

COMMODORE

VOL 6 NO 1

M A G A Z I N E

AUSTRALIAN \$4.95
N.Z. \$5.20
(Recommended Retail Price)

Issue 35

LAST
CHANCE TO
WIN OUR
C128
& DISK

PROJECT

DIGITAL
DEVICE
NUMBER
INDICATOR



**BEGINNERS
CORNER**

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Adventures

SKAI

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1541

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ON THE 1701
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 **commodore**
COMPUTER

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Contact your nearest Commodore dealer or Commodore Business Machines:
Sydney: (02) 427 4888 Melbourne: (03) 429 9855 Brisbane: (07) 393 0300 Perth: (09) 389 1266

COMMODORE

M A G A Z I N E

Commodore Magazine is published 6 issues per volume currently 9/10 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 \$38 elsewhere Overseas airmail (inc. New Zealand) \$A8 extra. Subscriptions are available from the Publisher and individual copies from Newsagents dealers and other retail outlets.

Opinions: The views of reviewers and other contributors are not necessarily shared by the publishers.

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Contributions: All contributions are welcome. We reserve the right to publish contributions both electronically i.e. through our elected Database and in the printed version of the magazine. Programs will be added to our Special Disk Offers. This is a condition of acceptance of contributions.

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COMMODORE USERS MAGAZINE

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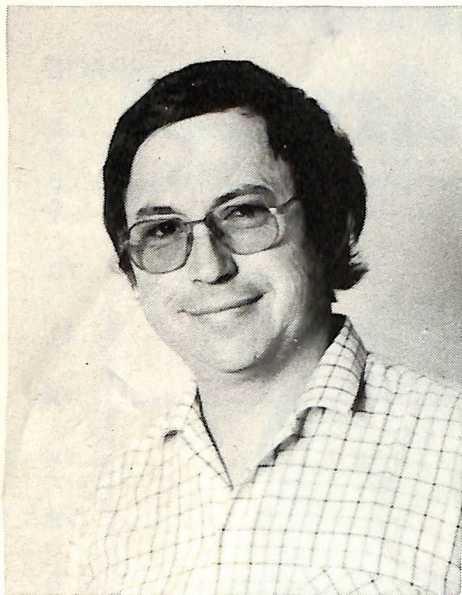
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EDITORIAL

M E R V Y N

B E A M I S H



Mervyn Beamish

NEXT ISSUE

- ★ TELECOMMUNICATIONS
Databases, Bulletin Boards,
the where, what & how!
- ★ DISK ALIGNMENTS
Review of Commercial
programs - DIY Project.
- ★ ISEPIC - Snapshot Copiers
- ★ INSIDE THE 128
- ★ THE NEW SKAI SUPER ROM
- ★ Listings, Beginners Corner,
Commodore Doctor, Reviews
and more!

PLEASE READ THIS!

Commodore Business Machines Pty Ltd has made a 'commercial' decision to reduce its advertising in this and our opposition magazine by approx. 50%.

Magazines such as The COMMODORE MAGAZINE carry out a vital after sales service, public relations and promotion service for Commodore and its users. A service for which the company has paid a small percentage of their total promotional budget and one that they have had to put little resources into.

Advertising revenue is what publishes the COMMODORE MAGAZINE and while Commodore's decision will not stop the publication I do believe that it is a slight on Commodore users in general. This action underlines the belief of many users that after sales service is of a low priority to the company.

In discussions with Commodore it was also quite evident that the company considered our readers as a minority. Commodore will argue that their budget needs to now accommodate the AMIGA - but what of the other Commodore owners. They may also argue that there is not room for the two magazines in the market place - that, my friends, is for you the reader to decide. I cannot speak for the opposition but based on the support we receive COMMODORE MAGAZINE has a definite position in the Australian computer publications market.

Commodore Business Machines, get value for the limited dollars they put into Australian Commodore magazines; value that other companies should envy. I believe that the company needs to increase its assistance rather than cut-back. The small percentage we would take from their overall budget would result in user support and public relations of substantially more value.

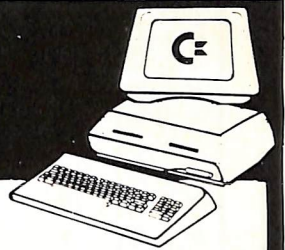
Please support the COMMODORE MAGAZINE by writing to commodore or completing the tear out card on the board insert in this magazine. Your support is vital, Commodore needs to know that you are out there and that you have a voice.

Mervyn Beamish
Editor

Write to: Mr. Tony Serra
Managing Director,
Commodore Business Machines Pty Ltd
Private Bag 7 Lane Cove N.S.W. 2066



commodore computer centre



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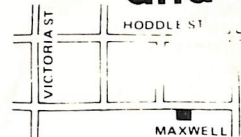
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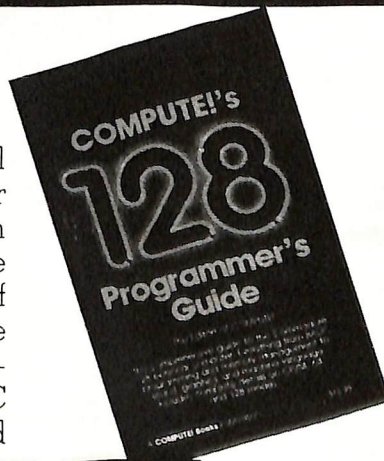


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This guide to the powerful Commodore 128 computer contains a wealth of information for every programmer. Explore BASIC 7.0. Enter the world of CP/M. Learn how to create dazzling graphics and sophisticated sounds in both BASIC and machine language and much more.



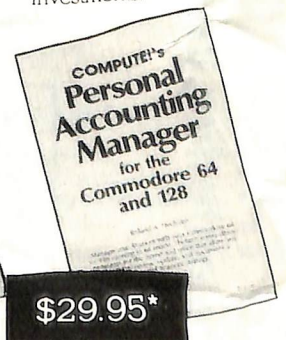
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*Prices quoted are recommended retail only

NEWS & VIEWS



C128D PREMIERE

The first consignment of Commodore's new computer, the C128D, arrived at Sydney airport in early February from the company's manufacturing plant in Germany.

The C128D is being launched simultaneously in Australia and Europe and is Commodore's latest development of a transportable version of one of its popular computers, in this case the C128.

Commodore general manager, Mr. Tony Serra, said that more customers were requiring the facilities of a computer at home, as well as in the office or classroom, and that the portable nature of the C128D was another example of Commodore developing a product to meet the changing needs of its customers.

The new C128D is a redesigned version of the successful C128 and features a built-in disk drive and clip on keyboard.

The C128D is the size of a large briefcase, weighs only eight kilos and has a handle for easy transport.

"The C128D will appeal to users who appreciate the flexibility of a system that can be moved from place to place", said Commodore National Hardware manager, Ross Bloore. "For example, the businessman who prefers to work at home or the manager who spends long periods away at branch offices".

The C128D, like its half brother the C128, has three operating modes - C64, C128 and CP/M. By selecting a particular mode the user can tailor the computer's capabilities to the demands of the work.

C128 mode features Commodore's most powerful version of BASIC, BASIC 7.0. When it is combined with the unit's standard 128K of RAM, expandable to 512K, BASIC 7.0 allows the user to explore over 140 commands, statements and functions.

The C64 mode gives compatibility with all Commodore 64 software, which currently stands at more than 3000 programs.

The CP/M mode allows users to run any of the wide variety of software packages that are designed for use with the Digital Research CP/M 3.0 operating system. These include off-the-shelf CP/M software such as Wordstar, dBase II and the Perfect series.

The C128D has 96 ROM, 2MHz microprocessor and 12K RAM which is expandable to 512K.

The C128D connects to a monitor or standard TV set and offers 40 or 80 column full colour display.

The C128D keyboard has 92 keys including a 14 key numeric pad, 16 function and help keys plus full

alphabetic and PET symbols. It clips neatly into the back of the computer when travelling.

The R.R.P. is \$1,099 which is \$199 cheaper than buying a C128 and 1571 disk drive separately.

Further information

Kate Inman, (02) 331 2061

CHAMBERS ACQUIRES PHONE COMPANY

Chambers Computer Supplies of Studio City, California has acquired the world-wide service business of Fernsprecher Telephone Supply.

This was announced last month at the Commodore Users Groups Show at the Cathedral Hill Hotel in San Francisco.

Fernsprecher AG will continue independently to market its communications equipment but Chambers will be sole distributor for its modems for all Commodore and the 520 and 1040 Atari machines.

A spokeswoman for Chambers said at the conclusion of the San Francisco Show that the arrangement would guarantee world-wide service for these computers.

"Our stores in Britain and Australia have found some disquiet among prospective Amiga clients because of the future of Commodore," she said. "This agreement means that, Chambers' clients will have a back-up service guaranteed by an international firm.

"It also enables us world-wide to offer an optional three-year guarantee on all business computer equipment we sell with a guaranteed one-day turnaround or we loan a replacement of the same model."

Chambers Computer Supplies has offices in Kings Cross, Sydney and Swanston Street, Melbourne. Trading under the Commodore Heaven banner, it was first in Australia to market the Commodore 128, the 1571 drive, the 128D, the Amiga and the Atari 520-ST and 1040-ST colour.

Further information

Tom Gilhooley, Melbourne
(03) 663 4441

NEW COMPUTER SHOP

Keith McKinlay, of Belmont Computer Software, has announced the opening of his new Computer Software Shop.

The shop is located at 4a-75 High St., Belmont, Victoria. Keith will be supporting Commodore computers and is seeking dealerships to add to his already growing range of products in this area.

For further information:

Keith McKinlay, (052) 44 2489



Slimline keyboard clips neatly into the back of the computer for easy transportation.

Commodore now offers a new Printer, Monitor, Disk Drive and Mouse for its popular C128 computer.

NEWS & VIEWS

FREE SOFTWARE

"The doors of TELEDATA's vast software bank have now been thrown open with the completion of Ward-C down-loading arrangements." announces the latest edition of TELEDATA's newsletter 'CHATMODE'.

All TELEDATA subscribers enjoy free access to the network's downloadable Public Domain software. For no additional charge users can transfer any (or all!) of a range of over 2000 programs to their own PC's.

The software is divided into four categories: CP/M (1271 programs); Apple II (600 programs); Commodore 64 (195 programs - about to receive a big boost) and TRS80 (80 programs).

The command SOFTWARE BANK at any SEL (:): prompt will present you with the 4 categories described above. Each of these in turn comprises a sub-menu, listed by subject. When the desired subject is selected, a listing of available programs is usually displayed. With the exception of CP/M,

selection of a program will often produce a short program description.

Type in DOW/WA (or DOW/AS if your communications package software does not support Ward-C). You will be presented with an estimate of time required for transfer. You can abort at this stage by entering "!".

Included in the Commodore section is:

HEXDEC - converts HEXIDEC to decimal and vice-versa.

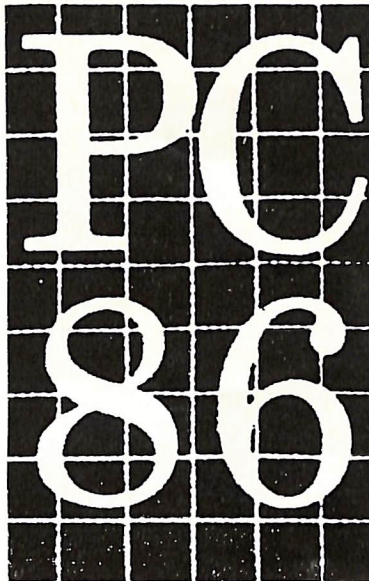
MATRIX - assists students in experimenting and learning Matrix mathematics.

GRAPHIC SUBROUT - an 8K subroutine that draws graphs (e.g. Sine waves) in Pet 'Hi-Res'.

'CHATMODE' also had an article entitled 'Commodore Magazine Online This Month'

Further information:
TELEDATA, (03) 813 1133

Cover from "Chatmode"



NEW MARKET APPROACH AT PC86

In a totally new market approach the organisers of PC86 are staging the event concurrently with COMMUNICATIONS 86 and OFFICE TECHNOLOGY 86. All these shows are being held at the Royal Exhibition Building, Melbourne, from 1-4 June 86.

Mr. Graeme Selby, Managing Director of Australian Exhibition Services Pty Ltd (AES) said that as professional show organisers AES is very much aware of its obligation to provide its exhibitors with visitors and not simply floor space.

"In their own right the Personal Computer Show and Communications Show have the ability to attract a business and professional audience totalling in excess of 30,000. By staging the three shows concurrently and at the same location with three visitor access from one event to the other, we are effectively guaranteeing PC86 an audience far in excess of the total attending any similar event," Mr Selby said.

This novel concept has been enthusiastically received by the industry leaders in all three fields. Commodore; IBM; Olivetti; Apple; Ericsson; Barson; Canon; Epson; Microsoft; Imagineering and Arcom Pacific are amongst the 120 companies that have already reserved space. The organisers anticipate that a final total of around 200 companies will take part in the three events.

PC86 is being promoted through an extensive visitor promotion campaign aimed at government, corporate, trade and small business buyers.

PC86 will be complimented by a conference program aimed at the business user. It will be presented

in layman terms and will concentrate on benefits, productivity and business solutions rather than the virtue of the technology itself. The conference will highlight the importance of personal computers and software applications and their role in enabling companies to maintain their competitive edge.

For further information:
Fleur Michael, AES, (03) 267 4500

APPLE'S UNHOLY TROUBLES

Commodore might be in trouble with the banks, in the USA, but APPLE has trouble with a higher authority.

Apple sold more than 1,500 Apple IIe colour micros and Macintosh systems to the Catholic Archdiocese of San Francisco, Catholic school purchasing division. The machines were sold at a discount lower than dealer prices.

Only 400 machines actually got into schools the rest were resold by a local computer dealer. Not just any dealer but Computer Connection which used to be Apple's largest authorised local dealer.

The church has returned US\$58,000 to Apple who are seeing what legal action can be taken to gain further recompense for the money they lost.

It has not remained a local problem as Apple is now looking at changing its sale price to all educational establishments.

Well I suppose it shows a human face to church and commerce but it sure spoils it for all those smaller educational outfits who have been doing the honest thing.

AMIGA/PAL MONITORS NOW AVAILABLE

The Amiga computer with the 68000 processor is now available locally with an RGB 14 inch analogue monitor that has a remote-controlled PAL UHF/VHF tuner designed for use in Australia.

Chambers Computer Supplies in Sydney and Melbourne have received their first deliveries of this eagerly awaited combination. The Amiga has a 90-day warranty on the monitor a 12 months warranty on the computer but both can be extended to three years on payment of an extra fee.

Tax included price of the Amiga \$2,500, the monitor separately \$750 but the two bought together sell for \$2,995.

For further information

(03) 700 5344 or 663 4441 (Toll-free) (02) 356 3155 (Lee)

TELEDATA CHATMODE

THE TELEDATA NETWORK SUBSCRIBERS' NEWSLETTER

MARCH 1986 • NUMBER TWO • SUBSCRIPTION: \$2 MONTHLY (INC. IN ACCT. MAINT. FEE)

P.C. NETWORKING HERE MARCH 15

File download already operational ...

The Teledata Network has finalized arrangements allowing transfer of data between users' computers and word processors, irrespective of their type or location. (See guide to current available options, presented on this page.)

The network's R&D team has already completed the requisite program development. Advanced testing is in its final stages, and file download is already operational. File upload will be installed early in March, completing the file transfer facility. Indications are that the work might in fact be completed before the target date of March 15.

One unfortunate problem was discovered in the Auspac network: Ward-Christensen file transfer cannot yet be carried out over this system. (For the more technically-minded, this is because—for some as yet unknown reason—the wrong checksum is being returned.) The planned introduction of Kermit protocol should provide Auspac users with an error-checking data transfer facility.

Teledata's file transfer facility will allow users to transfer or distribute text material, even if they are using incompatible computers—and different com-

munication protocols. To give an example—a letter could be created on an IBM, uploaded using Xon Xoff, then downloaded to an Apple with XModem.

Subscribers with compatible computers, moreover, will now be able to share perfectly intact data. A spreadsheet, for example, or Wordstar document, could be sent via Teledata to a second computer miles away. It will arrive within minutes on the remote PC, exactly as though the original diskette had been inserted!

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\$500 PRIZE EACH MONTH Big stakes in free bingo game

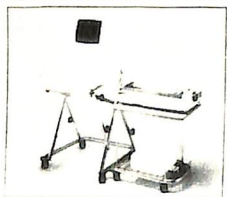
Prizes to the value of \$500 will be given away each month in the new Telebingo game beginning March 10. Every subscriber has a chance: participation is absolutely free, and users receive their numbers with their monthly invoice!

This month's Telebingo is sponsored by Sylex ergonomic furniture in conjunction with Teledata. Sylex will present the March Telebingo winner with a "Taskmaster" ergonomically adjustable desk, worth \$450 (this desk will also be on special in Teledata's new Sylex electronic shop during March). Teledata will also be providing the winner with a \$50 time credit.

On your current invoice, you will find a block of 30 random numbers as well as full Telebingo instructions. Every working day, a different block of 3-5 numbers will be randomly selected by computer. The daily bingo numbers can be accessed using the command TELEBINGO at any SEL (:): prompt.

First to match a number block with the numbers on his invoice, and get an electronic mail message to us, is the winner—and there must be a winner each month!

The first March Telebingo numbers will be displayed March 10. The winner will be announced April 11.



The Sylex "Taskmaster"—March prize

CURRENT FILE TRANSFER OPTIONS

Download & Upload

	Direct Lines	Auspac
ASCII		
Down	Yes	Yes
Up	Yes*	Yes*
Word-C		
Down	Yes	No**
Up	by 15/3	No**

* Until 15/3/86, use commands PUT/ECHO or PUT/VIDEO/TEX

** Until KERMIT is introduced or Auspac problem overcome

Also
Suitable for
the home or office

UNBEATABLE COMMODORE COMPATIBLE SERIAL PRINTER OFFER



\$399
(Includes
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BX 1000-CM

Plugs directly in to the serial port of the Commodore 16, Vic 20, 64, and 128 model computers and requires no accessories.

The amazing BX 1000-CM Commodore compatible printer, is designed for sturdy and durable performance at an affordable price.

It prints at 100cps, has 96 standard ASCII, Italic, block graphic and down loadable character sets and has as standard, nine kinds of international characters in ROM.

This ready-to-go printer prints in enlarged or condensed text and can print single-sheet continuous stationary, or 3-ply if desired.

And with the BMC exclusive cartridge type ribbon, changeover is a breeze.

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A 250-sheet package of continuous forms stationery.

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NEWS & VIEWS



The New Commodore Amiga

ON SHOW AT APC'86

COMMODORE - Amiga drew the crowds' attention and imagination.

C128D was on display. Promoted as a desktop home or small business computer. It includes a diskdrive as standard equipment, 128 Kbytes RAM, 40/80 screen and claimed to be able to run a large collection of non Commodore software, includes CP/M on disk. But outlets are in short supply it seems if you plug in a modem there is nowhere for the printer to go. Suggest you check this out if you are thinking of purchasing this machine.

COMMODORE vs ATARI

The battle between Commodore and Atari has intensified as Atari announced the first 1 Mbyte micro system for under US\$1,000 - the 1040 ST.

Atari made the announcement at the consumer electronics show in Las Vegas.

The show was a crucial one for both companies, which are fighting to gain control over a new market for advanced domestic micros based around the 16 bit 68000 processor.

Both Commodore's Amiga and Atari's 520 ST and 1040 ST computers are in the US shops. However, it is far from certain which company will emerge the winner.

Commodore claims it has a technically superior machine but Atari has the advantage of price.

Software houses in the US have all but abandoned the production of 8-bit software. But most are still uncertain which of the new 16-bit computers to support.

The Las Vegas show went a long way to deciding the issue. To the surprise of many, Commodore chose not to disclose all its secrets and it was left to Atari to make all the running.

Atari's powerful new model is a 1024 Kbyte development of its earlier 520 ST model. The package includes the micro itself, disk drive, mouse controller and monochrome monitor.

Four pieces of software including BASIC and Word Processing programs are offered in the package.

THE BOSS BOARD

A Multi-User Upgrade Kit for IBM™, PCs and Compatibles.

- Connects up to 16 Terminals using just one slot.
- Supports up to 16 Megabytes (using additional memory boards).

HIGHLIGHTS

Allows several (typically five to ten, more on the "AT") people to use the same personal computer and to share data bases and files.

Runs most PC/MS DOS compatible programs on the IBM PC, XT, AT, and many of the "clones".

Removes the need for users to learn (and, in most cases, even to see) DOS commands.

Allows most PC/MS DOS compatible programs (including those that use "direct screen addressing") to be run remotely (via a modem) or locally (via an RS-232 hookup to dumb terminal).

Supports sub-directories and time-slicing.

Provides controlled access to data via user-id's and passwords by locking user-id's into specific disk drives and/or sub-directories. Also permits a user to be given his own personal sub-directory.

Includes straightforward menu driven system administrator and system configurator programs.

Provides secure but simple file transfer capability. Allows the computers screen and keyboard to be switched between several different programs "on the fly".

Provides a line analyzer for each RS-232 port. Supports up to 640K bytes of RAM without bank switching hardware and up to 16m bytes with bank switching.

CUSTOM APPLICATIONS

In addition to the many "off the Shelf" programs that can be used with "THE BOSS BOARD", design and programming of custom applications is available.

TYPICAL USES

"THE BOSS BOARD" high performance, simple user interface, and PC/MS DOS compatibility make it an ideal operating system where multi-user/multi-terminal capability is required. The following are some of the many situations in which "THE BOSS BOARD" is, or could be used:

Office automation/electronic mail
Unattended sensor data recording
Real time database inquiry/update
Order entry/verification
Inventory inquiry/control
Business accounting/billing
Legal offices
Medical offices
Data entry/collection/transmission
Appointment scheduling/control

TERMINALS

Supports many popular terminals with standard ansi cursor positioning capability. Call for current listing.

PERFORMANCE

Provides excellent performance through the use of efficient machine language programming and extensive optimization of terminal screen updating.

DOS compatible user installable disk device drivers are supported.

"THE BOSS BOARD" uses the PCOS operating system and is ROM resident; it uses RAM for buffers and internal tables.

External devices (modems, terminals, data collection devices, cash registers, etc.) can be connected via RS-232 cables and can operate at speeds up to 9600 baud.

Devices may be remotely located and connected via coax cable or via phone lines.

HARDWARE SPECIFICATION

Four RS-232-C Ports on board. Up to 12 more ports on piggy backs.
300, 600, 1200, 2400, 4800, 9600 Baud. 5,6,7, and 8 bit characters.
1, 1.5, 2 stop bits
+12v and -12v available - to power line drivers, instruments, etc.
64K bytes of ROM containing the PCOS operating system.

CONFIGURABILITY

Board is software configured - no dip switches, jumpers, etc.

Works with standard IBM asynchronous communication boards and with add-on multi-function boards as well as with four and eight port boards.

Board can emulate COM1, COM2, or both. Addresses can be assigned to each port separately - no need for big blocks of addresses. Easy to avoid conflicts with other boards.

SOFTWARE SPECIFICATION

Allows 1 - 1023 concurrent users
Supports up to 16 megabytes (using additional memory boards)
PC DOS and MS DOS compatible.
Provides shared access to common data

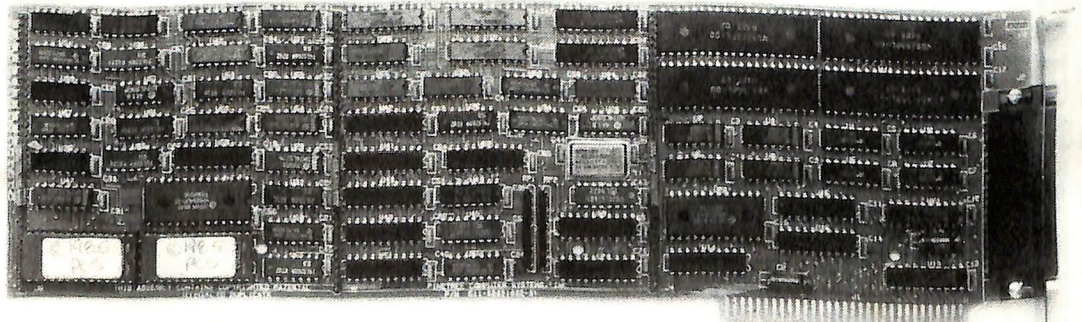
Numerous features are available to support sophisticated multi-tasking programming techniques. A few of these features are:

Create sub-task
Times wait
Keyboard read with time out
Lock/Unlock resource

LOCKING

For application programs that require a locking scheme, various file and record locking protocols are provided.

The Boss Board



NEWS & VIEWS

ADDITIONAL ACCESSORIES

QuadStar 1000

A terminal that emulates the IBM mono monitor and keyboard.

PCOS

A multi-user/multi-tasking operating system for use with PC/MS DOS programs. Packaged in a printed circuit board loaded in ROM.

The TranStar

A sophisticated "Point of Sale" system for use with all of the above products. Integrated protocols are included for credit/debit card transactions.

PC Phone

Voice/data device with terminal capabilities for use with personal computers & mainframes

Xtra Memory

Two (2) megabyte expansion boards.

For further information
North Supply Business
Communications Pty Ltd
(02) 436 0600

BOOST FOR ELECTRONIC MAIL

An improved and more economic national and international electronic mail service will result from today's agreement between The Overseas Telecommunications Commission Australia (OTC) and Telecom Australia to establish a joint service.

In making the announcement, the Chief General Manager of Telecom, Mel Ward, and OTC's Managing Director, George Maltby, said a joint venture between OTC and Telecom would offer a single electronic mailbox service with significant benefits for all users. In particular, they looked forward to the early integration of the MINERVA and Telememo systems into the joint service giving access to better facilities and a wider range of users both in Australia and overseas.

The new service will be marketed through OTC and Telecom.

The announcement comes at a

time when the Government has called on its business enterprises to look for co-operative ways of providing better services to Australians while attempting to win a share of the lucrative international communications business for Australia.

Detailed arrangements for the joint service are being finalised and will be announced shortly.

For further information contact Allan Asher (02) 230 5760.

HOME COMPUTER SCHOOL

Classes for children, adults and small business are now being run by The Home Computer School based in Lane Cove, Sydney.

Starters: By means of hands-on practical sessions, students become experienced in operating a Home Computer. They experiment with a variety of programs designed to demonstrate the many uses for Home Computers Children's activities are creative, educational

and stimulating.

Duration: Children - 6 Sessions, Adults - 6 Sessions.

Touch Typing & Word Processing

Particular emphasis given to correct use of the computer keyboard. Students are introduced to all the major functions of word-processing and create documents making best use of standard layouts. Proficiency is attained with practice.

Duration: Adults - 6 Sessions, Children - 10 Sessions.

Other Courses Available:

Book-Keeping & Business Applications. - practical experience in computer book-keeping for small business etc.

Private - Select your own subject.

No previous experience is required, and for further information and prices please call:
Jill Taylor at The Home Computer School (02) 427 3474.

THE OTHERS

Polar Graphics in COMAL

David Roth

There are two ways of representing points in the plane. The usual method is to use cartesian co-ordinates where every point is described by two distances (x and y) from the origin. But there is another way using polar co-ordinates. Each point on the plane can also be described by a distance (r) and angle (z) from a fixed point. This point is called the 'pole'. In naval terms the range and bearing of a target from a ship give its precise position. Functions which use the polar co-ordinates r and z are called polar functions. Thus $r = \sin(z)$, $r = z$ are polar

functions. The point (r,z) in polar co-ordinates is the same as the point ($r \cdot \cos(z)$, $r \cdot \sin(z)$) in cartesian co-ordinates.

The following COMAL program allows you to plot some interesting functions. For example $r = \sin(2 \cdot z)$ resembles a four-leaved rose. By introducing two additional numbers p and q and plotting ($r \cdot \cos(p \cdot z)$, $r \cdot \sin(q \cdot z)$), an array of interesting patterns can be shown. The program can easily be modified if other polar functions are wanted. The program demonstrates the use of COMAL graphics and the use of the CASE structured programming construct.

POLAR FUNCTION - COMAL

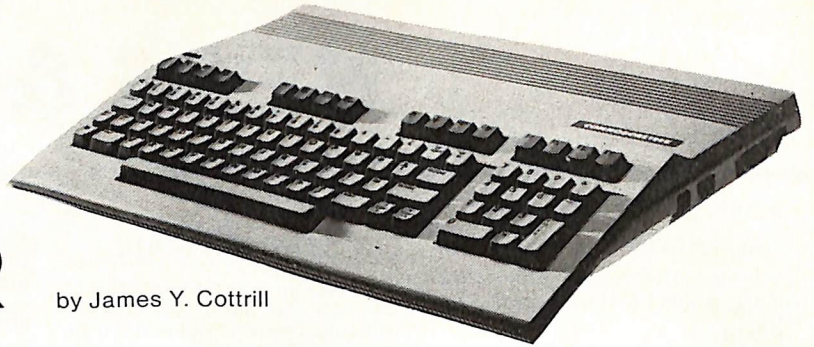
```
0010 // SAVE "@8: POLAR FUNCTIONS",8
0020 // PROGRAM TO DISPLAY GRAPHS OF
      POLAR FUNCTIONS - COMAL 0.14
0030 //
0040 // REM INITIALISE
0050 DIM A$ OF 1
0060 DIM S$ OF 40
0070 BLACK:=0
0080 WHITE:=1
0150 SX:=319 // SCREEN SIZE
0160 SY:=199
0170 RATIO:=.9
0180 HY:=SY/2
0190 HX:=SX/2
0200 HIRES:=0
0210 MULTI:=1
```

```
0220 LOWER'CASE:=14
0230 PI:=3.14159265
0240 //
0250 PRINT CHR$(LOWER'CASE)
0260 A$:=""Y"
0270 WHILE A$=""Y" DO
0280 MENU
0290 SHOW
0300 PRINT "ANOTHER GO (Y/N)"
0310 GET'CHAR(A$)
0320 ENDWHILE
0330 END
0340 //
0350 PROC MENU
0360 PRINT "s"
0370 PRINT "pPOLAR gRAPHICS"
0380 PRINT "*****"
0390 PRINT
0400 PRINT "1. R = 1"
0410 PRINT "2. R = SIN(2*Z)"
0420 PRINT "3. R = SIN(7*Z)"
0430 PRINT "4. R = 1+2*COS(Z)"
0440 PRINT "5. R = 1+COS(Z)"
0450 PRINT "6. R = 1+SIN(2*Z)"
0460 PRINT "7. R = 1+2*COS(2*Z)"
0470 REPEAT
0480 INPUT "OPTION ? ": F
0490 UNTIL (F>0) AND (F<8)
0500 PRINT "s";
0510 REPEAT
0520 PRINT "ENTER PLOTTING PARMS P AND Q"
0530 PRINT "(STANDARD PLOT IS P=1 & Q=1)"
0540 INPUT "P (1-9) ": P
0550 INPUT "Q (1-6) ": Q
0560 UNTIL (P>0) AND (P<10) AND (Q>0) AND (Q<7)
0570 ENDPROC MENU
0580 //
0590 PROC SHOW
0600 SETGRAPHIC HIRES
0610 BACKGROUND BLACK
0620 CLEAR
0630 HIDETURTLE
0640 PENCOLOR WHITE
0650 S$:=""P=""+CHR$(P+48)+" Q=""+CHR$(Q+48)
0660 PLOTTEXT 0,0,S$
```

CONTINUED ON PAGE 26

80 COLUMNS ON THE 1701 MONITOR

by James Y. Cottrill



Having read with interest a number of overseas publications affirming that it is possible to generate 80 columns on a 1702 monitor using the new 128, I thought it therefore may be feasible to do the same thing with a 1701. Having just acquired the new Commodore 128 and not being able to afford the new 1901 dual monitor yet, I contemplated that it would be very desirable to obtain 80 columns on my current 1701. Initially I was a bit wary that an 80 column display could not be generated because the monitor does not have the required bandwidth, but to my surprise it is quite possible to generate a readable 80 column display. How to get this display you ask? Well, the only thing needed is an appropriate cable, which I will now describe how to build.

A number of items are required before one can commence this project. Firstly, you will require a small soldering iron and solder, a small flat blade screwdriver, a wire stripper, a sharp knife, and finally a flat surface to work on. Components required (which can be obtained from your local Tandy store) include:

- 1 D Subminiature Solder Type Connector 9 Position Male (Cat. 276-1537)
- 1 Hood for above (Cat. 276-1539)
- 1 Shielded Phono (RCA) Plug (Cat. 274-339)
- 1.5 M2 Core fully shielded heavy duty microphone cable (Cat. 278-9517)

Step one in making the cable is to determine the minimum length required to connect the 1701 monitor to the 128 computer. Remember that the shorter the cable, the better the display. Next, cut off 25mm of covering off each end of the cable, see figure 1. Then bare 3 mm of wire off one end and 15 mm off the other (see figure 2). Tin both ends of exposed wire with solder. The 3mm end of wire will be connected to the D connector. If you examine the connector from the back, you will see some small numbers embossed into the plastic. Solder the black wire to pin 1 and the white wire to pin 7, refer figure 3. Once you are satisfied with the connections, then the plug can be inserted into the hood and it bolted together. Once the hood has been affixed, the plastic plug can be screwed into the side to secure the cable (see figure 4).

With one end finished we can now attend to the other. With this end, determine the required length of wire to connect to the plug so that when it is screwed together there will be no slack. First slip the outer sleeve onto the cable, see figure 5. The white wire is inserted into the hollow plug and out through the end so that a small length of wire is jutting out (refer figure 5). Solder can then be placed in the hole where the wire is protruding and the excess cut off. Next the black wire should be wrapped around the

solder tab and then soldered into place. The plug can then be screwed together. There should be no bunching up of the wire. Once this is done, the final product should look like figure 6. The RGBI plug can then be screwed onto the 128's RGBI port using the supplied screws and washers. The other end is plugged into the front video-in socket of the 1701 monitor. The switch at the back of the monitor can be used to switch between the two displays.

With the cable completed it can then be tested. Slide the switch of the monitor to front and lock down the 40/80 display key of the 128. Turn on the 1701, then the 128, and if all goes well you should get an 80 column display. If nothing happens then check the cable connections and all switch settings. If the display is blurred then you will have to adjust the various monitor controls. I found it was necessary to turn down virtually all the controls to obtain a readable display. If all is

well then you have gained 80 column output for the cost of approximately \$20.00.

Now what commands will work on the 1701. Well, of course you cannot get a colour display, but here are a few commands which will work.

- COLOR 6,16 will give white characters on a light grey background
- COLOR 6,1 will give white characters on a black background
- ESC R will reverse the display and give black characters on a white background
- ESC N will return the display to normal.

There are many other commands which will work, and I will leave you discover them using your new 80 column output capability of the 1701 monitor.

© James Y. Cottrill 1986

FIGURE 1

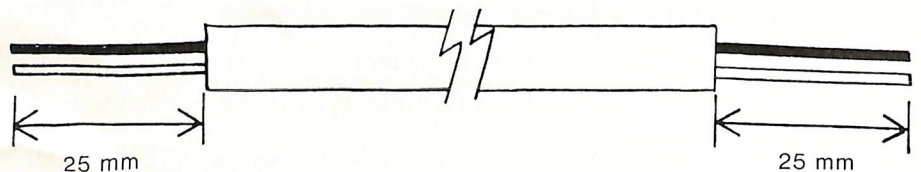


FIGURE 2

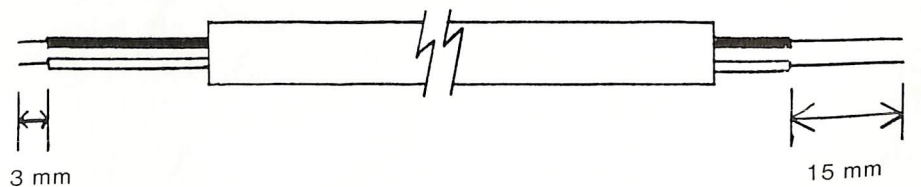
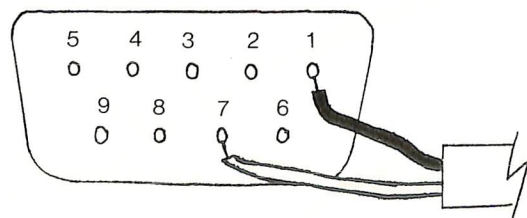


FIGURE 3



RELOCATED FAST-DISK

Tony Atkinson

February 1985 edition contained an excellent program by Paul Blair called FAST-DISK which provides very fast loading from the 1541.

It was so valuable that I wanted to have it constantly available in my C-64 along with the disk operating system, DOS 5.1. Unfortunately as presented FAST-DISK clashed with DOS 5.1 in RAM.

FAST-DISK uses RAM either side of the actual program during its operation so allowance has to be made for this. The program could have been lowered a few extra

bytes but it was much easier to move it a straight 12 pages, i.e. 12 by 256 bytes or 3072 bytes. This simply meant deducting 12 from the Most Significant Byte of each of the addresses involved in the program which needed to be changed.

If you save Fast-Disk as a binary file on the same disk as DOS 5.1 you can easily add this to the BASIC Loader program for DOS 5.1 so they both go into memory with the one LOAD.

```

1034 DATA 140, 42,194,196,183,176, 10,177,187,153,207,195,200,192, 16,144'BKPM
1035 DATA 242,169,160,192, 16,176, 6,153,207,195,200,144,246,165,195,133'BKNN
1036 DATA 174,165,196,133,175, 32,122,194,169, 73, 32,168,255, 32,174,255'BJCO
1037 DATA 169,194,141,199,193,169, 4,141,187,193,169, 11,141,121,194,162'BKCP.
1038 DATA 0,169, 87, 32,141,194,138, 32,168,255,169, 5, 32,168,255,169'BFNP
1039 DATA 30,168, 32,168,255,189,178,195, 32,168,255,232,208, 6,238,199'BIYQ
1040 DATA 193,238,187,193,136,208,238, 32,174,255,206,121,194,208,210,169'BMVJ
1041 DATA 69, 32,141,194,169,213, 32,168,255,169, 4, 32,168,255, 32,174'BGFJ
1042 DATA 255,160, 0,169, 11,141, 0,221,173, 0,221, 16,251,169, 3,141'BDIJ
1043 DATA 0,221,162, 5,202,234,208,252,162, 4,173, 0,221, 10, 8, 10'BBXK
1044 DATA 38,255, 40, 38,255,202,208,242,165,255, 73,255,153, 0,192,200'BHGM
1045 DATA 208,209,173, 1,192,240, 70,162, 1,169,255,208, 19,206, 42,194'BGLN
1046 DATA 165,185,240, 10,173, 2,192,133,174,173, 3,192,133,175,162, 3'BGCO
1047 DATA 232,189, 0,192,160, 0,145,174,230,174,208, 2,230,175,236, 1'BFUP
1048 DATA 192,144,237,173, 0,192,208,153, 24,162,246,154, 72,169, 27,141'BIPO
1049 DATA 17,208,169, 1,141, 14,220,104,166,174,164,175, 96,169, 4, 44'BFQJ
1050 DATA 169, 5,162,128,134,144, 56,176,224, 0,165,186, 32,177,255,165'BHCJ
1051 DATA 144,208,237,169,255, 32,147,255,165,144,208,228, 96, 72, 32,122'BJBK
1052 DATA 194,169, 77, 32,168,255,169, 45, 32,168,255,104, 76,168,255, 13'BHWL
1053 DATA 78, 79, 32, 49, 46, 49, 86, 32, 75, 83, 73, 68, 45, 84, 83, 65'BWDK
1054 DATA 70, 13,169, 3,133, 49,165, 34,197, 8,208, 94, 32, 10,245, 80'BBAM
1055 DATA 254,184,173, 1, 28,145, 48,200,208,245,160,186, 80,254,184,173'BITO
1056 DATA 1, 28,153, 0, 1,200,208,244, 32,224,248, 76, 0, 4,104, 24'BYQN
1057 DATA 105, 1,141, 42, 4,104, 76, 0, 4,173, 0, 3,133, 8,240, 85'BVRO
1058 DATA 173, 1, 3,133, 9, 32, 44, 4,162, 0,164, 35,185, 2, 3,201'BVWP
1059 DATA 130,208, 12,189, 29, 5,201, 42,240, 30,217, 5, 3,240, 19,165'BCVR
1060 DATA 35, 24,105, 32,133, 35,176,209,144,222,169, 0, 44,169, 12, 76'BENJ
1061 DATA 105,249,200,232,224, 16,144,219,164, 35,185, 3, 3,133, 8,165'BFDL
1062 DATA 4, 3,133, 9, 32, 44, 4,173, 1, 3,133, 9,173, 0, 3,133'BSDJ
1063 DATA 8,240, 5,169,255,141, 1, 3,173, 0, 3,133, 33, 44, 0, 24'BVWL
1064 DATA 16,251,169, 16,141, 0, 24, 44, 0, 24, 48,251,162, 4,169, 0'BYGM
1065 DATA 6, 33, 42, 10, 6, 33, 42, 10,141, 0, 24,202,208,240,162, 1'BXAN
1066 DATA 202,208, 0,234,234,169, 15,141, 0, 24,238,151, 4,208,201,165'BFKQ
1067 DATA 8,208,177,169, 1,208,152,169, 2,141, 0, 24,169, 55,141, 42'BCRQ
1068 DATA 4,169, 18,133, 8,169, 0,133, 35,133, 9,169,224,133, 1,165'BBSR
1069 DATA 1, 48,252,240,246,120,162,157,169, 96,157, 0, 3,189, 36,235'BEBS
1070 DATA 157,255, 2,202,208,247,138,149, 0,232,208,251,162, 69,154, 32'BHJL
1071 DATA 0, 3, 32, 99,242,169, 32, 32,147,249,230, 62, 76,197,235'BYHL

```

RELOCATED FAST DISK

```

100 REM ##FAST-DISK LOADER FROM'BVTB
110 REM ##COMMODORE MAGAZINE, VOL4 N05'BCHD
115 REM ##(C) P. BLAIR 1984 - PERMISSION TO COPY WITH ACKNOWLEDGEMENT'BCGP
120 REM ##RELOCATED IN MEMORY TO'BVWD
130 REM ##ALLOW SPACE FOR COMMODORE'BYAF
140 REM ##DOS 5.1'BIDB
145 REM ##BY TONY ATKINSON 1986'BUXJ
150 :ABHA
160 A=0'BCJC
170 FOR N=49408 TO 50126'DLSG
180 READ D:A=A+D'DFNG
190 POKE N,D: NEXT 'CERG
200 :ABHV
210 IF A<>88145 THEN PRINT "CHECKSUM ERROR": END 'GHLG
1027 DATA 169, 32,141, 24, 3,169,193,141, 25, 3,169, 57,141, 48, 3,169'BCCM
1028 DATA 193,141, 49, 3,162, 18,189,159,194, 32,210,255,202, 16,247, 96'BGBO
1029 DATA 72,138, 72,152, 72, 32,225,255,208, 9, 32,132,255, 32,129,255'BFNP
1030 DATA 108, 2,160,104,168,104,170,104, 64,133,147,165,183,240, 20,160'BJKH
1031 DATA 0,132,144,177,187,201, 36,240, 10,165,186,201, 8,144, 4,201'BFOI
1032 DATA 12,144, 5,165,147, 76,165,244,186,142, 90,194,173, 14,220,141'BHMJ
1033 DATA 99,194,173, 17,208,141, 94,194,160, 0,140, 14,220,140, 17,208'BGFK

```

FIGURE 4

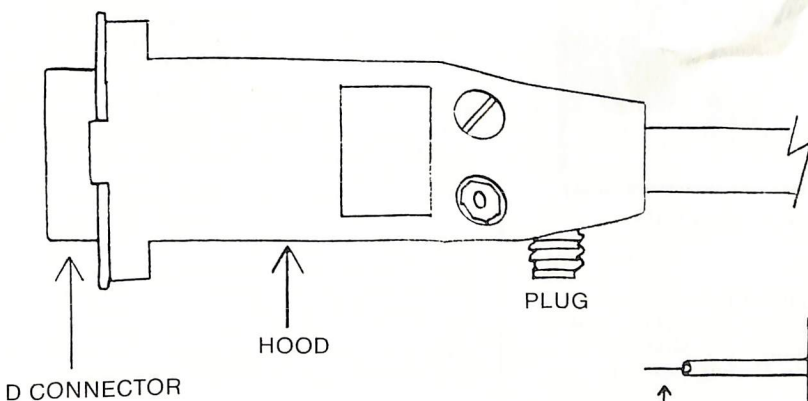


FIGURE 5

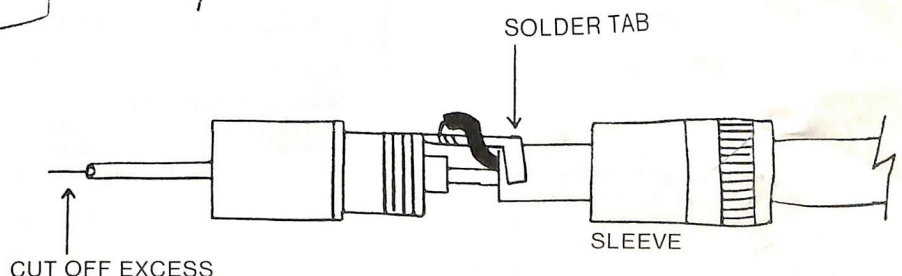
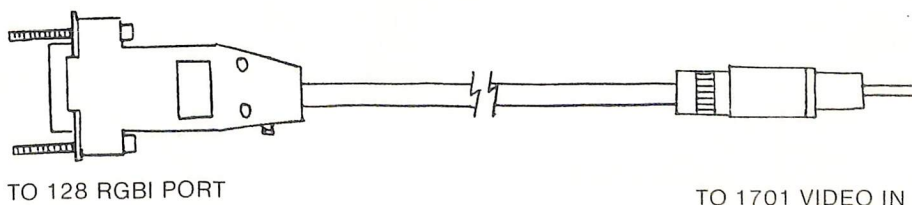


FIGURE 6



USER GROUPS COLUMN

by Lawrence Hulse

QUEENSLAND

A WARM WELCOME to the Twin Towns Computer Users Group in Burleigh Queensland. President is Ron James and Secretary is Evan Dunster. Its 40 members meet fortnightly on Tuesdays.

The Townsville group has elected new office bearers. President is Br. Peter Coe; Secretary is Bruce McGovern; Treasurer is Andrew Rogle; Librarian is Ashley Bowyer; with Committee members being Eric Roberts, Keith Kikkert and Denys Brennan. Among the goals for the coming year is, "...some effort be directed to the much maligned data cassette its operations and uses, as many new users find this is the first and only means open to them to store data." That seems to be a good goal for many groups.

Stuart Elflett, editor of 'Adventure News' (M.S.F. 550, Toogoolawah, Qld, 4313) the newsletter for all Commodore adventurers, is offering a prize for the best contributions, reviews, hints and tips, bugkillers, maps, etc. The prize is one of a wide array of adventures including: Zork, Suspended, Deadline, Combat Zone, Classic Adventure, Salvage or Subunk.

NSW & ACT

The A.C.T. Group's newsletter editor, Greg Weller, writes that it has past the ten page mark. He also writes, "Several weeks ago I think I overheard somebody mention that there are over 350 members in our club. But yet only four people have contributed articles to this month's newsletter. ... Dare I say that there is some inconsistency there. ... Surely the kids could review their latest game or perhaps give advice on how to play a game."

CONGRATS to the Nelson Bay, N.S.W., club which celebrated its first birthday recently. Wayne Herring, the newsletter editor, writes, "We thought that the name the BUG Gazette may as well have been a newsletter for farmers on how to reduce insect infested crops. GOSUB seemed the logical choice." The club also has a VIATEL mailbox number 498136010, and Wayne states, "I can now be contacted through VIATEL, and prefer to do business this way."

The Commodore Hornsby User Group (CHUG) newsletter 'Line Feed' has taken on a new dynamic look. Editor Jill Rassack writes, "...it was put together on NEWSROOM which will be reviewed later." The layout is two columns and it has interesting graphic sub-headings, including four bullet holes with a disclaimer, "We wish we could apologise for this strange newsletter. Terrorists broke into our offices and messed around with the layout and content."

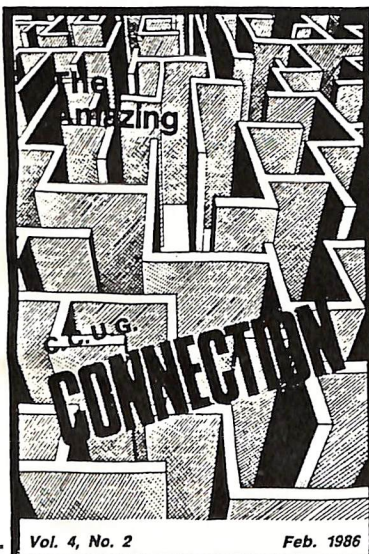
TASMANIA

The Tasmanian Commodore Users Association Monthly News reports that about twenty people participated in their last

meeting and Colin Curtain is taking the reins on the wild side of the print media as the new editor. All the best!

NEW ZEALAND

Those cunning Kiwis! Not only are they devastating willow walloppers (oops, I forgot we don't mention cricket in this column) but the Christchurch group is using the inside of their newsletter wrapping paper to list their C64 library tape index!!! Elsewhere in their latest edition of 'Connection' they are having a Table Sale evening, "...to get rid of all those well-read magazines, your done-that software, and any useful bits and pieces of computer gear... The idea is basically a series of mini-garage sales." There is also a report on 'The Great 1985 Auction', "there were some terrific bargains to be had. Like \$40 worth of books sold for \$1, like \$90 worth of programs going for \$8, like a brand-new C64 going for \$380, like a brand-new disk drive for only \$300, a 1525 printer for \$290, a Riteman for \$325" There were a total of 160 lots, 136 from Christchurch retailers and the rest from club members.



Official Magazine of the CHRISTCHURCH Commodore User Group

TMBA USER GROUP

Dear Sir,

After a tentative beginning in 1985 our Group is now expanding, and is actively engaged in seeking new members. The Group meets on the last Friday of every month at the Toowoomba Education Centre, Baker Street, Toowoomba.

We request your assistance as publisher of a computer oriented Magazine in reaching readers of that excellent publication, by including mention of our Group in a small paragraph in the segment devoted to promoting User Groups.

Yours faithfully,
J. Larkin
TCCUG HON. SEC.

User Groups Who Have Made Contact Since Issue 34 NSW

NAME: Sydcom
ADDRESS: PO BOX 1542, Sydney, NSW 2001
CONTACT: Philip Dean (02) 451 7694 SEC
MEETINGS: 2nd Wednesday at The Abraham Mott Hall, Argyle Place, Millers Point 7.30pm

NAME: Comp-Tel
ADDRESS: c/- B. Pennings
138 Barcom Ave, Rushcutters Bay 2011
CONTACT: SEC O. Davide (02) 231 1111

NAME: Tuggerah Lakes CUG
ADDRESS: 125 Woolana Ave, Budgewoi, NSW 2262
CONTACT: Frank James 90 7339

NAME: Albury/Wodonga Commodore Users Group
ADDRESS: PO BOX 1014, Albury, NSW 2640
CONTACT: D. Willis

VICTORIA

NAME: Melbourne Commodore Club (INC)
ADDRESS: PO BOX 252, Northcote, Victoria 3070
CONTACT: John Ruddock (SEC)

NAME: Essendon C64 User Group
ADDRESS: 8 Byron Ave, East Keilor, VIC 3033
CONTACT: George Stathoulis (03) 337 4159

QUEENSLAND

NAME: Twin Towns Computer Users Group
ADDRESS: PO BOX 645, Palm Beach, QLD 4221
MEETINGS: Fortnightly on Tuesdays at 7.30pm at the Elanora State School
CONTACT: Evan Dunster

NAME: Toowoomba Commodore User Group
ADDRESS: 9 Ascot St, Toowoomba, QLD 4350
CONTACT: Mr. L. Larkin (076) 341 620 SEC

NAME: Charters Towers CUG
CONTACT: Simon McAlister
No other details given. HELP! Simon

SOUTH AUSTRALIA

NAME: South Australian Commodore User Group
ADDRESS: PO BOX 427, North Adelaide, SA 5006
CONTACT: Lily Woer SEC (08) 263 6349

NEW ZEALAND

NAME: Christchurch Commodore Users Group
ADDRESS: 3 Paulus Terrace, Christchurch 2, New Zealand
CONTACT: Tony Petre 34 382 EDITOR

CHANGES IN DETAILS

NAME: Pittsworth Micro-Commodore Club
NOTE: Secretary can be contacted via Ron Langton (076) 93 1346

NAME: Commodore User Group (ACT)
NOTE: John Hambley's correct number is (062) 489 527

NOTE TO READERS:

If your user group is not listed here or in the last issue, one of three things has happened

1. Details have been supplied and the computer chewed them up
2. Details have been supplied and they are somewhere in our piling system.
3. Details have not been supplied by your secretary.

In any case please ask your club secretary to contact us. Each user group registered with us receive a free subscription of the magazine for the club's library. Secretaries, write to:

COMMODORE MAGAZINE
82 Alexander Street Crows Nest NSW 2065

FAST TAPE

For the C64 with C2n Cassette.

(hopefully also the C128 in C64 mode)

David M. Balean

Here is a program that tape users are certain to appreciate. A few months ago Paul Blair's 'FAST DISK' appeared, and this is an attempt to provide something similar for the Datassette. The speed of both saving and loading a program is increased about tenfold.

The BASIC loader is self-explanatory, the user having a choice of high or low memory versions. The exit after the information screen is to the BASIC Power-up message with a note of the correct 'SYS' to use when the program to be 'Fast-Taped' has been loaded.

When the 'SYS' is Performed you are first asked if your program is in memory. Assuming it is, you are then asked for a filename which can be blank or up to 16 characters long as per normal. You cannot use variables; what you see is what you get. If the program is Machine Code you then have to provide the STAR, END and ENTRY ADDRESSES. Decimal or hex are permitted, but hex must be "S" followed by four hex digits so 2048 decimal would be \$0800 in hex.

If the program spots an error you have to try again from the start address. If you have forgotten the address you can exit completely by typing 'Q'. If the program is in Basic then the program is saved to reload at the same address. The appropriate pointers become part of the Machine Code inserted into the cassette buffer after the filename. During the save thin stripes traverse the screen and finally you are informed when the 'SAVE' is finished.

On reloading, a program of only two bytes loads to the output vector at \$0326. This points to the Machine Code at \$0351 which then loads the actual program, with the striped screen effect as before. If the program is Machine Code there is a 'JMP' to the Entry Point. A Basic program will have been loaded to its original address. A zero byte is inserted before the program just in case it is not in the normal Basic area. The Text Pointer [\$7A, \$7B] is backed-up and CLR is performed before the program self-starts using JMP \$A7AE.

This whole program relies on TIMER A of CIA #2, which is used in 'One-Shot' mode throughout. The relevant addresses are \$DD04 and \$DD05 for the timing, \$DD0E to start the timer and \$DD0D [bit 0] for the interrupt control register. The interrupt from

the tape is received on bit 4 of \$DC0D which is the interrupt control register of CIA #1. If you are interested in the precise workings, study the Programmer's Reference Guide Appendix M commencing page 419. It is all there, but hard going! Basically the idea is to write or read tape interrupts using long time intervals for '1' bits and short time intervals for '0' bits.

Tape control is obtained via the 6510 PORT, address \$01. Bit 3 is normally '0' but writing a '1' sends a write to tape. This must then be restored to a '0'. Bit 4 is Tape Sense, and is input from the 'PLAY' button of the tape machine. If the button is depressed (i.e. ON) then this is '0'. Bit 5 controls the tape motor. Normally it is '1' but if you write a '0' then the motor starts. In ordinary tape operation \$C0 is the tape interlock address and is checked at \$EA71 during every normal interrupt. Fast-Tape prevents the normal interrupt cycle with 'SEI' so \$C0 is relevant.

The Fast-Taped program consists of a leader which is a series of '1' bits followed by a '0' bit. The program is next, then finally there is a checksum which is copied several times. On loading, if the checksum disagrees then a 'BASIC' cold start is performed. The normal power-up message appears, missing out the check for ROM at \$8000 just in case this was used in the program being loaded. The stripes across the screen show that bits are being received so a blank screen indicates failure to recognise the start or end of the program.

For those who enjoy skating on thin ice, the following pokes will speed the action by about another 10%, but it is very much at the expense of not being able to load with a different Datasette. There is still an extremely small allowance for speed variations so it is not the ultimate!

With high memory version in place:-

POKE 52810,36 (normal = 53 :
'0' bit SAVE, also 'WRITE'
time constant)

POKE 52828,112 (normal = 134 :
'1' bit SAVE)

POKE 52887,200 (normal = 222 :
LOAD timing)

The addresses are 2634, 2652 and 2711 respectively for the low memory version.

Finally, starting with machine code is riddled with difficulties. One is finding the addresses in ROM that perform the normal operations of the computer. 'The Complete Commodore 64 ROM Disassembly' by Peter Gerrard

and Kevin Bergin (published by Duckworth) is very useful but it doesn't spoon feed you. During the research required for this program I found several useful addresses and routines including the following:

FUNCTION	ROUTINE	PRELIMINARIES
SAVE Header (cassette buffer) (save it 'as is')	JSR \$F7D7 LDA #\$69 STA \$AB JSR \$F86B	Prepare buffer \$033C - \$03FB (copied from ROM at \$F7B7)
SAVE RAM only to tape	JSR \$F867	\$C1, \$C2 = LB HB start address \$AE, \$AF = LB HB end address+1
LOAD first tape header only	JSR \$F72C	
LOAD RAM from tape only	JSR \$F84R	\$C1, \$C2, \$AE, \$AF as for save

Good luck all you tape users. The joke's on me - I hardly ever touch the stuff.

FAST TAPE

```

10 REM "#####"BAPC
20 REM "[SPACE6]FAST-TAPE FOR C-64[SPACE6]#"BALE
30 REM "[SPACE4]WITH CBM DATASETTE C2N[SPACE4]#"BAKG
40 REM "[SPACE3]D.M. BALEAN OCTOBER 1985[SPACE3]#"BADH
50 REM "[SPACE2]LOW MEMORY[SPACE2]- $0800 TO $0BFF #"BAY1
60 REM "[SPACE2]+ PROTECTION AGAINST BASIC[SPACE2]#"BAEK
70 REM "[SPACE2]HIGH MEMORY - $CC00 TO $CFFF #"BARK
80 REM "#####"BAPJ
90 :ABHF
100 DATA 120,216, 32,163,253, 32, 21,253,169,230'BLGC
110 DATA 141, 41, 3,169,142,141, 40, 3, 32, 91'BGLC
120 DATA 255, 88,162, 8,142, 32,208,232,142, 33'BJWE
130 DATA 208,169, 49,160,-11, 32, 30,171, 32, 51'BJIF
140 DATA -10,201, 89,240, 6,201, 78,208,207,240'BKFG
150 DATA 93,162,182,189,111,-10,157, 59, 3,202'BKRH
160 DATA 208,247,169,140,160,-11, 32, 30,171,162'BMEI
170 DATA 0, 32,207,255,201, 13,240, 10,157, 65'BIGI
180 DATA 3,232,224, 16,208,241,240,219,169,153'BLPK
190 DATA 160,-11, 32, 30,171, 32, 51,-10,201, 66'BJMK
200 DATA 208, 58,162, 10,189, 38,-11,157,241, 3'BJTD
210 DATA 202, 16,247,165, 43,141,114, 3,133,251'BKFE
220 DATA 165, 44,141,120, 3,133,252,165, 45,141'BKHF
230 DATA 126, 3,133,253,165, 46,141,130, 3,133'BJGG
240 DATA 254, 76, 20, -9, 32, 21,253, 32,191,227'BITG
250 DATA 32, 34,228,169,185,160,-11, 76,148, -9'BKYL
260 DATA 201, 77,208,180,169,174,141, 0, 3,169'BJYJ
270 DATA 204,141, 1, 3,169,207,160,-11, 32, 30'BIWJ
280 DATA 171, 32,157, -9,132,251,133,252,140,114'BMCL
290 DATA 3,141,120, 3,169,228,160,-11, 32, 30'BIYL
300 DATA 171, 32,157, -9,197,252,144,222,208, 4'BKUE
310 DATA 196,251,144,216, 24,200,208, 2,105, 1'BJEF
320 DATA 132,253,133,254,140,126, 3,141,130, 3'BKVG
    
```


PROJECT Device Number Indicator

Version 2 - Complex

by Vince Morton

PARTS

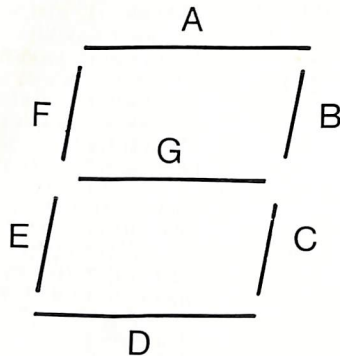
- 7 x Resistors 470 ohms 1/4 watt
Dick Smith Cat No. R0566
- 1 x 7 Segment Led Display LT312
Dick Smith Cat No. Z4117
- 1 x 14 pin IC socket
Dick Smith Cat No. P4140

NOTE

This project uses a seven segment led display to actually show the device address. The led display does not have any obvious method of mounting, and so I have deliberately left this up to the individual, however I can only suggest that a slot of exacting size be cut as shown in the diagram and the display be glued in place with good quality glue. The decimal point is at the base of the display.

CIRCUIT THEORY

The led display consists of 7 leds in an array as follows:



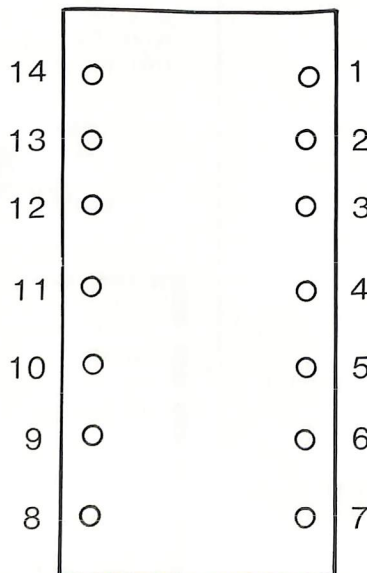
If sectors A,B,C,D,F and G are permanently on, then the figure 9 will appear. As we saw in version 1 (See Commodore Doctor, this issue) we are able to turn on a led for device address 8, if we make this the led for sector E, then the display becomes 8.

Simple isn't it? So here goes!

PREPARATION

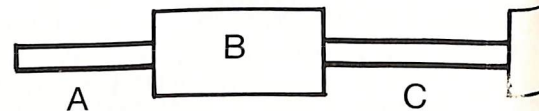
An additional wire will be required to be attached to point C as per the the wire at point A. I suggest you now mount the led display and work the rest of the project while the glue dries.

Place the IC holder on the table with the pins protruding up towards you. The pins are numbered as follows:

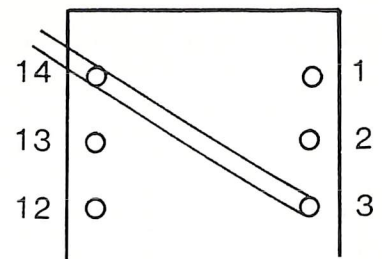


Apply a thin coating of solder to pins (tinning) 1,2,3,7,8,10,11,13,14. Take six resistors and cut one lead of each of these to the same length as the pins on the IC holder and solder tin these leads. Solder a resistor to each of the following pins 1,2,8,10,11,13. Fold the other legs of these resistors to form a bridge of all leads together ie 1 to 2, 2 to 13, 13 to 11, 11 to 10, 10 to 8, and then solder all joins and trim excess leads.

Cut another resistor leg to the length of the IC pin and solder to pin 7 of the IC holder. Cut the free lead of the resistor on pin 7 to 1 cm long. Locate the wire from point B and strip back the insulation for approx. 8mm back from the insulation edge cut carefully through the insulation (do not damage the wire) and slide the insulation down the wire 5 mm so that it looks like the diagram below



Hold section C against pin 14 of the IC holder with section A as close to pin 3 as possible. Solder the wire to pin 14. Slide the insulation B as close to pin 14 as possible and solder the bare end of the wire to pin 3 and trim any excess. The wire should now look like the picture below with insulation between the solder joints. Ensure that the bare wire contacts are only pins 14 and 3. No other point.



Locate the wire from point A and slide approx. 3 cm of green spaghetti over it. Solder this wire to the free end of the resistor on pin 7 and slide the spaghetti over the joint and resistor to insulate the whole lot.

Locate the wire from point C and solder it into the resistor grid created earlier by soldering the resistor grid leads together.

Use insulation tape to protect the whole unit from shorting out to the disk drive internals, but remember where pin 1 is.

The IC socket may now be plugged onto the

GENERAL REQUIREMENTS

- Wire Cutters
- Soldering Iron
- Solder
- Thin wire
- Knife
- Insulation tape
- Spagetti tubing (optional)
Dick Smith Cat W4040

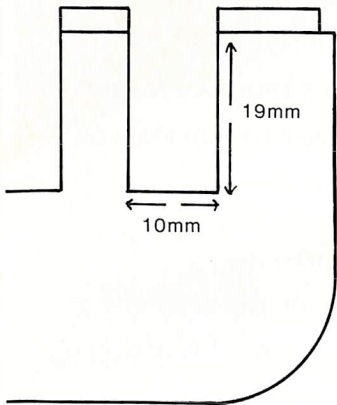
GENERAL PREPARATION

Cut two lengths of thin wire, one 15 cm long and one 30 cm long and strip and solder tin the wire for approx. 2cm each end.

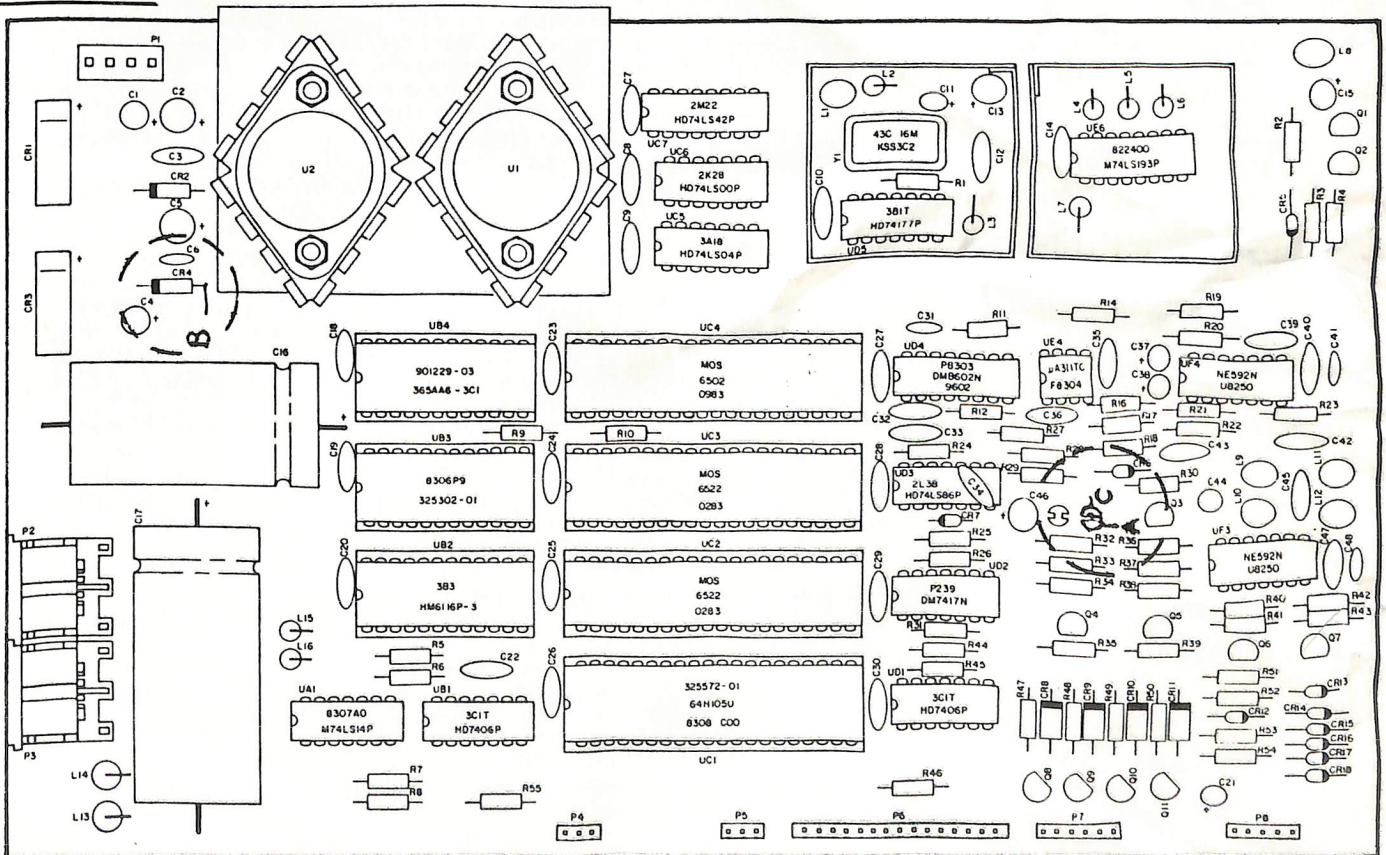
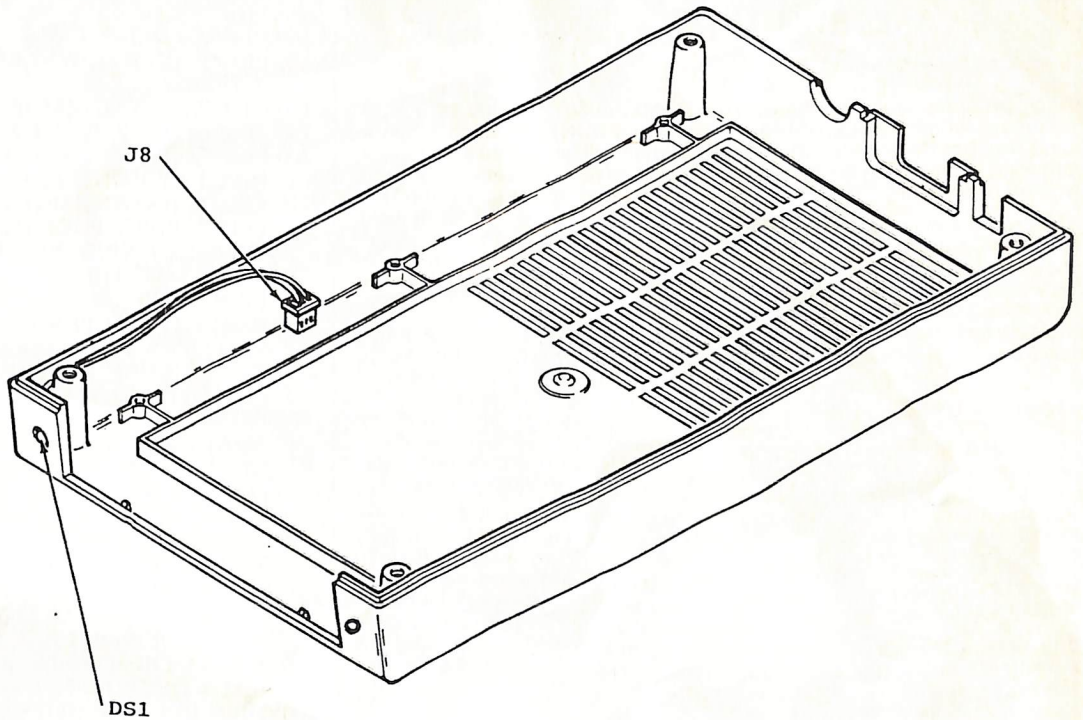
Disconnect the 1541 from both the power and the C64 and turn it up side down. Undo the four screws which hold the case together, then cover each of the holes with a piece of tape (that way you won't lose the screws.) Turn the drive back upright and remove the lid. If your drive still has the RF Shield, remove that to expose the P.C. board.

Using the pictures supplied, locate points A & B on the P.C. board. Point A will already have a wire attached to it, going to your disk address switch. Attach on end of your short piece of wire to this point also solder on end of the long piece of wire to the diode marked point B. Inspect both joints to ensure that the wires do not make contact any where, but the points indicated.

Preparation is now complete, from this point follow the instructions for the project.



**SUGGESTED
SLOT
VERSION 2**



led display, with pin one to the top of the display. Plug the drive into the mains power and the display should light up as either 8 or 9 according to the switch position. If not go back and recheck your wiring.

If all is OK you may now reassemble your

drive taking care not to damage any of your new wiring, or allow it to interfere with the moving parts of your disk.

I have built and tested this project, with no problems and can supply both units ready to be installed with instructions for a moderate

price plus postage and handling.

Orange led - \$2.00 + P/H \$2.00

Segment Display \$12.00 + P/H \$2.00

For complete set up including switch ready to mount in 1541 add \$1.00.

LIST VARIABLE

Uses disk and tape

Leonard Thomson

This program will produce a complete listing of all Variable and Line Number References within a program. Listing can be to either screen or printer.

The program works directly on any BASIC program stored on disk but the object program must be stored sequentially on tape. TAPESTOR will save a program to tape in a suitable form for the List variables program.

How to use

LOAD and RUN the TAPESTOR program. Enter NEW and LOAD the object program. Reposition the tape to a clear area and enter sys50000 in direct mode.

You will be asked for a program name. A suggestion would be (SEQ-[OLD NAME]).

The object program will be saved as a sequential file under this name. You can then proceed to run the list variables program on this file.

TAPESTOR

```
10 REM "###[SPACE2]TAPESTOR PROGRAM" BASIC
20 REM "###[SPACE6]BY" BAMA
30 REM "###[SPACE3]LEONARD THOMSON" BAGE
100 C=0: FOR J=49968 TO 49988: READ X:C=C+X: POKE J,X:
NEXT JAUG
110 FOR J=50000 TO 50114: READ X:C=C+X: POKE J,X:
NEXT IWXF
120 IF C<>18866 THEN PRINT "[CLR,DOWN,RIGHT]DATA
ERROR !!!": STOP 'GHHG
130 PRINT "[CLR,DOWN,RIGHT]DATA O.K. !!!": END 'CBYC
2000 DATA 147,17,29,69,78,84,69,82,32,70,73,76,69,32,78,65'BXYD
2010 DATA 77,69,32,63,32'BQOX
2100 DATA 160,0,185,48,195,32,210,255,200,192,21,208,245,160,0,32'BFNG
2110 DATA 207,255,153,32,195,200,192,16,240,4,201,13,208,241,152,160'BIIH
2120 DATA 195,162,32,32,189,255,169,13,32,210,255,169,1,162,1,160'BFHI
2130 DATA 1,32,186,255,32,192,255,162,1,32,201,255,165,43,133,251'BFVJ
2140 DATA 165,44,133,252,166,252,228,46,240,15,160,0,177,251,32,210'BHUK
2150 DATA 255,230,251,208,245,230,252,208,235,166,251,228,45,240,11,160'BLNM
2160 DATA 0,177,251,32,210,255,230,251,208,239,169,1,32,195,255,32'BGBM
2170 DATA 204,255,96'BKXE
```

LIST VARIABLES

```
10 REM "### LIST VARIABLES" BADC
20 REM "###[SPACE6]BY" BAMA
30 REM "###[SPACE3]LEONARD THOMSON" BAGE
40 REM "###[SPACE3]FERNDAL" BASD
50 REM "###[SPACE3]P.O.BOX 66" BALE
60 REM "###[SPACE3]MILLMERRAN" BAMG
70 REM "###[SPACE3]QLD. 4357" BAAG
100 POKE 52,40: POKE 56,40: CLR: REM # LOWER TOP OF BASIC
TO PROTECT ARRAYS'ETLJ
110 IF PEEK (49248)=160 AND PEEK (49803)=160 AND PEEK
(49906)=194 THEN 160'KIVJ
115 REM ### IS MACHINE CODE LOADED'BWBH
120 PRINT "[CLR,DOWN2,RIGHT2,RVS,SPACE2]LOADING
MACHINE CODE[SPACE2]" BAWF
130 S=49248:C=0: FOR J=S TO S+658: READ Z: POKE J,Z:
PRINT J"[UP]":C=C+Z: NEXT 'MEON
140 IF C<>89244 THEN PRINT "ERROR IN DATA!": STOP 'GHMH
150 PRINT "DATA O.K. !!!": FOR J=1 TO 1000: NEXT 'FIJH
```

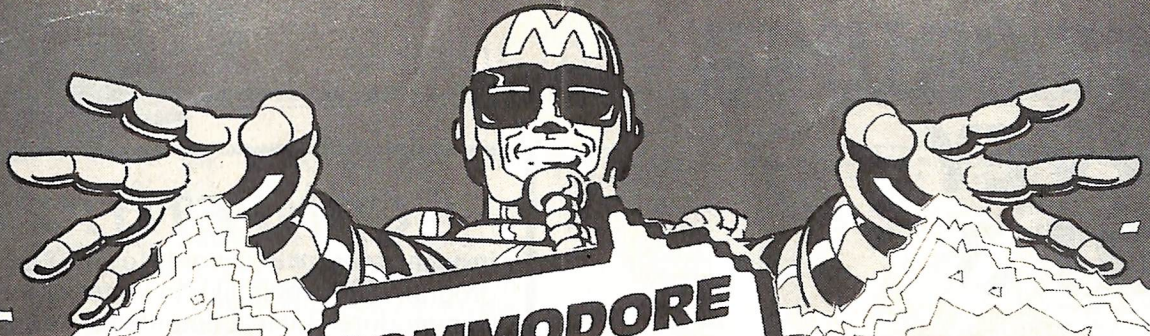
LOAD the LIST VARIABLES program and RUN. The Machine Code section will be loaded and you will be asked for the device number on which the BASIC program is stored. (1 if tape, 8 with disk). LOAD the disk with the object program into the disk drive or position the tape and enter the appropriate number.

Enter the object program name followed by [RETURN], then 'S' for Screen or 'P' for printer in response to the prompts. The object program will then be analysed for all variables and line number references and printing in ASCII order will commence.

I hope I have included sufficient REMs with the BASIC. The only flaw is that in the program, if FN(X) is defined and X() array is also used no distinction will be made between them in the listings. Only the first 2 operative characters of long variable names will be printed.

```
160 CLOSE 15: CLR 'CDTC
170 PRINT "[CLR,DOWN2,RIGHT2]ENTER DEVICE NUMBER
? "':BCWJ
180 GET Z$:Z=VAL (Z$): IF Z<1 THEN 180' GOJK
190 POKE 49160,Z: PRINT Z' CJCH
200 PRINT "[DOWN2,RIGHT2]ENTER PROGRAM NAME":
INPUT PS: PRINT 'DFKE
210 PRINT "[DOWN2,RIGHT2]OUTPUT TO SCREEN(S) OR
PRINTER(P)": POKE 198,0' CHYI
220 FP=0: GET XS: IF XS="P" THEN 250' FMFE
230 IF XS<>"S" THEN 220' EFCY
240 FP=1' BDUB
250 IF Z=1 THEN OPEN 1,Z,0,PS: GOTO 260:
REM OPEN TAPE FILE'GCVL
255 OPEN 1,Z,2,"0:"+PS+"",P,R": GOSUB 1500: IF FE=1 THEN 160:
REM OPEN DISC FILE'IICU
260 PRINT "[HOME,DOWN23,RIGHT4]LINE NUMBER BEING
ANALYSED" BAVL
270 SYS 49248: CLOSE 1: REM ANALYSE PROGRAM'DWLK
280 DIM X(11):PN=1:VRS=""LINE NUMBER REFERENCES":
VSS=""LIN NU[SPACE2]": REM INITIALISE'FDFW
290 V=256* PEEK (49153)+ PEEK (49152):W=34816:N=10240:
REM V = TOTAL VARIABLES'YFW
295 REM ### W = START OF VARIABLE STRING STORAGE'BIYT
296 REM ### N = START OF VARIABLE LOCATIONS STORAGE
AS INTEGERS'BVLY
300 IF FP=1 THEN 600: REM OUTPUT TO SCREEN'EVSF
399 REM # OUTPUT INFORMATION TO PRINTER'BCAX
400 OPEN 10,4: REM OPEN PRINTER FILES'CVQE
410 GOSUB 1010'BEDA
430 FOR J=0 TO V-1: GOSUB 800: IF VF=0 AND LEFT$(A$,1)>"9"
THEN GOSUB 1200'MWTN
440 PRINT#10,A$ SPC((6-LEN (A$))): FOR M=0 TO X-1:
YS=STR$(X(M)): PRINT#10, SPC((6-LEN (YS)))YS:'OQDT
445 NEXT : PRINT#10: REM # PRINT ONE LINE'DRFN
450 RN=RN+1: IF RN>60 THEN GOSUB 1000:
REM START NEW PAGE'HCFO
460 NEXT : CLOSE 10: REM CLOSE FILES'DOKJ
470 GOSUB 900: ON FA GOTO 160,480: REM ANOTHER FILE
Y/N'EDWO
480 END 'BACG
599 REM # OUTPUT INFORMATION TO SCREEN'BBAA
600 Q=0: PRINT "[CLR,RVS]VARIABLE[SPACE3]LOCATIONS":
PRINT : FOR J=0 TO V-1: GOSUB 800: PRINT A$:'JMRP
605 REM # PRINT SCREEN HEADING AND VARIABLE'BFIO
610 FOR M=0 TO X-1 STEP 4: IF M+3<X-1 THEN 630'KNWK
620 FOR G=M TO X-1: PRINT TAB(12+7*(G-M))X(G): NEXT :
GOTO 640' LXCO
625 REM # PRINT VARIABLE LOCATIONS TO SCREEN'BGWQ
630 PRINT TAB(12)X(M) TAB(19)X(M+1) TAB(26)X(M+2)
TAB(33)X(M+3)'IGHO
640 Q=Q+1: NEXT : PRINT : PRINT :Q=Q+1: IF Q>17 THEN
GOSUB 700'LRSO
645 REM # SCREEN FULL'BLOM
650 NEXT : GOSUB 700: GOSUB 900: ON FA GOTO 160,480'FSVL
655 REM # ANOTHER FILE Y/N'BPJO
699 REM # SUBROUTINE TO GET [RETURN] WHEN SCREEN
FULL'BNCF
700 PRINT "[HOME,DOWN24,RIGHT2,RVS,SPACE2]PRESS
[RETURN] TO CONTINUE[SPACE2]": POKE 198,0' CH ON
710 GET Z$: IF Z$<> CHR$(13) THEN 710' GMDI
720 Q=0: PRINT "[CLR]VARIABLE[SPACE4]LOCATIONS": PRINT :
RETURN 'EFIM
799 REM # FIND LOWEST VARIABLE LEFT IN STORAGE AREA
'BLFE
800 SYS 49803:C=PEEK (49158)+256* PEEK (49159):A$=""HCKM
805 REM # C = VARIABLE NUMBER'BROM
810 X=PEEK (W+6*C+5): FOR K=0 TO 4:
A$=A$+ CHR$( PEEK (W+6*C+K)): NEXT : POKE W+6*C,255
'TIDX
815 REM # X = NUMBER OF LOCATIONS FOR VARIABLE.
A$ = VARIABLE'BSWU
816 REM # CHANGE VARIABLE TO HIGHEST'BYBQ
```

Continued page 39



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SUBSCRIBER SURVEY PART 3



Here is your last chance at winning our Commodore 128 and disk drive. Feedback from readers is a vital part of this magazine. It helps us keep in touch with you and get to know who you are and what you like.

This issue we are asking questions that will help us sell advertising. Make no mistake without advertising there will not be COMMODORE MAGAZINE, so by completing this form you are helping both the magazine and yourself.

This survey has spanned 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 C128 and disk drive.

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

NOTE: The competition results will now be announced in issue 37.

1. Did you complete Survey Sheet Parts 1 & 2?

Pt1 YES NO
Pt2 YES NO

If no to either we would appreciate it if you would complete them and attach to this form.

2. What is your occupation?

.....

3. What age group are you in?

Male , Female please tick

Under 9 years
10-15 years
16-21 years
21-35 years
36-45 years
Above (care to tell us?)

4. What annual income bracket (gross) are you in?

Under \$5,000
\$6,000-\$12,000
\$13,000-\$18,000
\$19,000-\$24,000
\$25,000-\$30,000
Over (dare we ask how much?).....

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 June 14th 1986, and the winner will be announced in Issue 37 of the Commodore Magazine.

NOTE: To be eligible for the competition this survey sheet, accompanied by your entry, must reach us no later than the above date. All survey questions are optional.

Send to:

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

5. What type of products and services (computer and non-computer) would you like to see advertised in the COMMODORE MAGAZINE.?

.....
.....
.....
.....

6. Would you be interested in articles and advertising based on other computers e.g. Amstrad, Apple, Microbee etc.?

.....
.....
.....
.....

Subscriber code:.....

or

Name:.....

Postcode:.....

(Make sure the postcode and name is the same as that on your subscriber address)

Photocopy or Facsimile of this survey will be acceptable

The Mysterious World of Adventure Games

Part 2

Compiled by Michael Spiteri

The selection of Adventure games for the Commodore market is vast and many companies supply the market place. In this series of articles we hope to review most of the games on the market and give a few hints and tips on the way.

INFOCOM

Commodore 64 Adventure Games

INFOCOM is the name of a very popular USA software firm. The reason they are so popular is mainly due to the standard of their products.

They have built up a reputation to design and manufacture the some of the best adventure games in the world. All INFOCOM adventure games are text only, but the creative way the text is used makes them far better than graphic adventures.

INFOCOM have the ability to create a very strong atmosphere during gameplay, just look at some of the features INFOCOM include in their games:

- 1) Each game included very lengthy descriptions (over a screen full) which are very enjoyable to read, contain lots of humour and builds up atmosphere.
- 2) The games understand full sentences. You can enter any sentence you wish and chances are you will get a response. The 'I don't understand' comment hardly ever appears during gameplay.
- 3) Vocabulary of over 700 words!
- 4) Each game features great character interaction. After playing one of their games, I really believed the characters existed! You can talk to them in plain english, and they'll usually reply!
- 5) INFOCOM games are very large, some contain over 200 locations (each with detailed descriptions). The games take a very long time to solve.

Unfortunately, INFOCOM games are only disk based, as each command, description etc is read from the disk ensuring unlimited measures.

A thing that also makes INFOCOM special is that when you buy the program, you not only get the disk. For example, in the game DEADLINE, you receive a detailed manual, lab reports, letters, pills (fake), photos and evidence. All just to make you part of the game.

INFOCOM games also feature full save/load facilities (with dual drive



option), and their games also feature a full printer option.

Documentation and packaging is excellent. The games are very expensive, usually costing around \$90. Fortunately, Commodore distribute a few of their games for only \$25, a great bargain!

There are over 12 different INFOCOM adventures available, in the next couple of columns are reviews of a few of them. Each review will mainly outline the story line and problems that might occur.

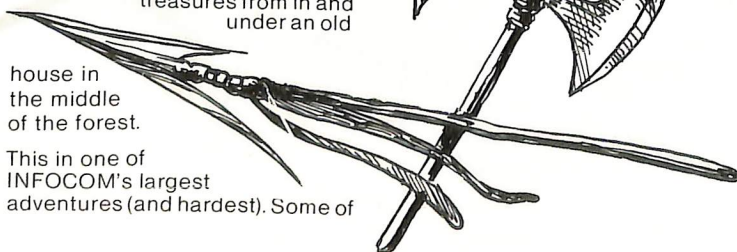
All games are available for the Commodore 64.

ZORK I The Underground Empire

ZORK I, INFOCOM's first adventure game was released many years ago. It is still one of the best adventure games on the market today and still a favourite among veterans. There are a number of ZORK fan clubs & user groups distributed all over the world. Your role in ZORK I is to recover 20 treasures from in and under an old

house in the middle of the forest.

This is one of INFOCOM's largest adventures (and hardest). Some of



the problems in ZORK range from simple to downright impossible! How on earth do I open the jewel encrusted egg? How do I get into the gates of Hell (no gruesome suggestions, thank you!) and how do I defeat the mysterious thief! I had a fun tearing to pieces a persistent troll. Pushing buttons at a nearby dam only flooded the place! If that wasn't bad enough, I soon discovered I was locked underground! The problems are endless.

I am nowhere nearer to solving this adventure than I was when I started, and I have since given up! Maybe you can solve this dreaded adventure!

Skill level: Intermediate Rating: 95%

ZORK II The Wizard of Frobozz

No! Not another one! ZORK II takes you even deeper into the bowels of the earth in search of yet another lot of treasure! The problems in ZORK I are here, but what is this? A wizard!! What a pest! His silly spells are driving me mad. He makes me float into the sky, go all dizzy and makes me lose sense of direction - just a few of his spells! I didn't get far in this game. I spent most of my time trying to entertain a slightly bored dragon, only to get on his nerves! Then there is a princess who needs to be rescued, and how on earth am I supposed to control this darn balloon. Why is the unicorn frightened of me, and why is the bank still in operation after immense vandalism!

Another tough adventure from INFOCOM, supposedly harder than the first ZORK, ZORK II will give hours of pleasure to all adventurers.

Skill level: Expert Rating: 96%

ZORK III The Dungeon Master

Give me mercy! The ZORK world goes even deeper underground, and sooner or later it will either get very hot or I'll end up in France!

It would be a good idea to play ZORK I & II before attempting ZORK III. A very hard adventure game, you must go in search of only a few treasures, but these are put in some awkward spots! There are much fewer problems, but these are the toughest you'll ever find.

I didn't have a good chance to get into the depths of this adventure, but just by exploring the first few locations, I realised this adventure would take longer than I had expected. Everything from previous ZORKs are here, strange characters, foreign writing and tricky puzzles. The hardest task must be to defeat the DUNGEON MASTER, an awfully big bloke you wouldn't want to meet in a dark alley at midnight. ZORK III lives up to the standards set by all INFOCOM games. An excellent program!

Skill level: Expert - Rating: 95%

DEADLINE

Mystery Number One

Mr Robner, rich and famous business man committed suicide. Yet because this is an adventure game, there is another side to the story. You, as a novice detective, must prove (in 12 hours) that the death was actually a murder. Then you must apprehend the culprit.

Everything takes place in a large mansion. There are six main suspects, including Mr Baxter (Robner's business partner), Mrs Robner, Miss Dunbar (Robner's secretary), George (his son) and Mrs Rourke (the housekeeper). You should also keep an eye on Mr McNabb, the gardener, who I reckon is the best character in the mansion. All you have to do is dig up his roses and he'll chase you all over the garden, yelling in a Scottish accent "Ay, what y' doin'!"

George really got on my nerves, he was so rude I hit him over the head with a newspaper, only to end up killing him! Then there's Miss Dunbar, her tablets cause great concern towards the death. Later in the game I witnessed her murder (not by me), by Mr Baxter!



They seemed to have a little affair going on.

If that wasn't bad enough, Mrs Robner even has a secret love affair! Mrs Rourke seemed all too eager to spread gossip about the family. The fun in the game comes from interviewing the characters, all gave interesting responses to the same question!

Don't think that because this is a detective game you won't get killed! Baxter has already murdered me for following him around! There are many problems which are very hard to solve.

I've been playing this game for 6 months. So far I have proved the death was a murder and discovered a hidden passage! This game is no doubt INFOCOM's best. The atmosphere is amazing. Once the game ended I couldn't forget about life inside the Robner household! You'd be crazy to avoid this game! Very, very, highly recommended!

Skill level: Intermediate
Rating: 99%

WITNESS

Mystery Number Two

Another super detective game. This time you are the witness of a brutal murder. The culprit is caught, but is he really guilty? Was it the victim's daughter? Or was it the Chinese butler. The victim himself, when he was alive, was a real headache, and I would have killed him first if I had the chance!

The clues to the murder are there. An old grandfather clock, two sports cars and an antique desk. I had plenty of fun kicking the lazy cat around the room. The daughter was very pretty, though she didn't take to my passes. There are only three characters in this game (two when one of them is knocked off), but each of these are very mysterious and set in their own ways. WITNESS features a much bigger vocab, and more lengthy descriptions than in DEADLINE though not quite the atmosphere. Still, another excellent game.

Skill level: Intermediate
Rating: 95%

PLANETFALL

In this science-fiction adventure, you take the role of a cleaner of a large space craft ruled by Colonel Blather, the toughest and strictest crew member. So the story starts with you cleaning up the deck of the spacecraft, an attempt to leave the deck ends up with your head blown off from Blather (if only I had a gun, I'd blow him to bits!). Instead, you just stick to polishing the floors. That is exactly what I was doing when an ambassador from a distance planet 'slimed' me and my deck. Talking to him is like talking to a brick - no communication - two different languages. So he leaves the deck with a trail of slime - more hard work! Then all of a sudden, the place starts shaking and I quickly run to the escape pod and take off. The ship blows up behind me.

The pod lands underwater on an old deserted planet (!) and at a first

ADVENTURE WORKSHEET

This program draws out 90 squares on an 80 by 70 sheet of paper. These squares can be used for mapping out adventure games.

There is also room for writing notes about the adventure.

This layout will suit most average adventure games.

```

10 PRINT "[CLR.SPACE]ADVENTURE WORKSHEET"BAHD
20 PRINT "[DOWN2]PREPARE PRINTER."BAYD
25 PRINT "[DOWN]HIT A KEY"BAAG
30 GET AS: IF AS="" THEN 30'EHKC
35 OPEN 2,4'BDXF
40 CMD 2'BBGA
45 FOR I=1 TO 10'DECH
50 PRINT#2'BBBB
60 PRINT#2,"[O,<Y><Y><Y><Y>,P,SPACE,0,<Y><Y><Y><Y>,P,
SPACE,0,<Y><Y><Y><Y>,P,SPACE,0,<Y><Y><Y><Y>,P,SPACE,0,
<Y><Y><Y><Y>,P,SPACE,0,<Y><Y><Y><Y>,P,SPACE,0,<Y><Y>
<Y><Y>,P,SPACE,0,<Y><Y><Y><Y>,P,SPACE,0,<Y><Y><Y><Y>
,P]"BCBT
65 PRINT#2,"[<H>,SPACE4,<N>,SPACE,<H>,SPACE4,<N>,SPACE,<H>,
SPACE4,<N>,SPACE,<H>,SPACE4,<N>,SPACE,<H>,SPACE4,<N>,
SPACE,<H>,SPACE4,<N>,SPACE,<H>,SPACE4,<N>,SPACE,<H>,
SPACE4,<N>,SPACE,<H>,SPACE4,<N>]"BCNA
70 PRINT#2,"[<H>,SPACE4,<N>,SPACE,<H>,SPACE4,<N>,SPACE,<H>,
SPACE4,<N>,SPACE,<H>,SPACE4,<N>,SPACE,<H>,SPACE4,<N>,
SPACE,<H>,SPACE4,<N>,SPACE,<H>,SPACE4,<N>,SPACE,<H>,
SPACE4,<N>,SPACE,<H>,SPACE4,<N>]"BCNV
75 PRINT#2,"[L<P><P><P><P>,,SPACE,L<P><P><P><P>,,SPACE,L
<P><P><P><P>,,SPACE,L<P><P><P><P>,,SPACE,L<P><P><P><P>
<P><P>,,SPACE,L<P><P><P><P>,,SPACE,L<P><P><P><P>,,
SPACE,L<P><P><P><P>,,SPACE,L<P><P><P><P>]"BCAX
80 NEXT I'BBCE
90 PRINT#2, CHR$(14)"INVENTORY:[SPACE11]NOTES:"CGXN
95 PRINT#2, CHR$(15)"CGPM
100 CLOSE 2'BBJU

```

glance it seems deserted. That is, until you meet Floyd. Floyd is a playful little robot who follows you everywhere. What a pest! He scrawls his name all over the wall, jumps into the room and yells 'Heeereees Floyd!!'. When I kick him to shut him up he goes into a corner and starts sulking until you apologise!

Like all other INFOCOM adventures, the list of problems are endless. One little warning, you need to have a good sense of humour to play this game, or Floyd will end up driving you mad! One of INFOCOM's better adventures, not to be missed.

Skill level: Intermediate
Rating: 96%

HITCH HIKERS GUIDE TO THE GALAXY

To my mind this has to be the most hilarious adventure games on the market. It will leave you in stitches.

Based closely to the book and radio/TV shows of the same name, this is one of INFOCOM's best adventures. You take the role of Arthur Dent, an innocent human being minding his own business. Arthur is about to go on the journey of a lifetime, his quest - to find the secret of life, the universe and everything! The game starts in Arthur's bed, in the middle of the dark. When I typed inventory I was told I had: no tea and a splitting headache. The game had started. Once I got organised, I put on my

dressings gown (which contained something my aunt gave me but I don't know what it was). I picked up a toothbrush, which had no relation to the tree falling outside my house. When I left the house I soon discovered a bulldozer was heading my way, ready to knock my house down.

Oh mercy! Thanks to Ford Prefect and some smart thinking, I was rescued - but my house wasn't. After exploring the area, a Vorgon spaceship flew above and announced that the world will blow up in a couple of minutes. A quick hitchhike to the land of nothing came next. I had to put up with the dreadful Vorgon poetry, and eventually escaped to another more friendly space ship. Here I met a two-headed fellow and Marvin, the paranoid android! An on-board computer tried to chat me up and I had an interesting conversation with a door.

Then the game wouldn't let me enter the engine room, which was supposedly very dangerous. When I finally entered the room the game admitted it wasn't really that dangerous after all! I have yet to pass the talking door. There are many objects to collect, and many interesting characters to meet. Upon death you are told to shut-up, and always being accused of talking to much for a dead being. You are also advised to wear ultrasonic sun glasses so that the computer will give you your score! Footnotes give clues away, and so does the HITCH HIKER'S GUIDE

TO THE GALAXY - a little portable computerised encyclopaedia. A very playable and exciting science-fiction adventure.

Skill level: Expert - Rating: 99%

Some other INFOCOM adventure games:

STARCROSS - A truly science fiction (SF) adventure. You have to travel through a mysterious (very large) ship, meeting many aliens and facing many problems.

SUSPENDED - Another SF adventure. You control six robots to solve realistic and original puzzles in order to save your own planet.

SUSPECT - A new mystery adventure. You are a reported who is given the best scoop on a murder incident. Unfortunately, you are the main culprit, and if you don't find the real murderer soon, it means death by electricity.

INFIDEL - Explore a huge pyramid, face the many problems before you. A game with an amazing and unexpected ending.

CUTTHROATS - You've been hired by hardbitten salts to dive into an old shipwreck and recover re. Can you find the treasure, survive from the salts and escape? One of INFOCOM's harder games.

SEASTALKER - Control a submarine in the deepest of seas, attempt to save the Aquadome, fight with the evil Dr Thorpe. An INFOCOM adventure for junior players.

ENCHANTER - You must destroy the evil warlock Krill. Selected by the great and powerful Belzbob, you, a novice magician must complete the given task. Magic is the word in this game, you'll need to know when and how to use it, different spells are available. Often described as a magical ZORK IV.

SORCEROR - Cast more spells and kill more meanies in another magical game. Your quest is simply(!) to find a spell. Another INFOCOM super-hardy, this one with lot's of humour poked around the place. Slightly slower in answering commands than usual INFOCOM games.

games have their own distinct characteristics. They generally contain English a special simple English that the computer understands, characters within the game carry out independent actions and play their own game against you and many other innovations.

Possibly this company is currently putting more quality new games onto the market than any other. Their graphics and marketing adds to the excitement of the product. Here are some reviews of the more popular adventures.

THE HOBBIT

C64 on cassette and disk - Price: \$40 tape & novel

Probably the best selling adventure game, the HOBBIT took the world by storm.

The HOBBIT is based on J.R.R Tolkien's marvellous novel (which is supplied with the game). You take the role of Bilbo Baggins who's task is to search for hidden treasure stolen by an extraordinary dragon named Smorg (!).

Accompanying Bilbo on his long journey are Gandalf (a very wise wizard) and Thorin (an exceedingly important dwarf). The game has a marvellous storyline.

The main features that sold the game were the quick drawing hires graphics (which are done very well) and English, the now non-superior command entry system. It just allow the player to enter full sentences as a command. At the time of release, English was a first of the rank! HOBBIT boasts Animation, this is that all the characters you meet move around doing everyday deeds independently of you etc.

The HOBBIT also includes Animtalk, this is where all the characters will talk to you and you can talk back. So far, the only animation I have seen is from Thorin, who keeps singing about gold. Gandalf seems obsessed with the darn map (which nobody can read anyway - until they meet a very smart elf!). The HOBBIT has problems everywhere, and they are not easy either. I finally made it to the treasure, only to learn that I had to bring it back home, and before I had any chance to do anything, Smorg burnt me! Well I'll be...! Oh well, you cannot win them all!

The HOBBIT is an excellent adventure, full of atmosphere, mainly due to the extensive location descriptions, which give pleasant reading. It was the game that got everyone hooked on adventures. I have not solved it....yet! But I'll keep trying, and maybe one day I'll return that treasure and give Smorg a good kick!

The game is very well presented, with very detailed instructions to guide you along. The newer



versions of the HOBBIT load in under three minutes!

At the time of release, the HOBBIT was a landmark in adventure games. It still poses a challenge to all players. Average solving time: many months. No adventurer should die without attempting this game. A disk version is available with music, better graphics and larger vocab.

Skill level: Intermediate
Rating: 89%

SHERLOCK

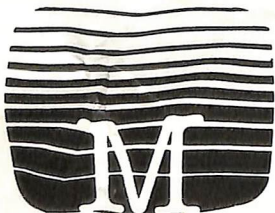
C64 on cassette - price \$40 (tape)

SHERLOCK is MELBOURNE HOUSE's long awaited follow-up to the HOBBIT.

As in the HOBBIT, it features neatly and quickly produced graphics, animation and animtalk and detailed descriptions. But SHERLOCK also has some new original features. These include an enhanced version of English, allowing full sentence entry and full character interaction, atmospheric music that changes according to your location in the game, and real time. That is, you have not got much time to think because minutes of the game tick away without you noticing! (a useful and

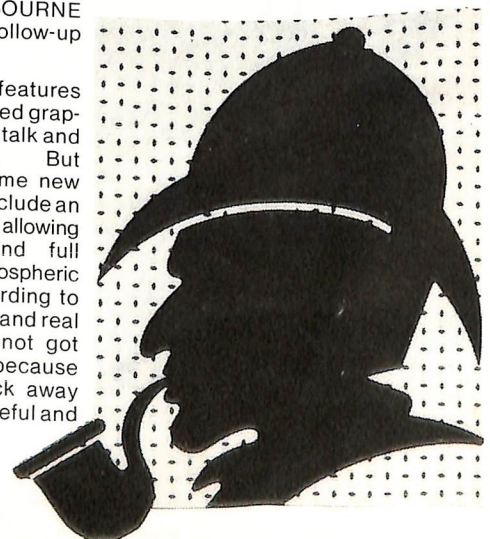
sneaky anecdote is the PAUSE command, that stops the timer). In this adventure you take the role of Sherlock Holmes. Your task is to solve many different cases. As in the HOBBIT, there are many different characters - but in SHERLOCK you can actually interview them.

SHERLOCK's trusty companion Dr Watson also plays an important part in the game by informing the master detective of certain things. Actually, Watson is a bit of an idiot. Everytime I say something to him, he replies 'That is simply Brilliant, Holmes!'. I had lots of fun exploring the London setting and country towns. I had arguments



MELBOURNE HOUSE

In recent years MELBOURNE HOUSE has taken a major role in the development and marketing of adventure games. They work within both the graphic and text adventure areas and games such as 'THE HOBBIT' and 'SHERLOCK' have gained them a world wide reputation. MELBOURNE HOUSE



with Inspector Lestrade (who is the main backstore in this adventure), I ripped off a taxi driver (only to get insulted!) and I attempted to attract the main female culprit. Oh, I did have a go at solving the first case. Some early copies contain annoying bugs but this has been fixed now. A very challenging game that should take many months to solve (or even years). The game should not be missed.

Skill level: Expert - Rating: 90%

ZIM SALA BIM

C64 cassette - price: \$25 tape

ZIM SALA BIM is a new different type of adventure. It features full colour graphics which quickly appear. In this adventure you see your character graphically displayed, with all its features. This applies to all of the other characters in the adventure too. You don't use the usually GO NORTH type command to move about - instead you use the joystick, and the character will move accordingly. The speed of the character can also be adjusted. Even better, the screen scrolls as you move. Typing LOOK will make the character turn his head in all directions! Different, very pleasant, music is played all through the game to build up a great atmosphere.

The game is set in the Arabian desert, during the malicious Sultan's kingdom. You must enter Sultan's palace and steal all his treasure! Stopping you include high palace walls, guards and unescapable dungeons! You'll meet old beggars, thieves and mysterious natives! The hardest problem I encountered was trying to escape from the dungeons, and I still have not done that yet! The game is let down by a very small vocabulary. The reasonably detailed descriptions make up for the vocabulary loss. Although the character moves around using a joystick (or cursor keys), the rest of the actions are performed using two word commands. The problems and puzzles are there, and all are very hard. MELBOURNE HOUSE recommends the game for novice adventurers, yet I can see even the most expert players can get stuck on this adventure! The packaging is up to the firm's usual high standards, though the documentation is a bit too brief. A good adventure game bursting with atmosphere!

Skill level: Intermediate
Rating: 75%

CLASSIC ADVENTURE

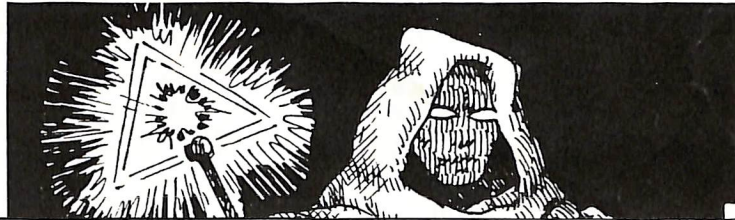
C64 Cassette - price: \$20 tape.

Ah, that's what I like to see, a complete, chunky text adventure game. Remember me telling you at the start of the series about COLOSSAL CAVE, the first adventure, well this is one of the best versions of that adventure for the Commodore 64. This adventure is very similar to those programmed

by LEVEL 9 adventures. Each location is described in such great detail and length. The descriptions are very enjoyable to read and are used effectively. The idea of the game is to recover a large amount of treasures from an underground world. You'll encounter all sorts of problems, so many in fact, that I don't know where to begin.

Here we have an exact (well almost) replica of the original adventure that started it all off. All the original problems are there, spread over lots and lots of locations. An extraordinary HELP command plus a very useful SAVE/LOAD feature. This game is as the title suggests - A CLASSIC ADVENTURE. Very neatly packaged and with adequate instructions. The game loads under three minutes with the PAVLODA speed loading technique. This game offers reasonable value for money. If you've always wanted to know what the original adventure looked like, you can't go wrong with this - a game with no frills. Hundreds of people have spent weeks trying to solve this adventure, will you become one of them? One for the experienced and the curious.

Skill level: Expert Rating: 95%



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Contact:

THE HAPPY HACKER (Stuart Efflett)
MSF 550
TOOGOOLLAWAH, QLD 4313

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

CASTLE OF TERROR

C64 - price: \$25 tape \$30 disk.

The outstanding graphics are the main feature in this game. The finest graphics ever seen in an adventure game, some even animated. Then there is the charming music that plays throughout the game. Not forgetting a full sentence entry command system with a reasonable vocab and a few text descriptions thrown in. This game would win an award for presentation - something we have come to expect from MELBOURNE HOUSE. The problem faced by the adventurer is trying to find out exactly what the mission set is, the only clue given is that it has something to do with Dracula and hidden treasure. You actually get two adventures, since the game is split into two. There are problems galore, including making sense out of some over-zealous villagers and trying to enter a well protected castle.

The graphics are very fine and very detailed, featuring full colour. The graphics are also quick to appear. The music changes depending on where you are and does well in creating a strong atmosphere. Gameplay is a bit hard and mapping

is confusing, yet CASTLE OF TERROR is not one of the harder games on the market. It represents very good value for money, and I cannot hesitate in recommending it. It might be too easy for experienced adventurers though.

Skill level: Novice-Intermediate
Rating: 94%

Some more recent MELBOURNE HOUSE adventures include:

CAULDRON - Life as a witch isn't easy, you know, flying around the planet collecting keys is not much fun. It's adventurous, sure, but those darn spooks, whales, plants(!), and flying things sure drive me up the broomstick!!

A game with very impressive graphics. Trees, oceans, doors, spooks(\$#&%) all look very realistic. The game also loads in under 3 minutes using the PAVLODA loader. Hard to decide if this is an arcade game or a graphic adventure. I'll leave that up to you.

LORD OF THE RINGS - From the team who brought you the incredible HOBBIT now comes LORD OF THE RINGS: GAME 1 - based on J.R.R. Tolkien's brilliant fantasy THE FELLOWSHIP OF THE RINGS.

This is one of MELBOURNE HOUSE'S latest and seemingly greatest. It continues the saga of the enchanted world of Middle Earth with all the old favourites from the HOBBIT and more. Over 200 locations, characters move independently and multi-player choice so you can play with friends.

MORDON'S QUEST - THE CLASSIC ADVENTURE CONTINUES is another of the Jones-Steel's totally absorbing text only adventures.

Over 150 locations with more than 500 word vocab. The game is in the mode of the CLASSIC ADVENTURE a sequel, as it were. Treasure, caves and mazes are all there.



LETTERS TO THE EDITOR

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

BITMAPPER II

Dear Sir,

Recently, in the COMMODORE MAGAZINE (issue 32), I read an article written by Dennis Hare regarding high resolution graphics on the 802/1526 printers.

I thought I would write to notify you of one of our products, BITMAPPER II, which allows these printers to perform as graphics printers, and much more. I have included a copy of a recent advertisement with some additional information you may be interested in.

"It allows you to draw high resolution pictures on your screen using LIGHT PEN, JOYSTICK or KOALA PAD. You can easily use text (normal or double sized on your picture. BITMAPPER II even allows the use of redefined characters to aid in your picture design! Pictures created on BITMAPPER II can be saved onto disk for later use or change. File support (included with BITMAPPER II) allows you to use high resolution pictures from other programs with BITMAPPER II and then print them onto paper (as long as the picture is saved to disk as a sequential file). The best feature of BITMAPPER II is its ability to allow 802 and 1526 printers to perform as graphics printers!"

Aside from the functions listed, BITMAPPER II allows the display of high resolution pictures without having the main program loaded.

This may be of some interest to Mr Hare or some of your readers.

Yours faithfully,
Malcolm Haines,
Manager, Screen Play.
(08) 31 5501

ED - We would like to do a review of your product if it can be arranged.

THANKS VICWEST

A letter from the editor rather than too him. When putting this edition together our faithful old IEEE/RS232/Serial interface (an INTERPOD) gave up the ghost. All presses stopped. But is it a bird? A plane? No! its the boys from VICWEST who burnt us a special ROM and within three days the C64 and ITEK (phototypesetter) were on talking terms again.

Thankyou Steve and the boys and girls of VICWEST from all our readers and me too!

*Having now put their interface through the hoops there will soon be a review on same. Mervyn Beamish
Editor*

VK USER GROUP AWARD

Two members of the VK COMMODORE USER GROUP, Craig Price, VK7NCP and myself, VK7NAI put on a Commodore display recently at the Tasmanian Amateur Radio Convention (TARC) run by the Wireless Institute of Australia, Tasmanian Division held on the campus of the Australian Maritime College in Launceston.

We had three C64s and two VIC20s in operation with both active and passive

displays. Although both of us are Novice amateurs, we demonstrated morse code and radio Teletype sending and receiving on the computers.

I had a program called 'IARU LOCATOR' written by M. O'Hare, VK2ZZQD, running continuously and demonstrated 'PRINT SHOP' along with Morse and Radio-teletype. Craig used his knowledge to demonstrate such programs as 'BIG MOUTH', 'SAM' and musical programs of various sorts. A World Clock was set up on a C64 and ran throughout the convention.

Tasmanian Division of the WIA awarded several prizes donated by local business houses during the course of the convention and our display won the prize for the Best Active Amateur-oriented Display. Their prize, a brass-bound clock was donated by Marine & Communication of Launceston and will be suitably mounted and someday be displayed.

Bob Richards VK7NAI

Secretary of VK Commodore User Group
Launceston, Tas.

ED - CQ, CQ, CQ. . . Bob I know you sent this for the User Group Column but it had gone to bed so I slotted it in here. You guys actually make me want to get out all my gear again! Thats it in the boxes under the Computers behind the tool kit in the bookcase!

Keep up the good work. This is VK2PEH.

THE OTHERS

CONTINUED FROM PAGE 9

```
0670 PLOTTEXT 0,192,"PRESS ANY KEY FOR ANOTHER GRAPH"  
0680 // CALCULATE RANGE  
0690 M:=1E-30  
0700 FOR Z:=0 TO 2*PI STEP .1 DO  
0710 R:=F  
0720 IF M<R THEN M:=R+.1  
0730 ENDFOR Z  
0740 FOR Z:=0 TO 2*PI STEP .01 DO  
0750 U:=HX+HY*RATIO*COS(P*Z)*POLAR(R)/M  
0760 IF (U>0) AND (U<SX) THEN  
0770 V:=HY+HY*SIN(Q*Z)*POLAR(R)/M  
0780 IF (V>0) AND (V<SY) THEN PLOT U,V  
0790 ENDIF  
0800 ENDFOR Z  
0810 GET'CHAR(A$)  
0820 SETTEXT  
0830 ENDPROC SHOW  
0840 //  
0850 PROC GET'CHAR(REF A$) CLOSED  
0860 BUFFER'COUNT'LOC:=198  
0870 BUFFER'LOC:=512  
0880 POKE BUFFER'COUNT'LOC,0  
0890 REPEAT  
0900 UNTIL PEEK(BUFFER'COUNT'LOC)  
0910 A$:=CHR$(PEEK(BUFFER'LOC))  
0920 POKE BUFFER'COUNT'LOC,0  
0930 ENDPROC GET'CHAR  
0940 //
```

```
0950 //  
0960 FUNC POLAR(R)  
0970 CASE F OF  
0980 WHEN 1  
0990 R:=1  
1000 WHEN 2  
1010 R:=SIN(2*Z)  
1020 WHEN 3  
1030 R:=SIN(7*Z)  
1040 WHEN 4  
1050 R:=1+2*COS(Z)  
1060 WHEN 5  
1070 R:=1+COS(Z)  
1080 WHEN 6  
1090 R:=1+SIN(2*Z)  
1100 WHEN 7  
1110 R:=1+2*COS(2*Z)  
1120 OTHERWISE  
1130 STOP // ILLEGAL VALUE  
1140 ENDCASE  
1150 RETURN R  
1160 ENDFUNC POLAR  
1170 //
```

References : "Fun Mathematics on Your Microcomputer by Czes Kosniowski"
(Cambridge University Press)

© David Roth 1986

ADVENTURE HELP

MEET OUR NEW ADVENTURE WIZZ KID

Stuart Elflett

Hello my name is Stuart Elflett, and I seem to have inherited an adventure column!

I pride myself on being able to find answers to nearly all adventure problems that are sent to me, therein lies my main problem, I run out of letters to answer! So please, when you get stuck, send your problem to:

Adventure Help Commodore Magazine 82
Alexander Street Crows Nest NSW 2065

Phillip Carter wrote to me, sending a map of the locations he had seen, (a very good idea if you're not sure why you are stuck!), in **AZTEC TOMB REVISITED-PART II**. Well Phillip, I have good news and bad news, climbing the building will help you cross a stream, but you are playing the original **AZTEC TOMB**, not part II. Things could be worse, as **AZTEC TOMB REVISITED** has a location that seems to be inescapable. If anyone can get out of the forest clearing in **A.T.REVISITED**, please let me know how.

A couple of problems in **AZTEC TOMB** that appear with astonishing regularity are how to get up into the tree house and how to get through the forest. Throwing the rope around will give you something to climb, and you really do need a map to get through the forest. The tree house occupant has a map, but you've got to be nice to him to get it!

If you have got **AZTEC TOMB REVISITED**, but you haven't bought a plane ticket due to a lack of funds, go to the island, and look at the sand. A dig in the right place will supply cash, much easier than robbing trains, isn't it!

One old adventure, that still has people tearing their hair out is **BASTOW MANOR**, and the main problem is getting the brass key. The armour won't stop you being knocked unconscious, and you must have that key! Once the key has been taken, it is hidden in a place where you have found two objects already, so go and get it! The dogs are put off the scent if you climb up ladders, trees, etc. and also if you enter the shed.

For all the people who are having trouble with a control panel in **ALIEN** from Dotsoft, looking at a map twice will help.

If you can't work out the access code in **WARGAMES**, you may be interested to know that it's 3 digits, 3 letters, 3 digits, 3 letters. That's all I'm going to say, but if you really need the code, write and I'll give you more info.

If, like most adventurers, you love the Infocom games, and you have one that keeps crashing, it's most likely the disk is the source of your problems - but how can you check? It's easy really, just undocumented, enter **\$VERIFY** as a command, and eventually you will get the version number, then the message **BAD** or **GOOD**. I was told this is only included on the newer games, but

it works on all of mine - the **ZORKS**, **DEADLINE**, **HITCH HIKERS**, etc.

As I've now mentioned **HITCHHIKERS GUIDE TO THE GALAXY**, I guess I might as well give it a good plug! This has got to be the best adventure for the 64, I know it's no cheapie, but it's worth every cent. The screening door to Marvins room seems to be giving everyone plenty of trouble, I can tell you that it involves proving you have both tea & no tea at the same time. You will need a lack of common sense, too, I saw some common sense in a maze, but it was a shocking experience when I tried to get it!

Can anybody confirm whether there is or is not a bug in Roflow's **DRACK**? Several people have complained to me about it crashing when you open the coffin, and the copy I bought does the same thing!

There is an excellent text adventure in the shops at the moment, **THE HELM** from Firebird, it's a great example of what can come from the **QUILL**. It does have a rather hard problem to start with, but a spot of fishing with some rough tackle will help. Most people get past the **Psyak**, and then can't find anything else to do, if anyone can help, please write as soon as possible.

Well, that's about all for my first Adventure Helpline column, hopefully I'll be back next issue, by which time you'll all have sent in your problems. (Won't you!?) Of course, any hints, tips, maps and general help would be appreciated. Remember, if I don't have your problems, I can't help!

Dotsoft's **KING SOLOMON'S MINES** gives trouble to most adventurers, let the bridge break, as you'll need to climb up the remains later. Wait a while after blocking the stream with a rock, then head for those rocks in the river. The waterfall will eventually dry up after moving the rock, revealing a cave. The Amulet is some sort of Zulu artifact - make sure an old Zulu can see it!

ZORK'S are all the rage at the moment, since the price has dropped at some larger shops. I'm told that many packs of 5 Infocom games and 'Type Right' were cleared at Christmas, so I expect there will be heaps of people getting stuck. First of all, Infocom games really have to be mapped thoroughly, so spend a while building up a map.

ZORK I The lantern is a limited source of light, so if you find anything suitable to use as a light, grab it. The squeaky noise is a bat, of the vampire variety, but your lunch will help! Yes, you can kill the thief, but don't do it too soon, as he performs a useful function for you. I am yet to make friends with him, but I am assured he makes a very good friend.

ZORK II You have to annoy the dragon before he'll follow you, but it's a nice way to get rid of him! Use 'standard' methods to

wake the princess, then don't let her out of your sight, as only she can catch the animal that probably gave you some trouble until you gave up. Diagnose after the wizard 'attacks', to find out what happened, wandering around while you're drunk is no fun. Wait and the effects will wear off.

ZORK III Play the other two first, then you'll have an idea of how to go about it!

SUSPENDED Iris is not just being difficult, she can't see at the start! Fit **Waldo** with his attachment, give him some bumpy bits, and get him to 'operate'. Remember, the robots must work as a team. And wheels don't go up steps, so try and find a smooth surface for them!

STARCROSS Don't ask me, I can't get past the alien airlock either! If some kind soul could tell me, I'll pass it along.

In **HITCH HIKERS GUIDE TO THE GALAXY**, maybe someone is exaggerating about how dangerous the engine room is!

VALKYRIE 17 from Ramjam. You can take the ski sticks that lean against the shed, but you have to use their exact name. Maybe a box will sway the butchers attention. Is it possible to buy a drink for the girl?

SUBSUNK from Firebird (another Quilled adventure) To clean the sink, you may have to plunge in at the deep end. **Butter** makes a good lubricant for aerial manoeuvres!

ASYLUM from Screenplay. If you'd like a new face, give a stethoscope to a hypochondriac, then turn violent, and she'll drop her drugs. Don't leave too many doors open, in fact, closing and locking two rows of ten will pay off. Can anyone find either a magnet or a platinum card in this game?

UNDERWORLD OF KYN (Wow, another oldie) It seems that the **Bunyip** will pinch your lamp if you are not carrying your sword when you meet him.

If a gang of gremlins are giving you trouble early on in **GREMLINS** (what else!), don't go into the bar or cinema until later on.

Most people who have **ROBOTS OF DAWN** from Epyx, get garbage when anyone talks to them. Is it something they've done, or haven't done, or is it the game at fault?

I know **HACKER** from Activision isn't a true adventure, but you may be interested in the fact that the test site is probably closer to home than you think! That's all I'm giving away for now, but I may be persuaded to give a few more clues next issue.

SNIPPETS

by Peter Davies

The other day, during a lot of use, I noticed that the case of my 1541 disk drive had become very hot, much more so than usual. On investigating I found that the very short front feet had slipped over the edge of the shelf that it is on thus restricting the flow of air under and thus into the machine. A couple of minutes with a saw and I produced some pieces of wood about 2 cm high. The drive now stands on these leaving much more clearance underneath the unit.

Also, using some paper, I built a 'chimney' about 15 cm high which I have placed above the 'hot air outlet' on top of the drive. Hot air rises and a chimney makes it rise faster! Within a few minutes the combination had had the effect of cooling the drive significantly to the touch. A thermometer showed that the air rising from the unit was 9 C warmer than the air in the room so it is working OK. With plenty of hot weather to come yet (we hope), check that the air flow is not restricted to your drive.

I have only recently bought a printer. I got an Epson GX-80 after speaking at length to an Epson (?) representative at the Melbourne PC show last year. I was told that the GX-80 does all sorts of things. It doesn't do all the things I was told it did. A letter to Epson resulted in a four line reply. I quote.

"The GX-80 with the Commodore Pic

emulates a Commodore 801 printer - it does not support Underline, Super/Sub-script. Unfortunately, some people assumed that the printer would support these features."

It seems I wasn't the only one who had been misinformed. I must add though that the printer performs beautifully but since I use it for maths and science the missing features have made the unit a very disappointing purchase for me.

Having bought a printer I obviously needed some paper. The shop kindly gave me a wad with the printer but I soon needed more. A few minutes with the Yellow Pages and I located a local wholesale/retail office supplies company. I contacted them and found that I could buy paper and labels but in minimum quantities. I made up an order between some friends and myself and Bingo - we now all have paper and labels at a considerable saving. The cost, 2,500 sheets of word processing paper for under \$40 and 2,500 single labels (8 per sheet) at around \$34. Worth thinking about?

I've had a 1520 printer/plotter for some time now and have had problems with the pens. Until recently I found them hard to get and that they dried out quickly. The 1520 manual suggests that you remove the pens after use and that's a nuisance. Having heard that all plotters have the same mechanics I tried

Tandy. They stock pens in packets of either three black -Cat. No.26-1480A - or three coloured (1 red, 1 blue and 1 green) - Cat. No.26-1481A. They cost me \$4.95 a set (some weeks before Christmas).

The manager told me the pens were of a new design, colour coded so you can see easily which colour pen is in the printing position and that the new design incorporates a new tip so that they don't dry out quickly if not used for some time. He was right. They are great.

Finally a moan. It is disappointing to see advertisements in overseas magazines for both software and hardware only to find:

1. It is not available in Australia or
2. the price (US in particular) converts to an astronomical number of \$A.

Presumably the Federal Government has a hand in this with import duties etc. I know there are some small companies manufacturing stuff here - perhaps they should extend their range and advertise widely. The products however must be of the at least the same quality and cheaper.

PROTECTION PROGRAM

Tim Behan

Here is a copy of a fully de-bugged program protection system for the Commodore 64 and 1541 Disk Drive. Basically it requires you to select:

- a) A Password
- b) The track and sector location of the password.

It writes the password to the disk on the track and sector specified. It then asks you to enter the password and compares the two, the other being correct and read from disk.

The password is not visible in the listing (for security) and the character colour is made the same as the border colour when typing in the password so that others can't see it being typed in on the screen and list has been disabled along with the break-restore key.

This does not prevent copying but does prevent un-authorized running of "Secret" programs.

Also this main program must be at the beginning of each program to be protected.

First, you must type in the block write program from the Drive manual (copy enclosed of this program) and decide on the

"password" and the track and sector.

Then, type in the proper program and make sure the track and sector numbers correspond.

The protection should now work. Use this program to protect all your own program so that if someone copies the program, unless their disk has the password in the correct position the program will not run!

Example

Type in "BLOCK WRITE" and change password to "TEST" (instead of "K" in line 30), change track and sector to 4,1 (track number is 35 and sector number 1 in line 60).

Type in "MAIN PROGRAM" and set track and sector to 4,1 (line 9). Run the "MAIN PROGRAM" and make sure you type in the correct word (TEST) then press RETURN.

If everything is O.K. the "you have access" Prompt will appear.

COMPLICATED IT MAY BE BUT IT DOES WORK!!

BLOCK WRITE

```
10 OPEN 15,8,15'BHAX
20 OPEN 5,8,5,"#"BGHY
30 PRINT#5,"K"BCSA
60 PRINT#15,"B-W:"5:0:35:1'BLUF
70 CLOSE 5: CLOSE 15'CEVF
```

MAIN PROGRAM

```
1 POKE 808,225: POKE 775,200'CPUD
2 Z=PEEK (53281)'CIID
3 PRINT "[CLR]": PRINT TAB(3) "[WHT,RVS]WELCOME[OFF,
SPACE,RVS]TO[OFF,SPACE,RVS]TIM'S[OFF,SPACE,RVS]
SET-UP[OFF]"DDUM
4 PRINT : PRINT 'CBHD
5 PRINT "IF YOU WISH TO OBTAIN ACCESS YOU MUST ""BANN
6 PRINT "ENTER A PASSWORD...": POKE 646,Z: INPUT ""';PS:
PRINT "[WHT]"ELBN
7 OPEN 15,8,15'BHAG
8 OPEN 5,8,5,"#"BGHH
9 PRINT#15,"B-R:"5:0:1:1'BKKK
10 B$=""BCYX
11 FOR L=0 TO 255'DFNA
12 GET #5,A$BFMA
13 IF ST=0 THEN B$=B$+A$: NEXT L'GLEG
14 IF B$=P$ THEN 16'DGLE
15 PRINT "YOU HAVE BEEN DENIED ACCESS": CLOSE 5: CLOSE
15: CLR : END 'FHON
16 PRINT "YOU HAVE BEEN ALLOWED ACCESS": CLOSE 5:
CLOSE 15: CLR 'EGYO
18 REM NOW TYPE IN YOUR PROGRAM.'BVPL
```

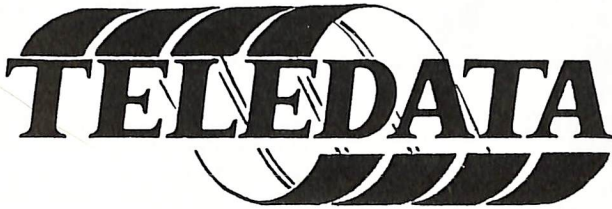

COMMODORE MAGAZINE ELECTRONIC PUBLISHING

Mervyn Beamish

The Commodore Magazine is now published both in print and on the electronic media. As of April this year the magazine is being published as part of THE TELEDATA NETWORK and on VIATEL through MICROTEx 666. TELEDATA is offering its subscribers complete articles, programs and product ordering from the magazine. MICROTEx 666 makes programs and some article synopses available on VIATEL to its members.

Many of the articles and programs published in this magazine will be able to be down loaded, for a nominal fee, off the TELEDATA NETWORK using 300, 1200 or 1200/75 modem. MICROTEx 666 will also offer the programs at a nominal price with article synopses as part of their bulletin board service. Issues 34, 35 and 36 will be used as the test issues to iron out any bugs and get our screen formatting etc. correct. During this test period a nominal charge only will be made for access and feed back of users will be much appreciated.

Letters to the Editor, Commodore Doctor and other items can be sent to our user name COM.MAG on the TELEDATA system. At the time of writing the final details have not been worked out.



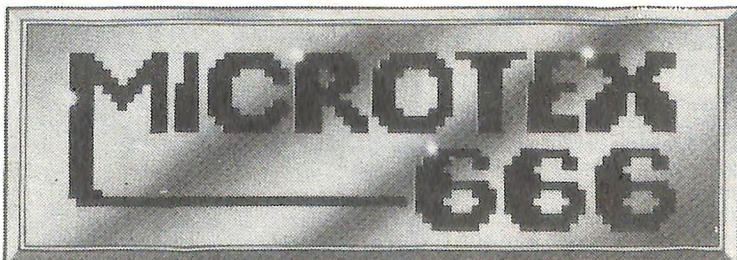
300, 1200 & 1200/75

The new owners of TELEDATA (refer news and views issue 34) have put their money where their mouth is and have substantial backing both in funds and expertise. I believe that this database is poised to take on a number of well developed systems. The good thing as far as enthusiasts are concerned is that it is accessible using the same modem (300 Baud) used to get into the local clubs BBS or the 1200/75 Videotex modem used for VIATEL.

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It is now possible to subscribe to the COMMODORE MAGAZINE using your credit card through MICROTEx 666.

Next issue we intend to make a telecommunication issue and take a look at the various services that are accessible through your modem and, if all things are finalised, a special offer in this area that will 'knock your socks off!'



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CREDIT CARD PHONE ORDERS WELCOME

Jane

— a review

For the C128

Reviewed by Clive Snowden.

*Reprinted with kind permission of VIC-UPS NEWS.

Hardware utilised:- C128, 1541 diskdrive, TV and joystick.

An Overview

JANE, is an 'integrated' word-processor, spreadsheet and card file for the Commodore 128. It is presented well in a sturdy box containing 3 disks (1 program, 1 help and 1 work) and 2 books.

The first book is a brief description of the package with a quick reference card on the back cover. The second is a 110 page spiral bound instruction book which is both comprehensive and easy to follow. The disks are colour coded. The APPLICATIONS/PROGRAM disk is grey, the HELP is yellow and the WORK is black, they are referred to throughout the book by name and colour (e.g. yellow help disk).

Help

After autobooting, and before loading an option, I selected "?" to view the overall system help files. These cover selecting an option, setting up the computer text size (38, 56 and 72 column), pointer speed, setting up JANE for your printer (40, 80, 132 column text), type of paper, print quality, etc. These help files are very good and all but eliminate the need for an instruction book.

Further help is available after selecting the required option. Again these help files are comprehensive and include animated demonstrations which are easily

understood. The only topics I can think of that are not covered by the help files are transferring data between options and backup of data disks.

On entering each of the modes a window appears telling one to wait 55 seconds. The actual loading times were: JANEWRITE 57 sec., JANEALC 73 sec., and JANELIST 53 sec., with a 1541 drive. I wonder how a 1570 or 1571 drive will affect the disk speed of this package.

JANEWRITE

JANEWRITE offers a choice of draft or letter quality print utilising bold, underlining, superscripts, and subscripts from the screen icons. When any of these text features are used they are displayed on the screen as they will appear on the paper. Left aligned, right aligned or justified text is accessed and displayed in the same way and the format can be altered after typing.

I found the easier way to use JANEWRITE was in the 38 column mode and then when the document was complete reset the margins for 80 column and reset the text. This avoided the almost unreadable 72 column (at least on my telly) and the impossible 38 or 56 column window over the 80 column paper. Apart from the awkward method of inserting characters, I found the wordprocessor to be fairly good especially for anyone who finds the larger more complicated packages too difficult to learn. Indeed I was overating it with no more than a quick glance through the instruction book and a look through the help files.

COMMODORE

128

Jane

AN INTEGRATED
WORDPROCESSOR,
SPREADSHEET
AND FILING SYSTEM



JANEALC

JANEALC is a 28 column by 50 row worksheet. The screen icons in this mode are used to create simple formula that are used on the worksheet. Alternatively the pointer can be moved to the display bar and the formula typed in directly. As well as basic arithmetic functions; sum, average, minimum, maximum and count are provided. It is possible to copy formula using the camera and paste mode which does save time when creating a 'large' application.

Home Budget and Grade Sheet applications are supplied. The Home Budget looks to be useful; however the Grade Sheet would only be of use to a teacher teaching three subjects to a class of six!

The spreadsheet is very simple, and in turn is very easy to use making it a good introduction to spreadsheet for the novice.

JANELIST

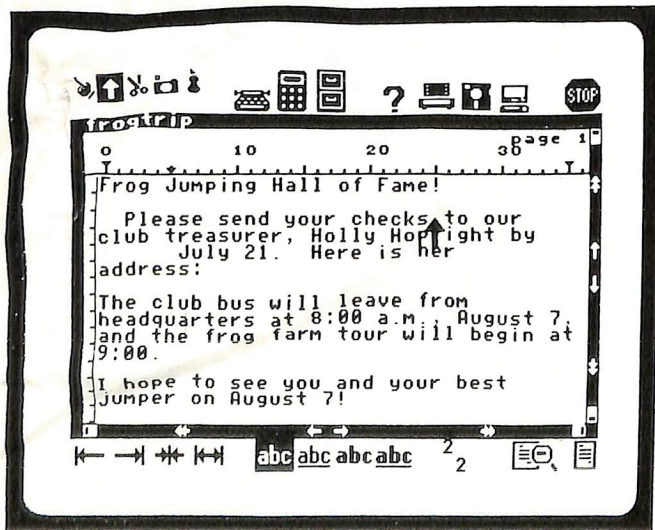
JANELIST is an electronic cardfile offering nine prewritten applications covering car maintenance to album and cassette lists. Each record will allow up to 15 fields with fieldnames limited to 12 characters. No limitation on the size of the file is mentioned in the instruction book.

The screen icons on the bottom of the screen (from left to right), provide:- Enter, First, Next, Previous, Last, Sort, Find and Delete, Labels, List Format, and Card Listing provide the report section of the cardfile. Labels is an address label function, List Format is a user definable list report and Card Listing prints cards as they appear on the screen.

There is no chance of this program ever taking over from SUPERBASE, but I think it would provide a good introduction to a 'database' for the first time user. I wish it had been around when I was struggling to learn THE MANAGER a couple of years ago.

In conclusion, the degree of 'integration' between each of the 3 modes appears to be extremely limited and not well documented. The misuse of a 1571 drive is almost unforgivable, and I assume RGB output is not possible due to the use of Hires screens throughout the package. On the positive side, it is a good introduction to the Commodore 128 Wordprocessing, Spreadsheets and Databases. At a cost of around \$80 (RRP \$100) it is value for money and will provide several uses around the home and for the student.

Thanks to Greg Hellaran of COMPUTERAMA for supplying the software.



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STRUCTURED PROGRAMMING

by Paul Markowski

Have you ever been in the situation where you have seen a program in a computer magazine and when you've tried to see how the author has implemented certain features, you've ended up more confused than when you started. Maybe you've been given a copy of a BASIC program and you've decided you'd like to make some small changes to it, however due to the way the program has been written you're unable to figure out exactly where you're changes should go. Perhaps you've decided to write your own program and after sitting down for hours at the keyboard have decided to scrap vast sections of code because your original ideas won't work the way you'd expect they would?

If any of these things have happened to you then maybe its time for a short course in Structured Programming techniques.

I don't claim to be an expert on the subject but there are some basic rules you should follow when writing your own programs. There are three phases in writing programs and it doesn't matter what language you use. These are :-
program design
coding
testing.

PROGRAM DESIGN

Before you start typing away at the keyboard you should know exactly how your program is going to fit together. You should first sit down with a pencil and paper and write down what you want the program to do. Then using plain English map out the different functions and sub-functions that you will need to code up for the program.

To illustrate what I'm talking about I will work through an example. I have chosen a Home Inventory program that can be used to keep track of valuable items in the house, by room. It could be used for insurance purposes or to make up lists of items if you are moving house. The program will have to perform the following functions:-

- data entry
- data edit
- save data
- load data
- print data.

Because the program will be menu driven the controlling section of the program will initialize any variables I might need, print the main menu and then wait for input from the keyboard. All data will be held in arrays within the computer and I will use a sequential disc file to save and load these arrays. Due to these design decisions the main functions present on the menu will be:-

- initialize arrays
- load file
- save file
- print file
- input/edit data
- end program

The last option has been added because its always better to end a program neatly instead of expecting the user to hit the run/stop key.

Initialize arrays is just a facility to allow you to reinitialize the arrays used to hold the data after you have saved the data to disc.

Because I'm using disc I will need to use the error channel to see if I encounter any disc errors opening files etc, so I have decided to OPEN and CLOSE all disc files in separate BASIC modules - one for opening for input, one for opening for output and one for closing all files. The main file used is always file #1. The LOAD and SAVE file functions are pretty straight forward and LOAD/SAVE data directly to/from the arrays. The PRINT file function will print out the information held in the arrays or if you have already saved a file to disc it will also allow printing of a disc file without disturbing data in the arrays.

The Input/Edit function has been broken up into 3 sub-functions. These are:-

- Edit records
- Insert records
- Delete records

To edit or delete a record you must first supply the keys to the record you want to edit/delete, the record must then be found and then displayed. I have thus defined 2 more sub-functions:-

- accept key data and find the record
- display the record

To edit or insert a record I will need a function which allow will allow me to INPUT the data I require to change or insert. It is also possible that when editing a record I could actually change the value of the key fields so I will need to delete the original record and then insert the new one. To accomplish all this I will need 4 more sub-functions (or modules):-

- accept data
- locate insert point in the array
- insert a record
- delete a record

I also would like to be able to scan the records if I can't find the correct record to delete or edit so I will need to add a "scan file" option to my "accept key data and find the record" sub-function.

I have incorporated all these sub-functions or modules into a Structure Chart (diagram 1) of the program which graphically shows what modules are called and where they are called from. You will see that quite a few of the modules are called from different sections of the program (they are used several times). This means I only have to code these up once and they will be much easier to debug.

FIELDS

The fields that the program will

handle are:-

- Room Name
- Item Name
- Item Value
- Item Owner
- Miscellaneous Information

The files will be sorted on Room Name and Item Name. The maximum number of characters in any field is 88 as the INPUT statement will not handle any more. I have not included any error checking of this fact, maybe you would like to include this in your version of the program. You would only need to change the "accept data" module.

The program follows (listing 1) and those of you with cassette only can change the "open file for input", "open file for output" and "close files" module to handle cassette.

WRITING

There are a few basic rules you should try to adhere to when writing a properly structured program. These are:-

1. Break the program down into easily manageable chunks that can

be easily coded and easily understood.

2. Try to define as many multi-purpose functions as you can but don't go overboard. This will reduce the amount of code you will have to write and make debugging a lot easier.

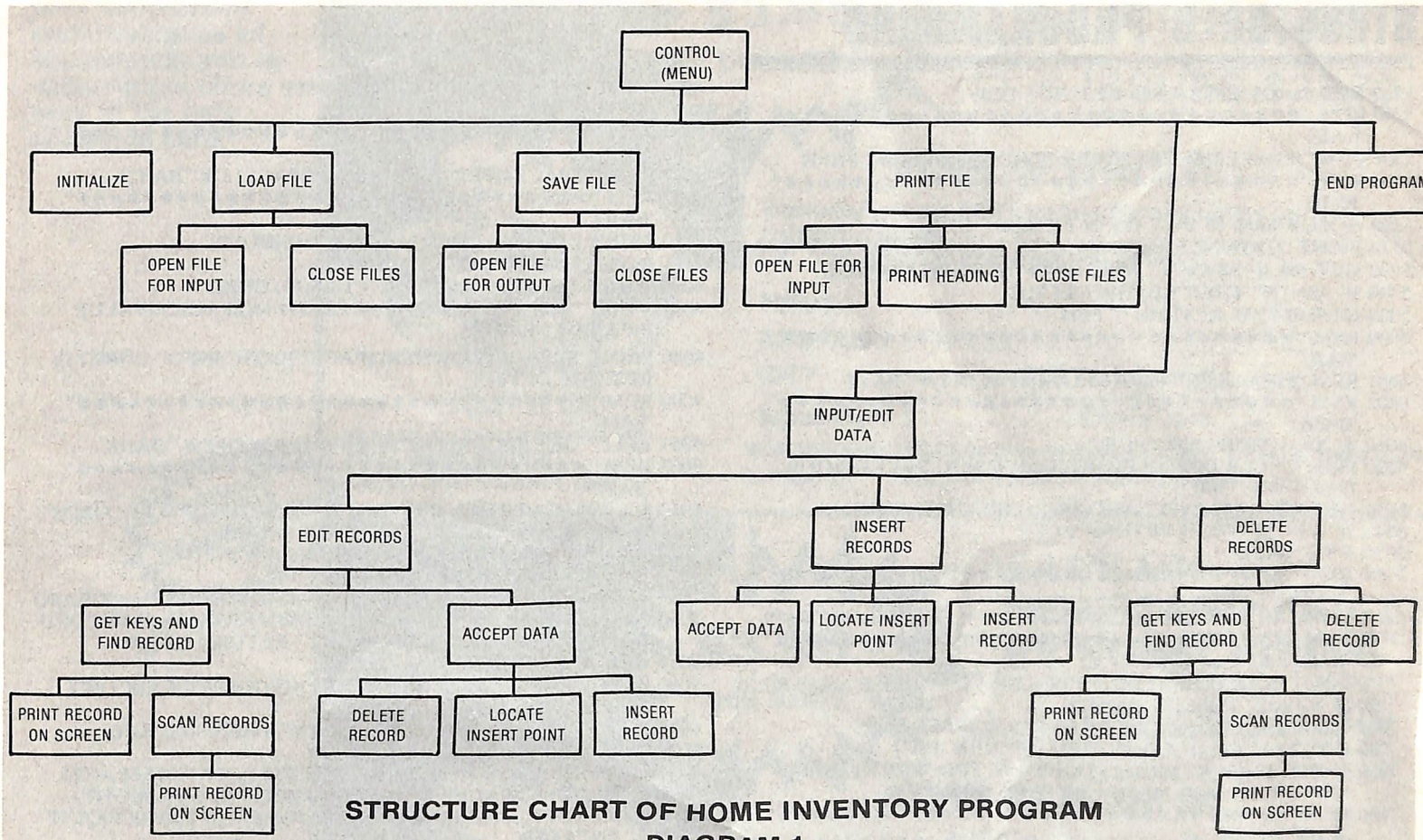
3. Use GOSUB's to call the modules of code you have defined. You may have to include some parameter passing to inform modules higher up of any errors that occur.

4. NEVER GOTO a section of code outside of the module you have GOSUB'ed to. This is fraught with danger. It makes a program very hard to read and understand and you run the risk of overflowing the GOSUB return address stack.

Well I hope this short article has been of some help to some of you. Just are there are many ways of writing the same program there are many ways of writing a good structured program. Just remember to basic rules and you should find your programs are easier to read, understand and debug.

HOME INVENTORY

```
1 POKE 53281,3: PRINT "[CLR,RIGHT4,BLK,RIGHT6]HOME
INVENTORY": FOR I=1 TO 1000: NEXT : POKE 53281,3'HYN0
10 DIM RNS(99),INS(99),IV(99),OWS(99),MIS(99):X=-1:NAS$=""EUBJ
20 PRINT "[CLR]FILE ":"NAS$: PRINT "[HOME,RIGHT21,SPACE2]NO.
OF ITEMS ":"X+1'DJSJ
30 PRINT "[DOWN3,RIGHT4,RVS]I[OFF,SPACE3]INITIALIZE FILE":
PRINT "[RIGHT4,RVS]2[OFF,SPACE3]LOAD FILE"CBHK
40 PRINT "[RIGHT4,RVS]3[OFF,SPACE3]SAVE FILE":
PRINT "[RIGHT4,RVS]4[OFF,SPACE3]PRINT FILE"CBUK
50 PRINT "[RIGHT4,RVS]5[OFF,SPACE3]INPUT/EDIT DATA":
PRINT "[RIGHT4,RVS]6[OFF,SPACE3]END PROGRAM"CBRN
60 PRINT "[DOWN2,RIGHT3]ENTER OPTION PLEASE ":"BBI
70 GET AS: IF VAL (AS)<1 OR VAL (AS)>6 THEN 70'IPXL
80 PRINT AS: ON VAL (AS) GOSUB 1000,2000,3000,4000,5000,6000'ELPN
90 GOTO 20'BCJF
722 OMS(I)=MIS(T): NEXT :X=X+1: RETURN 'EUDM
732 OOWS(T)=OWS(I):MIS(T)=MIS(I): NEXT :X=X+1: RETURN 'GHJR
1000 REM "#####"
'BAJW
1001 REM "[SPACE7]INITIALIZE FILE[SPACE9]#"BARA
1002 REM "#####"
'BAJY
1010 PRINT "[CLR,DOWN3,RIGHT8]ARE YOU SURE Y/N?"BAWA
1020 GET AS: IF AS<>"N" AND AS<>"Y" THEN 1020'ILFD
1030 IF AS="N" THEN RETURN 'ECMY
1040 RUN 10'BCJW
2000 REM "#####"
'BAJX
2001 REM "[SPACE4]LOAD A FILE[SPACE14]#"BANA
2002 REM "#####"
'BAJA
2010 IF NAS$="" AND X=-1 THEN 2060'GJSA
2020 PRINT "[CLR,DOWN4,RIGHT2]NEW FILE WILL OVERWRITE
CURRENT FILE"BAHG
2030 PRINT "[DOWN,RIGHT6]IS THIS WHAT YOU WANT Y/N?"BAVF
2040 GET AS: IF AS<>"Y" AND AS<>"N" THEN 2040'ILIG
2050 IF AS="N" THEN RETURN 'ECMC
2060 X=-1: GOSUB 7000: IF NAS$="" THEN RETURN 'HLKG
2070 X=X+1: INPUT#1,RNS(X),INS(X),IV(X),OWS(X),MIS(X)'DOVL
2080 IF STATUS AND 64 THEN GOSUB 7400: RETURN 'FNDI
2090 GOTO 2070'BEGE
3000 REM "#####"
'BAJY
```



**STRUCTURE CHART OF HOME INVENTORY PROGRAM
DIAGRAM 1**

```

3001 REM "[SPACE5]SAVE A FILE[SPACE13]#"BADB
3002 REM "#####"
      'BAJB
3010 IF X<>-1 THEN 3050'FGUA
3020 PRINT "[CLR,DOWN3,RIGHT6]NO DATA TO SAVE":
      PRINT "[DOWN,RIGHT6]PRESS ANY KEY TO CONTINUE"CBSL
3030 GET AS: IF AS="" THEN 3030'EJDC
3040 RETURN 'BAQY
3050 GOSUB 7100: IF NA$="" THEN RETURN 'FIEE
3060 AS=CHR$(13): FOR I=0 TO X'FKQG
3070 PRINT#1,RN$(I),"IN$(I),"IV(I),"OW$(I),"MI$(I): NEXT I'CIGL
3080 GOSUB 7400: RETURN 'CFGf
4000 REM "#####"
      'BAJA
4001 REM "[SPACE6]PRINT A FILE[SPACE12]#"BARD
4002 REM "#####"
      'BAJC
4010 PRINT "[CLR,DOWN3,RIGHT3]CURRENT FILE Y/N?"BASD
4020 GET AS: IF AS<>"Y" AND AS<>"N" THEN 4020'ILIG
4030 IF AS="N" THEN 4200'DGSC
4040 OPEN 4,4,0: CMD 4:J=0:K=1'ENDF
4050 FOR I=0 TO X'DDDR
4060 IF J=0 THEN GOSUB 8000'EGDF
4070 PRINT : PRINT RN$(I),"IN$(I),"IV(I),"OW$(I),"MI$(I):
      J=J+1'ERYP
4080 IF J=55 THEN J=0:K=K+1'GJHK
4090 NEXT I'BBCF
4100 PRINT "[SPACE26]##### END OF REPORT ###
      #####"BAII
4110 PRINT#4: CLOSE 4: RETURN 'DELA
4200 GOSUB 7000: IF NA$="" THEN RETURN 'FIDC
4210 J=0:K=1:F=0: OPEN 4,4,0'EOPE
4220 IF J=0 THEN : CMD 4: GOSUB 8000'FJWE
4230 INPUT#1,R$,I$,V$,O$,M$: IF STATUS AND 64 THEN F=1'FBNK
4240 PRINT#4,R$,"I$,"V$,"O$,"M$:J=J+1: IF F=1 THEN 4270
      'GFCM
4250 IF J=55 THEN J=0:K=K+1'GJHJ
4260 GOTO 4220'BEFF
4270 PRINT#4,"[SPACE24]##### END OF REPORT #
      #####"BCOQ
4280 PRINT#4: CLOSE 4: GOSUB 7400: RETURN 'EJBK

```

```

5000 REM "#####"
      'BAJB
5001 REM "[SPACE6]EDIT/INPUT DATA[SPACE9]#"BAQE
5002 REM "#####"
      'BAJD
5010 PRINT "[CLR,DOWN3,RIGHT5,RVS]E[OFF]DIT":
      PRINT "[RIGHT5,RVS]I[OFF]INSERT": PRINT "[RIGHT5,
      RVS]D[OFF]ELETE"DCBJ
5020 PRINT "[RIGHT5,RVS]R[OFF]RETURN TO MAIN MENU"BAcG
5030 GET AS: IF AS<>"E" AND AS<>"I" AND AS<>"D"
      AND AS<>"R" THEN 5030'OPVN
5040 IF AS="E" THEN GOSUB 5100: GOTO 5010'FLGG
5060 IF AS="I" THEN GOSUB 5200: GOTO 5010'FLLI
5070 IF AS="D" THEN GOSUB 5300: GOTO 5010'FLHJ
5080 RETURN 'BAQF
5100 REM "#####"
      'BAJC
5101 REM "[SPACE6]EDIT A RECORD[SPACE11]#"BARF
5102 REM "#####"
      'BAJE
5110 GOSUB 9000: IF S=-1 THEN RETURN 'GHXE
5120 IF AS=CHR$(136) THEN RETURN 'FHLE
5130 GOSUB 9200'BEMC
5140 PRINT "[DOWN2,RIGHT2]DATA OK Y/N?"BAIG
5150 GET AS: IF AS<>"Y" AND AS<>"N" THEN 5150'ILNL
5160 IF AS="N" THEN RETURN 'ECMH
5170 IF R$<>RN$(S) THEN GOSUB 7200: GOSUB 7500: GOSUB 7300:
      GOTO 5190'ICCP
5180 IF I$<>IN$(S) THEN GOSUB 7200: GOSUB 7500: GOSUB 7300:
      GOTO 5190'ICJQ
5190 RN$(S)=R$:IN$(S)=I$:IV(S)=V$:OW$(S)=O$:MI$(S)=M$:
      RETURN 'GSDV
5200 REM "#####"
      'BAJD
5201 REM "[SPACE5]INSERT A RECORD[SPACE10]#"BAFG
5202 REM "#####"
      'BAJF
5210 IF X=99 THEN PRINT "MAXIMUM NUMBER OF RECORDS
      REACHED": FOR I=1 TO 2000: NEXT : RETURN 'JMVR
5220 PRINT "[CLR]": GOSUB 9200: GOSUB 7500: GOSUB 7300:
      RN$(S)=R$:IN$(S)=I$:IV(S)=V'HPIO

```

CONTINUED OVERLEAF

STRUCTURED PROGRAMMING

```

5230 OWS(S)=OS:MIS(S)=MS: RETURN 'DSWI
5300 REM "#####"
      'BAJE
5301 REM "[SPACE2]DELETE A RECORD[SPACE13]#"BAVH
5302 REM "#####"
      'BAJG
5310 GOSUB 9000: IF S=-1 THEN RETURN 'GHXG
5320 PRINT "[DOWN2,RIGHT2]DELETE THIS RECORD Y/N?"BAOJ
5330 GET AS: IF AS<>"Y" AND AS<>"N" THEN 5330'ILNL
5340 IF AS="N" THEN RETURN 'ECMH
5350 GOSUB 7200: RETURN 'CFEH
6000 REM "#####"
      'BAJC
6001 REM "[SPACE5]END PROGRAM[SPACE15]#"BAAF
6002 REM "#####"
      'BAJE
6010 IF X=-1 THEN END 'FCBC
6020 PRINT "[CLR,DOWN3,RIGHT3]HAVE YOU SAVED YOUR
      DATA Y/N?"BADJ
6030 GET AS: IF AS<>"Y" AND AS<>"N" THEN 6030'ILLJ
6040 IF AS="N" THEN RETURN 'ECMF
6050 END 'BACD
7000 REM "#####"
      'BAJD
7001 REM " GET FILENAME AND OPEN FILE[SPACE3]#"BAPI
7002 REM "#####"
      'BAJF
7010 INPUT "[CLR,DOWN2,RIGHT3]FILENAME PLEASE ";NAS'BEAG
7020 IF NAS="" THEN 7010'DHTE
7030 OPEN 15,8,15: OPEN 1,8,2,NAS+'S,R"DRFI
7040 INPUT#15,ER: IF ER=0 THEN RETURN 'FJGI
7050 PRINT "[DOWN3,RIGHT6.PUR]DISK ERROR[BLK]":NAS="":
      FOR I=1 TO 2000: NEXT : RETURN 'HNUP
7100 REM "#####"
      'BAJE
7101 REM " GET FILENAME AND OPEN FILE[SPACE3]#"BAPJ
7102 REM "[SPACE8]FOR OUTPUT[SPACE12]#"BABI
7103 REM "#####"
      'BAJH
7110 INPUT "[CLR,DOWN2,RIGHT3]FILENAME PLEASE ";NAS'BEAH
7120 IF NAS="" THEN 7110'DHUF
7130 OPEN 15,8,15: OPEN 1,8,2,"0:"+NAS+"S,W"ERWK
7140 INPUT#15,ER: IF ER=0 THEN RETURN 'FJGJ
7150 PRINT "[DOWN3,RIGHT6.PUR]DISK ERROR[BLK]":NAS="":
      FOR I=1 TO 2000: NEXT : RETURN 'HNUQ
7200 REM "#####"
      'BAJF
7201 REM "[SPACE2]DELETE MODULE[SPACE15]#"BATI
7202 REM "#####"
      'BAJH
7203 REM "#####"
      'BAJI
7210 FOR I=S TO X:T=I+1:RNS(I)=RNS(T):INS(I)=INS(T):IV(I)=IV(T):
      OWS(I)=OWS(T)'JHUV
7220 MIS(I)=MIS(T): NEXT :X=X-1: RETURN 'FSVK
7300 REM "#####"
      'BAJG
7301 REM "[SPACE2]INSERT MODULE[SPACE15]#"BADJ
7302 REM "#####"
      'BAJI
7310 IF X=-1 THEN X=0:S=0: RETURN 'HILJ
7320 IF S>X THEN X=S: RETURN 'FFDI
7330 FOR I=X TO S STEP -1:T=I+1:RNS(T)=RNS(I):INS(T)=INS(I):
      IV(T)=IV(I)'KUMW
7340 OWS(T)=OWS(I):MIS(T)=MIS(I): NEXT :X=X+1: RETURN
      'GGFR
7400 REM "#####"
      'BAJH
7401 REM "[SPACE3]CLOSE ALL FILES[SPACE12]#"BALK
7404 REM "#####"
      'BAJL
7410 CLOSE 15: CLOSE 1: RETURN 'DFQG
7500 REM "#####"
      'BAJI
7501 REM "[SPACE2]LOCATE INSERTION POINT[SPACE6]#"BAEN
7502 REM "#####"
      'BAJK
7510 S=-1: FOR I=0 TO X: IF R$>RNS(I) THEN GOTO 7550'JTPO
7520 IF R$=RNS(I) THEN IF IS>INS(I) THEN GOTO 7550'HUHO
7530 IF R$=RNS(I) THEN IF IS=INS(I) THEN S=I:I=X: GOTO 7550'JBES

```

```

7540 S=I:I=X'CFXK
7550 NEXT I: IF S=-1 THEN S=X+1'HHEP
7560 RETURN 'BAQK
8000 REM "#####"
      'BAJE
8001 REM "[SPACE4]PRINT HEADING[SPACE13]#"BAXH
8002 REM "#####"
      'BAJG
8010 PRINT CHR$(19) CHR$(14)"[SPACE14]HOME
      INVENTORY[SPACE22]";DJSN
8020 PRINT "[SPACE8]PAGE ";K: CHR$(15)'CHZH
8030 PRINT "[SPACE3]ROOM[SPACE22]ITEM[SPACE24]VALUE
      [SPACE5]";BBMO
8040 PRINT "[SPACE19]OWNER[SPACE19]MISC INFO" CHR$(15):
      RETURN 'DFYP
9000 REM "#####"
      'BAJF
9001 REM " GET RECORD KEYS & FIND RECORD#"BAHK
9002 REM "#####"
      'BAJH
9010 S=-1: IF X=-1 THEN PRINT "[DOWN,RIGHT2]NO RECORDS":
      FOR I=1 TO 2000: NEXT : RETURN 'MOQP
9020 INPUT "[CLR,DOWN,RIGHT]ROOM ";RS: INPUT
      "[DOWN,RIGHT]ITEM ";IS'CHOJ
9030 FOR I=0 TO X: IF R$=RNS(I) AND IS=INS(I) THEN S=I:I=X'KABQ
9040 NEXT I: IF S=-1 THEN PRINT "[DOWN,RIGHT2]NO RECORD
      FOUND": FOR I=1 TO 2000: NEXT : RETURN 'LNQS
9050 GOSUB 9100'BELH
9060 PRINT "[DOWN,RIGHT2]IS THIS THE CORRECT RECORD
      Y/N?"BAGQ
9070 GET AS: IF AS<>"N" AND AS<>"Y" THEN 9070'ILSQ
9080 IF AS="Y" THEN RETURN 'ECXM
9090 PRINT "[RIGHT2,RVS]F1[OFF,SPACE]BACKWARD[SPACE2,
      RVS]F3[OFF,SPACE]FORWARD": PRINT "[DOWN,RIGHT2,
      RVS]F5[OFF,SPACE]EDIT[SPACE6,RVS]F7[OFF,SPACE]QUIT
      SCAN"CSB
9092 GOSUB 9500: IF AS=CHR$(135) OR AS=CHR$(136) THEN
      RETURN 'JTYV
9095 GOTO 9060'BEMQ
9100 REM "#####"
      'BAJG
9101 REM "[SPACE2]PRINT A RECORD[SPACE14]#"BAOJ
9102 REM "#####"
      'BAJI
9110 PRINT "[CLR,DOWN,RIGHT]ROOM[SPACE,RIGHT2]";RNS(S):
      PRINT "[DOWN,RIGHT]ITEM[SPACE,RIGHT2]";INS(S): PRINT
      "[DOWN,RIGHT]VALUE[SPACE,RIGHT2]";IV(S)'DWCQ
9120 PRINT "[DOWN,RIGHT]OWNER[SPACE,RIGHT2]";OWS(S):
      PRINT "[DOWN,RIGHT]MISC INFO[SPACE,RIGHT2]";MIS(S):
      RETURN 'DQYO
9200 REM "#####"
      'BAJH
9201 REM "[SPACE2]ACCEPT DATA[SPACE17]#"BAHK
9202 REM "#####"
      'BAJI
9210 INPUT "[HOME,DOWN,RIGHT]ROOM ";RS:
      INPUT "[DOWN,RIGHT]ITEM ";IS:
      INPUT "[DOWN,RIGHT]VALUE ";V:
      INPUT "[DOWN,RIGHT]OWNER ";OS'EORQ
9220 INPUT "[DOWN,RIGHT]MISC INFO ";MS: RETURN 'CEXJ
9500 REM "#####"
      'BAJK
9501 REM "[SPACE4]SCAN RECORDS[SPACE14]#"BAJN
9502 REM "#####"
      'BAJM
9510 GET AS'BCGI
9515 IF AS<> CHR$(133) AND AS<> CHR$(134) AND
      AS<> CHR$(135) AND AS<> CHR$(136) THEN 9510'RHSE
9520 IF AS=CHR$(134) GOTO 9550'ELXM
9530 IF AS=CHR$(133) GOTO 9570'ELYN
9540 RETURN 'BAQK
9550 S=S+1: IF S>X THEN PRINT "[DOWN2,RIGHT2]PAST END OF
      FILE":S=X: GOTO 9510'IOXY
9560 GOSUB 9100: GOTO 9590'CIJO
9570 S=S-1: IF S<0 THEN PRINT "[DOWN2,RIGHT2]PAST
      BEGINNING OF FILE":S=0: GOTO 9510'I ON C
9580 GOSUB 9100'BELP
9590 PRINT "[DOWN2,RIGHT2,RVS]F1[OFF,SPACE]BACKWARD
      [SPACE2,RVS]F3[OFF,SPACE]FORWARD"BAWX
9595 PRINT "[DOWN,RIGHT2,RVS]F5[OFF,SPACE]EDIT
      [SPACE6,RVS]F7[OFF,SPACE]QUIT SCAN": GOTO 9510'CFRE

```

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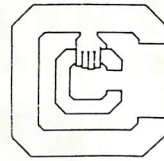


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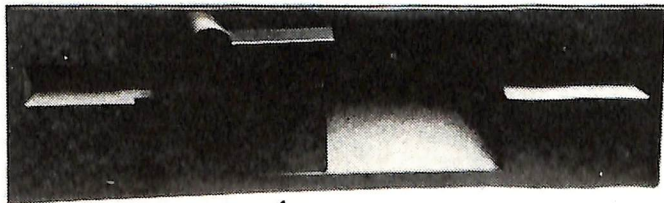
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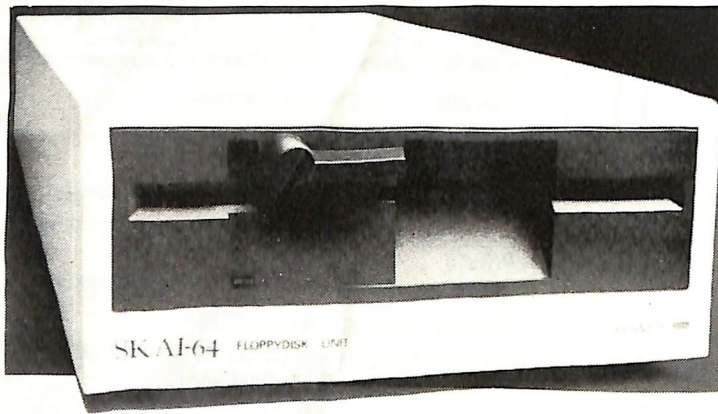
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Addendum to this Comparison featuring the NEW SKAI SUPERDRIVE MKII will be published next issue.

A COMPARISON

SKAI-64



by Vince Morton

There are starting to appear on the market, several alternative drives for the C64, the Skai-64 seems to be the most publicised and best known of these 1541 look-alikes, and with a lower R.R.P. than the 1541 it appears to be a real alternative, but just how good is it?

Being the owner of both a 1541 and a Skai-64 I will now attempt to give you an insight to the Skai-64 and how it compares with the 1541.

APPEARANCE FROM THE OUTSIDE

The Skai-64 is smaller than the 1541, measuring 33cm long, 16cm wide and 7cm high, as compared to the 1541, at 36cm, 20cm and 9cm respectively.

The Skai-64 is enclosed in a white painted metal box, which is good for R.F. shielding, and contains an area of 10cm. by 15cm. of ventilation. Looking from the front, it is obvious that other differences are present, as the drive front is much improved on the 1541. The improvements are as follows:

The slot for diskette insertion has a recessed section for easy retrieval of diskettes, (no more using tweezers and pliers to remove diskettes), and the door closing is done with a lever which swings through a 90 degree arc. From the rear the drive is also slightly different, for a start the power switch is on the opposite side to the 1541 and the power cord is permanently attached, not removable. The rear contains two serial port connectors, but these are at the bottom of the drive not the top. Turning the Skai-64 over reveals two small switches set into the metal work, and a chart. These are there to set the device address, and constitute another advantage over the 1541, that is unless you have fitted my project for the address switch in Issue 33 of Commodore Magazine.

APPEARANCE FROM THE INSIDE

Inside the Skai-64 is where everything changes, and as such I will take each module of the drive and attempt to explain some of the variations for either good or bad.

Power Supply

The Power supply in the Skai-64 is totally different concept to the one in the 1541, the 1541 has a series regulated power supply which uses a large transformer to lower the input A.C. voltage and then uses electronics to convert the low level A.C. to regulated D.C. The large transformer in the 1541 is the main radiator of heat and the main cause of the 1541's much publicised overheating problems. The Skai-64 uses a switch mode power supply which uses electronics to lower the A.C. input and convert and regulate the D.C. output, this means that the large heat producing transformer is not required, hence the power supply and the drive run much cooler. The one drawback of switch mode power supplies is that they tend to be much more complex and time consuming to repair should they develop a fault, so I guess what you lose on the roundabout you gain on the swings.

The Drive chassis

The chassis of the Skai-64 is another area which is quite different from the 1541. The rotational motor is above the chassis, as is the control circuitry for the motor. The head movement is similar to the 1541, however the head motion strap is quite a deal wider than that in the 1541, which according to the distributors should lessen the need for head alignment. One disadvantage of the Skai-64 is the lack of a strobe disk on the main pulley making rotational speed adjustment somewhat harder. The main chassis is an aluminium alloy, as in the 1541, but is nowhere near as substantial in size, which

makes for a much lower overall weight, along with the missing power supply transformer.

The Logic Board

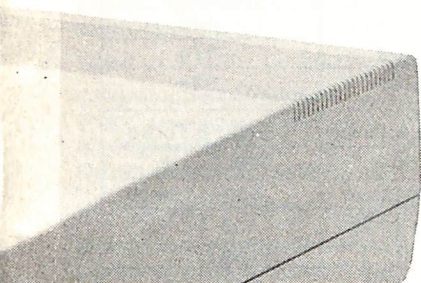
The Logic board is hidden away at the bottom of the drive below the power supply and chassis, which is hardly the place for some inspection or fault finding. The board is well laid out with most of the larger integrated circuits in sockets for ease of removal.

IN OPERATION

This is the part where most people become interested, as it is in operation where the differences matter to the average user. The distributors of Skai-64 have a list of over 2000 programs which have been successfully run on the Skai-64, and as yet I have been unable to fault the operation in this aspect under normal operation or with Epyx Fastload, however I did have some trouble with it under the control of the Cockroach Turbo ROM, with one program which would not load at all and several that took a couple of tries to load.

The distributors also claim that the Skai-64 is ten percent faster than the 1541, however to this stage I have been unable to prove this, as in all my testing, the timings have been virtually identical. The Skai-64 DOS is almost identical to the 1541 DOS, but has included into it a 15 second format, this format has to date been one of my biggest problems, as a disk formatted on the Skai-64 will only work in the 1541 approximately 10 percent of the time. My original thought was that maybe the problem lies in the Skai-64 fast format. This is the only problem that I have been able to find to date, and I am told by someone who has tried it that if a 1541 ROM is fitted to the Skai-64 that it becomes the perfect 1541 emulator with many advantages.

541



APPENDUM TO 1541 VS SKAI-64

I have recently had a look at the latest version of the 1541 from Japan, and there are some interesting variations. This model comes in a brown cardboard box and outwardly the case is much the same, but has extra ventilation in the base. Inside the 1541 is exactly the same chassis as the Skai-64 with all the same features.

The P.C. board is a new ultra short version with only eleven I.C.'s to control the whole drive. The address links are relocated and much smaller and harder to attack. Perhaps the biggest disappointment of the new 1541 is that the power supply is still the old super heat generator, in fact after about 2 hours of use the new 1541 was running hotter than my old one. Glad to see some improvements Commodore, but not quite perfect yet.

DOCUMENTATION

With the Skai-64 being made in Japan, and remembering all those Japanese translated instructions on many other items, I opened up the manual with some trepidation. My fears were short lived as I found the manual well written and concise with well laid out instructions on file handling, unpacking and setting up, along with a full listing of error codes. Compared to the 1541 manual, this one wins hands down.

SUMMARY

The Skai-64 is generally a good replacement drive for the 1541 with the exception of the problem with the fast format, and if the distributors are reading, I would like to suggest that they have the DOS reprogrammed to remove this as a no cost option, not make it a \$25.00 option as they did on the last upgrade, as they lost a lot of friends on that upgrade if the Skai-64 users I have talked to are any indication. The product has a lot to commend it apart from the above problem, and if that problem can be overcome, I would have no compunctions in recommending the Skai-64 as a 1541 replacement.

LIST VARIABLE

- CONTINUED FROM PAGE 18

```

820 FOR M=0 TO X-1:X(M)=PEEK (N+24*C+M*2)+
    PEEK (N+24*C+M*2+1)*256: NEXT : RETURN 'UGMY
825 REM # INPUT VARIABLE LOCATIONS INTO X()'BFXS
899 REM # DO ANOTHER PROGRAM Y/N SUBROUTINE'BFIE
900 PRINT "[CLR,DOWN2,RIGHT2]ANOTHER PROGRAM (Y/N) ?":
    POKE 198,0'CHYM
910 GET Z$: IF Z$="Y" THEN FA=1: RETURN 'GJUK
920 IF Z$<>"N" THEN 910'EFCI
930 FA=2: RETURN 'CEAI
999 REM # PRINT PAGE HEADINGS SUBROUTINE'BDYE
1000 FOR P=RN TO 65: PRINT#10: NEXT 'FJHX
1010 PRINT#10,PS `.....PAGE "PN:PN=PN+1:RN=1'ERJD
1020 PRINT#10: PRINT#10,VRS'CJKX
1030 PRINT#10,VSS"LOCATIONS"BGQA
1040 RN=RN+3: RETURN 'DGAA
1199 REM # ALTER LINE REFERENCES TO VARIABLE
    REFERENCES IN HEADING'BYIB
1200 VRS="VARIABLE REFERENCES":VSS="VARBLE[SPACE2]":
    VF=1: GOSUB 1020: RETURN 'FRHJ
1499 REM # CHECK FOR DISC ERRORS SUBROUTINE'BEHY
1500 OPEN 15,8,15: INPUT#15,E1,ES,E2,E3'CWGD
1510 IF E1<20 THEN RETURN 'EAYC
1520 IF E1=62 THEN 1540'DIOD
1530 PRINT : PRINT E1,ES,E2,E3: STOP 'DNKF
1540 PRINT "[DOWN2]PROGRAM NOT FOUND ?":FE=1'CEOJ
1550 FOR J=0 TO 2000: NEXT : RETURN 'FAIH
2000 DATA 160,0,140,0,192,140,1,192,162,1,32,198,255,169,1,205'BCRE
2010 DATA 8,192,240,6,32,207,255,32,207,255,32,207,255,32,207,255'BFEG
2020 DATA 201,0,240,39,32,207,255,141,4,192,32,207,255,141,5,192'BEUG
2030 DATA 160,0,132,2,32,207,255,164,2,153,16,192,200,201,0,208'BDDBH
2040 DATA 241,32,175,192,169,4,205,1,192,208,207,32,204,255,96,172'BGLJ
2050 DATA 4,192,173,5,192,132,99,133,98,162,144,56,32,73,188,32'BDMJ
2060 DATA 221,189,162,23,160,32,24,32,240,255,169,0,160,1,32,30'BDOK
2070 DATA 171,160,0,185,16,192,208,1,96,162,0,142,9,192,142,10'BCBL
2080 DATA 192,201,34,208,3,76,101,193,201,128,144,3,76,116,193,201'BGNS
2090 DATA 65,144,7,201,91,176,3,76,255,192,200,76,211,1,192,232,157'BF00
2100 DATA 11,192,200,185,16,192,208,8,169,1,141,9,192,76,215,193'BEWF
2110 DATA 201,32,240,238,201,48,144,18,201,58,144,8,201,65,144,10'BFMH
2120 DATA 201,91,176,6,224,1,176,218,144,212,201,40,240,11,201,36'BFDI
2130 DATA 240,7,201,37,240,3,76,215,193,232,157,11,192,200,185,16'BFVJ
2140 DATA 192,208,8,169,1,141,9,192,76,215,193,201,32,240,238,201'BFHK
2150 DATA 40,208,15,232,157,11,192,200,185,16,192,208,5,169,1,141'BFWL
2160 DATA 9,192,76,215,193,200,185,16,192,208,1,96,201,34,208,245'BFQM
2170 DATA 200,76,211,192,201,143,240,243,201,131,208,3,76,147,193,201'BJFN
2180 DATA 137,240,30,201,138,240,26,201,141,240,22,201,167,240,18,200'BJNO
2190 DATA 76,211,192,200,185,16,192,240,210,201,58,208,246,200,76,211'BJQP
2200 DATA 192,200,185,16,192,208,12,224,0,240,192,169,1,141,9,192'BFZH
2210 DATA 76,214,193,201,32,240,234,201,48,144,11,201,58,176,7,157'BGYI
2220 DATA 11,192,232,76,161,193,201,44,208,5,169,1,141,10,192,224'BFUJ
2230 DATA 0,208,3,76,217,192,202,72,152,72,169,32,232,224,5,240'BDEJ
2240 DATA 5,157,11,192,208,246,160,0,132,251,132,253,140,2,192,140'BGHL
2250 DATA 3,192,169,40,133,254,169,136,133,252,173,3,192,205,1,192'BGIM
2260 DATA 208,8,173,2,192,205,0,192,240,52,177,251,217,11,192,208'BFBN
2270 DATA 11,200,192,5,144,244,177,251,201,12,208,66,160,0,24,165'BFLO
2280 DATA 251,105,6,133,251,144,3,230,252,24,165,253,105,24,133,253'BHIP
2290 DATA 144,2,230,254,238,2,192,208,193,238,3,192,144,188,160,0'BFHQ
2300 DATA 185,11,192,145,251,200,192,5,208,246,169,0,238,0,192,208'BGFI
2310 DATA 13,238,1,192,160,4,204,1,192,208,3,104,104,96,10,168'BCUI
2320 DATA 173,4,192,145,253,200,173,5,192,145,253,152,74,105,0,160'BGVK
2330 DATA 5,145,251,104,168,104,162,1,236,9,192,240,13,236,10,192'BFTL
2340 DATA 240,3,76,217,192,162,0,76,161,193,96,160,136,132,252,160'BGIM
2350 DATA 0,132,251,140,6,192,140,7,192,140,2,192,140,3,192,169'BDJM
2360 DATA 255,153,11,192,177,251,217,11,192,144,45,208,5,200,192,5'BGBO
2370 DATA 208,242,24,165,251,105,6,133,251,144,2,230,252,238,2,192'BGPP
2380 DATA 208,3,238,3,192,160,0,173,3,192,205,1,192,208,213,173'BDAP
2390 DATA 2,192,205,0,192,208,205,96,160,0,177,251,153,11,192,200'BFPR
2400 DATA 192,5,208,246,173,2,192,141,6,192,173,3,192,141,7,192'BDSDI
2410 DATA 76,178,194'BKIB

```

SUPERBASE NOTES

This column is made available to users to ask and answer questions on SUPERBASE. The column is self run - we will publish SUPERBASE contributions as they are received. No contributions; No SUPERBASE column for that issue.

Forward contributions to:
SUPERBASE NOTES
COMMODORE MAGAZINE
82 Alexander Street
Crows Nest 2065

NZ BUSINESS APPLICATIONS

I have started to wrestle with Superbase 128 with a view to producing customised programs for my clients, and possibly selling these more widely if they prove to be successful.

First: is there a record or list of such programs? I am averse to reinventing the wheel, and would much rather sell someone else's product now than waste my time and sell it later. These can be for a whole range of small businesses, the final customising to be done by the end user (insertion of name and address for printing on invoices etc.)

Next: specific points about Superbase.

I find the maximum length of a record too short for some purposes, so it ought to be possible to have a Part A, say, and a continuation Part B. Now let us say that the key in Part A is "Number". In Part B we have "Number2" as key, and it ought to be possible for this to be made identical to "Number" without the user entering it - to avoid mistakes. But I don't think it can be done! Are there any wheezes and dodges for linking records together?

Sometimes when formatting I have programmed headings in reverse, but they have turned out normal on the blank record. Have you experienced this?

I think Superbase needs another type of field: the Yes/No, automatically one character long and accepting only Y or N.

Robin Hoare

Rawene, Hokianga, Northland N.Z.

SKAI, TURBO & SUPERBASE

I was recently reading "Commodore Magazine" when I noticed your request for any experienced people had with the COCKROACH TURBO ROM, especially with SUPERBASE 64. I should say now that I also have a SKAI Super Drive and so I shall also make some comments about the turbo and the SKAI.

The turbo works almost faultlessly with the 1541 and I have not yet found a program it would not load successfully. As you know, most programs are able to be loaded and saved with quite considerable speed advantages. However, when teamed with the SKAI I find that a large number of programs are unable to be loaded and you are inevitably left with a locked-up machine.

Another problem that I have had is that many programs do not accept the SKAI formatting disks (although disks formatted on the SKAI

seem to be acceptable). Also Fast format will not work on the SKAI.

To my experiences with Superbase... and Vizawrite 64 (in my opinion the best word processor I have used on the C64).

SUPERBASE 64	1541	SKAI	1541 & Turbo	SKAI & Turbo
Load	125s	123s	115s	wouldn't load
Find (on 11)	14s	14s	17s	14s
Sort (on 11)	20s	18s	20s	17s
Load prg 12b1	32s	31s	32s	32s

VIZAWRITE 64	1541		SKAI		1541 & Turbo		SKAI & Turbo	
Load	85s		88s		85s		W.N.L. *	
	load	save	load	save	load	save	load	save
20 blk doc.	15s	21s	15s	21s	15s	18s	15s	15s
					*15s		*15s	
80 blk doc.	55s	74s	55s	63s	58s	63s	55s	51s
					*55s		*55s	
133 blk doc.	92s	115s	92s	100s	94s	107s	94s	83s
					*95s		*94s	

N.B.* is the load time taken to load a document previously saved by the turbo rom.

% is errors as detailed below.

The turbo rom would not load either superbase or vizawrite on the SKAI.

Attempting to load Superbase left me with a locked-up screen in pattern (not the loading pattern) which would not warm start.

Attempting to load Vizawrite left me with read error 27 track 31, sector 13, followed by the message ?bad subscript error. This was after 81 sec. of loading time!

So the predominant area of speed I found

was in the area of saving Vizawrite documents which certainly did happen considerably faster. By the way, the way I used the SKAI with turbo from within these programs was to load in turbo from the 1541 and then switch the 1541 off and the SKAI on.

Keep up the good work!
Yours Sincerely
Kenneth Simpson, Bondi, NSW

SIMPLE DISK INDEX

by Peter Davies

During the recent holidays I decided that, at long last, I would get some organisation into my collection of disks. With pen and paper I listed all the categories I would like files saved under eg. Maths, Utilities, Games etc. Some categories of course needed several disks others only a small fraction of one. Where several disks were involved I named them with a number in the name and made the id numbers consecutive. I have a list of the categories, disk titles and id numbers so if I have to format a new disk I can very quickly find a unique name/id.

It took a great deal of time as I didn't realise I had amassed so many programs. I suggest that if you are just beginning to collect programs with your Christmas present then you stop and think and get organised from the start along the lines suggested.

I then began to look for a simple index system that could be used quickly and easily and began to look for a disk based system. None I found seemed to do what I wanted so I resorted to old fashioned paper!

Next I tried, using direct mode,
OPEN 1,4 (or OPEN 1,6 for the 1520)
CMD 1
LIST
PRINT# 1
CLOSE 1

Sure, I got a printed directory and decided to cut the listing down to size to fit into the appropriate disk cover. I find this very useful and faster than listing the directory on the screen. You can insert a disk in the drive and type the name of the wanted program from your list. Still it wasn't what I was after.

A few minutes with my Easyscript manual found that, in disk mode, +\$0 loads the directory straight into memory. I then placed the cursor at the end of the directory and added a forced page command. Then I inserted a new disk and loaded its directory. It was loaded below the first one. Several disks later I had a whole bundle in memory together.

The rest was simple. Print out the memory but using sp1 or sp2 to give, on paper, one or two blank lines between the printed lines. I use the blank spaces to write (by hand) descriptions, comments, source, special instructions, SYS addresses etc. as I use the programs. Of course you could type them in via the word processor too.

The printout has the directory for each disk on a separate page and I keep the lot together in a ring binder.

It all took a bit of effort and time but it is worth it - I feel organised and efficient as a result. If you have a different word processor check the manual, odds are you'll be able to do the same thing.

COMMODORE DOCTOR

The aim of this column is to help readers with any problems they have with CBM/PETs, VICs, C64s, Plus 4/C16, associated equipment and projects. Send us your queries and we will do our best to provide an intelligent answer. Alternatively we will throw it open to other readers for their comments.

Write to:

Commodore Doctor
The Commodore Magazine
82 Alexander St.,
Crows Nest NSW 2065

Or TELEDATA username COM.MAG

Where time permits letters will be answered personally but this is not guaranteed.

BYE and THANKS

Greg Perry who commenced this column back in Volume 4 has decided not to continue. He has a very heavy work load and the truth is we cannot afford to pay him what he is worth!

Greg has done a lot for the magazine and we wish him all the best for the future.

Many thanks.

DEVICE NUMBER INDICATOR

Dear Mr. Morton,

In this letter I am referring to your article "Disk Address Switch" in Issue 33 of Commodore Magazine.

I was wondering, instead of "a couple of dymo labels" to show what address the disk drive is at, would you be able to put in a small red LED number display to indicate the address.

I would appreciate it, if you could find the time to make up a circuit pattern and a couple of paragraphs and parts list to show how to make this, and have it printed in the next available issue of the Commodore Magazine.

Yours Sincerely
Steven Moore
Keperra, Brisbane

Dear Steven,

Thank you for your letter and the idea put forward. The idea is indeed very feasible and in actual fact gave rise to two ideas which I am forwarding on to you. The first idea is for a simple device number indicator which is easy to construct and easy to fit into the 1541 and leaves a very balanced and aesthetically pleasing result. See Option 1 below.

The second idea is exactly what you have asked for, and has a couple of drawbacks which will detract slightly from idea number one. The first drawback is that it requires some fairly messy wiring, which means that a great deal more care will have to be taken in construction. The second drawback is the

mounting of the indicator. This will require quite a bit of thought and surgery on the case of the 1541, and also it is my opinion that the indicator will have to be glued into position, making it impossible to remove should you require to do so later.

The final decision will remain your own as to how you wish to tackle the information given, and I wish you much luck and success with which ever of these two options you wish to pursue.

Thankyou once again for your ideas and keep them coming, as it is the people that use the system at grass roots level who usually know what they would like to see, and in many cases the results are not as hard to get as they might first appear.

Keep reading Commodore Magazine and watch for some upcoming reviews and articles which may be interesting and money saving.

Regards
Vince Morton.

DEVICE NUMBER INDICATOR

This project comes in two forms, the first is the simple form (listed below) which uses a yellow or orange led mounted into the front case of the 1541, which illuminates when the device address is 8 and is out for device address 9. This version comes complete with full instructions for mounting the led and pictures and diagrams. The second form (Refer Vince's Project this issue) is more complex and bulky, and is for a seven segment leed display to actually show the device address, because of the surgery necessary to accommodate this into the 1541 case I have only suggested a possible mounting option and left the final decision up to the project builder.

The initial construction for both parts of the project are the same, and so I will deal with that part of the preparation first.

GENERAL REQUIREMENTS

Wire cutters, Soldering iron, Solder, Thin wire, Knife, Insulation tape, Spagetti tubing (optional), Dick Smith Cat W4040.

GENERAL PREPARATION

Cut two lengths of thin wire, one 15cm long and one 30cm long and strip and solder tin the wire for approx. 2cm each end.

Disconnect the 1541 from both the power and the C64 and turn it upside down. Undo the four screws which hold the case together, then cover each of the holes with a piece of tape (that way you don't lose the screws.) Turn the drive back upright and remove the lid. If your drive still has the RF Shield, remove that to expose the P.G. board.

Using the pictures supplied, locate points A & B on the P.C. board. Point A will already have a wire attached to it, going to your disk address switch. Attach on end of your short piece of wire to this point also solder on end of the long piece of wire to the diode marked

point B. Inspect both joints to ensure that the wires do not make contact any where, but the points indicated.

Preparation is now complete, and from this point follow the instructions for the project version you wish to build.

VERSION 1 - SIMLEX

Additional tools:

Drill (electric or hand), Drill bits.

Parts:

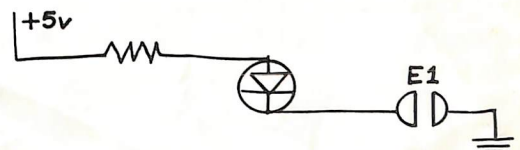
DICK SMITH
CAT. NO.

1 x Resistor 1/4 W 680 ohms..... R0570
1 x Led yellow or orange..... Z4034 / Z4036
1 x Led mounting bezel..... H1910
(pack of 15)

Note:

If you have decided to use a mounting bezel for your led, then a 1/4" hole will be required to mount the led, if not, then the led may be squeezed into a 5mm hole but take care not to damage the led.

CIRCUIT & THEORY



When the switch shorts both halves of E1 to give device address of 8, the led is between +5v and earth in series with a current limiting resistor, and will illuminate. Removing the ground point by switching the address switch to 9 stops current flow and extinguishes the led.

CONSTRUCTION

Examine the led. One leg is longer than the other, this is the anode of the led, the short leg is the cathode. Cut the short leg off the led to approx. 1cm in length. Cut one lead of the resistor to the same length and solder the two together.

Locate the hole position on the 1541 case as per the diagram: (Diagram (a)) This position complements the "POWER" led nicely and if you are using a mounting bezel should look like part of the furniture. Drill the hole and then turn over the drive and clean out any debris.

Slide a 1 1/2" length of green spagetti over the wire going to Point A and cut the free end of the resistor on the led to approx. 5mm long. Solder the wire from point A onto the resistor, and then slide the spagetti downover the joint, and resistor until it touches the led. Using another piece of fine spagetti over the wire going to Point B.

Then solder the wire to the leg of the led and

CONTINUED OVERLEAF

COMMODORE DOCTOR

CONTINUED FROM PREVIOUS PAGE

insulate the leg with spaghetti. Put a small amount of tape around the end of the spaghetti to prevent it from moving and exposing bare wires.

You may now turn on your disk (don't connect to C64 yet) and see if all is correct. The led will illuminate for device 8 and be out for 9, if not, turn off drive immediately and recheck wiring.

If OK you may mount the led into the case. If you are using the bezel, this pushes in from the front and a ring should be slipped over the led. Carefully push the led in from the rear (in both cases) and once the led is securely in place, the bezel ring clips over the bezel to lock the led in.

You may now tuck the wires out of the way, and reassemble the drive.

For Version 2 - Complex see Vince Morton's Project Article on page 16 of this issue.

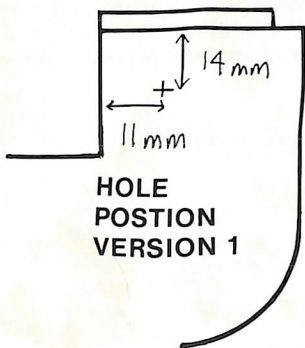


Diagram (a)

? DOTSOFT & DIRECTORY PRINTING

Dear Sir,

Must correct you from a statement you made in Vol. 5 No. 5, concerning the transfer of tape programs to disk.

Dosoft (Adverts in most English magazines) can supply an entire-range-disk, that will transfer slow and fast loaders to disk. There is a program that reads the tape header, and usually tells you which turbo to load to transfer from tape. It won't work on Elite, as I think Elite uses an "Interrupt Burner". No doubt someone in Australia can supply the Dosoft entire range disk, but I have no idea who does.

Now a question - Most people who have a printer print out their disk directories. That's great, but that row of directories down the left hand side wastes the rest of the page. So, list a number of directories, then reinsert the paper so the directories are upside-down, on the right. This is better, two columns per page, but on an 80 column printer, 3 should fit.

What is the best way to get 3 rows of

directories per page? The printer I have been using is the Epson GX80, with tractor feed.

Yours,
Stuart Elflett
The Happy Hacker

ED - Can anybody assist both with the print directory enquiry and the availability of English DOTSOFT products?

HI-RES SCREENS

Dear Sir,

In Commodore Magazine Issue 32, page 10 there was a one-liner on how to save Hi-Res screens.

It then went on to say to load in the usual way even without Simons Basic.

After loading the screen (I am using U.Basic to generate them) I can not get them to display on the screen, with or without U.Basic. Please can you help me.

Yours Faithfully,
Austen Evans.
Hallett Cove, S.A.

Dear Austen,

The Editor has passed on your letter to answer your question on loading HIRES screens.

My article only details how to load the HIRES screen file back into memory and then print it. Please note the screen is in memory and not displayed.

To display the HIRES screen file that was saved as detailed in my article use the following program.

```
10 IF X=2 THEN 100:REM ONE LOAD ONLY
20 V=532248:REM FIRST GRAPHIC ADDRESS
30 POKEV+24,PEEK(V+24)OR8:REM SET
  START OF SCREEN MEMORY TO 8192
40 POKEV+17,PEEK(V+17)OR32:REM ENABLE
  HIRES BIT MAP
50 FOR I=1024 TO 2023
60 POKEI<4:NEXT:REM SCREEN COLOUR
70 X=2:REM SET X TO 2
80 LOAD"FILENAME",8,1
100 GOTO 100:REM FREEZE PICTURE
```

Unfortunately I don't have a copy of U.Basic, so can not help with how it would work with my article's programs.

Yours Faithfully
Denis Hare

VZ200 REVISITED

Dear Sir,

In your column in the last issue (No 33), a question related to the use of a VZ200 printer plotter with a C64. The reply advised contacting the ACT user Group for information.

I have sent two letters and self-contained envelopes, one letter contained cash to cover copying costs, to this group but no reply. Eight weeks have now passed - I am

becoming desperate. Can you suggest an alternate source for this information please or may be you have the relevant information?

Congratulations on an excellent publication.

Yours Sincerely

Paul Horder
Ryde N.S.W.

ED - It is unlike the ACT group not to answer they are usually very supportive of users. Peter Thompson has developed a wedge which will intercept channel 4 and re-direct to the user port for centronic printers etc. Whether or not this will work on a VZ200 printer or not I'm not sure.

Your letters have been received at the ACT group. They ask that you hang in there a little longer. Peter is the person you should be talking to but currently he has very limited time available for club and computer activities owing to other pressures

In the mean time can any other readers help?

CALCULATOR KEYPAD

Dear Sir,

I was wondering if it is feasible, and if you could look into, making a hand held calculator type, accessory for my Commodore 64, to type in data more easily.

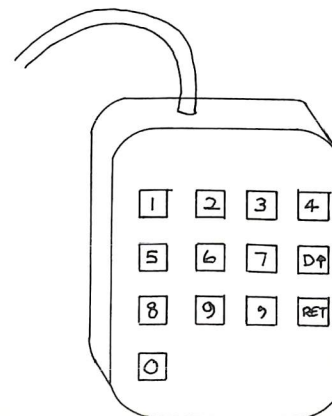
This invention would have to contain numbers (obviously), a Return Key, a Data and Comma button.

I am, as are most others frustrated with typing in boring old numbers.

Yours Faithfully

Mark Noonan
Ashburton Vic.

ED - Vince Morton is already working on this one for you. He has worked out the circuitry but having trouble sourcing a widely available and reliable number pad. We will publish his designs as a project in the near future.



REVIEWS & THINGS - CONTINUED FROM PAGE 28

The user operates the program by moving a joystick to point to a series of icons: a typewriter, for JANEWRITE the wordprocessing package, a calculator for JANE CALC the spreadsheet and a filing cabinet for JANELIST the database.

Scissors and a pastebush indicate delete and insert functions.

Once the user becomes familiar with JANE, the keyboard can be used instead of joystick.

The package includes an easy to understand manual and three diskettes: a storage disc, application disc and help disc.

RRP \$100 available through Commodore dealers.

Refer page 32 for Clive Snowden's more detailed review of JANE.

MONTY AGAIN! 64

Reviewed by Chris Hindmarsh

Well Monty is off again! "Super fit and desperate for freedom. Monty makes his daring escape from Scudmore Prison. Hounded by the bastions of the law and order, our frightened hero finds refuge with the criminal underworld who offer him his chance to breathe fresh air and bask in the sunlight once again. Moving from safe house to hideout to underground lair. Monty must

select the correct five elements of his freedom kit from the many he's offered and not miss out on the hidden gold coins that will make him a mole of leisure. At last he's free but can he make the cross-channel ferry on time?"

Well that is a lot of story for what really is just a good old fashion video game in the fashion of KONG (but much better and more advanced.) You've got ladders to climb, crushers to avoid, pits to jump, moving pathways, lifts, walls, falls and spooks - there all there!

MONTY ON THE RUN is just good fun you don't have to think too hard you can control the little fellow as he moves across the screen in his search for freedom. Just good fun.

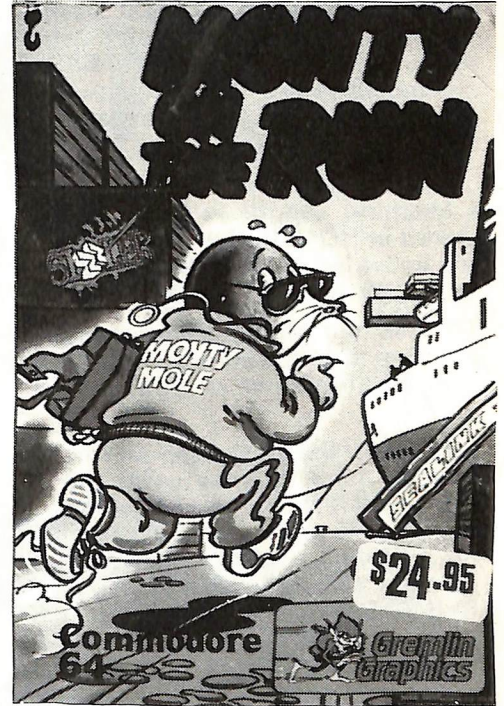
On tape using the PAVLODA turbo load system.

RRP Disk \$29.95/Tape \$24.95

Available from most Commodore outlets

Amongst the items we have for future reviews are:

LORD OF THE RINGS Pt.1 (adventure game from MELBOURNE HOUSE), FIGHTING WARRIORS, THING ON A SPRING, STARION (arcade games from MELBOURNE HOUSE), VOICEMASTER, MOUSE (peripherals from PACTRONICS) and more.



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BEGINNERS CORNER

ROUTINE COLLECTING

If you haven't already you'll come across that BASIC command you wish you had. Maybe it is something you've seen in another machine's BASIC; maybe it is just a command you've dreamed up. Well BASIC does have a couple of ways to add commands. The easiest is with the SYS statement.

In actual fact any BASIC command, as we saw last issue, is a Machine Language (ML) routine - a little ML program stored in ROM. In the case of BASIC these mini programs are activated through the use of reserved words i.e. FOR, NEXT, PRINT, GOTO etc.

These mini ML programs are referred to as routines. It is possible to create your own routines store them in RAM and even create reserve words to go with them e.g. DEEK, DOKE etc.

However the most common way to access, or should I say activate these routines is with the SYS statement. The SYS statement is like a switch it switches BASIC off and ML on. It is the most utilised method of mixing the two languages. Imagine it as a GOTO or GOSUB statement but instead of going to a program line it goes to a memory address i.e. SYS49152 could be thought of as GOTO memory location 49152 and carry out the instructions at that location.

OK! OK! I hear you cry! I'm a beginner! I can hardly handle BASIC let alone get into ML. Keep your hat on! The SYS statement opens up a whole new angle to home computing. It allows you to collect routines just as you do stamps. There are some people who do very little else than this and get a great deal of enjoyment out of their machines. Also, routines, generally are quite small programs and are ideal tools to start learning ML.

But! For goodness sake! Where do I start? Do I need a MONITOR; an ASSEMBLER or whatever those things are? Nope! All you need is the ability to type in a BASIC program. Later on a MONITOR/ASSEMBLER (such as MONAD) will come in handy when you gain enough experience to start modifying routines and that wont be too far down the line. As for the source - you are reading it! Most computer publications publish little routines. COMMODORE MAGAZINE has published many e.g. 'STRING INPUT' by Leonard Thomas in last issue. There a several collections of routines published in book form. Your nearest User Group will have public domain software on disk or cassette some of it being routines. If you are not near a User Group write to one, they are generally more than willing to assist. Also user groups are good places to swap routines with other people. Another way is to dissect other peoples programs - as you can see there are many sources.

These routines can be included into your program and treated just the same as a BASIC word. However it could get a bit confusing if you have a number of routines. What you can do is allocate variable names i.e. DE=49152: DO=54326 then all you need to enter is SYSDE or SYSDO. If you think about this for a while it becomes obvious that the values of the variables can be easily changed within a program and give a lot more flexibility.

Last issue I demonstrated how you could manipulate memory and alter BASIC here is a routine to save your new BASIC to disk or cassette (I haven't tested the cassette option but it should be OK). Also extended GOTO and GOSUB commands. All REM lines and TEST sections can be deleted. To use the TEST sections on the last two routines RUN then GOTO1000.

MSAVE#

```
10 REM MSAVE BEHIND ROM - SYS49152,"0:NAME",8,1,START,
    FINISH+1'BSJK
20 REM FOR CASSETTE - SYS49152,"0:NAME",1,1,START,
    FINISH+1'BPYK
30 REM START = START ADDRESS: FINISH = FINAL ADDRESS'BNYK
40 REM ADDRESS = MEMORY LOCATION I.E. START OF THIS
    ROUTINE IS 49152'BBQP
50 REM MAY BE RELOCATED TO ANOTHER MEMORY
    ADDRESS'BLJM
60 REM TO LOAD SAVED FILE - LOAD"NAME",8,1 OR
    LOAD"NAME",1,1'BJIN
70 I=49152'BGAF
80 READ L: IF L=-1 THEN END 'GECI
90 POKE I,L:I=I+1: GOTO 80'EKTJ
100 REM ##SAVE MEMORY BEHIND RAM'BVCB
110 DATA 32,253,174,32,212,225,32,253,174,32,138,173,32,247,183'BEMG
120 DATA 162,52,134,1'BMHY
130 DATA 165,20,72,165,21,72'BTUC
140 DATA 162,55,134,1'BMKB
150 DATA 32,253,174,32,138,173,32,247,183,166,20,164,21,104,133,
    252,104'BMKM
160 DATA 133,251,169,251,76,95,225,-1'BDOG
```

The '0:' in line 20 is not necessary.

GOTO#

```
10 REM GOTO = SYS49210,A,0 : A CAN BE A VARIABLE,
    FORMULA, LINE NUMBER ETC.'BGTM
20 REM MAY BE RELOCATED TO ANOTHER LOCATION'BGGH
70 I=49210'BGAE
80 READ L: IF L=-1 THEN END 'GECI
90 POKE I,L:I=I+1: GOTO 80'EKTJ
100 DATA 104,104,32,253,174,32,235,183,76,166,168,-1'BSFD
1000 REM ### TEST PROGRAM'BOEW
1010 INPUT "CHOOSE A LINE 1, 2 OR 3":A:A=A+1030'DJID
1020 SYS 49210,A,0'BJCW
1031 PRINT "DATA LINE #1": GOTO 1010'CFDB
1032 PRINT "DATA LINE #2": GOTO 1010'CFEC
1033 PRINT "DATA LINE #3": GOTO 1010'CFAE
```

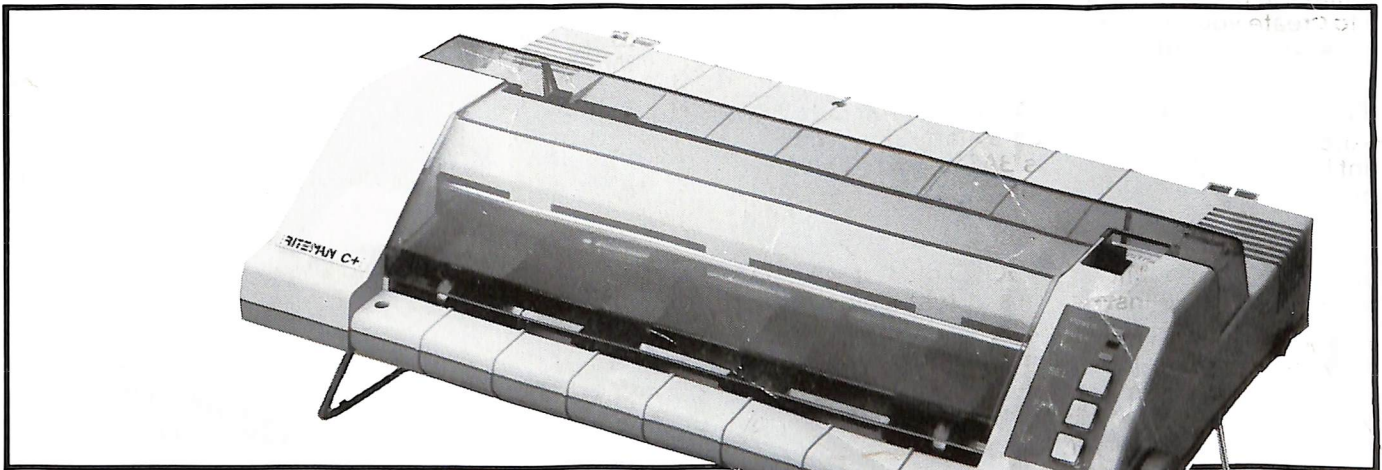
GOSUB#

```
10 REM GOSUB - SYS49300,A,0 : A = VARIABLE, FORMULA OR
    LINE NUMBER ETC'BCCL
20 REM MAY BE RELOCATED TO ANOTHER LOCATION'BGGH
70 I=49300'BGAE
80 READ L: IF L=-1 THEN END 'GECI
90 POKE I,L:I=I+1: GOTO 80'EKTJ
100 REM ## GOSUB'BHJW
110 DATA 104,104,169,3,32,251,163,165,123,72,165,122,72,165,
    58,72'BGGH
120 DATA 65,57,72,169,141,72,32,121,0,32,253,174,32,235'BVVG
130 DATA 183,32,166,168,76,174,167,-1'BDXD
1000 REM ### TEST'BHFU
1010 INPUT "CHOOSE A LINE 1, 2 OR 3":A:A=A+1030'DJID
1020 SYS 49300,A,0'BJCW
1025 GOTO 1010'BEYB
1031 PRINT "DATA LINE #1": RETURN 'CBOB
1032 PRINT "DATA LINE #2": RETURN 'CBPC
1033 PRINT "DATA LINE #3": RETURN 'CBQD
```




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80 CHARACTERS PER LINE	YES	YES	YES	YES	YES	YES
66 CHARACTERS PER LINE	YES					
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SUPER/SUBSCRIPTS	YES					
ITALICS	YES					
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TRUE DESCENDERS	YES					
ITALICS	YES					
COMMODORE GRAPHICS (OTHER FEATURES)	YES					
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