goben) running under LS-DOS in the emulator or the PUTDISK utility in MS-DOS (Goben), all diskettes can be read by either the Toshiba or the Model 4.

For example, working from Allwrite!, Electric Webster takes just 8 seconds to proofread this file and 12 seconds in my Model 4P. Loading time is about the same on both computers. In a 486 50 MHz IBM compatible, the emulator runs at about the same speed as a 4 MHz Model 4. In a 75 MHz Pentium, it's notably faster. The Toshiba has 16 MB of RAM required to run some complex modelling programs. I have not found any programs for the Model 4 that don't run with the emulator, including those using the high resolution screen and a serial mouse such as David Goben's MagicDraw, or David Miller's Postmaster. You can even do all your printing on a DeskJet or LaserJet without any software adjustments at the TRS-80/MS-DOS interface, including downloading of Model 4 fonts and so on.

The difference between the Toshiba and the Model 4 is that the former actually needs all this extra hardware to run. For the Model 4, 2 MB of extra RAM would be like having 100 MB of extra RAM on the Toshiba, an extravagance but financially possible for the Model 4 user with MegaMem if you're keen enough. Eight or 16 MB of RAM would be like having 500 or 1000 MB in an MS-DOS computer (i.e. RAM, not hard drive space!). Perhaps Anitek went too far in offering 16 MB though I'm not sure that anyone ordered that. Several SYDTRUG members did order MegaMem boards with about two MB of RAM, though.

Having extra RAM above the normal 128 KB is fine. But what use is it ? And how can you put it to use ? In fact, some programs appearing more recently since 1987 were written to access it. Anitek's LeScript word

processor was the reason for its development in the first place, allowing in-memory operations on files up to two MB in size. In fact, for LeScript, extra RAM was almost obligatory to improve its speed. David Goben wrote his excellent high level spreadsheet program BCX in versions that could directly access the extra RAM, allowing data files up to one MB in size (64 columns and 256 rows. This makes it easily the most capable Model 4 spreadsheet program ever. (BCX2, an even more capable spreadsheet has just been released by Goben through CN 80 and I've ordered a copy. More on that later!).

MagicDraw by David Goben also accesses extra RAM, allowing up to 10 high resolution screens to be accessed in rapid succession (about 100 KB). The remarkable PROWAM can access RAM banks up to 15 (counting from zero), provided they've been made accessible to the DOS. David Goben provided a public domain program called HYPERBNK/CMD to allow easy access to SuperMem of the Alpha Technology/Anitek kind, or to HyperMem (Anitek). In a 512 KB Model 4, this utility provides 12 extra 32 KB RAM banks accessible to the DOS in addition to the three banks available in a 128 KB Model 4, giving 15 in all. Both PROWAM (banks 1-15) and DoubleDuty (banks 1-29) can access any of the extra banks with the appropriate parameter on startup (BANK=nn) allowing programs that can only access bank 0 or banks 0-2 (e.g. VisiCalc, Allwrite!) to run at the same time. Superlog, an early versatile database and 'cutting and pasting' program written by Thomas Keister, can access banks 0-7 when invoked:

```
SL4 (LOAD,BANK=7)
```

So, like PROWAM and DoubleDuty, Superlog can run in the background as a TSR (terminate and stay resident) utility without using up banks 0-2 needed by other programs such as Allwrite! or ScripsitPro.

There may be other programs that can directly access the extended memory banks, particularly if they have been made available to the DOS with a utility like Hyperbank but I don't recall them at the moment. An easy way to make use of the extended memory banks is simply to configure them as a RAMdisk drive.

For the Alpha SuperMem, either OVERDRIV/CMD and SUPERDRV/CMD could configure a RAMdisk with the command:

```
SUPERDRV 0,nn
```

where nn is the number of 32 KB banks required for the RAMdisk. A similar program was provided for the HyperMem board called HYPERDRV/CMD. There is no need to configure the RAM with Hyperbank beforehand, although any unused banks can be activated for the DOS with Hyperbank afterwards. Writing 0 rather than any other number up to 7 also determines that the system files will be copied to the RAMdisk and set up the RAMdisk as drive 0. Doing this as when using the MEMDISK facility in the system disk as drive zero means that all system calls occur much more rapidly than using a floppy disk as drive zero.

A very similar utility configures the MegaMem board as a RAMdisk:

```
MEGADRV 0,nn
```

The Hyperbank utility will not configure the MegaMem board as 32 KB banks available to the DOS, however. As far as I know, there is no easy way to do this, although this would be a very worthwhile utility. I have only been able to do this if I go into BCX, crash the program without exiting properly by using the <BREAK> key (not easy or reliable) and then reload BCX and immediately exit. This strange [procedure] ([discovered] purely by chance) opens up thirty-two 32 KB banks (1 MB) that other programs capable of it can access. It seems obvious that the starting routine for BCX sets up the the banks up to 1 MB for its own use. Disassembly of the opening code should provide the means of designing a new utility like Hyperbank to set up the banks. Perhaps Hyperbank could be used as a model also. This would be a nice exercise for some programmer.

Recently, I wanted to set up a drive zero RAMdisk for a 4P equipped with a SuperMem and a 40 MB Misosys hard drive with a suitably patched boot disk to activate the clock of the hard drive. Neither OVERDRV nor SUPERDRV work with the patched boot system files, so use of this utility was out. In any case, they require the so called AT patches to system files, that also prevent use of the hard drive.

On testing, I found that it was possible to use the Hyperbank utility to open up a total of 15 banks and then to use ERAMdisk, a program supplied to configure the XLR8er board by Misosys that I had bought about 4 years ago. A JCL file (HD/JCL) that I call as:

```
DO HD
```

does the job:

```
HYPERBNK
PEXMEM (or EXMEM)
ERAMdisk (D=6,B=4,S=11,F=Y)
BACKUP /SYS:4 :6 (S,I)
SWAP :0 :6
```

This batch file opens up all available extended RAM in SuperMem as 32 KB banks, sets up a temporary supervisory call (SVC125, PEXMEM) for the system to handle paging of the extended banks of RAM, establishes a RAMdisk of 352 KB (disk 6, beginning at Bank 4, a size of 11, 32 KB banks and formatted), backs up the system files from the boot diskette to drive 6 and then swaps drives 0 and 6. You could have a much smaller RAMdisk (e.g. S=2 or 3). Drive 6 must not be enabled before attempting to set up the ERAMdisk.

Obviously, once a RAMdisk has taken over alternate banks these are no longer available for programs such as LeScript of BCX that can use these these banks. It pleasantly surprised me that the SuperMem could be configured by the XLR8er software in exactly the same way as the XLR8er board, since I had never seen that claimed. In principle, it could have worked since exactly the same principle is involved for the extended RAM but that is no guarantee of success. It would be a bit quicker to arrange a cylinder by cylinder backup of the system files to the extended RAMdisk but this works fine for the time being.

No doubt there would be other ways to achieve a similar result with the SuperMem board. You can't set up the MegaMem board this way as Hyperbank does not recognize its RAM. A utility to set up banks accessible by the DOS for the MegaMem board would be nice to have, since you could then configure it for use by PROWAM, SuperLog and DoubleDuty as with SuperMem. Perhaps that will be project in the future for me if I can't persuade David Goben to provide a utility.

Unfortunately, buying extended RAM as hardware is now difficult or impossible. Anitek, the main supplier, went out of business about two years ago so neither SuperMem, HyperMem or MegaMem is now available to purchase as a new product. It is over two years ago that the last advertisements for these products appeared in Computer News 80 or the Misosys Quarterly. To obtain extended memory, you would have to buy it or find it in a used Model 4 or III fitted with extended memory by its previous owner. Computer News in Casper, Wyoming, the main remaining supplier of TRS-80 products, does not supply specialised hardware of this type either. In general, their policy is to provide services for the basic 128 KB machine only. So if you have a Model III or 4 fitted with extended RAM, consider yourself lucky. It will allow you to increase markedly the speed of many of your tasks.

If you don't have access to the hardware needed for these upgrades, there is no need to despair. These are facilities that are nice to have because they speed up tasks and increase productivity (at a cost), but they're not essential. They do not allow you to do more than a small number of things that you can't already do on a stock 128 KB RAM Model 4. But they do illustrate once more just how powerful the design of the Model 4 TRS-80 equipped with the equally powerful operating LS-DOS are.

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## Enhanced IDE
## Best thing since sliced bread or burnt toast ?

by Fred Townsend - SVCS

[Reprinted from the March 1995 issue of "The Journal" Newsletter of the Silicon Valley Computer Society, 2464 El Camino Real, #190, SANTA CLARA CA 95051, U S of A]

The competition between SCSI and IDE disk systems has become more intense with the introduction of Enhanced IDE (EIDE) peripherals. EIDE, under many names including the so called Advanced IDE (AIDE) offers features that look very similar to SCSI. Let's contrast SCSI and IDE systems in the past, present and future.

SCSI has always offered the richest feature set for any peripheral. The trouble was it was difficult to install on systems not specifically designed for it. MAC and UNIX people got along fine, but IBM users found the shortsighted BIOS design a difficult obstacle when installing SCSI.

In 1986, several drive manufacturers knocked the fenders off their SCSI offerings and replaced them with a simpler interface. The engines were the same, only the circuit board was changed.

Since the drives shared common SCSI roots, there was a certain degree of standardisation but there never was a real formal standard for the economy drives. There wasn't even a standard name for the stripped down drives.

First on the scene, Western Digital, copyrighted their Intelligent Disk Interface (IDE) name. Other companies refused to use the copyrighted name. Since the interface was specifically designed for the IBM using the ISA bus, the industry unofficially adopted the term ATA interface drives. Very few people recognised the term ATA so the dealers always called them IDE even if the manufacturers outside of Western Digital refused

to label the drives IDE. WD has not defended the copyright of IDE so perhaps one day everyone will officially use the term IDE.

History repeats itself. Enhanced IDE manufacturers haven't settled on a single name either. Worse, there is still no standard so no guarantee of compatibility. Such terms as AIDE, Fast ATA, Fast ATA-2, ATA3, ATAPI, Mode 0, Mode 2, Mode 3, Mode 27, and Bus Mastering IDE have been used. Confused ? It only gets worse. The only thing you can bet on is IDE continuing to offer lower cost SCSI features that don't work like SCSI features.

The good news is EIDE improvements offer remedies to many IDE problems. For instance, it cracks the 540MB limit so the gigabyte drives can use the economy interface. Some interfaces connect up to four drives so the two drive limit is also broached. Finally, CD-ROMs and perhaps even tape drives can share the new interface.

**At What Cost ?**

First, EIDE drives fight with the existing AT BIOS just like SCSI. An overlaid BIOS like SCSI uses would be the most efficient, but most expensive and difficult remedy. The cheaper and less efficient, but field upgradable remedy, is to use drivers. This means sending software with the peripheral and hoping the non standardised drive interface will understand the software. A safer remedy is to use new hardware but unless the BIOS is rewritten, drivers will still be needed. Any of these remedies should keep the "Plain Jane" users happy for a while.

**What About the Power User ?**

WINDOWS is a great multi-tasking OS as long as only one window is attempting to do any real work. WINDOWS programs put a tremendous burden on all memory resources, particularly the hard drive. This translates to poor performance. Users needing real multi-tasking rely on OS/2, Desqview, or UNIX. To the peripherals, multi-tasking translates to multi-threading. Disk drives, CD-ROMs, and caches of all kinds must be designed for multi-threading or suffer a tremendous performance hit.

WINDOWS has tried to improve performance by adding caching programs like SMARTDRV but performance is still abysmal for most power users so they optimise their systems by tuning. Tuning is the process of setting WIN.INI, SYSTEM.INI and such programs as SMARTDRV to the optimal parameters to match the motherboard, RAM and disk capacities, and the peripherals.

Tuning of this kind may offer substantial performance improvements but is still painful static tuning. Once the programs are running it's too late to change parameters so it is necessary to optimise toward the centreline applications. It would be better, particularly when multi-tasking, if the system could be dynamically optimised. That way each program could be tuned to meet the current environment.

Some Operating Systems such as OS/2 can dynamically optimise, but can't do much with IDE peripherals. Why ? The IDE peripherals have all their smarts onboard but can't share their intelligence with the CPU or other peripherals because they use dumb interfaces. So far, EIDE has done nothing to change this fact.

For instance, with IDE, if a seek operation is started on a slow device like a CD-ROM, the entire system, including the CPU, is idled until the seek operation is completed. Conversely, when the same operation is performed on the SCSI bus, the host adapter can still exchange information with the hard drive and, more importantly, the CPU can still multi-task. This enables dynamic tuning. Furthermore, the smart interface SCSI host adapter, and if necessary the CPU, can act as smart arbiters because they know the characteristics of the peripherals. More importantly, the CPU can participate in the tuning process. In fact the CPU can participate in the installation process, so 'Plug and Play' installations are now possible.

**Speaking of Plug and Play**

Where have you heard the term 'Plug and Play' lately ? Was it in the OS/2 WARP commercial or perhaps the WINDOWS 96 sneak preview ? Ever wonder why they don't demonstrate a Plug and Play IDE installation ?

**Best Bets**

In 1986 when IDE was born, you were probably nursing your 286 while eyeing a 386. You had the choice of a 386 SX 16 or 25 MHz, or a 386 DX 25 or 33 MHz processor. Today there are over twenty target processors. Tomorrow, even more.

If you were one of the many that succumbed to the 'Intel Inside' upgradeables, that next chip might be an Intel Overdrive. Pentium Overdrives will be appearing shortly. However, a prudent buyer will notice that a whole new motherboard and processor can be purchased for less money than an Overdrive. A golden opportunity.

The best performance is obtained with local bus adapters. As you might guess the most difficult installations are also with local bus adapters. PCI local bus host adapters are also among the most expensive, and after all it was the economy, not performance, that peaked interest in IDE. So why talk about local buses ?

Motherboards have shrunk in size and expense because all the 'glue chip' functions have been collapsed into a few VLSI chips. National Semiconductor has been making a single chip with a parallel and two 16450, 550 or 650 serial ports, a game port, a floppy controller and an IDE interface for many years. This makes it easy to incorporate these features into a motherboard made barren by VLSI chips. The best part is these chips can reside on the local bus and since the BIOS is fitted to the motherboard, a seamless overlaid BIOS can be used for either EIDE or SCSI host adapters. Now the installation problems are minimised without a cost penalty. A win-win.

The careful shopper will find a lot of options and a lot of bang for the buck. Besides EIDE on the motherboard you'll find SCSI as well. A local store recently offered a PCI motherboard that would accept any 486, a parallel and two 16550s, a floppy controller, an IDE, and SCSI bus for less than $150. This would enable migrating the existing IDE drives with boot tracks and data intact, while stepping up to the finest multi-session (as in multi-threading) SCSI CD-ROM drive. Up to six more SCSI hard or tape drives could be added without touching the two previously existing IDE drives. Something to think about ?

**Summary**

EIDE may solve some problems for the present user but will turn into big grief for tomorrow's new Operating Systems. EIDE designers have not noted the lessons painfully wrought by SCSI designers. Offering many SCSI features will also require many of the SCSI remedies. The smart users will not experience the reinventing of the wheel. Rather, they will look for a graceful migration path to SCSI.

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## IBM DualStor Backup Convenience Kit

by Richard Biffl

[Reprinted from the April 1995 issue of "Monitor", the Magazine of the Capital PC User Group, Inc. 51 Monroe Street PE 2, ROCKVILLE MD 20850-2421, U S of A]

The IBM DualStor Backup Convenience Kit combines hardware and software in a complete quarter-inch tape backup solution for DOS, Windows, and OS/2 users. The DualStor kit is part of the Options by IBM brand of PC peripherals, which also includes the DualStor tape drive and DualStor Backup Program packaged separately.

The DualStor Convenience Kit includes the tape drive, mounting hardware, software (either for DOS and Windows or for OS/2), and a formatted tape cartridge. Installation in a PS/2 computer requires a DualStor PS/2 Installation Kit, sold separately.

I reviewed the DualStor 250 tape drive and DualStor 1.06 software. At press time, IBM had announced the DualStor 450 tape drive and DualStor 2.0 software, but prices on the new products were not yet available. The new products support higher capacity 5122XL and 2120XL tape cartridges, as well as the 2120 and 2080 cartridges used by the products reviewed here.

**DualStor 250 Tape Drive**

The DualStor 250 is an internal tape drive that fits in an empty 5.25 inch half-height drive bay, and connects to the diskette controller. You connect the included power and signal cables so they branch off from the existing cables that lead to your diskette drive. The installation instructions are clear and the process requires only a screwdriver, so it makes a good first upgrade project for someone who has never opened his computer's case before. With 5.25 inch diskettes becoming as rare as punch cards, and with floppy backup no longer feasible for today's large hard drives, many computer owners could put a drive bay to better use by replacing a 5.25 inch floppy drive with an internal tape drive like this one.

The unique, eponymous feature of the DualStor 250 is its compatibility with both QIC-80 (Ximat) and Servo-Track (Rhomat and AccuTrak) tapes. It can read and write either recording format, permitting you to share tapes with the widest variety of quarter inch drives.

The DualStor drive performs well, supporting data transfers at either the standard 500K/sec rate or the 1.0MB/sec rate available from high-speed controllers. Backup speed is rated at 4MB/min, and the effective rate with compressed data can be higher. The drive is quieter than competitive units that I've tried; its noise level is 40db.

The drive comes with a diagnostic diskette, which I ran after I had trouble with a few backups, and I noticed the drive light on when no tape operation was in progress. The diagnostic program found an error and suggested that I check the drive's cabling. Sure enough, the signal cable was loose.

**DualStor Backup Program**

IBM sells DualStor for OS/2, reviewed here, separately from DualStor for DOS and Windows. I briefly tried the DOS version of the program, and found that its graphical interface is surprisingly similar to the Presentation Manager interface of the OS/2 version. The OS/2 version, of course, supports drives formatted with HPFS as well as FAT, and it handles OS/2's extended file attributes.

DualStor software works not only with the DualStor 250 tape drive, but also with most other QIC-80 drives. The IBM PC Company maintains a list of compatible drives, and can be reached at (800) 772-2227. I tested DualStor for OS/2 with both a Colorado Memory Systems Jumbo 250 drive and the DualStor 250 drive, and both pairings worked fine.

The DualStor program has all the features I look for in a tape backup program, and then some. For backups, it offers two levels of data compression, or it can copy the data without compression, or use hardware compression, if available. (The software compression is not the same as that used by some other backup programs, so you should be careful about using software compression if you intend to share tapes with users of other programs.) For security DualStor can encrypt data as it is backed up. A patented EEC error correction process helps ensure data integrity.

You can easily select files for a partial backup or restore, using an intuitive checkmark interface. DualStor can search drives, directories, and tape backup sets for files matching a specified name, file attributes, time of last modification, and whether the file has been modified since the last backup. If you like, the program can automatically select the files it finds in its search.

The program can perform a backup from multiple partitions or network servers, and it allows easy interactive creation of files that automate complex tasks. Job files can later be modified interactively in DualStor, or advanced users can edit them in a text editor. A utility is provided to run backup jobs automatically at scheduled times; and another utility is provided to allow complete "stand alone" restoration of a drive after a disk crash, without first reinstalling the operating system.

A backup can be full (all selected files), differential (files changed since last full backup), or incremental (files changed since last full or incremental backup). You can also choose to duplicate files without resetting their archive flags on the hard disk, or to migrate files to tape, an operation that deletes them from the hard disk after they are successfully saved to tape.

Backup verification -- file by file comparison between disk and tape -- is automatic during a migrate operation, and it is optional after other backup operations. Verification can also be done as an independent operation.

Several file operations are available that do not use the tape drive. These let you use DualStor's interface to select files for moving, copying, deleting, or changing attributes. This feature adds to DualStor's value as a disk-management utility.

With tapes formatted to the QIC-80 standard, DualStor can use either the standard QIC-80 file system, for compatibility with other tape software, or the DualStor file system, which is used on tapes that have the Servo format. I prefer the DualStor file system, because it allows deletion of a backup from the beginning or middle of a tape, whereas the QIC-80 file system allows deletion only of the last backup set on a tape. The DualStor file system also writes directory information to all tapes used in a multi-tape backup set, so loss of the first tape won't leave the data on the continuation tapes inaccessible.

All the restore operations I have tried with DualStor -- including both full-partition and single file restores -- have been easy and error-free. The tape catalogue DualStor builds during a backup allows it to find and restore a single file or a group of files from tape in just a few minutes.

**Down to Basics**

DualStor is very powerful and versatile, but many users don't need all its options for file selection and copy operations. If you prefer a simpler backup program, you can select the "Backup Basics" interface -- if you can find that option, stashed in the File menu. This simplified version of DualStor allows you to do full or incremental backups of whole volumes; to restore either an entire backup set or particular files selected from the set; and to format, erase, or retension a tape.

Backup Basics has a completely different interface, not just a menu with fewer selections. In fact, it has no menu at all; nor does it have separate windows for Servers, Drives, Tapes, and Session Logs. Instead it has five buttons across the top of the screen. If you click on Backup, Restore, or Utility, the screen displays the basic choices you can make for the desired operation. The other two buttons at the top are to exit the program and to return to the advanced interface.

This elegant basic interface offers all the functionality that some other backup programs have, and all that many users need. I have never seen a program with alternative interfaces as different as DualStor's; yet each one is natural and consistent. Kudos to IBM for an excellent innovative design.

While both the basic and advanced interfaces are generally clear, I found one operation confusing in the advanced interface: setting options for a multi-volume backup. After you give the Backup command in the advanced interface, DualStor presents a dialogue box for each volume, that allows you to set the "backup parameters" for that volume's backup set. Each "parameters" dialogue has a button on which you can click to choose "backup options". The way you reach the "options" dialogue makes it appear that the options you set there apply only to the single volume whose parameters you were setting. In fact, the backup options are global options, which affect all the backup sets. So if you choose the option to erase the tape before backing C: up, for example, and then choose not to erase the tape before backing D: up, the latter setting would be used for both backup sets. The functioning of the program would be easier to understand if the global backup options appeared in their own dialogue window, and not as a sub-dialogue of the volume specific parameters.

Another aspect of this software bothered me when I discovered it, but I can now understand its reasonableness. DualStor refuses to reformat a tape cartridge that has already been formatted, unless the tape is first wiped clean with a bulk tape eraser. IBM explains that quarter-inch tape drives are sometimes unable to remove all the old formatting marks from a tape when they lay down a new format. DualStor eliminates the possibility that ghosts of formats past will haunt a tape.

**Performance**

DualStor's performance is generally fine; the tape usually streams smoothly, and with no errors. I encountered some back-and-forth "shoe-shining" of the tape though, after I installed a high-speed diskette controller and began making backups at its 1.0MB/sec transfer rate. The high transfer rate also brought the rest of my system to its knees and made it very difficult to work in other applications while a tape backup or verification was in progress.

I was able to eliminate the shoe-shining during high-speed transfer by resetting my computer BIOS to a slower bus speed. This change did not improve the system's multitasking performance, though, so I restored the bus to its default speed and reconnected the tape drive to my old standard-speed diskette controller. OS/2's multitasking has spoiled me, I'm afraid. Transfers take longer at the standard 500K/sec transfer rate, but they are less disruptive to me because I can continue working while they run in the background.

It appears that my 1.0MB/sec diskette controller just needed too many time-slices from my 486DX2-66 processor. Unfortunately, QIC-80 hardware has stringent timing requirements, and it is not naturally suited for multitasking because the diskette controller relies heavily on the CPU for input/output instructions. I'm glad that IBM has given DualStor processes sufficiently high processing priority so that data is transferred intact; but I wish the engineers could find a way to reduce the program's demands on multitasking systems. It may turn out that better multitasking performance requires a non-QIC-80 solution that avoids the diskette controller.

**Documentation and Support**

The DualStor documentation is thorough and clear. The DualStor 250 comes with a user's guide covering installation and cleaning, and the DualStor Backup Program for OS/2 has both an introductory manual -- covering installation and basic backup/restore -- and a comprehensive user's guide. The user's guide is an outstanding model of software documentation. It doesn't just list the program's features and functions; it thoroughly explains them. The guide is lucid, well-organised, amply illustrated with screen shots, tables, and diagrams and complete with appendixes covering such topics as networks, job file commands, and troubleshooting.

All Options by IBM products come with a 30-day satisfaction and compatibility guarantee. Beyond that the DualStor 250 drive has a two year warranty, and the DualStor software is warranted for three months. Support is available from toll-free voice and fax-back numbers, a BBS, and the Options by IBM forum on CompuServ (GO IBMOBI).

The support, documentation, and features of DualStor Backup Convenience Kit set it apart from other tape products. If you want quarter-inch tape backup, you can't go wrong with this package.

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## Exchange Newsletters

Some of what is included in our library. Members may have a copy of any article listed by contacting the Editor, either by letter to our P.O. Box, or by phone at the number shown on the front page. Cost will be 10 cents per page, plus postage if not collected at Sefton.

### February 1995

Some of the articles listed below have an identifying letter in brackets in front of them. This has been done to assist Members in picking out items of interest

The significance of the letters is as follows:
(A) Amiga
(C) "C" Language
(CC)CoCo
(D) Databases
(DT)Desk Top Publishing
(G) General - May cover more than one subject
(H) Humour
(L) Local Interest
(M) MS-DOS
(MM) Multi-media
(O) OS/2
(T) TRS-80 (Except CoCo)
(U) Unix
(W) Windows
(X) Xenix

**"Adelaide Micro User News"**
Newsletter of the Adelaide Micro User Group
GPO Box 214, ADELAIDE S.A. 5001

(G) From Our Chairman Erik
Mainly local interest:
(T) Model III/4 Corner
A brief mention of communications, modems etc.:
(G) On the Board
Mainly local interest:
(H) To Upgrade or Not ?
One person's experience:
(H) Downloaded from Internet
A tongue in cheek look at floppy disk care:
(G) Is There a CD-ROM in Your Future ?
Appeared in "SYDTRUG News" - April 1995:
(G) The Mouse Mat Caper
About a new collectors item

**"Eastern Suburbs 80 Users Group Newsletter"**
Newsletter of the Eastern Suburbs 80 Users Group
PO Box 134, DONCASTER VIC 3108

(G) Editorial
Mainly local interest:
(G) Jargon
Email quotes and inclusion conventions:
(G) An Interview with Dave Haynie
Who is Dave Haynie ?:
(A) SAAR & AMOK CD-ROM, Volume II
Appears to be a review of a German language CD-ROM

**"South County Computer Club Newsletter"**
Newsletter of the South County Computer Club
C/- David Eppestine, 729 Buckley Road,
St LOUIS MO 63125-5307, US of A

(L) It's a Slow News Month, Folks
Editorial:
(L) Our Disk of the Month will Contain ClipMate
An overview:
(H) A Guide for the Novice Computer User
Mainly general information:
(L) Preparing for Tax Time
Strictly for the American scene

**"Bits & Bytes"**
Newsletter of the Bits & Bytes Computer Users Group Inc.
PO Box 1404, STAFFORD Qld. 4053

(W) A Look into Widows
Some personal experiences:
(G) Information Highway ??
In condemnation of Microsoft:
(W) Quick Menu
Software overview:
(M) A Switch in Line Saves 69
Reprinted from "NATGUG News" - Sep/Oct 1994:
(G) Overdrive Processors
Some strange happenings

**"Canberra Micro-80"**
Newsletter of the Canberra Micro-80 Users Group
4 Gleeson Place, KAMBAH ACT 2902

(G) Household Inventory
Why you should have one:
(G) The Curve
A harrowing tale of experience with a virus:
(H) How Many More ...?
More light bulb jokes:
(G) This Month in a Very Quick Review
Mostly about attempts to refill Hewlett Packard print cartridges:
(H) New Virus List
Humorous item downloaded from the Net

**"Monitor"**
Magazine of the Capital PC Users Group
51 Monroe Street PE 2,
ROCKVILLE MD 20850-2421, US of A

(G) President's Notes
Mainly local interest:
(G) The State of the Computer Market
Observations of an attendee at Fall COMDEX '94:
(G) What is the Internet ?
Some general background:
(G) On the InfoBahn
More detail on the Internet:
(MM) How Many Bells and Whistles Does it Take to Make Multimedia
Mainly local interest:
(G) Rich's Ramblings
Various bits of this and that:
(W) Capital Windows
Reviewing the second beta version of Windows 95:
(M) Microletter 73
"But I'm just using a floppy disk!":
(G) Product Reviews
Paradox for Windows 5.0; 1994 Guinness Multimedia Disc of Records; Q/Media 2.02 for Windows; Space Adventure II; Book Review - Create Stereograms on Your PC: Discover the world of 3D Illusion

**"SVCS Newsletter"**
Newsletter of the Silicon Valley Computer Society, 2464 El Camino Real #190,
SANTA CLARA CA 95051, US of A

(W) A View From The Valley
Review of Novell Perfect Office 3.0:
(W) Dazzle Plus Software Review
A program for addressing envelopes:
(G) From the Oval Office
Mainly local interest:
(G) RISC
Really only intelligible to experienced systems programmers:
(G) Colour Printers
As usual, very deep and very technical:
(G) RISC Reduced and Conquered
More deep theory:
(G) Dreamware - the Sequel
Overview of Chief Architect 3.0

**"MCTRUG"**
Newsletter of the Mid-Cities TRS User Group, PO Box 171566,
ARLINGTON TEXAS 76003, US of A

(T) What's Happening in My Z-80 World
Mention of a disk cataloguing program:
(W) Window on Windows
Passing mention of Windows '95:
(G) The Freeloader
Mainly local interest:
(H) Murphy's Law & More - Part III
More humorous items:
(T) TRS-80 Chat
Using a RAMdisk as a System disk on the Model 4

**"PCW Australia Group Newsletter"**
Newsletter of the PCW Australia Group
PO Box 434
FAIRFIELD NSW 2165, AUSTRALIA

(L) The Brisbane Connection
Mainly local interest:
(L) The Sydney Scene
Mainly local interest:
(G) COBOL for the PCW
Just a brief mention:
(L) PCW Public Domain Update
Mainly local interest:
(G) Clyde Reports
PCW Plus December 1994
PCW Plus November 1994

**"Thuggery"**
Newsletter of The Hobart Users Group
PO Box 609, SANDY BAY TASMANIA 7006

(G) President's Notes
Mainly local content but includes some discussion of sound cards:
(G) Interesting Times
Mainly local content:
(G)Bert's Ravings (Special Edition)
A year of personal experiences:
(G) New IDE Standards and the GSI Model 32 Intelligent IDE Controller
Reprinted from "SYDTRUG News" - November 1994:
((G) Getting a Good Charge
Reprinted from "SYDTRUG News" - May 1994

**"The Voice of FCUG"**
Newsletter of The Fairfield County Computer Users Group
400 Main Street - Room 614,
STAMFORD CT 06901, US of A

(G) Editor's Desk
Mainly local interest:
(G) Complexity
Bewailing the complexity of present day computer systems:
(G) Does Your Software Have you Zippered Up ?
A general routine for solving software problems:
(G) What Would It Be Without Me ?
A reminder that no matter how wonderful the computer or the software, it still requires someone to press the buttons:
(O) OS/2 Warp 3.0
A brief overview:
(G) Q & A
Some questions and answers:
(W) A Not-So-Quick Tip
Coloured Buttons in Excel:
(G) Farewell
A poem:
(G) Complexity II
Suggesting some ways to overcome some of the complexity:
(G) Profile
Thumbnail autobiography

**"The Interface"**
Newsletter of The San Gabriel Valley Tandy Users Group
PO Box 6802, BURBANK CA 91510, US of A

(G) Nock's Notes - Mainly local interest:
(M) PC Hints & Tips
A variety of pointers for users of MS-DOS applications

**"National Capital Tandy Computer Users Group"**
Newsletter of the National Capital Tandy Computer Users Group, PO Box 949, ARLINGTON VIRGINIA 22216, US of A

(G) Presidential Bits
Mainly of local interest:
(M) Jabber Mail Reader - A software overview:
(G) Keeping Up
Describing the features of the Panasonic KX-F750 Fax machine:
(M) Beginner's Column - Delete and Undelete:
(G) Do You Have Footprints in Your Apps ?
Discussing the problem of unwanted files left behind after certain applications are removed from your system:
(W) Windows Tips and Tricks
Answers to a number of 'How do I do it' type questions:

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## Murphy's Law: If anything can go wrong, it will!

by Uncredited

[Reprinted from the January 1995 issue of the newsletter of the Mid-Cities TRS Users Group, PO Box 170717, ARLINGTON TX 76003, U S of A]

Corollaries:

1. Nothing is as easy as it looks.
2. Everything takes longer than you think.
3. If there is a possibility of several things going wrong, the one that will cause the most damage will go wrong.
4. If you perceive that there are four possible ways in which a procedure can go wrong, and circumvent these, then a fifth way will promptly develop.
5. Left to themselves, things tend to go from bad to worse.
6. Whenever you set out to do something, something else must be done first.
7. Every solution breeds new problems.
8. It is impossible to make anything foolproof because fools are so ingenious.
9. Nature always sides with the hidden flaw.

The Murphy Philosophy:
Smile ... Tomorrow will be worse.

Murphy's Constant:
Matter will be damaged in direct proportion to its value.

Quantisation of Murphy's Law:
Everything goes wrong all at once.

Hill's Commentaries on Murphy's Law:
1. If we lose much by having things go wrong, take all possible care.
2. If we have nothing to lose by change, relax.
3. If we have everything to gain by change, relax.
4. If it doesn't matter, it does not matter.

O'Toole's Commentary on Murphy's Law:
Murphy was an optimist.

Zymurgy's Seventh Exception to Murphy's Law:
When it rains, it pours.

Bolling's Postulate:
If you're feeling good, don't worry. You'll get over it.

White's Statement:
Don't lose heart ...

Owen's Commentary on White's Statement:
... they might want to cut it out ...

Byrd's Addition to Owen's Commentary on White's Statement:
... and they want to avoid a lengthy search.

Iles's Law:
There is always an easier way to do it.

Corollaries:
1. When looking directly at the easier way, especially for long periods, you will not see it.
2. Neither will Iles.

Chisholm's Second Law:
When things are going well, something will go wrong.

Corollaries:
1. When things just can't get any worse, they will.
2. Anytime things appear to be getting better, you have overlooked something.

Chisholm's Third Law:
Proposals, as understood by the proposer, will be judged otherwise by others.

Corollaries:
1. If you explain so clearly that nobody can misunderstand, somebody will.
2. If you do something which you are sure will meet with everybody's approval, somebody won't like it.
3. Procedures devised to implement the purpose, won't quite work.

Scott's First Law:
No matter what goes wrong, it will probably look right.

Scott's Second Law:
When an error has been detected and corrected, it will be found to have been correct in the first place.

Corollary:
After the correction has been found in error, it will be impossible to fit the original quantity back into the equation.

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## SHARE -- Preventive Medicine for Data Loss

by Ed Stroiwas

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Multitasking of applications can create the potential for simultaneous access of a given file on your hard drive by more than one application. If this happens, the file might not contain the data you expect or it might even become corrupted.

You can configure your system to use the DOS SHARE program to prevent the simultaneous access of a given file while multitasking applications in Windows. Adding the line C:\DOS\SHARE.EXE in your AUTOEXEC.BAT file will not allow another application to open the same file that is still in use. Windows displays a dialogue box warning you that this file is already in use. This dialogue box does not display if SHARE is not loaded, and you can open the same file again without any messages informing you that you are doing so.

**So What's the Problem ?**

The problem is that you may have opened a file, made some changes, and reduced it to an icon to move it out of the way temporarily without saving it first. After you've worked in other applications for a while, you may decide you need to run it again to add more data to it. The running application icon is concealed by other running applications and you forgot that it is still running. You then open another instance of the same file and make some additional changes to it and save it. You then close the file and application. Now you close all other applications, exit Windows, shut off your computer and go home.

**Surprise**

You open your file and find that it doesn't contain all of the information you thought it should. The last file that you saved had overwritten the previous one you saved. If you had saved the first one before you opened the second one -- and so on. It gets pretty complicated and confusing.

**Example**

I put two instances of an Excel spreadsheet in separate windows with identical data in each. In the file on the left side of the screen, I inserted ADDED APRIL 200. I saved the file and left it running. I then went to the right side and inserted ADDED MAY 5000. I saved this file also. I closed both instances of the same file and exited both instances of Excel and Windows. When I later opened the file I found that none of the data I inserted into the first file (left) was there. Every entry that I had made to the first file that I saved (ADDED APRIL 200) was overwritten by the second or last file that I saved. If a person is not aware of the possibility of this happening, they would probably never figure out why the data was lost.

**Solution to the Problem**

To prevent simultaneous access of your files, add the line C:\DOS\SHARE.EXE to your AUTOEXEC.BAT file. Then, whenever you either accidentally or on purpose try to open the same file that is already in use by some other application, Windows will display a dialogue box either when you try to open the file or try to save it, depending on the application.

**Comments**

Some applications will allow you to start more than one instance of the application without SHARE being loaded, such as Write and Paintbrush, etc. Other applications will not allow you to start a second instance with or without SHARE being loaded, such as MS-Money. Still other applications will allow you to start the second instance, only if you have SHARE loaded, such as WINWORD 2.0. There are also programs like PEACHTREE ACCOUNTING and MS-PUBLISHER 2.0 that will not run at all unless SHARE is loaded.

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## Brain Transplant The Only Cure for 486 Fever

by Jim Birch

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**It started this summer**, when my wife replaced her 20 MHz 386 computer with a brand new 66 MHz 486. Suddenly my 25 MHz 386 began to slow down. Applications didn't seem as snappy as before. Screen redraws slowed to a crawl. I ran all sorts of diagnostics to find the problem, but the testing kept telling me that my computer was just as fast as it had always been. Finally, I began to realise the terrible truth. It wasn't my computer that was sick; it was I! I had 486 fever.

The fever subsided over the next few weeks as I reconciled myself to the fact that the tax man wasn't going to let me have a new computer for at least a year. Then came a relapse. I received the latest version of Micrografx Designer, a high-end illustration package, and it ran so slowly I again thought something was wrong. It took nearly two minutes to load, and redraws were excruciatingly slow, even though I was using a graphics accelerated video board. When I called technical support, they said that a math coprocessor would help, but that I really should get a faster computer. My 486 fever was back, worse than ever.

I flirted with a quick fix using one of the new Cyrix 486-clone processors that were pin compatible with my 386DX. All I had to do was replace the processor (for about $200) to get 486 power! But the chip was crippled: no math coprocessor, only 25 MHz speed and a software patch for the BIOS. The resulting 75% performance improvement would not be enough to cure my case of 486 fever.

The only long term cure was a complete brain transplant -- a new motherboard. I found that the SIMM memory in my computer, although not fast enough for a 66 MHz 486 processor, would work fine with a 50 MHz 486DX2. After saving a few pennies ($550 to be exact), springing for the new brain and making the transplant, tests have shown a 300% improvement in performance. Applications are snappier, loading in about one third the time and executing much faster. Screen redraws, though not as fast as a local video bus might make them, are much faster. My 486 fever has been cured!

**Have You Got the Fever ?** If you're experiencing 486 fever and seeking a cure, here are some things to consider. First, make sure your system is a good candidate for a motherboard replacement. Look at the components of your system and make sure they are up to 486 standards.

**Memory**: since virtually all modern motherboards use SIMM or SIPP memory configurations with 80ns or lower speed ratings, if you have a 286 or an older 386 system you should plan to replace memory chips along with the motherboard. If you're running Windows, plan for at least 8 MB of memory.

**Hard Drives**: even the fastest MFM or RLL drives are too slow to take full advantage of 486 power. You may be able to get by, but faster IDE or SCSI drives would be much better.

**Video System**: you should have at least a VGA (640 x 480) video performance on a 14-inch monitor. A graphics accelerator and super VGA (800 x 600) or higher is more appropriate, especially if you're running Windows.

If you have to replace more than one of these subsystems along with the new motherboard, your system is probably not a good candidate for a motherboard upgrade. It would probably be more cost effective to sell your existing computer and buy a new one than for you to upgrade the outdated components.

**Hunting for a Bargain**: If your system can be upgraded cost effectively, get a recent issue of Computer Shopper and check the ads for motherboards. You'll find dozens and dozens, but the main thing is to get a idea of prices and features. In my quest, I concentrated on vendors that specialised in motherboard replacements. My experience has been that specialists usually have a broader selection of products, better informed salespeople, and better technical support. Call one or more vendors (most have toll free numbers) and ask for a recommendation based on the equipment you have, what you want to spend, and what you want to be able to do. Most vendors will come up with several choices. Ask questions! How many expansion slots ? Will your present memory chips work ? What about cache size ? Can local bus video cards be added ? Does it have a pentium socket ? Does the motherboard have I/O or a disk controller on board or do you need to use the ones you have ? How long is the warranty ? Learn all you can; you don't want surprises after you've placed your order.

Once you have found the motherboard that is right for you, double check to make sure it has enough slots for your system and that it will fit in your case. Once you've scraped up the bucks you're ready to order. Since many vendors test the boards prior to shipment, it may take a week or two before you get it.

**Installing the Motherboard**: When you receive the motherboard, open it up and inspect it for damage. Make sure you got what you paid for. The processor type and speed is usually well marked, but you may have to read the manual to determine cache size or the location of special features. Read through the instructions completely and make sure you understand them before you do anything else. Don't be concerned (as I was) that your new motherboard is half the size of your old one and only has one third the chip count. That usually reflects advancements in design, not a short change of components.

**Before you disassemble** your computer, plan to do at least two things. First access your CMOS setup screen and copy down the information from the screen. You can do a print screen if you like, but the main thing is to know how your system is configured so that you can reconfigure it the same way later. Then back up your hard drive. Although the installation should not affect your hard drives, it's better to be sure than sorry. Now remove the case of your computer and make a list of all the expansion cards inside and their positions (I had seven cards to keep track of!). Remove each card one at a time, carefully noting where and how cables are connected. Then remove and label paired wires to your speaker, reset button, turbo switch, etc. You may have to remove your disk drives to get at everything. I found that only two screws and several plastic brackets held my old motherboard in place. It came out without a hitch. The brackets could then be easily adjusted to accommodate the new motherboard. Then it is just a matter of replacing all the connectors and reinstalling the case. Just be sure to follow the list you made earlier and to double check everything. It actually took me less than an hour to physically install the new motherboard.

When you boot the computer, you will most likely get the CMOS set-up screen. Use the configuration information you had recorded earlier to tell the new motherboard what kind of video and disk drives you have and to set the date and time. There could be some changes to the screen display if the new motherboard uses a different BIOS than your old one, but those changes should be straightforward. After saving the CMOS information, reboot. If you've done everything correctly, your case of 486 fever will be cured too!

**On the Horizon** -- Cyrix recently announced several clock doubled versions of its 486 processor, which will run at up to 50 MHz. These processors are pin compatible with 386DX processors and so should directly replace them on existing motherboards. They expect to release a version to replace the 386SX processors in the future. These are good possibilities if you don't need a math coprocessor and if the price is less than a new motherboard. I may try one in my 386SX notebook. However, for my desktop computer, I found that the motherboard installation was far easier than I had anticipated and the performance improvement was well worth the time and money spent. My case of 486 fever has subsided and I am prepared to wait out the processor wars (clock tripled 486 vs Pentium vs PowerPC) and the bus wars (ISA vs VESA vs EISA vs PCI) to see what strain of fever will strike next.

P.S. Anyone want to buy a 25 MHz 386DX motherboard ... cheap ?.

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## For Sale

Modem - Netcomm V.32bis M7F 3rd edition

Upgraded with the latest ROM chips - 95
Original documentation, cables, cartons, etc.
In immaculate condition - only $210-00

Call Ben Rubensson on (02) 587-4085
or see me at SYDTRUG meetings

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## For Sale

Kevin Formby -- SYDTRUG (Phone 987-4496)

1) IBM clone model XT. Mono screen. No keyboard.

2) Tower case with power supply.

3) TRS-80 DMP-420 Printer.

First reasonable offer accepted for any or all of the above items.

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## Worth Repeating

If I do not believe as you believe, it proves that you do not believe as I believe, and this is **all** that it proves. -- Thomas Paine

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# SYDTRUG INCORPORATED

## Nomination for Committee Membership

The Secretary
Sydtrug Inc.
PO Box 75
PANANIA NSW 2213

We, ..... Membership No. .....
(full name in block letters)

and ..... Membership No. .....
(full name in block letters)

Nominate .....
(full name in block letters)

for the office of ..... at the election of the committee to be held at the Annual General Meeting of SYDTRUG Inc. to be held on 9th September, 1995 or at any adjournment thereof.

..... .....
(signature) (signature)

## Acceptance of Nomination

I, ..... Membership No. .....
(full name in block letters)

accept the above nomination as .....

.....
(signature)

To be valid this nomination form must be received by the Secretary, on or before 8th July, 1995.