

COMMODORE

VOL 5 NO 6

M A G A Z I N E

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N.Z. \$5.20

(Recommended Retail Price)

Issue 34

WIN A 128 COMPUTER & DISKDRIVE

ADVENTURE GAMING

TECHNIQUES - HINTS
AND REVIEWS



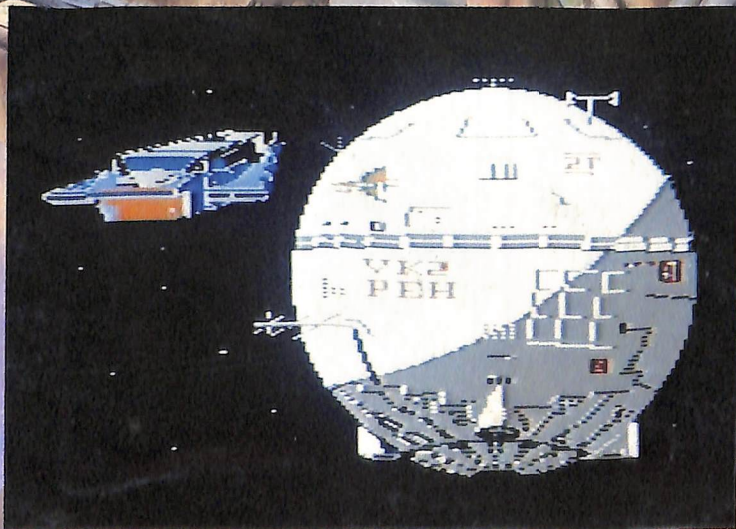
TURBO ROM vs EPYX
A Face to Face Comparison

CONSTRUCTION PROJECT
Reset Switch With A Difference

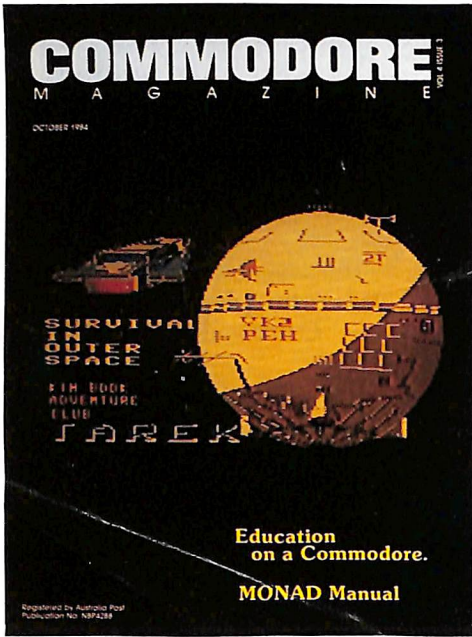
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• News & Views
• The Nice Modem

BEGINNERS CORNER
Manipulating Memory

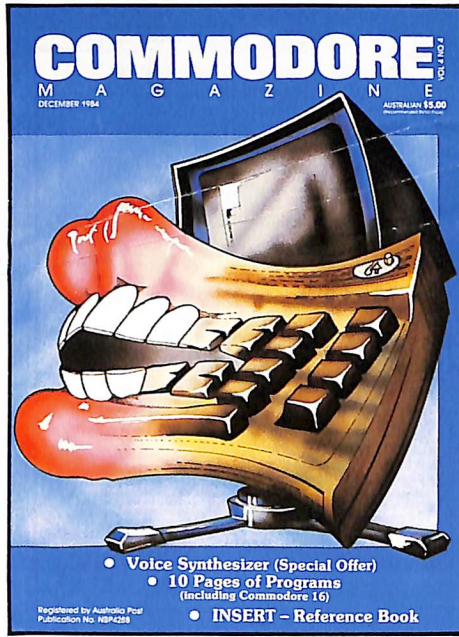
VK2 PEH - Graphics Generator



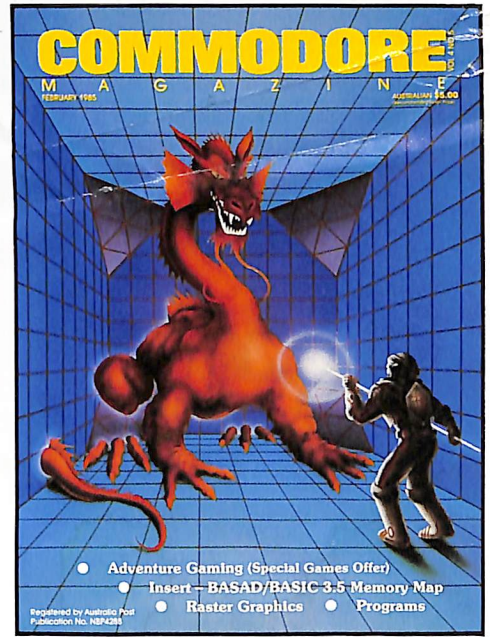
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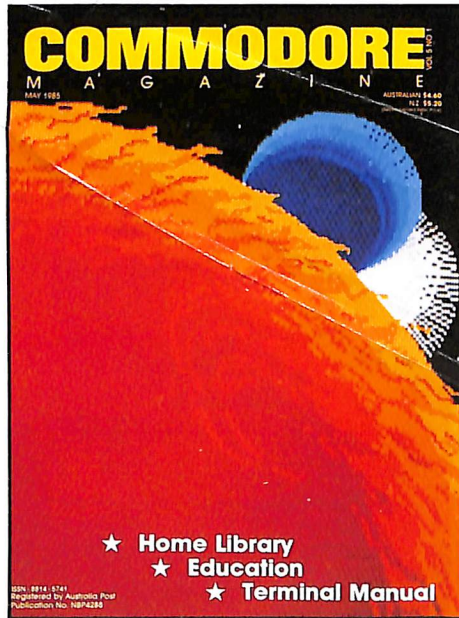
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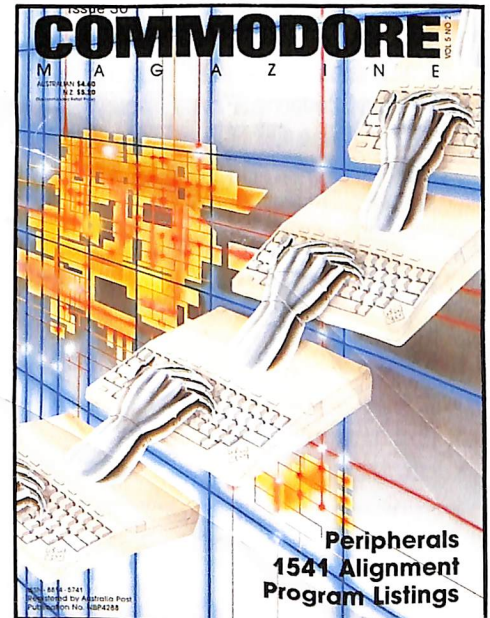
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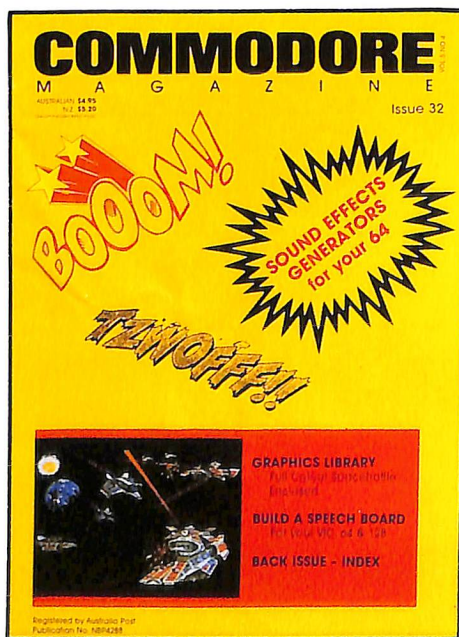
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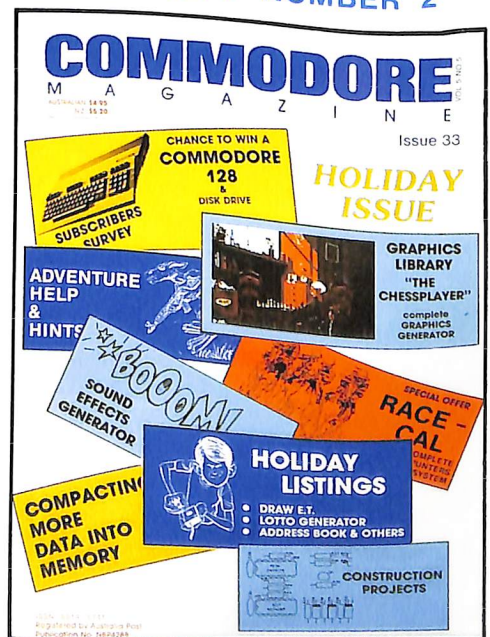
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VOLUME 5 NUMBER 3



VOLUME 5 NUMBER 4



VOLUME 5 NUMBER 5

REFER BACK ISSUE ORDER FORM INSIDE

COMMODORE

M A G A Z I N E

Commodore Magazine is published 6 issue per volume currently 10/12 issues a year (this may alter without notice.) Produced by Mervyn Beamish Graphics Pty Ltd through its division Kim Books. The cost of a one volume subscription (6 issues including p&p) is \$A30 within Australia, \$NZ36 within New Zealand and \$A38 elsewhere. Overseas airmail (including New Zealand) \$A8 extra. Subscriptions are available from the Publisher and individual copies from News Agents, dealers and other retail outlets.

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COMMODORE USERS MAGAZINE

CONTENTS

PAGE

Editorial	2
3Helpout	4
News & Views	5
User Group Column	9
SPECIAL:	
The Mysterious World of Adventure Games	10
Europe Ablaze: Review	16
Subscriber Survey Part 2	
Your 2nd chance to win a Commodore 128	20
Graphics Library Number 5: VK2 PEH	26
Sound Effects for the Commodore 64	30
PROJECT:	
Reset Switch for C64	32
COMPARISON:	
Epyx Fastload vs Cockroach Turbo Rom	34
User Groups: The Who, Where and Why	35
STRING INPUTTING:	
Machine Language Routine	36
FLEXIBLE ALTERNATIVE:	
The Silver Reed EB50	37
Nice Modem: Review	38
Snippets	40
BEGINNERS CORNER:	
Keywords and Prompts	42
Letters	43
Definitions & High Scores	44

ADVERTISERS

PAGE

Benson Computers	IBC
Cockroach Software	40
Commodore Business Machines	18,19,BC
Cornerstone Software	21,22,24
Infocom Pty Ltd	35
Information Solutions	7
Kim Books	13,41
Meyertronix	41
Magraths - Division of RIFA	3
Maxwell Office Supplies	17
Software To Go	25
Warburton Franki	27
The Missing Tiger	39
The Happy Hacker	41

EDITORIAL

M E R V Y N B E A M I S H



Mervyn Beamish

NEXT ISSUE

- ★ LISTINGS - Our filing system is bulging with interesting listings from utilities to games.
- ★ 1541/SKAI Comparison
- ★ Adventures in Computer Gaming continue.
- ★ Last Chance at winning the 128 computer & diskdrive
- ★ A look at Program Techniques
- ★ Commodore Doctor, Snippets, Beginner's Corner and other regular columns.

**MEET OUR
NEW ADVENTURE
WIZZ KID!**

and much more....

Well to answer the question of last issue – yes we did get the magazine printed and some distributed before Christmas. Unfortunately not all subscribers copies were sent out. Some got caught up in the silly season.

The 128 is out and around. There seem to be quite a number of you who are willing to dive in and snap them up as soon as they become available. However, I wonder if Commodore's past record might be catching up with them. I'm running into an uncommonly high number of users who are holding off purchase '...until the price comes down.' The marketing approach by Commodore, based on their VIC 20 and C64 machines, does seem to be 'price-em high to start with and reduce substantially after the initial rush.'

Who could imagine paying \$699 for a plain C64 now. Even the C64 Family Pack with all its additional goodies is generally discounted – as low as \$399 at some outlets.

Some of the larger Commodore dealers are not waiting – they have already discounted the C128 below the \$600 mark. But wait! Is there a challenge afoot. Seen in a pre-Christmas catalogue was another machine, Amstrad I believe, 64K plus colour monitor and datacassette for \$499! Imagine the rush if you could get a C128 or even a C64 with a colour monitor for that price. Then Commodore would really be cooking – and possibly broke – but it isn't all that silly if you think about it. I think the days of 'plug it into your TV' are passing. Most purchasers now realise that they are going to need an additional TV or monitor.

Regarding our survey. **Please** complete the three sheets (issues 33, 34, 35) feedback from **you**, the reader, is vital in keeping this magazine up-to-date and worthwhile. If you go in the competition you may become the proud owner of a new C128 (and diskdrive).

Thanks for your support.

Mervyn Beamish
Editor

NEW APPOINTMENT AT COMMODORE

TONY SERRA is Commodore's new Australian Managing Director. Tony has been with Commodore for some time as Marketing Manager. Nigel Sheppard, who vacated the position has been promoted to a higher position within the world-wide corporate structure. Rumour has it he has bought a Scottish Castle near Loch Ness.....

Also
Suitable for
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If you want to enter any of our programs without HELPOUT, omit the checksum at each line.

HELPOUT

HELPOUT is a program checker that makes it easier to correctly enter C64 programs from the Commodore Magazine. Once HELPOUT is loaded enable it with `SYS49152`, type `TEST <CR>`.

A typical line would be:

6045 NEXT GOSUB 6300 CFSI

You type ALL of it, remembering to use a single quote ('), not "talking marks". You may use shorthand typing (GO then SHIFT and S for GOSUB, for example), and put in or omit spaces as you like (except, of course, inside quotes).

If you do it wrong, one of six error messages will appear, and a fog-horn will blow.

NO CHECKSUM: You probably forgot the apostrophe, or some or all of the four character checksum. Cursor to the end of the line, enter the checksum as shown, and press Return.

QUOTE: HELPOUT checks to ensure that quotes come in pairs. Either you left one out, or got a bit carried away and added one of your own.

PARENTHESES: This is like QUOTE, except that HELPOUT looks for pairs of (and) .

KEYWORD: You may have misspelled a Basic keyword (GOSLOB instead of GOSUB) or simply left one out. Recheck the line.

#OF CHARACTERS: Ignoring spaces outside quotes, you have typed too many or too few characters. This could even be a typo in a keyword, so check the line carefully.

UNIDENTIFIED: The cowards way out. The line is not right, but the error could be any of a number of things- wrong line number, wrong checksum, or you just mussed it up. Read the line carefully to find the error.

If you do get an error, the line WILL NOT be entered into your program. You will have to take some action to correct it before that can happen. To clear the error message, press any key (the line underneath the error message will not be affected if you use, say, the space bar), then get to work to fix the problem.

Then the line is OK, HELPOUT strips off the checksum, then enters the line into your program. There is no program space overhead from using HELPOUT.

We like HELPOUT. It comes from Mark Robin, and is the program that Commodore uses in its homegrown magazines. With a pedigree like that, and with the very considerable help it gives, we know it will make your programming more enjoyable.

If you want to add checksums to a program of your own, say for this magazine or a User Group publication, load HELPOUT and get it all going. But this time, enter `ADD <CR>` instead of `TEST`.

If your program is already written, load it and LIST it to the screen. Using the cursor keys, put the cursor on each line in turn and press Return. You will get a chirp of sound at each line, but nothing will appear on the screen until you type LIST again.

ADD will include checksums if you are writing new lines. Nothing could be more simple!!

Lastly, you may turn HELPOUT off to suit yourself. Type `KILL <CR>`, and HELPOUT is disconnected. If you want it again, type `SYS49152 <CR>` and away you go.

```

1000 REM: HELPOUT '64
1010 REM:
1020 REM: COMMODORE MAGAZINE
1030 REM:
1040 SA=49152:FA=50052
1050 FORI=SATOFA:READA:S=S+A:POKEI:A:NEXT
1060 IFS<>103233THENPRINT"->ERROR. CHECK AGAIN!" :END
1070 PRINT"OK":NEW
1080 DATA 76, 35,192, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 13
1090 DATA 0, 88,193, 94,193,102,193,118,193,131,193,143,193,234,234,234
1100 DATA 76,131,192,162, 5,189, 29,192,149,115,202, 16,248, 96,160, 2
1110 DATA 185, 0, 2,217, 60,193,208, 11,136, 16,245,169, 1,141, 16,192
1120 DATA 76, 31,193, 96,160, 3,185, 0, 2,217, 56,193,208,224,136, 16
1130 DATA 245,169, 0,141, 16,192, 76, 31,193, 96,160, 3,185, 0, 2,217
1140 DATA 52,193,208,224,136, 16,245,160, 5,185,162,227,153,115, 0,136
1150 DATA 16,247,169, 0,141, 24,212, 76, 31,193,230,122,208, 2,230,123
1160 DATA 76,121, 0,165,157,240,243,165,122,201,255,208,237,165,123,201
1170 DATA 1,208,231, 32, 90,192,173, 0, 2, 32,163,192,144,220,160, 0
1180 DATA 76,234,193,201, 48, 48, 6,201, 58, 16, 2, 56, 96, 24, 96,200
1190 DATA 177,122,201, 32,208, 3,200,208,247,177,122, 96, 24,200,177,122
1200 DATA 240, 53,201, 34,240,245,109, 5,192,141, 5,192,173, 6, 192,105
1210 DATA 0,141, 6,192, 76,189,192, 24,109, 7,192,141, 7,192,144, 3
1220 DATA 238, 8,192,238, 11,192, 96, 24,109, 10,192,141, 10,192,144, 3
1230 DATA 238, 9,192,238, 12,192, 96, 10,168,185, 17,192,133,251,185, 18
1240 DATA 192,133,252,160, 0,169, 18, 32,210,255,177,251,240, 6, 32,210
1250 DATA 255,200,208,246, 32, 84,195, 32,126,195, 32,228,255,240,251,160
1260 DATA 27,185, 63,193, 32,210,255,136, 16,247,104,104,169, 0,141, 0
1270 DATA 2, 76,116,164, 75, 73, 76, 76, 64, 69, 83, 84, 65, 68, 68,145
1280 DATA 145, 13, 32, 32, 32, 32, 32, 32, 32, 32, 32, 32, 32, 32, 32, 32
1290 DATA 32, 32, 32, 32, 32, 32,145, 13, 81, 85, 79, 84, 69, 0, 75, 69
1300 DATA 89, 87, 79, 82, 68, 0, 35, 32, 79, 70, 32, 67, 72, 65, 82, 65
1310 DATA 67, 84, 69, 82, 83, 0, 85, 78, 73, 68, 69, 78, 84, 73, 70, 73
1320 DATA 69, 68, 0, 78, 79, 32, 67, 72, 69, 67, 75, 83, 85, 77, 0, 80
1330 DATA 65, 82, 69, 78, 84, 72, 69, 83, 73, 83, 0,200,177,122,208,251
1340 DATA 132,253,192, 9, 16, 3, 76,199,193,136,136,136,136,177,122
1350 DATA 201, 39,208, 19,169, 0,145,122,200,162, 0,177,122,157, 60, 3
1360 DATA 200,232,224, 4,208,245, 96, 76,242,194,160, 0,185, 0, 2,153
1370 DATA 64, 3,240,242,200,208,245,160, 0,185, 64, 3,240,232,153, 0
1380 DATA 2,200,208,245, 32,215,193, 76, 86,194,160, 11,169, 0,153, 3
1390 DATA 192,141, 60, 3,136, 16,247,169,128,133, 2, 32, 27,195,160, 0
1400 DATA 32,155,193, 32,202,193, 32, 49,194,230,122,230,123, 32,124,165
1410 DATA 160, 0, 32,175,192,240,205, 36, 2,240, 6, 32,215,192, 76, 18
1420 DATA 194,201, 34,208, 6, 32,188,192, 76, 18,194, 32,231,192, 76, 18
1430 DATA 194,160, 0,185, 0, 2, 32,163,192,200,144, 10, 24,109, 9,192
1440 DATA 141, 9,192, 76, 51,194,136,162, 0,185, 0, 2,157, 0, 2,240
1450 DATA 4,232,200,208,244, 96, 24,173, 11,192,105, 65,141, 11,192, 56
1460 DATA 173, 12,192,233, 25,144, 6,141, 12,192, 76, 96,194,173, 12,192
1470 DATA 105, 65,141, 12,192,173, 5,192,109, 7,192, 72,173, 6,192,109
1480 DATA 8,192,141, 14,192,104,109, 10,192,141, 13,192,173, 14,192,109
1490 DATA 9,192,141, 14,192, 56,233, 25,144, 6,141, 14,192, 76,150,194
1500 DATA 173, 14,192,105, 65,141, 14,192,173, 13,192,233, 25,144, 6,141
1510 DATA 13,192, 76,171,194,173, 13,192,105, 65,141, 13,192,160, 1,173
1520 DATA 11,192,205, 60, 3,208, 32,200,173, 12,192,205, 61, 3,208, 23
1530 DATA 200,173, 13,192,205, 62, 3,208, 14,173, 14,192,205, 63, 3,208
1540 DATA 6, 32,100,195, 76,122,192,173, 16,192,208, 17,152, 72,104, 76
1550 DATA 247,192,173, 16,192,240, 1, 96,169, 4, 76,247,192,164,253,169
1560 DATA 39,145,122,162, 0,200,189, 11,192,145,122,200,232,224, 4,208
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1590 DATA 200,208,234,173, 3,192,205, 4,192,208, 1, 96,169, 5, 76,247
1600 DATA 192,169, 32,141, 0,212,141, 1,212,169, 9,141, 5,212,169, 15
1610 DATA 141, 24,212, 96, 32, 65,195,169,129, 32,119,195,169,128, 32,119
1620 DATA 195, 76,113,195, 32, 65,195,169, 17, 32,119,195,169, 16, 32,119
1630 DATA 195,169, 0,141, 4,212, 96,141, 4,212,162,112,160, 0,136,208
1640 DATA 253,202,208,250, 96

```

NICE LISTER CONVENTIONS

- All control, colour, function, and shifted and Commodore key graphics are converted to 'words' (or the abbreviations as represented on the keyboard) enclosed in square brackets []. For example, [DOWN], [CLR] and so on.
- Multiple cursor controls are represented by one word plus a number. For example, [DOWN 15].
- Shifted graphics (right-hand symbol on key) are converted to the corresponding alphabet character enclosed in square brackets. A shifted 'S' heart character becomes [S].

- Any character accessed by the Commodore (C=) key is indicated by further enclosing the alphabet character inside the symbols <>. A Commodore 'A' becomes [<A>].
- With multiple characters, the redundant brackets [] are replaced by a comma as: [CLR,DOWN5,WHT,<A>]
- With multiple shifted graphics, the alphabet character is simply repeated, numbers are not used as [AAAAAAAAA].
- Multiple Commodore graphics are repeated as [<A>, <A>, <A>, <A>].
- Spaces and shifted spaces within quotes are represented by the words [SPACE] or [SHSPACE] followed by a number if required. For example, [SPACE 15].

9. Extra words are used for the following control characters.

Keyword	CHRS	
DEL (CTRL-T)	20	
INS	148	
TEXT (CTRL-N)	14	converts character set to upper/lowercase mode.
GRAPH	142	converts character set to uppercase/graphics mode.
LOCK (CTRL-H)	8	disables the C = key and locks the keyboard in the current character mode.
UNLOCK (CTRL-I)	9	enables the C = key sequence.

NEWS & VIEWS

TOPAZ Micro UPS

Data loss, equipment malfunction or permanent hardware damage to computers due to power failure can now be avoided economically with a new range of uninterruptible power supplies from Topaz.

The Topaz micro UPS range is designed to suit personal computers, mini-computers and other power dependant equipment such as PABX telephone systems.

In the event of power blackout or brownout, the Topaz micro UPS provides battery-backed AC sine-wave power for up to 35 minutes at full load. This enables continuous operation through the majority of power interruptions and allows adequate time for orderly shutdown of equipment during longer power failures.

Power ratings of up to 1KVA are available.

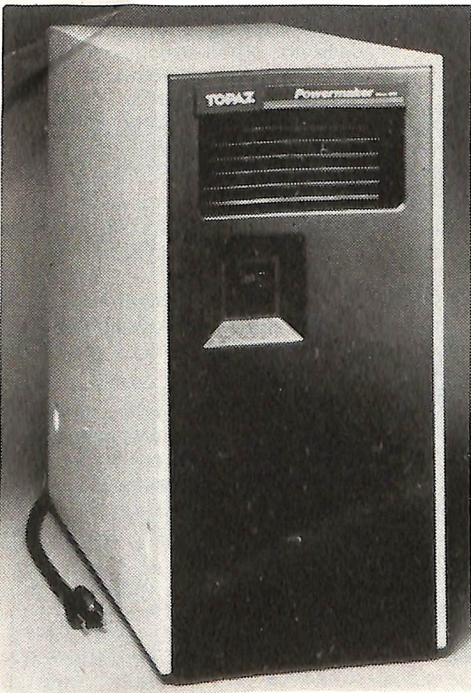
The units are attractively styled to complement the modern office, and are fitted with standard Australian GPO plug and sockets.

The Topaz micro UPS also provides suppression of electrical line noise during times of normal power supply, thus further protecting the connected electronic equipment.

The micro UPS is part of the Topaz family of power line conditioning equipment.

Distributed by:

Online Control Pty Ltd
Artarmon N.S.W.
Tel: (02) 43 1313



Pictured Left
Topaz Micro UPS

PERTH ELECTRONICS SHOW - A Proven Success

The 1985 Perth Electronics Show, held in early August, was a proven success and remains unchallenged as the largest and most important consumer electronics and home-ware exhibition in Australia.

Organization is already underway for the 1986 Perth Electronics Show which will be held again at the Claremont Showgrounds from July 31 to August 3 this year, with an exclusive trade only day on July 30.

Already the Show organisers predict that exhibition space will be 20 per cent up on 1985 and say there has been considerable interest from potential new exhibitors.

"The success of the 1985 Perth Electronics Show has prompted numerous enquiries," says Chris Gulland, who has been Show Manager for the past six years.

According to Gulland, the 1985 exhibition was the most successful Perth Electronics Show on record.

"A total of 220 major companies were represented on 93 stands in a show area of 12,000 sqm. Visitors to the Show topped 85,000," he said.

"Our statistics indicate that some 60 per cent of visitors surveyed intended to buy something as a result of the Show, and nearly 33 per cent said they would buy within 6 weeks," said Gulland.

A number of successful innovations were introduced this year which will continue in 1986.

The exhibition broadened its scope to include whitegoods and home-ware exhibitors; a full show day was set aside for trade only visitors and included product knowledge and marketing seminars; and reduced airfare and accommodation packages for interstate and overseas visitors were launched.

"The 1986 Perth Electronic Show will not only be bigger and more comprehensive, the trade sessions will become an important event on the industry calendar," said Gulland.

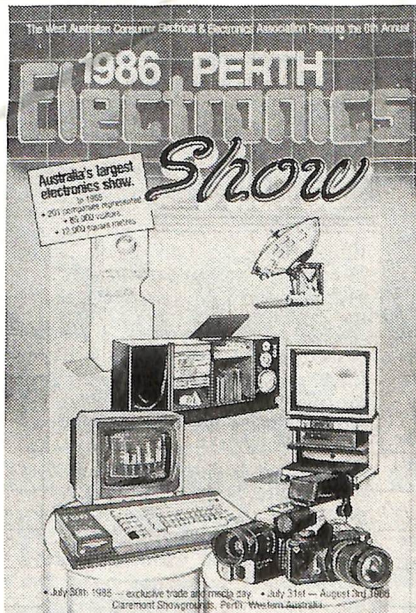
"We plan a full day again for trade and media only and seminars will cover a much wider range of topics."

The Perth Electronics show is now an exciting success story. According to Gulland, it is an important venue for new product launches.

Manufacturers fly in state-of-the-art equipment from around the world for show previews. The event attracts countless senior business visitors from overseas and interstate, retailers from across Australia, national media and key Australasian representatives from the manufacturing industry.

A comprehensive brochure on the 1986 Perth Electronics Show is now available including exhibitor information, floor plans and Show events.

Perth Electronics Show, Chris Gulland Tel: (09) 382 3122



WORD PROCESSOR FOR THE COMMODORE 64

Tasman Software, producers of the industry standard word processors (Taswords) for Amstrad and Sinclair Spectrum computers, have released a word processor for the Commodore 64, Tasword 64.

Tasword 64 provides the features that have made other Taswords such a success, including:

- 80 characters per line on the screen.
- "What you see on the screen is what you get on the printout".
- Automatic word wrap and right justification.

VIATEL PACKAGES FOR COMMODORE 64

Information Solutions has been appointed by Microtex 666 as sole distributor of their popular Commodore 64 Viatel package, and is in the process of extending the range of products available to include Apple II and IBM PC Compatible micros. Microtex 666 is the only Service Provider on Viatel dedicated entirely to micro computer enthusiasts.

Information Solutions has been established by Scott Sanderson and David Hogg as a consultancy company specialising in Videotex and communications. They are the first specialist videotex communications company to have set up office accommodation in Melbourne.

Scott, one of the pioneers of videotex in Australia, explained: "My close involvement in establishing the Microtex 666 Viatel Package made Information Solutions an obvious choice for the production and marketing of the Commodore 64 package and the development of packages for the IBM PC compatible and Apple II personal computers."

David continued: "For the customer, the most important consideration is that all the packages are guaranteed to support the full Viatel graphics characters and to download software from the vast library of quality programs on Microtex 666.

One of the benefits of having our own offices in Fitzroy is that we can provide a demonstration of the package to prospective customers, and over-the-counter sales service in addition to the well established mail or

- Block move and copy; insert mode; margin setting.
- Reform paragraphs; scroll and fast scroll up and down; find a word; global find and replace.
- Two help pages.
- Tutor program for the first time word processor user.

- A professional standard word processor at a very competitive price - rrp cassette \$55.90, rrp disk \$65.90.

Tasman Software is distributed in Australia by Dolphin Computers Pty Ltd.

Further information telephone Arna Gillot, Dolphin Computers on (02) 438 4933.

NEWS & VIEWS



telephone ordering system. Additionally, we are now staffed to provide a free after-sales advisory service if people have any problems with connecting their micro to Viatel."

The Commodore, Apple and IBM packages provide everything you need to access Viatel: A 1200/75 bps modem which also has a 300 bps full duplex capability for communication with other computers or bulletin boards, push button telephone with a last number redial capability, software on disk (or a choice of disk or tape for the Commodore 64) to provide the videotex display and functionality in the micro, a fully paid 12 month membership subscription to Microtex 666 opening up a whole new world of telesoftware and information of microcomputing interest, and a Viatel registration form.

The packages have been developed and manufactured in Australia specifically for use on Viatel. Information Solutions has combined the videotex and communication skills necessary to ensure that these packages provide the best videotex performance for you micro.

The package for the Commodore 64 retails for \$399 and is available in a disk version to suit 1541, Skai, MSD or 4040 disk drives, or on cassette tape.

For more information, contact David Hogg or Scott Sanderson at: *Information Solutions, 31 Victoria Street, P.O. Box 174 FITZROY 3065 Tel: (03) 419 0300*

LONGMAN TRADE BOOKS

From 1st January 1986 Pitman Publishing Pty Ltd will take over from Penguin responsibility for marketing Longman trade titles (including reference and childrens' books) and the York Notes series. However, distribution will remain with Penguin to whom all orders should continue to be sent.

Pitman representatives, who already carry ABC and BBC titles, Watson Guptill books and Australia's largest range of computer titles, are enthusiastic about promoting this addition to the Pitman trade list.

All enquiries should be directed to your Pitman representative or to Clive Power, National Sales Manager, Tel: (03) 699 5400, Clare Ferguson, General manager NSW, Tel: (02) 267 1066 or Kerry Byrnes, Manager in Qld, Tel: (07) 229 5700.

RITEMAN C+

Commodore-Compatible Dot Matrix Printer from Riteman

Supplied complete with a built-in Commodore interface and necessary cable and connectors, the new Riteman C+ dot matrix printer from Anitech is claimed to completely match those Commodore features of convenience, versatility and economy. Operating at a print speed of 105 c.p.s., the C+ is able to print all 82 Commodore graphics characters as well as the standard 96 character ASCII set with true descenders.

In addition it can print white characters on black field and has four international character sets.

Unique to the Riteman C+ and its sister model the F+, is a front-loading design, an easier and more versatile system than most. Not just because it keeps continuous-feed paper away from entangling cables and connectors or that it eliminates positioning and aligning problems. This s revolutionary design allows plain paper of any thickness to be used, even card stock, as it does not bend the

paper down and around like other printers. Raised up off the table by its built-in stand, the Riteman C+ allows continuous-feed paper to be stacked right under it, thus saving table space.

Retailing at only \$599.00, the Riteman C+ is not only a natural for all Commodore users but for many more besides due to its additional built-in Epson-compatible software.

For more information, contact your nearest Riteman dealer or local Anitech office.

Anitech Head Office
1-5 Carter Street,
LIDCOMBE, NSW 2141
Tel: (02) 648 1711

COMMODORE SLASHES VIATEL PRICE BARRIER

Commodore has released a new Viatel Pack which will give users one of the cheapest forms of access to Telecom's Viatel service.

The new pack is based on the popular Commodore 64 computer and contains a C64 and keyboard, a Viatel adaptor, which plugs directly into a standard telephone socket, and full details of the service.

Existing Commodore 64 and 128 users can buy the Commodore Viatel adaptor separately to convert their own computers.

The adaptor, unlike most on the market, allows you to connect the computer through the cartridge port to the standard telephone system without the need of additional cable and software.

The Viatel service is accessed quite simply by keying in a series of security numbers.

Viatel subscribers are given individual identification numbers to eliminate unauthorised access to

the system.

Viatel information is coloured for easy understanding and can be viewed on a computer terminal or UHF TV set.

A list of topics is then displayed on the screen and the user keys the appropriate number to view the relevant page or pages.

The system gives prompts and cues to aid users and is simple for even the novice to master. Subscribers are charged on a usage basis plus a monthly rental, \$12.50 for business users and \$2.50 for residential users.

Viatel offers tens of thousands of pages of information under many hundreds of subject headings.

Major topic headings include: business and finance; micro-computing; teleservices, mailbox and telex; travel, tourism and transport; magazine and a Viatel index.

Business users in particular can access a wide range of information including stock market news and prices; company data; specialist business news; financial services; events, conferences and trade fairs; interest rates; business travel; office services; industrial relations; and a wealth of management topics.

The system is bidirectional which allows users to act on information contained in the system e.g. make airline bookings and reservations, carry out banking transactions, do electronic shopping and so on.

Information in the system is constantly updated and is prepared by a team of specialists to ensure accuracy.

Information is provided by many leading organisations including the Commonwealth Bank, American Express, ANZ Bank, Westpac, Confederation of Western Australian Industry, ACTU, National Australia Bank and the Victorian Employers Federation.

The Commodore 64 Viatel Pack retails for \$649 and the Viatel adaptor for \$299.

For further information please contact Kate Inman (02) 331 2061

STARDOS

STARDOS from Starpoint Software (USA) has now arrived at Benson Computers. Benson have had hundreds of enquiries for STARDOS over the last couple of months and are very relieved to have finally received stocks.

STARDOS is promoted by the creators, Starpoint Software (who also make DISECTOR and ISEPIC), as the 'Ultimate Commodore 64 Enhancement System'. This is

CONTINUED ON PAGE 8



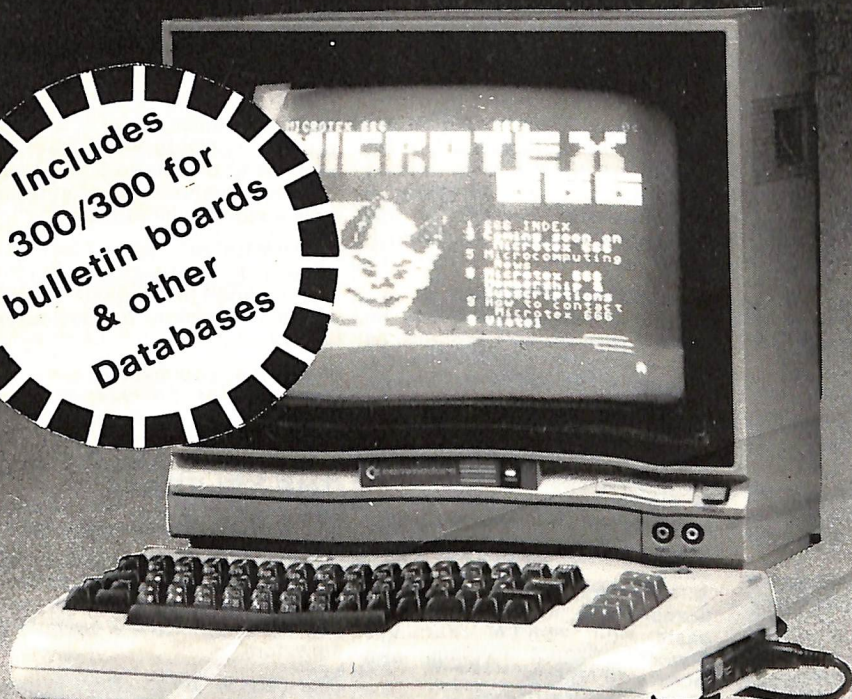
The Commodore Viatel Pack lets you access cheaply and quickly thousands of pages of Viatel information.

Telecom

VIATEL®

For your Commodore 64

Includes
300/300 for
bulletin boards
& other
Databases



Available from **Information Solutions** – sole distributor for Microtex 666 Viatel packages.

- Please send me the Microtex 666 Viatel package for the
- Commodore 64 with 1541 Disk Drive \$399.00
- Commodore 64 with Skai Disk Drive \$399.00
- Commodore 64 with MSD Disk Drive \$399.00
- Commodore 64 with 4040 Disk Drive \$399.00
- Commodore 64 with Tape \$399.00

Prices include tax. Packing and shipping incl.

- Enclosed is my cheque or money order, made payable to Information Solutions for \$.....
- Please debit my credit card.

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Signature
All major credit cards and banks card accepted

Name

Address

Postcode

Please send this Order Form with your remittance to:
**Information Solutions, 31 Victoria Street, P.O. Box 174,
Fitzroy, Victoria 3065.**

The MICROTEX 666 Videotex Package

Expand the horizons of your micro. These packages provide all you need to access Viatel and Microtex 666.

By now you've all heard about Viatel – the exciting new way to do everything from your own banking and shopping to software purchases and electronic mail, plus a vast store of information from share prices to airline timetables. And here's how to gain access via your own micro.

The Microtex 666 package provides:

* **MODEM.** Reliable, error-free communication with top quality modem. Videotex access at 1200 75 and 300 300 for bulletin boards and other data bases. Complete with push button handset (use as second phone).

* **VIDEOTEX COMMUNICATIONS SOFTWARE.** In order to decode the Viatel transmissions and display graphics. This software turns your micro into a powerful Viatel terminal and permits storage of screens on disc for later reference, hardcopy printing and easy auto log-on of Viatel identity.

* **AUSTRALIAN MANUFACTURED.** All components designed and manufactured in Australia for compatibility with Viatel.



* **FULL INSTRUCTION BOOKLET.** As easy as making a phone call. Comprehensive manual and simple on-screen instructions allow easy Viatel access.

Viatel is a registered trademark of Telecom Australia.
Commodore 64 is a registered trademark of Commodore Business Machines Inc.

* **TELESOFTWARE DOWNLOAD.** A vast software library only a phone call away. Download programs from Microtex 666 when you need them and store permanently. Telesoftware download facility guaranteed compatible with Microtex 666 and conforms to Telecom's Viatel Telesoftware specifications.

* **MICROTEX 666 SUBSCRIPTION.** Nothing more to pay... your package includes a year's subscription, normally priced at \$49.95. Microtex 666 – the Service Provider on Viatel dedicated entirely to micro enthusiasts. Choose from hundreds of programs from the Telesoftware library.

* **Disc or Tape Software** * **Modem connects directly to user port** * **Text print facility**
* **User defined command keys** * **Access to Club 64 – \$100 of Free software.**

Save time. Phone instead.
To order or for more information simply phone
Information Solutions (03) 419 0300.
Dealer enquiries welcomed

NEWS & VIEWS

CONTINUED FROM PAGE 6

possibly true when one looks at the list of features provided by STARDOS. STARDOS comes in the form of a Cartridge plus rom, and can be fitted easily in about 5 minutes.

STARDOS features:

- The world's fastest Commodore disk drive; 6 to 10 times faster disk access for ALL types of files, during both reading and writing, and also for various commands/functions such as NEW, VALIDATE, SCRATCH, etc..

- Rectifies the disk drive 'head knock' problems and corrects the "@0:" bug.

- Faster disk access reduces wear and tear, misalignment & overheating problems, and extends drive life.

- On board 'DOS Wedge', file copier and disk copier, and many one-key functions.

- Full Word Processor plus machine language monitor, sector editor, and screen dump utilities also included.

- Will work with practically ALL associated hardware/software for the Commodore 64. If required the STARDOS features can be disabled with a single command, which then returns the system to 100% original Commodore ROMS.

Startpoint claim that STARDOS gives the Commodore 64 the power and convenience of 'professional' systems costing several times the price.

For further information contact: Benson Computers Pty. Ltd. (03) 534 0994

SKAI MULTI-KERNAL for COMMODORE 64

What could you expect from having not just one Kernal in your Commodore 64, but FOUR Kernals? Well, you get a lot of features not usually found within the Commodore 64.

MULTI-KERNAL is an Australian developed product which actually contains four Kernals on one 256K chip. This chip replaces the current Rom in the C-64 and the four Kernals are accessed by simple switch selection. The Kernal is the program in ROM that does the house-keeping for the computer, and if special routines are placed in the Kernal they can be called upon to do custom tasks

The four Kernals are:

1. STANDARD KERNAL

- The Kernal that is already in your computer, used to maintain 100% compatibility with all software.

2. KWIK KERNAL

- Has a 25 character custom message, with custom screen

colours.

- Loads programs five times faster.

- Single key boot of a disk menu program for easy program selection.

- Single key boot of first file on the disk.

- MENU command jumps to disk menu from basic or during program execution.

- DIR command gives directory of a disk from basic or in a program.

- KILL command does a warm reset.

3. MICROMON KERNAL

- The most widely used machine code monitor/hand assembler, available at the flick of a switch.

- Can be started up during program execution; great for searching through code and cracking programs

4. FACSIMILE KERNAL

- Will copy ALL memory resident software to disk, for later examination

- Will create a 3 file list of most programs which can be copied to another disk and run at a later date.

- Every byte of RAM is recorded to disk including data under basic, vic, kernal.

Benson Computers are the Australian distributors and advise that:

- ★ Multi-Kernal is guaranteed 100% compatible with all Commodore software.

- ★ Comes complete with a detailed manual.

- ★ Can even be used with STARDOS or any other cartridge. (Doesn't use cartridge port as it is hidden inside the computer).

- ★ Cannot be detected by software.

Benson advises that Multi-Kernal was developed independently by one of the 'worlds best code crackers'. Commodore Magazine will have the opportunity to review this product shortly and will report on it in detail at that time.

For more information contact: Benson Computers Pty. Ltd. (03) 534 0994

BREAKING SOFTWARE PROTECTION

MELBOURNE - Thieves used a stolen front end loader to steal an entire Automatic Teller Machine from the ANZ Branch at Croydon.

It was early on Saturday morning and they simply drove up, smashed the device from the wall, loaded it into a stolen truck and AWAY!

They got away (so far) with approximately \$60,000 cash and a teller valued at \$45,000. Whats more the police believe that the same group have carried out two similar robberies.

So! If someone tries to flog you an

overseas C64 with a strange looking keyboard and extra storage space - BEWARE!

The things HACKERS will do to break protection.

INFORMATION EXPRESS

Information Express is a highly efficient and professional Dial-Up DATABASE for the more serious home and business computerist. The size and diversity of this DATABASE is quite astounding. It includes:

★ Investment/Finance

Instant quotes and volumes on shares, futures and options, as well as money market reports, interest rates, currency, foreign exchange plus expert commentaries

★ Commodities

Precious metals, base metals, agricultural, resource and energy.

★ News

Hundreds of daily reports giving local, national and international news.

★ Weather

Comprehensive nationwide forecasts and weather warnings, district-by-district rainfalls and worldwide reports.

★ Agricultural/Rural

Livestock market reports, cotton, grain and oilseed prices, wool market reports, gross margin analyses, trends and forecasts of world supply/demand and taxation.

They have over 100 independent sources including:

AUSTRALIA

ANZ Bank, Potter Partners, Joint Exchange Computers (JEC), Sydney Futures Exchange, Jacksons, PressCom Australia, Bureau of Agricultural Economics, National Australia Bank.

OVERSEAS

Knight-Ridder Financial, Commodity News Services, Doanes, USDAM Global Weather Services.

Economical Instant Communications.

With Information Express you can send and receive telexes from your terminal. You can communicate conveniently with any subscriber using electronic mail facility.

Key Benefits of the Service

Speed claimed by Information Express are: Direct access to information no fuss, super-fast log-on and log-off to save connect-time charges. Exclusive time-saving software allows Keyword Search and the creation of personal Codefiles.

The System is compatible with almost any personal computer, data terminal or communicating

word processor. Select the transmission speed to suit your personal requirements: 300/300 Baud, 1200/75 Baud, or 1200/1200 Baud.

Special packages available such as Share Track, to monitor and value your share investments.

Client Services staff available during business hours to answer queries - TOLL FREE. Further support is provided via regularly updated manuals and indexes plus a monthly newsletter.

COMMODORE MAGAZINE has access to Information Express and we hope to bring our readers and inside look at the system in the near future.

For further information: Toll Free (008) 33 8806 Melbourne (03) 209 2222

THE TELEDATA NETWORK

Teledata, the private enterprise public access videotex and telecommunications service, has been acquired by syndicate of Melbourne investors.

The service, which offers access to any business PC owner with a modem complete international and domestic telex and electronic mail capabilities for only \$5.00/month, is potentially a large cost saver for businesses of all sizes.

"A number of corporate executive clients use the system both here in Australia and wherever they travel in the world. They find it exceptionally "friendly" to use and the lowest cost, most timely method of keeping in touch with all their business correspondence needs," said David Frenkel, Teledata's new CEO.

Boasting a membership of over 2,500 subscribers The Teledata Network plans to rival Viatel, Telememo and Minerva as the premier public access information and communications utility. The Teledata Network currently serves a wide variety of business, education and consumer/hobby clients.

Teledata boasts many capabilities not available currently on Viatel and which the new owners plan to develop commercially in the coming months with a very significant injection of funds and new management.

Teledata provides full ASCII and Videotex services simultaneously at line speeds of 300 baud, 1200 baud and 1200/75 baud. By contrast Viatel provides only 1200/75 Videotex facilities. For business clients Teledata provides very user friendly domestic and

CONTINUED ON PAGE 40

USER GROUP COLUMN

with Lawrence Hulse

ATTENTION ALL REGISTERED CLUBS!!

Are you registered with Commodore Magazine? You receive a free subscription by sending details of club activities to the editor. Look for the user group form elsewhere in this edition, and keep us informed so we can keep others informed. (Sound familiar?)

WESTERN AUSTRALIA

From Nedlands, VIC-UPS News editor, Alana Stuart, writes, "Can anyone hear me??? Well. This just about sums up my feelings on the response for articles I am getting for the magazine." Mate, you are in good company. Most editors are requesting articles from their club members, with little success. Alan also says that the group is trying to organize demonstrations, and lectures about each two months to be held on Sunday afternoons.

VICTORIA

Commodore 64 (Abbotsford) reports that the modem night at the Yarra Valley Group was a success, that the Waverly group had a Games Night for kids. Editor Frank Martin writes, "It was hard to hear oneself with all these strange noises that these modern games make now. The Doncaster group had a night on Loge.

Frank's comment, "This is a language supposed to be aimed at children, but I didn't know it could be so easily handled. And the commands in this language leaves some of our extended Basic languages for dead."

A hearty welcome to a new group at Ballarat. Secretary Cheryl Allen writes, "The club caters for beginners and advanced users, we help beginners with programming and teach them how to debug their programs." They meet every Sunday at 9am for three hours. (That's dedication!)

The RAAF Laverton group's newsletter editor, Greg Seyfang, reminds readers, "You won't keep abreast of the group's activities nor be able to avail yourself of some great special discounts that come our way on short notice, if you don't ready your newsletter or attend the group rooms at least once a month."

AUSTRALIAN CAPITAL TERRITORY

A.C.T. Commodore User Group editor, Greg Weller, writes, "I was doing some photocopying for one of my seniors and happened to notice a poster above the machine. It read: To Err is Human, But to Foul Up, Requires a Computer."

ACT Vic-20 User's Association editor, Chris Groenhout, states, "Some people seem to think that, due to the gradual disappearance of VIC-20 hardware and software that the VIC is dead and buried. No further from the truth could they stray. Almost every day I receive a phone call from a new VIC user that is as enthusiastic about using the computer as the first day I got mine. These are the people that don't care about having great

amounts of RAM or a 40 column screen, but want the pleasure of using a computer of their own to programme, play games with, and generally enjoy."

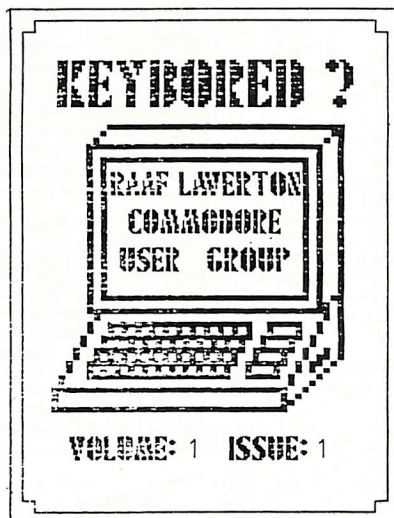
NEW SOUTH WALES

Goulburn's editor, Geoff Bassingthwaite, writes, "The month sees the club's first year of existence completed. The year has had its ups and downs with large and small meeting attendances, lots and little contribution to the newsletter yet I feel it was a very successful first year with everyone learning new skills and uses for the mighty C64."

A hearty welcome for a new group. The Eastern Suburbs Commodore User Group is based in Botany. Secretary, R. Kellaway, says the group meets every second Monday night at the State Emergency Service building at the rear of 1355 Botany St., Botany at 8pm.

The Hornsby group's newsletter, 'Linefeed', reports a software competition and a direct hook up to Viatel with a new modem developed by one of the members, Ron Koenig.

'Victim', the newsletter produced by Compu-Tech Computer Club at Newcastle Technical College, carried an editorial by Mark Hopkins about the trouble he had trying to get a friend's VIC-20 repaired. Mark states, "It strikes me as strange that so many ROMS have gone faulty in Commodore equipment. Over the last two years, I have seen half a dozen or more bite the dust, yet in my 12 years involvement with other computers I have seen very few failures of this kind... A simple



exchange basis where you trade in your old ROM on a new one for a nominal fee would be much better for public relations and future sales." He also invites a representative of Commodore to reply to his editorial.

Dear Sir,

As president of a new Commodore 64 user group I'm writing, in the hope that you can place our Computer clubs name and any extra details in your user group column.

The name of the group is ESSENDON COMMODORE 64 USER GROUP, and our first meeting is on the 1st of March at *Bus Stop Computers 1029 Mt Alexander Rd. Essendon at 12.00 noon* and all 64 users are welcome. At our first meeting we will discuss organizing a successful user group in the Essendon area. If anyone wants to know more about the group they can contact me on (03) 337 4159 or write to 8 Byron Ave East Keilor.

Thankyou
George Stathoulis

The Gosford group, Goscom's magazine 'Output' reports that at their last meeting there was a demonstration of five Commodore compatible printers; that one of its founding members, Rick Melhan, has left the club caused by a change of job to Wagga; and there is a special thanks to Maria Bokic and PCG for having donated a box of software to the club. There are also two new committee members; Scot Julian (Public Domain Library) and Jeff Campbell (Treasurer).

QUEENSLAND

The Townsville group reports that a "Viatel spectacular" was very successful and at their last meeting a 128 showed up. "It has a much better version of Basic than the C64 and will probably be a good 'hackers' machine," the newsletter reports.

NEW ZEALAND

(We don't mention cricket here!) the Christchurch group's magazine, 'Connection', states, "Commodore may worry whether 64 users will trade up to the new 128 when it finally arrives. They have good reason to worry. It is likely that 64 owners will wonder what advantages the 128 holds for them. In 64 mode, it is the same as their present machine. In 128 mode, it will need new programs, or fun five year old CPM business and utility programs, many of them inferior to the software available for the 64. Price will make a big difference. To use a 128 to its advantage, users will need both the new disk drive and an RGB colour monitor." also reported is that Otago Commodore 64 Club was formed and has affiliated with CCUG. They meet at 7.30pm on the first Tuesday of each month at Kings High School.

AND REMEMBER

As Alan Stuart of VIC-UPS News points out, "A user group is a group of people with a common interest, who meet together to exchange thoughts and knowledge on their particular hobby." So become financial, join in the activities, and send articles to the groups' newsletter.

The Mysterious World of Adventure Games

For those who wish more than a moronic joystick challenge – Dare you enter the realms of computer adventuring.

Compiled by Michael Spiteri



"In an adventure game you would be placed somewhere, usually empty handed. This 'somewhere', could be on Mars, or in a Jungle, it could even be in New York!"

What is an adventure game? Well, imagine yourself in a mysterious land, somewhere you know nothing about, somewhere where a variety of different creatures exist. You are empty handed. You know that somewhere in this place, something is going to jump on you and eat you! Probably in a real life situation like that you'd start to panic and have a hysterical attack, or you would decide to explore like some sort of hero and expect to die any second now! Wouldn't it be good if you could live in such a world, yet be free from any dangers or risks?

It is possible via an adventure game.

In an adventure game you would be placed somewhere, usually empty handed. This 'somewhere' could be on Mars, or in a Jungle, it could even be in New York! Each adventure game offers one or more main tasks to complete, such as recovering lost gold, killing a huge dragon, solving a mystery murder case etc.

To achieve such tasks you would have to solve smaller problems. For example, if you have to recover gold, you might first have to find where the gold is, then you'll need to find a weapon in case you are attacked (the weapon might be a gun – but where are the bullets?). The entrance to the gold mine might require a password – which you must also find.

All adventures have these problems, and chances are – you'll get stuck on one.

In an adventure game, each location in the adventure would be either described in text, displayed graphically or even a mixture of text and graphics. You move and direct the computer around the land using two or more word sentences. You could look at the character you play in an adventure as a robot, who will only do as you say. If you tell it to attack – it will attack. If you tell it to go north, it will go north, if an exit exists. In most cases, the robot will have a

small brain and would only understand certain words. For example, it might understand:

KILL TROLL WITH SWORD

yet it probably won't understand:

TORTURE THE TROLL SLOWLY BY CUTTING OFF HIS TOES WITH THE ACE SWORD.

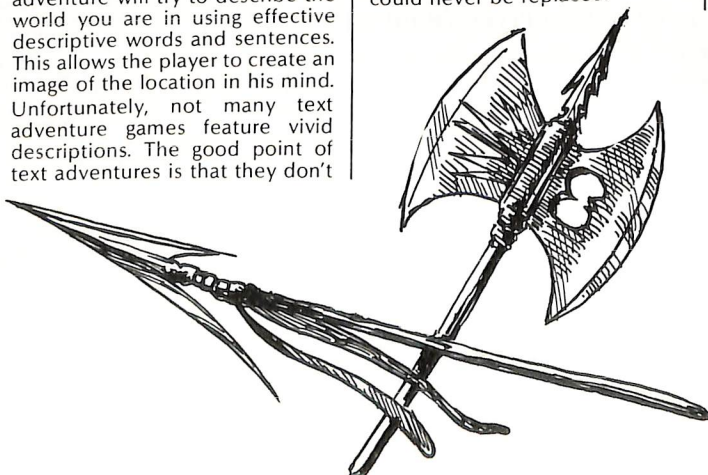
Some adventure games put the player in a fairly large world, others put you in small worlds. Don't expect the smaller worlds to be easier than the larger ones!

Adventure games are split into two categories:

1) **TEXT ADVENTURES:** A text adventure will try to describe the world you are in using effective descriptive words and sentences. This allows the player to create an image of the location in his mind. Unfortunately, not many text adventure games feature vivid descriptions. The good point of text adventures is that they don't

use too much memory setting them up, which means the adventure can be quite complex.

2) **GRAPHIC ADVENTURE:** Now slowly making text adventures scarce, graphic adventures include graphic displays of each location on the screen. The graphic drawing is usually accompanied by a brief text description. Although seeing pretty pictures livens up a game, this feature very soon wears off when you want to get down to real problem solving. Also, graphics take up lots of memory. (Companies have got around this by storing the graphics on disk, yet the speed of the 1541 disk drive really slows down gameplay. Unfortunately, many smaller companies feature crude graphics, and leave the player wondering why the programmer included graphics in the first place!) A graphic display does make a change to a screen full of words, yet I believe text adventures could never be replaced.



HISTORY

Two chaps, Crowther and Woods, were sitting quietly in front of a large, mainframe computer, trying to find some way of making a Dungeons & Dragons type game onto the machine. This was way back in the seventies, when home computers never existed.

Crowther and Woods completed writing their adventure and they named it Colossal Cave. It was a huge text adventure set in a mysterious land. I wonder if the two chaps knew what they had started when they typed the last line of their program into the computer's memory. Colossal Cave is still one of the most popular adventure games in the world, even after more than ten years since it's creation! Although it was Crowther and Woods who wrote the first adventure game, another hero revealed adventure games to the public. This was the infamous

Scott Adams. He just loved the Colossal Cave adventure game, and when the first true limited memory micro was released - the TRS80, Scott did not hesitate in programming a 'mini' Colossal into it. The result was an adventure game appropriately named 'Adventureland'. This game was reasonably large, full of puzzles and was squeezed into the then tiny TRS80. This became a classic in itself, just like Colossal Cave. The game was released in 1976/77.

As new computers appeared, Colossal Cave and Adventureland were converted. New adventure games appeared on the market, yet it wasn't until 1983 did adventures really take their place in the computer society. By 1983, Scott Adams had created a whole library of adventure games, Colossal Cave had been converted to run on almost every micro.

Two main adventure breakthroughs occurred in 1983. The first was achieved by a group of programmers led by Australian Phillip Mitchell. They had created the first real hiresolution graphic adventure, which also featured lengthy text descriptions. The game also allowed the player to enter full sentences as commands where as up until then, only two word commands were understood. This game was called 'The Hobbit', sold by a company called Melbourne House, one of the world's best selling adventure games. Originally written on a TRS80, it was then programmed on a Sinclair Spectrum, then onto a Commodore 64. The second adventure was a text adventure, so large that it had to be split up into three separate adventure games. Each adventure was disk based, each description was recovered from a floppy diskette. These adventure games featured the

longest, most effective descriptions ever incorporated onto a computer. The vocabulary was very large, and the games understood full sentences with hardly any error. The name of the adventure was ZORK, so large it was split up into three parts: ZORK I - The Underground Empire, ZORK II - The Wizard of Frobozz & ZORK III - The Dungeon Master.

Each game was set in a world underneath the ground, and was much larger than the original Colossal Cave adventure. ZORK was later labelled as the best adventure in the world. Programmed by a team of programmers, all from a new company called Infocom, ZORK became another landmark in adventure games.

Since the release of the Hobbit and Zork, adventure games took over the computer games industry.

AN INTRODUCTION TO THIS SERIES OF ARTICLES

Since the release of adventure games in the early Seventies, thousands have appeared on the market. I know for a fact that many new adventurers, as well as the experienced, have great difficulty in selecting adventures. Adventure games are not cheap, ranging from \$15 to \$100, adventurers have to fork out quite a bit!

The Commodore 64/128 and other Commodore computers have been drowned by adventure games, some are very cheap and nasty, others are of a high standard. In this series of articles there are reviews of over 40 adventure games for Commodore computers. I have reviewed games that I believe deserve a spot on the market, that doesn't mean any adventure not reviewed is not worthy, quite the contrary, adventures are appearing on the market every month, it is impossible to keep this series up to date with adventures. There are hundreds of excellent adventures available for Commodore computers, it was just that these were the games chosen for review.

Each review is split up into sections:

- The title.
- The machine the adventure is designed for.
- The manufacturer.
- The price (tape and/or disk).
- A complete outline of the adventure explaining plot, vocabulary, graphics/text, playability, packaging etc.
- Skill level required (Novice/Intermediate/Expert)
- Rating in % based on personal opinion.

Companies that specialise in just adventure games and have a complete library available on the market will have special sections. In these sections I will give an overview of the quality of this firm's software, their prices etc. and then give brief reviews of most of their adventure games.

There are also two adventure book reviews, and a special section on adventure utilities.

There is a special section giving the adventurer a guideline to playing adventures. In this section I will mention mapping etc. There is also an adventure help section offering solutions to problems faced in the many adventure games. Please have a go at solving the problem before 'cheating'.

I hope this series give you hours of enjoyment and become a suitable reference guide for your adventures.

HELP SECTION

Once you have played many of the adventures you read about in this series (and the many others), you will no doubt become stuck in a certain place. Many adventurers give up after being unable to solve a certain problem in a game. This I feel, tends to reduce the game to a lesser enjoyment level than initially intended. On the next couple of pages will be hints, solutions, tips etc. for many of the adventures in this series. Please, don't look for the solution to the problem until you really have attempted to solve it. Plus one other hint - never give up!

I have tried to make the clues as cryptic as possible, yet not too complicated to understand. Some adventures might have just one clue, while others will have a maximum of four clues. I hope some of the clues will help you out of a sticky situation.

Before you decide to cheat on your adventure games, refer to the section on Playing Hints first.

PLAYING HINTS

For those of you who would prefer to go crazy solving an adventure on your own, than to scrounge clues from people like me, this section will give you hints on actually playing an adventure game. Hopefully after reading this section, you will be able to face adventure games boldly, and go where no man has gone before!

1) EXPLORE FIRST, PLAY LATER.

When you first start playing an adventure, first explore the surrounding locations. Try to picture yourself in the land the game is set. Try to build up an atmosphere. Don't attempt to solve any of the problems - just look at them, think how you could solve them then leave. In this way you'll have a fair idea of what the game is all about, what type of problems you'll face and how hard the game is.

2) EXAMINE & LOOK TWO VERY USEFUL COMMANDS.

If an adventure game does not contain these or similar commands in it's vocabulary - don't buy it. These commands are the most important in any game and should be used wisely. If you come across an object - examine it, examine it again, examine it three times if you must! You'll be surprised with what will be revealed. This also applies to all locations. A simple LOOK might reveal more objects. Examine characters, signs, everything! If it's listed in the text description or it appears on a graphic display - examine it!

3) DON'T ALWAYS BE VIOLENT.

In games that contain different characters or creatures, don't be too ready to tear them apart. Chances are, each character has a different personality and can be quite friendly at times. Unless the character is about to attack you, use the KILL command as a last resort. In EUREKA! you'll be given a 'WELL DONE' when you kill a mouse, yet you'll soon discover it was a silly thing to do.

4) WHEN ONE COMMAND FAILS, TRY ANOTHER.

Chances are that when you play an adventure game, the command you enter will not be accepted. It is many a time I have witnessed an adventurer give up on a problem because the game does not understand his/her command. If such a thing happens to you, TRY A SIMILAR COMMAND, maybe the game will understand it. For example, if the game you're playing does not understand CUT, try SLICE, CARVE, CHOP or CLEAVE. Have a Thesaurus or a dictionary handy in case such an incident occurs. All adventure

games have their limits when it comes to vocabulary, even Infocom games, so don't expect a built-in dictionary!

5) IF HELP IS AVAILABLE, USE IT.

Almost every adventure game has some sort of help facility built in. DALLAS QUEST has a CLUE command, HITCH-HIKER'S GUIDE has FOOTNOTES and the HOBBIT has a HELP command. The latter, the HELP command, is the most common form of in-built tips. On entering HELP when you face a problem, you MIGHT be rewarded with a clue OR you will be given a 'You're doing fine' type message. Don't hesitate when using this facility, you won't be cheating because the hints were in the program in the first place.

6) BE CAUTIOUS WITH OBVIOUS SOLUTIONS.

Adventure games are designed to trap players, to lead them into sudden deaths. Think twice before attempting to solve a problem quickly - it could prove fatal. For example, imagine this sentence from a location description in a game:

'ON THE WALL IS A BRIGHT PINK BUTTON. BENEATH IT IS A LABEL THAT READS: PRESS FOR LOT'S OF GOLD!'

Many adventurers would not hesitate in pressing the button, which would probably result in the room flooding with gold coins and the player suffocating. It has happened to me many a time - take my word for it. Do you really think the programmer will make solving the game as simple as pushing a pink button? Think first, then enter your command, and pray that you're doing the right thing.

7) TAKE ADVANTAGE OF STORAGE FACILITIES.

How many times have you proceeded far into an adventure game, usually spending all afternoon playing it when suddenly a creature of some sorts bumps you off? This can be very frustrating because it means starting from scratch. There is a solution (to the problem, not the game). You will notice in my reviews of most adventure games I have stated that

The Mysterious World of Adventure Games

the game has a save/load routine. This does not mean it can be pirated easily, it means that when you play that adventure, you can store your position in the game onto tape or disk, then if you get killed all you have to do is load up that position and just continue from where you left off. This is a

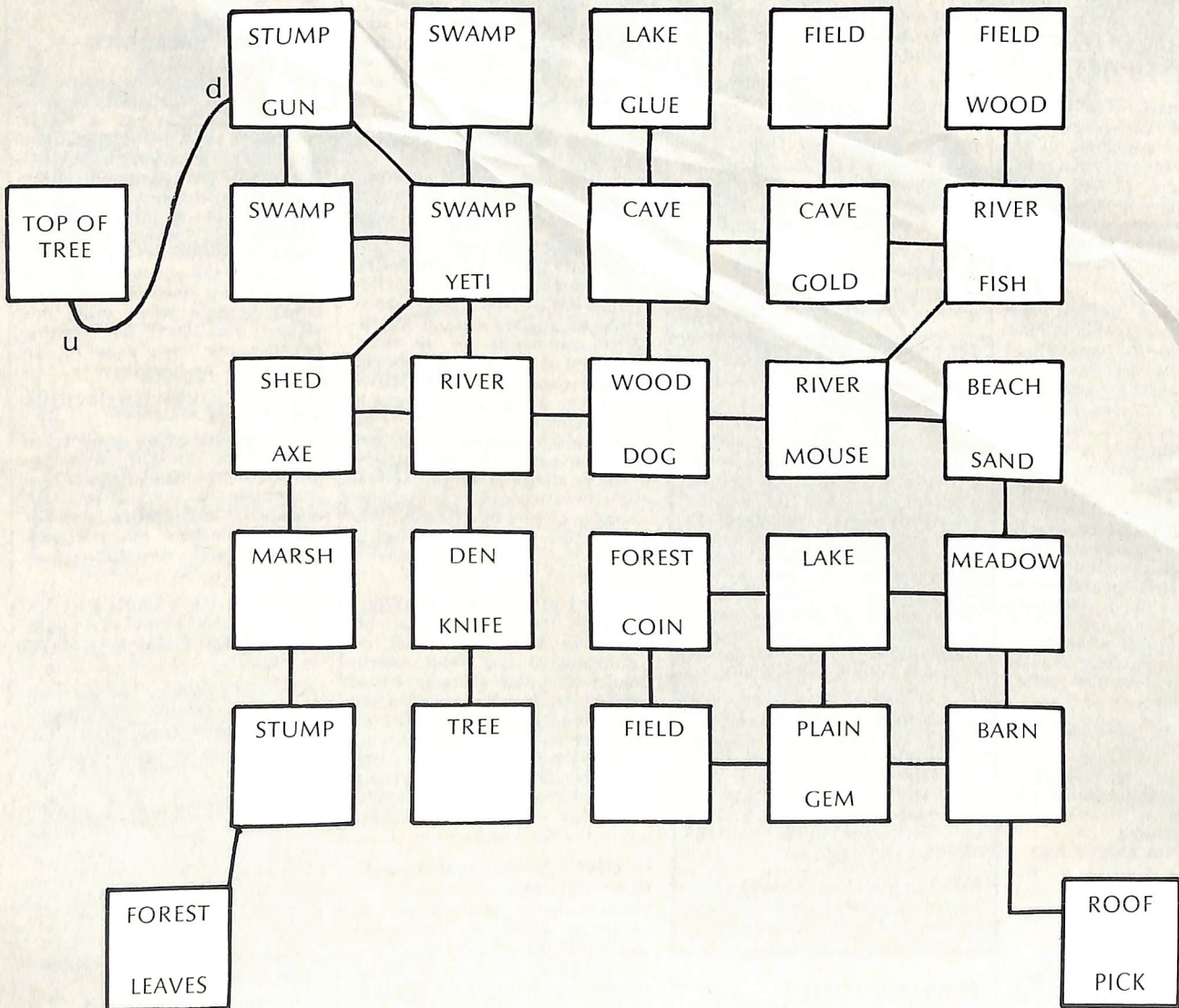
very useful routine, and not many large adventure games are without it. Do not hesitate in using this feature, too many times have I heard an adventurer say "I will save the game when I get to so & so...". That adventurer usually gets killed on his way to "so & so". It won't do any damage to the game

if you save it on another disk/tape.

8) MAP THE ADVENTURE OUT. When you play an adventure game, map every location out on paper. Mark on the map where objects are, where characters live and where problems lie. A map can prove useful when continuing play of a game after a long rest. Also, if you don't make a map, you'll probably get lost in the game, with no idea which direction leads to

what. Adventure maps are easy to draw. Just draw a square big enough to hold the name of a location and details, and as you proceed just connect each square up with arrows marked with directions on them. If you are too lazy to draw maps, special adventure worksheets are available. Below is an example of an adventure map.

Sample Adventure Map



Here is a sample map for a small adventure. If you use different colours to represent different things and use special symbols, your map will become much easier to read.

USING THE HELP SECTION

Below is the list of adventures to which clues are given. The numbers next to each game corresponds to the clue number on the following pages.

There are over 60 clues for over 30 adventure games.

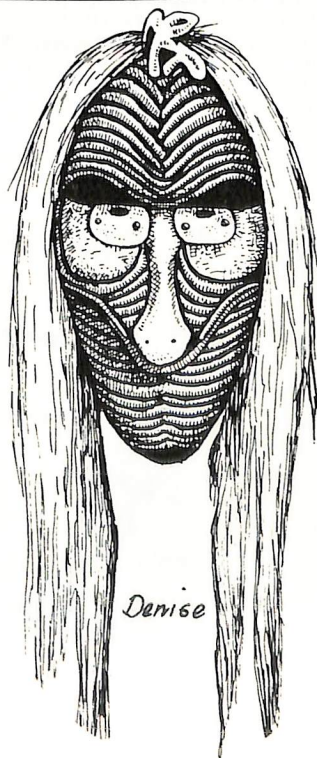
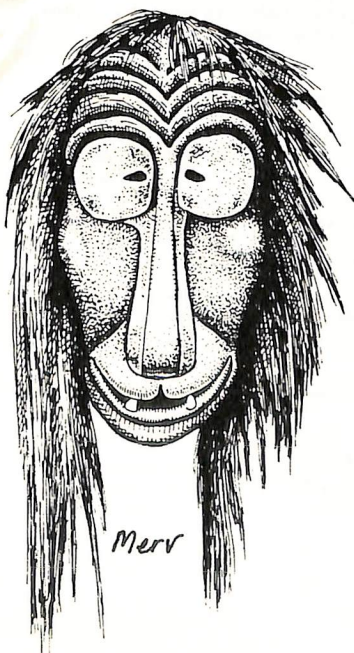
ZORK I - 1,59,61
 MASK OF THE SUN - 4,21,49
 DALLAS QUEST - 17,23,36,50
 HITCHHIKER'S GUIDE - 3,56,64
 THE HOBBIT - 6,32,67
 WAR GAMES (C64) - 8,57,42
 WAR GAMES (VIC) - 53
 THE INSTITUTE - 13,24,30
 THE HULK - 10,27,43,65
 SPIDERMAN - 69
 DEADLINE - 2,28,47

SHERLOCK - 12
 HEROES OF KARN - 5,31,52,63
 EUREKA! - 25,37,68
 BLADE OF BLACKPOOLE - 11,58,70
 ADVENTURELAND - 9,19,60
 PIRATE COVE - 7,14,46,
 VALHALLA - 62,33
 WAXWORKS - 59
 PLANETFALL - 40,54
 GRUDS IN SPACE - 15,22,48
 VOODOO CASTLE - 41,66

WITNESS - 29,55
 ASYLUM - 16
 SNOWBALL - 20
 LORDS OF TIME - 34
 GOLDEN BATON - 35,45
 ZORK II - 44
 TWIN KINGDOM VALLEY - 18,51
 STARCROSS - 38
 GRAVE ROBBERS - 39
 AZTEC TOMB - 26

GAME CLUES

- 1) A boat requires a pump, as well as a bit of bailing.
- 2) The ladder fits perfectly into two holes.
- 3) The engine room - it's not as bad as the game makes out!
- 4) Take caution when bargaining with a beggar!
- 5) Remember a fairy-tale about a frog and a princess to make a hero join your quest!
- 6) Lost in a maze of dungeons full of goblins? Meet Gollum by going sw, d, n, se, and east when through the Goblin's door.
- 7) The parrot is more helpful than a mongoose at getting rid of snakes!
- 8) Two pipes make a perfect pole-vault.
- 9) A brass lamp brings memory of Alladin. Don't perform the famous feat more than twice or you'll make someone angry and be short of a treasure.
- 10) Domes, domes, domes - all alike but all different.
- 11) Bees will be very useful to avoid a very hungry plant. Honey is required first, though.
- 12) Use a taxi to visit Major Forbes of Sidmouth Street, London.
- 13) A funny little guy annoying you with a question? Pay a visit to the room full of patients and read the plaque.
- 14) The keys are hidden under a rug. You'll need something to remove the nails with first.
- 15) Lord Deebo offers you an exciting venture - but he also hesitates in completing his part of the deal.
- 16) Whatever you do, don't look up when advised by a maintenance man!
- 17) Tobacco is very useful when bribing a monkey.
- 18) Waving a stick before a gully builds a big bridge!
- 19) A thin bear is very sensitive, he hates loud noises!
- 20) An aerosol in a tight box can cause bother a Waldroid.
- 21) A body with a broken head? First examine everything, make sure you find the magic word hidden in that location. Then fix the broken figures. Don't worry, it doesn't bite!
- 22) A monster in the Grud's caves? It sounds a bit batty does'nt it?
- 23) The cows arent the only characters in the game who like a bit of music. Make sure you keep the horn - it will come in handy somewhere in the jungle.
- 24) A padded cell holds a few useful things, including refreshment and weapons.
- 25) A lift will take you down, but it won't exactly take you up.
- 26) Catch a couple of fish in a jar!
- 27) Bees hate wind. Make sure you are outside that dome before making a breeze.
- 28) Turn a calendar, show it to George, wait for him to lose his temper. Hide in the library balcony. Watch George closely. Get your timing right and attack!
- 29) After the murder, search the butler for a useful set of keys.
- 30) Hold your breath in a hall full of gas.
- 31) The frog hero will remove the sword from the rock.
- 32) The elf will read different parts of the map.
- 33) Ofnir can be found by going NW from Kranks Hall (kill the occupant first!).
- 34) A lodestone is quite useful at getting hold of keys.
- 35) You can swim the moat if you wish!
- 36) The monkey will get you further into the Trading Post.
- 37) When you come across a deep pit, jump and an annoying creature will fall in it!
- 38) The spider will get you a rod if you give him a music machine and a library. 39) Feed the hungry dog. Make sure you unwrap the food first.
- 40) When in the escape pod, enter the web.
- 41) Heave a tea maker. Make sure light is available.
- 42) Remove grill, tie cable to tree, climb cable!
- 43) REMEMBER NIGHTMARE! Now what does that supposed to mean?
- 44) Trouble with a Menhir? Use a wand to cast a spell.
- 45) Wear the ring next to where you found it.
- 46) What swims in the sea and is eaten by crocodiles?
- 47) To prove the suicide was a murder, dig the roses, get the fragment and analyze it for LOBLO tablets. The show it to Dunbar and accuse her of murder.
- 48) To get the rope, do what Ned Kelly did to get money.
- 49) Trouble with a snake? Shoot it.
- 50) Make sure you have all the objects from the ranch when you arrive in the jungle.
- 51) To win the friendship of one king, give him a valuable object.
- 52) Bribe the guard, and give him your gold.
- 53) FIT DISK is the command you are after to get the computer to work.
- 54) Make sure you have all the objects from the pod before you SWIM out of it.
- 55) A grandfather clock seems a sneaky place to hide a gun. Hide behind the couch after the murder and wait for the sweet innocent daughter.
- 56) Hang gown on hook, cover drain with towel, put satchel in front of robot panel, put mail on satchel and press button on machine. Flying babel fish!!!
- 57) UNDO NUT is the command you are after in the C64 version.
- 58) Quicksand? It's like water, swim, swim, swim.
- 59) Stuck in a maze? Use objects to mark various parts of it.
- 60) A wine bladder, swamp gas and a flame can be quite useful when used together against a bricked up window. 61) You cannot open the egg, but there is an expert in the adventure who can.
- 62) You can move n,ne, or nw from Vino's, but dont wear your helmet.
- 63) Hydrophobia! A witch might have this disease!
- 64) Stuck in the land of nowhere? The clues are there, check all of your senses!
- 65) Your character is a pretty strong dude, try lifting a few domes!
- 66) The pocket shovel is a red herring (!).
- 67) When at the black river, throw the rope. Are you skillful enough to catch the boat?
- 68) One direction in the Roman town does not lead you to runaway horses.
- 69) Your character can fly through the air with the greatest of ease.
- 70) Don't drop objects in the Trading Post, or you'll end up buying them back.



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LEVEL 9 ADVENTURE GAMES For the Commodore 64

Prices: \$25 tape \$30 disk

Level 9 are famous for there large text adventure games.

Each adventure game has at least 200 locations, with Snowball having over 7000! Each location is described in great detail using very effective words. There are hundreds of very difficult problems in each adventure, all requiring expert knowledge. Level 9 games use the standard two-word command entry system, although some of these games feature full sentence entry, being very easy to use, with a very large vocabulary - it is quite astonishing how the adventure fits into the C64's memory! Most of the Level 9's adventures are text only, but they are slowly beginning to release graphic adventures. The graphics are slow to appear and the text is reduced, making the adventure slightly less enjoyable.

Each adventure is very well packaged with a very large instructions booklet. Hint sheets are also available my mail from Level9 (I don't think anyone could go without these!).

In the next few paragraphs I will briefly outline each adventure game in the series.

SNOWBALL

A super-large adventure game featuring over 7000 locations! You take the role of Kim Kimberely let loose on a gigantic spacecraft named Snowball which is about to collide with the alien sun of the new Eden. This is a true science-fiction adventure game with problems galore! These include dodging a swooping nightingale, working out computer codes, operate a monorail system, avoiding a deadly walroid, climbing Jacob's ladder, avoid hidden lasers and work out control units! Phew! Will you survive the journey? Only time will tell, and take my word for it, you'll need a lot of time! A very difficult adventure game!

Skill level: Expert - Rating: 90%

LORDS OF TIME

This is actually a number of adventures games congested into one. You are given the task of finding objects bearing a time-piece. These objects are situated all over the world, in the future and in the past. Yes, it is one of those adventures where you get to change history and create the future! You move around time using an old grandfather clock which acts as a time-machine (the Adventure Help section will explain how to operate the thing). Over 100 problems are spread over 200 locations! You'll meet apemen & mammoths, you'll visit enchanted lands and you'll examine classy sports cars. You'll try to enter forbidden caves and explore large houses. This is one of Level 9's better adventure games as it offers so much variety!

Skill level: Intermediate
Rating: 90%

COLOSSAL ADVENTURE

This is the best version you can get of the classic original mainframe adventure game - the one that started it all! This game has all of the locations included in the original plus 70 extra ones squeezed in! All the original problems are there from catching a statue bird, lifting a huge block of gold, dropping the precious vase, waving the rod (whoops! free clue!) and working out a hard maze! There are lots of treasures to collect and store, there are lots of hidden passages and there are lots of quick deaths. All to make a super and very difficult adventure game. Try it just for the fun of it!

Skill level: Expert - Rating: 92%

MOUNTAIN VALLEY SOFTWARE For the Commodore 64

Mountain Valley Software is a true Australian adventure manufacturer.

They have released over eight graphic adventure games for the Commodore 64.

Each of these adventures have the standard two-word entry, keyboard graphics, very short location descriptions, a limited vocabulary and each program is written in BASIC. Then, you may ask, what is so special about Mountain Valley Software adventure games? For a start, Mountain Valley must have the neatest screen presentation ever seen in adventure games. The screen is split up into three parts:

- 1) Location description consisting of name of place, objects visible and exits available.
- 2) A very neat graphic representation of the location. The graphics are so good you would not believe they were just Commodore keyboard graphics!
- 3) Command entry section, displaying any messages etc.

Although the vocabulary is very small, the programmer has selected words commonly used in adventure games, and the error message does not appear that often during the game.

All the problems faced by the adventurer, although hard, require just common sense, and can be solved easily with a bit of thought.

All Mountain Valley games feature lots of humour to relax the player during those tense moments in the game.

The main thing that makes the adventure games so good is that they are easy to solve, you won't find yourself spending months on end trying to crack these adventures. Because the adventure is easy, it prevents the adventurer from giving up too quickly. The neat screen presentation makes gameplay very enjoyable, and encourages the adventurer to keep coming back for more.

Mountain Valley Software package



their products very well and include adequate documentation.

Prices: \$27 tape - \$29 disk

CASTLE OF MYDOR

The evil wizard has stolen the sacred crown of Mydor. He has hidden it in his huge castle. You, brave adventurer, must find and return the crown. To prevent you from doing such a duty is the nasty Troll, who tends to block one way. Then there's the wizard who's just as bad as the Troll! Once inside the castle, getting out is slightly hard. A pop down to the local village reveals the usual grating, covering a couple of coins. Typing HELP solves that problem. Many locations and problems make a good adventure.

Skill level: Novice - Rating: 80%

THE LOST CITY

To recover valuable relics is the quest in this adventure. You explore an old Egyptian city, and face the perils beyond. A number of idols cause a couple of deaths deciding which is the safest. A hidden maze is even worse, for every time you drop an object, a scurrying little thing runs off with it! Then there's the fireplace that beholds a very nasty bite. Finally gaining entrance to a pyramid sets you another task, to return the bones of a princess! When I finally did find the bones (plus a little statue) I was confronted by a giant eel! Then there's the Mayan signs which require a special book to read them with! (could you believe it took me half an hour to find where I store the relics?). A very fragile shovel proves

useless after a while, is it a Red Herring? What about the evil looking statue and the broken column.

THE LOST CITY is one of Mountain Valley's better and harder adventure games.

Skill level: Novice - Rating: 85%

MYSTERY ISLAND

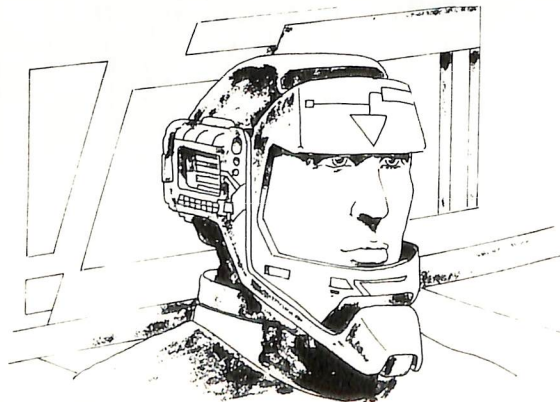
Many treasures lie hidden on MYSTERY ISLAND, and it is your job to find them!

A funny looking crab has no time for games, neither does a sweet little HUNGRY tiger! Not forgetting the lazy crocodile! A cosy bed holds more than you bargained for, as does a sheer cliff! Climbing an old tree has a painful ending, as does climbing a broken staircase! The waterfall looks like a good place to store treasure, amidst a choppy river! A small lighthouse reveals a very hard to open safe, with the combination hidden all over the Island. Aladdin's lamp makes an appearance to get you out of a sticky situation. An inflatable raft, machette, gun, shovel are just some of the objects you might pick up. As for me, I'd rather go back to the cosy bed and dream up a few passwords to help me in my quest for hidden treasures! Another good adventure!

Skill level: Novice - Rating: 80%

KING SOLOMON'S MINES

Travel across the darkest Africa in search for the forbidden mines. Africa isn't complete without a desert, and you'll soon find yourself lost in one! First you have to cross a



EUROPE ABLAZE

The Air War Over England and Germany 1939-1945

Reviewed by Chris Hindmarsh

This is the third Strategic Studies Group (SSG) Keating/Trout game produced. This time with Eric Baker adding some sense to the mayhem. *Reach for the Galaxy*, *Carriers at War* and now *Europe Ablaze with Road to Appomattox* a threatened possibility.

In the initial two games SSG, to my mind, produced excellent software but lacked the ability to introduce new players simply into the game. I must admit that even after the tutorial run through of *Carriers at War* I understood little about this complex game.

With *Europe Ablaze* SSG seem to have captured that illusive combination of good programming (thanks Mr. Keating), scenario authenticity (you too Mr. Baker), beautiful presentation and marketing (you guessed it!- Ian Trout) along with two excellent tutorials. Tutorials that will get even the least inexperienced player up and running within a very short period of time (20 - 30 minutes).

THE GAME

The game is best introduced by looking at the package content. Primarily it is a computer war game in which you have a number of choices as to what role you play in various WWII aerial combat scenarios. Maps, records and weather etc are represented on the screen and the computer plays whatever role you, the human, do not.

THE PACKAGE

The game comes in a record album type package. Beautifully illustrated and very up-market. The back cover gives a brief blurb on the game and its accompanying *Game Designer Kit*. On the inside flaps are introductions to the three scenario options along with elevation line drawings of the aircrafts involved. Then finally we have the credits and photos of the three main 'culprits'.

Interesting to note that as with the other two games of SSG *Europe Ablaze* was originally written for the Apple. Ian Trout has often eulogised about the support Apple give software developers and bemoaned the difficulties that Commodore create. They have had to go direct to USA for any form of support. No wonder when you mention Commodore to Roger Keating he turns a pale shade of green.

Commodore user's have been rescued with the able assistance of Alan Bain, Trevor Symons and Malcolm Power. Thanks 'fellas'.

The package contains Disk and set of disk labels for saved games (nice touch), multi-coloured scenario maps printed on stiff board, menu chart, 20 page Player's Manual and 24 page Design Manual.

Bye the bye, both manuals are produced



using a Macintosh and laser printer combination - one of the benefits of Apple support, no doubt.

THE GAMES MANUAL

The Games Manual is very clear, precise and readable. It is broken into seven sections:

1. **Introduction** - Introduction
2. **The Tutorials** - Getting you up and running in the shortest possible time. It takes about 15 - 20 minutes to learn the mechanics the rest is dependent on how fast you can read-up on WWII warfare in the air. The mechanics are all you need to start, other aspects come the more you play.

TUTORIAL 1 - C-in-C: This tutorial takes you hand-in-hand into scenario 1 *Their Finest Hour*. You become *Reichsmarschall* Herman Goering C-in-C of the AXIS forces.

The tutorial demonstrates how to set your directives, priorities and activity levels. Each 24 hr (game time) you receive a full report from your forces to aid you in planning the next move. As C-in-C you are not involved in actual target selection etc. that is the job of your Air Fleet Commanders. Overall planning is the role of the C-in-C.

You are taken through the first 24hrs of your command and then left with the suggestion that another 3 - 4 days should be played. I played on until the early hours of the morning it was quite compulsive.

TUTORIAL 2 - Air Fleet Commander: Same approach - hand-in-hand instruction for the first 12 hrs as Air Fleet Commander. Yours now is the job of putting the directives of the C-in-C in force. Selecting specific targets planning and carrying out missions and defending the fatherland. A unique scoring system keeps you on your toes - especially if

you want those replacement machines and better trained pilots.

One begins to gain an understanding of the strategies involved in the game.

3. Using the Game Menus - The whole game is menu driven using over 30 separate menus. The knack of playing is being able to manipulate these menus. It is, in actual fact, quite an easy process once you've done it a couple of times.

4. The Games Menus - This is the biggest part of the manual and it takes one through each individual menu. A player can refer to this section for the finer parts of the game, to discover what options and variables are available to him/her. Many menu descriptions are accompanied by illustrations of the screen graphics. This is not essential reading to start playing but will soon be delved into once you get started.

5. The Computer's Role - Again a reference section. Short but well worth reading early in the piece. It demonstrated how the game can maintain its authenticity and with such sub-headings as fatigue and recovery, promotions, reinforcements, weather etc. it is a good guide as to factors to consider in your planning process.

6. The Scenarios - Mentions that there are three. Refer to the outer package for scenario descriptions.

Scen.1 - Their Finest Hour - The Battle of Britain - August 10 to Sept 4 1940

Scen.2 - Enemy Coast Ahead - Bomber Command Strikes by Night - July 23 to August 20 1943

Scen.3 - Piercing The Reich - the 8th Air Force Turns The Tide - Feb 3 to Feb 23 1944

7. Designer's Notes - Designers notes.

DESIGNER'S MANUAL

This is the bonus part of buying *Europe Ablaze* - you get a *Games Design Kit* as well. This allows you to design and recreate your own WWII scenarios. The cover blurb reads: "EUROPE ABLAZE is not limited in scope to the three historical scenarios provided. The creative gamer and historian have available to them a comprehensive *Game Design Kit* which can be used to create scenario variants as well as original campaigns. To explain their use, the design routines are illustrated with an entirely new scenario recreating the strategic air operations from the Mediterranean theatre in March 1944.

At your disposal are the following data bases.

- A 42 by 36 hex grid
- 24 aircraft types
- 255 squadrons
- 127 airbases
- 63 centres (each with population, industry, communication and port facilities defined)
- 63 radar stations
- 63 shipping lanes
- 63 flak units
- a weather creation utility
- national doctrine
- cursor selection
- a victory determination utility
- identity and briefing routines "

I did not venture into this area but it looks quite inviting.

SUMMARY

As usual SSG have produced a top of the range product. This time their act seems totally to have come together with complete and understandable tutorials included. The WWII scenarios are exciting, compulsive and authentic - well represented with sight and sound and of interest to both the general games player as well as the ardent wargamer.

At times the Apple origins are evident but not distracting. Good value at \$50.00.

Additional scenarios and information are available through SSG's own magazine *RUN 5* out now if you can find one. (refer *News & Views*).

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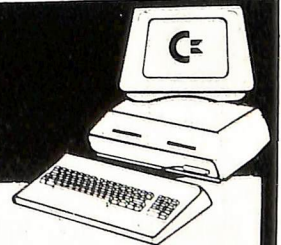
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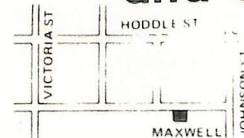
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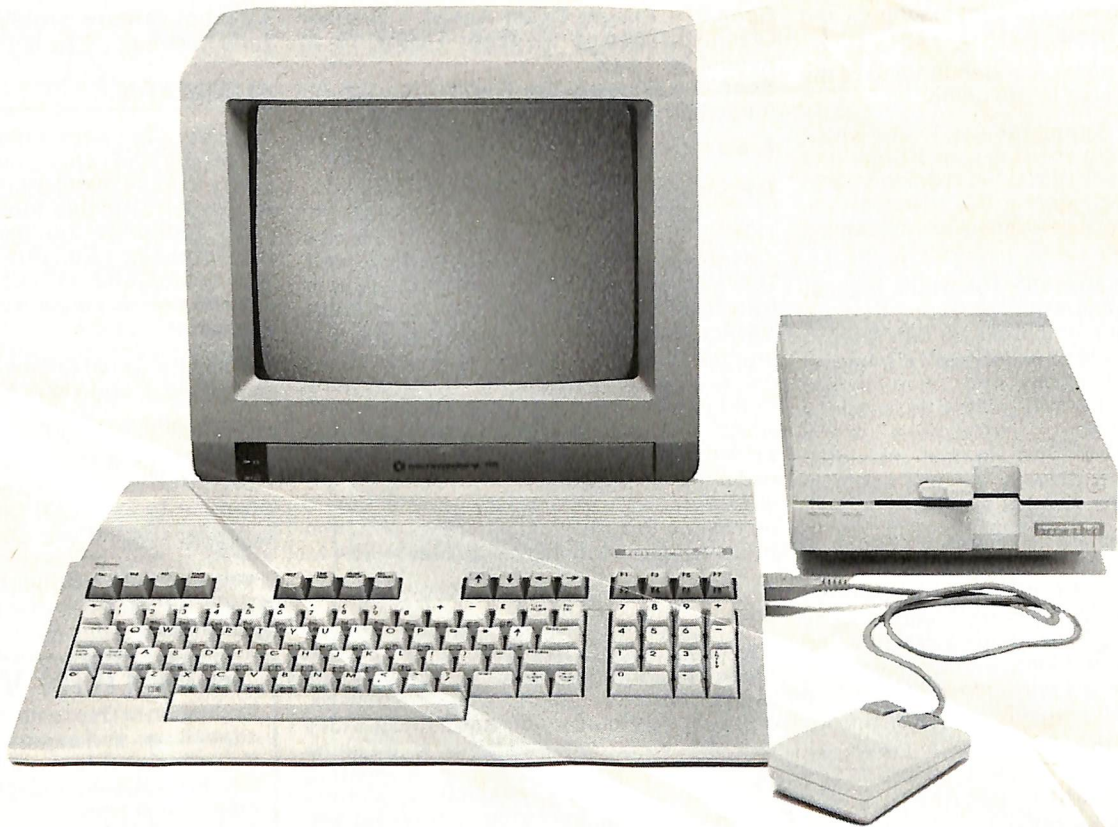
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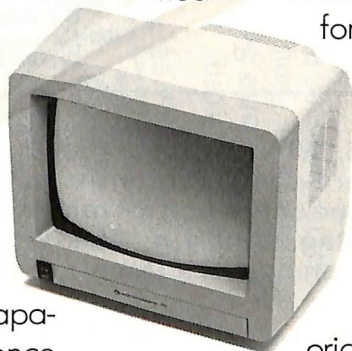
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High resolution 34cm (14") screen compliments the advanced video capabilities of your Commodore 128 computer. Comes complete with selectable 80 column (RGBI) and 40 column (composite video) inputs and built in sound capability – offering you excellence and quality.



for financial work. Bi-directional, high resolution graphics. Great printer power at a low, low Commodore price!

New! The Commodore Mouse. \$149 r.r.p.

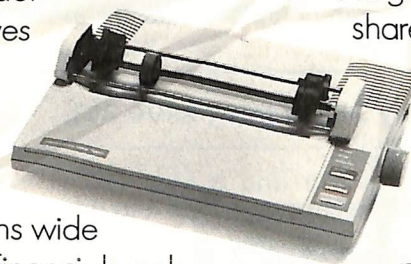


Ideal for learners and professionals alike! With the Commodore Mouse you don't

even have to use the keyboard to get your Commodore 128 working. The Mouse serves as a pointer and input device in conjunction with programs like Jane, to let you move words, draw pictures and issue commands.

New! MPS 1000 Dot Matrix Printer.

High speed dot matrix printer gives you 100 cps to draft reports, 40 cps in Near Letter Quality mode. 80 columns wide



New! The Commodore 128D. 'Takeaway Power' \$1099 r.r.p.

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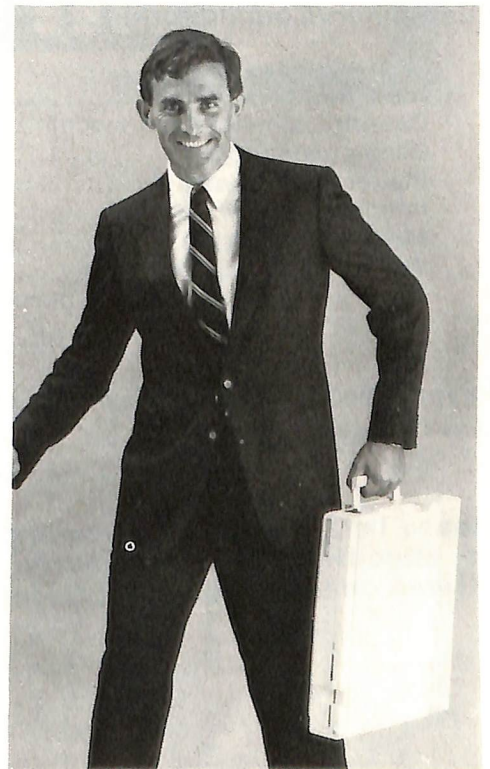
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SUBSCRIBER SURVEY PART 2

YOUR 2nd CHANCE TO WIN OUR **COMMODORE 128 and DISKDRIVE** OPEN TO ALL CURRENT AND NEW SUBSCRIBERS.



Here is the second of our three part reader survey. A chance for you to help us keep Commodore Magazine in touch with its readers and their requirements.

We have purposely made the magazine content questions (6, 7 and 8) general so that readers are not unduly influenced by current editorial concepts and can answer them in whatever detail they wish.

The survey will span three issues (33,34,and 35). Those subscribers (with Australian Postal Addresses) who send in completed survey forms, which include their name and postcode, will be eligible to enter our competition. The prize for which will be a Commodore 128 and Diskdrive.

A maximum of three entries per subscriber is permitted. One for each individual survey form completed. (Entrants must be current subscribers).

1. Did you complete Survey Sheet Pt I (issue 33).

YES NO

If no please complete questions 2 and 3 (we would appreciate it if you would complete Pt I and attach it to this sheet.)

2. What computer equipment do you own/use (including non/Commodore)

Computer (model):
 Disk Drive (model):
 Cassette: Monitor (type/model):
 Printer (model/type):
 Plotter (model/type):
 Interface (model/type):
 Modem (model/type):
 Wordprocessor Software:
 Other items (e.g. Simon's BASIC, Digitizer, Joystick etc.):

Do you hire Videos and how frequently?

(e.g. once a week, once a fortnight etc.):

.....

4. Please list, in order of preference, the three most effective magazine covers from those illustrated on the Inside Front Cover:

1st
 2nd
 3rd

5. Are there other computer magazines which consistently produce covers equal to or better than the three you've listed above (local and overseas). Please list:

.....

COMPETITION

In a maximum of 200 words tell the Editor what program you would like to write for any Commodore Home Computer. Give sufficient information to determine what is entered into the computer, where it is obtained, what is the computer output and the benefits the output will achieve. The program can be in any area: entertainment, educational, business, utility, social etc.

This competition is for both beginners and experienced computerists. You do not have to write the program or actually know how to. Each entry will be judged on its own merits based on general feasibility, originality and presentation.

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

CLOSING DATE:

Final Closing date for the competition will be announced in Issue 35 of The Commodore Magazine and the winner will be announced in Issue 36.

NOTE: To be eligible for the competition this survey sheet, accompanied by your entry, must reach us by April 2nd, 1986. All survey questions are optional.

Send to:

**READER SURVEY
 KIM BOOKS
 82 Alexander Street
 Crows Nest
 NSW 2065**

6. What (both past and present) regular columns are of major interest to you, and would you like to see continued (or reintroduced) in The Commodore Magazine e.g. The Vic Magician's Apprentice, Commodore Doctor, Beginner's Corner etc.

.....
 (use separate sheet if required.)

7. What (past or present) individual article or series in The Commodore Magazine have you found of major interest to you e.g. Home Library, Sound Effects, Monad, Games listings etc:

.....
 (use separate sheet if required)

8. On a separate sheet tell us your likes, dislikes and suggestions for the future content and production of the magazine. We are open to constructive criticism and suggestions.

In Subscriber Survey Part 3 (next issue) we will give the Advertising Sales Team a crack at you!

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or

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Photocopy or Facsimile of this survey will be acceptable

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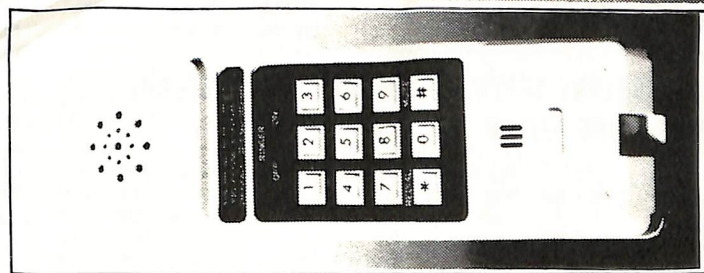
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BOOKS & THINGS

CHILD'S PLAY

Title: Child's Play
 Author: Susan Sutphin
 Publisher: Prentice-Hall Australia.
 R.R.P.: \$25.50

This book starts with the difference between immediate and program mode utilising simple mathematics and print functions.

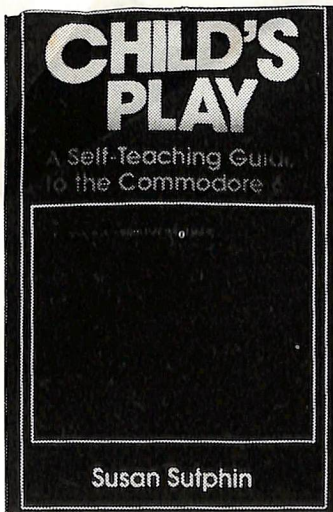
By the end of Chapter One all the basics of keyboard control have been covered and the student is ready to start writing some programs that contain more than simple PRINT statements.

The chapter headings indicate the general flow of the book.

BASIC AND COMPUTERISE VARIABLES, GOTO, IF-THEN, FOR-NEXT-STEP, AND INPUT OPERATORS AND PRECEDENCE GOSUB, RETURN, AND GET, AND MORE ON INPUT AND GOTO READ, DATA, AND RESTORE DIM AND ARRAYS RANDOM NUMBERS MANIPULATING VARIABLES ANSWERS FOR EXERCISES

The book would seem to be ideally suited for Computer Literacy classes in the school room but at \$25.50 the price may put the kibosh on this.

Each chapter contains sensible well written exercises and in the back are simple solutions.



The type throughout the book is large and readable - another plus for the school-room. No listing is more than 12 or so lines in length and all are clear, readable and typeset.

There is also a small but workable index.

All-in-all not a highly imaginative book but clear, easy to read and follow. It is well laid out. Definitely in the text book category but it

would still be good material for the person starting BASIC at home.

Don't be put off by the title. I believe that it was only a marketing ploy to put in "For the Commodore 64". They could have quite easily put PET, CBM4000, 2000, +4, +16,128 or with a note about character per screen line the VIC-20. I could see nothing that made this book uniquely for the Commodore 64.

1541 USER'S GUIDE

Title: 1541 User's Guide
 Author: Dr. Gerald Neufeld
 Publisher: Prentice-Hall Australia
 Reviewed by: Mervyn Beamish

R.R.P.: \$39.95

It seems as if we may be getting through the silly era of computer publishing, when publishers could sell anything (or thought they could) with a glossy cover and the name Commodore. The books we are now getting for review seem to be more thorough in their approach with less "FAT" and information that can be utilized and understood.

The 1541 User's Guide is an excellent example. Previously only available through outlets in the U.S.A., Dr. Gerald Neufeld's book is now available in Australia.

It's \$39.95 price tag makes a nice shaped hole in the pocket, but is well worth paying out for the information contained in this 413 page book.

It would seem easier to list what this book does not contain rather than what it does, however below is a self explanatory list of Chapter headings, glossaries and programs.

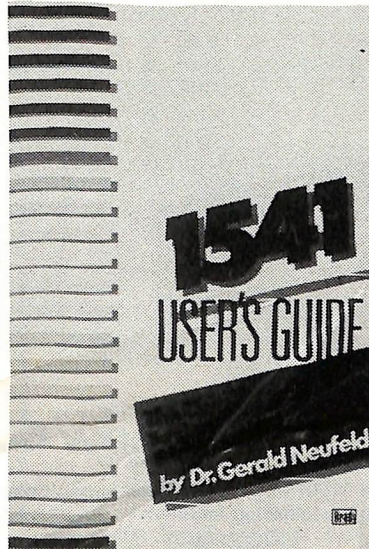
Production wise, the book is well illustrated and while the listings are in Dotmatrix they are bold, well laid out and clear to read.

This undoubtedly is the "Rolls Royce" of 1541 books. It is a pity that it took so long getting here.

Contents List

- How To Use This Book
- Chapter 1 - Getting Started
- Chapter 2 - Using DOS 5.1
- Chapter 3 - Using the Command Channel
- Chapter 4 - Diskette Housekeeping
- Chapter 5 - Introduction to File Handling
- Chapter 6 - Program Files
- Chapter 7 - Sequential Files
- Chapter 8 - Relative Files
- Chapter 9 - Indexed Relative Files
- Chapter 10 - File Handling from Machine Language
- Chapter 11 - Getting Out of Trouble
- Chapter 12 - Care and Maintenance
- Chapter 13 - A Bit of Background
- Appendix A - Glossary

- Appendix B - Reference Tables
- Appendix C - Disk Error Messages
- Appendix D - Summary of Disk Commands
- Appendix E - Disk Utility Program Listings
- Index



Application Programs:

- MAIL PGM: A self-modifying mail list.
- MAIL SEQ: A mail list using SEQ files.
- MAIL REL: A mail list using REL files.
- MAIL INX: An advanced mail list using indexed relative files.
- FAST COPY: A fast machine language file copier program.

Disk Utility Programs:

- HOUSE HELP: Makes diskette housekeeping easy
- RECOVER UNCLOSED: Recover data from unclosed file
- ALLOCATE: Allocate blocks in unclosed file
- FIND ERRORS: Scan track 18 for errors
- REDO 18/0: Recover from errors on 18/0
- TRACE CHAIN: Display chain given T&S pointer
- RECOVER FILE: For files not in directory
- ALIGN 1541: Check alignment or realign
- MOD ENTRY: Modify name, type, or length
- TRACE FILE: Display chain given file name
- FULL DIRECTORY: Expanded directory listing
- CONFIRM ALL FILE: Check that all files are OK
- BACKUP: Make a backup of a diskette
- MAKE FAST COPY: Create a fast file copy program
- EDIT T&S: Edit any byte on a diskette
- MOD DISK NAME: Modify a diskette's name
- FIX DIRECTORY: Repair a damaged directory
- UNSCRATCHER: Unscratch any disk file
- PRG HEX DUMP: Hex display of BASIC program
- PRG ANALYZER: Byte by byte look at a program

HIGHLY RECOMMENDED!!!

WANT TO FLY TO LOS ANGELES?

Our Sister Magazine PANDORA is taking a group of readers to a convention in the U.S.A.

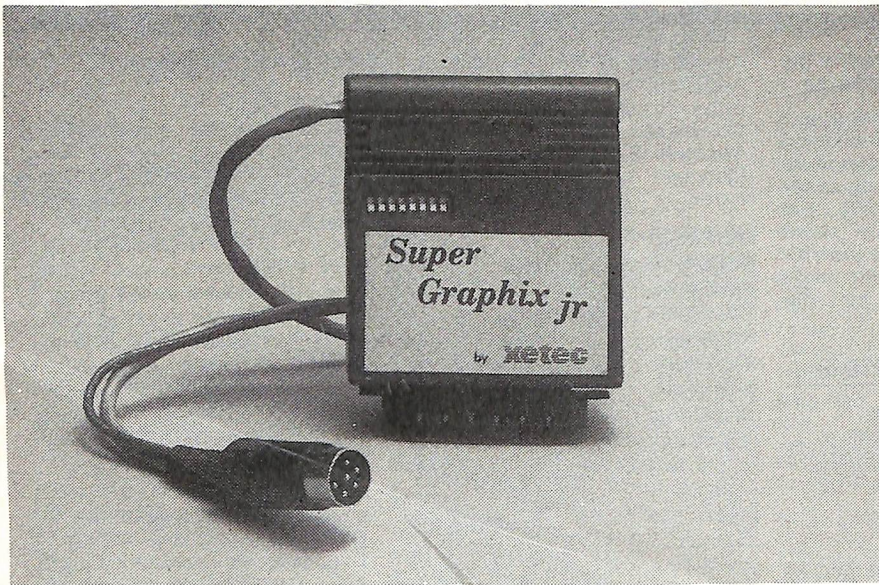
This convention coincides with N.S.W August/September school holidays and if any readers wish to join the group and take advantage of group fares to L.A. please contact me.

Indications are that return fare to L.A. will be \$1700 (Melb +\$130, Adl +\$180 and Perth +\$240). Special tour packages can be made to incorporate Disneyland etc. and also significant savings can be obtained on 21 and 35 day unlimited travel air tickets with in the USA. The ticket can be to Los Angeles and then round the world (approx \$150 extra).

Contact: Mervyn Beamish
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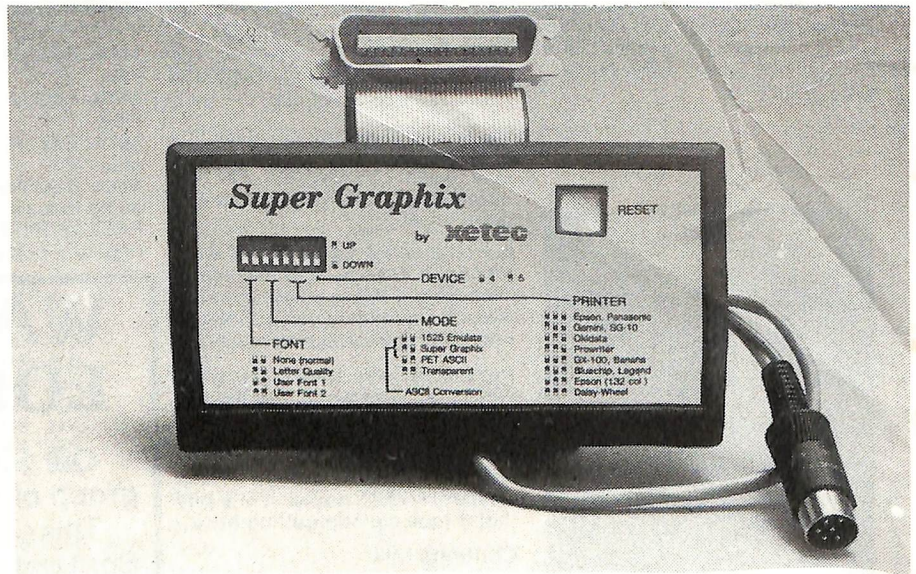
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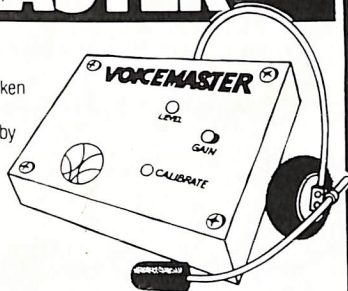
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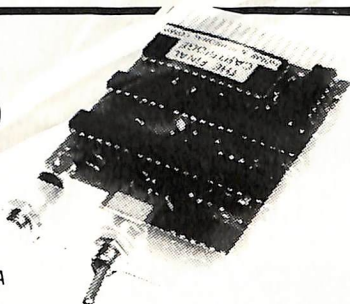
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Graphics Library

Number 5: VK2 PEH

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Well we've taken pity on you after last month. Wasn't the *Chessplayer* a beauty.

VK2 PEH is the spaceship designed by the editor for a strategic Play-By-Mail game and yes, to all you other VK's out there, it is his amateur radio call sign as well. Some will also recognise the graphic from Vol 4 No 3 of the magazine. Now to work.

DISPLAY

Enter and RUN. If you want to use this program to display other graphic library pictures change the name in line 7.

VK2 PEHGEN

Both programs utilize *HELPOUT* if you are not using it drop the 'XXXX' at the end of each line. *VK2 PEHGEN* has also a built in checksum routine so all in all it shouldn't be too hard to enter correctly.

This program generates the graphics file *VK2 PEH* for *DISPLAY* above.

After *LOADING* and *RUNNING* *VK2 PEHGEN* *NEW*, *LOAD* and *RUN DISPLAY* and the picture will appear on the screen.

There should be 13 items in each of the datalines except the last two. Double check that you put in all commas.

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VK2 PEHGEN

```
1 REM PROGRAM TO MAKE PICTURE IN CADPIC FORM'BHRI
2 REM SUPPLIED BY KIWISOFT PROGRAMS LTD'BEDJ
10 DIM X(99),VX(11):L=0'CPYB
12 PRINT : PRINT "CHECKING DATA STATEMENTS"CBGH
15 I=0'BCRD
20 GOSUB 400: READ X(I): IF X(I)<1000 THEN I=I+1: GOTO 20'IXIH
30 IF I<>12 THEN GOSUB 450: GOSUB 500: PRINT I+1:"VALUES
  INSTEAD OF 13": GOTO 15'JRVN
40 FOR I=0 TO 11:X(12)=X(12)-X(I):VX(I)=VX(I)+X(I): NEXT 'IKNN
50 IF X(12)<>5000 THEN GOSUB 500: PRINT "BAD VALUE
  ON LINE": GOTO 15'HQBM
60 K=K+1: PRINT "#": IF K<377 GOTO 15'GMRI
65 IF L GOTO 95'CDFI
68 IF X(0)<>133 THEN PRINT : PRINT "##TOOMANY DATA
  LINES": GOTO 95'HLVV
70 FOR I=0 TO 11: GOSUB 400: READ X(I)'FNQI
80 IF X(I)<>VX(I) THEN K=0: GOSUB 500: PRINT " BAD
  POSITION":I+1:"SOMEWHERE" 'IUFU
90 NEXT : IF K GOTO 100'DFVH
95 PRINT : PRINT "###PLEASE FIX ERRS###": STOP 'DCFR
100 PRINT : PRINT "DATA STATEMENTS ARE CORRECT"CBOD
110 PRINT : PRINT "BEGIN STORING PICTURE": PRINT 'DCGE
120 PRINT "ENTER T FOR TAPE OR D FOR DISK STORAGE":
  INPUT "[SPACE2](T/D)":AS'CEWK
130 AS=LEFT$(AS,1): IF AS="T" THEN DEV=1:SA=1:BS="":
  GOTO 150'JBGJ
140 DEV=8:SA=2:BS="S,W": IF AS<>"D" GOTO 120'HRSI
150 OPEN 1,DEV,SA,"VK2 PEH"+BS'CLWF
160 RESTORE : READ K: READ K:A=2: PRINT#1,"P": CHR$(K)::
  REM EMBER 2 SEMICOLONS'HON
170 FOR I=1 TO 377'DFQE
175 FOR J=A TO 6'DDBJ
180 D=0: READ C: READ B: IF C=0 THEN D=1'HLDJ
185 PRINT#1, CHR$(B): CHR$(C): CHR$(D):: REM EMBER 3
  SEMICOLONS'FGAT
190 NEXT J: READ K: REM THROW OUT CHECKSUM'DUCL
195 A=1: PRINT "%": NEXT I'DGRM
200 CLOSE 1'BBIV
205 PRINT : PRINT "PICTURE SAVED": END 'DCYQ
```

```
400 LO=PEEK (63):L1=PEEK (64): RETURN 'FOSE
450 IF L=1 AND X(0)=1930 THEN PRINT : PRINT "## MISSING
  DATA LINES": GOTO 95'IOHQ
455 RETURN 'BAQI
500 L=1: PRINT : PRINT "#ERR LINE":L1*256+LO;"-": RETURN
  'GORI
1000 DATA 68,,4,252,1,252,1,76,1,76,1,92,5824'BKQA
1010 DATA 1,252,3,252,4,252,1,92,1,252,1,92,6203'BNTB
1020 DATA 17,252,2,252,1,92,1,252,1,188,3,252,6313'BPWD
1030 DATA 1,220,1,92,1,76,1,76,2,252,1,188,5911'BMGD
1040 DATA 1,44,1,92,1,188,16,252,9,252,1,92,5949'BNBE
1050 DATA 1,172,1,92,14,252,4,252,1,92,1,108,5990'BOCG
1060 DATA 1,12,2,252,1,172,1,28,1,252,1,76,5799'BMHG
1070 DATA 1,28,4,252,1,12,1,92,1,44,1,92,5529'BKCH
1080 DATA 1,220,1,28,1,79,1,79,1,314,255,5701'BLCI
1090 DATA 10,255,2,252,1,76,1,252,3,252,6,252,6362'BPVK
1100 DATA 1,252,1,92,1,252,1,188,6,252,1,191,6238'BODC
1110 DATA 1,79,1,255,1,191,3,255,1,95,1,255,6138'BNRC
1120 DATA 1,79,1,79,1,223,2,255,1,79,1,79,5801'BLWD
1130 DATA 1,79,1,76,1,252,1,204,1,44,1,108,5769'BMKE
1140 DATA 1,220,1,220,1,44,1,252,3,252,5,241,6241'BODF
1150 DATA 1,252,1,252,1,204,1,44,2,252,2,255,6267'BOTG
1160 DATA 1,79,1,79,1,255,6,255,6,255,1,252,6191'BNYH
1170 DATA 1,248,1,40,2,248,1,248,1,248,1,252,6291'BOBJ
1180 DATA 1,252,3,252,3,241,1,241,1,241,1,92,6329'BORJ
1190 DATA 5,252,1,111,1,175,1,95,1,255,2,255,6154'BOCK
1200 DATA 1,95,1,255,1,95,1,255,1,223,6,255,6189'BNUC
1210 DATA 1,252,1,200,1,40,1,88,3,248,5,252,6092'BNWD
1220 DATA 1,193,1,33,1,81,1,65,1,241,2,252,5872'BMAE
1230 DATA 1,252,1,44,1,28,1,252,1,95,2,255,5933'BMFF
1240 DATA 1,47,1,95,11,255,1,255,1,252,1,88,6008'BNJG
1250 DATA 1,168,4,248,1,252,1,252,1,252,1,44,6225'BOAH
1260 DATA 5,252,4,252,1,76,1,172,1,252,7,255,6278'BOLJ
1270 DATA 5,255,1,223,1,255,1,255,1,255,1,255,6508'BPAC
1280 DATA 1,44,1,92,1,220,1,140,1,172,1,92,5766'BMUK
1290 DATA 4,252,13,252,1,255,1,47,1,95,4,255,6180'BOEM
1300 DATA 9,255,1,95,1,252,1,12,1,252,6,252,6137'BNGD
1310 DATA 1,252,1,252,1,76,1,76,5,252,5,252,6174'BNIE
1320 DATA 1,47,1,207,1,255,1,31,3,255,1,79,5882'BLMF
1330 DATA 1,95,1,95,1,79,4,255,1,76,1,204,5813'BLTG
1340 DATA 1,44,17,252,11,252,1,241,1,65,1,81,5967'BOBI
1350 DATA 1,241,2,241,1,188,2,76,1,92,1,76,5922'BMKI
1360 DATA 1,252,1,209,1,241,1,1,1,241,3,241,6193'BNIJ
1370 DATA 3,252,1,44,2,92,1,252,1,188,13,255,6101'BOUK
1380 DATA 1,177,1,17,1,81,3,241,6,252,1,33,5814'BMBL
1390 DATA 1,81,1,241,4,241,17,252,1,252,1,220,6312'BPCCN
1400 DATA 1,92,1,156,2,241,1,65,1,65,1,65,5691'BLJE
1410 DATA 1,65,1,220,2,252,1,92,1,172,1,252,6060'BNMF
1420 DATA 5,241,2,241,1,188,1,44,6,252,1,188,6170'BOCH
1430 DATA 5,252,4,252,1,252,1,76,18,252,1,252,6366'BPFI
1440 DATA 1,204,2,252,1,252,1,76,1,108,3,252,6153'BOQI
1450 DATA 1,252,1,44,1,92,4,252,1,28,1,76,5753'BLHJ
1460 DATA 1,76,9,252,2,44,1,204,1,44,2,188,5824'BMKK
1470 DATA 1,12,1,252,1,140,1,204,1,44,1,92,5750'BMGL
1480 DATA 5,252,1,252,1,76,1,76,1,92,1,220,5978'BMOM
1490 DATA 9,252,1,92,1,252,1,220,1,188,13,252,6347'BPSP
1500 DATA 1,220,1,76,1,252,12,252,1,252,1,252,6321'BPCCG
1510 DATA 1,204,1,44,2,252,16,252,1,76,1,76,5926'BNHG
1520 DATA 1,76,2,252,1,28,1,252,1,28,1,76,5719'BLLL
1530 DATA 8,252,17,252,1,204,1,92,1,188,1,220,6237'BPXJ
1540 DATA 6,252,1,252,1,76,1,76,1,76,5,252,5999'BMFJ
1550 DATA 1,252,1,76,1,76,1,204,21,252,1,220,6106'BOMK
1560 DATA 1,92,1,44,1,92,12,252,1,44,1,92,5633'BLBL
1570 DATA 1,252,1,28,1,204,1,44,1,92,1,12,5638'BLSM
1580 DATA 1,204,1,44,1,188,1,76,1,252,1,76,5846'BMNLN
1590 DATA 2,252,1,92,1,76,1,252,2,252,1,92,6024'BMXO
1600 DATA 1,252,1,108,2,252,1,44,1,172,4,252,6090'BOQG
1610 DATA 1,92,1,108,2,188,11,252,1,76,1,76,5809'BNQH
1620 DATA 1,76,9,252,12,252,1,156,1,76,1,92,5929'BNWI
1630 DATA 2,252,25,252,1,76,1,76,1,12,6,252,5956'BNNJ
1640 DATA 9,252,1,92,1,252,1,252,1,44,1,12,5918'BMCK
1650 DATA 1,44,1,76,1,12,2,252,8,252,1,156,5806'BMDL
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CONTINUED PAGE 28

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1660 DATA 1,92,1,156,1,28,7,252,1,204,1,92,5836'BMJM
1670 DATA 4,252,1,252,3,252,1,44,2,252,1,76,6140'BNTN
1680 DATA 1,76,14,252,1,12,1,252,1,92,4,252,5958'BNIO
1690 DATA 1,220,2,252,1,92,1,252,2,252,17,252,6344'BPMQ
1700 DATA 120,97,17,110,23,97,17,110,12,97,5,161,5866'BSPI
1710 DATA 6,97,5,110,1,104,11,110,1,97,6,81,5629'BNHI
1720 DATA 1,97,3,81,1,97,5,161,6,97,15,110,5674'BMCI
1730 DATA 3,97,6,81,1,97,3,81,1,97,5,161,5633'BKFK
1740 DATA 6,97,4,1,10,5,104,6,110,3,97,6,81,5629'BMCI
1750 DATA 16,97,4,110,1,238,3,104,1,232,6,110,5922'BPON
1760 DATA 25,97,15,110,25,97,15,110,1,97,10,161,5763'BRJO
1770 DATA 7,97,5,33,1,97,1,33,4,97,2,161,5538'BKEO
1780 DATA 6,129,4,97,2,161,7,129,1,161,7,97,5801'BNCP
1790 DATA 5,33,1,97,1,33,4,97,2,161,6,129,5569'BLBQ
1800 DATA 4,97,2,161,7,129,1,161,7,97,5,33,5704'BMQI
1810 DATA 1,97,1,33,4,97,2,161,6,129,4,97,5632'BLBJ
1820 DATA 2,161,7,129,1,161,7,97,5,33,1,97,5701'BMCI
1830 DATA 1,33,1,11,97,3,33,37,97,3,33,34,97,5579'BNIL
1840 DATA 3,241,3,33,1,241,4,97,1,241,10,97,5972'BNJM
1850 DATA 2,81,10,97,4,81,2,97,7,241,4,97,5723'BLDN
1860 DATA 1,241,10,97,2,81,10,97,4,81,2,97,5723'BMRO
1870 DATA 7,241,4,97,1,241,10,97,2,81,10,97,5888'BNFP
1880 DATA 4,81,2,97,7,241,4,97,1,241,28,97,5900'BMEO
1890 DATA 7,241,4,97,1,241,80,97,203,1,2,5974'BLRR
1900 DATA 7,1,34,1,1,2,1,1,42,5090'BCOH
1910 DATA 3,1,34,3,1,168,177,1,8,5396'BFNJ
1920 DATA 99,1,2,1,10,1,42,3,1,10,5170'BFJK
1930 DATA 1,42,3,170,1,1,10,6,170,1,42,5447'BJPL
1940 DATA 23,170,1,168,7,170,1,1,160,6,170,5877'BNIN
1950 DATA 3,1,160,1,168,3,170,1,1,132,5540'BION
1960 DATA 1,40,1,34,1,32,1,168,1,176,1,184,5640'BMUP
1970 DATA 3,1,170,4,8,2,1,2,1,168,5360'BFUP
1980 DATA 1,1,2,3,6,128,145,1,64,5351'BFUQ
1990 DATA 39,1,1,20,1,2,2,10,1,5077'BDNQ
2000 DATA 1,2,2,42,11,170,1,250,20,170,1,174,5844'BOKB
2010 DATA 3,186,21,170,1,174,2,171,21,170,1,250,6170'BRLD
2020 DATA 2,186,1,8,1,136,2,168,4,174,5,5687'BKVD
2030 DATA 1,128,2,160,35,1,16,43,1,128,5515'BKRE
2040 DATA 47,1,3,6,1,12,1,204,4,5279'BEDD
2050 DATA 1,15,1,255,1,243,1,15,5,3,255,5795'BKDG
2060 DATA 5,1,252,1,204,1,60,5,2,48,5579'BHGG
2070 DATA 1,32,31,1,192,2,2,2,2,10,5275'BGKH
2080 DATA 1,43,1,191,1,42,5,170,1,255,2,170,5882'BNAJ
2090 DATA 1,171,2,174,1,186,1,234,2,170,1,234,6177'BPUL
2100 DATA 19,170,2,171,2,170,1,186,3,234,1,170,6129'BQVD
2110 DATA 1,255,7,170,1,255,7,170,1,255,2,170,6294'BPEE
2120 DATA 1,171,4,170,1,255,3,170,3,234,1,186,6199'BPDF
2130 DATA 1,250,10,170,1,174,2,171,8,170,1,234,6192'BQMG
2140 DATA 1,186,1,175,2,170,1,168,4,170,1,254,6133'BPWH
2150 DATA 1,175,1,170,2,2,128,2,160,1,248,5890'BMAH
2160 DATA 1,170,1,1,3,84,1,3,1,48,5313'BFQH
2170 DATA 5,1,12,1,207,1,255,3,1,12,5498'BHWI
2180 DATA 1,195,1,63,1,85,1,255,1,1,3,5607'BIGJ
2190 DATA 1,51,1,63,2,255,1,85,1,255,1,48,5764'BLLL
2200 DATA 1,13,4,255,1,85,1,255,1,192,1,85,5894'BMRD
2210 DATA 4,255,1,84,1,240,1,15,1,85,1,255,5943'BMHE
2220 DATA 1,252,1,204,1,48,1,3,1,12,1,252,5777'BLRF
2230 DATA 1,76,1,48,2,1,192,2,2,252,5577'BHLF
2240 DATA 1,60,2,63,1,62,1,63,1,3,1,32,5290'BISG
2250 DATA 1,224,1,199,1,36,3,148,1,160,18,5792'BMLI
2260 DATA 1,192,1,48,1,12,1,3,3,1,194,5457'BIDI
2270 DATA 1,2,1,202,1,10,2,234,102,170,1,85,5811'BNAK
2280 DATA 1,170,1,85,5,170,1,85,1,170,1,149,5839'BNNL
2290 DATA 5,170,1,106,1,170,1,106,8,170,1,5739'BMUM
2300 DATA 2,128,2,160,2,168,1,170,7,1,1,205,5910'BNSE
2310 DATA 1,15,1,13,1,197,1,205,2,193,1,241,5871'BNVF
2320 DATA 1,195,1,255,7,85,1,255,6,85,1,127,6019'BNWG
2330 DATA 1,255,7,85,1,255,1,87,1,84,1,92,5870'BLAH
2340 DATA 1,80,1,112,1,67,2,192,1,48,1,1,5507'BKTI
2350 DATA 1,245,3,53,1,55,1,48,1,64,3,80,5555'BKJJ
2360 DATA 1,83,1,93,1,253,2,1,12,1,60,5508'BIWJ
2370 DATA 1,213,1,85,2,86,1,2,2,14,1,10,5418'BJUK
2380 DATA 2,170,2,169,1,144,2,96,1,112,1,144,5844'BODM
2390 DATA 3,80,17,3,2,2,10,2,42,15,170,5346'BJUM
2400 DATA 1,165,4,170,1,166,1,86,2,126,42,170,5934'BPFG
2410 DATA 6,169,2,170,6,166,2,170,6,234,16,170,6117'BQIH
2420 DATA 1,189,1,169,1,149,1,154,1,85,1,170,5922'BOKI
2430 DATA 1,85,1,170,1,166,3,182,1,166,1,174,5951'BOFJ
2440 DATA 1,86,1,166,1,106,23,170,1,3,128,5686'BMGJ
2450 DATA 2,160,2,168,11,1,32,27,1,3,5407'BISJ
2460 DATA 5,1,14,1,25,1,166,2,1,1,5217'BFNK
2470 DATA 1,26,1,89,1,91,1,166,1,158,1,62,5598'BLVM
2480 DATA 1,106,1,126,1,234,4,170,1,240,1,160,6045'BPZO
2490 DATA 1,171,3,191,1,128,1,170,3,255,1,63,5988'BOHP
2500 DATA 2,255,1,15,1,143,5,255,1,240,1,255,6174'BOWG
2510 DATA 1,254,1,255,1,250,1,206,1,253,1,62,6286'BOVH
2520 DATA 1,250,1,235,1,171,1,207,1,248,1,157,6274'BPQJ
2530 DATA 1,165,1,245,1,213,2,85,1,241,1,93,6049'BNBJ
2540 DATA 1,85,2,117,1,119,1,117,1,118,1,87,5650'BNEK
2550 DATA 4,85,1,86,1,90,1,170,2,90,2,106,5638'BLLL
2560 DATA 4,170,1,171,2,170,2,165,1,173,1,169,6029'BPVN
2570 DATA 1,173,1,64,2,128,2,192,3,64,13,5643'BLDN
2580 DATA 3,2,1,42,1,234,4,170,1,175,5,170,5808'BMXO
2590 DATA 1,165,1,255,1,213,1,170,1,167,1,151,6127'BPQJ
2600 DATA 2,159,1,85,1,170,1,85,1,159,2,254,5920'BNNH
2610 DATA 1,255,1,246,1,102,1,101,1,102,1,230,6042'BPQJ
2620 DATA 2,170,1,250,2,170,1,90,34,170,1,169,6060'BPLK
2630 DATA 1,6,170,1,166,1,6,170,1,234,5756'BJAK
2640 DATA 1,42,10,170,1,171,7,170,1,255,1,234,6063'BPIM
2650 DATA 2,186,4,170,1,255,3,170,1,174,31,170,6167'BQAN
2660 DATA 1,168,3,170,2,171,2,175,1,1,128,5822'BMYN
2670 DATA 2,1,240,3,192,24,1,15,1,53,5532'BIQN
2680 DATA 1,255,1,192,1,213,1,63,1,15,1,5744'BKQP
2690 DATA 1,255,1,85,1,255,1,1,85,2,255,5942'BKJQ
2700 DATA 1,1,254,1,90,1,245,1,5,1,95,5695'BIHL
2710 DATA 2,255,1,2,170,2,85,1,255,3,106,5882'BLEJ
2720 DATA 2,170,2,85,1,255,5,170,2,85,1,255,6033'BNFK
2730 DATA 5,170,2,85,1,255,3,170,1,169,1,173,6035'BOCM
2740 DATA 1,93,1,95,1,254,3,170,2,85,6,245,5956'BMYM
2750 DATA 1,127,1,85,1,127,1,112,1,117,2,127,5702'BOON
2760 DATA 1,117,1,255,1,85,1,255,1,3,1,87,5808'BLJO
2770 DATA 2,255,1,92,1,255,1,85,1,255,1,5949'BKOP
2780 DATA 1,85,2,255,1,1,253,1,85,1,255,5940'BKFO
2790 DATA 1,1,87,1,255,1,204,1,1,2,64,5617'BHBQ
2800 DATA 14,4,10,4,42,1,170,1,171,6,170,5593'BLSJ
2810 DATA 1,174,1,254,6,170,1,215,1,167,1,165,6156'BPXL
2820 DATA 5,170,1,230,1,234,2,106,1,86,1,166,6003'BOIL
2830 DATA 17,170,1,255,7,170,1,255,7,170,1,250,6304'BQUN
2840 DATA 40,170,1,186,1,174,4,171,7,170,1,250,6175'BQXO
2850 DATA 32,170,2,171,1,175,3,191,4,255,5,240,6249'BQCP
2860 DATA 3,252,48,1,106,3,26,4,10,26,170,5649'BMPE
2870 DATA 2,186,1,170,1,154,1,170,1,168,4,245,6103'BPQR
2880 DATA 1,247,1,244,1,112,1,1,125,1,87,5821'BLPR
2890 DATA 1,127,5,1,112,37,2,2,1,42,5330'BHKR
2900 DATA 30,170,1,168,7,170,1,62,2,170,6,171,5958'BPIL
2910 DATA 1,234,1,226,10,170,1,162,1,170,1,162,6139'BQFM
2920 DATA 88,170,1,171,3,175,2,191,11,255,2,252,6321'BRAN
2930 DATA 6,255,7,1,192,128,5,2,3,10,5609'BIKM
2940 DATA 7,170,1,171,1,170,1,138,1,10,4,170,5844'BOIO
2950 DATA 1,255,1,138,1,10,4,170,2,255,4,168,6009'BOAP
2960 DATA 1,170,1,171,1,255,1,250,3,190,1,14,6058'BOPO
2970 DATA 1,170,3,255,1,171,3,170,1,171,1,255,6202'BPMS
2980 DATA 2,250,4,170,3,255,5,170,3,255,5,170,6292'BPAT
2990 DATA 1,255,2,175,5,170,3,255,1,170,1,168,6206'BPYU
3000 DATA 3,170,1,255,2,254,1,170,1,136,3,170,6166'BPQD
3010 DATA 1,255,2,191,5,170,3,255,1,170,1,168,6222'BPUE
3020 DATA 3,170,1,255,2,250,1,170,1,138,3,170,6164'BPMP
3030 DATA 3,255,5,170,3,255,5,170,1,234,2,239,6342'BPBG
3040 DATA 1,175,5,170,3,255,1,171,3,175,1,191,6151'BPWH
3050 DATA 1,255,1,234,1,170,6,255,2,175,7,255,6362'BPFI
3060 DATA 1,170,8,255,5,192,1,240,1,192,1,240,6306'BPRI
3070 DATA 69,1,2,58,3,15,1,10,2,15,5176'BGDI
3080 DATA 1,1,42,1,255,2,250,1,171,1,251,5976'BLTK
3090 DATA 1,240,1,10,1,170,1,254,1,190,1,170,6040'BOWL
3100 DATA 2,254,1,2,170,1,191,1,170,2,255,6049'BMTD
3110 DATA 1,3,170,1,250,1,235,1,251,1,240,6154'BMEE
3120 DATA 1,10,4,170,2,255,1,5,170,2,250,5870'BLOF
3130 DATA 1,2,4,170,2,255,1,5,170,2,255,5867'BKDG
3140 DATA 1,5,170,2,175,1,5,170,2,255,5786'BJGH
3150 DATA 1,5,170,2,254,1,2,5,170,2,191,5803'BKRI
3160 DATA 1,5,170,2,255,1,5,170,2,250,5861'BJYI
3170 DATA 1,5,170,2,255,1,5,170,2,255,5866'BJEK
3180 DATA 1,6,170,2,175,1,5,170,1,255,5786'BJGL
3190 DATA 1,254,1,2,191,3,255,3,170,1,5881'BJDL

3200 DATA 4,255,3,171,1,3,1,252,2,255,1,170,6118'BNUE
3210 DATA 1,255,3,170,1,,2,255,2,250,1,191,6131'BMMF
3220 DATA 2,186,1,58,1,192,1,255,1,160,1,128,5986'BOMH
3230 DATA 1,192,3,128,1,,1,252,37,,1,128,5744'BKAH
3240 DATA 90,,8,42,17,170,1,171,7,170,1,213,5890'BNHI
3250 DATA 2,166,1,247,1,169,1,170,1,191,1,170,6120'BPOK
3260 DATA 1,213,2,166,1,255,1,154,1,106,1,127,6028'BPKL
3270 DATA 1,170,1,213,2,166,1,245,2,166,1,213,6181'BPKM
3280 DATA 1,170,1,247,1,154,1,106,1,255,1,106,6044'BPGN
3290 DATA 1,154,1,247,1,170,1,85,2,169,1,253,6085'BODO
3300 DATA 1,85,1,106,1,85,1,170,1,126,2,106,5685'BNCF
3310 DATA 1,126,1,106,1,170,1,126,37,170,1,191,5931'BQMH
3320 DATA 2,186,5,170,1,254,7,170,1,255,1,234,6286'BPGI
3330 DATA 1,235,2,171,2,175,1,191,1,170,8,255,6212'BPJS
3340 DATA 1,234,1,239,2,255,1,247,1,246,2,255,6484'BPGK
3350 DATA 1,175,3,255,1,93,1,127,6,255,2,117,6036'BOEL
3360 DATA 1,245,2,247,1,245,2,255,1,87,1,167,6254'BOIM
3370 DATA 4,119,8,252,71,,1,2,56,8,42,5563'BIRL
3380 DATA 12,170,1,42,1,170,1,42,11,170,1,186,5807'BPJO
3390 DATA 1,181,2,169,1,189,1,169,3,170,1,87,5974'BOYP
3400 DATA 2,166,1,247,1,86,3,170,1,213,2,166,6058'BODH
3410 DATA 1,247,1,165,3,170,1,87,1,166,1,170,6013'BOYH
3420 DATA 1,255,1,106,3,170,1,86,2,154,1,223,6003'BONI
3430 DATA 1,149,3,170,1,87,2,154,1,223,1,90,5882'BNJJ
3440 DATA 32,170,6,186,1,191,6,170,1,171,1,235,6170'BQWL
3450 DATA 1,175,2,239,2,255,2,191,1,170,7,255,6300'BPXM
3460 DATA 1,191,1,255,7,239,1,234,7,255,1,175,6367'BPPN
3470 DATA 8,255,1,246,2,247,1,245,1,253,3,255,6517'BPJO
3480 DATA 1,119,1,247,2,119,1,87,3,255,8,252,6095'BOOP
3490 DATA 128,8,42,8,170,1,34,1,170,1,34,5597'BLPK
3500 DATA 1,170,1,42,3,170,1,42,1,170,1,42,5644'BMKH
3510 DATA 5,170,2,169,1,181,7,170,1,127,5,170,6008'BPYJ
3520 DATA 2,166,1,213,6,170,1,166,1,87,5,170,5988'BOQK
3530 DATA 2,154,1,86,5,170,2,154,1,87,37,170,5869'BOVL
3540 DATA 3,234,2,235,1,239,1,251,1,191,2,190,6354'BPMX
3550 DATA 6,254,10,255,6,254,18,255,1,252,7,255,6573'BRSN
3560 DATA 1,63,1,192,8,255,1,192,3,255,4,252,6227'BOIO
3570 DATA 1,60,1,192,2,252,115,,3,2,7,,5635'BIYN
3580 DATA 1,8,1,32,1,128,6,10,1,11,1,14,5214'BJIO
3590 DATA 5,170,1,234,6,170,1,171,1,174,1,186,6120'BPOR
3600 DATA 1,234,6,170,1,191,7,170,2,234,55,170,6241'BQUJ
3610 DATA 1,187,6,170,1,171,1,190,1,170,1,171,6070'BPKN
3620 DATA 2,175,1,191,3,254,3,191,1,170,4,255,6250'BPWL
3630 DATA 4,254,1,255,3,251,3,255,1,170,4,255,6456'BPEN
3640 DATA 4,254,2,255,2,251,3,255,1,171,1,255,6464'BQAN
3650 DATA 1,207,24,255,8,240,112,,1,170,1,253,6272'BPMO
3660 DATA 1,2,1,34,1,130,3,,1,170,1,255,5599'BJWN
3670 DATA 1,,1,8,1,32,1,128,2,,1,170,5345'BGPO
3680 DATA 1,255,1,194,2,2,1,3,1,10,1,34,5505'BJOP
3690 DATA 1,170,1,255,1,174,1,186,1,234,4,170,6198'BPBS
3700 DATA 1,255,7,170,1,254,1,171,5,168,2,186,6221'BPCK
3710 DATA 3,174,1,171,1,170,1,42,46,170,2,171,5952'BPUL
3720 DATA 1,170,1,187,1,171,1,186,1,175,1,238,6133'BPWM
3730 DATA 2,255,1,191,1,174,1,255,1,238,1,255,6375'BPEN
3740 DATA 1,238,2,255,6,254,10,255,6,251,10,255,6543'BRDO
3750 DATA 7,251,9,255,2,207,1,192,1,207,6,255,6393'BPNP
3760 DATA 1,,1,255,1,252,1,255,1,243,17,255,6282'BNYP
3770 DATA 2,240,6,192,101,,1,160,26,,1,2,5731'BKIQ
3780 DATA 7,6,170,2,42,16,170,5,42,1,10,5471'BKTR
3790 DATA 2,138,30,170,1,171,1,191,2,170,2,171,6049'BQOT
3800 DATA 1,191,3,255,1,175,13,255,1,240,7,255,6397'BQKL
3810 DATA 1,3,1,251,1,254,7,255,1,170,7,255,6206'BNAL
3820 DATA 1,171,1,250,7,255,1,170,7,255,1,171,6290'BPVN
3830 DATA 1,250,7,255,1,171,13,255,1,243,1,255,6453'BQVO
3840 DATA 1,243,2,255,1,207,1,255,1,63,14,255,6298'BPDP
3850 DATA 2,252,1,192,53,,1,2,89,,3,42,5637'BIMO
3860 DATA 4,10,1,2,16,170,2,138,1,130,3,162,5639'BNQQ
3870 DATA 1,160,1,168,7,170,1,175,4,170,1,171,6029'BPVS
3880 DATA 1,191,2,255,1,170,1,171,1,175,77,255,6300'BQVT
3890 DATA 3,245,1,247,1,245,1,247,1,245,1,255,6492'BPUE
3900 DATA 1,95,1,223,3,95,1,223,1,95,2,255,5995'BMVL
3910 DATA 1,252,1,255,1,252,1,255,1,240,1,255,6515'BPMN
3920 DATA 1,192,1,255,1,63,5,255,1,15,8,255,6052'BNHN
3930 DATA 3,252,4,240,1,192,144,,2,2,6,,5846'BJAO
3940 DATA 5,170,1,175,1,252,1,51,3,170,1,175,6005'BORP
3950 DATA 1,128,1,63,2,255,1,168,1,172,1,252,6045'BOAQ
3960 DATA 1,255,1,63,3,191,2,255,3,63,1,240,6078'BNFR
3970 DATA 7,255,1,11,2,251,32,255,1,250,3,243,6311'BPJT
3980 DATA 5,255,3,51,1,255,3,191,57,255,1,207,6284'BPLU
3990 DATA 1,255,1,63,1,255,1,15,1,243,1,252,6089'BNAU
4000 DATA 5,255,3,252,2,192,158,,3,15,2,3,5890'BLLD

4010 DATA 3,,1,63,1,191,1,207,1,239,1,243,5951'BLXE
4020 DATA 1,250,1,255,1,63,1,192,5,255,1,63,6088'BNHF
4030 DATA 1,255,1,15,1,207,1,255,1,243,1,255,6236'BOUG
4040 DATA 1,252,2,255,1,251,1,252,1,255,1,252,6524'BPMI
4050 DATA 3,255,1,51,1,252,1,3,1,255,1,236,6060'BMOI
4060 DATA 1,255,1,204,1,255,1,252,1,14,1,254,6240'BOKJ
4070 DATA 1,255,1,206,1,254,1,238,1,252,1,239,6450'BPRL
4080 DATA 6,255,1,,5,255,1,51,1,255,1,63,5894'BKML
4090 DATA 1,239,2,254,6,250,8,191,7,255,1,,6214'BMJM
4100 DATA 7,255,1,,2,255,1,244,1,223,1,220,6210'BMIE
4110 DATA 1,125,1,252,1,63,2,255,1,,1,255,5957'BLBF
4120 DATA 1,68,1,87,1,67,1,255,1,244,1,247,5974'BMYG
4130 DATA 1,63,3,255,1,253,1,255,1,,1,255,6089'BLEH
4140 DATA 1,211,1,255,1,79,1,255,1,63,1,255,6124'BNXI
4150 DATA 1,3,6,255,1,63,8,255,1,240,1,192,6026'BMCI
4160 DATA 1,240,3,192,139,,1,128,30,,1,63,5798'BLHK
4170 DATA 2,15,2,3,3,1,207,1,239,1,240,5714'BJSK
4180 DATA 1,251,3,255,1,63,2,255,1,15,1,239,6087'BNFM
4190 DATA 1,3,1,192,1,200,1,194,1,131,1,240,5966'BNNN
4200 DATA 4,255,1,63,1,15,1,255,2,63,1,255,5916'BMHF
4210 DATA 1,240,1,248,3,255,1,236,3,255,3,63,6309'BOBH
4220 DATA 1,255,1,64,1,205,1,252,1,255,1,240,6277'BOVH
4230 DATA 1,241,1,252,1,255,1,47,1,127,1,47,5975'BNGI
4240 DATA 1,255,1,11,1,115,1,63,1,234,1,238,5922'BNPJ
4250 DATA 1,234,5,170,1,175,1,191,1,175,1,191,6146'BPVL
4260 DATA 1,175,3,191,1,255,1,63,1,255,1,207,6154'BOCL
4270 DATA 1,255,1,195,1,255,1,243,4,255,1,253,6465'BPEN
4280 DATA 1,255,1,244,1,255,1,252,1,255,1,64,6331'BOVN
4290 DATA 1,255,1,63,9,255,1,253,1,255,1,244,6339'BOHP
4300 DATA 1,255,1,211,1,255,1,79,1,255,1,63,6124'BNXG
4310 DATA 2,255,1,253,1,255,1,253,2,255,1,244,6523'BPTI
4320 DATA 1,255,1,127,1,207,1,60,1,63,1,51,5769'BMBI
4330 DATA 1,255,1,63,1,255,2,252,2,240,2,192,6266'BOBJ
4340 DATA 2,64,184,,1,63,1,143,1,175,1,163,5798'BMOK
4350 DATA 1,168,3,170,1,240,1,252,3,255,1,63,6158'BOBL
4360 DATA 1,207,2,143,2,63,1,252,1,47,1,195,5915'BNDM
4370 DATA 1,224,1,248,3,255,1,15,1,195,1,224,6169'BOAO
4380 DATA 1,248,1,62,1,143,1,255,1,240,2,252,6207'BOQO
4390 DATA 1,255,2,63,4,255,1,63,1,15,1,255,5916'BMHP
4400 DATA 1,252,1,255,2,254,2,252,2,255,1,,6277'BMAH
4410 DATA 1,172,1,,1,15,1,,1,3,1,,5196'BDRG
4420 DATA 1,192,1,,1,15,1,192,1,252,1,15,5672'BKQJ
4430 DATA 4,,1,255,1,243,1,51,1,63,1,61,5682'BJBJ
4440 DATA 1,63,1,255,1,,1,211,1,255,1,79,5869'BKHL
4450 DATA 1,255,1,63,7,255,1,252,1,240,1,197,6274'BODN
4460 DATA 1,192,1,211,1,255,2,63,6,255,1,253,6241'BOVN
4470 DATA 1,255,1,244,1,255,1,211,1,255,1,67,6293'BOBO
4480 DATA 1,255,1,15,4,255,2,253,4,254,1,126,6171'BOAP
4490 DATA 2,254,8,128,10,,1,48,86,,1,32,5570'BJGQ
4500 DATA 86,,5,170,1,251,1,59,1,3,1,147,5725'BKHI
4510 DATA 2,148,2,165,1,255,1,,1,255,1,64,6085'BMDJ
4520 DATA 1,255,2,63,1,64,2,240,1,192,1,15,5837'BMCK
4530 DATA 1,252,1,240,1,,1,58,2,63,1,191,5811'BPKL
4540 DATA 1,252,1,3,2,63,1,191,1,207,1,195,5918'BMCM
4550 DATA 1,250,1,,2,192,1,251,4,255,2,63,6022'BLMN
4560 DATA 1,15,1,255,1,3,1,255,1,200,1,255,5989'BMAO
4570 DATA 1,242,1,243,1,255,1,243,1,242,1,255,6486'BPRL
4580 DATA 1,252,1,255,2,63,1,255,2,63,3,255,6153'BNCO
4590 DATA 1,240,2,192,1,255,1,195,1,195,1,15,6159'BOBR
4600 DATA 1,255,1,,1,15,1,63,2,255,1,248,5843'BKAJ
4610 DATA 1,240,1,255,1,252,1,15,2,192,1,255,6216'BOQK
4620 DATA 1,15,1,207,2,255,1,252,1,63,1,,5799'BKCL
4630 DATA 3,252,1,195,1,15,1,63,2,255,1,61,5850'BMBM
4640 DATA 1,15,1,31,1,87,1,247,1,223,1,255,5864'BMCN
4650 DATA 1,127,1,253,1,255,1,192,1,255,4,254,6345'BPXP
4660 DATA 2,238,1,62,1,255,8,128,208,,1,48,5952'BMQP
4670 DATA 1,15,1,2,5,,1,254,1,255,1,195,5731'BJAP
4680 DATA 1,63,1,12,3,,1,15,1,63,1,252,5413'BIMQ
4690 DATA 2,255,1,239,1,3,1,,2,252,2,255,6013'BKOS
4700 DATA 1,195,1,255,1,252,1,48,1,252,1,254,6262'BOCK
4710 DATA 1,188,1,204,1,255,3,2,255,2,243,6155'BMYL
4720 DATA 1,255,3,1,63,1,191,1,252,1,255,6024'BLQM
4730 DATA 1,207,1,255,1,63,1,1,,1,14,255,5800'BKLN
4740 DATA 1,207,1,240,1,,1,255,1,254,1,255,6217'BMNO
4750 DATA 1,60,1,240,3,,1,252,1,48,1,192,5800'BKLP
4760 DATA 133,,,,1,192,133,,,,5459'BBAO
4770 DATA 1930,60052,1328,57015,1291,59655'BHLQ
4780 DATA 1924,56437,2267,57308,1206,60342'BHPR

Sound Effects for the Commodore 64

by David Bergmeier

Some of the hardest sound concepts to fully understand would undoubtedly be filtering, ring modulation and synchronization. However, these concepts are very easy to use in BASIC.

A filter is something that strains or removes parts of a substance but leaves other parts. The sound filters are very much the same. They cut out certain sounds but leave others. There are three different filters on the 64 each doing a different thing. The first thing to do when using filters is to set the cutoff frequency of the filter. This is simply a reference for the filter being used. The cutoff frequency is stored in locations S+21 and S+22, but for convenience, I will only be using the hi byte (S+22).

The first type of filter is called a low-pass filter. What it does is to leave all the sounds below the cutoff frequency and filter those above it. It is selected by setting bit 4 of the volume (S+24) to a one.

The second type of filter is a bandpass. What it does is to filter all frequencies except for a small band of frequencies around the cutoff frequency. It is selected by setting bit 5 of the volume (S+24) to a one.

The third filter is a high-pass filter which leaves frequencies below the cutoff frequency and filters those above it. It is selected by setting bit 6 of the volume (S+24) to a one.

Now you have to select which voices you want to filter. The location is S+23 and you set bit 0 to a one for voice 1. Set bit 1 to a one for voice 2 and set bit 3 to a one for voice 3. If you haven't already realised, each voice can be filtered independently.

There is one more thing to be set, although it is not necessary. It is the resonance and is very hard to define. In terms of an explosion (see listing) it is the part of the explosion that gives the real rough, rumbling sound if the resonance is set to the maximum. The resonance is a number from 0 to 15 and is set in the high nybble of S+23 (ie. bits 4,5,6 and 7). Now we are all ready for the first few initialization lines :-

```
10 S=54272:AT=12:DK=0:  
SU=15:RE=15:RS=15  
20 FORI=0TO24:POKES+I,0:  
NEXT  
30 POKES+24,15+32+16
```

Note here that I have used two filters that will both filter simultaneously.

```
40 POKES+23,1+16*RS  
50 POKES+22,180  
60 POKES+5,AT*16+DK  
70 POKES+6,SU*16+RE  
80 POKES+4,129
```

These initialization lines are the start of a massive explosion. All that has to be done now is to set the note, wait for the attack to finish and then begin the release. That can simply be done by :-

```
90 POKES+1,4  
100 FORI=1TO4000:NEXT  
110 POKES+4,128
```

This completes the explosion and you will notice that the sound is still going, even though the code has been completed. This is the ADSR at work and should be taken into account when writing games. (ie. Don't start the next man while the last one is still being blown up.) Going back to the resonance, change the variable RS in line 10 to zero and hear the difference no resonance makes to the explosion.

The other things to alter are the ADSR which should be very easy (see line 10), the type of filter used (see line 30) and the cutoff frequency (line 50). To create other sounds alter the waveform to either of the other three possible forms.

Filtering is not only good for explosions, it is excellent for other banging sounds (eg. gunshot, typewriter or even a handclap.) But, using other waveforms, it is possible to make different sounds. One example is the imitation of acoustic instruments like the violin etc. It also can mimick other low instruments like the tuba. The secret is in changing the filter settings. Changing the cutoff frequency in a FOR-NEXT loop will change the part of the sound that are filtered and hence cause a better sound effect. Now by choosing the correct ADSR settings and the best type of filter, the imitation of these instruments should be quite easy. The stringed instruments sound best using and attack of 7, decay of 13, sustain of 5 and no release. Try using both the high-pass and the bandpass filters. To change to a tuba try an attack of 8, decay of 12, a sustain of 5 and again, no release. This time use a low-pass filter. By varying any of these given settings, you can create your own personal sounds for use in program sound effects, or even tunes.

Ring modulation and synchronization both require the use of two or three voices. Ring modulation as its name implies, can be used to create the sounds of bells. But as well as that it is very useful for other types of sounds. To hear a bell, try the following initialization lines :-

W'HAEEEE

```
10 S=54272:AT=0:DK=11:SU=0:  
RE=0  
20 FORI=0TO24:POKES+I,0:  
NEXT  
30 POKES+24,15  
40 POKES+5,AT*16+DK  
50 POKES+6,SU*16+RE
```

What about the waveform? Well, the controls for ring modulation and synchronization are not in new locations, but all in the waveform locations. To hear a bell, use the triangle waveform and in addition set bit 3 to a one. That is :-

```
60 POKES+4,21
```

Now all that is left to do is to set the frequencies of the correct voices. It is important to set the right voices as each voice is ring modulated with a specific voice. Voice 1 is modulated with voice 3. Voice 2 with voice 1 and voice 3 with voice 2. The actual sound comes from the frequency of the base note and the bell sound comes from the frequency of the voice being ring modulated with. So there is no need to set an ADSR or waveform for voice 3 since we are using voice 1.

```
70 POKES+1,130  
80 POKES+15,30
```

To achieve the best results (you will find that some combinations of frequencies will produce poor bell sounds) a lot of experimentation is required. Usually stick to the high byte of the frequency but if necessary you might use the low byte as well.

Ring modulation is not only good for bells, when used in FOR-NEXT loops it produces very wierd and eerie effects, very suitable for dark, scary places in adventures.

Synchronization is another concept that is hard to define although I would imagine it would have something to do with the synchronizing of the output waveforms. Anyway, you don't have to know how it works if you want to use it. Once again you need to initialise only one voice, but you do need to set a frequency for the voice to be synchronised with. To use synchronization you have to set bit 1 in the waveform to a one. The following will do just that :-

```
10 S=54272:AT=0:DK=9:SU=0:  
RE=0  
20 FORI=0TO24:POKES+I,0:  
NEXT  
30 POKES+24,15  
40 POKES+5,AT*16+DK  
50 POKES+6,SU*16+RE  
60 POKES+4,19
```

Now for the two frequencies. (notice that the two voices that will be synchronised are the same as the two that are ring modulated. That is: voice 1 with voice 3, voice 2 with voice 1 and voice 3 with voice 2.)

```
70 POKES+1,130  
80 POKES+15,30
```

(How's that for a submarine klaxon?)

Again like ring modulation it is possible to create very wierd effects by changing the frequency of voice 1 in a FOR-NEXT loop. One thing you will find is that a wavering effect is produced when S+15 is between 6 and 20. This effect is very hard to describe so the best thing is to hear it for yourself (see example sound effects.)

Since ring modulation and synchronization both use different bits of the waveform, why not use both in the one effect at the same time? Done. The only modification needed is to change the waveform POKE to 23. (Use 22 to end the sustain and begin the release.) This effect is also very eerie and hard to describe so type in the example sound effects and hear it for yourself.

To get the best possible sound effects takes patience and heaps of experimentation. You have to be prepared to try anything and everything. Try using filters with some of the previous sound effects. Try inventing new sounds. But if your stuck for new sounds try modifying old ones. If something seems just what you want, put it aside and come back to it later, you may have forgotten something like an ADSR or put in something extra that might sound better without like resonance.

The next article will feature short tunes using a single voice, and how to write them.

SFX GENERATOR 4

```
10 REM "#####"  
  'BAPC  
20 REM "# SOUND EFFECTS GENERATOR[SPACE2]V-4 #" BAYG  
30 REM "#[SPACE30]#" BAAD  
40 REM "# BY DAVID BERGEMIER JULY 1985 #" BATI  
50 REM "#####"  
  'BAPG  
100 PRINT "[CLR,WHT]";: POKE 53280,6: POKE 53281,0'DRJA  
110 PRINT " < SOUND EFFECTS GENERATOR VERSION 4 ""'BAFG  
120 PRINT "[DOWN,RED,RIGHT3]PLEASE MAKE YOUR  
  SELECTION[GRN,DOWN]"'BASJ  
130 PRINT "[RVS,SPACE12]1 MASSIVE EXPLOSION[SPACE9]"'BAPG  
140 PRINT "[RVS,SPACE12]2 GUN SHOTS[SPACE17]"'BAOG  
150 PRINT "[RVS,SPACE12]3 MERV'S TYPEWRITER[SPACE9]"'BALI  
160 PRINT "[RVS,SPACE12]4 DOUBLE BASS[SPACE15]"'BAJI  
170 PRINT "[RVS,SPACE12]5 SYNTHESIZED WOW WOW[SPACE7]"  
  'BAGL  
180 PRINT "[RVS,SPACE12]6 SPACE PIGS[SPACE16]"'BAXK  
190 PRINT "[RVS,SPACE12]7 UFO 1[SPACE21]"'BAWK  
200 PRINT "[RVS,SPACE12]8 UFO 2[SPACE21]"'BAYC  
210 PRINT "[RVS,SPACE12]9 UFO 3[SPACE21]"'BABD  
220 PRINT "[RVS,SPACE12]0 BELLS & XYLOPHONE[SPACE9]"  
  'BAWG  
230 GET A$: IF A$="" THEN 230'EIED  
240 A=VAL (A$): PRINT "[CLR]"'DGMD  
250 ON A+1 GOSUB 1900,1000,1100,1200,1300,1400,1500,1600,1700,  
  1800'DBYM  
260 GOTO 100'BDAD  
1000 REM ### EXPLOSION #1 ###'BRRW  
1001 S=54272:RS=15:AT=12:DK=0:SU=15:RE=15'G FN F  
1002 FOR I=0 TO 24: POKE S+I,0: NEXT 'GKDA  
1003 POKE S+24,15+32+16'EKVA  
1004 POKE S+23,1+16*RS'EJIB  
1005 POKE S+22,180'CHNA  
1006 POKE S+5,AT*16+DK'EJND  
1007 POKE S+6,SU*16+RE'EJQE  
1008 POKE S+4,129'CGSD  
1009 POKE S+1,4'CELE  
1010 FOR I=1 TO 4000: NEXT 'EHIW  
1011 POKE S+4,128'CGRW  
1012 RETURN 'BAQV  
1100 REM ### GUN SHOTS ###'BOTW  
1101 S=54272:RS=10:AT=2:DK=0:SU=15:RE=9'GDGP  
1102 FOR I=0 TO 24: POKE S+I,0: NEXT 'GKDB  
1103 POKE S+24,15+16'DIGA  
1104 POKE S+23,1+16*RS'EJIC  
1105 POKE S+22,240'CHKB  
1106 POKE S+5,AT*16+DK'EJNE  
1107 POKE S+6,SU*16+RE'EJQF  
1108 FOR I=1 TO 5'DDIE  
1109 POKE S+1,25'CFMF  
1110 POKE S+4,129'CGSW  
1111 FOR J=1 TO 100: NEXT 'EGYI  
1112 POKE S+4,128'CGRY  
1113 FOR J=1 TO 1500: NEXT 'EHLB  
1114 NEXT 'BAEY  
1115 RETURN 'BAQA  
1200 REM ### MERV'S TYPEWRITER ###'BWBB  
1201 S=54272:RS=15:AT=0:DK=0:SU=10:RE=5'GDJH  
1202 FOR I=0 TO 24: POKE S+I,0: NEXT 'GKDC  
1203 POKE S+24,15+64'DIJB  
1204 POKE S+23,1+16*RS'EJID  
1205 POKE S+22,100'CHFC  
1206 POKE S+5,AT*16+DK'EJNF  
1207 POKE S+6,SU*16+RE'EJQG  
1208 FOR I=1 TO 40' DEF F  
1209 POKE S+1,30+ INT ( RND (1)*3)'GLGK  
1210 POKE S+4,129'CGSX  
1211 POKE S+4,128'CGRY  
1212 PRINT CHR$( INT ( RND (1)*26)+65);'GMME
```

```
1213 FOR J=1 TO 100+ INT ( RND (1)*400): NEXT 'IODG  
1214 NEXT 'BAEA  
1215 RETURN 'BAQB  
1300 REM ### DOUBLE BASS ###'BQSA  
1301 S=54272:RS=0:AT=6:DK=12:SU=6:RE=0'GCTH  
1302 FOR I=0 TO 24: POKE S+I,0: NEXT 'GKDD  
1303 POKE S+24,15+32+64'EKYD  
1304 POKE S+23,1+16*RS'EJIE  
1305 POKE S+5,AT*16+DK'EJNF  
1306 POKE S+6,SU*16+RE'EJQG  
1307 POKE S+4,33'CFOF  
1308 FOR I=5 TO 3 STEP -1'FENI  
1309 FOR J=255 TO 50 STEP -50'FISJ  
1310 POKE S+4,33'CFOY  
1311 POKE S+1,I: POKE S+0,J'EJXC  
1312 FOR K=255 TO 0 STEP -4'FGRD  
1313 POKE S+22,K'CFKC  
1314 NEXT 'BAEB  
1315 POKE S+4,32'CFNE  
1316 NEXT 'BAED  
1317 NEXT 'BAEE  
1318 RETURN 'BAQF  
1400 REM ### SYNTHESIZED WOW WOW ###'BXFD  
1401 S=54272:RS=10:AT=6:DK=12:SU=6:RE=9'GDWJ  
1402 FOR I=0 TO 24: POKE S+I,0: NEXT 'GKDE  
1403 POKE S+24,15+32+64'EKYE  
1404 POKE S+23,1+16*RS'EJIF  
1405 POKE S+5,AT*16+DK'EJNG  
1406 POKE S+6,SU*16+RE'EJQH  
1407 POKE S+3,8'CERG  
1408 L=2'BCWG  
1409 FOR I=35 TO 26 STEP -2'FGRK  
1410 POKE S+4,65'CFYA  
1411 POKE S+1,I'CEHB  
1412 FOR K=255 TO 5 STEP -L'FGVE  
1413 POKE S+22,K'CFKD  
1414 NEXT 'BAEC  
1415 POKE S+4,64'CFSF  
1416 L=L*8/9'DEUF  
1417 NEXT 'BAEF  
1418 RETURN 'BAQG  
1500 REM ### SPACE PIGS ###'BPAC  
1501 S=54272:RS=15:AT=0:DK=0:SU=15:RE=0'GDJK  
1502 FOR I=0 TO 24: POKE S+I,0: NEXT 'GKDF  
1503 POKE S+24,15+64'DIJE  
1504 POKE S+23,1+16*RS'EJIG  
1505 POKE S+5,AT*16+DK'EJNH  
1506 POKE S+6,SU*16+RE'EJQI  
1507 POKE S+4,21'CFLL  
1508 FOR I=1 TO 255'DFLI  
1509 POKE S+4,21'CFLL  
1510 POKE S+1,I'CEHB  
1511 POKE S+15, INT ( RND (1)*100+5)'GNHG  
1512 POKE S+4,20'CFKL  
1513 NEXT 'BAEC  
1514 POKE S+1,0'CEHF  
1515 POKE S+15,0'CFKL  
1516 RETURN 'BAQF  
1600 REM ### UFO 1 ###'BKXB  
1601 S=54272:AT=0:DK=0:SU=15:RE=0'FXSJ  
1602 FOR I=0 TO 24: POKE S+I,0: NEXT 'GKDG  
1603 POKE S+24,15'C GO E  
1604 POKE S+5,AT*16+DK'EJNH  
1605 POKE S+6,SU*16+RE'EJQI  
1606 POKE S+4,21'CFLL  
1607 POKE S+15,11'CGKI  
1608 FOR I=1 TO 255'DFLJ  
1609 POKE S+1,I'CEHK  
1610 NEXT 'BAEA  
1611 POKE S+15,14'CGND  
1612 FOR I=255 TO 0 STEP -1'FGMG  
1613 POKE S+1,I'CEHF  
1614 NEXT 'BAEE  
1615 POKE S+15,0'CFKH  
1616 RETURN 'BAQG  
1700 REM ### UFO 2 ###'BKYC  
1701 S=54272:AT=0:DK=0:SU=15:RE=0'FXSK  
1702 FOR I=0 TO 24: POKE S+I,0: NEXT 'GKDH  
1703 POKE S+24,15'C GO F  
1704 POKE S+5,AT*16+DK'EJNI  
1705 POKE S+6,SU*16+RE'EJQJ
```

ZZZZAP

CONTINUED ON PAGE 39

PROJECT: RESET SWITCH

Vince Morton

This item is available in a number guises from a number of sources and basically it consists of a switch which goes between the reset line and the ground line. This works fine, except that most manufacturers of I.C.s do not recommend that the reset line on the I.C. be pulled to total ground, only to a negative logic state, and also a reset pulse should be of a set duration. This can be achieved on the C64 by placing the reset switch in the following position in the reset generation circuit. Capacitor C105 in the reset circuitry is the pulse to be sent through the C64. This requires disassembly of the C64 and the placement of a switch and soldering of two wires onto the legs of the capacitor which is easily identified.

INSTRUCTIONS

NOTE!! – For people who have a fairly new Commodore 64 under warranty then procedures mentioned here will void the warranty so do not procede unless you are happy to void that warranty.

RESET SWITCH PROCEDURE

Additional requirements 1/4" Drill bit and drill

Disconnect all cables from the Commodore C64. Turn the C64 upside down and remove the three screws holding the 2 halves of the case together. Turn the C64 Back up the right way holding the case together. Lift the front of the upper case revealing the insides of the C64. There are two cables running from the keyboard section to the lower section of the C64. Carefully note how these cable plugs are orientated and then unplug them and remove the upper section of the C64.

The main processor board of the C64 is hidden beneath a silver shield which clips onto the metal surround of the cartridge connector. Unclip the shield which clips onto the metal surround of the cartridge connector. Unclip the shield and fold back the shield to reveal the P.C.B.

At this stage it is necessary to decide where the reset switch will be located and then drill the 1/4" hole carefully through the plastic case.

My own preference is indicated in Diagram B and was chosen for two reasons.

Firstly being on the base section of the case, I did not require long wires on the switch to enable separation of the two halves of the case.

Secondly on the side in the corner the switch is reasonably clear of any components, and does not interfere with any standard connectors on the backplane.

Once the position is selected, Drill the hole in the case. Once again in my own case I drilled the hole by turning the drill bit in my hand: the plastic is soft, and by this slow and easy method there is less chance of damage: It is now necessary to locate C105.

I have found it in two differing places on older and newer models of C64. (I have marked these approximate areas on Diagram B).

Once you have located C105 take a measurement of the length of wire needed to go from C105 to the switch location allowing some slack to route the wire around the edge of the case where possible (See Diagram B).

Using 2 lengths of insulated hook up wire, solder each one to a termination on the switch. Insulate both these terminations individually with insulation tape.

Mount the switch into the case and lock into position with nut supplied. Take the other end of each wire and solder one to each leg of C105 ensuring they can not make contact with any other point.

You may now reassemble your C64 reversing the disassembly instructions given earlier.

If you have followed the steps carefully and correctly you now have the most correct form of reset switch for your C64.

TOOLS LIST

Apart from the parts mentioned for each project you will need to obtain the following items.

- Soldering Iron with a fine tip
- Resin cored solder
- Roll of insulation tape
- Cutters & Phillips head screwdriver
- Hook up wire

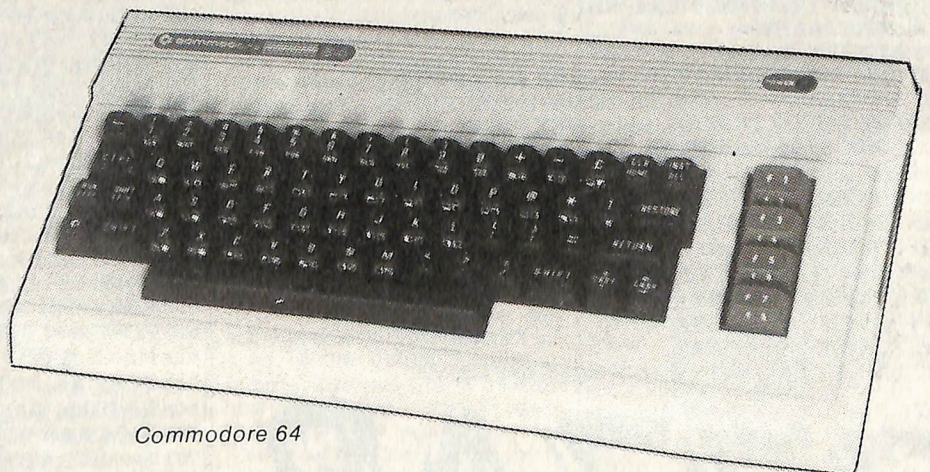
HELP IF NEEDED

"I am will to help any reader with any of the modifications described in my article if they are interested.

If anyone is willing to bring their equipment to me to have modifications performed, then they are quite free to contact me through the Commodore Magazine.

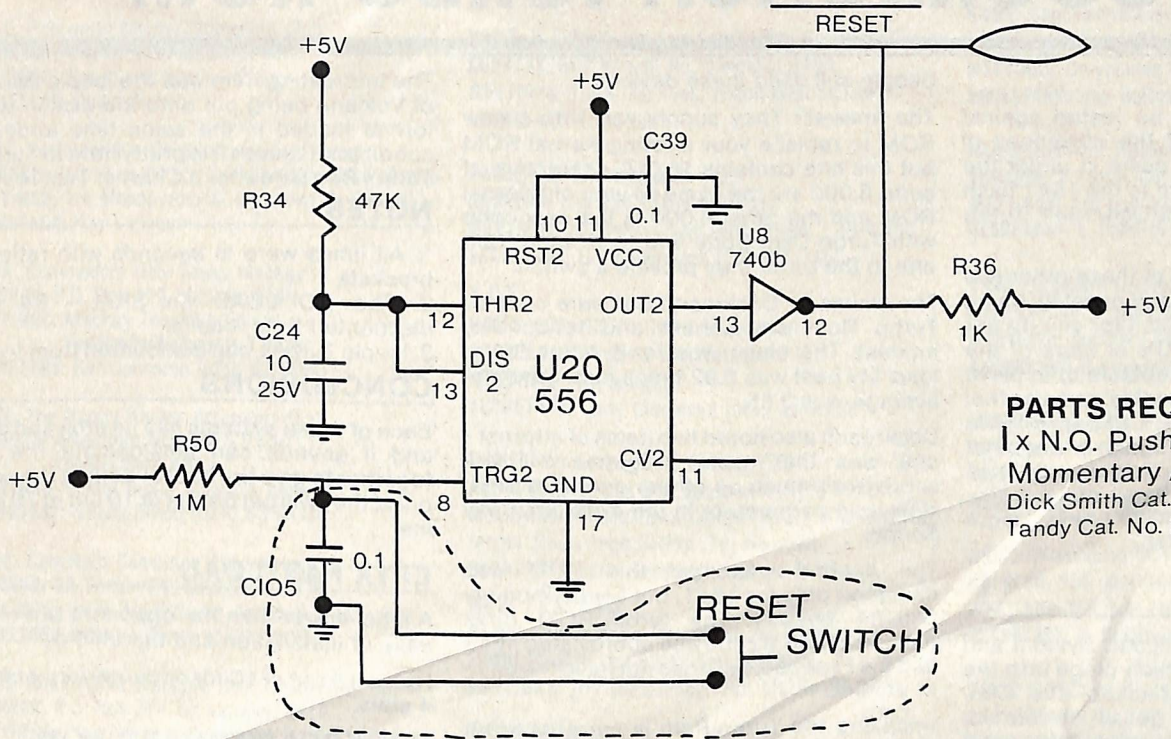
Anyone who would like to attack their system themselves can have details of the mods and where to get parts for the cost of photo-copying and postage."

The Commodore Magazine
82 Alexander Street
Crows Nest N.S.W. 2065



Commodore 64

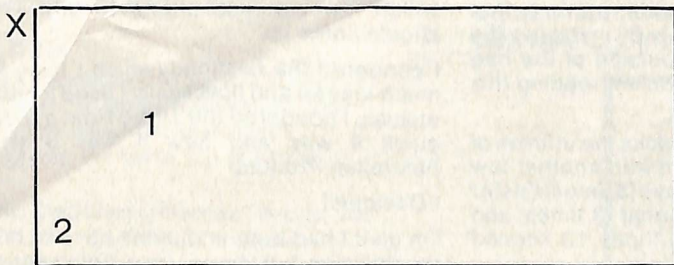
**DIAGRAM A
THIS IS THE RESET CIRCUITRY FOR THE C64**



PARTS REQUIRED

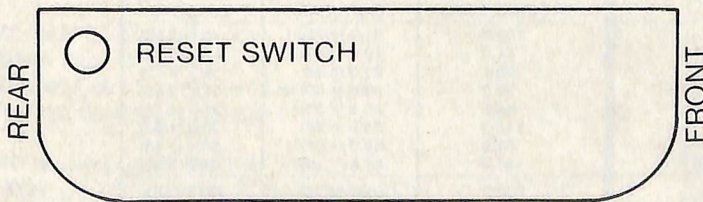
- 1 x N.O. Pushbutton
Momentary Action
Dick Smith Cat. No. S1.102
Tandy Cat. No. 275-1547 (Pk of 5)

**DIAGRAM B
BASE UNIT OF C64 FROM ABOVE**



FRONT

- X Location of Reset Switch
- 1 Approx Location of C105 (New Models)
- 2 Approx Location of C105 (Old Models)

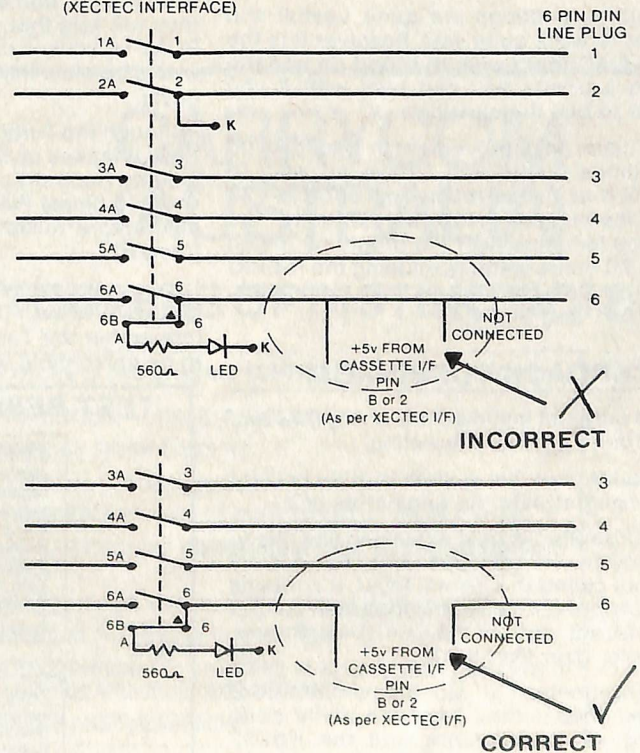


SIDE VIEW OF C64

ERRATUM

Last Issue in the Printer Switch Project there was an error in one of the diagrams. We are very sorry for any inconvenience that we may have been caused.

**PRINTER SWITCH
(XECTEC INTERFACE)**



Comparison

EPYX FASTLOAD VS COCKROACH TURBO ROM

Vince Morton

These were chosen to be tested against each other because of the closeness of costs involved, as both come in under the \$50.00 mark, as opposed to the 1541 flash at \$175.00 and the SPRC64/1541 Turbo System at \$115.00.

Although the supporters of these other two systems may feel somewhat upset by being left out of this comparison, I for one do not believe that a cost of 30% or more of the original drive cost is acceptable to achieve an increase in speed of loading, and also feel that with the C64 being a cheap reliable home computer the average user does not have that sort of money to put out for this sort of improvement and I know quite a few people that would rather have more software that loads slower.

EPYX FASTLOAD

This was my first Turbo Load System and comes as a cartridge which plugs into the cartridge port on the back of the C64. Turning on the C64 we get all the normal things on the screen, plus the word "FASTLOAD" just over the "READY". The cartridge contains more than just a highspeed disk loader, it contains abbreviated load commands, a DOS wedge and by using the £ sign a full menu driven list of utilities, including a disable function for those few odd occasions that Fastload refuses to co-operate.

The utility functions are quite usefull and appear to work quite well, however it is the FASTLOAD that I wish to report on and the rest is a bonus you can play with if you decide to buy the cartridge.

EPYX claim an improvement in loading of up to 5 times faster, and I have no wish to dispute that, but as yet my best effort is 4.77 times faster, pretty close but not quite. The average increase over the programs tested was 2.70 times faster (excluding the ISEPIC backup). This cartridge is fully compatible with 1541 and Skai-64.

COCKROACH TURBO-ROM

I have only just installed this on my C64 and have found it quite interesting.

The concept of this system is quite brilliant and I congratulate the originators of it.

The Turbo Rom is best explained like this to the novice. In the C64 is a Read Only Memory called the Kernal ROM; it contains 8000 (Approx.) characters of code to control the different parts of the C64. (Disk, Printer, Cassette, User Port etc.)

The Gentlemen at Cockroach Software decided that if they removed some code relating to the cassette and the R5232 interface they would have room enough to make the disk go faster with new code. I can now see all the Datasette and Modem users shaking in their boots, but have no fear all is not lost, for they also realised that some

people still used these devices.

The answer? They supply you with a new ROM to replace your existing Kernal ROM but this one contains 16,000 characters of code. 8,000 are the same as your old Kernal ROM and the other 8,000 is the new code with Turbo Disk Code and to change from one to the other they provide a switch.

The claims by Cockroach Software on their Turbo Rom are honest and reasonably modest. The claim was for 5 times faster load. My best was 5.92 times faster and the average was 3.55.

Cockroach also noted two items of interest - one was that some programs will not improve as much as others due to internal slow load parameters in the program (Easy Script).

The second was that this ROM was designed only for 1541, but I tried it on my Skai-64 anyway. The turbo ROM does include a DOS wedge and abbreviated input like the Fastload, but does not have the built-in utilities.

Installing the Turbo-Rom is more complex than the plug in cartridge, and if you have a soldered in Kernal Rom, could be quite heartbreaking for the average user. (As a computer engineer I was not about to panic, but I had a plug in Kernal anyway)

The installation instructions are well laid out and easy to follow, however I think that the guys at Cockroach might find it prudent to warn people with a C64 under warranty that they will void that warranty by installing the ROM. (A sticker on the outside of the bag would be nice: that is if you are reading this guys).

Although the Turbo Rom lacks the utilities of Epyx it makes up for them with another few nicities. Such as Faster Save (5 times) Faster verify (5 times) Faster Format (3 times, and much more reliable than those 10 second formats).

I have run several programs through both Turbo's and both the 1541 and the Skai-64 (remember the Turbo Rom is not supposed to be compatible with the Skai-64).

The interesting item was the Isepic Backup of Volcano being put onto the disk in turbo format loaded in the same time under all conditions (I guess it is pretty hard to Turbo a Turbo) See below for a Chart of Test results.

NOTES

1. All times were in seconds with ratios in brackets
2. The NO LOAD on SKAI - 64 was discounted from results.
3. Isepic Turbo Load discounted from totals.

CONCLUSIONS

Each of these systems has its pros and cons and if anyone can amalgamate the two together to give the best of both at the same price, they will get 5 stars or 10 out of 10 from me.

EPYX FASTLOAD

A little slower than the opponent but offers ease of installation and the utilities.

I gave it 8 out of 10 for price/performance or 4 stars.

COCKROACH TURBO ROM

Fastest of the two and lived up to all its promises. Installation could be a bit dicey for the novice, but a great Australian Product.

I gave it 9 out of 10 for Price/Performance or 4½ stars.

Finally to end this article I asked myself which I would recommend to buy if the choice came up.

I pondered the Fastload (which I have had much longer) and how easily I used it and its utilities. I pondered the Turbo Rom and how quick it was and how it was a Great Australian Product.

I Decided!!

I'm glad I had both and didn't have to make the decision, but I hope I have helped others to decide.

EPYX FASTLOAD from K-Mart Stores
TURBO - ROM from Chambers Computer Supplies.

TEST RESULTS

COMMODORE 1541			
PROGRAM	NORMAL LOAD	FASTLOAD	TURBO ROM
Jumpman	100.2	21.0 (4.77)	16.9 (5.92)
Database Plus	71.9	19.9 (3.61)	13.8 (5.21)
Volcano	92.1	21.0 (4.38)	19.9 (4.63)
Volcano (Isepic)	22.8	22.8 (1.00)	22.7 (1.00)
Hunter on Ice	86.0	36.9 (2.33)	20.8 (4.13)
Pitstop II	145.3	33.5 (4.34)	30.0 (4.84)
Easy Script	62.9	59.0 (1.07)	54.5 (1.15)
Beach Head	141.8	67.6 (2.10)	41.2 (3.43)
TOTALS	700.2	2589 (2.70)	1971 (3.55)

SKAI - 64			
PROGRAM	NORMAL LOAD	FASTLOAD	TURBO ROM
Jumpman	95.8	20.9 (4.58)	16.9 (5.67)
Database Plus	71.7	19.9 (3.60)	15.7 (4.57)
Volcano	92.2	22.0 (4.19)	23.1 (3.99)
Volcano (Isepic)	23.0	22.9 (1.00)	22.9 (1.00)
Hunter on Ice	86.0	36.6 (2.34)	20.6 (4.17)
Pitstop II	145.7	33.9 (4.30)	34.0 (4.29)
Easy Script	62.6	58.9 (1.06)	55.0 (1.13)
Beach Head	140.0	36.8 (3.80)	No Load
TOTALS	554.0	192.2 (2.88)	165.3 (3.35)

USER GROUPS

The Who, where and what of user groups.

QUEENSLAND

NAME: Commodore User Group Townsville
ADDRESS: 2 Paxton St., Townsville
MEETINGS: Ignatius Park College (Computer Room)
SECRETARY: Tony Moore (077) 72 6454

NAME: Pittsworth Micro-Commodore Club
ADDRESS: 5 Alport St., Pittsworth 4356
MEETINGS: Monthly at above address
SECRETARY: David Siebuhr

NAME: Rockhampton Commodore Users Group
ADDRESS: P.O. Box 5733 Rockhampton Mail Centre
MEETINGS: 1st Monday/month Berserker St School
SECRETARY: Kay Lanyon

NAME: Commodore User Group Mackay
ADDRESS: P.O. Box 422 Mackay 4740
MEETINGS: Mackay Teachers Centre
Fortnightly/Wednesday 7.30pm
SECRETARY: Ken Johnston (079) 42 2068

NAME: The Happy Hacker Adventure Club
ADDRESS: Adventure News M.S.F.550
Toogoolawah 4313
MEETINGS: Postal Group Australia Wide
SECRETARY: Stuart Elflett (075) 83 5119

NAME: Comstrad Computer Users Group
ADDRESS: 22 Wilson St., Caboolture 4510
MEETINGS: 1st & 3rd Sat/mth Anglican Church Hall
SECRETARY: Marcus Dwyer (075) 95 3566

NAME: Commodore Compute User Group (Qld) Inc.
ADDRESS: P.O. Box 274 Springwood 4119
MEETINGS: Playground & Recreation Assoc. Hall
Brisbane. 1st Tuesday/month 7.30pm.
SECRETARY: Norm Chambers (07) 341 5651

NAME: Mermaid (Business) Users Group
ADDRESS: P.O. Box 76 Mermaid Beach 4218
MEETINGS: Fortnightly at "Mermaid Computers" Gold
Coast Highway Mermaid Beach. ("Home In" Shopping
Complex)
SECRETARY: CONVENOR - Ron Perry (075)39 8427

VICTORIA

NAME: Commodore User Group (Vic) Inc.
ADDRESS: P.O. Box 64 Abbotsford Vic 3067
MEETINGS: Advised on Newsletters
SECRETARY: F.A. Martin (03) 419 1924

NAME: Shepparton Commodore Computer Club
ADDRESS: 11 Dunrobin St., Shepparton 3630
MEETINGS: 1st Shepparton Scout Hall Fortnightly
SECRETARY: Val Hutchinson (058) 21 4746

NAME: Horsham Commodore User Group
ADDRESS: P.O. Box 676 Horsham 3400
MEETINGS: 2nd Wed/Month Various Locations
SECRETARY: Ian Rees (053) 82 4345

NAME: RAAF Laverton Commodore User Group
ADDRESS: RAAF Base Laverton 3027
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SECRETARY: Greg Sefang (03) 368 2715

NAME: Waverley Commodore User Group
ADDRESS: c/o 329 Springfield Rd Nunawading 3131
MEETINGS: Alvie Hall Alvie Rd Mt Waverley
SECRETARY: H. Younger (03) 569 8481

NAME: Peninsula Commodore User Group
ADDRESS: c/o Red Hill Consolidated School
Flinders Rd., Red Hill 3937
MEETINGS: 1st Wed, 3rd Tues./Month Staffroom
SECRETARY: Luke Button (059) 79 1502

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NAME: VIC-UPS Computer User Group (Inc. in W.A.)
ADDRESS: P.O. Box 178 Nedlands W.A. 6009
MEETINGS: Advised in Newsletters
SECRETARY: Russ Coppins (09) 332 5313

NAME: Bull Creek Vic-Ups Commodore Computer Group
ADDRESS: 862 Forrest Rd., Jandakot 6164
MEETINGS: 1st & 3rd Tues. Wilton High School
SECRETARY: L. Boelan

NAME: VIC-UPS Nedlands (Inc)
ADDRESS: Box 386 Claremont 6010
MEETINGS: Hollywood Sen. High School 1.30-4.30
SECRETARY: Norm Hutsman (09) 367 1462

A.C.T.

NAME: ACT VIC-20 Users Association
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MEETINGS: Not advised
SECRETARY: Chris Groenhout (062) 41 2316

NAME: Commodore User Group (ACT)
ADDRESS: P.O. Box 599 Belconnen (ACT) 2616
MEETINGS: Woden Town Centre Library (1st Monday)
Monta Melba High School (3rd Monday)
SECRETARY: John Hambley (062) 48 9587

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NAME: New Zealand Microcomputer Club
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MEETINGS: 107 Hillsborough Rd., Mt. Roskill

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ADDRESS: P.O. Box 168 Launceston Tas. 7250
MEETINGS: Amateur Radio - UTC Sundays
SECRETARY: Bob Richards (003) 26 2401

N.S.W.

NAME: Eastern Suburbs Commodore User Group
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MEETINGS: State Emergency Services Hall
SECRETARY: Ross Kellaway (02) 521 3010

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ADDRESS: P.O. box 43 Islington 2296
MEETINGS: Newcastle Technical College 4th Tues/Mth
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NAME: Commodore Great Western User Group
ADDRESS: 2 Bridge St., Granville 2142
MEETINGS: Greystanes Community Centre 1st Tues/Mth
SECRETARY: Lisa Bullivant (02) 637 6282

NAME: Southern Districts Commodore User Group
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SECRETARY: L. Toms (02) 602 8691

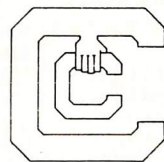
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MEETINGS: Southern Tablelands Educ. Centre
SECRETARY: Not advised

NAME: Tamworth C.Y.S.S.
ADDRESS: P.O. Box 1104 Tamworth
MEETINGS: Not advised
SECRETARY: CHAIRMAN Mark Nickols (067) 66 5136

NAME: Wollongong C64 User Group
ADDRESS: 155 Jacaranda Ave Figtree 2525
MEETINGS: Nareena Primary School 2nd Fri/Mth
SECRETARY: P. Stanhope (042) 28 8580

NAME: GOSCOM (Gosford Commodore User Group)
ADDRESS: P.O. Box 86 Umina 2257
MEETINGS: 3rd Wed/Mth East Gosford Public School
SECRETARY: Andy Laming

NAME: Commodore Hornsby User Group (C.H.U.G.)
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STRING INPUTTING

A Machine Language Routine for Inputting Strings of up to 255 Characters

Leonard Thomson

This program allows the user to set the length and position for inputting the string by means of pokes to several pointers. I have included a simple question/answer system to demonstrate, but this can be removed and the routine used in your own programs.

Pokes required are 251 and 252 the low and high bytes of the screen position for the start of the input. 681 the length of the input, 685 the screen row in which the input starts and 686 the screen column in which the input starts.

Cursor controls will only operate as long as they do not take the cursor outside the input area of the string. This area is indicated by a period at the start and a block at the end. Insert and Delete also work over the string area but Control characters will not print in reverse in inserted spaces. Home takes the cursor to the start of the input string while Clear blanks from the cursor position to the end of the string. If it is desired to blank the entire string Home must be used first.

The routine can be exited by either the Return Key or the F1 Key with the F1 Key setting a flag in location 684 to 1. When the routine is exited the string on screen is transferred to the memory area \$C000 to \$C0FF (49152 to 49407) and the pointers of the first variable in variable space are altered to point to this area. This must be string variable and should be assigned a null value as the first step in the program. To transfer it to normal string area and avoid overwriting it next time the routine is used adding a null string is necessary. i.e. BS=AS+"" (not BS=A\$).

Colour Control Characters reverse on and off and double quote are all disabled but commas and colons can be used. All trailing blanks are deleted.

The Machine Code is completely relocatable if it interferes with other routines. If it is also desired to shift the string storage area numbers 3 and 10 in line 540 (at present 0 and 192) must be changed to the low and high bytes of the new storage area.

STRING INPUT

```
10 A$="": REM ## ASIGN A$ AS FIRST VARIABLE USED'CGSG
20 POKE 808,225: PRINT CHR$(14) CHR$(8): REM DISABLE
  RUN/STOP. SWITCH TO LOWERCASE'FYJO
30 PRINT "[CLR,RVS]#####"
  #####:: REM [CLR,REV]'CLXJ
40 PRINT "[RVS]#[OFF,SPACE9,S.T,R,I,N,G, .I,N,P,U,T,
  .P,R,O,G,R,A,M,SPACE9,RVS]#[OFF]": REM [REV,OFF]'CLKW
50 PRINT "[RVS]#####"
  #####:: REM [REV]'CGJJ
60 PRINT "[DOWN,SPACE21]BY": REM [DOWN]'CHJI
70 PRINT "[DOWN,SPACE11,L]EONARD[SPACE,T]HOMSOM":
  REM [DOWN]'CHDN
90 PRINT "[DOWN,SPACE11,M]ILLMERRAN": REM [DOWN]'CHNN
100 PRINT "[DOWN,SPACE11,Q,L,D]": REM [DOWN]'CHKC
110 PRINT "[DOWN,SPACE2,L]OADING[SPACE,D]ATA[SPACE,P]
  LEASE WAIT": REM [DOWN]'CHIH
120 S=49408: FOR J=S TO S+361: READ X:C=C+X: POKE J,X:
  NEXT : REM READ IN MACHINE CODE'LRXO
130 IF C<>52070 THEN PRINT "ERROR IN DATA": GOTO 340'GKEH
140 PRINT "DATA[SPACE,O],[K].""BAIC
150 PRINT "[DOWN,S]CREEN[SPACE,R]OW IN WHICH TO START
  STRING": REM [DOWN]'CHKO
155 INPUT "[RIGHT2,R]ANGE (0 TO 24)":R: REM [RIGHT 2]'CLUN
160 PRINT "[DOWN,S]CREEN[SPACE,C]OLUMN IN WHICH TO
  START STRING": REM [DOWN]'CHBP
165 INPUT "[RIGHT2,R]ANGE (0 TO 39)":C: REM [RIGHT 2]'CLLO
170 PRINT "[DOWN,M]AXIMUM LENGTH OF STRING ": REM
  [DOWN]'CHUM
175 INPUT "[RIGHT2,R]ANGE (1 TO 255)":Z: REM [RIGHT 2]'CLJP
180 E=1024+40*R+C: REM SCREENPOSITION FOR START OF
  INPUT'FODR
190 IF R<0 OR R>24 OR C<0 OR C>39 OR E+Z>2022
  THEN GOTO 310'NTRQ
200 HB=INT (E/256):LB=E-256*HB: REM HIGH AND LOW BYTES
  OF STARTING POSITION'HBJO
```

```
210 POKE 251,LB: POKE 252,HB: POKE 681,Z: POKE 685,R:
  POKE 686,C'FGMG
220 REM PREPARE POINTERS FOR MACHINE LANGUAGE
  ROUTINE'BPMK
230 PRINT "[DOWN,RIGHT2,I]NPUT[SPACE,S]TRING FROM
  PERIOD TO BLOCK": REM [DOWN, RIGHT 2]'COKO
240 PRINT "[DOWN,RIGHT3,U]SE [[R]ETURN] OR [[F]1] TO EXIT":
  REM [DOWN, RIGHT 3]'COAP
250 FOR J=1 TO 2000: NEXT 'EHHE
260 PRINT "[CLR]": SYS S+70:A$=A$+"":
  REM TRANSFER STRING TO VARIABLE TABLE'GOFR
270 PRINT : PRINT "[DOWN7,RIGHT2,S]TRING[SPACE,E]NTERED
  = "A$: REM [DOWN 7, RIGHT 2]'DSOP
280 PRINT "[DOWN,L]ENGTH OF[SPACE,S]TRING[SPACE3]= "
  LEN (A$): REM [DOWN]'DLWP
290 PRINT "[DOWN,S]TATUS OF[SPACE,F]1 FLAG[SPACE2]= "
  PEEK (684): REM 1 IF PRESSED, 0 IF NOT [DOWN]'DEXU
300 GOTO 340'BDGX
310 PRINT "[DOWN2,RIGHT2,P]ARAMETERS OUTSIDE RANGE":
  REM [DOWN 2,RIGHT 2]'CPQL
320 PRINT "[DOWN,RIGHT3,C]HECK IF START OF STRING PLUS
  LENGTH": REM [DOWN 1, RIGHT 3]'CPTP
330 PRINT "[DOWN,RIGHT3]IS STILL ON SCREEN.": REM [DOWN,
  RIGHT 3]'COGK
340 POKE 808,237: PRINT CHR$(9): REM RESTORE [RUN/STOP]
  AND [LEN=] KEYS'ERVP
350 END 'BACC
360 DATA 169,32,172,171,2,145,251,200,204,169,2,240,94,208,246,172'BHCO
370 DATA 169,2,136,204,171,2,240,11,136,177,251,41,127,200,145,251'BHLP
380 DATA 24,144,239,169,32,145,251,24,144,65,24,173,171,2,105,40'BFBQ
390 DATA 176,57,205,169,2,176,52,141,171,2,169,17,228,207,208,252'BGUR
400 DATA 32,210,255,24,144,37,172,169,2,169,102,145,251,169,0,141'BGYJ
410 DATA 171,2,141,172,2,133,204,174,173,2,172,174,2,24,32,240'BDMJ
420 DATA 255,169,157,32,210,255,169,46,32,210,255,169,0,32,228,255'BHRL
430 DATA 240,249,160,1,162,0,201,147,240,134,201,148,240,145,201,17'BIXM
440 DATA 240,168,201,19,240,192,201,34,240,225,201,29,240,32,201,157'BJEN
450 DATA 240,61,201,20,240,75,201,145,240,100,201,133,240,120,201,13'BJSO
460 DATA 240,119,201,32,144,197,201,128,144,4,201,161,144,189,196,207'BKUQ
470 DATA 240,252,32,210,255,238,171,2,172,171,2,204,169,2,208,171'BGPQ
480 DATA 169,157,228,207,208,252,32,210,255,206,171,2,24,144,156,236'EJHR
490 DATA 171,2,240,248,196,207,240,252,32,210,255,206,171,2,24,144,144'BHPS
500 DATA 235,172,171,2,192,0,240,228,177,251,41,127,136,145,251,200'BIRK
510 DATA 200,204,169,2,208,242,136,169,32,145,251,24,144,194,173,171'BJDL
520 DATA 2,201,40,144,199,233,40,141,171,2,169,145,196,207,240,252'BHWM
530 DATA 32,210,255,24,144,182,140,172,2,196,207,240,252,132,204,160'BJIN
540 DATA 3,169,0,145,45,133,253,200,169,192,145,45,133,254,172,169'BHNO
550 DATA 2,169,32,145,251,140,170,2,136,177,251,41,127,201,32,208'BGOP
560 DATA 15,140,170,2,192,0,208,240,160,2,173,170,2,145,45,96'BCTP
570 DATA 41,127,201,32,144,6,201,64,144,4,9,128,9,64,145,253'BBGQ
580 DATA 192,0,240,228,136,177,251,24,144,230'BLNO
```

ERRATUM

The program Address Book64, in Vol 5 No 5 has a few mistakes in it. The lines corrected are listed below.

```
256 FORX=1 TOA-2:Y=X+1'GIUM
257 C$=A$(X,2)+A$(X,1)'CQDM
732 FORX=1 TOA-2:Y=X+1'GIUL
734 C$=A$(X,0)+A$(X,2)+A$(X,1)'DXXO
6601 L=1:FORX=CCTOA-1:Y=X+1'HMDH
6102 FORB=0 TO1:A$(X,B)=A$(Y,B):NEXT
:NEXT:A=A-1:GOSUB6000:L=0:IFA>1
THEN600'NOHR
```

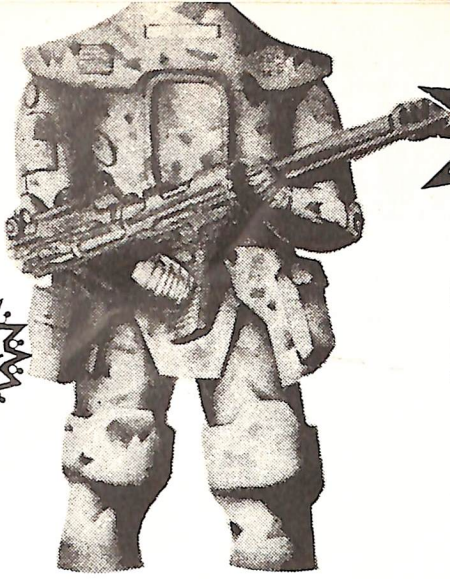
In all of those lines you need to change the (Z) to (X) because I have used the (Z) for the printer.

Anthony Wiggins
Deer Park Melbourne

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FLEXIBLE ALTERNATIVE

J. McLean

The addition of a printer adds flexibility to computers, allowing printouts of listings, letters, invoices and information of all sorts. These printers are generally priced from \$300 to \$600.

Now there is a portable typewriter/colour printer with calculator which adds even greater dimensions to a typical family or small business computerist for a low price of \$365.

FEATURE PACKED TYPEWRITER

The "SILVER REED" colour pengraph EB50 is a lightweight briefcase sized unit, which operates on batteries or mains electricity. A student or business person would have a convenient 2.5kg typewriter with advanced features sufficient to warrant the price even if it did not have printer capabilities.

A liquid crystal display offers easy visual control, and it is possible to correct mistakes on the line currently in memory. An optional black corrector set is also available should a word slip by.

There are three print sizes and a choice of Courier and Italic text.

Four colours of print, black enable multi-coloured concentric, pyc or line possible on 220mm wide paper.

An unusual feature is that text may be entered horizontally or vertically.

The keyboard has a light yet precise touch. Typing on "SILVER REED" would not be a pain in the arm!

Of course the use of pens and not printer ribbon means carbon copies are not possible, however when the typewriter is used as a printer, driven by computer, extra copies are possible.

GRAPHICS CAPABILITIES TOO!

Because the unit uses pens and has the ability to move those pens horizontally as well as vertically, it can create graphics by accepting data from the computer. These are combined with the colours to produce pictures or text. Patterns are detailed and text can even be printed upside down, or vertically.

PRINTER

It is possible to use this typewriter as a computer driven printer due to its built in Centronics interface.

Software will be necessary for the Commodore 64, to drive the printer. A programme is loaded and resides in memory to allow independent loading of word processors or other programmes.

In print mode it is not high speed and is only capable of 14 characters per second against a printer only speed of around 80 to 120 c.p.s.

It is a one page at a time printer. However most people would not use multiple copies unless involved in form letters.

When using the computer as master and the SILVER REED as slave, full word processing facilities and disk or cassette copies are an added convenience.

The operation is very quiet and avoids the noisy chatter often associated with high speed printers.

The paper used is any standard paper unlike for example, thermal printers requiring specialised and expensive paper.

INTERNATIONAL COMPANY

The EB50 is produced by Japanese company SILVER SEIKO and major outlets are in America, England, Switzerland, West Germany and Hong Kong.

COMMENTS

SILVER REED is sold in Perth by TYPERIGHT, Tel: (09) 361 7900 and the company includes a printer link programme, Centronics cable and corrector pen in its price.

Software and cable arrangements may differ in other states, and it is recommended that you check your centronics cable to ensure that line feed is possible.

Also insist on trying the unit before buying, as the return can be disconcertingly slow when used as a typewriter and the software/cable arrangements can make or break the printing mode. Given these precautions you will find much to admire in the "SILVER REED".

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The Silver Reed EB50

NICE MODEM

Reviewed by J. McLean

FIRST NICE MODEM A "NICE" TOUCH

Riding on the sudden wave of popularity in both bulletin boards and videotex services which are starting to become available in this country, electronics companies are releasing modems as quickly as they can get them to market.

A new Western Australian company with the strange and friendly name of "The Nice Computer Company of Australia" has made an apparently successful attempt to enter this highly competitive market by releasing (yet another) modem based on the AMD910 "World Chip" modem I.C.

The modem called "The First Nice Modem" boasts as it's features the following baud rates:

Bell 300 baud answer/originate
Bell 1200/5, 5/1200 baud
(with/without equalization)
CCITT 300 baud answer/originate
CCITT 1200/75, 75/1200 baud
(with/without equalization)
CCITT 600/75 and 75/600 baud

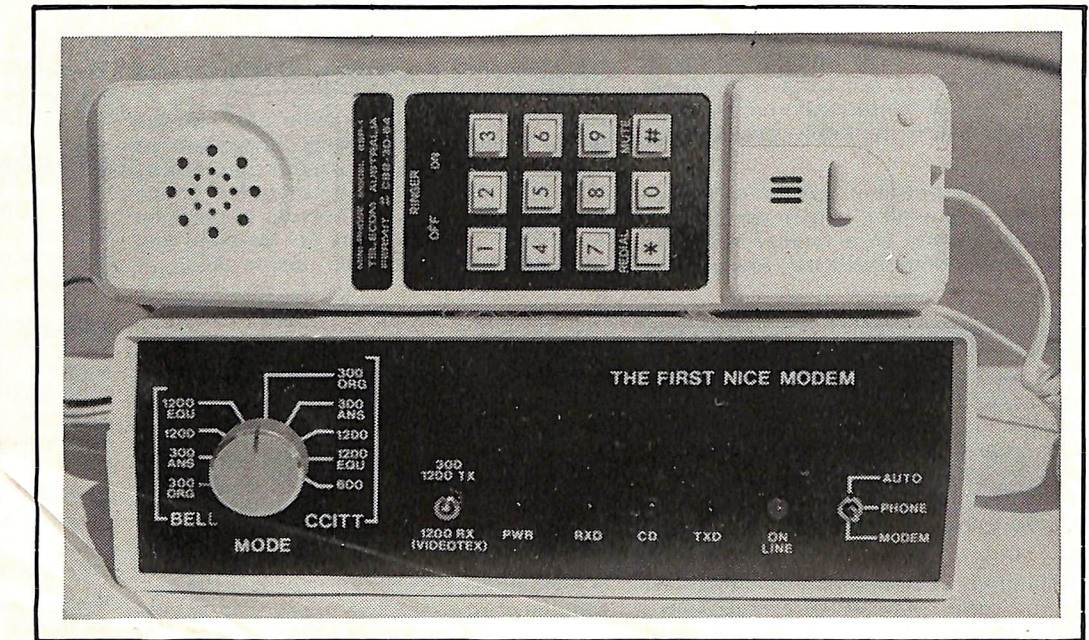
The Bell modes are those used mainly in the United States (so if you are feeling rich you can phone America and talk to the hundreds of bulletin boards which have appeared there over the last few years). While the CCITT modes are those which are used by most other countries in the world (including Australia)

The modes which are of concern to most of us in this country are the CCITT 300 and 1200 baud modes. The 300 baud modes would be used mainly for talking to the various bulletin boards which are cropping up, almost weekly now. The 1200/75 baud mode would be used mainly for videotex services (such as Telecom's Viatel), although there are some databases and bulletin boards appearing now which are taking advantage of this mode.

Something to watch when buying a modem is that it has both the 300 baud originate and answer modes (some of them only have the originate mode), otherwise if you want to talk to a friend (or transfer a program) via the modem, you won't be able to, because one of the modems must be in answer mode.

A useful facility which has been included is the reverse videotex (75/1200 baud) mode. This means that you can talk to someone who only has a 1200/75 baud modem.

There are two versions of "The First Nice Modem" available, one plugs directly into the back of a Commodore 64 (or SX64), and the other which has an RS232 conn-



ector on the back so it can be connected into any computer including the IBM PC, Apple, Osborne, Kaypro etc.

The modem itself comes well presented and laid out, in a light grey case with two toggle switches, 5 indicator leds and a rotary mode selection switch. It also has it's own telephone, and power supply (this last feature will be of particular interest to SX64 and C64 owners, because some of the modems available which draw power from the user port can damage the computers power supply).

The modem is compact - 200mm X 160mm X 170mm - unobtrusive and very easy to install and use.

A pleasant surprise is the clearly written and informative manual, which not only tells you about the modem, but also tries to tell you about data communications in general. A list of some of the bulletin boards available in Australia is also included in the manual - a "nice" touch.

The clear, easy to read front panel has indicator leds for all of the signals you need to see, i.e. Power, Received Data, Carrier Detect, Transmitted Data, and whether the modem is on or off line. In fact it looks very impressive when you are using it having the leds on the front panel flashing in synchronous to the incoming or outgoing data.

All of the baud rate changes are taken care of by a single rotary switch, and a toggle switch.

This modem has been designed in a uniquely different way to most of the other modems available. The difference is that where most (I don't know of any other modem

that does use this method) modems make use of the RS232 "back channel" (the 75 baud "back channel" is transmitted or received on pins 16 and 14 instead of pins 3 and 2) which means that you need to use differently wired (and therefore different) cables for the 300 baud, videotex, and reverse videotex modes.

The First Nice Modem enables you to use the one cable for all these modes. Since you cannot transmit on the main channel (pin 3) when transmitting on the back channel the simple solution is to transmit on pin 16, instead of pin 16 (enabling you to use the same cable) and put a switch on the front panel to switch the RS232 connector into the "correct modes" (similarly for receiving).

The modem is fully Telecom approved and plugs into any standard Telecom telephone wall socket. A nic (no pun intended) feature is the telephone mounting bracket which comes with the phone, and enables you to mount the phone on a wall near the computer. The phone can also be used as a normal telephone when the modem is not in use.

The Commodore 64 version of The First Nice Modem includes free terminal, file transfer, and videotex software. The software is of a high standard and quality.

The file transfer software uses the almost standard Ward Christensen protocol, and not only includes 300 baud file transfer, but by making use of the videotex and reverse videotex modes you can also transfer files at 600 and 1200 baud, so you get all the advantages of a 1200 baud modem without having to spend at least three

times the money of this modem to buy a 1200 baud full duplex modem.

The modem also has the capacity to autoanswer (under software control), so if you want to start your own bulletin board you can.

Two options which I believe are planned, but not yet available are modules both of which will plug into the RS232 connector of the modem (and draw power from the modem, so you won't need any more power points), one which will enable the modem to autoanswer without software control lines). The other option is a baud rate capabilities will still be able to take advantage of the 1200/75 baud modes (to use videotex services or transfer files at 1200 baud, for example).

The modem comes complete with a full 12 month warranty, and is very good value for money. The recommended retail prices (including sales tax) are: \$299 for the Commodore 64 version and \$279 for the RS232 version. The recommended retail price for the baud rate converter is \$99.

The unit would look equally at home (and be equally useful) in a personal computer and business environment, and with the sudden popularity of modems would make a great gift for a personal computer enthusiast.

Anyone interested in getting more information about the modem, or wanting to order one can do so by contacting The Nice Computer Company of Australia, 36 Parliament Place, West Perth 6005, (09) 321 6636. I believe the company is also looking for distributors of this modem throughout Australia.

SOUND EFFECTS FOR THE COMMODORE 64 -

Continued from page 31

```
1706 POKE S+4,19'CFSI
1707 POKE S+15,15'C GO J
1708 FOR I=1 TO 255 STEP .5'EHLX
1709 POKE S+1,I'CEHL
1710 NEXT 'BAEB
1711 REM POKES+15,14'BLAF
1712 FOR I=255 TO 0 STEP -.5'FHMJ
1713 POKE S+1,I'CEHG
1714 NEXT 'BAEF
1715 POKE S+15,0'CFKI
1716 RETURN 'BAQH
1800 REM ### UFO 3 ###'BKAD
1801 S=54272:AT=0:DK=0:SU=15:RE=0'FXSL
1802 FOR I=0 TO 24: POKE S+I,0: NEXT 'GKDI
1803 POKE S+24,15'C GO G
1804 POKE S+5,AT*16+DK'EJNJ
1805 POKE S+6,SU*16+RE'EJQK
1806 POKE S+4,23'C FN J
1807 POKE S+15,12'CGLK
1808 FOR I=1 TO 255 STEP .5'EHXM
1809 POKE S+1,I'CEHM
1810 NEXT 'BAEC
1811 POKE S+15,14'CGNF
1812 FOR I=255 TO 0 STEP -.5'FHMI
```

```
1813 POKE S+1,I'CEHH
1814 NEXT 'BAEG
1815 POKE S+15,0'CFKJ
1816 RETURN 'BAQI
1900 REM ### BELLS AND XYLOPHONE ###'BXHI
1901 S=54272:AT=0:DK=10:SU=0:RE=0'FXNM
1902 FOR I=0 TO 24: POKE S+I,0: NEXT 'GKDJ
1903 POKE S+24,15'C GO H
1904 POKE S+5,AT*16+DK'EJNK
1905 POKE S+6,SU*16+RE'EJQL
1906 POKE S+4,21'CFLK
1907 FOR I=20 TO 50 STEP 3'EGTM
1908 POKE S+4,21'CFLM
1909 POKE S+1,I'CEHN
1910 POKE S+15, INT ( RND (1)*50)+10'GNHJ
1911 FOR J=1 TO 1000: NEXT 'EHGH
1912 POKE S+4,20'CFKH
1913 POKE S+4,19'CFSI
1914 FOR J=1 TO 1000: NEXT 'EHGK
1915 POKE S+4,18'CFRK
1916 NEXT 'BAEJ
1917 RETURN 'BAQK
1920 FOR J=1 TO 1000: NEXT 'EHGH
```

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CHESSGEN GREMLINS

We left the following lines out of CHESSGEN last issue.

```
10 DIM X(99):L=0
15 I=0
20 GOSUB 400: READ X(I): IF X(I)<1000 THEN I=I+1: GOTO 20
60 K=K+1: PRINT "#"; IF K<865 GOTO 15
400 LO=PEEK (63):L1=PEEK (64): RETURN
```

DISK#5 A batch of DISK#5's went out with the wrong header as well - net effect you run out of memory. If you have

one of these disks carry out the following:-

1. LOAD "CHESSGEN",8 (RETURN)
2. Delete all lines from (and including) 10 to 100 and 400 to 500. Just type the line number and RETURN.
3. Enter all the lines listed above.
4. SAVE"@0:CHESSGEN",8 (RETURN). On another disk.

...and its fixed. Any problem return the disk and we'll replace it. Only one batch went out incorrectly so test CHESSGEN before amending it.

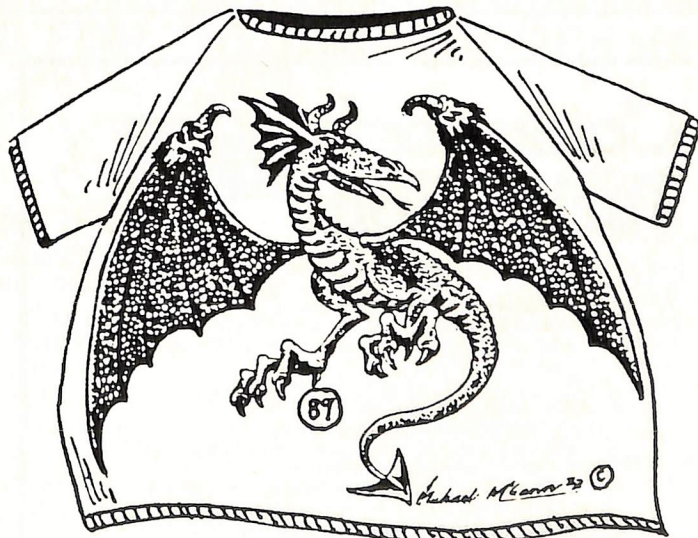
'Return from Sirius'

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SNIPPETS

C128 INTRODUCTORY GUIDE

Here is the first list of erratums for the Commodore C128 Introductory Guide. The list was recently issued to Dealers by Commodore.

This booklet is supplied in the box with every C128. Although it is quite a good manual, there are some things which need to be noted.

- Repeated references are made to the 1571, which we may not see here for some time. For "1571" users should read "1570".
- The booklet tends to assume the user owns a disk drive. This will usually be the case but will not always be true.
- The 1901 referred to in the Guide is similar to but not the same as our 1901. The 1901 it refers to has a switch to go between RGBI and composite and a switch to go between RGBI Analog and RGBI Digital. Our 1901 does not have this second switch and all references to it should be ignored.
- The inside of the title page talks about the 1901 not being available in the UK, the alternatives being a colour monitor called the 1900C and a monochrome monitor called the 1900M. In Australia we will of course have the 1901 and the 1201 monochrome monitor.
- The back cover has our Sydney address as 5 Mars Rd. The correct address is 67 Mars

Rd., Lane Cove or Private Bag No 7 Lane Cove 2066

Analysing the Manual Page by Page:

- Page 2:** 1571 Mentioned. RAM expansion modules referred to. These will not be available till 1986.
- Page 3:** 1571 Mentioned. The Perfect Series referred to. Commodore had planned to supply these programs but is now unlikely to. It should however be possible to run say the Kaypro version of the Perfect series on the C128. RGBI switch referred to.
- Page 4:** Two disks shown in the photo of what you get with every C128. Only one disk is supplied, as indicated by the accompanying text.
- Page 8:** Disk drive assumed.
- Page 9:** English power plug shown in photo. Photo of back of monitor shows sockets in different positions to our 1901.
- Page 10:** Different sockets in "back of monitor" photo.
- Page 11:** 1571 shown in picture and referred to in text.
- Page 12:** Disk drive assumed.
- Page 13:** Disk drive assumed.

Page 16: 1571 pictured.

Page 17: 1571 pictured. Compunet and View Data referred to. The Australian equivalent is Viatel.

Page 19: Drawing of 1571.

Page 21: Disk drive assumed.

Page 22: RGBI switch referred to. Disk drive assumed.

Page 23: Disk drive assumed.

Page 25: A CP/M user manual is mentioned. Also reference is made to a coupon in the C128 box which contains information on how to get a copy of this manual. The coupon will not be in our boxes for the first few months as the manual will not be available till 1986.

Page 26: RGBI switch referred to. Disk drive assumed.

Page 29: 1571 mentioned.

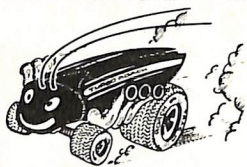
Page 31: Pictures of 1571.

page 32: Reference to CP/M disk formatting should read "Chapter 4 Section II."

Remember the times when the dealers were kept just as much in the dark as the users. Well it seems things are changing for the better.

NEWS & VIEWS - Continued from page 8

Cockroach Turbo-Rom



Speed up program loading, and saving with TURBO-ROM, available for C64, SX, 128, 1541, 1570/1. Works with 1 or 2 Drives. Vic switch compatible. Does not tie up cartridge socket. Works with printer connected. (Some fast loaders don't)
Cockroach has replaced the cassette and RS232 in the normal ROM with more useful code for the 1541 disk user. (A switch is provided to return to normal ROM should you need to load from cassette or use a modem.)

PRICE: \$42 (inc. postage etc.)

1. FAST LOAD—The COCKROACH TURBO-ROM will load virtually ALL commercial software with speed improvements up to 600%. (NOTE: Improvement varies from program to program.)
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3. FAST FORMAT built-in—The command @F:NAME.ID will format (with verification) a disk in 30 secs (about 3 times normal speed).
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- WRITE LIGHT KIT \$17 (includes postage etc.)
- TURBO-64 UTILITIES DISK \$22 (includes postage etc.)

COCKROACH SOFTWARE, P.O. BOX 1154, SOUTHPORT, 4215
Telephone: (075) 32 5133 A/H (075) 32 4028

International telex facilities with a unique service that activates the users pager/beeper (standard pager units) when a message has arrived. Teledata also provides complete electronic mail facilities which can be used both nationally and internationally.

Teledata's system capabilities compare very favourably with OTC's Minerva and Telecom's Telememo.

The system's software was wholly developed in Australia and the development team at Teledata continue to improve and develop the system in response to customer's growing needs.

Teledata will also be offering "International and domestic Gateways". This new concept in electronic publishing means that a consumer or business can use many other databases but not have to establish a new account and access method with these services. Teledata in fact retails the information to its clientele much the same way as Gordon and Gotch distributes publications in printed form.

The first such international gateway to be available at the end of March is OAG (Official Airlines Guide) which is a service that enables you to choose, without bias, the lowest cost airfare that meets your travel needs in terms of time, comfort and brand preference. Its databanks contain up-to-

date flight schedules and the latest choice of fares from 700 airlines around the world, as well as the latest in special fares and discounts. It is extremely convenient and can save very significant dollars and time.

Teledata also offers electronic shopping services to both business and consumers and is looking to open many more electronic shops in the coming months. Teledata is constantly seeking suitable suppliers and service providers for its clientele.

The new President of the Network is David Frenkel, formerly the general Manager of ComputerVision Australia. Frenkel has extensive experience in the printing and publishing industry as well as the computer industry.

The investors who make up the new ownership structure of Teledata are Western Pacific Investment Company (MD Nicholas Callinan) and one of Australia's leading MIC venture capital companies, companies controlled by Mr Jim Marks and Mr Peter Joss who are well known for their investments in Mcllwraiths and Oliver Davey which were recently sold to Email Industries and Frenkel's Ad Tempus Management.

For further information:
Mr David Frenkel
President The Teledata Network
Phone: (03) 813 1133
Telex: AA135042 Attn: ADTEMPUS

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MEYERTRONIX

STOP PRESS

Dear Sir,

May I congratulate you on a fine magazine. Volume 5 No 5 is the first time I have read your magazine and will probably take up a subscription if my current newsagent does not stock you magazine in future. I bought your magazine at a different newsagent.

The main reason for my letter is to point out a few errors in "A Holiday Program - 3 X 3 E.T. Puzzle".

Line 1080 - omit 3 in front of FORE=

Line 1230 - change 18 to 15 (reads wrong data)

Line 1300 - change 8 to 7 (again reads wrong data)

Line 1340 - omit E between 2 and 3

Line 1350 - change;(semi-colon) to: (colon) in front of POKE

Line 2330, 2360 and 2390 - omit comma after DATA

Doug Layton - Mount Warrigal

ED - If your having trouble with "A Holiday Program" check Doug's corrections. Thanks Doug.

ADVENTURERS WANTED

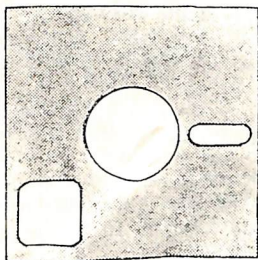


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- Watch for my Adventure Hints Column in the next issue of The Commodore Magazine -



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SPACEBATTLE - Issue 32
CHESSPLAYER - Issue 33
TEXT COMPACTION - Issue 33
ADDRESS BOOK - Issue 33
64/GEMINI CARDCO - Issue 32
LOTTO GENERATOR - Issue 33
Plus others

ORDER FORM: I/We wish to order the following Disks: (please tick)

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#2 #4

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NAME

ADDRESS

Tel:..... P/Code

BEGINNERS CORNER

KEYWORDS AND PROMPTS

by Mervyn Beamish

Try entering and DOing this program:

```
10 HOW X = 10 BY 20: LIST X;: AGAIN
```

If you make a mistake the computer will reply:

```
> STUPID !!
```

The program will end with a prompt:

```
> WELL!?
```

A new user friendly approach? Definitely not a Commodore. Well friends it could be your C64. Yes brothers and sisters take heed while I divulge to you the mysteries of elementary memory manipulation!

Inside the Commodore 64 are chips to control sound, pictures, to do the processing and other odds and sods. If you totalled up the amount of memory these take you will find it is around 80K. But! I hear you cry. There is only 64K in there. That, my friends, is because the C64 'overlaps' certain memory areas into 'pages'.

Memory location 40960 (\$A000) to 49151 (\$BFFF) inclusive makes up 8K of the memory. It is the location for both 8K of useable RAM (Random Access Memory) and 8K of ROM (Read Only Memory). Indeed the ROM is most crucial. It is the BASIC ROM without which you couldn't start to program. Don't believe me! try this.

POKE 1, PEEK(1) and 253

Now your in a jam! You've just switched-off the BASIC ROM there is 8K of free memory sitting there and nothing (BASICally) you can do with or to it or any other part of the memory.

The whole concept of 'paging' is quite simple. Here we have 8K of memory space that can have either ROM or RAM in it. When you first switch the machine on it is automatically ROM but by changing BITS 1 and 0 of location 1 (\$0001) to 0, as you did above, you can switch to RAM. Just like a light switch.

To switch it back change BITS 0 and 1 to 1. But how - when we did it above the machine crashed. Press RUN/STOP and RESTORE. As this is a warm start you've just returned to ROM.

We'll keep it in BASIC - enter this program (takes about 90 sec.):

```
10 FOR X = 40960 TO 49151: GOSUB 100:
  NEXT
20 FOR X = 57344 TO 65534: GOSUB 100:
  NEXT:
END 100 POKE X, PEEK (X): RETURN
```

Now:

POKE 1, PEEK(1) AND 253

Nothing happens. Why? Because we have just duplicated the contents of the ROM into RAM. Both are identical except we can now access BASIC because no longer is it only in ROM.

The above program is based on a small parcularity. You can PEEK from ROM but you can only POKE to RAM. Therefore line 100 POKes into RAM (even though it is not switched on) what it PEEKed from ROM (which is switched on).

Now we can have some fun. You now have access to both BASIC and KERNAL (Operating System). We can change it at will - that is if we had enough 'know-how'.

PROMPT

How about, for a start, having most ERROR statement and answers to INPUT enquiries in reverse type?

```
POKE 43846,18
```

The prompt symbol '?' is stored as an ASCII value (63) in location 43846. POKE other ASCII values and see what happens.

I've always thought READY, to be a bit plain. READY. is stored in locations 41846 to 41856 (\$A376-\$A380):

```
FOR X = 41846 TO 41856: Z = PEEK (X):
PRINT Z: NEXT
```

If you translate these ASCII values you will get:

```
CARRIAGE RETURN, LINE FEED, R, E, A, D,
Y, .. CARRIAGE RETURN, LINE FEED, NUL
```

Lets put a bit of character into our prompts:

```
10 FOR X = 41846 TO 41856
20 READ Z
30 POKE X,Z
40 NEXT X
100 DATA 13,10,87,69,76,76,33,63,13,10,00
```

There are a number of prompts you can try out. Not all work but that's the fun of 'hacking'.

KEYWORDS

Above the message ended in a NUL (0) but that is not standard. BASIC keywords and some error messages end with a 1 in bit 7 of the last character. DON'T PANIC!

Refer to the KEYWORD table below. WAIT is stored in 41189 to 41192 (\$A0E5 - \$A0E8). PEEK the ASCII values from this location and you get:

```
87 = W
65 = A
73 = I
212 = T (not 84)
```

So for the last letter refer to your ASCII tables and take it from the 193 to 218 range. Let's change FOR to HOW:

```
POKE 41121,72: POKE 41122,79:
POKE 41123,215
```

Now FOR will give you a SYNTAX ERROR - unless you've already changed that message. HOW will act as FOR did before. Getting confusing! Bye the way the abbreviation for HOW is capital 'h'.

So we can now change KEYWORDS. We can also change actions. LIST is a better word than PRINT. The KEYWORD Table tells us that the vector for PRINT is located at 41022 (\$A03E) and has a value of 43679 (\$AA9F). All we have to do is change the LIST vector to point to the PRINT routine:

```
10 POKE 41026, 43679 -
INT(43679/256)*256
20 POKE 41027, INT(43679/256)
```

There are ways of shortening or lengthening KEYWORDS but it gets a little complicated. In this article a number of the old hands will cringe with horror at what I haven't said. It is not all as simple as this but there is enough here for you to have some fun and start 'hacking'.

I'll leave you to work out DO, BY, AGAIN and STUPID!. There is a book (lucky dip I'm afraid) waiting for the best Machine Language (in BASIC LOADER Format on Disk or Cassette) program submitted to transfer BASIC and KERNAL from ROM to RAM as in the first listing of this article. Another book also for a routine (similar format) to SAVE to disk or cassette the amended BASIC. Let me know of your experiences and don't forget to complete your reader survey forms

(c) Mervyn Beamish 1986

BASIC Keyword Table

Keyword	Store	Action Vector	Vector Store
END	\$A09E 41118	\$A830 43056	\$A00C 40972
FOR	\$A0A1 41121	\$A741 42817	\$A00E 40974
NEXT	\$A0A4 41124	\$AD1D 44317	\$A010 40976
DATA	\$A0A8 41128	\$A8F7 43255	\$A012 40978
INPUT#	\$A0AC 41132	\$ABA4 43940	\$A014 40980
INPUT	\$A0B2 41138	\$ABBE 43966	\$A016 40982
DIM	\$A0B7 41143	\$B080 45184	\$A018 40984
READ	\$A0BA 41146	\$AC05 44037	\$A01A 40986
LET	\$A0BE 41150	\$A9A4 43428	\$A01C 40988
GOTO	\$A0C1 41153	\$A89F 43167	\$A01E 40990
RUN	\$A0C5 41157	\$A870 43120	\$A020 40992
IF	\$A0C8 41160	\$A927 43303	\$A022 40994
RESTORE	\$A0CA 41162	\$A81C 43036	\$A024 40996
GOSUB	\$A0D1 41169	\$A882 43137	\$A026 40998
RETURN	\$A0D6 41174	\$A8D1 43233	\$A028 41000
REM	\$A0DC 41180	\$A93A 43322	\$A02A 41002
STOP	\$A0DF 41183	\$A82E 43054	\$A02C 41004
ON	\$A0E3 41187	\$A94A 43338	\$A02E 41006
WAIT	\$A0E5 41189	\$B82C 47148	\$A030 41008
LOAD	\$A0E9 41193	\$E167 57703	\$A032 41010
SAVE	\$A0ED 41197	\$E155 57685	\$A034 41012
VERIFY	\$A0F1 41201	\$E164 57700	\$A036 41014
DEF	\$A0F7 41207	\$B3B2 46002	\$A038 41016
POKE	\$A0FA 41210	\$B823 47139	\$A03A 41018
PRINT#	\$A0FE 41214	\$AA7F 43647	\$A03C 41020
PRINT	\$A104 41220	\$AA9F 43679	\$A03E 41022
CONT	\$A109 41225	\$A856 43094	\$A040 41024
LIST	\$A10D 41229	\$A69B 42651	\$A042 41026
CLR	\$A111 41233	\$A65D 42589	\$A044 41028
CMD	\$A114 41236	\$AA85 43653	\$A046 41030
SYS	\$A117 41239	\$E129 57641	\$A048 41032
OPEN	\$A11A 41242	\$E1BD 57789	\$A04A 41034
CLOSE	\$A11E 41246	\$E1C6 57798	\$A04C 41036
GET	\$A123 41251	\$AB7A 43898	\$A04E 41038
NEW	\$A126 41255	\$A641 42561	\$A050 41040

LETTERS TO THE EDITOR

Address letters to: The Editor, Commodore Magazine, Kim Books 82 Alexander Street Crows Nest 2065

LUXURY!!

Dear Mervyn,

I have what is probably a fairly typical setup, a C64 coupled to a 1541 drive, an Epson printer and a small colour television set. I use the television set to watch the Aussie Cricket team bat while the 1541 is loading and am reasonably satisfied with its clarity.

However, the television set emits loud buzzing sounds when running most programs, particularly some commercial ones where background sounds are used. These buzzing noises are most annoying. Why? How do I eliminate or reduce the noise?

Yours faithfully,
Bruce Pearson
Cundletown N.S.W.

ED - What Luxury!!

Don't believe there is much you can do. The noise is the actual program pulses. You can try unplugging the TV cable or putting a switch on the cable. Not recommended computing practice but it should work.

HAVOC!!!

Dear Sir,

What a great improvement you have made in the magazine. No longer nearly defunct.

I do have a few problems, and I have figured that by enumerating them I may give you ideas, in generating future articles that may assist others as well as myself. So here they are:-

1. Is there any way in which Vic 20 Software can be run on the C64?
2. How about an article on "Motherboards" etc.
3. I am using a system as follows:-

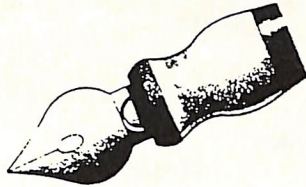
C64 Computer with 1541 & 2031 Disk Drives (The 2031 (inherited) came first.)
Damms IEEE/488 interface
Simons Basic, EPYX FastLoad Cartridge
The Cardco "Cardboard" 5 slot expansion interface came last.

Now, I have HAVOC. Simon's Cartridge doesn't like Damms & vice versa. EPYX refuses to co-operate with anything but itself. I am also wondering if the "Cardco 5 Slot", isn't some sort of take.

My 59 year old brain, has however, been chewing over this disaster and I am beginning to wonder if the whole nightmare might not have something to do with all these "gadgets" trying to sleep in the same bed. Something to do with residing in 'High' memory locations.

I am a bit confused. I think I read somewhere that if this is the case, there may be something called a "relocation program", that may be able to evict the culprits and put them somewhere else.

I could do with some enlightenment. I hope you can help in some way. I don't mind admitting I am a bit of a "galah" in this field. If



it can help, you can quote me.

Yours faithfully
Rick Ellis
Cairns Qld

ED - My Goodness what a mess! Questions in order. Re the Vic20/C64 software, please refer to Paul Blair's article on Kernal in Commodore Magazine Volume 5 Number 1.

Article on 'Mother Boards' - I'll put this in the Readers Court and also float it with some of our editors.

Now as for Question 3! HELP!!! Is there anyone out there with answers. I don't know where to start.

Dear Sir,

Just a brief note to thank you for your kind review of my book, "Microcomputer Art."

As regards your comment on the title, the manuscript originally called "Nineteenth Century Computer Art" was unacceptable to the publisher. The manuscript also contained extracts of the poem by Rudyard Kipling, "What is Art," which compares the work of the artist or craftsman with the product of the Industrial Revolution. Again this was deleted by the publisher although it provides the link to the title of the book.

Your observation that the book may originally have formed part of a thesis is in fact, untrue. If the book is too detailed, it is because of my obsession with the subject. From the references cited, I uncovered around 5,000 geometric patterns. It was a difficult job deciding which to include!

I thank you for your interest in my book.

Kind regards
Ross Edwards

Dear Sir/Madam,

I am a mother of two, 41 years of age, and I am exploring the wonders of the Commodore 64 as an Educational tool, (both for my children and myself) a fun machine, Word Processor, Database, and general interest machine.

Are there any other mothers (or fathers) of my vintage out there with whom I might find a common interest to share ideas?

Please write to: Di Potter, 86 Bass Street, KAPOOKA NSW 2661

BASIC CONVERSION

Dear Sir,

I am having some problems entering a Microsoft Basic programme which is due to the following commands that are not supported by the C64:-

PRINT USING -ERASE -SWAP -ELSE
MOD -INKEY

I am listing the programme lines in the hope that you will be able to suggest a working alternative.

```
2080 IF MM%=112 AND YY% MOD 4 AND
DD%>28 THEN RETURN
2090 JD=INT((MM%-1)*30.42)/(MM%>2 AND
MM%<8)/(MM%>2 AND YY% MOD 4=0)+DD%
2130 PRINT USING "###";X:PRINT";":RETURN
2160 AS=INKEY$:IF AS="" THEN 2160
2170 A=ASC(AS) AND 95:IF A<>78 AND A<>89
THEN 2160 ELSE RETURN
4070 PRINT:PRINT"RACE":Q:PRINT:ON RS%
GOSUB 2290,2410,2630,2690,2740: FOR X=1 TO
TD%: GOSUB 2130: READ AC%(X),
UA%(X): PRINT USING "#####";AC%(X):NEXT
4150 INPUT "LAST RACED (DOMMY):":DTS:
GOSUB 2030: IF F% OR JD='RD THEN 4150
ELSE LR(K)=JD
4300 IF (OD-30317) MOD 7=0 THEN 4390
4570 PRINT: ZZ%=QT%: ON QS% GOSUB
2290,2410,2630,2690,2740: FOR X=1 TO
TD%: GOSUB 2130: READ AC%(X), UA%(X): PRINT
USING "#####";AC%(X)
4840 IF QD=LR(K) THEN 4920 ELSE PRINT:
PRINT "THE QUALIFYING RUN YOU"
5260 FOR K=1 TO H%: FOR J=K+1 TO H%: IF
WR(K)>=WR(J) THEN 5280: SWAP
HS(K),HS(J): SWAP WR(K), WR(J): NEXT J
5330 FOR X=1 TO H%: GOSUB 2130: PRINT
HS(K) TAB(28) USING "###.##";WR(K)
5400 NEXT Q: ERASE HS,WR,AC%,LR,UA%
```

I would be most grateful for your help, also I would like to compliment you on a very fine publication.

Yours Sincerely
Dean Anthony
South Oakleigh
Victoria

ED-

Here we go with the information I have uncovered.

SWAP:- Refer Issue 33

ELSE:- Split into two lines i.e.

```
4840 IF QD=LR(K) THEN 4920
4845 PRINT:PRINT"THE QUALIFYING
RUN YOU"
MOD:- A MOD B
MOD(A) =
INT((A/B-INT(A/B))*B+.5)*SGN(A/B)
```

Best I can do here. I presume in line 2080 YY%=B and 4=A. But you will need to experiment. You could set it up as a function within your programme.

INKEY:- A\$=INKEY\$ is the equivalent of GetA\$

ERASE:- I'm not too sure without seeing the full program. You may get away with H\$="" : WR=0 etc.

But I could be giving a wrong lead here.

PRINT USING:- Again not sure here, but it appears to be a number formatting routine - refer Issue 29 for an article on Number Formatting.

Can any reader enlarge on or correct my reply??

DEFINITIONS & HIGH SCORES

Definitions

ALGORITHM

As in "AI", follow him or "AI", don't just stand there.

BAUD - So am I!

BENCHMARK

What you make when you bit the table!

DEBUG

De thing that stops De program.

From a little Elf who is Happy in his Hacking activities

DEFINITION COMPETITION

A vain attempt by "Commodore User" to obtain material to fill their magazine (only joking) - ED - We're not!!!

PLOT

I don't know I haven't got that command

ESPERANTO

A language more universal than BASIC

MACHINE LANGUAGE

An on and off occurrence

SPRITE

Lime flavoured soft-drink

STRING TOO LONG

Well, you better cut it then!

MODEM

Another excuse to use the phone

RESTORE

Your sanity needs to be restored after trying to draw a line on the 64.

From Ken Plowman - Heidelberg West, Vic.



High Score

SPRITEMAN 64

92,290 Brendon Madden VIC

TRASHMAN

407,705 Stephen Norman N.S.W.

VIC FROGGER

225,000 J.H.Fry ACT

FALCON PATROL

5,525 Jeremy Bone SA

BEACH HEAD

222,400 B. Munro VIC.

SAMMY LIGHTFOOT

86,830 Felix Ryan QLD

THRESHOLD

504,800 Fahri Turgut VIC

MUNCH-MANIA

49,000 Shirley Puckeridge TAS.

C64 FROGGER

74,840 Shirley Puckeridge TAS.

ZAXXON

70,300 Fahri Turgut VIC

GHOSTBUSTERS

\$999,900 Bruce Walker QLD.

WIZARD OF WOR

104,390 Shirley Puckeridge TAS.
(Dungeon 19-Worlord Supreme)

LUNAR LEEPER

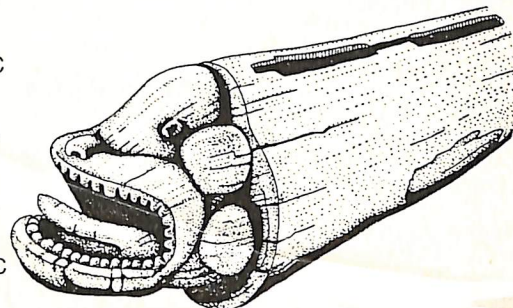
127,040 "Happy Hacker - Qld"

BOULDERDASH II

8,400 Fahri Turgut VIC

BROADSTREET

3,356 Bradley McCulloch VIC

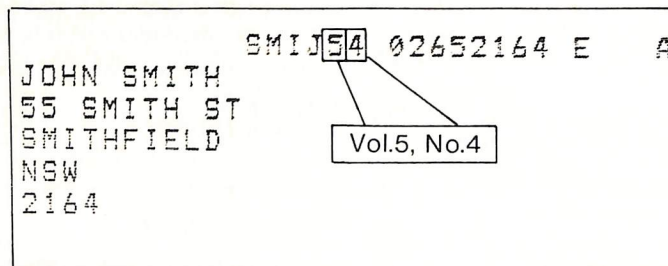


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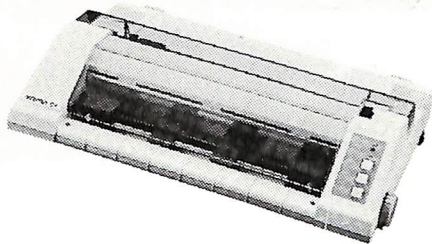
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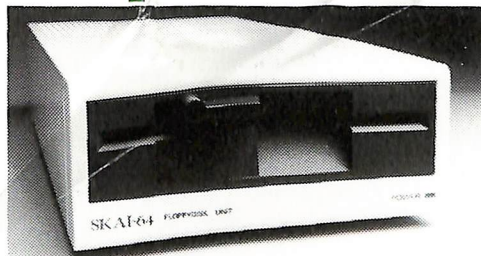
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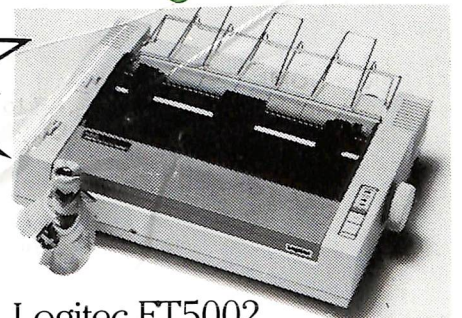
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