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"CUASORA"
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NEWSLETTER OF THE COMMODORE COMPUTER USERS GROUP (QLD) INC.

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SEPTEMBER 1985

VOL.2 NO.3
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CLUB ROOMS: Playground & Recreation Asscn. H.Q. Bldg.
Love Street, Spring Hill, Brisbane
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DIARY FOR OCTOBER

Group meeting on Tuesday, 1st October 1985, at 7.30 pm in our Club Rooms in Love St. (near Water St.) Spring Hill.

BRING & BUY SALE (See page 9)

Anthony Thyssen will speak on his Utilities Programs

Col Ramsay will demonstrate his Service Station Program

Workshop meeting on Sunday, 13th October 1985, from 1 pm till 5pm in the Guidance Officers Training Centre, Bayswater Street, Milton.

Bring your programming- or hardware problems, as well as your own computer equipment!

Opportunity to copy the group's Public Domain Disks.

PLEASE NOTE: Workshop Meetings are for MEMBERS ONLY!

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REGIONAL MEETINGS

Cannon Hill meets on the 4th Saturday of the month (7.30pm) in the Cannon Hill State School.

Contact: Barry Wilson - Ph.399 6204 or Augy Norman - Ph.399 2080, a.h.

Pine Rivers meets on the 2nd and 4th Sunday of the month (1pm - 5pm) in the Strathpine High School (rear entrance).

Contact: Hugh Gane - Ph.205 1196, a.h.

Redcliffe Peninsula meets on the 1st and 3rd Friday of the month (7pm) in the Redcliffe High School.

Contact: Geoff Baillie - Ph.203 5088, a.h.

Sherwood meets on the 2nd Friday of the month (7.30pm) in the Graceville State School.

Contact: Leigh Winsor - Ph.379 2405, a.h or Philip Parkin - Ph.378 5383, a.h.

Springwood meets on the 3rd Wednesday of the month (7.30pm) in the Springwood Central Primary School, Dennis Rd., Springwood.

Contact: Terry Steer - Ph.808 2424, a.h.

The Gap meets on the 3rd Wednesday of the month (7.30pm) in The Gap State School.

Contact: John Johnston - Ph.300 5240, a.h. or Julianne Fallen - Ph.300 2982, a.h.

Wavell Heights meets on the 2nd Tuesday of the month (7.30pm) in the Wavell Heights High School (library), Brae St.

Contact: Robert Adamson - Ph.266 8353, a.h.

Killarney meets on the 2nd Monday of the month in the Killarney State School.

Contact: Roger Frazer - Ph.(076) 64 1370.

Maryborough/Hervey Bay meets on the 3rd Monday in Hervey Bay.

Contact: Terry Baade (16 Mouquet Lane, M'borough, 4650) at 21 2271 (w) or 21 5059 (h).

Would you like to start a sub-group in your local suburb or district? If so, give Terry Steer, our Sub-Group Co-ordinator, a ring on 808 2424 (a.h.) for more information.

SPECIAL INTEREST GROUPS

Business Sub-Group meets on the 3rd Tuesday of the month (7.30pm) at 28 Vulture St., West End.

Contact: Max Bean - Ph.208 1225, a.h.

Primary Education Sub-Group meets on the 3rd Tuesday of the month (7.30pm) in the Aspley State School.

Contact: Bill Weeks - Ph.208 8620 (work) or 341 2823, a.h.

Adventure Games Sub-Group meets on the 1st Tuesday of the month, (during main meeting - in our club rooms).

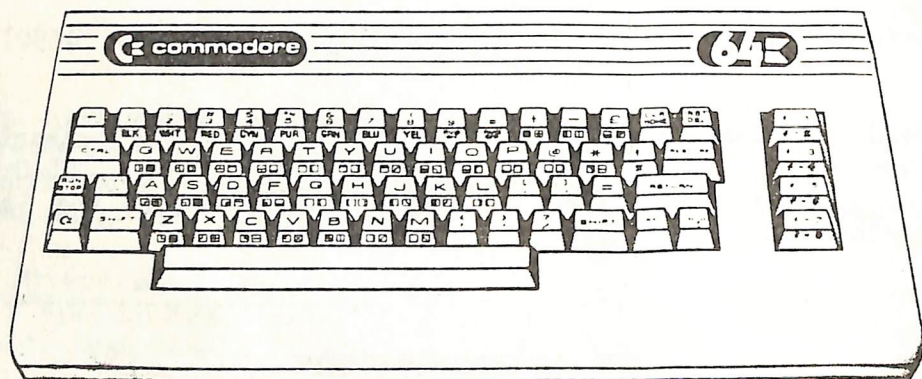
Contact: Trevor Mancktelow - Ph.262 4602, a.h.

CHANDLERS

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GREAT RANGE OF
C-64 SOFTWARE!

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EDITORIAL

Dear Readers,

My apologies for the unusual appearance of this issue of "CURSOR".

It was set up and printed on the equipment of one of my fellow committee members, hence the different appearance.

Last month I made the decision to sell my existing C-64 equipment, in anticipation of the release of the C-128.

My decision was based on the fact that approximately 75% of my computing needs really require an 80-column screen and, in the case of wordprocessing, extended storage space for files.

The C-128 will fill these needs admirably, but will of course entail considerable financial sacrifices.

Some members have asked if they should change as well. This is a difficult question to answer, particularly as the combination of C-128 and the new 1571 disk drive has a lot going for it, but at this stage there are a lot of unanswered questions as well. Hopefully some of these questions will be answered in future issues of this newsletter (see also "Notes & Gossip").

A special word of appreciation to all the new contributors to this newsletter. It is marvellous to see some articles which are not signed by Greg Perry and Ralph De Vries!

It also proves that there is a lot of hidden talent out there, and if this newsletter can be a forum for this talent, than that is all the better. Not every member feels confident enough to stand up in front of an audience of several hundred to give a lecture, but seeing their thoughts and experiences in print must be equally rewarding. In this respect I would like to draw your attention to Jim Vick's 'Letter to the Editor'. We can only say "Amen".

As those of you who attended the Annual General Meeting know, the Group's committee has been re-elected en bloc. It is gratifying to know that our members have shown such confidence in the committee, but hopefully some new blood can be recruited during the year to come to take their places in 1986.

Ralph De Vries

NOTES & GOSSIP

SEPTEMBER MEETING

This was our Annual General Meeting. After the reports from the President, Secretary and Treasurer the election of the Management Committee took place. As only one nomination for each position was received the existing Management Committee was re-elected.

Lester Bennett gave a demonstration of Non-Commodore Disk Drives, and pointed out the advantages and dis-advantages of using a Non-Commodore drive.

This was followed by two talks from Greg Perry. In his first talk he demonstrated the new Turbo-Rom chip from Cockroach Software, which resulted in quite a few orders for this nice utility chip. (See our Price List for more details.)

Greg then went on to demonstrate a new program from Commodore U.S.A. called "SKY TRAVEL". This was again very well received. Regrettably the program is not available in Australia, and one wonders why Commodore has not rushed it out on the market, as with the pending arrival of Halley's Comet a great deal of interest has been focussed on the heavens.

Trevor Mancktelow looked after the Beginners Section which was very well attended.

PROGRAMMERS SUB-GROUP

At the September meeting it was decided to form a Sub-group for those members who are interested in programming their own computers. Tom Kelly and Jim Vick will try to get this group under way. During the main October meeting it is hoped to furnish interested members with more details.

DAMAGED SOFTWARE

During August one of our members borrowed the "Print Shop" from our software library, and found to his horror that side A of this disk (for non-Commodore printers) kept on crashing.

Obviously a previous borrower somehow corrupted the disk. As one has to write to the disk to customize a printer file an accident is possible of course. Even the most

experienced users make mistakes now and then.

What we don't like is the fact that the member in question never told the librarian that the disk would no longer work. Fortunately we had a backup of the program in question, so everything was not lost.

We do implore borrowers who strike problems with our software to advise the librarian in question. No fire and brimstone will descend upon their heads!

PRINT SHOP

In a recent review of "Print Shop" in an Australian Commodore magazine it was stated that this program would work with a Commodore 1526 printer. This is NOT TRUE! "Print Shop" works with the 1525 and 801 printers (as well as several non-Commodore printers), but not with the 1526 or 802 printers.

THE "SAVE & REPLACE" BUG

Disk drive users must have heard about the famous Save & Replace bug. The argument is that if you resave a program with the same name to disk (command: SAVE "@O:PRG NAME",8) there is a likelihood that the file can be corrupted. A short program in a recent issue of "Transactor" magazine seems to prove that the bug is real enough, so, if you are in doubt, don't use the command.

Follow up articles in both the "ICPUG" newsletter and "TPUG" magazine still seem to have their doubts, so we can expect further arguments about this "bug".

Mike Todd in the "ICPUG" newsletter writes that the inclusion of the "O" in the command (for drive no. 0) eliminates some of the problems. In fact he claims that it is good practice to always include the 0 in disk commands, just to be absolutely on the safe side.

For the record your editor has used the SAVE & REPLACE command for at least 18 months with his word processor "Paper Clip", and has never had problems with file corruption.

COMMODORE'S NEW COMPUTERS

By the time you read this the C-128 should just about be ready to hit the retailers. Depending on which articles you

have read this is either the greatest thing since sliced bread or a piece of antiquated technology! The truth, as usual, lies somewhere in the middle. Compared with Commodore's new Amiga this latest 8-bit machine is certainly old hat. But compared with for example the Apple IIe (another 8-bit machine) it is a little beauty!

Being an 8-bit machine means that it is (usually) slower than 16- or 32-bit machines, but this comparison is not really quite fair, so let us enumerate some of it's features.

First and foremost it is completely compatible with the C-64, which means that, if you are upgrading from this machine all your existing software will work as before.

If it is used as a C-128 in the 40-column mode you have all the features of the C-64 such as sprites and SID chip sound, but with Basic version 7, which makes the life of the programmer a lot easier, plus a lot of extra memory space (appr. 120 K). Yes, you can use your existing TV or monitor as well in this case. You can even use your 1541 drive. The ideal mode for those wanting to learn programming.

Used as an 80-column machine there are certain restrictions to observe. To be able to view the 80 columns you will either have to invest in a green screen monitor (the new Commodore 1901 monitor), or the new Commodore 1902 RGBI colour monitor. RGB stands for Red, Green and Blue, and means separate inputs for these three primary colours, which results in a far sharper colour picture, which is necessary for the 80-column mode. There is however a composite colour input as well, such as is found in the 1701/2 monitor for use with the 40-column mode. However RGB monitors are expensive, and if you are on a limited budget the green screen monitor is a viable alternative.

You don't have sprites in this mode, but I doubt if they will be missed, as the 80-column mode is primarily used for word processing, spreadsheets etc. If this machine is used for business computing the new 1571 drive is virtually a must. It loads and saves appr. 5 times faster than the 1541, as well as offering double sided disk access (total storage 360K), thus making it a far more attractive proposition for business users.

Initially there will be a shortage of good programs for the C-128 in 80-column mode, but several software manufactures have indicated that new versions are on the way. It probably pays to go on using C-64 software till the new

versions can be evaluated.

As regards the CP/M mode on the C-128 a lot of questions will still need answering. The fact is that there is a lot of CP/M software around, both commercial and Public Domain, but some of it is getting rather antiquated, and others such as D.BASE II and Wordstar seem to be far from user-friendly!

Only time and experience will tell.

In the August issue of Australian Personal Computer there is an article on Commodore's new Amiga. In the past this type of magazine has rather tended to dismiss Commodore. However the author of this article has absolutely gone overboard praising this new machine, claiming that the Apple Macintosh and IBM P.C. are just not in the running, both as regards specifications and price! It is worth getting hold of a copy, just to read this report.

BRING & BUY SALE

At our next meeting we intend to hold a 'Bring & Buy' Sale with a difference!

Do you own original software, complete with all the documentation, for which you have no longer any use? The group will pay from 25 to 50% of the new price for your software! We want to expand our commercial software library for the benefit of our many new members, and this is one way in which our members can also recoup some of their original costs.

But remember the group is only interested in originals - not copies!

SX-64 COMPUTER

Our group would like to purchase a second-hand SX-64 computer (in A-1 condition) for demonstration purposes.

Only very competitively priced units will be considered!

If you know of such a unit our secretary would love to hear from you.

CARPENTER(S) REQUIRED

We require the services of a carpenter to make some storage boxes for our library. Please contact our secretary for further details.

PRICE LIST [Members Only]

PUBLIC DOMAIN DISKS \$ 6.00 ea (Postage Paid)
PUBLIC DOMAIN TAPES \$ 2.00 ea (+\$1.00 Postage Per Order)
BLANK DISKS \$25.00 per box of 10 (+ Postage \$2.00)
RESET SWITCHES (Plugs into Serial Port) \$ 5.00 ea

"PUBLIC DOMAIN BOOK" \$ 5.00 ea (+\$1.00 Postage)
"STARTING WITH DISK DRIVES" \$2.00 (+\$1.00 Postage)

UPGRADE CHARACTER EPROM for 801/1525 & 803 Printers.
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TURBO-ROM for C-64
Members price \$40.00 + \$5.00 for fitting if computer has
non-socketed Roms.
Customised version (your choice of screen start-up colours +
your name on the start-up screen): \$45.00

For further information on the above three items contact
Lester Bennett on 800 1243 before 8 pm on weekdays.

CLUB MODEM (300 baud) Demo Model \$135.00

Address all orders to P.O. Box 274 - Springwood - QLD - 4127
Cheques to be made out to: C.C.U.G. (Q) Inc.

AVAILABLE FOR HIRE TO MEMBERS ONLY

1526 COMMODORE PRINTER

For details contact the Secretary on 341 5651 (after hours).

REVIEWS

CPA-80 PRINTER and C-BOX INTERFACE.

With the non-availability of the Gemini printer now, the best value non-Commodore printer I've found is the CPA-80 - variously labelled Computemate-100, Executive 100 etc (badge engineering!).

This runs at a nominal 100 cps of the earlier version CP-80 family which was 80 cps.

As well as normal printing, double width, reversed, compressed, emphasised, double strike, underline, super- and sub-script are all available. These team with pica, elite and italics, plus a proportional print mode. Then there is a family of 9 international character sets or a user-defined set. My son Scott has already made good use of the German set and created a "running writing" character set. All these features are easily accessible by escape codes from a program or word processor, &/or dip switch settings on the printer (we rarely use these).

In addition, the well-known graphics packages Doodle and Print Shop are easily used.

Print quality is very crisp and readable with "square" dots giving a relatively "non-dot" character, particularly in emphasised or proportional mode, which I would regard as "near-letter quality" for most applications. Friction and sprocket feed is standard.

The carbon ribbon is in a long cartridge, identical to the 802, which is not refillable but lasts a long time. For a more detailed review see article on Blue Chip printer (identical as far as I can see) in March 1985 Compute's Gazette or CPA-80 in ETI Magazine March 1985.

I was initially supplied with a PPI interface to go with the printer, but after intermittent faults in 2 successive units, I was supplied with a C-BOX. This only requires an initial setting of the internal dip switches for the printer (already set for Epson/CPA-80) and no further attention. I have used it on Print Shop, Doodle, Easy Script and Speedscript with no worries, plus basic Club programs. Its big advantages:-

1. On listing a program, it automatically converts the "reversed heart" etc. Commodore characters to a bracketed understandable command.

2. Price: a little over half that of Xetec.

Total price of the package is not much more than an 802 (no graphics)- if you can still find one!

Only one minor problem- the unit was fitted with a very short wire to the cassette port (for power)...rectified by the dealer before I left the shop. One satisfied customer! Printer and interface from Sundown Electronics, Kippa Ring.

Rob Adamson.

PROGRAMMER'S DESK REFERENCE for Commodore 64 Basic
By Mona Rienhardt - R.R.P. \$28.00

Copy by courtesy of the publishers, Prentice Hall Pty. Ltd.

The title of this book holds out promise of a wealth of information for the owner of a Commodore 64. According to the introduction the book "is intended for anyone who owns or operates a Commodore 64 computer." I was therefore keen to volunteer for this review to get a look at this wizzo book. It sounded like the answer to all my prayers. As Bulletin Board system operator I have vast personal experience with problems of programming in basic, both my own and other peoples.

The major contributing factor to these problems is the unfriendly nature of the official Commodore documentation, or rather, lack of documentation. This has created a large market for good books to fill in the gaps.

This book only fills a very small gap. It is virtually just a friendly rewrite of the users guide. It is, in my opinion, only of slightly more than passing interest to the rank beginner, i.e. the person who knows where all the keys are, but may not know exactly what they all do.

For example the author spends half a page explaining why an "OUT OF DATA ERROR" is generated when you press return when the cursor is on a line which has "READY" at the beginning. More an item for a hints & tips style book. The program examples are no more sophisticated than those in the User's Guide, and several even contained errors. They are however, well set out, and make the entering of the Commodore control characters easy.

There is no way you could consider this book a Reference

book. It is, on the other hand, how the Commodore Users Guide should have been written. It has an easy to read, friendly style, and goes into exquisite detail on some of the types of unexpected things which may stump the beginner. For example, who can honestly say that they have completely mastered Commodore's excellent screen editor, or fully understand what quote mode is, or how to use it. If the Commodore User Guide had been more decipherable, this book would not have been written.

At \$28.00 I think it would be of little value to purchase this book. I just hope that someone at Commodore sees it, and gets Mona Rienhardt to re-write the Users Guide.

All in all a good book, but badly named, and like all computer (low volume?) books, overpriced.

Ray King

COMMODORE 64 DATA FILES - R.R.P. \$19.95

Our review copy by courtesy Prentice-Hall of Aust.

This book does what it sets out to do, which is show the reader how to type in a series of data base type programs. with explanations on the various steps along the way. Unfortunately it falls into the trap that many authors of this type of book fall into. The trap being to try to cover too wide a field with the book.

The first chapter starts with basic keyboard use which presumes that the reader knows nothing at all about computers and from that base it tries to teach all about file manipulation and disk handling systems. The error is then compounded by the same problem, in that, by trying to cover too wide a field the author is forced to assume that the reader knows enough about computers that he does not have to explain every step. This leads to the situation in the book that some parts of the programs are very clearly explained and other parts are just there but leave you wondering what their purpose is. A for instance being, the author very carefully explains how to print out labels on a printer but gives absolutely no clues on how to format your output so that the printing will actually fit on a label, and how to arrange the printing so that it looks the way you

want it to look. Another aspect of the book that appeared to be rather unusual was that two thirds of the book was taken up with sequential filing systems and relative files only appeared to be an after thought towards the end. I would think that the type of systems the author was trying to explain would need relative file access to be of any real use.

To sum up, if you enjoy typing in listings for programs that are of the useful type and you wish to learn something along the way then this book may interest you, but if all you want is a data base program I think your money would be better spent buying a commercial data base program.

Jim Vick

COMMODORE 64 GAME CONSTRUCTION SET

by William L. Rupp & Patricia A. Hartman - R.R.P. \$26.95

Our review copy by courtesy of Prentice-Hall of Australia

The writers designed this book for people who are excited by the idea of creating their own computer games. Whether they will still be excited after reading this book is another matter.

I don't believe endless typing in of program listings, no matter how well they are analysed, can teach effective programming.

Faults in the book were fairly prevalent. Firstly, some of the listings were blurred through printing error, and secondly, comparing ASCII values to find out how to type in certain graphic and control characters is much too time consuming to be of any use.

The book does lend an insight though, to making sprites, animation, building simple graphic pictures, and the programming of simple question and answer games.

Overall I feel the book is not very good value for money. Perhaps buying a book such as Greg Perry's on Sound and Graphics (same publisher) would be more advantageous.

Trevor Mancktelow

BEGINNER'S CORNER

The Commodore is a super machine! As an owner of a Commodore you have several computers in one.

At its very reasonable price, it is the best introductory level computer in the world. Add a cassette or disk drive and the C-64 is a very capable computer system; yet as beginners increase their computer proficiency the C-64 has more than enough capabilities so as not to limit their growth.

The C-64 offers high priced performance at reasonable cost, so much so that many businesses around the world have saved themselves thousands of dollars by installing the C-64 instead of a highly priced business computer system which provides little more than the one we have!

Many other computers have to have expensive "add on hardware" to create moving pictures (sprites), but our machine offers us these wonders as standard.

There's music on our machines too! Through the quality Synthesizer which rivals some specially built music machines.

Your computer can be used for many other purposes too. We hope that as your knowledge and understanding grows you will gain some small portion of the many benefits which your machine offers you. You can use it to control a security system in your home or business.

The C-64 is an education tool; it is a workhorse; it is a play thing; it is a very professional instrument!

That you own a C-64 only goes to show how clever and wise you are!

You will hear the term LANGUAGES tossed around at any group meeting or where two or more enthusiasts talk computers. Some names you will hear could be "FORTRAN", "COMAL", "FORTH", "LOGO", "COBAL", "LISP", "NODDY", "PASCAL", "ASSEMBLER", "BASIC" and "MACHINE" language.

Don't let all that frighten you. Unless you become a language or programming specialist it is highly unlikely that you will have anything to do with all but the last three languages. Most of the programs you buy on tape or disk or which you see in magazines etc. will be in either BASIC or ASSEMBLER language. Machine language is the language which the C-64 uses to put into effect the instructions that the programs give it. All other languages

must be converted by the computer into Machine language before it can work for you. Why not use Machine language all the time then? Machine language is all zeros or ones and it is very tedious working with it and it is prone to human error so much that it is not worth the trouble. ASSEMBLER language is a language that a special help program (MONITOR, ASSEMBLER or DISASSEMBLER) understands. These programs convert Assembler language into machine language and inserts the program into the C-64 memory for the machine to use. BASIC is the easiest language to use and therefore most popular and you will see most programs using some of it.

WORDS FOR THE MONTH

INTERFACE :- is a device that contains special circuitry so that your computer can be connected to hardware that operates with different codes or at different speeds . Basically a PERIPHERAL changes the types of transmissions so that the computer and/or the device understand each other.

PERIPHERAL:- is a device that can be connected to or controlled by the computer. For example: light pens, games paddles, and even a Disk drive are some.

ACOUSTIC COUPLER or MODEM:- is a device which is connected to the C64 and to which you fit your telephone hand piece so your C-64 can receive information, instructions, or programs from another computer on the other end of the phone line, anywhere in the world.

We spoke about PUBLIC DOMAIN Disks last time. You can get a lot of the same programs on cassette as well. As you are probably aware, cassettes cannot be operated in the same way as disks. Cassettes are sequential recording devices, meaning information first on must be first off. If you save a program to cassette on the end of the tape (last part) you have to go right through the tape to the beginning of the program before you can load it into the computer.

Some clues which may help you:

Use the counter on the Datasette.

Before you save any information to tape, wind the leader part of the tape forward until the recording part of the tape is facing the recording head (the recording part is

normally a different colour to the leader tape).

Reset the tape counter to 000

Now "SAVE" your information and when the "READY" comes on the screen check the counter then add two or three to the number on the counter; then record the TITLE of the information saved with the number pluss two on the counter. For example write on a lable which you will glue to the cassette the name or title such as ACCOUNT PROG. 1 to 180. The next information you save to that tape must start after 180 on the counter. So you wind the leader of the tape past the opening, put it in the datasette and press the counter button to get the counter on 000, then use the fast forward to wind the tape past 180 before saving the next bit of information.

To load that last bit of information prepare the tape in the same manner. return the counter to 000, fast-forward the tape to about 178 then Load the information by typing Load then procede as usual

With cassettes it is vitally important that you keep good concise records of what is stored where on the tape.

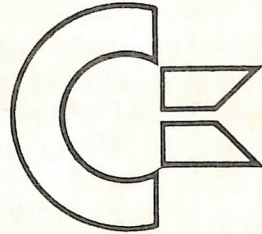
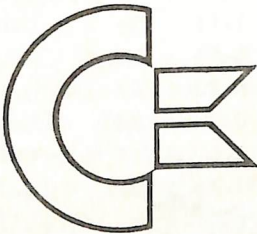
Tapes are fun. They are a safe secure way of keeping information as long as you do not store then anywhere near magnets as this can ruin tapes.

You will find, as you grow in learning how to handle the C-64, that you have one of the best home computers on the market today. It can be of great benefit to you and your family.

Have fun and good computing.

Reg. Campbell

=====



ALTERNATIVE LANGUAGES

Thanks to the CCUG and its disk library I have been able to experiment with several of the alternative programming languages that are available for the Commodore 64. A useful way of learning the syntax of the languages has been to start by translating the short programs used as benchmarks by "Australian Personal Computer" for speed performance of computers in BASIC. I have now done this for the languages COMAL, FORTH, LOGO, PILOT, G-PASCAL, and for an interesting comparison, in machine language. I thought that the resulting table of relative performance of these languages might be of interest to others in the group through "CURSOR".

The benchmarks are in a series of eight (BM1-BM8) each the same as the previous one with the addition of another structure such as a loop or subroutine call or introduction of a numeric array. The table below shows the time taken for each benchmark translated into each language. I skipped BM8 in which log and sin functions are introduced because few languages support them and those that do would only use the same kernal routines that BASIC uses with little difference in performance. Rather than use a stopwatch, which I don't have, I used the in-built clock function in the C64 - some languages include calls to the clock in the language, like TI in BASIC, but in others I had to write short routines that did the equivalent of peeking the jiffy clock memory locations. The time overhead for these additional routines is negligible. PILOT was an exception with no clock function and no peek function so I used the second hand on my watch - but as you can see this language was so slow that an error of one second was insignificant.

TIME IN SECONDS TO COMPLETE TRANSLATED BENCHMARK

	BASIC	OPTIMISED	COMAL	G-PASCAL	LOGO	FORTH	PILOT	MACHINE
								LANGUAGE
BM1	1.3	0.98	1.2	2.1	-	0.15	-	0.01
BM2	9.6	8.6	4.7	2.3	15.8	1.13	24	0.01
BM3	18.1	16.5	14.4	9.8	44.0	8.65	50	-
BM4	20.0	18.3	14.8	9.4	46.0	8.80	47	0.13
BM5	21.6	19.5	16.4	10.2	49.9	8.96	52	0.15
BM6	31.8	27.4	25.2	22.9	137.0	10.4	211	0.19
BM7	50.3	44.7	44.2	28.3	180.2	20.3	720	0.30 ✓

Simon's basic 56
BASIC 49
Super C 21 secs int. 28 float
C Power 4 secs int 15 float
Superpascal 15.7
Superbasic 15.71
white lightning 19.3
18 - 11.75 int 30.8 real
17 integers 31 real

OPTIMISED BASIC is my attempt to give Commodore BASIC a fair go by recoding the benchmarks to maximise execution speed by combining lines, leaving out the loop variable after NEXT and screen blanking during execution.

The BASIC listing of BM7 is shown below. A listing of each other version of benchmark 7 is included as an addendum to this article.

Comparing them is an interesting introduction to the languages and shows that some computer languages have as much in common as Chinese and Dutch! I am certainly not an expert in any of the languages but I think I have worked hard enough to have efficiently coded this short program in each. Some of the languages only support integer arithmetic and so do not do quite the same thing in the line equivalent to line 150 in the BASIC version. These languages are G-PASCAL, FORTH and PILOT. I coded the machine language version to execute this line exactly.

```

100 REM Benchmark 7
110 TI$="000000"
120 K=0
130 DIM M(5)
140 K=K+1
150 A=K/2*3+4-5
160 GOSUB 230
170 FOR L=1 TO 5
180 M(L)=A
190 NEXTL
200 IF K<1000 THEN 140
210 PRINT TI/60 "SECONDS"
220 END
230 RETURN

```

*laser Basic dit 21.13
float 24.6
Petepeed 11.8 (float)*

*Suprema
Clone*

*GwBani - 33
+ Turbo - 20
TurboBani - 37 10
+ Turbo - 23 6 3*

*INTJ ↑
B-2 ↑
INTJ ↑
A-2 ↑*

Some other comments on the alternative languages follow:

COMAL - this was version 0.14 as on the CCUG public domain disk #14. I was very pleased to see that the language was slightly faster than BASIC despite the extra structures and features. COMAL is definitely my favourite language for straight forward programming within the 9.9K limit. The cartridge version 2.00 with more than 30K free memory and more commands will be tempting if it ever becomes available.

G-PASCAL - this version was written in Australia and I have not seen any reviews of it in overseas magazines. It is probably because this is a terrible version of PASCAL! For a start it is integer only which immediately eliminates any scientific etc. uses for which PASCAL should have much to offer. Then the compiler does no type checking which means you can get away with things that are completely against the spirit of PASCAL such as mixing variable types - in fact the manual even encourages you to do this. The language is quite fast and this shows in sprite movement and so on which makes this a language suitable for writing simple games but little else. There are other PASCALS on the market, perhaps the club may buy a better one one day.

LOGO - the excellent implementation by Terrapin that goes beyond turtle graphics and allows manipulation of strings in interactive language programming. This listing shows the natural use of recursion in LOGO and also the awkward implementation of numeric arrays as a list of words.

FORTH - this is the 64 FORTH version by HesWare on cartridge. It is available in K-MART and MYER for \$8-\$10 which is incredibly good value for a 16K cartridge plus a 160 page manual! This was the hardest language to get to grips with - even harder than machine language really. It is a thorough implementation of FORTH but is flawed by not being able to use high resolution graphics for which it could be very useful. FORTH programs run faster than any other high level language tested here.

PILOT - the Commodore product. A bit unfair to compare this language using a benchmark mostly concerned with arithmetic. The array filling code is particularly awkward but is necessary to follow the spirit of the benchmark. PILOT makes programming such things as educational quizzes and multiple choice questions easy with concise codes to allow for pattern matching of answers and branching according to right/wrong answers and the number of times the question was attempted. Nevertheless it can not be denied that PILOT is a slow language. I bet that if I programmed a quiz in PASCAL or even COMAL it would run much faster - but who needs a fast quiz? It's the ease of programming that matters!

MACHINE LANGUAGE - the source code in the listing is for the LADS assembler from Compute!'s Second Book of Machine Language. The listing is nearly a line-by-line translation of the basic code, but the loops execute 1024 times rather than 1000 times to simplify the code a bit. Generally about 150 times faster than BASIC and 50 times slower to code!

Overseas magazines have ads for other implementations of these and other languages that sound better e.g. FORTH able to use hi-res graphics and real PASCAL. Even others like C, PROMAL (whatever that is- only seen advertised in BYTE) and even ADA. If others in the group show that they are interested perhaps some could be added to the disk library.

ADDENDUM - THE LISTINGS:

OPTIMISED BASIC

```
1 TI$="000000":POKE53265,11:K=0:DIMM (5)
2 K=K+1:A=K/2*3+4-5:GOSUB4:FORL=1to5:M(L)=A:NEXT:
  IFK<1000THEN2
3 POKE 53265,27:PRINT TI/60"SECONDS":END
4 RETURN
```

COMAL

```
0100 // BENCHMARK 7
0110 TIMECLEAR
0120 K:=0
0130 DIM M(5)
0140 REPEAT
0150 K:=+1
0160 A:=K/2*3+4-5
0170 GOSUB
0180 FOR L:=1 TO 5 DO
0190 M(L):=A
0200 ENDFOR L
0210 UNTIL K=1000
0220 READTIME
0230 END
0240 PROC GOSUB
0250 ENDPROC GOSUB
0260 PROC TIMECLEAR
0270 POKE 160,0
```

```

0280 POKE 161,0
0290 POKE 162,0
0300 ENDPROC TIMECLEAR
0310 PROC READTIME
0320 A:=PEEK(160); B:=PEEK(161); C:=PEEK(162)
0330 PRINT (B*256+C)/60;"SECONDS"
0340 ENDPROC READTIME

```

G-PASCAL

```

(*      BENCHMARK 7      *)
VAR K,A,L : INTEGER ;
      M : ARRAY [5] OF INTEGER ;
PROCEDURE GOSUB
BEGIN
END ;
BEGIN
  SETCLOCK (0,0,0,0);
  K := 0;
  REPEAT
    K := K + 1;
    A := K / 2 * 3 + 4 - 5;
    GOSUB;
    FOR L:= 1 TO 5 DO
      M [L] := A;
  UNTIL K=1000;
  Writeln (CLOCK (2), ".", CLOCK (1), "SECONDS");
END .

```

did in super / oxford

LOGO

```

TO BM7
  TIMECLEAR
  MAKE "K 0
  MAKE "MARRAY [M1 M2 M3 M4 M5]
  KLOOP
  READTIME
END

TO KLOOP
  MAKE "K :K + 1
  MAKE "A :K / 2 * 3 + 4 - 5
  GOSUB
  MAKE "L 1

```

```
LLOOP
IF :K < 1000 THEN KLOOP
END
```

```
TO GOSUB
END
```

```
TO LLOOP
MAKE ITEM :L :MARRAY :A
MAKE "L :L + 1
IF :L < 6 THEN LLOOP
END
```

```
TO TIMECLEAR
.DEPOSIT 160 0 .DEPOSIT 161 0 .DEPOSIT 162 0
END
```

```
TO READTIME
( PRINT ( ( .EXAMINE 161 ) * 256 + .EXAMINE 162 ) / 60
[SECONDS] )
END
```

FORTH

```
: BM7 ( BENCHMARK 7 )
  TIMECLEAR
  0 BEGIN
    1 + DUP
    DUP 2 / 3 * 4 + 5 -
    GOSUB
    DUP DUP DUP DUP
    6 1 DO
      MARRAY I 2 * + 2 - !
    LOOP
    1000 = UNTIL
  READTIME ;

: TIMECLEAR 0 160 0 161 0 162 C! C! C! ; ( ZERO TIMER )
: READTIME 162 C@ 161 C@ 256 * + 60 /MOD ." TIME=" . ." ."
  100 * 60 / . ; ( PRINT TIME IN DECIMAL SECONDS )
: GOSUB ; ( NULL SUBROUTINE )
O VARIABLE MARRAY 10 ALLOT ( THE ARRAY M - EFFECTIVELY
  DIM M(0:6) )
```

PILOT

```
R: Benchmark 7
C: K=0
D: M$(25)
C: M$="000000000000000000000000"
*kloop
C: K=K+1
C: A=K/2*3+4-5
U: gosub
C: L=0
*lloop
C: L=L+1
C(L=1): M$(1,5)=A
C(L=2): M$(6,5)=A
C(L=3): M$(11,5)=A
C(L=4): M$(16,5)=A
C(L=5): M$(21,5)=A
J(L<6): lloop
J(K<1000): kloop
E:
*gosub E:
```

MACHINE LANGUAGE (ASSEMBLY SOURCE FOR LADS)

```
10 *= $8000
15 ;bm7 - apc benchmark 7
20 .s
25 .d bm7.obj
30 k = $fb; variable k high byte (low byte in $fc)
40 b = $fd; similarly variable a (cannot use 'a' due
   conflict with ror a opcode)
50 jsr timeclear
60 lda #0:sta k:sta k+1; equiv to k=0
65 ;for dim m(5) see line 970
70 loop1 lda k+1
80 clc:adc #1:sta k+1:sta b+1:lda k:adc #0:sta k:sta b;
   equiv to k=k+1:b=k
85 ror b:ror b+1; equiv to b=b/2
90 ldx #2; get k*3 by adding k to itself twice
100 loop2 clc:lda b+1:adc k+1:sta b+1:lda b:adc k:sta b
110 dex:bne loop2; b is now k/2*3
120 clc:lda b+1:adc #4:sta b+1:lda b:adc #0:sta b;
   b is now k/2*3+4
```

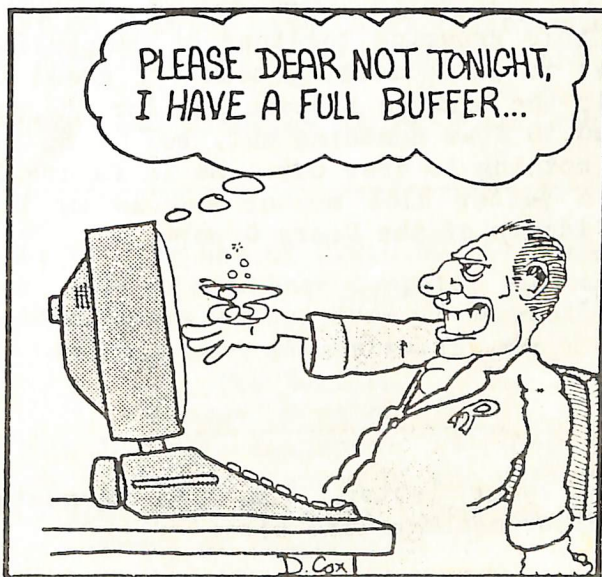


```

130 sec:lda b+1:sbc #5:sta b+1:lda b:sbc #0:sta b;
    b is now k/2*3+4-5
135 jsr gosub
136 ldx #5:ldy #0
137 loop3 lda b:sta marray,y:lda b+1:sta marray+1,y
138 iny:iny:dex:bne loop3; lines 136-138 equiv to forl=1to5:
    m(l)=a:nextl
140 lda k:cmp #4:bne loop1
150 jsr readtime
160 rts
900 timeclear lda #0:sta 160:sta 161:sta 162:rts
950 readtime lda 160:sta $fb:lda 161:sta $fc:lda 162:
    sta $fd:rts
960 gosub rts; null subroutine
970 marray .byte "aabbccdde;equiv to dim m(5)
    (well m%(5) with base 1 anyway)
999 .end bm7

```

Phil Guerney



LETTERS TO THE EDITOR

Dear Editor

Today I made a discovery so profound that I had to load up Easy Script, put fingers to keyboard and compose this letter so that others may benefit.

I have been a member of the Users Group for just over twelve months and I must confess that my reason for joining was to get as much out of the group as possible in the way of information and computer expertise, and during the twelve months I did very little towards furthering the aims of the group. So imagine my surprise when Greg Perry gave me a book and said do a review for the newsletter. The review will probably be in the same newsletter as this missive and for better or worse it is my impression of the book and I am pleased with it. But back to the discovery.

During the course of reading the book and writing the review I discovered that this is what it was all about, I was getting something out of the group but not in the way that I had thought I would. I was getting by giving and I guess the more I give the more I will ultimately get, and I suppose what it all boils down to if we are to gain something from this grouping together of people it is up to every individual to put something back. I guess it is like putting money in the bank in preparation for the day that we will have a need to draw something out, but if no one puts in there would be nothing to draw out. So in future I am going to try to be a better club member and do my bit towards furthering the ideals of the Users Group.

Yours sincerely,

Jim Vick

Many thanks for your letter, Jim. No comments of mine required, but other members take note!

Editor

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(Emulates Koala Pad etc.) - \$25.00
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(for copying from one Datasette to another) - \$20.00

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SIDE A

000 DEMONS OF OSIRIS :: An arcade type game. From COMPUTE! 1/84.
010 DEMON :: Loaded by DEMONS OF OSIRIS.
030 OIL TYCOON :: Use joystick drill for oil.
075 CAVES OF ICE :: Game from COMPUTE! 9/83.
110 DIAMOND DROP :: Game from COMPUTE! 9/83.
145 U-BOAT :: Game from COMPUTE! 11/83.
180 PATHWAY :: Game for up to 4 players from COMPUTE! 11/83
215 COLOURBOT :: Game from COMPUTE! 1/84.
240 MINE FIELD :: Game.
270 GOBLIN :: Game from COMPUTE! 7/83.
285 HAWKMEN/OF/D :: Game from COMPUTE! 6/83 called Hawkmen of Dindrin.
310 BOWLING CHAMP :: Ten pin bowling game for 1 to 3 players.
330 HARDHAT CLIMBER :: Game similar to Donky Kong type games.
350 DOMINATION :: 2 player game.
370 SYMBOL CODE :: Mastermind type of game ex RUN magazine 1/84.
395 BREAKOUT :: GAME (sometimes called BRICKOUT)
405 CANYONS OF ZELAS :: A lunar lander type of game.

SIDE B

000 PLANETFALL :: A buy and sell space game for several players.
130 LIGHT CYCLES :: A 2 player game.
180 MONOPOLE :: The game of Monopoly for 2 players.
305 SUPERSPRITE :: Game from COMPUTE!
340 MIND BOOGLE :: A COMPUTE!'s Gazette game.
360 CASTLE DUNGEON :: Adventure style game.
390 FRANTIC FISHERMAN :: COMPUTE!'s Gazette Game.
430 TREK :: COMPUTE!'s Gazette game.

TAPE 2 UTILITIES

TAPE 2

000 SPEEDSCRIPT 3.0 : The latest version of this word processor.
050 SPEED INSTRUCTIONS : The complete instructions for Speedscript.
200 TAPE COPIER : Use to copy tape programs from one to another.
210 WEDGE \$7000 : Load ,1,1 then SYS 28672 to start.
235 WEDGE \$C000 : Load ,1,1 then SYS 49152 to start.
265 MICROMON \$C000 : A machine code monitor. LOAD ,1,1 then SYS 49152;
290 MONITOR \$C000 : Another monitor. LOAD,1,1 and SYS 49152 to start.
315 MONITOR \$8000 : Another monitor. LOAD,1,1 and SYS 32768 to start.
335 FUNCTION KEYS : A program that programs your function keys.
350 DATA BASE 1 : A DATA BASE program that will save to tape.
395 MLX : Use this to enter programs from COMPUTE! Magazine.
410 DISASSEMBLER : A machine code disassembler.
425 ASSEMBLER : A machine code assembler.

SIDE B

000 GAZETTE PROOFREADER : Use for entering COMPUTE!'s Gazette games.
015 M.C SAVE : Saves machine code programs.
030 SPRITE CLOCK : A large clock in sprites.
070 WRD PROC.PETSPD : A simple word processor that's been Pet-speeded.
165 MUSIC MASTER : Turns your keyboard into a piano or organ.
205 3D GRAPH : Draws a 3-D graph from figures you input.
225 SOUND DEMO : A demo of different sounds.
250 SPRITE EDITOR : Draw sprites.
270 REACTION TIME : Tests your reaction time.
280 PLOT & DRAWTO : Load and run before loading SPIRALIZER.
310 SPIRALIZER : Draws Hi-res. Try these inputs: 7 - 50 - 18.
320 SPEED TYPE : Test your typing.
340 TEST CARD : Displays coloured bars and gives other demos.
390 TAPE LABELS : Prints tape labels to a printer.
405 SOUND EFFECTS : Self explanatory.

TAPE 3 EDUCATIONAL

SIDE A

000 SPELLING CRITTER : Spelling quiz.
035 SHAPE MATCH : Shape recognition program.
075 ROBOT MATH : Maths program.
105 FAST ADD : Maths quiz that displays large characters.
130 WORD GUESS : Guess the word.
165 TEACH ENGLISH : An adventure game using simple English.
185 VOCAB BUILDER : Word quiz.
215 LETTER ATTACK : Type in the falling letters.
230 MYSTERY SPELL : Guess the word.
280 MUNCHMATH : Maths quiz.
300 INTRO TO BASIC : Self explanatory.

SIDE B

000 TURTLE GRAPHICS : What it says it is.
060 INTRO TO 6502 : An intro to the 6502 chip and its operation commands.
220 INTRO TO SID : An intro to the sound chip.
250 FIRST AID : Gives first aid answers for various ailments.
310 TYPING : Another typing aid.
335 SOLAR SYSTEM : A tutorial on the solar system.
370 MATH DUNGEON : An adventure type program.
415 ALPHA ANX/64 : A game using the alphabet.

C. C. U. G. (QLD.)
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30/06/85

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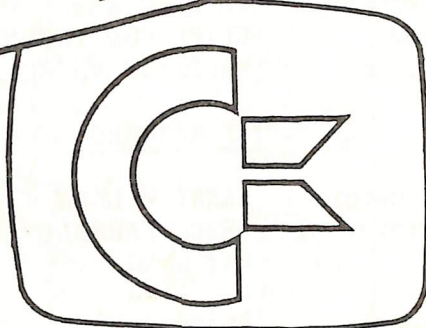
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